

REFRIGERATION &  
AIR CONDITIONING  
**PRODUCT  
GUIDE**



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TUBE, INSULATION,  
MOUNTING CHANNEL,  
CLAMPS, WALL BRACKETS  
& GUARDS

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A  
SECTION

## Copper Tube

Pipeline solutions for refrigeration and air conditioning, all to EN 12735-1. Our copper tubing is designed specifically for refrigeration and air conditioning use and accordingly cleaned, nitrogen-purged and capped.

### 6 Metre Coil

CODE	SIZE O.D		GAUGE	REF SUITABILITY*
A723	1/4	x	22	R404A R410A
A724	3/8	x	21	R404A R410A
A725	1/2	x	21	R404A R410A
A726	5/8	x	20	R404A R410A



### 15 Metre Coil

CODE	SIZE O.D		GAUGE	REF SUITABILITY*
A731	3/16	x	22	R404A R410A
A732	1/4	x	22	R404A R410A
A733	5/16	x	22	R404A R410A
A734	3/8	x	21	R404A R410A
A735	1/2	x	21	R404A R410A
A736	5/8	x	20	R404A R410A
A737	3/4	x	19	R404A R410A
A738	7/8	x	19	R404A R410A



### 30 Metre Coil

CODE	SIZE O.D		GAUGE	REF SUITABILITY*
A739	3/16	x	22	R404A R410A
A741	1/4	x	22	R404A R410A
A742	5/16	x	22	R404A R410A
A743	3/8	x	21	R404A R410A
A744	1/2	x	21	R404A R410A
A745	5/8	x	20	R404A R410A
A746	3/4	x	19	R404A R410A
A747	7/8	x	18	R404A R410A



## Pre-Insulated Copper Pipe

20m Pre-insulated copper coil allows you to install your pipework in half the time of conventional methods. Insulation manufactured to EN 13501. Fire classification - BL-s1,d0.13mm wall black insulation with tough & durable polyethylene coating. Copper Coil manufactured to EN 12735-1• Insulation more resistant to damage. Labour saving. Easy clean coating. Easy to transport & store. Durable insulation coating. Less waste, simply re-cap and re-use.

CODE	DESCRIPTION
A7160	1/4 & 3/8 x 20m Pre-Insulated 13mm Black Insulation
A7161	1/4 & 1/2 x 20m Pre-Insulated 13mm Black Insulation
A7162	1/4 & 5/8 x 20m Pre-Insulated 13mm Black Insulation
A7163	3/8 & 5/8 x 20m Pre-Insulated 13mm Black Insulation



See Q section for internal bending springs to suit this pipe

## Capillary Tube

Refrigeration quality annealed Capillary Tube in 30m Coils.

CODE	BORE I.D.	WALL THICKNESS MM
A710	.026	.022
A711	.031	.022
A712	.036	.0195
A713	.042	.0215
A714	.047	.019
A715	.052	.019
A716	.064	.023



# Copper Tube

## 3 Metre Straight

CODE	SIZE O.D	GAUGE	REF SUITABILITY*
A750	3/8	x 21	R404A R410A
A751	1/2	x 20	R404A R410A
A752	5/8	x 20	R404A R410A
A802	5/8	x 19	R404A R410A
A753	3/4	x 19	R404A R410A
A803	3/4	x 18	R404A R410A
A804	7/8	x 18	R404A R410A
A755	1-1/8	x 18	R404A R410A
A805	1-1/8	x 16	R404A R410A
A756	1-3/8	x 18	R404A
A806	1-3/8	x 16	R404A R410A
A757	1-5/8	x 18	R404A
A807	1-5/8	x 16	R404A R410A
A758	2-1/8	x 18	
A759	2-5/8	x 16	
A760	3-1/8	x 16	



A SECTION

## 6 Metre Straight

CODE	SIZE O.D	GAUGE	REF SUITABILITY*
A764	3/8	x 21	R404A R410A
A765	1/2	x 20	R404A R410A
A822	5/8	x 18	R404A R410A
A766	5/8	x 20	R404A R410A
A767	3/4	x 19	R404A R410A
A823	3/4	x 18	R404A R410A
A836	7/8	x 16	R404A R410A
A824	7/8	x 18	R404A R410A
A769	1-1/8	x 18	R404A R410A
A825	1-1/8	x 16	R404A R410A
A770	1-3/8	x 18	R404A
A826	1-3/8	x 16	R404A R410A
A771	1-5/8	x 18	R404A
A780	1-5/8	x 16	R404A R410A
A772	2-1/8	x 18	
A781	2-1/8	x 16	R404A
A782	2-1/8	x 14	R404A
A773	2-5/8	x 16	
A783	2-5/8	x 14	R404A
A775	2-5/8	x 18	
A784	2-5/8	x 12	R404A
A774	3-1/8	x 16	



## Refrigeration Quality Copper Tube

Copper tube manufactured to BS2871/2 (refrigeration quality).

The coils are soft, the straights up to 1-3/8" are half hard and above this the tube is hard.

We offer an extensive range of pipe sizes, if the size you require is not listed then please contact our sales office on 01543 437 010.

### Tube Wall Size:

SWG	=	INCH	=	MM
22	=	0.028	=	0.71
21	=	0.032	=	0.81
20	=	0.036	=	0.91
19	=	0.040	=	1.02
18	=	0.048	=	1.22
16	=	0.064	=	1.63
14	=	0.080	=	2.03
12	=	0.104	=	2.64

\*Simplified guidelines detail suitability for both R404A and R410A in discharge line applications, They assume a maximum working pressure of 24.8 bar for R404A and 33.5 bar for R410A. This is based on EN378 for systems operating in a 32°C ambient with a condensing temperature of 55°C.

## High Pressure Copper Tube

High strength copper alloy pipe designed for high pressure CO<sub>2</sub> systems with SWP of up to 120 bar (1740 psi). Conforms to PED 97/23/EC and manufactured to EN12449. High Pressure pipe is available in 2 gauges making it suitable for sub and trans-critical applications depending on system requirements. The 3m lengths are rated to 80 bar whilst the 6m lengths are rated at 80 or 120 bar.

### 3 Metre Straight Length (80 Bar)

CODE	SIZE O.D		WALL THICKNESS	MAX ALLOWABLE PRESSURE (BAR G)
A7109	1/2	x	0.60 mm	80
A7110	5/8	x	0.60 mm	80
A7111	3/4	x	0.60 mm	80
A7112	7/8	x	0.60 mm	80
A7113	1-1/8	x	0.60 mm	80
A7114	1-3/8	x	0.60 mm	80
A7115	1-5/8	x	0.60 mm	80



### 6 Metre Straight Length (120 Bar)

CODE	SIZE O.D		WALL THICKNESS	MAX ALLOWABLE PRESSURE (BAR G)
A7101	1/2	x	0.60 mm	80
A7102	5/8	x	0.75	80
A7103	3/4	x	0.90	80
A7104	7/8	x	1.00	80
A7105	1-1/8	x	1.30	80
A7106	1-3/8	x	1.60	80
A7107	1-5/8	x	1.90	80
A7108	2-1/8	x	2.50	80



### 6 Metre Straight Length (120 Bar)

CODE	SIZE O.D		WALL THICKNESS	MAX ALLOWABLE PRESSURE (BAR G)
A7170	3/8	x	0.65 mm	120
A7171	1/2	x	0.85	120
A7172	5/8	x	1.05	120
A7173	3/4	x	1.30	120
A7174	7/8	x	1.50	120
A7175	1-1/8	x	1.90	120
A7176	1-3/8	x	2.30	120
A7177	1-5/8	x	2.70	120
A7178	2-1/8	x	3.55	120



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## Tube Insulation

Tube Insulation: Class BL, S2, D0, pipe and coil insulation;  
also Class 0, complies with UK Building Regulations and CPR.

### 2M Length x 9mm Wall

CODE	SIZE	BORE I.D	LENGTHS/CARTON
A8075	06-9	1/4	176
A8076	10-9	3/8	133
A8077	12-9	1/2	117
A8078	15-9	5/8	96
A8079	20-9	3/4	68
A8080	22-9	7/8	68
A8081	28-9	1-1/8	49
A8082	35-9	1-3/8	38
A8083	42-9	1-5/8	30
A8084	54-9	2-1/8	23



### 2M Length x 13mm Wall

CODE	SIZE	BORE I.D	LENGTHS/CARTON
A8095	06-13	1/4	110
A8096	10-13	3/8	86
A8097	12-13	1/2	81
A8098	15-13	5/8	68
A8099	20-13	3/4	49
A8100	22-13	7/8	49
A8101	28-13	1-1/8	39
A8102	35-13	1-3/8	29
A8103	42-13	1-5/8	24
A8104	54-13	2-1/8	17
A8105	67-13	2-5/8	13
A8106	80-13	3-1/8	12



### 2M Length x 19mm Wall

CODE	SIZE	BORE I.D	LENGTHS/CARTON
A8115	10-19	3/8	49
A8116	12-19	1/2	44
A8117	15-19	5/8	39
A8118	20-19	3/4	33
A8119	22-19	7/8	32
A8120	28-19	1-1/8	24
A8121	35-19	1-3/8	22
A8122	42-19	1-5/8	20
A8123	54-19	2-1/8	16
A8124	67-19	2-5/8	12
A8125	80-19	3-1/8	10
A8126	89-19	3-5/8	8

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### 2M Length x 25mm Wall

CODE	SIZE	BORE I.D	LENGTHS/CARTON
A8045	15-25	5/8	25
A8046	20-25	3/4	25
A8047	22-25	7/8	21
A8048	28-25	1-1/8	20
A8049	35-25	1-3/8	16
A8050	42-25	1-5/8	13
A8051	54-25	2-1/8	11
A8052	67-25	2-5/8	6
A8053	80-25	3-1/8	8
A8054	89-25	3-5/8	6

## Tube Insulation

Supplied coiled in a bag to prevent wastage and reduce joints.  
15m lengths.

### 9mm Wall

CODE	SIZE	BORE I.D
A8030	06-9	1/4
A8031	10-9	3/8
A8032	12-9	1/2
A8033	15-9	5/8
A8034	20-9	3/4
A8035	22-9	7/8
A8036	28-9	1-1/8

### 13mm Wall

CODE	SIZE	BORE I.D
A8037	06-13	1/4
A8038	10-13	3/8
A8039	12-13	1/2
A8040	15-13	5/8
A8041	20-13	3/4
A8042	22-13	7/8
A8043	28-13	1-1/8



**UNION  
FOAM**



## Sheet Insulation

2M x 0.5m Sheet (Class B, s3, d0/Class 0)

CODE	THICKNESS	L X W (M)
A401	9mm	2 x 0.5
A402	13mm	2 x 0.5
A403	19mm	2 x 0.5
A404	25mm	2 x 0.5



## Uniload Insulation

Uniload is 42mm x 19mm insulation cut in half then into 1 meter lengths for fitting over channel. Helps prevent pipe insulation wear and tear when using channel type pipe supports.

CODE	SIZE (MM)	LENGTH (M)
A8200	42 W x 19 H	1



## Accessories

Adhesive Tape (Class B, s2, d0/Class 0)

CODE	DESCRIPTION
A410	10m Roll
A411	15m Roll



Adhesive

CODE	DESCRIPTION
A415	250 ml c/w Brush
A416	500 ml Tin
A417	1Litre Tin



Paint

CODE	DESCRIPTION
A421	3/4 Litre Grey
A422	3/4 Litre Black
A423	2.5 Litre Black



See Q Section for  
3pc paint brush set



Home Air Conditioning

# Keeping cool has never looked this good

The UK's weather is famously unpredictable and the summers are now longer and hotter – making everyday home life that little bit more challenging. As more of us are now working from home it can be a struggle to keep our houses at a comfortable temperature all year-round.

### Sleep well, live well, work well

Your home should always be a haven of comfort and that means the right temperature, day or night, no matter what the UK weather brings. Whether it's a cold start to the working day, a relaxing lunch in the midday sun, or the gentle cooling of your bedroom on a hot summer night, it's easy to achieve the perfect atmosphere with quiet and stylish air conditioners from Mitsubishi Electric.

Our Premium, Zen and Elegance series models offer total versatility, full Wi-Fi enabled temperature control and low running costs in styles to suit all budgets and any room. The Premium series comes with our unique built-in Plasma Quad technology which filters out the 6 most common airborne pollutants to offer year-round purified air and complete relief for asthma sufferers.

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 Call AC Assist 01189 305 110



## Virginia Cork Insulation Tape

Virginia is the premium product of its type. It may be used for either hot or cold temperature applications within its continuous duty service temperature range of -29°C to 93°C. Premium is designed to be used on pipes or tubes, in commercial or residential buildings, A/C units, refrigerated units and other similar types of applications. Premium will stop dripping caused by pipe condensation, will adhere to metal and will not crack or dry out. Premium is a self adhering tape.



CODE	DESCRIPTION
A120	Virginia Premium Cork Insulation Tape 2" x 1/8" x 30ft

## Duct Tape

**Cloth Duct Tape:** Suitable for a wide range of masking, marking, light duty sealing, holding and bundling applications, easy tear tape. 50mm W x 50m Long.

**Soft Aluminum Foil Duct Tape:** 48mm W x 46 M long wide, working temperature of -29°C to +126°C



CODE	DESCRIPTION
A119	Cloth Duct Tape (50 mm x 50 M)
A125	Aluminium Foil Duct Tape (48 mm x 46 M)

## Expanding Foams

3 Sizes of expanding foam available, **Foam Polyfilla** available in 300ml can. **Diversitech Foam Sealant** is a larger can at 568ml, and **Everbuild** quick setting fire foam aerosol 750ml.

CODE	DESCRIPTION
A132	Polyfilla Expanding Foam (300 ml Aerosol)
A131	Foam Sealant (568 ml Aerosol)
A137	Everbuild B2 Hand Held Fire Foam Aerosol



## Grab Adhesive

EVO-STIK Sticks Like Sh\*t Adhesive bonds to porous, non-porous and wet surfaces and even works under water. Bonds to most surfaces including wood, concrete, brick, plaster, glass, ceramics, metals, rigid pvc, grp insulation boards and foam polystyrene.

CODE	DESCRIPTION
M171	Evo-Stik Clear Grab Adhesive
M172	Evo-Stik White Grab Adhesive



## Silicone Sealant

A one part flexible fast curing silicone sealant specifically designed for cold rooms and refrigeration applications.

Available in Translucent and White.

Conforms to BS5889 Type B - ISO 9047 - DIN18540F - DIN1845F

CODE	DESCRIPTION
M173	Clear Silicone Sealant (300 ml)
M174	White Silicone Sealant (300 ml)
M176	Silicone Sealant Gun



## Sealing Gum

DiversiGum is a non-hardening non-corrosive sealing compound. Immediately paint-able with a usable temperature range between -4°C to 49°C. Perfect for plugging pipe opening etc through coldroom, refrigerated cabinets and brick work.

CODE	DESCRIPTION
A122	Diversigum Sealing Compound (1kg)



## Aspen Xtra Quick Positioning Clips

BBJ QPC Clips are an easy to use pipe clip made from UV resistant plastic. They fit into both aluminium or slotted channel with one single twist.

Supplied in packs of 10.

CODE	SIZE
A250	1/4"
A251	3/8"
A252	1/2"
A253	5/8"
A254	3/4"
A255	7/8"
A256	1-1/8"
A257	1-3/8"

**Xtra**  
the installer's choice



## Aspen Xtra Suspenders (Metal Hangers)

Zinc passivated metal rod hanger perfect for supporting air conditioning line set pairs. Fits both M8 & M10 Rod. Rapid 2 pipe installation. Avoids need for cable tray. Ideal for when you need to meet fire regulations. Max recommended distance between clamps 1.2m.

Supplied in packs of 10.

CODE	MODEL	TO SUIT
A986	Size Two Suspenders	3/8 & 5/8 Pipe*
A987	Size Three Suspenders	1/2 & 7/8 Pipe*
A988	Size Four Suspenders	5/8 & 1-1/8 Pipe*

\* Approximate Pipe Sizes (allowing for Insulation)

**Xtra**  
the installer's choice



## Aspen Xtra Grip Lock

Part of the Aspen Xtra range these versatile clips mounts to any surface. Ideal for line sets. Fits directly to wall or ceiling. Hinged for rapid installation. Space for electrical cables and condensate hose.

Supplied in packs of 10.

CODE	MODEL	TO SUIT
A280	Size One Grip Lock	1/4 & 1/2 Pipe*
A281	Size Two Grip Lock	3/8 & 5/8 Pipe*
A282	Size Three Grip Lock	1/2 & 7/8 Pipe*
A283	Size Four Grip Lock	5/8 & 1-1/8 Pipe*

\* Approximate Pipe Sizes (allowing for 13mm Insulation)

**Xtra**  
the installer's choice



## Elite Quick Fit Clip

Originally designed for fixing armoured cable, but also perfect for fixing smaller suction and liquid pipe runs with 9 or 13mm insulation. Quickly fixes via a single 6mm hole, and its oversized cable tie style strap, wraps nicely around the insulation without damaging it.

\*Comfortably supports up to 1/4 & 5/8 Pipe with 13mm wall lagging without crushing the lagging too much. (see image right)

Supplied in packs of 25.

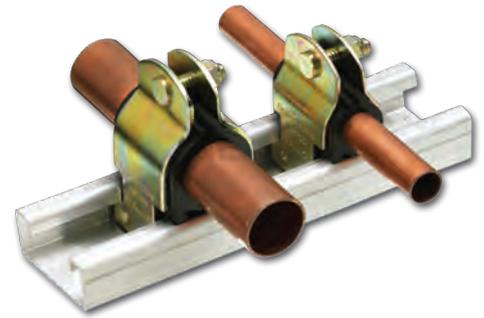
CODE	MODEL	TO SUIT
L348	Elite Quickfit Clip	1/4 & 5/8 Pipe*



## Tube Clamps

Tube clamps to fit aluminium or galvanised steel channel.

CODE	MODEL	TO SUIT
A199	538-1/4	1/4"
A201	538-3/8	3/8"
A202	538-1/2	1/2"
A203	538-5/8	5/8"
A204	538-3/4	3/4"
A205	538-7/8	7/8"
A206	538-1-1/8	1-1/8"
A207	538-1-3/8	1-3/8"
A208	538-1-5/8	1-5/8"
A209	538-2-1/8	2-1/8"
A210	538-2-5/8	2-5/8"
A211	538-3-1/8	3-1/8"
A212	538-3-5/8	3-5/8"
A213	538-4-1/8	4-1/8"



## Rubber Lined Clamps

Clamps for mounting on 8mm and 10mm threaded rod.

CODE	MODEL	TO SUIT (MM)
A230	EC/8/10	15-20
A231	EC/8/11	21-25
A232	EC/8/12	26-31
A233	EC/8/13	32-36
A235	EC/8/14	42-46
A236	EC/8/15	46-50
A237	EC/8/16	50-54
A238	EC/8/17	56-60
A239	EC/8/18	68-73
A240	EC/8/19	75-80
A242	EC/8/22	97-102



## Squeezy~Fit Threaded Rod Hangers

These supports fit onto either 8mm or 10mm threaded rod. By simply squeezing the tips together, the spring steel rod hanger can be fitted or adjusted in seconds, even after the refrigerant pipes have been installed.

Supplied in packs of 10.

CODE	MODEL	TO SUIT
A899	TRH-1	1/4 & 1/2
A900	TRH-2	3/8 & 5/8
A901	TRH-3	1/2 & 7/8
A902	TRH-4	5/8 & 1-1/8



## Squeezy - Grip-Fit Clamps

The asymmetric design provides a perfect fit for any one of four pairs of suction and liquid pipes. An 8mm clearance hole allows the clamp to be directly fitted to any flat surface, such as a wall or ceiling.

Supplied in packs of 10.

CODE	MODEL	TO SUIT
A905	GFC-1	1/4 & 1/2
A906	GFC-2	3/8 & 5/8
A907	GFC-3	1/2 & 7/8
A908	GFC-4	5/8 & 1-1/8



## KLO-Shure® Clamps

Klo-Shure® clamps eliminates having to double wrap, glue and tape the insulation on strut mounted clamps. Klo-Shure® insulation coupling reduces the time required to insulate copper tubing used for refrigerant lines by providing a complete vapour barrier without gluing or taping.

Available in 4 Insulation wall thicknesses 3/8", 1/2", 3/4" & 1"



### To Suit 3/8" Wall Thickness

CODE	I.D. x WALL THICKNESS
A2000	1/4 x 3/8
A2001	3/8 x 3/8
A2002	1/2 x 3/8
A2003	5/8 x 3/8
A2004	3/4 x 3/8
A2005	7/8 x 3/8
A2026	1-1/8 x 3/8
A2027	1-3/8 x 3/8
A2030	1-5/8 x 3/8
A2031	2-1/8 x 3/8



### To Suit 1/2" Wall Thickness

CODE	I.D. x WALL THICKNESS
A2021	3/8 x 1/2
A2022	1/2 x 1/2
A2023	5/8 x 1/2
A2024	3/4 x 1/2
A2025	7/8 x 1/2
A2020	1-1/8 x 1/2
A2028	1-3/8 x 1/2
A2029	1-5/8 x 1/2
A2035	2-1/8 x 1/2
A2036	2-5/8 x 1/2
A2037	3-1/8 x 1/2

### To Suit 3/4" Wall Thickness

CODE	I.D. x WALL THICKNESS
A2042	3/8 x 3/4
A2043	1/2 x 3/4
A2044	5/8 x 3/4
A2045	3/4 x 3/4
A2046	7/8 x 3/4
A2047	1-1/8 x 3/4
A2048	1-3/8 x 3/4
A2049	1-5/8 x 3/4
A2050	2-1/8 x 3/4
A2051	2-5/8 x 3/4
A2052	3-1/8 x 3/4



### To Suit 1" Wall Thickness

CODE	I.D. x WALL THICKNESS
A2060	5/8 x 1
A2061	7/8 x 1
A2062	1-1/8 x 1
A2063	1-3/8 x 1
A2064	1-5/8 x 1
A2065	2-1/8 x 1
A2066	2-5/8 x 1
A2067	3-1/8 x 1

## Aspen Xtra 3 Pipe Clip

Brand new uniquely designed 3 pipe clip, providing support for VRV/VRF systems pipework.

Wall Mount or Rod Mount to M8 & M10 Rod - Wide Metal Arms for greater pipe support.  
Eliminates need for cable tray. Hinge security cover that fastens with one screw.



Recommended distance between pipe clips is 1.2 metres.

Supplied in packs of 5.

CODE	MODEL	PACK QTY	DESCRIPTION
A110	B6361	5	3 Pipe Clip Size 1
A111	B6362	5	3 Pipe Clip Size 2
A112	B6363	5	3 Pipe Clip Size 3
A113	B6364	5	3 Pipe Clip Size 4

Pipe Sizing Options.

Description	Pipe Groups from	Pipe Groups to
SIZE 1	3/8" 5/8" 3/4"	1/2" 3/4" 1"
SIZE 2	1/2" 1-1/8" 3/4"	5/8" 1" 1-1/8"
SIZE 3	5/8" 1-1/8" 1-1/8"	3/4" 1-3/8" 1-1/8"
SIZE 4	7/8" 1-3/8" 1-1/8"	3/4" 1-5/8" 1-3/8"



## RPC Studding Clips for Waste Pipe

Unique one-piece design manufactured from a composite polymide alloy combining strength with light weight. RPC Studding Clips are perfect for attaching our wide range of condensate waste pipe onto threaded rod.



Supplied in packs of 10.

CODE	MODEL	STUD	DESCRIPTION
A222	SC08-22	M8	Suits 21.5mm FloPlast overflow pipe (N440) on 8mm rod
A214	SC08-28	M8	Suits 3/4" (ID) Grey PVC Pipe (N469) on 8mm rod.
A224	SC08-35	M8	Suits 32mm FloPlast waste pipe (N420) and 1" Grey PVC Pipe (N458) on 8mm rod
A225	SC08-42	M8	Suits 40mm waste pipe (XX01159) on 8mm rod
A226	SC10-22	M10	Suits 21.5 mm FloPlast overflow pipe (N440) on 10 mm rod
A227	SC10-28	M10	Suits 3/4" (ID) Grey PVC Pipe on 10mm rod.
A228	SC10-35	M10	Suits 32 mm FloPlast waste pipe (N420) and 1" Grey PVC Pipe (N458) on 10 mm rod

## Mounting Channel & Accessories

We offer a wide range of channel and accessories. We stock 21 x 41 plain aluminum channel & galvanised slotted channel in both 21 x 41 & 41 x 41mm.

### Aluminium Plain Channel

CODE	DESCRIPTION	DIMENSIONS
A600	Aluminium Channel	3m x 22mm x 41mm

### Pre Galvanised Slotted Channel

CODE	DESCRIPTION
A604	21 x 41mm Light Gauge Slotted Channel x 3 Metres
A603	21 x 41mm Medium Gauge Slotted Channel x 3 Metres
A606	41 x 41mm Light Gauge Slotted Channel x 3 Metres
A605	41 x 41mm Medium Gauge Slotted Channel x 3 Metres
A607	41 x 41mm Medium Gauge Slotted Channel x 6 Metres

### Channel Capping and End Caps

CODE	DESCRIPTION
A612	CZ21/B 21 x 41mm Black PVC End Cap
A613	CZ41/B 41 x 41mm Black PVC End Cap

### Channel Sockets (see page 28 for full description)

CODE	DESCRIPTION
A6070	17mm Channel Socket for 41 x 21mm Channel
A6071	17mm Channel Socket for 41 x 41mm Channel



## Cantilever Arms

Wide range of Cantilever arms available, choose from single, braced or double cantilever arms.

CODE	DESCRIPTION	MAX. UDL (KG)*
A615	Single Arm 150mm Long	359 kg
A616	Single Arm 300mm Long	180 kg
A617	Single Arm 450mm Long	120 kg
A618	Single Arm 600mm Long	90 kg
A619	Single Arm 750mm Long	38 kg
A620	Single Arm 900mm Long	40 kg
A101	Braced C/Lever Arm 450mm	202 kg
A102	Braced C/Lever Arm 600mm	150 kg
A103	Braced C/Lever Arm 750mm	110 kg
A104	Braced C/Lever Arm 900mm	90 kg
A105	Double 41 x 41mm Cantilever Arm 600mm	219 kg

See page 27 for Cantilever Arm Kits - 450mm - 600mm and 750mm

\* = Uniformly Distributed Load (Kg)



## Threaded Rod

3 Metre Lengths.

CODE	DESCRIPTION
A628	M6 x 3m
A629	M8 x 3m
A630	M10 x 3m
A631	M12 x 3m



## Threaded Rod Accessories

CODE	DESCRIPTION
A625	M8 Rod Connector
A626	M10 Rod Connector
A647	M8 Rod End Caps (Pack 100)



# Channel Nuts, Bolts and Washers

## Short Spring

CODE	DESCRIPTION
A633	M6 Short Spring Channel Nut
A634	M8 Short Spring Channel Nut
A635	M10 Short Spring Channel Nut
A636	M12 Short Spring Channel Nut



## Long Spring

CODE	DESCRIPTION
A638	M6 Long Spring Channel Nut
A639	M8 Long Spring Channel Nut
A640	M10 Long Spring Channel Nut
A641	M12 Long Spring Channel Nut



## Plain Channel Nuts

CODE	DESCRIPTION
A643	M6 Plain Channel Nut
A644	M8 Plain Channel Nut
A645	M10 Plain Channel Nut
A646	M12 Plain Channel Nut



## Hex Set Screws

CODE	DESCRIPTION
A648	6mm x 25mm Long
A650	8mm x 25mm Long
A652	10mm x 20mm Long
A654	10mm x 30mm Long
A622	10mm x 40mm Long
A656	12mm x 30mm Long
A658	12mm x 40mm Long



## Hex Nuts

CODE	DESCRIPTION
A660	M6
A661	M8
A662	M10
A663	M12



## Penny Washers

CODE	DESCRIPTION
A675	6mm x 25mm $\varnothing$
A676	8mm x 25mm $\varnothing$
A677	8mm x 30mm $\varnothing$
A678	10mm x 25mm $\varnothing$
A679	10mm x 32mm $\varnothing$



## Flat Washers

CODE	DESCRIPTION
A665	6mm
A666	8mm
A667	10mm
A668	12mm



## Shakeproof Washers

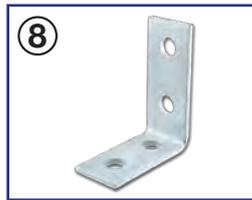
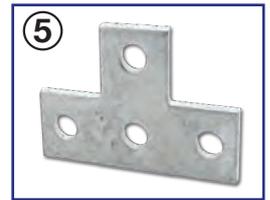
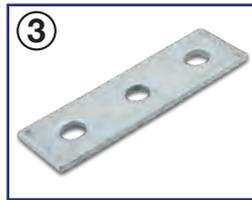
CODE	DESCRIPTION
A670	6mm
A671	8mm
A672	10mm
A673	12mm



## Channel Accessories

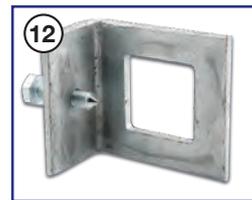
### Flat Adaptor Plates

CODE	MODEL	DESCRIPTION	IMAGE NUMBER
A681	CS1/08	M8 One Hole Flat Plate 40 x 40mm	1
A682	CS1/10	M10 One Hole Flat Plate 40 x 40mm	1
A683	CS2	Two Hole Flat Plate 87 x 40mm	2
A684	CS3	Three Hole Flat Plate 123 x 40mm	3
A687	CS7	Three Hole Flat Plate Angle	4
A690	CS8	Four Hole Flat Plate Tee	5
A692	CS12	Two Hole Angle	6
A693	CS13	Three Hole Angle	7
A685	FB114	Four Hole Angle Plate	8
A686	FB115	Two Hole x Two Hole Gusset Plate	9
A688	FB106	Two Hole Base Plate	10



### Window Brackets

CODE	TYPE	DESCRIPTION	IMAGE NUMBER
A611	325AL11	21 x 41mm Window Bracket Including Bolt	11
A614	325AL10	41 x 41mm Window Bracket Including Bolt	12
A609	66581711	21/41 & 41/41 Universal Strut Beam Clamp	13



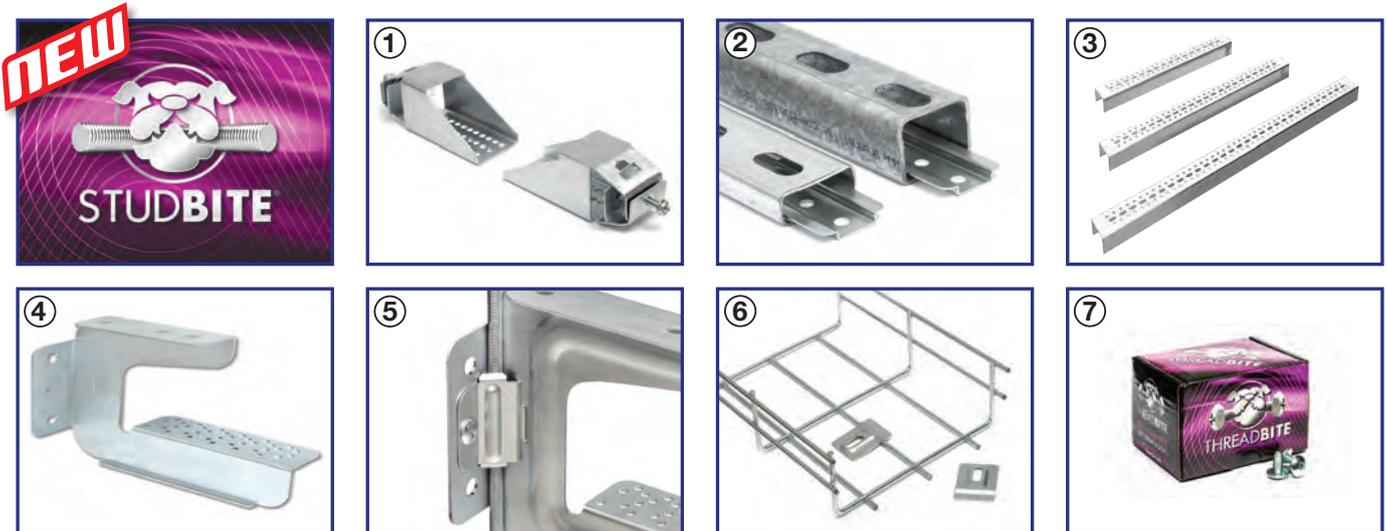
### G Clamps & Purlin Clips

CODE	TYPE	DESCRIPTION	IMAGE NUMBER
A1056	FC8T	M8 G Clamp	14
A1057	FC10T	M10 G Clamp	14
A632	PC11	Purlin Clip for M10 Rod	15
A1060	VF1-8MT	Pull Down Purlin Clip M8	16
A1062	VF1-10MT	Pull Down Purlin Clip M10	16



# STUDBITE® On-site easy-build Trapeze System

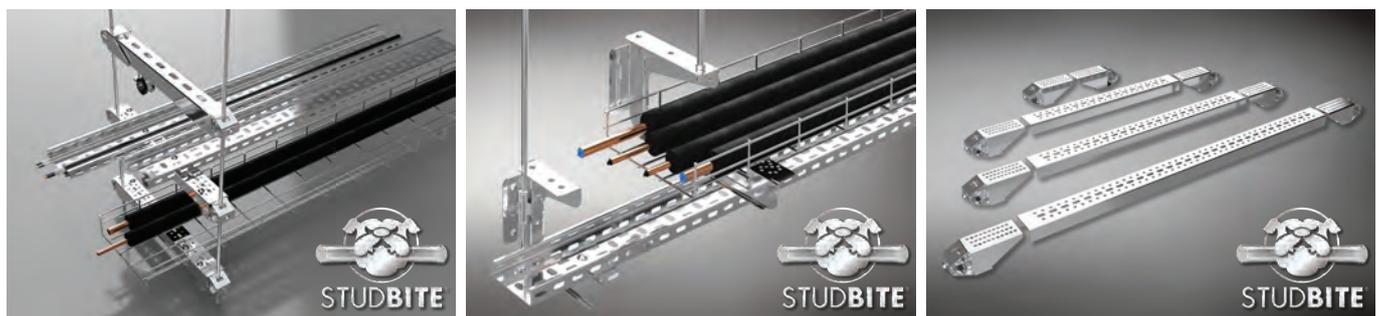
The STUDBITE® trapeze building system includes a unique range of trapeze support kits, adaptors and stud hangers that significantly reduce on-site labour costs and remove the inefficiencies from 1st-fix installations.



Steel channel and threaded rod are both among the most TRUSTED commodity fixing products used in all types of 1st-Fix installations globally! In recent times we have seen some Trapeze Brackets starting to be made off-site and also the introduction of Wire Rope Systems, which are more efficient to work with than Threaded Rod.

Our STUDBITE mission was to fix the inherent installation inefficiencies associated with Channel and Threaded Rod on 1st-Fix projects. We knew that if we could design an innovative product which overcomes the most labour intensive parts of a 1st-Fix Installation when working with these popular commodity products, we would be able to positively impact the productivity and on-site project installation efficiencies for contractors globally!

CODE	MODEL	DESCRIPTION	IMAGE NUMBER
A6009	TFCTSA	Studbite® Channel-to-Stud Adaptor (10 Pairs P/Box)	1
A6011	TFCAC	Studbite® Inverted Channel Adaptor Clamp (Pack 10)	2
A6013	TFTS300	Studbite® Channel Support - 300mm (Pack 10)	3
A6014	TFTS450	Studbite® Channel Support - 450mm (Pack 10)	3
A6015	TFTS600	Studbite® Channel Support - 600mm (Pack 10)	3
A6016	TFMFH100	Studbite® Multifix Single Stud Hanger - 100mm (Pack 10)	4
A6017	TFMFH150	Studbite® Multifix Single Stud Hanger - 150mm (Pack 10)	4
A6018	TFMFH225	Studbite® Multifix Single Stud Hanger - 225mm (Pack 10)	4
A6019	TFMFH300	Studbite® Multifix Single Stud Hanger - 300mm (Pack 10)	4
A6020	TFMFHRC	Studbite® Multifix Single Stud Hanger - Retro-Fit Clamp (Pack 10)	5
A6021	TFBTC	Studbite® Basket Tray Clamp (Pack 10)	6
A6022	TFTB610	Threadbite Self Threading Screws (250 Box)	7



## Cable Tray

Unitrunk's medium and light duty cable tray is produced in pre-galvanised mild steel to BS EN 10346:2009 or galvanised in accordance with BS EN ISO1461 and conforms to BS 61537:2007.



# UNITRUNK

### 3 Metre Length - Light Duty

CODE	SIZE
A490	50mm wide x 12mm Flange
A491	75mm wide x 12mm Flange
A492	100mm wide x 12mm Flange
A493	150mm wide x 12mm Flange

### 3 Metre Length - Medium Duty

CODE	SIZE
A500	75mm wide x 25mm Flange
A501	100mm wide x 25mm Flange
A502	150mm wide x 25mm Flange
A503	225mm wide x 25mm Flange
A504	300mm wide x 25mm Flange
A505	450mm wide x 25mm Flange
A506	600mm wide x 25mm Flange



### Cable Tray Coupling Kit (Medium Duty)

CODE	SIZE
A520	Cable Tray Coupling (pair)
A518	Uniklip Tray Jointing Clip (Single Clip)



### Cable Tray Stand Off Brackets

CODE	SIZE
A045	100mm
A046	150mm
A047	225mm
A048	300mm
A049	450mm



### Cable Tray Hangers

CODE	SIZE
A507	75mm Tray Hanger
A508	100mm Tray Hanger
A509	150mm Tray Hanger
A510	225mm Tray Hanger
A511	300mm Tray Hanger



### Cable Tray Flat Bend 90° (Medium Duty)

CODE	SIZE
A5200	75mm
A5201	100mm
A5202	150mm
A5203	225mm
A5204	300mm
A5205	450mm



## Cable Tray

Unitrunk's medium and light duty cable tray is produced in pre-galvanised mild steel to BS EN 10346:2009 or galvanised in accordance with BS EN ISO1461 and conforms to BS 61537:2007.



### Cable Tray Flat Bend 45° (Medium Duty)

CODE	SIZE
A5210	75mm
A5211	100mm
A5212	150mm
A5213	225mm
A5214	300mm
A5215	450mm



### Cable Tray Equal Tee (Medium Duty)

CODE	SIZE
A5220	75mm
A5221	100mm
A5222	150mm
A5223	225mm
A5224	300mm
A5225	450mm



### Cable Tray 4 Way Equal Intersection (Medium Duty)

CODE	SIZE
A5330	75mm
A5331	100mm
A5332	150mm
A5333	225mm
A5334	300mm
A5335	450mm



### Roofing Nuts and Bolts (Pack of 100)

CODE	SIZE
A580	M6 x 12mm
A579	M6 x 16mm
A581	M6 x 20mm
A582	M6 x 40mm
A583	M8 x 25mm



### Galv Spray

Protects against rust and corrosion. Use as a touch up for making good, cut trunking: cable tray, channel etc.

CODE	DESCRIPTION
A513	Cold Zinc Galvanising Spray 400ml



## Fixings

### Expanding Bolts

CODE	DESCRIPTION
A568	M8 x 70mm Thread Projecting
A569	M10 x 85mm Thread Projecting
A571	M8 x 60mm Loose Bolt Type
A572	M10 x 70mm Loose Bolt Type



### Wedge Anchors

CODE	DESCRIPTION
A574	M8 Wedge Anchor
A575	M10 Wedge Anchor
A577	M8 Drop in Anchor Setting Tool
A578	M10 Drop in Anchor Setting Tool



### Assorted Self Tapping Screws

SELEKTA BOX of assorted pan head pz self tapping screws or the smaller 305pc Draper box of assorted self tapping screws.

CODE	DESCRIPTION
A588	Draper 305pc Asst Pack of Self Tapping Pan Head Screws
A608	Selekt A Box Asst Pack of Self Tapping Pan Head Screws



### Self Drilling Screws

13 or 19 mm hex head self drilling screws in packs of 500, or assorted box of PZ Pan head self drillers. Plus Adaptor for Hex head screws.

CODE	DESCRIPTION
A695	5/16" Hex Head Self Drill Screws 13mm Long (Qty 500)
A696	5/16" Hex Head Self Drill Screws 19mm Long (Qty 500)
A697	5/16" Hex Head Magnetic Nut Spinner for above screws
A691	Asst Pack of PZ Headed Self Drill Screws



### Metal Self Drill Plasterboard Fixing

CODE	DESCRIPTION
A698	38mm Long Zinc Alloy Fixings complete with Screws (Pack 100)



### Wood Screws

CODE	DESCRIPTION
A5891	1" x N° 8 PZ C/Sunk (Qty 200)
A5892	1-1/4" x N° 8 PZ C/Sunk (Qty 200)
A5893	1-1/2" x N° 8 PZ C/Sunk (Qty 200)
A593	2" x N° 10 PZ C/Sunk (Qty 200)
A594	2-1/2" x N° 10 PZ C/Sunk (Qty 200)



### Assorted Wood Screws

CODE	DESCRIPTION
Q923	Forgefix PRO Assorted Pack of 1100 pc C/S PZ Woodscrews
A5898	Selektabox Assorted Countersunk Woodscrews PZ



## Fixings

### Plastic Wall Plugs

CODE	DESCRIPTION
A595	Red Plug to Suit Screw Sizes 6, 8 and 10 (Pack 100)
A598	Brown Plug to Suit Screw Sizes 10, 12 and 14 (Pack 100)



### Wall Plug and Screw Sets

CODE	DESCRIPTION
A596	Trade Tub 1 (400 x 2" N°10 Wood Screws & Brown Plugs*)
A599	Trade Tub 2 (500 x 1-1/2" N°8 Wood Screws & Red Plugs*)
A601	Fix A Box. Assorted Brown/Red Plug and Screw Set

\*Each Trade Tub also includes either a 6 or 7mm masonry drill bit and a N°2 PZ Driver Bit



### SELEKTA BOX (M5 Nuts Bolts and Washers)

Good assortment of Small M5 Nuts and bolts ideal for both service and installation engineers.

CODE	DESCRIPTION
A6010	Assorted M5 Nuts, Bolts & Washers



### Dual Socket Bolt

Drill 6mm hole into concrete, screw in fixing to hang M8 or M10 Rod. Suitable for fitting overhead installations, suitable for many substrates. Approved for hollow core slabs.

CODE	DESCRIPTION
A6000	6mm Ø x 55mm. Dual thread for M8 or M10 Rod



### Dual Back Plates

Zinc plated backplate for ceiling bolt takes either M8 or M10 Rod. Cost effective versatile rod hanger.

CODE	DESCRIPTION
A6005	Dual for M8/M10



### Nylon Threaded Rod

Threaded Nylon Rod pre-cut to 1M Lengths in 3 thread sizes. M8, M10 & M12. Buffalo Bolts come pre-cut to 305mm long with a moulded domed head to one end of rod. Range of nuts also available.

CODE	SIZE
A449	M8 x 1M Screwed Rod
A450	M10 x 1M Screwed Rod
A451	M12 x 1M Screwed Rod
A454	M8 Washer Faced Nut
A443	M10 Nylon Washer
A455	M10 Washer Faced Nut
A456	M12 Washer Faced Nut
A458	M10 Domed Nut
A459	M10 Hex Full Nut
A430	M12 x 305mm Buffalo Bolt



Recommended maximum safe working loads for Nylon Threaded Rod.

M8 - 50kg M10 - 80kg M12 - 120kg M12 Buffalo Bolts - 120kg

Please note figures quoted are for vertical loads only. No data is available for inclined or horizontal loads.

Care should be taken not to over tighten nuts, they should be tightened by hand and then given half a turn with a spanner.

## Type 1 Brackets

These flat-packed, self assembly brackets provide a professional finish to the installation of wall mounted outdoor condensing units. The Type 1 brackets have uprights that mount directly onto the wall via 6 shell anchor bolts provided, maximising the rigidity of the installation. For improved corrosion resistance all metal now receives a 100% zinc plating, followed by a hard ED coating before being finished with an external grade polyester powder coating to RAL 7032.

### EASY-FIT Brackets Type 1

CODE	MODEL
A303	TYPE 1-60kgs Bracket
A304	TYPE 1-90kgs Bracket
A305	TYPE 1-140kgs Bracket



### Specification

CODE	DESCRIPTION	SAFE WORKING LOAD	MAX WORKING LOAD	UPRIGHT	SUPPORT ARM
A303	Type 1 Bracket - Small	60kg	120kg	450mm	480mm
A304	Type 1 Bracket - Medium	90kg	180kg	500mm	530mm
A305	Type 1 Bracket - Large	140kg	280kg	550mm	580mm

## Type 2 Brackets

Designed to suit all brands of air conditioner, ACR brackets support outdoor condensing units mounted on exterior walls.

Available in three sizes to mount units up to 140kg.

All brackets are tested to twice the rated safe working loads.

All crossbars, arms and uprights are made from electro-galvanised steel, polyester powder coated. Colours: CB2 brackets are RAL7032, CBE is RAL9002.

### CB-2 Brackets

CODE	MODEL
A1301	TYPE 2-60kgs Bracket
A1306	TYPE 2-90kgs Bracket
A1307	TYPE 2-140kgs Bracket



### Specification

CODE	DESCRIPTION	SAFE WORKING LOAD	MAX WORKING LOAD	CROSSBAR	UPRIGHT	SUPPORT ARM
A1301	CB-2 Bracket - Small	60kg	120kg	720mm	400mm	400mm
A1306	CB-2 Bracket - Medium	90kg	180kg	900mm	500mm	500mm
A1307	CB-2 Bracket - Large	140kg	280kg	1100mm	550mm	540mm

## Type 3 Brackets

The unique interlocking mechanism of the Type 3 condensing unit brackets enable the arms to be joined to the uprights in a matter of seconds. A spring-Lock automatically secures the joint, preventing the arms being dislodged accidentally, for improved corrosion resistance all metal now receives a 100% zinc plating, followed by a hard ED coating before being finished with an external grade polyester powder coating to RAL 7032.

### EASY-FIT Brackets Type 3

CODE	MODEL
A287	TYPE 3-90kgs Bracket
A288	TYPE 3-140kgs Bracket



### Specification

CODE	DESCRIPTION	SAFE WORKING LOAD	MAX WORKING LOAD	CROSSBAR	UPRIGHT	SUPPORT ARM
A287	Type 3 Bracket - Medium	90kg	180kg	900mm	500mm	500mm
A288	Type 3 Bracket - Large	140kg	280kg	1040mm	550mm	540mm

## Condensing Unit Drip Trays

Drip trays to fit condensing unit brackets to prevent dripping water when heat pumps are on defrost. Available in metal or plastic.

### Metal Trays

CODE	METAL TYPE
A275	Small - 800 x 400 x 50mm
A276	Large - 1100 x 400 x 50mm

### Plastic Trays

CODE	PLASTIC TYPE
A278	Small Plastic 790 x 390mm
A279	Large Plastic 940 x 420mm



## Condensing Unit Guards

Quick and easy to assemble, these guards protect outdoor a/c units against accidental damage and vandalism. All panels are made from perforated electro-galvanised steel, textured polyester powder coated – RAL7032. Additional base panels available for high wall mounted units. Additional back panels available for floor standing units. Four, hex-key security bolts and sliding panels for quick and easy maintenance.

CODE	MODEL
A1260	Small (CG-S)
A1261	Medium (CG-M)
A1262	Large (CG-L)
A1263	Extra Large (CG-XL)

### Base Panel

CODE	TYPE
A1264	Base Panel for Small Guard (CG-BPS)
A1265	Base Panel for Medium/Large Guard (CG-BPM)

### Front/Back Panel

CODE	TYPE
A1268	Front/Back Panel for Small Guard (CG-FPS)
A1269	Front/Back Panel for Medium Guard (CG-FPM)
A1270	Front/Back Panel for Large Guard (CG-FPL)
A1271	Front/Back Panel for Extra Large Guard (CG-AF)



Model	EXTERNAL DIMENSIONS MM			INTERNAL DIMENSIONS MM			Weight
	Height	Width	Depth	Height	Width	Depth	
Small	750mm	1050mm	460mm	720mm	1020mm	450mm	18kg
Medium	1150mm	1150mm	650mm	1120mm	1120mm	640mm	27kg
Large	1450mm	1150mm	650mm	1420mm	1120mm	640mm	30kg
Extra Large	1800mm	1150mm	650mm	1770mm	1120mm	640mm	40kg

## Cantilever Arm Kit

Cantilever arm kits are available in 3 different sizes. They are a quick and easy solution to supporting air conditioning units and heat pump systems to the wall. These kits are supplied flat packed with all the nuts, bolts, washers, wall fixings and black end caps required to assemble the brackets and mount them to the wall.

450 C/Lever Arm Kit Safe Working Load 250kg per arm  
 600 C/Lever Arm Kit Safe Working Load 190kg per arm  
 750 C/Lever Arm Kit Safe Working Load 150kg per arm

CODE	TYPE
A799	450mm Cantilver Arm Kit (450 deep x 750 high)
A800	600mm Cantilver Arm Kit (600 deep x 750 high)
A801	750mm Cantilver Arm Kit (750 deep x 750 high)

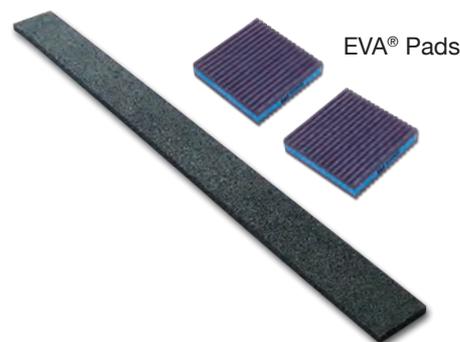


## Heavy Duty Anti Vibration Pads and Strips

The re-cycled rubber anti-vibration mounting strips are a low cost option for mounting air conditioning units, they reduce vibration, dampen sound and come in a 1 metre long strip.

The EVA® anti-vibration pads are designed to effectively eliminate vibrations and reduce noise with its EVA® core and ribbed rubber outer.

CODE	TYPE
A977	Anti Vibration Strip 1000 x 75 x 15mm
A975	MP-4E EVA® Pad 100 x 100 x 20mm
A978	MP-6E EVA® Pad 150 x 150 x 20mm



## H - Frame - Multi Purpose Support

The H Frame Set is a quick, versatile and economical solution for supporting pipework, duct, cable ladders/trays or any combination of these. You provide your own strut, keeping the duct and pipe installations low-cost and totally flexible by fabricating the framework on-site.

Comes complete with 305 mm<sup>2</sup> or 450 mm<sup>2</sup> feet.

(Slotted channel shown not included with H-Frame)

The kit includes: Two AV Mats, two feet, two Unistrut Inserts, two L Brackets, four M10 Bolts and four Square Channel Nuts.

CODE	SIZE
A993	Big Foot H-Frame Set with 305 x 305mm <sup>2</sup> Feet
A994	Big Foot H-Frame Set with 450 x 450mm <sup>2</sup> Feet



## Ultralite® Slabs

Ultralite® Slabs look and perform like concrete slabs but at only 13kg they are lightweight and very easy to handle and transport.

Constructed using an encapsulated polystyrene core covered in a reinforced cement coating.

Safe working load 56kg per 50mm diameter.

CODE	SIZE
A284	600 x 600mm



## Channel Sockets 1/2" Drive x 17mm

These sockets make installing slotted channel so much easier.

Unlike standard round 17mm sockets that get stuck in the channel, these British made sockets are specifically engineered with flat sides that fit in & out of the slotted channel with ease. Channel Sockets are available in 2 sizes, one for shallow channel 41 x 21mm and one for deep channel 41 x 41mm.

CODE	DESCRIPTION
A6070	17mm Channel Socket for 41 x 21mm Channel
A6071	17mm Channel Socket for 41 x 41mm Channel



## Cooleo Condensing Unit Blocks

Made from recycled rubber, these feet can support pipework, cable tray and can be used to mount air conditioning units, air source heat pumps and a variety of outdoor equipment. Available in four sizes. 21 x 41mm galvanised steel strut is supplied bonded to the rubber. Drain slots moulded to underside of foot.

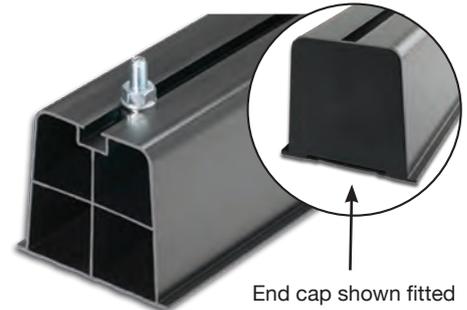


CODE	SIZE
A982	250 x 185 x 100mm
A983	400 x 185 x 100mm
A984	600 x 185 x 100mm
A985	1000 x 185 x 100mm

## Plastic Condensing Unit Block

Available in 450mm and 1000mm lengths. Now available with matching black end caps. Each block comes complete with 2 bolts per foot.

CODE	SIZE
A979	450mm Long Condensing Unit Block
A980	1000mm Long Condensing Unit Block
A981	End Cap to suit above



## Roof Support Systems

FSW offer a range of roof support systems which are simple and universal framework that can be used to support anything on a flat roof.

They are designed to spread the weight of plant on delicate roof surfaces and enables maintenance of the roof without the costly removal of equipment from it.

Roof Support Systems are ideal for: condensers packaged units of all sizes, split or VRV air conditioning systems, ventilation units, pipework and ductwork.

Roof support systems are quick to assemble and adjust. Framework intersections are tightened into position to provide a rigid and sturdy structure. Supplied flat-pack for easy transportation and constructed from hot dipped galvanised metalwork.

Please Note: The manufacturer of these systems take no responsibility for the condition of the roof on which their equipment is to be used. You must ensure that the substrate on which the roof support system is intended for use is structurally sound enough to take the weight and point loadings they have indicated.

Roof support systems must be installed in line with the guarantees and recommendations of the manufacturer of the roofing system. The manufacturer of PVC membranes should advise on the susceptibility migration of plasticizers and specific recommendations should be adhered to so that the roof guarantee is not affected.

We offer a range modular frameworks available for supporting a variety of small condensing units.

For flexibility all leg assemblies and cross bars on the modular framework slide up and down to the required location.

Apart from a wide range of packaged roof support systems, we also offer a bespoke design service creating roof support systems specific to each customer's requirements.



DIMENSIONS	A990	A991	A992
Framework	1m x 1.3m	2m x 1.3m	3m x 1.3m
Weight	42kgs	70kgs	97kgs

CODE	TYPE
A990	Roof Support 2
A991	Roof Support 4
A992	Roof Support 6

# Aspen Xtra Economy Plastic Trunking

Easy-to-use ivory colour plastic trunking and accessories for professional installations.



**Straight Duct**

CODE	TYPE
A911	D-70
A912	D-105



**Duct End Caps**

CODE	TYPE
A914	DC-70
A915	DC-105



**Outlet Cover**

CODE	TYPE
A916	WC-70
A917	WC-105



**90° Flat Bend**

CODE	TYPE
A921	FB-70
A922	FB-105



**45° Flat Bend**

CODE	TYPE
A923	FB-105



**90° Elbow (Internal)**

CODE	TYPE
A926	EB-70
A927	EB-105



**90° Elbow (External)**

CODE	TYPE
A954	EIN-70
A955	EIN-105



**Duct Couplers**

CODE	TYPE
A931	CP-70
A932	CP-105



**Tee Joint**

CODE	TYPE
A935	TJ-150



**Flexible Joint**

CODE	TYPE
A939	FJ-70
A940	FJ-105



**End Socket**

CODE	TYPE
A952	DE-70
A953	DE-105



**Flat Wall Rosette**

CODE	TYPE
A964	FR-70
A965	FR-105



**Ceiling Rosette**

CODE	TYPE
A970	WR-70
A971	WR-105



**Reducer Joints**

CODE	TYPE
A968	RJ-70/105



**Fast Clip**

CODE	TYPE
A957	B6100



Please note: All items shown above are also available in white, to order only.

# Inoac Plastic Trunking

Ivory colour Inoac trunking and fittings are competitively priced and produced to the highest of standards. This top quality versatile range of PVC trunking is designed to hide unsightly pipework in air conditioning and refrigeration. It is aesthetically pleasing and will blend in with an assortment of environments, being suitable for both internal and external applications.



**Straight Duct**

CODE	TYPE
A1000	CD-75
A1001	CD-100



**Outlet Cover**

CODE	TYPE
A1002	NW-75
A1003	NW-100



**Elbow (Flat)**

CODE	TYPE
A1004	NE-75
A1005	NE-100



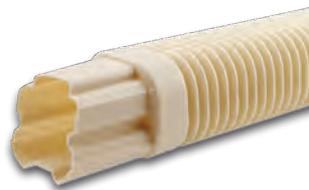
**Corner Cap**

CODE	TYPE
A1006	NA-75
A1007	NA-100



**Elbow (Vertical)**

CODE	TYPE
A1008	NC-75
A1009	NC-100



**Flexible Joint**

CODE	TYPE
A1010	NF-75
A1011	NF-100



**Wall Cap**

CODE	TYPE
A1012	NK-75
A1013	NK-100



**45° Elbow (Flat)**

CODE	TYPE
A1014	NM-75
A1015	NM-100



**Socket**

CODE	TYPE
A1016	NS-75
A1017	NS-100



**Tee**

CODE	TYPE
A1018	NT-75
A1019	NT-100



**45° Elbow (Vertical)**

CODE	TYPE
A1020	NU-75
A1021	NU-100



**Universal Elbow (Flat)**

CODE	TYPE
A1022	NX-75
A1023	NX-100



**Universal Elbow (Vertical)**

CODE	TYPE
A1024	NZ-75



**End Socket**

CODE	TYPE
A1025	NR-75



Please note: All items shown above are also available in white, to order only.

## Inaba Denko Slimline Black Plastic Trunking

The NEW range of Inaba Denko internal and external trunking will ensure that the air conditioning refrigeration pipes are protected with a professional finish. Available in Black only from stock. UV resistant, fire proof and can be painted to suit many indoor and outdoor applications.



**Straight Duct**

CODE	TYPE
A1150	75mm
A1151	100mm



**45° Flat Bend**

CODE	TYPE
A1152	75mm
A1153	100mm



**45° Elbow Bend**

CODE	TYPE
A1154	75mm
A1155	100mm



**90° Flat Bend**

CODE	TYPE
A1156	75mm
A1157	100mm



**90° Elbow**

CODE	TYPE
A1158	75mm
A1159	100mm



**Wall Cover**

CODE	TYPE
A1160	75mm
A1161	100mm



**Connection Piece**

CODE	TYPE
A1162	70mm
A1163	100mm



**Reducer Joint**

CODE	TYPE
A1164	100-75mm



**Tee Joint**

CODE	TYPE
A1165	75mm
A1166	100mm



**Wall Rosette**

CODE	TYPE
A1167	75mm
A1168	100mm



**Flat Wall Rosette**

CODE	TYPE
A1169	75mm
A1170	100mm



**Duct End**

CODE	TYPE
A1171	75mm
A1172	100mm



# Think I.T. Cooling Think Innovation Think s-MEXT

Introducing the high-precision **s-MEXT DX Computer Room Air Conditioning range** from Mitsubishi Electric. This reliable packaged system combines the compact s-MEXT indoor unit and the award winning Mr Slim Power Inverter outdoor unit, to deliver the high sensible cooling and close control of temperature and humidity needed for business-critical I.T. equipment – all in an easy-to-install, high efficiency plug and play system.



Think I.T. Cooling. Think Mitsubishi Electric.  
Visit [thinkITcooling.co.uk](http://thinkITcooling.co.uk)

*THINK*  
**I.T.COOLING**



UPGRADE YOUR TOOLBOX

# D-TEK 3<sup>®</sup>

Introducing the new **JAVAC Edge D-TEK 3** refrigerant gas leak detector designed to help you get your job done faster and a versatile tool for everyday HVAC/R maintenance and repair.

- Detects all HCFCs, HFCs, HFOs, blends (including A2Ls), ammonia & SF6
- Ultra high sensitivity to all standard refrigerant gases, 1gm/yr
- Easy-to-change sensor
- Quick charge lithium ion battery
- Longest sensor life in the industry
- Optional CO2 sensor gives you two instruments in one
- Backed by a two year guarantee

**Instore or online today!**  
[www.fsw.uk.com](http://www.fsw.uk.com)



LED display

Headphone jack for audible alerts



New, redesigned infrared sensor with easy field replacement





## FITTINGS, FLARE & SOLDER

---

# Flare Fittings

## Flare Nuts

CODE	MODEL	SIZE INCH
B001	NS4-3	3/16
B002	NS4-4	1/4
B003	NS4-5	5/16
B004	NS4-6	3/8
B005	NS4-8	1/2
B006	NS4-10	5/8
B007	NS4-12	3/4



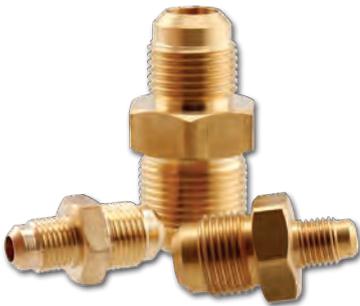
## Reducing Flare Nuts

CODE	MODEL	SIZE INCH
B010	NRS4-43	1/4 x 3/16
B011	NRS4-54	5/16 x 1/4
B012	NRS4-64	3/8 x 1/4
B013	NRS4-65	3/8 x 5/16
B014	NRS4-86	1/2 x 3/8
B015	NRS4-108	5/8 x 1/2
B016	NRS4-1210	3/4 x 5/8



## Reducing Flare Connectors

CODE	MODEL	SIZE INCH
B028	UR2-43	1/4 x 3/16
B029	UR2-54	5/16 x 1/4
B030	UR2-64	3/8 x 1/4
B031	UR2-65	3/8 x 5/16
B032	UR2-84	1/2 x 1/4
B033	UR2-86	1/2 x 3/8
B034	UR2-104	5/8 x 1/4
B035	UR2-106	5/8 x 3/8
B036	UR2-108	5/8 x 1/2
B037	UR2-126	3/4 x 3/8
B038	UR2-128	3/4 x 1/2
B039	UR2-1210	3/4 x 5/8



## Equal Flare Connectors

CODE	MODEL	SIZE INCH
B019	U2-3	3/16
B020	U2-4	1/4
B021	U2-5	5/16
B022	U2-6	3/8
B023	U2-8	1/2
B024	U2-10	5/8
B025	U2-12	3/4



## Equal Flare Elbow

CODE	MODEL	SIZE INCH
B083	E2-4	1/4
B084	E2-6	3/8
B085	E2-8	1/2



## Flare Cap Nuts

CODE	MODEL	SIZE INCH
B043	N5-4	1/4
B044	N5-5	5/16
B045	N5-6	3/8
B046	N5-8	1/2
B047	N5-10	5/8



## Elbow, Male Flare x MPT

CODE	MODEL	SIZE INCH
B090	E1-4A	1/4 x 1/8
B091	E1-48	1/4 x 1/4



# Flare Fittings

## Flare Reducer, Female x Male Flare

CODE	MODEL	SIZE INCH
B049	UR3-64	3/8 x 1/4
B050	UR3-84	1/2 x 1/4
B051	UR3-46	1/4 x 3/8
B052	UR3-106	5/8 x 3/8
B053	UR3-86	1/2 x 3/8
B054	UR3-48	1/4 x 1/2
B055	UR3-68	3/8 x 1/2
B056	UR3-108	5/8 x 1/2
B057	UR3-128	3/4 x 1/2
B058	UR3-610	3/8 x 5/8
B059	UR3-810	1/2 x 5/8
B060	UR3-1210	3/4 x 5/8
B061	UR3-812	1/2 x 3/4
B062	UR3-1012	5/8 x 3/4



## Half Union, Male Flare x MPT

CODE	MODEL	SIZE INCH
B075	U1-4A	1/4 x 1/8
B076	U1-4B	1/4 x 1/4
B077	U1-4C	1/4 x 3/8
B078	U1-6A	3/8 x 1/8
B079	U1-6B	3/8 x 1/4
B080	U1-6C	3/8 x 3/8
B082	U1-8B	1/2 x 1/4



## Pipe Plug (MPT)

CODE	MODEL	SIZE INCH
B103	P3-A	1/8
B104	P3-B	1/4
B105	P3-C	3/8
B106	P3-D	1/2



## Female Coupling, Male Flare x FPT

CODE	MODEL	SIZE INCH
B065	U3-4A	1/4 x 1/8
B066	U3-4B	1/4 x 1/4
B067	U3-4C	1/4 x 3/8
B068	U3-6A	3/8 x 1/8
B069	U3-6B	3/8 x 1/4



## Female Flare Connectors

CODE	MODEL	SIZE INCH
B092	U4-4	1/4
B093	U4-6	3/8
B094	U4-8	1/2



## Flare Plug

CODE	MODEL	SIZE INCH
B096	P2-4	1/4
B098	P2-6	3/8
B099	P2-8	1/2
B100	P2-10	5/8



## Fusible Plug

CODE	MODEL	TEMP	SIZE INCH
B108	FP-A	99°C	1/8 MPT
B109	FP-B	99°C	1/4 MPT
B110	FP-C	99°C	3/8 MPT



# Flare Fittings

## Flare Bonnet

CODE	MODEL	SIZE INCH
B113	B1-4	1/4
B114	B1-5	5/16
B115	B1-6	3/8
B116	B1-8	1/2
B117	B1-10	5/8
B118	B1-12	3/4
B119	B1-14	7/8



## Flare Gasket

CODE	MODEL	SIZE INCH
B123	B2-4	1/4
B124	B2-5	5/16
B125	B2-6	3/8
B126	B2-8	1/2
B127	B2-10	5/8
B128	B2-12	3/4



## Equal Flare Tee

CODE	MODEL	SIZE INCH
B133	T2-4	1/4
B135	T2-6	3/8
B136	T2-8	1/2
B137	T2-10	5/8



## Flare Tee, Branch Increasing

CODE	MODEL	SIZE INCH
B140	TR2-46	1/4 x 1/4 x 3/8
B142	TR2-68	3/8 x 3/8 x 1/2



## Flare Tee, Branch Reducing

CODE	MODEL	SIZE INCH
B150	TR2-64	3/8 x 3/8 x 1/4
B151	TR2-84	1/2 x 1/2 x 1/4
B152	TR2-86	1/2 x 1/2 x 3/8



## Tee, Male Flare x MPT

CODE	MODEL	SIZE INCH
B160	T1-4A	1/4 x 1/8
B161	T1-4B	1/4 x 1/4



## Tee, Male Flare x FPT

CODE	MODEL	SIZE INCH
B170	T5-4A	1/4 MF x 1/8 FPT



## Tee, Male Flare x Female

CODE	MODEL	SIZE INCH
B180	5686	1/4



## Flare Adapters

Flare Adapters can be used to replace flare fittings. A sleeve is brazed to the tube and the seal is made by a copper gasket. This enables a new gasket to be fitted each time the connection is broken.

CODE	MODEL	SIZE INCH
B190	FA-2	1/4
B191	FA-3	3/8
B192	FA-4	1/2
B193	FA-5	5/8



## Thread Sealant

Diversitech Leak Lock is a state-of-the-art high strength, pipe joint sealant. When Leak Lock is applied to pipe joints, it adheres to the mating surfaces. After joints are assembled, Leak Lock sets to form a chemically resistant flexible fluid-tight seal.

RectorSeal® Tru-Blu™ pipe thread sealant with PTFE is a fast-dry, flexible set thread sealant designed for high vibration environments such as refrigeration and industrial applications. PTFE has been added to enhance thread lubrication during assembly and break out. Great for use as a positive lock and seal on threaded fasteners.

LOCTITE® 577 is designed for the locking and sealing of metal threaded pipes and fittings. The product cures when confined in the absence of air between close fitting metal surfaces and prevents loosening and leakage from shock and vibration.

CODE	MODEL	PACK SIZE
Q262	Leak Lock	40ml
B197	Tru-Blu	50gram
N087	Loctite 577	50ml



## Solder Fitting

### 90° Elbow, Short Radius (C x C)

CODE	MODEL	SIZE INCH
B200	9607	1/4
B201	9607	3/8
B202	9607	1/2
B203	9607	5/8
B204	9607	3/4
B205	9607	7/8
B206	9607	1-1/8
B207	9607	1-3/8
B208	9607	1-5/8
B209	9607	2-1/8
B210	9607	2-5/8
B211	9607	3-1/8
B212	9607	3-5/8
B213	9607	4-1/8



### 90° Bend, Long Radius (C x C)

CODE	MODEL	SIZE INCH
B214	9607 LT	1/4
B215	9607 LT	3/8
B216	9607 LT	1/2
B217	9607 LT	5/8
B218	9607 LT	3/4
B219	9607 LT	7/8
B220	9607 LT	1-1/8
B221	9607 LT	1-3/8
B222	9607 LT	1-5/8
B223	9607 LT	2-1/8
B224	9607 LT	2-5/8
B225	9607 LT	3-1/8
B226	9607 LT	3-5/8
B227	9607 LT	4-1/8



### 90° Elbow, Fitting x Copper, Short Radius (F x C)

CODE	MODEL	SIZE INCH
B430	9607-2	1/2
B431	9607-2	5/8
B432	9607-2	3/4
B433	9607-2	7/8
B434	9607-2	1-1/8
B435	9607-2	1-3/8
B436	9607-2	1-5/8
B437	9607-2	2-1/8
B438	9607-2	2-5/8
B439	9607-2	3-1/8



### 90° Bend, Fitting x Copper, Long Radius (F x C)

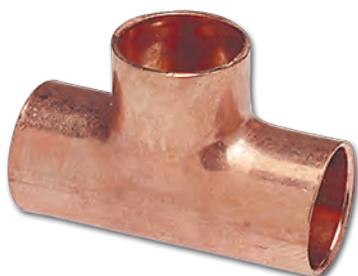
CODE	MODEL	SIZE INCH
B228	9607-2 LT	1/4
B229	9607-2 LT	3/8
B230	9607-2 LT	1/2
B231	9607-2 LT	5/8
B232	9607-2 LT	3/4
B233	9607-2 LT	7/8
B234	9607-2 LT	1-1/8
B235	9607-2 LT	1-3/8
B236	9607-2 LT	1-5/8
B237	9607-2 LT	2-1/8
B444	9607-2 LT	2-5/8
B445	9607-2 LT	3-1/8
B446	9607-2 LT	3-5/8
B447	9607-2 LT	4-1/8



## Solder Fitting

### Equal Tee Copper x Copper (C x C)

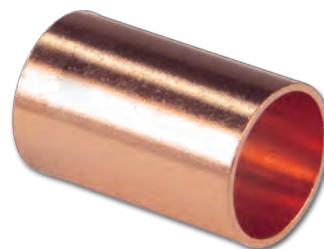
CODE	MODEL	SIZE INCH
B340	9611	1/4
B341	9611	3/8
B342	9611	1/2
B343	9611	5/8
B344	9611	3/4
B345	9611	7/8
B346	9611	1-1/8
B347	9611	1-3/8
B348	9611	1-5/8
B349	9611	2-1/8
B350	9611	2-5/8
B351	9611	3-1/8
B352	9611	3-5/8
B353	9611	4-1/8



See Pages 44 & 45 For Reducing Tees

### Coupling Copper x Copper (C x C)

CODE	MODEL	SIZE INCH
B355	9600	1/4
B356	9600	3/8
B357	9600	1/2
B358	9600	5/8
B359	9600	3/4
B360	9600	7/8
B361	9600	1-1/8
B362	9600	1-3/8
B363	9600	1-5/8
B364	9600	2-1/8
B365	9600	2-5/8
B366	9600	3-1/8
B367	9600	3-5/8
B368	9600	4-1/8



### 45° Elbow (C x C)

CODE	MODEL	SIZE INCH
B328	9606	1/4
B329	9606	3/8
B327	9606	1/2
B330	9606	5/8
B331	9606	3/4
B332	9606	7/8
B333	9606	1-1/8
B334	9606	1-3/8
B335	9606	1-5/8
B336	9606	2-1/8
B450	9606	2-5/8
B451	9606	3-1/8
B452	9606	3-5/8
B453	9606	4-1/8



### 45° Elbow (F x C)

CODE	MODEL	SIZE INCH
B522	9606-2	3/8
B523	9606-2	1/2
B524	9606-2	5/8
B520	9606-2	3/4
B525	9606-2	7/8
B526	9606-2	1-1/8
B527	9606-2	1-3/8
B528	9606-2	1-5/8
B529	9606-2	2-1/8
B530	9606-2	2-5/8
B531	9606-2	3-1/8



## Solder Fitting

### Coupling Reducer - Copper to Copper (C x C)

CODE	MODEL	SIZE INCH		
B285	9600	3/8	x	1/4
B286	9600	1/2	x	3/8
B287	9600	1/2	x	1/4
B288	9600	5/8	x	1/2
B501	9600	5/8	x	1/4
B289	9600	5/8	x	3/8
B290	9600	3/4	x	5/8
B500	9600	3/4	x	3/8
B291	9600	3/4	x	1/2
B292	9600	7/8	x	3/4
B293	9600	7/8	x	5/8
B294	9600	7/8	x	1/2
B580	9600	7/8	x	3/8
B295	9600	1-1/8	x	7/8
B296	9600	1-1/8	x	3/4
B297	9600	1-1/8	x	5/8
B298	9600	1-1/8	x	1/2
B505	9600	1-3/8	x	5/8
B299	9600	1-3/8	x	1-1/8
B300	9600	1-3/8	x	7/8
B301	9600	1-5/8	x	1-3/8
B508	9600	1-5/8	x	5/8
B302	9600	1-5/8	x	1-1/8
B303	9600	1-5/8	x	7/8
B511	9600	2-1/8	x	7/8
B512	9600	2-1/8	x	1-1/8
B513	9600	2-1/8	x	1-3/8
B304	9600	2-1/8	x	1-5/8
B510	9600	2-1/8	x	5/8
B511	9600	2-1/8	x	7/8
B512	9600	2-1/8	x	1-1/8
B305	9600	2-5/8	x	2-1/8
B515	9600	2-5/8	x	1-1/8
B516	9600	2-5/8	x	1-3/8
B306	9600	2-5/8	x	1-5/8
B307	9600	3-1/8	x	2-5/8
B308	9600	3-1/8	x	2-1/8
B309	9600	3-1/8	x	1-5/8
B310	9600	3-5/8	x	3-1/8
B311	9600	4-1/8	x	3-5/8
B312	9600	4-1/8	x	3-1/8
B313	9600	4-1/8	x	2-5/8
B314	9600	4-1/8	x	2-1/8

### Coupling Reducer - Fitting to Copper (F x C)

CODE	MODEL	SIZE INCH		
B254	9600-2	3/4	x	3/8
B255	9600-2	3/8	x	1/4
B256	9600-2	1/2	x	3/8
B257	9600-2	1/2	x	1/4
B258	9600-2	5/8	x	1/2
B259	9600-2	5/8	x	3/8
B260	9600-2	3/4	x	5/8
B261	9600-2	3/4	x	1/2
B518	9600-2	7/8	x	3/8
B262	9600-2	7/8	x	3/4
B263	9600-2	7/8	x	5/8
B264	9600-2	7/8	x	1/2
B265	9600-2	1-1/8	x	7/8
B266	9600-2	1-1/8	x	3/4
B267	9600-2	1-1/8	x	5/8
B268	9600-2	1-1/8	x	1/2
B269	9600-2	1-3/8	x	1-1/8
B270	9600-2	1-3/8	x	7/8
B271	9600-2	1-3/8	x	5/8
B272	9600-2	1-5/8	x	1-3/8
B273	9600-2	1-5/8	x	1-1/8
B274	9600-2	1-5/8	x	7/8
B275	9600-2	1-5/8	x	5/8
B276	9600-2	2-1/8	x	1-5/8
B277	9600-2	2-1/8	x	1-3/8
B278	9600-2	2-1/8	x	1-1/8
B279	9600-2	2-1/8	x	7/8
B338	9600-2	2-1/8	x	5/8
B280	9600-2	2-5/8	x	2-1/8
B281	9600-2	2-5/8	x	1-5/8
B468	9600-2	2-5/8	x	1-3/8
B572	9600-2	2-5/8	x	1-1/8
B282	9600-2	3-1/8	x	2-5/8
B283	9600-2	3-1/8	x	2-1/8
B284	9600-2	3-1/8	x	1-5/8
B574	9600-2	3-1/8	x	1-3/8
B401	9600-2	3-5/8	x	2-5/8
B249	9600-2	3-5/8	x	3-1/8
B250	9600-2	4-1/8	x	3-5/8
B251	9600-2	4-1/8	x	3-1/8
B252	9600-2	4-1/8	x	2-5/8
B253	9600-2	4-1/8	x	2-1/8



## Solder Fitting

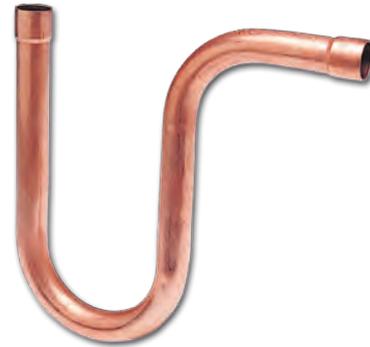
### 180° Return Bend (C x C)

CODE	MODEL	SIZE INCH
B240	9638	3/8
B241	9638	1/2
B242	9638	5/8
B243	9638	3/4
B244	9638	7/8
B245	9638	1-1/8
B246	9638	1-3/8
B247	9638	1-5/8
B248	9638	2-1/8



### Oil Trap (C x C)

CODE	MODEL	SIZE INCH
B315	9698	5/8
B316	9698	3/4
B317	9698	7/8
B318	9698	1-1/8
B319	9698	1-3/8
B320	9698	1-5/8
B321	9698	2-1/8



### Adaptor Male Solder to MPT

CODE	MODEL	SIZE INCH
B370	9604	5/8 x 1/2
B371	9604	7/8 x 3/4
B372	9604	1-1/8 x 1
B373	9604	1-3/8 x 1-1/4
B374	9604	1-5/8 x 1-1/2
B375	9604	2-1/8 x 2



### Adaptor Female Solder to MPT

CODE	MODEL	SIZE INCH
B381	9604	7/8 x 3/4
B382	9604	1-1/8 x 1
B383	9604	1-5/8 x 1-1/2
B384	9604	2-1/8 x 2



### End Cap

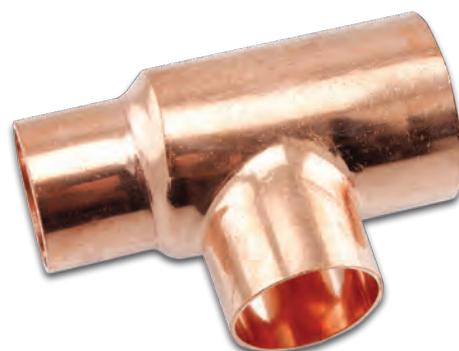
CODE	MODEL	SIZE INCH
B389	9617	3/8
B390	9617	1/2
B391	9617	5/8
B392	9617	3/4
B393	9617	7/8
B394	9617	1-1/8
B395	9617	1-3/8
B396	9617	1-5/8
B397	9617	2-1/8
B398	9617	2-5/8
B399	9617	3-1/8
B455	9617	4-1/8



## Solder Fitting

### Reducing Tees ( Last Size Branch) (C x C x C)

CODE	MODEL	SIZE INCH (C x C x C)					
B601	9610-0000	1/4	x	1/4	x	3/8	
B409	9610-0000	3/8	x	3/8	x	1/4	
B410	9610-0000	3/8	x	3/8	x	1/2	
B600	9610-0000	1/2	x	3/8	x	3/8	
B604	9610-0000	1/2	x	3/8	x	1/2	
B602	9610-0000	1/2	x	1/2	x	1/4	
B411	9610-0000	1/2	x	1/2	x	3/8	
B412	9610-0000	1/2	x	1/2	x	5/8	
B606	9610-000	5/8	x	3/8	x	1/2	
B607	9610-0000	5/8	x	1/2	x	3/8	
B560	9610-0000	5/8	x	1/2	x	1/2	
B609	9610-0000	5/8	x	1/2	x	5/8	
B561	9610-0000	5/8	x	5/8	x	3/8	
B413	9610-0000	5/8	x	5/8	x	1/2	
B613	9610-0000	5/8	x	5/8	x	3/4	
B414	9610-0000	5/8	x	5/8	x	7/8	
B415	9610-0000	5/8	x	5/8	x	1-1/8	
B614	9610-0000	3/4	x	5/8	x	5/8	
B616	9610-0000	3/4	x	3/4	x	3/8	
B618	9610-0000	3/4	x	3/4	x	1/2	
B620	9610-0000	3/4	x	3/4	x	5/8	
B622	9610-0000	3/4	x	3/4	x	7/8	
B629	9610-0000	7/8	x	1/2	x	1/2	
B624	9610-0000	7/8	x	1/2	x	7/8	
B626	9610-0000	7/8	x	5/8	x	1/2	
B628	9610-0000	7/8	x	5/8	x	5/8	
B562	9610-0000	7/8	x	5/8	x	7/8	
B564	9610-0000	7/8	x	7/8	x	3/8	
B418	9610-0000	7/8	x	7/8	x	1/2	
B417	9610-0000	7/8	x	7/8	x	5/8	
B634	9610-0000	7/8	x	7/8	x	1-1/8	
B639	9610-0000	1-1/8	x	5/8	x	5/8	
B538	9610-0000	1-1/8	x	5/8	x	7/8	
B638	9610-0000	1-1/8	x	5/8	x	1-1/8	
B540	9610-0000	1-1/8	x	7/8	x	7/8	
B640	9610-0000	1-1/8	x	7/8	x	5/8	
B646	9610-0000	1-1/8	x	7/8	x	1-1/8	
B565	9610-0000	1-1/8	x	1-1/8	x	1/2	
B419	9610-0000	1-1/8	x	1-1/8	x	5/8	
B542	9610-0000	1-1/8	x	1-1/8	x	3/4	
B416	9610-0000	1-1/8	x	1-1/8	x	7/8	
B566	9610-0000	1-1/8	x	1-1/8	x	1-3/8	
B650	9610-0000	1-1/8	x	1-1/8	x	1-5/8	
B544	9610-0000	1-1/8	x	1-3/8	x	1-3/8	
B652	9610-0000	1-3/8	x	7/8	x	7/8	
B545	9610-0000	1-3/8	x	7/8	x	1-1/8	
B654	9610-0000	1-3/8	x	7/8	x	1-3/8	
B656	9610-0000	1-3/8	x	1-1/8	x	5/8	
B427	9610-0000	1-3/8	x	1-1/8	x	7/8	
B567	9610-0000	1-3/8	x	1-1/8	x	1-1/8	
B425	9610-0000	1-3/8	x	1-3/8	x	5/8	
B421	9610-0000	1-3/8	x	1-3/8	x	7/8	
B420	9610-0000	1-3/8	x	1-3/8	x	1-1/8	
B660	9610-0000	1-3/8	x	1-1/8	x	1-3/8	



## Solder Fitting

### Reducing Tees ( Last Size Branch) (C x C x C)

CODE	MODEL	SIZE INCH (C x C x C)		
B568	9610-0000	1-3/8	x	1-3/8 x 1-5/8
B663	9610-0000	1-3/8	x	1-3/8 x 2-1/8
B665	9610-0000	1-5/8	x	7/8 x 7/8
B669	9610-0000	1-5/8	x	7/8 x 1-5/8
B664	9610-0000	1-5/8	x	1-1/8 x 7/8
B666	9610-0000	1-5/8	x	1-1/8 x 1-1/8
B668	9610-0000	1-5/8	x	1-1/8 x 1-5/8
B429	9610-0000	1-5/8	x	1-3/8 x 7/8
B670	9610-0000	1-5/8	x	1-3/8 x 1-1/8
B569	9610-0000	1-5/8	x	1-3/8 x 1-3/8
B673	9610-0000	1-5/8	x	1-3/8 x 1-5/8
B678	9610-0000	1-5/8	x	1-5/8 x 2-1/8
B674	9610-0000	1-5/8	x	1-5/8 x 5/8
B676	9610-0000	1-5/8	x	1-5/8 x 7/8
B423	9610-0000	1-5/8	x	1-5/8 x 1-1/8
B422	9610-0000	1-5/8	x	1-5/8 x 1-3/8
B552	9610-0000	2-1/8	x	2-1/8 x 5/8
B554	9610-0000	2-1/8	x	2-1/8 x 7/8
B680	9610-0000	2-1/8	x	1-3/8 x 1-1/8
B682	9610-0000	2-1/8	x	1-3/8 x 1-3/8
B549	9610-0000	2-1/8	x	1-3/8 x 2-1/8
B686	9610-0000	2-1/8	x	1-5/8 x 1-1/8
B550	9610-0000	2-1/8	x	1-5/8 x 1-3/8
B424	9610-0000	2-1/8	x	2-1/8 x 1-1/8
B556	9610-0000	2-1/8	x	2-1/8 x 1-3/8
B688	9610-0000	2-1/8	x	1-5/8 x 1-5/8
B694	9610-0000	2-1/8	x	2-1/8 x 1-5/8
B570	9610-0000	2-1/8	x	2-1/8 x 2-5/8
B555	9610-0000	2-5/8	x	2-1/8 x 1-5/8
B571	9610-0000	2-5/8	x	2-1/8 x 2-1/8
B700	9610-0000	2-5/8	x	2-5/8 x 7/8
B702	9610-0000	2-5/8	x	2-5/8 x 1-1/8
B558	9610-0000	2-5/8	x	2-5/8 x 1-3/8
B706	9610-0000	2-5/8	x	2-5/8 x 1-5/8
B708	9610-0000	2-5/8	x	2-5/8 x 2-1/8
B710	9610-0000	3-1/8	x	3-1/8 x 1-5/8
B712	9610-0000	3-1/8	x	3-1/8 x 2-1/8
B470	9610-0000	4-1/8	x	4-1/8 x 2-1/8
B471	9610-0000	4-1/8	x	4-1/8 x 2-5/8
B472	9610-0000	4-1/8	x	4-1/8 x 3-1/8



## >B< MaxiPro Copper Press Fittings

An innovative press system, which is quick and simple to install, providing a secure and permanent joint. Designed for air conditioning and refrigeration applications. Benefiting from over 100 years experience in fittings manufacture and over two decades experience in press system design, >B< MaxiPro is set to revolutionise pipe jointing in air conditioning and refrigeration applications.

>B< MaxiPro is a robust press system, which is quick and simple to use providing a secure and permanent joint. Compared with traditional techniques it significantly improves productivity through greatly reduced installation time and enhanced working flexibility.

### >B< MaxiPro Straight Coupler

CODE	SIZE	DESCRIPTION	PK QTY
B8001	1/4"	Straight Coupler (MaxiPro)	5
B8002	3/8"	Straight Coupler (MaxiPro)	5
B8003	1/2"	Straight Coupler (MaxiPro)	5
B8004	5/8"	Straight Coupler (MaxiPro)	5
B8005	3/4"	Straight Coupler (MaxiPro)	2
B8006	7/8"	Straight Coupler (MaxiPro)	2
B8007	1"	Straight Coupler (MaxiPro)	2
B8008	1-1/8"	Straight Coupler (MaxiPro)	2
B8116	1-3/8"	Straight Coupler (MaxiPro)	1



### >B< MaxiPro 90° Bend

CODE	SIZE	DESCRIPTION	PK QTY
B8012	1/4"	90° Bend (MaxiPro)	5
B8013	3/8"	90° Bend (MaxiPro)	5
B8014	1/2"	90° Bend (MaxiPro)	3
B8015	5/8"	90° Bend (MaxiPro)	3
B8016	3/4"	90° Bend (MaxiPro)	3
B8017	7/8"	90° Bend (MaxiPro)	3
B8018	1"	90° Bend (MaxiPro)	2
B8019	1-1/8"	90° Bend (MaxiPro)	2
B8117	1-3/8"	90° Bend (MaxiPro)	1



### >B< MaxiPro 90° Street Bend

CODE	SIZE	DESCRIPTION	PK QTY
B8025	3/8"	90° Street Bend (MaxiPro)	3
B8026	1/2"	90° Street Bend (MaxiPro)	3
B8027	5/8"	90° Street Bend (MaxiPro)	3
B8028	3/4"	90° Street Bend (MaxiPro)	3
B8029	7/8"	90° Street Bend (MaxiPro)	3
B8030	1"	90° Street Bend (MaxiPro)	2
B8031	1-1/8"	90° Street Bend (MaxiPro)	2
B8118	1-3/8"	90° Street Bend (MaxiPro)	1



### >B< MaxiPro Equal Tee

CODE	SIZE	DESCRIPTION	PK QTY
B8035	1/4"	Equal Tee (MaxiPro)	3
B8036	3/8"	Equal Tee (MaxiPro)	3
B8037	1/2"	Equal Tee (MaxiPro)	3
B8038	5/8"	Equal Tee (MaxiPro)	2
B8039	3/4"	Equal Tee (MaxiPro)	2
B8040	7/8"	Equal Tee (MaxiPro)	2
B8041	1"	Equal Tee (MaxiPro)	1
B8042	1-1/8"	Equal Tee (MaxiPro)	1
B8119	1-3/8"	Equal Tee (MaxiPro)	1



## >B< MaxiPro Copper Press Fittings

>B< MaxiPro can be used with hard, half hard or annealed copper tube conforming to EN 12735-1 or ASTM-B280, in both air conditioning and refrigeration applications and is approved for use with the following refrigerants: R1234yf, R1234ze, R32, R134a, R404A, R407C, R407F, R410A and R507.

### >B< MaxiPro Reducing Coupler

CODE	SIZE	DESCRIPTION	PK QTY
B8009	3/8" x 1/4"	Reducing Coupler (MaxiPro)	2
B8046	1/2" x 3/8"	Reducing Coupler (MaxiPro)	2
B8047	5/8" x 3/8"	Reducing Coupler (MaxiPro)	2
B8048	5/8" x 1/2"	Reducing Coupler (MaxiPro)	2
B8049	3/4" x 3/8"	Reducing Coupler (MaxiPro)	2
B8050	3/4" x 1/2"	Reducing Coupler (MaxiPro)	2
B8051	3/4" x 5/8"	Reducing Coupler (MaxiPro)	2
B8052	7/8" x 1/2"	Reducing Coupler (MaxiPro)	2
B8053	7/8" x 5/8"	Reducing Coupler (MaxiPro)	2
B8054	7/8" x 3/4"	Reducing Coupler (MaxiPro)	2
B8055	1-1/8" x 5/8"	Reducing Coupler (MaxiPro)	1
B8056	1-1/8" x 3/4"	Reducing Coupler (MaxiPro)	1
B8057	1-1/8" x 7/8"	Reducing Coupler (MaxiPro)	1
B8120	1-3/8" x 7/8"	Reducing Coupler (MaxiPro)	1
B8121	1-3/8" x 1-1/8"	Reducing Coupler (MaxiPro)	1



### >B< MaxiPro Fitting Reducer

CODE	SIZE	DESCRIPTION	PK QTY
B8062	3/8" x 1/4"	Fitting Reducer (MaxiPro)	2
B8063	1/2" x 3/8"	Fitting Reducer (MaxiPro)	2
B8064	5/8" x 3/8"	Fitting Reducer (MaxiPro)	2
B8065	5/8" x 1/2"	Fitting Reducer (MaxiPro)	2
B8066	3/4" x 1/2"	Fitting Reducer (MaxiPro)	2
B8067	3/4" x 5/8"	Fitting Reducer (MaxiPro)	2
B8068	7/8" x 1/2"	Fitting Reducer (MaxiPro)	2
B8069	7/8" x 5/8"	Fitting Reducer (MaxiPro)	2
B8070	7/8" x 3/4"	Fitting Reducer (MaxiPro)	2
B8071	1-1/8" x 1/2"	Fitting Reducer (MaxiPro)	1
B8072	1-1/8" x 5/8"	Fitting Reducer (MaxiPro)	1
B8073	1-1/8" x 3/4"	Fitting Reducer (MaxiPro)	1
B8074	1-1/8" x 7/8"	Fitting Reducer (MaxiPro)	1
B8122	1-3/8" x 7/8"	Fitting Reducer (MaxiPro)	1
B8123	1-3/8" x 1-1/8"	Fitting Reducer (MaxiPro)	1



### >B< MaxiPro 45° Bend

CODE	SIZE	DESCRIPTION	PK QTY
B8080	1/4"	45° Bend (MaxiPro)	3
B8081	3/8"	45° Bend (MaxiPro)	3
B8082	1/2"	45° Bend (MaxiPro)	3
B8083	5/8"	45° Bend (MaxiPro)	3
B8084	3/4"	45° Bend (MaxiPro)	3
B8085	7/8"	45° Bend (MaxiPro)	3
B8086	1"	45° Bend (MaxiPro)	2
B8087	1-1/8"	45° Bend (MaxiPro)	2
B8124	1-3/8"	45° Bend (MaxiPro)	1



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>B< MaxiPro

## >B< MaxiPro Copper Press Fittings

### >B< Maxipro Stop End

CODE	SIZE	DESCRIPTION	PK QTY
B8090	1/4"	Stop End (MaxiPro)	3
B8091	3/8"	Stop End (MaxiPro)	3
B8092	1/2"	Stop End (MaxiPro)	3
B8093	5/8"	Stop End (MaxiPro)	2
B8094	3/4"	Stop End (MaxiPro)	2
B8095	7/8"	Stop End (MaxiPro)	2
B8096	1"	Stop End (MaxiPro)	1
B8097	1-1/8"	Stop End (MaxiPro)	1
B8125	1-3/8"	Stop End (MaxiPro)	1



### >B< Maxipro Long Repair Coupler

CODE	SIZE	DESCRIPTION	PK QTY
B8100	1/4"	Long Repair Coupler (MaxiPro)	5
B8101	3/8"	Long Repair Coupler (MaxiPro)	5
B8102	1/2"	Long Repair Coupler (MaxiPro)	5
B8103	5/8"	Long Repair Coupler (MaxiPro)	3
B8104	3/4"	Long Repair Coupler (MaxiPro)	2
B8105	7/8"	Long Repair Coupler (MaxiPro)	2
B8106	1"	Long Repair Coupler (MaxiPro)	1
B8107	1-1/8"	Long Repair Coupler (MaxiPro)	1



### >B< Maxipro Simple Flare Adaptor

CODE	SIZE	DESCRIPTION	PK QTY
B8108	1/4"	Simple Flare Adaptor (MaxiPro)	4
B8109	3/8"	Simple Flare Adaptor (MaxiPro)	4
B8110	1/2"	Simple Flare Adaptor (MaxiPro)	2
B8111	5/8"	Simple Flare Adaptor (MaxiPro)	2
B8112	3/4"	Simple Flare Adaptor (MaxiPro)	2



### >B< Maxipro Depth Gauge

Replacement >B< Maxipro depth gauge, includes >B< Maxipro branded Sharpie permanent marker

CODE	DESCRIPTION	PK QTY
B8114	>B< Maxipro Depth Gauge and Marker	1



### >B< Maxipro Lubrication Oil

Genuine >B< Maxipro Silicone Lubrication Oil use on new fittings for extra lubrication and perfect for re-lubricating fittings dried out once pack has been opened.

CODE	DESCRIPTION	PK QTY
B8115	>B< Maxipro Lubrication Oil	1



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>B< MaxiPro

## >B< MaxiPro Press Tools

### Rothenberger Romax Compact TT Kit (1/4" - 1-1/8")

Rothenberger ROMAX compact TT Press Tool inc 1 x set of jaws from 1/4" to 1-1/8". 1 x 18V (2.0Ah) Battery, Charger, Int/Ext Deburrer, TC35 Tube Cutter, Internal Pen Deburrer, Rovlies Cleaning Pads, 2 x Rocase's one for the tool & one for the jaws.



CODE	DESCRIPTION
Q8100	Rothenberger Romax Compact TT Kit
Q8110	Rothenberger Romax Compact TT "Starter" Kit c/w 90 fittings*

\* Starter kit includes 90 fittings: 15 x 3/8", 15 x 1/2", 15 x 5/8" Couplers & 15 x 3/8", 15 x 1/2", 15 x 5/8" Elbows

### Rothenberger Romax Compact TT Press Tool Only

This reduced kit only includes the Rothenberger Compact TT press tool, a battery and carry case.



CODE	DESCRIPTION
Q8102	Rothenberger Romax Compact TT Press Tool Only with Battery Charger and Carry Case.

### Rothenberger Romax Compact TT Accessories

5 & 8 piece replacement jaw sets. Spare and or replacement 18V-2Ah battery and mains battery charger for the Romax TT Press Tool.



CODE	DESCRIPTION
Q8105	8 Piece Romax Compact TT Jaw Set Only (1/4" - 1-1/8")
Q8103	Romax Compact TT Battery Only (18V-2Ah)
Q8106	Romax Compact TT Mains Battery Charger (only)

### Rothenberger Romax 4000 Kit (1/4" - 1-3/8")

Rothenberger ROMAX 4000 Press Tool inc 1 x set of jaws from 1/4" to 1-3/8". 1 x 18V (2.0Ah) Battery, Charger and Carry Case.



CODE	DESCRIPTION
Q8107	Rothenberger Romax 4000 Kit C/W 1/4" - 1-3/8" Jaws etc.

### Rothenberger Romax 4000 (Tool Only)

Rothenberger Romax 4000 tool only complete with battery, mains battery charger and carry case



CODE	DESCRIPTION
Q8108	Rothenberger Romax 4000 Tool Only C/W Battery, Charger and Carry Case.

### Rothenberger Romax 4000 (1-3/8" Jaws Only)

1-3/8" Jaw for Rothenberger Romax 4000 Press Tool.  
PLEASE NOTE: Romax 4000 jaws are not compatible with the Compact TT Press Tool and vice versa.



CODE	DESCRIPTION
Q8109	Rothenberger Romax 4000 1-3/8" Jaws (Only)

# High Pressure CO<sub>2</sub> Copper Fittings

High pressure CO<sub>2</sub> fittings rated to 120 bar.

## 90° L/Radius Elbow C x C

CODE	SIZE INCH
B7000	3/8
B7001	1/2
B7002	5/8
B7003	3/4
B7004	7/8
B7015	1-1/8
B7016	1-3/8
B7017	1-5/8

## 90° L/Radius Street Elbow F x C

CODE	SIZE INCH
B7020	3/8
B7021	1/2
B7022	5/8
B7023	3/4
B7024	7/8
B7025	1-1/8
B7026	1-3/8
B7027	1-5/8

## Equal Tee C x C x C

CODE	SIZE INCH
B7050	3/8
B7051	1/2
B7052	5/8
B7053	3/4
B7054	7/8
B7055	1-1/8
B7056	1-3/8
B7057	1-5/8

## Coupling C x C

CODE	SIZE INCH
B7120	3/8
B7121	1/2
B7122	5/8
B7123	3/4
B7124	7/8
B7125	1-1/8
B7126	1-3/8
B7127	1-5/8

## 45° Street Elbow F x C

CODE	SIZE INCH
B7043	3/4
B7044	7/8
B7045	1-1/8
B7046	1-3/8
B7047	1-5/8

## 45° Elbow C x C

CODE	SIZE INCH
B7030	3/8
B7031	1/2
B7032	5/8
B7033	3/4
B7034	7/8
B7035	1-1/8
B7036	1-3/8
B7037	1-5/8

## Coupling (Reducing) C x C

CODE	SIZE INCH
B7112	1/2 x 3/8
B7107	5/8 x 1/2
B7113	3/4 x 5/8
B7109	7/8 x 3/4
B7019	1-1/8 x 1/2
B7108	1-1/8 x 7/8
B7079	1-3/8 x 1/2
B7080	1-3/8 x 5/8
B7081	1-3/8 x 3/4
B7082	1-3/8 x 7/8
B7078	1-3/8 x 1-1/8
B7083	1-5/8 x 3/4
B7084	1-5/8 x 7/8
B7085	1-5/8 x 1-1/8
B7086	1-5/8 x 1-3/8

## Reducing Tee C x C x C

(Last Size Branch)

CODE	SIZE INCH
B7064	1/2 x 1/2 x 3/8
B7065	1/2 x 3/8 x 3/8
B7066	5/8 x 5/8 x 3/8
B7068	5/8 x 1/2 x 1/2
B7067	5/8 x 5/8 x 1/2
B7063	3/4 x 3/4 x 1/2
B7069	3/4 x 3/4 x 5/8
B7071	7/8 x 7/8 x 1/2
B7072	7/8 x 7/8 x 5/8
B7070	7/8 x 7/8 x 3/4
B7073	1-1/8 x 1-1/8 x 3/4
B7074	1-1/8 x 1-1/8 x 7/8
B7075	1-1/8 x 7/8 x 1/2
B7087	1-3/8 x 1-3/8 x 3/4
B7076	1-3/8 x 1-3/8 x 7/8
B7077	1-3/8 x 1-3/8 x 1-1/8
B7088	1-5/8 x 1-5/8 x 3/4
B7089	1-5/8 x 1-5/8 x 7/8
B7090	1-5/8 x 1-5/8 x 1-1/8

## End Cap

CODE	SIZE INCH
B7130	3/8
B7131	1/2
B7132	5/8
B7133	3/4
B7134	7/8
B7135	1-1/8
B7136	1-3/8
B7137	1-5/8

## Fitting Reducer F x C

CODE	SIZE INCH
B7093	1/2 x 3/8
B7096	5/8 x 3/8
B7097	5/8 x 1/2
B7098	3/4 x 3/8
B7100	3/4 x 1/2
B7099	3/4 x 5/8
B7101	7/8 x 3/8
B7092	7/8 x 1/2
B7102	7/8 x 5/8
B7103	7/8 x 3/4
B7110	1-1/8 x 1/2
B7104	1-1/8 x 5/8
B7105	1-1/8 x 3/4
B7106	1-1/8 x 7/8
B7108	1-3/8 x 1-1/8
B7091	1-5/8 x 7/8
B7111	1-5/8 x 1-3/8



NOTE: 2-1/8" & 2-5/8" CO<sub>2</sub> fittings available to order please contact your local **FSW** for details



## DRIERS & SIGHT GLASSES

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## Copper Spun Driers

Suitable for HFC, CFC and HCFC.

CODE	MODEL	SIZE	CONNECTIONS
C440	MSCD-5-3	5 Gram	3/16" x 0.092"
C441	MSCD-15-3	15 Gram	3/16" x 0.092"
C442	MSCD-15-4	15 Gram	1/4" x 0.092"
C443	MSCD-20	20 Gram	1/4" x 0.092"
C444	MSCD-30	30 Gram	1/4" x 0.092"
C448	MCCD-20S	20 Gram	1/4" x 1/4"
C456	MMS-200	20 Gram	1/4" x 1/4"
C454	ATC300-XT95	30 Gram	1/4" x 1/4"



(0.092" Capillary is 2.34mm)

## Copper Spun Drier with 1/4" Male Flare Charging Stub

1.5 ton (5kW) Capacity  
235mm Long x 25mm Diameter

CODE	MODEL	CONNECTIONS
C455	DXA-5	1/4 x 1/4



## Kap Kit

One piece Drier and Capillary enabling quick and easy replacement

CODE	MODEL	APPLICATION
C450	KK1L-25	LBP 0.08 to 0.15 kW
C452	KK2L-25	LBP 0.18 to 0.37 kW
C451	KK1H-25	HBP 0.08 to 0.15 kW
C453	KK2H-25	HBP 0.18 to 0.37 kW



## Two Way Heat Pump Driers

The Catch-All Heat Pump Driers internal construction allows reversible refrigerant flow while providing effective filtration and contaminant retention. External check valves are not required.

CODE	MODEL	FLARE CONNECTION
C120	HPC-103F	3/8
C121	HPC-104F	1/2

CODE	MODEL	SOLDER CONNECTION
C126	HPC-103S	3/8
C127	HPC-104S	1/2



## Sporlan Driers

Catch-All Filter Driers remove moisture, fine particles and acid.



CODE	MODEL	FLARE CONNECTION
C460	C 032	1/4
C461	C 052	1/4
C462	C 082	1/4
C464	C 033	3/8
C465	C 053	3/8
C466	C 083	3/8
C467	C 163	3/8
C468	C 303	3/8
C471	C 084	1/2
C472	C 164	1/2
C473	C 304	1/2
C476	C 165	5/8
C477	C 305	5/8

CODE	MODEL	SOLDER CONNECTION
C480	C 032S	1/4
C481	C 052S	1/4
C482	C 082S	1/4
C484	C 033S	3/8
C485	C 053S	3/8
C486	C 083S	3/8
C487	C 163S	3/8
C490	C 084S	1/2
C491	C 164S	1/2
C496	C 165S	5/8



## Burnout Driers

Eliminator Burnout driers type DAS are used in the suction line to clean up refrigeration and air conditioning systems after a compressor motor burn out.

The solid core is composed of 70% activated alumina and 30% molecular sieves. The DAS drier absorbs both moisture and harmful acids thereby protecting the new compressor against premature failure.



CODE	MODEL	FLARE CONNECTION
C050	DAS 083 VV	3/8
C051	DAS 084 VV	1/2
C052	DAS 164 VV	1/2
C053	DAS 165 VV	5/8

CODE	MODEL	SOLDER CONNECTION
C055	DAS 083sVV	3/8
C056	DAS 084sVV	1/2
C060	DAS 165sVV	5/8
C063	DAS 305sVV	5/8
C064	DAS 306sVV	3/4
C065	DAS 307sVV	7/8
C070	DAS 419sVV	1-1/8



## Danfoss Driers

Danfoss DCL driers are suitable for use with HFC's, HCFC's and CFC's.

The drier has a solid core containing 80% 3A molecular sieves and 20% activated alumina for acid absorption and is therefore suited for service work.

### Flare Connections - DCL

CODE	MODEL	FLARE CONNECTION
C301	DCL 032	1/4
C302	DCL 052	1/4
C303	DCL 082	1/4
C304	DCL 162	1/4
C306	DCL 053	3/8
C307	DCL 083	3/8
C308	DCL 163	3/8
C309	DCL 303	3/8
C311	DCL 084	1/2
C312	DCL 164	1/2
C313	DCL 304	1/2
C315	DCL 165	5/8
C316	DCL 305	5/8
C318	DCL 306	3/4



### Solder Connections - DCL

CODE	MODEL	SOLDER CONNECTION
C320	DCL 032S	1/4
C321	DCL 052S	1/4
C319	DCL 033S	3/8
C325	DCL 053S	3/8
C326	DCL 083S	3/8
C327	DCL 163S	3/8
C340	DCL 303S	3/8
C330	DCL 084S	1/2
C331	DCL 164S	1/2
C332	DCL 304S	1/2
C334	DCL 165S	5/8
C335	DCL 305S	5/8
C336	DCL 306S	3/4
C337	DCL 307S	7/8
C338	DCL 607S	7/8



## Danfoss Drier Cores

- 48-DC** Solid core consisting of 3A molecular sieves compatible with R22, R134a, R404A and R507. Also compatible with most blends. Activated aluminium oxide for acid absorption.
- 48-DM** Solid core with 100% 3A molecular sieves compatible with R134a, R404A and R407C.
- 48-DA** Solid core with high acid absorption and standard water absorption. Compatible with R22, R134a, R404A and R507.
- 48-F** Strainer for use in suction or liquid lines. Compatible with all fluorinated refrigerants.



CODE	MODEL	TYPE
C630	48-DC	Solid Core Moisture & Acid Absorption
C631	48-DM	100% Molecular Sieve High Moisture Absorption
C632	48-DA	Burn Out Acid Absorption
C633	48-F	Strainer

See Next Page for Danfoss Drier Shells

## Sporlan Drier Cores



- RC-4864-HH** Use for wax removal on low temp systems & clean up after motor burn out
- RCW-48** Designed for use with POE oils on systems heavily contaminated with water
- RC-10098** This is a standard core suitable for liquid & Suction line applications
- RPE-48-BD** This element should be used in RSF shell installed in suction line to obtain the lowest possible pressure drop after cores were used for system clean up
- RCW-42** This core should be used on systems that have a ruptured water cooled condenser, exposed to atmosphere, or for some reason have a high amount of moisture in the system.



CODE	MODEL	TYPE
C662	RC-4864-HH	Activated Charcoal Core
C664	RCW-48	High Water
C666	RC-10098	Standard
C668	RPE-48-BD	Filter Element
C670	RCW-42	High Water Capacity Core

## Valcon & Virginia Drier Cores

- H-48** High Capacity Core used in systems where high moisture content is suspected
- T-48** Standard Core use for general clean up in most liquid and suction line applications it removes moisture and acids
- VS100H** The VS100H high moisture capacity core can be used in both the suction and liquid line.



CODE	MAKE	MODEL	TYPE
C640	Valcon	H-48	High Moisture Capacity
C642	Valcon	T-48	Standard Core
C646	Virginia	VS100H	High Moisture Capacity

## Drier Shells

### DCR filter drier, exchangeable core, housing and cores.

DCR ELIMINATOR® filter driers protect refrigeration, freezing and air conditioning systems from moisture, acids and solid particles. DCR filter drier is a parts program consisting of a DCR housing, a top cover and exchangeable core inserts type 48-DM, 48-DC, 48-DA and 48-F. DCR filter driers are for use in liquid and suction lines in refrigeration plants with fluorinated refrigerants and CO<sub>2</sub>. Available with steel and copper connections. Core types: 48-DC for HCFC and CFC systems. 48-DM for HFC systems. 48-DA for acid adsorption after burnout. 48-F strainer for retaining dirt.



Drier shells are supplied **WITHOUT** Cores. Please order separately.

#### 5/8" Connections

CODE	MODEL	NO OF CORES
C600	DCR 0485	1 x 48 Core

#### 7/8" Connections

CODE	MODEL	NO OF CORES
C602	DCR 0487	1 x 48 Core
C603	DCR 0967	2 x 48 Core

#### 1-1/8" Connections

CODE	MODEL	NO OF CORES
C605	DCR 0489	1 x 48 Core
C606	DCR 0969	2 x 48 Core

#### 1-3/8" Connections

CODE	MODEL	NO OF CORES
C609	DCR 04811	1 x 48 Core
C610	DCR 09611	2 x 48 Core
C611	DCR 14411	3 x 48 Core

#### 1-5/8" Connections

CODE	MODEL	NO OF CORES
C615	DCR 04813	1 x 48 Core
C616	DCR 09613	2 x 48 Core
C618	DCR 19213	4 x 48 Core

#### 2-1/8" Connections

CODE	MODEL	NO OF CORES
C621	DCR 04817	1 x 48 Core
C622	DCR 09617	2 x 48 Core
C623	DCR 14417	3 x 48 Core
C624	DCR 19217	4 x 48 Core




## Drier Shells

**Drier Shell Capacities:** These capacities are based on normal refrigeration systems, for systems with long pipe runs or systems in adverse conditions, use a larger drier.

**Recommended Liquid Line Capacity in kW** given in accordance with ARI 710-86 evaporating temperature = -15°C condensing temperature = +30°C and pressure drop across the filter drier = 0.07 bar.

MODEL	CORE TYPE 48DN				CORE TYPE 48 DU		
	R22	R134A	R404A R507	R407C R410	R13A	R404A R507	R407C R410
DCR 0485	88	79	57	88	79	57	88
DCR 0487	153	139	99	153	139	99	153
DCR 0967	155	140	100	155	140	100	155
DCR 0489	206	186	133	206	186	133	296
DCR 0969	240	217	155	240	217	155	240
DCR 04811	259	227	162	259	227	162	259
DCR 09611	326	295	211	326	295	211	326
DCR 14411	394	356	255	394	356	255	394
DCR 04813	259	227	162	259	277	162	259
DCR 09613	396	358	256	396	358	256	396
DCR 19213	509	460	329	509	460	329	509
DCR 04817	259	227	162	259	227	162	259
DCR 09617	396	358	256	396	358	256	396
DCR 14417	394	356	255	394	356	255	394
DCR 19217	509	460	329	509	460	329	509

**Suction Line Capacity in kW** given in accordance with ARI 730-86 evaporating temperature = +4.4°C, condensing temperature = +32.2°C and pressure drop across the filter drier = 0.21 bar

MODEL	R22, R407C, R410A		R134A, R507		R404A		
	-20°C	+4.4°C	-20°C	+4.4°C	-4.4°C	-20°C	+4.4°C
DCR 0485	8.9	21.0	5.4	13.0	2.4	7.1	17.5
DCR 0487	16.1	37.8	9.9	23.4	4.5	12.9	31.2
DCR 0967	16.2	38.1	9.9	23.6	4.5	12.9	31.4
DCR 0489	21.6	50.7	13.3	31.5	6.0	17.2	41.8
DCR 0969	24.6	58.3	15.0	35.9	6.8	19.7	48.1
DCR 04811	27.3	63.3	16.8	39.5	7.7	21.8	51.9
DCR 09611	33.4	79.3	20.4	48.9	9.3	26.8	65.4
DCR 14411	38.1	92.2	23.0	56.2	10.3	30.7	76.6
DCR 04813	27.3	63.3	16.8	39.5	7.7	21.8	51.9
DCR 09613	39.9	95.2	24.3	58.5	11.0	32.0	78.7
DCR 19213	51.1	122.1	31.1	75.0	14.1	41.1	101.0
DCR 04817	27.3	63.3	16.8	39.5	7.7	21.8	51.9
DCR 09617	39.9	95.2	24.3	58.5	11.0	32.0	78.7
DCR 14417	38.1	92.2	23.0	56.2	10.3	30.7	76.6
DCR 19217	51.1	122.1	31.1	75.0	14.1	41.1	101.0

## Danfoss Sight Glasses

The Danfoss SGP sight glass offers optimal visibility and is designed to cover higher pressure applications with a maximum working pressure up to 52 bar. This means the SGP is also suitable for R410A, R32 & sub critical R744.

SGP sight glasses are fitted with an indicator, which changes colour to show the moisture content in the refrigerant.

The sight glass will also indicate a lack of sub cooling or a shortage of refrigerant in the system.

### Flare Sight Glass (Male to Male)

CODE	MODEL	CONNECTIONS
C370	SGP 6	1/4 Flare
C373	SGP 10	3/8 Flare
C376	SGP 12	1/2 Flare
C379	SGP 16	5/8 Flare
C382	SGP 19	3/4 Flare



Higher pressure for various refrigerants.

Due to our customers' needs for higher pressure, the Danfoss SGP, a new concept based on a reliable design, is engineered to reach up to 52 bar maximum working pressure.

### Flare Sight Glass (Male to Female)

CODE	MODEL	CONNECTIONS
C371	SGP 6MF	1/4 m x f
C374	SGP 10MF	3/8 m x f
C377	SGP 12MF	1/2 m x f
C380	SGP 16MF	5/8 m x f
C383	SGP 19MF	3/4 m x f



The Danfoss SGP covers the full range of connection types used throughout the entire system, by offering:

- Flare
- Male x Female Flare
- Solder

### Solder Sight Glass (C x C)

CODE	MODEL	CONNECTIONS
C372	SGP 6S	1/4 Solder
C375	SGP 10S	3/8 Solder
C378	SGP 12S	1/2 Solder
C381	SGP 16S	5/8 Solder
C384	SGP 19S	3/4 Solder
C385	SGP 22S	7/8 Solder





SHUT OFF VALVES,  
VIBRATION ELIMINATORS,  
ACCUMULATORS & OIL  
SEPARATORS

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**D**  
SECTION

## Danfoss Check Valves (Non-return)

Danfoss non-return valves can be used in liquid, suction or hot gas lines in refrigeration and air conditioning systems.

The NRVH models are fitted with a stronger spring for use in discharge lines from compressors connected in parallel.



### Straight Way

CODE	MODEL	CONNECTIONS	DANFOSS NO
D150	NRV 6	1/4 Flare	020-1040
D151	NRV 10	3/8	020-1041
D152	NRV 12	1/2	020-1042
D153	NRV 16	5/8	020-1043

CODE	MODEL	CONNECTIONS	DANFOSS NO
D154	NRV 6s	1/4 Solder	020-1010
D155	NRV 10s	3/8	020-1011
D156	NRV 12s	1/2	020-1012
D157	NRV 16s	5/8	020-1018
D158	NRV 19s	3/4	020-1019

CODE	MODEL	CONNECTIONS	DANFOSS NO
D163	NRVH 22s	7/8 Solder	020-1032
D164	NRVH 28s	1-1/8	020-1033
D165	NRVH 35s	1-3/8	020-1034



## EUROBATEX®



**PIPE SECTIONS**  
LENGTH - 2 m



**COILS**



Union Foam S.p.A.  
via dell'Industria 11  
20882 Bellusco (MB) Italy  
tel. +39.039.62089.1  
sales@unionfoam.it  
www.unionfoam.it

**Insulation materials. Our world. For a better world.**

## Hand Wheel Shut Off Valves

Quality forged brass shut off valves from Castel with hand wheel.  
Available in both flare and solder versions.



CODE	MODEL	CONNECTIONS
D005	HVF2-4	1/4 Flare
D006	HVF2-6	3/8
D007	HVF2-8	1/2
D008	HVF2-10	5/8
D009	HVF2-12	3/4

CODE	MODEL	CONNECTIONS
D015	HVS2-4	1/4 Solder
D016	HVS2-6	3/8
D017	HVS2-8	1/2
D018	HVS2-10	5/8

## Capped Shut Off Valves

Quality capped forged brass shut off valves from Castel.  
Available in both flare and solder versions.

CODE	MODEL	CONNECTIONS
D030	CVF2-4	1/4 Flare
D031	CVF2-6	3/8
D032	CVF2-8	1/2
D033	CVF2-10	5/8
D034	CVF2-12	3/4



These Castel shut off valves feature plastic caps on the flare versions and brass caps on the solder versions below.

CODE	MODEL	CONNECTIONS
D040	CVS2-4	1/4 Solder
D041	CVS2-6	3/8
D042	CVS2-8	1/2
D043	CVS2-10	5/8
D044	CVS2-12	3/4
D045	ILV-2	7/8
D046	ILV-2	1-1/8
D047	ILV-2	1-3/8
D048	ILV-2	1-5/8
D049	ILV-2	2-1/8



## Danfoss Hand Wheel Shut Off Valves

CODE	MODEL	CONNECTIONS
D463	BML-6	1/4 Flare
D465	BML-10	3/8
D466	BML-12	1/2
D467	BML-15	5/8

CODE	MODEL	CONNECTIONS
D464	BML-06S	1/4 Solder
D470	BML-10S	3/8
D471	BML-12S	1/2
D472	BML-15S	5/8
D473	BML-18S	3/4
D474	BML-22S	7/8



## Danfoss Ball Valves

GBC ball valves are manually operated shut-off valves suitable for applications where bi-directional flow is a requirement. GBC valves are approved for applications in liquid, suction, and hot gas lines in refrigeration and air conditioning systems.



CODE	MODEL	CONNECTIONS
D061	GBC - 6S	1/4 Solder
D062	GBC - 10S	3/8
D063	GBC - 12S	1/2
D064	GBC - 16S	5/8
D065	GBC - 18S	3/4
D066	GBC - 22S	7/8
D067	GBC - 28S	1-1/8
D068	GBC - 35S	1-3/8
D069	GBC - 42S	1-5/8
D070	GBC - 54S	2-1/8
D071	GBC - 67S	2-5/8
D072	GBC - 79S	3-1/8



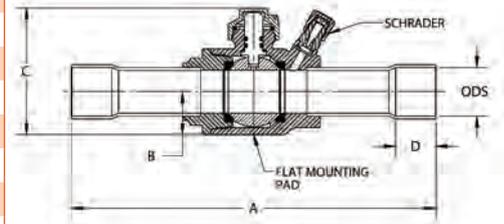
Please note that GBC ball valves with schrader fittings are also available to order.

## Henry Ball Valves

CODE	MODEL	CONNECTIONS
D105	907203	3/8 Solder
D106	907204	1/2
D107	907205	5/8
D108	907306	3/4
D109	907307	7/8
D110	907409	1-1/8
D111	908511	1-3/8
D112	908613	1-5/8
D113	908617	2-1/8



CODE	MODEL	CONNECTIONS
D115	937203 + Schrader	3/8 Solder
D116	937204 + Schrader	1/2
D117	937205 + Schrader	5/8
D118	937306 + Schrader	3/4
D119	937307 + Schrader	7/8
D129	937409 + Schrader	1-1/8
D134	938511 + Schrader	1-3/8
D128	938613 + Schrader	1-5/8
D114	937721 + Schrader	2-5/8



## Henry Check Valves

Henry check valves come in two styles, either conventional ODF sockets or with copper extensions.



### Straight Way

CODE	MODEL	CONNECTIONS
D130	NRV-14	7/8 Solder
D131	NRV-18	1-1/8
D132	NRV-22	1-3/8
D133	NRV-26	1-5/8

### Extended

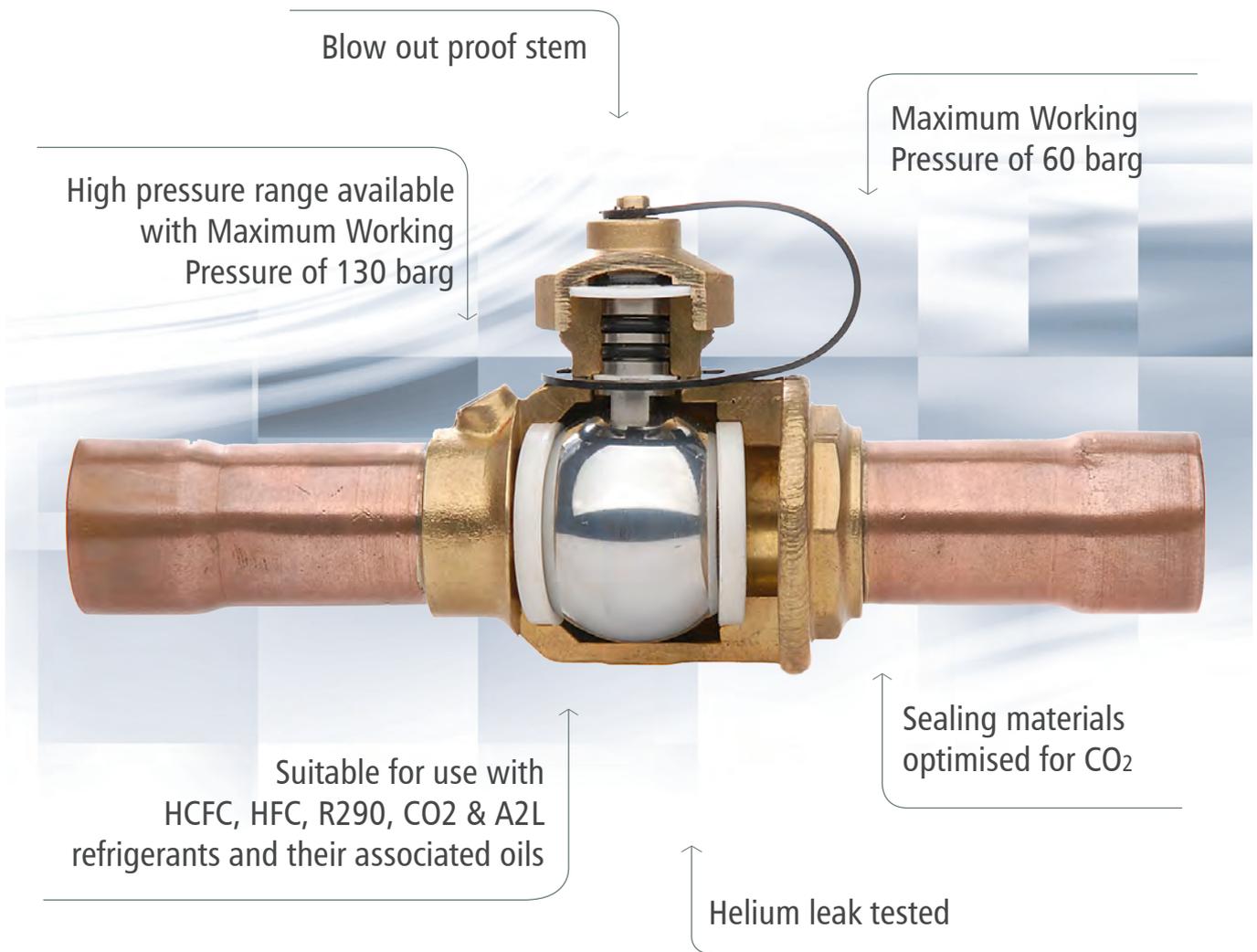
CODE	MODEL	CONNECTIONS
D135	NRV-14E	7/8 Extended
D136	NRV-18E	1-1/8
D137	NRV-22E	1-3/8
D138	NRV-26E	1-5/8





HENRY GROUP

# Henry Ball Valve Range



[www.henry-group.net](http://www.henry-group.net)

INTELLIGENT MANUFACTURING. INTELLIGENT PRODUCTS.



HENRY GROUP

# Three-Way Dual Shut-Off Valves and Pressure Relief Valves

In accordance with EN ISO 4126-1 the 5701AX valve reseats within 15% of set pressure following a discharge

Fully adjustable rotalock inlet and outlet connections available

Maximum Working Pressure of 130 barg

Allowable operating temperature -29°C to +150°C

93-Series 3-way Valve with Rotalock connections: Refrigeration Innovation of the Year: Components and Peripherals

High flow capacity



[www.henry-group.net](http://www.henry-group.net)

INTELLIGENT MANUFACTURING. INTELLIGENT PRODUCTS.

## Henry Pressure Relief Valves

CODE	MODEL	INLET	OUTLET
D450(+)	5230A	1/4" MPT Inlet	1/2" Flare
D451(+)	5231A	3/8" MPT	1/2" Flare
D452(+)	5232A	1/2" MPT	3/4" Flare
D453(+)	5231B	1/2" MPT	5/8" Flare

Catalogue numbers indicate size of Pressure Relief Valve only. Please specify pressure setting when ordering. Standard settings are shown in table below. Others settings available, ask for details.

(+) R	14.0 Bar	206 psi
(+) S	16.2 Bar	238 psi
(+) T	24.8 Bar	365 psi
(+) W	20.7 Bar	300 psi
(+) X	24.1 Bar	350 psi
(+) Y	27.6 Bar	400 psi
(+) Z	31.0 Bar	450 psi



## Henry 3 Way Dual Shut Off Valves

The award-winning 93-series offers an optimised flow factor and rotalock-style connection options on the inlet and/or outlet for increased performance and flexibility over the 92-series.

CODE	MODEL	INLET	OUTLET	K <sub>vs</sub> (M <sup>3</sup> /h)
D459	923	3/8" FPT	3/8" FPT	2.80
D460	925	1/2" FPT	1/2" FPT	2.83
D220	933	3/8" FPT	3/8" FPT*	3.68
D221	933M	3/8" MPT ROTALOCK	3/8" FPT*	3.68
D223	935	1/2" FPT	1/2" FPT*	4.82
D224	935M	1/2" MPT ROTALOCK	1/2" FPT*	4.82

\*Available as Rotalock - add 'R' to model number



## Castel Safety Valves

The 3060/45C Pressure Relief Valves are all identical apart from the release pressures. Choose from 14.0, 24.8, 25.9 or 27.5 bar models.

CODE	MODEL	SIZE	TYPE
D477	3060/45C14	1/2 NPT x 5/8 FL	14.0 Bar Angled
D478	3060/45C248	1/2 NPT x 5/8 FL	24.8 Bar Angled
D475	3060/45C259	1/2 NPT x 5/8 FL	25.9 Bar Angled
D476	3060/45C275	1/2 NPT x 5/8 FL	27.5 Bar Angled

Valves series 3060 are safety devices according to the definition given in Article 1, Point 2.1.3, 2nd dash of 97/23/ EC Directive and are the subject of Article 3, Point 1.4 of aforesaid Directive.



## Vibration Eliminators

Vibration eliminators are designed to reduce compressor vibration, and can be fitted in both the suction and discharge lines.

CODE	MODEL	SIZE
D201	VAF-3	3/8
D202	VAF-4	1/2
D203	VAF-5	5/8
D204	VAF-6	3/4
D205	VAF-8	7/8
D206	VAF-9	1-1/8
D207	VAF-10	1-3/8
D208	VAF-11	1-5/8
D209	VAF-82	2-1/8
D210	VAF-83	2-5/8
D211	VAF-84	3-1/8
D212	VAF-85	3-5/8
D213	VAF-86	4-1/8



## Liquid Receivers



### Vertical Liquid Receivers

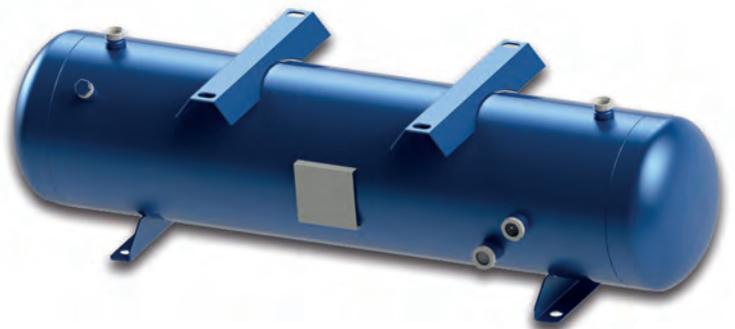
A range of vertical liquid receivers from GVN, excluding rotolock valves.

CODE	MODEL	VOLUME LITRES	INLET SOLDER CONN.	OUTLET R/LOCK CONN.	NPT CONN.	SIGHT GLASS
D500	VLR.A.33b.02.B1.A2	2	1/4	1"	No	No
D501	VLR.A.33b.04.B2.A2	4	3/8	1"	No	No
D502	VLR.A.33b.06.B3.A2	6	1/2	1"	No	No
D503	VLR.A.33b.09.B3.A2	9	1/2	1"	No	No
D504	VLR.A.33b.10.B4.A2	10	5/8	1"	No	No
D505	VLR.A.33b.12.B4.A2.F4	12	5/8	1"	No	No
D506	V7A.33b.25.B6.A3.F4.H20	25	7/8	1-1/4"	1/2"	No

### Horizontal Liquid Receivers

A range of horizontal liquid receivers from GVN, excluding rotolock valves.

CODE	MODEL	VOLUME LITRES	INLET R/LOCK CONN.	OUTLET R/LOCK CONN.	NPT CONN.	SIGHT GLASS
D535	HC7.33b.40.A3.A3.F4.H1	40	1-1/4"	1-1/4"	1/2"	Yes
D536	H8BC.33b.60.A4.A4.F4.H2	60	1-3/4"	1-3/4"	1/2"	Yes
D537	H8BC.33b.80.A4.A4.F4.H2	80	1-3/4"	1-3/4"	1/2"	Yes
D538	H8BC.33b.107.A4.A4.F4.H2	107	1-3/4"	1-3/4"	1/2"	Yes



### Rotolock Valves

A range of rotolock valves to suit both horizontal and vertical GVN liquid receivers listed above. These are industry standard rotolock valves so suitable as service replacement valve.

CODE	MODEL	ROTOLOCK CONNECTION	SOLDER CONNECTION	TO SUIT GVN RECEIVER MODEL
D512	RV-1/4	1"	1/4	VLR.A.33b.02.B1.C1
D513	RV-3/8	1"	3/8	VLR.A.33b.04.B2.C2
D514	RV-1/2	1"	1/2	VLR.A.33b.06.B3.C3 VLR.A.33b.09.B3.C3
D515	RV-5/8	1"	5/8	VLR.A.33b.10.B4.C4 VLR.A.33b.12.B4.C4.F4
D516	RV-5/8	1-1/4"	5/8	V7A.33b.25.B6.C6.F4.H20 HC7.33b.40.A3.A3.F4.H1
D517	RV-7/8	1-1/4"	7/8	V7A.33b.25.B6.C6.F4.H20 HC7.33b.40.A3.A3.F4.H1
D518	RV-1-1/8	1-3/4"	1-1/8	H8BC.33b.60.A4.A4.F4.H2 H8BC.33b.80.A4.A4.F4.H2 H8BC.33b.107.A4.A4.F4.H2
D520	RV-1-3/8	1-3/4"	1-3/8	H8BC.33b.60.A4.A4.F4.H2 H8BC.33b.80.A4.A4.F4.H2 H8BC.33b.107.A4.A4.F4.H2
D511	RV-1-5/8	1-3/4"	1-5/8	H8BC.33b.60.A4.A4.F4.H2 H8BC.33b.80.A4.A4.F4.H2 H8BC.33b.107.A4.A4.F4.H2

## AC & R Vertical Suction Accumulators

Compressors are designed to compress vapour not liquid. The purpose of the accumulator is to hold excess liquid and return it to the compressor as a vapour that is safe for the compressor to handle.



CODE	MODEL	CONNECTIONS	SIZE MM
D600	S-7044	1/2	264 H x 102 Ø
D601	S-7045	5/8	264 H x 102 Ø
D602	S-7046	3/4	264 H x 102 Ø
D603	S-7057CE	7/8	330 H x 127 Ø
D604	S-7061CE	1-1/8	381 H x 152 Ø
D605	S-7063CE	1-3/8	630 H x 152 Ø
D606	S-7065CE	1-5/8	630 H x 152 Ø
D607	S-7721CE	2-1/8	588 H x 219 Ø
D608	S-7725CE	2-5/8	578 H x 273 Ø



## Helical Oil Separators

The AC & R Helical Oil Separator features a centrifugal flow path achieving approximately 99 percent efficiency of oil separation with a low pressure drop.

Oil separators should be selected on capacity not connection size. Oil Return = 3/8" flare.



CODE	MODEL	CONNECTIONS
D380	S-5180	1/4
D381	S-5181	3/8
D382	S-5182	1/2
D383	S-5185	5/8
D384	S-5187	7/8
D385	S-5188	1-1/8
D386	S-5190	1-3/8
D387	S-5192	1-5/8



## Oil Separator Heater

CODE	MODEL	
D388	S-9111	220 Volt 44" Dia.

### Oil Separator Capacities

MODEL	R134A		R22		R404A	
	-40°C	+5°C	-40°C	+5°C	-40°C	+5°C
S-5180	1.76	2.64	2.64	3.52	2.64	3.52
S-5181	2.64	3.52	3.52	5.27	3.52	5.27
S-5182	3.52	5.27	5.27	7.03	5.27	7.03
S-5185	10.55	14.06	15.82	19.34	14.06	19.34
S-5187	15.82	19.34	24.61	28.13	22.85	29.89
S-5188	21.09	26.37	31.64	36.92	29.88	38.67
S-5190	28.13	35.16	45.71	49.22	42.19	52.74
S-5192	38.68	45.71	56.25	63.29	52.74	66.80

The above capacities are given in kilowatts at the indicated temperature.



## Flexible Hoses

Cut to length flexible refrigerant hose, perfect for transport refrigeration and mobile air conditioning, also perfect for integral cabinets with pull out condensing units.

Synthetic rubber inner tube covered with a nylon layer and reinforced with two polyester spirals.

Maximum working pressure 350 p.s.i.  
Minimum bursting pressure 1750 p.s.i.  
Suitable for HFC, CFC and HCFC.

# Burgaflex

### Hose per metre

CODE	MODEL	SIZE INCH
D260	3056-04	1/4
D261	3055-06	3/8
D262	3055-08	1/2
D263	3055-10	5/8



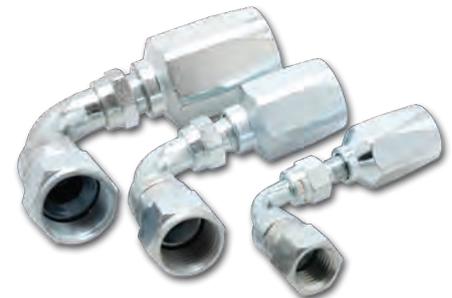
### Straight Union - Female Flare

CODE	MODEL	SIZE INCH
D265	5704-04-04	1/4
D267	5706-06-06	3/8
D269	5704-08-08	1/2
D271	5704-10-10	5/8



### 90° Degree Elbow - Female Flare

CODE	MODEL	SIZE INCH
D273	5709-04-04	1/4
D274	5710-06-06	3/8
D275	5709-08-08	1/2
D276	5709-10-10	5/8



\*End fittings can be fitted using ordinary hand tools.

# Burgaflex



# THERMOSTATS, PRESSURE SWITCHES & FAN SPEED CONTROLS

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SECTION

## Ranco Pressure Switches

Ranco 016 models are single pressure switches with changeover contacts.  
 LP Range - bar -0.3 to 7.0 Differential - Auto reset 0.6 to 4.0 – Manual 0.6 fixed  
 HP Range - bar 7 to 30 Differential - Auto reset 2.5 to 8.0 – Manual 3.2 fixed

017 models are dual switches fitted with an extra contact to give an independent high or low-pressure trip signal.

# RANCO



CODE	MODEL	STYLE	RESET
E060	016-6703	Low Pressure	Auto
E061	016-6705	Low Pressure	Manual
E062	016-6750	High Pressure	Auto
E063	016-6751	High Pressure	Manual

CODE	MODEL	STYLE	RESET
E064	017-4701	Dual LP/HP	Auto/Auto
E065	017-4703	Dual LP/HP	Man/Man
E067	017-4705	Dual LP/HP	Auto/Man

## Danfoss Pressure Switches

KP-1 models are single low-pressure switches with changeover contacts.  
 Range -0.2 to 7.5 bar. Differential - Auto reset 0.7 to 4.0 – Manual 0.7 fixed

KP-5 models are single high-pressure switches with changeover contacts.  
 Range 8 to 32 bar. Differential - Auto reset 1.8 to 6.0 – Manual 3.0 fixed.

KP-15 models are dual switches fitted with an extra contact to give an independent low-pressure trip signal.

# Danfoss

CODE	MODEL	STYLE	RANGE (bar)	DIFFERENTIAL (bar)	RESET	DANFOSS NO
E800	KP-1	Low Pressure	-0.2 to 7.5	0.7 to 4.0	Auto	060-110166
E801	KP-1	Low Pressure	-0.9 to 7.0	0.7 Fixed	Manual	060-110366
E803	KP-5	High Pressure	8.0 to 32	1.8 to 6.0	Auto	060-117966
E804	KP-5	High Pressure	8.0 to 28	1.8 to 6.0	Auto	060-117166
E805	KP-5	High Pressure	8.0 to 28	3.0 Fixed	Manual	060-117366

CODE	MODEL	STYLE	RANGE (bar)	DIFFERENTIAL (bar)	RESET	DANFOSS NO
E807	KP-15	Dual LP/HP	HP 8.0 to 28 LP -0.2 to 7.5	HP 4.0 Fixed LP 0.7 to 4.0	Auto/Auto	060-124166
E809	KP-15	Dual LP/HP	HP 8.0 to 28 LP -0.2 to 7.5	HP 4.0 Fixed LP 0.7 to 4.0	Auto/Man	060-124366
E808	KP-15	Dual LP/HP	HP 8.0 to 28 LP -0.2 to 7.5	HP 4.0 Fixed LP 0.7 to 4.0	Adjustable	060-126166



# Danfoss



## Ranco Thermostats

CODE	MODEL	SENSOR	RANGE °C	DIFFERENTIAL
E070	016-6901	Room	-18 to +13	1.5K
E071	016-6902	Room	-5 to +25	1.5K
E072	016-6903	Room	+10 to +40	1.5K

CODE	MODEL	SENSOR	RANGE °C	DIFFERENTIAL
E075	016-6922	Straight	-18 to +13	1.7 to 12K
E076	016-6924	Straight	-5 to +25	1.7 to 12K

CODE	MODEL	SENSOR	RANGE °C	DIFFERENTIAL
E077	016-6950	Coiled	-35 to -7	1.7 to 12K
E078	016-6951	Coiled	-18 to +13	1.7 to 12K
E079	016-6954	Coiled	-5 to +25	1.7 to 12K

CODE	MODEL	SENSOR	RANGE °C	DIFFERENTIAL
E080	016-6980	Cross Ambient	-18 to +13	1.7 to 12K
E081	016-6981	Cross Ambient	-5 to +25	1.7 to 12K
E082	016-6983	Cross Ambient	+10 to +40	1.7 to 12K
E083	016-6930	Cross Ambient	-32 to +34	3 to 22K



**RANCO**



## Danfoss Thermostats

CODE	MODEL	SENSOR	RANGE °C	DIFFERENTIAL*	DANFOSS NO
E830	UT-72	Bulb -1.5M	-30 to +30	2.3K	060H1101
E835	KP-61	Straight - 2M	-30 to +15	5.5/23-1.5/7K	060L1100
E836	KP-61	Straight - 5M	-30 to +15	5.5/23-1.5/7K	060L1101
E837	KP-61	Coil - 2m	-30 to +15	4.5/23-1.2/7K	060L1102



E835 & E836

E837

## Thermostat and Pressure Switch Accessories

### Phial Guard

CODE	TYPE
E140	V169 Guard

### LP HP Pressure Switch Brackets (Flat & Angle)

CODE	TYPE
E141	31696-1 Angle Bracket
E142	48129-3 Flat Bracket

### Pressure Coupler

CODE	TYPE
E143	PCP.1000SV 1.0 metre c/w Core Depressor
E144	PCP.1500SV 1.5 metre c/w Core Depressor



## Everflex Hose

Stainless braid reinforced flexible lines ideal for replacing capillaries where vibration may cause fractures i.e. pressure or oil differential switches.

Constructed out of 304 Stainless steel braid with a smooth inner lining of Teflon. Female 1/4" flare connections, one end straight and the other end with 90 degree elbow.

CODE	MODEL	OVERALL LENGTH
E180	H70AB-6	152 mm
E181	H70AB-13	330 mm
E182	H70AB-19	483 mm
E183	H70AB-25	635 mm
E184	H70AB-31	787 mm
E185	H70AB-37	940 mm
E186	H70AB-49	1245 mm
E187	H70AB-60	1524 mm



## Thermoplastic Hose

Triple wall thermoplastic hose to provide an alternative to copper tube, reducing the risk of fracture whilst being simple and easy to assemble.

Hoses are suitable for HCFC and HFC's as well as the old CFC's.

Supplied in 50M coils, 6 mm o.d. x 2 mm i.d.

CODE	DESCRIPTION
E200	50M coil of 0780C Triple Wall Hose
E208	1/4" Tee Crimp on all arms
E209	1/4" Female Flare 90° Elbow
E210	1/4" Female Flare Straight Connector
E211	Schrader Depressor for above
E215	Crimping Tool



## Aspen Fan Speed Controller

Controls head pressure of systems by increasing and reducing the fan speed balancing temperature of the condenser coil.



### Specification:

Cooling only  
 Condenser temperature coil sensor  
 Max output: 3 Amp  
 Push on connectors  
 Minimum speed adjustment: 230V 50/60 Hz  
 Power Consumption Internal: 8 W



CODE	DESCRIPTION
E526	Aspen Cooling Only Fan Speed Controller

## Alco Fan Speed Control

The FS controls the speed of fan motors according to pressure changes. Make sure the motor is approved by the motor or unit manufacturer for variable speed by means of phase cutting (TRIAC).

Suitable for R22, R134a, R407C and R404A.

### Specification:

Supply voltage: 230 VAC (+15%/-20%) 50 or 60 Hz  
 Nominal current: 0.2 to 4 amps  
 Maximum refrigerant temperature: +70°C  
 Permissible ambient temperature: -20°C to +55°C  
 Protection to IP65  
 Connection: 1/4" female flare to suit access fitting



CODE	MODEL
E525	FSX (Y) - 42-S

## Danfoss Service Thermostat Kits

CODE	TYPE	TO SUIT
E005	NO-1	Refrigerator
E007	NO-3	Fridge Freezer/Larder Fridge
E008	NO-4	Absorption Refrigerator
E009	NO-5	Freezer
E010	NO-6	Freezer M.O.R. Signal
E012	NO-8	Bottle and Liquid Cooler



## Ranco Varifix Thermostat Kits

CODE	TYPE	TO SUIT
E020	VC-1	Refrigerator
E022	VF-3	Freezer
E023	VP-4	Refrigerator Push/Defrost
E024	VS-5	Freezer M.O.R. Signal
E026	VB-7	Bottle Cooler
E028	VT-9	Fridge Freezer/Larder Fridge
E029	VX-0	Fridge Freezer/Larder Fridge*
E030	VT-93	Fridge Freezer/Larder Fridge**



\*Similar to VT-9 but operates at a higher temperature \*\*Same as VT-9 but with 3.0 metre capillary

# AIRSTAGE™

# FUJITSU

AIR CONDITIONING

## The New VRF 4 Series

Energy Efficient Cutting Edge Technology

### *J-Series*

2-Pipe Heat Pump

*J-IVS* 12.1-15.1kW

*J-IV* 12.1-15.5kW

*J-IVL* 22.4-50.0kW



1- 42 Indoors



1- 64 Indoors

### *V-Series*

3-Pipe Heat Recovery

*VR-IV* 22.4-135kW

2-Pipe Heat Pump

*V-III* 22.4-150kW



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# EXPANSION VALVES, SOLENOID VALVES, WATER VALVES & OIL PRESSURE SWITCHES

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**F**  
SECTION

# Danfoss Expansion Valves

T\* Range - Order valve and orifice separately.  
N-40°C to +10°C Without MOP



## Internally Equalised

CODE	MODEL	CONNECTIONS	DANFOSS NO
F502	TN2 R134a		068Z3346
F504	TS2 R404A		068Z3400
F505	TZ2 R407C		068Z3496
F501	T2 R407F/R407A		068Z3715
F503	T2 R448A/R449A		068Z3727
F526	TN2 R134a	3/8 x 1/2 Solder	068Z3383
F527	TS2 R404A		068Z3414
F528	TZ2 R407C		068Z3502
F538	TS2 R448A/R449A		068Z3729
F820	TS2 R452A	3/8 x 1/2 Solder	068Z3806



## Externally Equalised

CODE	MODEL	CONNECTIONS	DANFOSS NO
F518	TEN2 R134a		068Z3348
F520	TES2 R404A		068Z3403
F521	TEZ2 R407C		068Z3501
F506	TE2 R407F/R407A		068Z3714
F547	TE2 R448A/R449A		068Z3728
F530	TEN2 R134a	3/8 x 1/2 Solder	068Z3385
F531	TES2 R404A		068Z3415
F532	TEZ2 R407C		068Z3446
F548	TE2 R448A/R449A		068Z3730
F522	TE2 R407F & R407A		068Z3713
F822	TES2 R452A	3/8 x 1/2 Solder	068Z3807



## Orifice to suit T2 and TE2 Valves

CODE	ORIFICE	DANFOSS NO
F539	0X	068-2002
F540	00	068-2003
F541	01	068-2010
F542	02	068-2015
F543	03	068-2006
F544	04	068-2007
F545	05	068-2008
F546	06	068-2009



## Orifice to suit T2 and TE2 Solder Valves Only

CODE	ORIFICE	DANFOSS NO
F537	0X	068-2089
F507	00	068-2090
F508	01	068-2091
F509	02	068-2092
F510	03	068-2093
F511	04	068-2094
F512	05	068-2095
F513	06	068-2096



## Solder Adaptors for T2/TE2 Valves

CODE	CONNECTION	DANFOSS NO
F514	1/4	068-2062
F515	3/8	068-2060



# Danfoss Expansion Valves

## TE5 TE12 and TE20 Range

Order element, orifice and base separately  
Range N-40°C to +10°C Without MOP.



### TE-5 Thermostatic Element (3m Capillary)

CODE	MODEL	DANFOSS NO
F551	TEN5 R134a	067B3297
F552	TES5 R404A	067B3342
F553	TEZ5 R407C	067B3278
F594	TE5 R407F/R407A	067B3501
F800	TE5 R448A/R449A	067B3252

### Orifice to Suit TE-5 Valves

CODE	TYPE	DANFOSS NO
F556	No.1 Orifice	067B2789
F557	No.2 Orifice	067B2790
F558	No.3 Orifice	067B2791
F559	No.4 Orifice	067B2792

### Valve Bodies for TE-5 Valves

CODE	MODEL	CONNECTIONS	DANFOSS NO
F560	Angle Flare	1/2 x 5/8	067B4013
F561	Angle Solder	1/2 x 5/8	067B4009
F562	Angle Solder	1/2 x 7/8	067B4010
F563	Angle Solder	5/8 x 7/8	067B4011
F564	Straight Solder	1/2 x 5/8	067B4007
F565	Straight Solder	1/2 x 7/8	067B4008

### TE12 Thermostatic Element (3m Capillary)

CODE	MODEL	DANFOSS NO
F571	TEN12 R134a	067B3232
F572	TES12 R404A	067B3347
F573	TEZ12 R407C	067B3366
F595	TE12 R407F/R407A	067B3532
F802	TE12 R448A/R449A	067B2512

### Orifice to Suit TE12 Valves

CODE	TYPE	DANFOSS NO
F579	No.5 Orifice	067B2708
F568	No.6 Orifice	067B2709
F569	No.7 Orifice	067B2710

### Valve Bodies for TE12 & 20 Valves

CODE	MODEL	CONNECTIONS	DANFOSS NO
F580	Angle Solder	5/8 x 7/8	067B4022
F581	Angle Solder	7/8 x 1-1/8	067B4023
F582	Straight Solder	5/8 x 7/8	067B4020
F583	Straight Solder	7/8 x 1-1/8	067B4021

### TE20 Thermostatic Element

CODE	MODEL	DANFOSS NO
F586	TEN20 R134a	067B3292
F587	TES20 R404A	067B3352
F588	TEZ20 R407C	067B3371
F596	TE20 R407F/R407A	067B3561
F804	TE20 R448A/R449A	067B3294

### Orifice to Suit TE20 Valves

CODE	TYPE	DANFOSS NO
F589	No.8 Orifice	067B2271
F590	No.9 Orifice	067B2773
F591	No.10 Orifice	067B2701



# Danfoss Expansion Valve Selection Chart

Nominal capacities for the Danfoss range of expansion valves.



## Capacity in kW for Range N-40°C to +10°C.

ORIFICE N°	RATED CAPACITY (KW)*						
	R407C	R134a	R404A/R507	R407A	R407F	R448A	R449A
0X	0.92	0.68	0.64	0.88	1.0	0.90	0.88
00	1.8	1.2	1.3	1.7	2.0	1.8	1.7
01	3.5	2.1	2.6	3.4	3.9	3.5	3.4
02	4.8	2.6	3.7	4.7	5.4	4.8	4.6
03	8.1	4.3	6.3	8.0	9.2	8.1	7.9
04	12.4	6.4	9.9	12.4	14.3	12.6	12.1
05	16.5	8.4	13.0	16.3	19.0	16.3	15.7
06	19.7	10.1	15.5	19.6	22.9	19.8	19.1

\*The rated capacity is based on:  
 Evaporating temperature  $t_e = 4.4\text{ °C}$   
 Condensing temperature  $t_c = 38\text{ °C}$   
 Refrigerant temperature ahead of valve  $t_l = 37\text{ °C}$

## Capacity in kW for Range N-40°C to +10°C.

VALVE TYPE	ORIFICE N°	RATED CAPACITY (KW)*				
		R407C	R134a	R404A R507	R407A	R407F
TE5	0.5	10.7	6.68	8.17	10.3	11.0
	1	19.6	12.2	14.9	18.8	20.3
	2	27.2	17.0	20.5	25.9	28.1
	3	34.8	21.8	26.3	33.3	35.8
	4	47.4	29.7	35.7	45.3	49.0
TE12	5	55.8	37.7	50.7	56.0	71.0
	6	73.9	50.1	64.0	75.0	95.0
	7	94.3	65.7	81.3	96.0	115
TE20	8	118	77.8	87.1	126	141
	9	136	92.3	102	148	161

\*The rated capacity is based on:  
 Evaporating temperature  $t_e = 4.4\text{ °C}$   
 Condensing temperature  $t_c = 38\text{ °C}$   
 Refrigerant temperature ahead of valve  $t_l = 37\text{ °C}$

## Danfoss AKV Electronic Expansion Valves

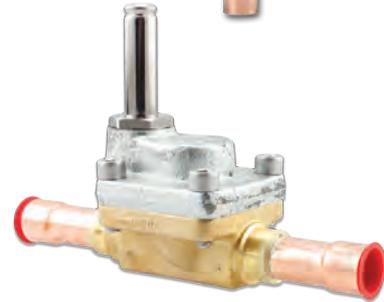
AKV are electrically operated expansion valves designed for refrigerating plant. The AKV valves can be used for HCFC, HFC, & R744 refrigerants. The orifice assembly is replaceable.

### AKV 10 Valve (complete with orifice)

CODE	MODEL	CONNECTIONS	DANFOSS NO
F249	AKV 10P0	3/8 x 1/2 Solder	068F5210
F250	AKV 10P1	3/8 x 1/2 Solder	068F5211
F251	AKV 10P2	3/8 x 1/2 Solder	068F5212
F252	AKV 10P3	3/8 x 1/2 Solder	068F5213
F253	AKV 10P4	3/8 x 1/2 Solder	068F5214
F254	AKV 10P5	3/8 x 1/2 Solder	068F5215
F255	AKV 10P6	3/8 x 1/2 Solder	068F5216
F257	AKV 10P7	1/2 x 5/8 Solder	068F5217



Coil not included with valve bodies



### AKV 15 Valve (complete with orifice)

CODE	MODEL	CONNECTIONS	DANFOSS NO
F259	AKV15-1	3/4 x 3/4 Solder	068F5000
F258	AKV15-2	3/4 x 3/4 Solder	068F5005
F260	AKV15-3	7/8 x 7/8 Solder	068F5010
F261	AKV15-4	1-1/8 x 1-1/8 Solder	068F5015

### AKV Coils\*

CODE	DANFOSS NO	DESCRIPTION
F275	018F6781	AKV Coil 230V DC Coil with T/Box
F264	018F6732	AKV Coil 230V AC Coil with T/Box

\* Other AKV solenoid valve coil options available in various voltages and cable entry options, Please consult our FSW Technical Department for advice.

### AKV 10 Spares

CODE	DANFOSS NO	DESCRIPTION
F273	068F5151	AKV10 P Orifice N° 0, 1, 2 & 3
F274	068F5152	AKV10 P Orifice N° 4, 5 & 6
F276	068F5154	AKV10 P Filters (Pack of 10)
F277	068F5153	AKV10 P Armature Kit
F267	068F5283	AKV Orifice N° 0, 1, 2 & 3
F270	068F5284	AKV Orifice N° 4, 5 & 6
F272	068F5285	AKV Orifice N° 7 & 8
F280	068F0540	AKV Filters (Pack of 10)
F281	068F0541	AKV 10 Armature Kit

The Danfoss logo, featuring the brand name in a stylized, red, cursive script.

## Danfoss Solenoid Valves

Solenoid Valves are supplied **WITHOUT** coils.  
Please order coils separately.

EVR solenoids are suitable for HFC, CFC and HCFC.  
Temperature range for the medium is -40°C to +105°C  
The valves listed below are the “normally closed” type.  
“Normally open” valves are also available to order.

Where there is a choice of body size with the same connections please check the duty requirements to ensure correct selection.



Above image shows components included in a Repair Kit, The Seal Kit (F655 & F656) incs rubber seals only.

CODE	MODEL	CONNECTIONS	DANFOSS NO
F600	EVR-3	1/4 Flare	032F8107
F599	EVR-3	3/8	032F8116
F601	EVR-6	3/8	032F8072
F604	EVR-6	1/2	032F8079
F602	EVR-10	1/2	032F8095
F605	EVR-10	5/8	032F8098
F603	EVR-15	5/8	032F8101

CODE	MODEL	CONNECTIONS	DANFOSS NO
F606	EVR-3S	1/4 Solder	032F1206
F598	EVR-3S	3/8	032F1204
F607	EVR-6S	3/8	032F1212
F608	EVR-6S	1/2	032F1209
F609	EVR-10S	1/2	032F1217
F610	EVR-10S	5/8	032F1214
F611	EVR-15S	5/8	032F1228
F622	EVR-15S	7/8	032F1225
F612	EVR-20S	7/8	032F1240
F613	EVR-20S	1-1/8	032F1244
F614	EVR-25S	1-1/8	032F2201
F615	EVR-25S	1-3/8	032F2208
F617	EVR-40S	2-1/8	042H1112

### Coil with Cable (240V AC)

CODE	MODEL	DESCRIPTION	DANFOSS NO
F618	EV 240-Cable	240 Volt 50Hz with cable	018F6252

### Coil without Terminal box (230V DC)

CODE	MODEL	DESCRIPTION	DANFOSS NO
F623	EV-230V-DC	230 Volt 50Hz without Terminal Box	018F6991

### Coil with Terminal Box (Coil voltage options listed below)

CODE	MODEL	DESCRIPTION	DANFOSS NO
F619	EV-24-TB	24 Volt 50 Hz	018F6707
F620	EV-110-TB	110 Volt 50 Hz	018F6730
F621	EV-240-TB	240 Volt 50 Hz	018F6702
F626	EV-220-TB	220/230 Volt 50 Hz	018F6701
F624	DC EVR 2/15	24 Volt D.C.	018F6857

### Repair Kits

CODE	DESCRIPTION	DANFOSS NO
F650	Repair Kit for EVR3	032F0181
F651	Repair Kit for EVR6	032F8166
F652	Repair Kit for EVR10	032F0185
F653	Repair Kit for EVR15	032F0187
F654	Repair Kit for EVR20	032F0189
F655	Seal Kit for EVR2,3,10 & 15	032F8196
F656	Seal Kit for EVR06	032F8165

## Parker Sporlan Solenoid Valve Coils

Replacement solenoid valve coils for the 2 most popular Parker Sporlan solenoid valves used in the refrigeration & AC industry.



F340/2/4



CODE	TYPE	MODEL
F340	JPAR654	RT14-24V-AC Solenoid Coil
F342	JPAR652	RT14-110V-AC Solenoid Coil
F344	JPAR650	RT-14-240V-AC Solenoid Coil
F358	310680	MKC-1 220-240/50-AC Solenoid Coil
F359	311764	MKC-2 220-240/50-AC Solenoid Coil

## Danfoss Crankcase Protectors

The KVL protects the compressor motor against overload during start up after a defrost or any long standstill period.

The connection size chosen must not be too small.

Gas velocities in excess of 40 m/s in the inlet of the regulator can give flow noise!

CODE	MODEL	CONNECTIONS	RANGE	DANFOSS NO
F710	KVL 12	1/2 Flare	0.2 to 6 bar	034L0041
F711	KVL 15	5/8 Flare	0.2 to 6 bar	034L0042

CODE	MODEL	CONNECTIONS	RANGE	DANFOSS NO
F713	KVL 12	1/2 Solder	0.2 to 6 bar	034L0043
F714	KVL 15	5/8 Solder	0.2 to 6 bar	034L0049
F715	KVL 22	7/8 Solder	0.2 to 6 bar	034L0045
F716	KVL 28	1-1/8 Solder	0.2 to 6 bar	034L0046
F717	KVL 35	1-3/8 Solder	0.2 to 6 bar	034L0052



## Danfoss Evaporator Pressure Regulator

The KVP is mounted in the suction line after the evaporator to maintain a constant temperature in the evaporator or to stop the evaporator falling below a preset temperature, as protection against freezing in a water chiller.

The connection size chosen must not be too small.

Gas velocities in excess of 40 m/s in the inlet of the regulator can give flow noise!

CODE	MODEL	CONNECTIONS	RANGE	DANFOSS NO
F720	KVP 12	1/2 Flare	0 to 5.5 bar	034L0021
F721	KVP 15	5/8 Flare	0 to 5.5 bar	034L0022

CODE	MODEL	CONNECTIONS	RANGE	DANFOSS NO
F723	KVP 12	1/2 Solder	0.2 to 6 bar	034L0023
F724	KVP 15	5/8 Solder	0.2 to 6 bar	034L0029
F725	KVP 22	7/8 Solder	0 to 5.5 bar	034L0025
F726	KVP 28	1-1/8 Solder	0 to 5.5 bar	034L0026
F727	KVP 35	1-3/8 Solder	0 to 5.5 bar	034L0032



## Danfoss Water Valves

Two way valve to regulate the flow of water in refrigeration plant with water cooled condensers. The water valve modulates the flow to maintain the condensing pressure.

When the plant stops the water flow is shut off.

The following models are suitable for use with fresh water or neutral brine. Models WVFX 15,20 & 25 are also available in stainless steel for sea water use. The connection for the condenser pressure is 1/4" flare.



CODE	MODEL	CONNECTIONS	RANGE-BAR	DANFOSS NO
F050	WVFX 10	3/8" FPT	3.5 to 16	003N1100
F051	WVFX 15	1/2	3.5 to 16	003N2100
F052	WVFX 20	3/4	3.5 to 16	003N3100
F053	WVFX 25	1	3.5 to 16	003N4100
F054	WVFX 32	1-1/4	4 to 17	003F1232

Connections FPT = Female Pipe Thread.

## Danfoss Oil Pressure Differential Switches.

Danfoss MP54 and MP55 oil differential controls are used as safety switches to protect compressors against low oil pressure. If the oil pressure fails the control stops the compressor after a given time period.

The time delay also allows for the oil pressure to reach operating conditions after start up.



CODE	MODEL	DELAY	DIFFERENTIAL - BAR	DANFOSS NO
F065	MP-54	45 Seconds	0.65 Fixed	060B016666
F066	MP-54	60 Seconds	0.65 Fixed	060B016766
F067	MP-54	90 Seconds	0.65 Fixed	060B016866
F068	MP-54	120 Seconds	0.65 Fixed	060B016966

CODE	MODEL	DELAY	DIFFERENTIAL - BAR	DANFOSS NO
F071	MP-55	60 Seconds	0.33/4.5 ad.	060B017166
F072	MP-55	90 Seconds	0.33/4.5 ad.	060B017266
F073	MP-55	120 Seconds	0.33/4.5 ad.	060B017366



## DEFROST HEATERS & CONDENSERS

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## Defrost Heaters

These heaters are 230 volt, 50Hz and are supplied straight, they can be bent by hand to the required shape.

All heaters are supplied with cable tails.

CODE	LENGTH	WATTS
G350	24"	400
G352	36"	500
G353	36"	750
G355	42"	500
G359	48"	750
G363	60"	500
G365	60"	1000
G368	72"	500
G369	72"	1000
G371	84"	500
G372	84"	1000
G375	96"	500
G376	96"	1000
G380	120"	1000
G381	120"	1500
G383	130"	1500



### Heater in Series

230 volt heater wired in series or on a 110 volt supply give approximately 22% of their rated output.  
I.E. 2 x 1000 watt 230 volt heaters, wired in series would have output of 220 watt each.

## Condensers

These highly efficient air cooled condensers for Hermetic Compressors are manufactured with staggered copper tubes and aluminium fins with self-separating collars give 4mm fin spacing.

CODE	MODEL
G281	NCF 72
G282	NCF 82
G283	NCF 83
G284	NCF 84
G285	NCF 93
G286	NCF 94
G287	NCF 104
G288	NCF 114
G289	NCF 124
G290	NCF 144
G291	NCF 94D
G292	NCF 104D
G293	NCF 114D
G294	NCF 124D
G295	NCF 144D



### Specification:

SINGLE FAN MODELS	NCF 72	NCF 82	NCF 83	NCF 84	NCF 93	NCF 94	NCF 104	NCF 114	NCF 124	NCF 144
No. of Tubes	7x2	8x2	8x3	8x4	9x3	9x4	10x4	11x4	12x4	14x4
Capacity*	732	907	1291	1605	1628	2047	2512	3058	3663	4942
Fan Blade Dia.	203	203	203	203	254	254	254	305	305	356
Fan Motor Size	5	5	5	5	10	10	10	16	16	35
Volume Cu m/hr	650	650	650	650	590	850	850	1400	1400	1900
Height (mm)	235	235	235	235	275	275	290	325	350	400
Width (mm)	270	290	290	290	320	320	350	380	410	470
Depth (mm)	107	107	137	167	137	167	167	167	167	167

DOUBLE FAN MODELS	NCF 94D	NCF 104D	NCF 114D	NCF 124D	NCF 144D
No. of Tubes	9x4	10x4	11x4	12x4	14x4
Capacity*	4093	5024	6117	7327	9885
Fan Blade Dia.	2x254	2x254	2x305	2x305	2x356
Fan Motor Size	2x10	2x10	2x16	2x16	2x35
Volume Cu m/hr	1700	1700	2800	2800	3800
Height (mm)	275	290	235	350	400
Width (mm)	590	650	710	770	890
Depth (mm)	167	167	167	167	167



The capacity is the total heat of rejection in watts at 15°KTD. Compressor duty will need to be corrected to obtain the total heat rejection.

# Kelvion



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## TAKING HEAT OFF AROUND THE WORLD



Our range of refrigeration products are versatile and efficient.

We have a comprehensive range of commercial evaporators as well as many options available on our customised range of heavy commercial and industrial evaporators.

This year we celebrate 100 years of manufacturing at our Fareham site. Kelvion manufacturing in the UK since 1921.



[www.kelvion.com](http://www.kelvion.com)



## KELVION FRIGA-BOHN & LU-VE EVAPORATORS

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We have a large range of flat bed and V Bank condensers, gas coolers and dry air coolers.

These are driven by our global research & development team.

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## Kelvion - TEC Unit Cooler

TEC is a range of nine small 'blow through' unit coolers using high efficiency EC fans as standard, providing a significant reduction in energy consumption and therefore running costs. With a wide operating range of +10°C to -40 °C, the coolers are suitable for both high, medium and low temperature applications in areas such as reach-in and walk-in cold cabinets, small cold rooms and similar situations. Nominal capacities are from 0.52kW to 3.4kW (Standard Condition 2) when used with low ozone depletion refrigerants such as R134a, R404A and R507A (for applications below 2°C please order suitable defrost kits).

### High Temperature (5.1mm Fin Spacing) at SC 2 (8KTD)

CODE	MODEL	Nº of FANS	DUTY-WATTS
R1000	TEC 1-5	1	0.52
R1001	TEC 2-5	1	0.84
R1002	TEC 3-5	1	1.00
R1003	TEC 3.5-5	1	1.15
R1004	TEC 4-5	2	1.61
R1005	TEC 5-5	2	1.89
R1006	TEC 6-5	2	2.14
R1007	TEC 7-5	3	2.76
R1008	TEC 8-5	3	3.18



### High Temperature (3.6mm Fin Spacing) at SC 2 (8KTD)

CODE	MODEL	Nº of FANS	DUTY-WATTS
R1020	TEC 1-7	1	0.57
R1021	TEC 2-7	1	0.89
R1022	TEC 3-7	1	1.04
R1023	TEC 3.5-7	1	1.25
R1024	TEC 4-7	2	1.72
R1025	TEC 5-7	2	2.04
R1026	TEC 6-7	2	2.29
R1027	TEC 7-7	3	3.02
R1028	TEC 8-7	3	3.40

### Drain Tray Kits (Wall Mounted)

CODE	MODEL
R1035	WT1/2-PAN
R1036	WT3-PAN
R1037	WT3.5/4-PAN
R1038	WT5-PAN
R1039	WT6-PAN
R1040	WT7-PAN
R1041	WT8-PAN

### E/Defrost Kits (Ceiling Mounted)

CODE	MODEL
R2240	T1-LTKIT
R2241	T2-LTKIT
R2242	T3-LTKIT
R2243	T3.5/4-LTKIT
R2244	T5/6-LTKIT
R2245	T7/8-LTKIT

### E/Defrost Kits (Wall Mounted)

CODE	MODEL
R1048	WT1/2-LTKIT
R1049	WT3-LTKIT
R1050	WT3.5/4-LTKIT
R1051	WT5-LTKIT
R1052	WT6-LTKIT
R1053	WT7/8 -LTKIT

### Specification:

MODEL	FANS	AIR VOL. m³/s		CONNECTIONS		DIMENSIONS			WEIGHT (KG)
		5 fpi	7 fpi	INLET.	OUTLET.	H	W	D	
TEC1	1	0.16	0.15	3/8"	3/8"	180	525	375	7.3
TEC2	1	0.15	0.14	3/8"	3/8"	180	525	375	8.2
TEC3	1	0.16	0.15	3/8"	3/8"	180	690	375	9.8
TEC3.5	1	0.17	0.16	3/8"	1/2"	180	865	375	12.0
TEC4	2	0.28	0.26	3/8"	1/2"	180	865	375	13.7
TEC5	2	0.31	0.30	3/8"	1/2"	180	1120	375	16.4
TEC6	2	0.34	0.32	1/2"	5/8"	230	1120	375	18.5
TEC7	3	0.47	0.45	1/2"	7/8"	180	1528	375	24.0
TEC8	3	0.50	0.48	1/2"	7/8"	230	1528	375	26.9

### Standard Conditions:

CONDITION	AIR INLET TEMPERATURE	EVAPORATING TEMPERATURE	STANDARD TD
SC 2	0°C	-8°C	8K

The duties indicated have been calculated using R404A. For other refrigerants please contact us for the relevant selection.

## Kelvion - KEC Unit Cooler

The GEA Searle KEC cooler is the next generation of Unit Cooler, with market leading performance, noise levels and energy efficiency. Using EC technology as standard across the range, the power input for the KEC cooler is typically 50% less than that of other cooler motors. The KEC coolers cover a capacity range from 1.2 – 10.7kW and are ideally suited for cold room applications and cool cabinets. The range has a modern aesthetic design and is easy to install and maintain.

### High Temperature (4mm Fin Spacing)

at SC 2 (8KTD)

CODE	MODEL	DUTY-WATTS
R2020	KEC 10-4	1.65
R2021	KEC 15-4	2.01
R2022	KEC 20-4	2.35
R2023	KEC 25-4	3.00
R2024	KEC 30-4	3.73
R2025	KEC 35-4	4.57
R2026	KEC 40-4	5.84
R2027	KEC 45-4	6.99
R2028	KEC 55-4	8.79
R2029	KEC 70-4	10.51



### Electric Defrost (4mm Fin Spacing)

at SC 2 (8KTD)

CODE	MODEL	DUTY-WATTS
R2040	KEC 10-4L	1.65
R2041	KEC 15-4L	2.01
R2042	KEC 20-4L	2.35
R2043	KEC 25-4L	3.00
R2044	KEC 30-4L	3.73
R2045	KEC 35-4L	4.57
R2046	KEC 40-4L	5.84
R2047	KEC 45-4L	6.99
R2048	KEC 55-4L	8.79
R2049	KEC 70-4L	10.51

Kelvion



### High Temperature (6mm Fin Spacing)

at SC 2 (8KTD)

CODE	MODEL	DUTY-WATTS
R2060	KEC 10-6	1.34
R2061	KEC 15-6	1.72
R2062	KEC 20-6	1.99
R2063	KEC 25-6	2.38
R2064	KEC 30-6	3.16
R2065	KEC 35-6	3.85
R2066	KEC 40-6	4.63
R2067	KEC 45-6	5.97
R2068	KEC 55-6	7.00
R2069	KEC 70-6	8.98



### Electric Defrost (6mm Fin Spacing)

at SC 2 (8KTD)

CODE	MODEL	DUTY-WATTS
R2080	KEC 10-6L	1.34
R2081	KEC 15-6L	1.72
R2082	KEC 20-6L	1.99
R2083	KEC 25-6L	2.38
R2084	KEC 30-6L	3.16
R2085	KEC 35-6L	3.85
R2086	KEC 40-6L	4.63
R2087	KEC 45-6L	5.97
R2088	KEC 55-6L	7.00
R2089	KEC 70-6L	8.98



The duties indicated have been calculated using R404A. For other refrigerants please contact us for the relevant selection.

# Kelvion - KEC Unit Cooler Specification

## High Temperature (4mm Fin Spacing)

MODEL	FANS	AIR VOL. m <sup>3</sup> /s	CONNECTIONS		DIMENSIONS (MM)			WEIGHT (KG)
			INLET.	OUTLET	H	W	D	
KEC10-4	1	0.28	1/2"	1/2"	412	726	460	27
KEC15-4	1	0.28	1/2"	1/2"	412	726	460	28
KEC20-4	1	0.29	1/2"	5/8"	412	876	460	33
KEC25-4	1	0.42	1/2"	5/8"	412	876	460	33
KEC30-4	1	0.40	1/2"	7/8"	412	876	460	35
KEC35-4	2	0.58	1/2"	7/8"	412	1326	460	47
KEC40-4	2	0.83	1/2"	7/8"	412	1326	460	47
KEC45-4	2	0.81	1/2"	7/8"	412	1326	460	53
KEC55-4	3	1.25	1/2"	7/8"	412	1826	460	67
KEC70-4	3	1.21	1/2"	7/8"	412	1826	460	74

## Electric Defrost (4mm Fin Spacing)

MODEL	FANS	AIR VOL. m <sup>3</sup> /s	CONNECTIONS		DIMENSIONS (MM)			WEIGHT (KG)
			INLET.	OUTLET	H	W	D	
KEC10-4L	1	0.28	1/2"	1/2"	412	726	460	27
KEC15-4L	1	0.28	1/2"	1/2"	412	726	460	28
KEC20-4L	1	0.29	1/2"	5/8"	412	876	460	33
KEC25-4L	1	0.42	1/2"	5/8"	412	876	460	33
KEC30-4L	1	0.40	1/2"	7/8"	412	876	460	35
KEC35-4L	2	0.58	1/2"	7/8"	412	1326	460	47
KEC40-4L	2	0.83	1/2"	7/8"	412	1326	460	47
KEC45-4L	2	0.81	1/2"	7/8"	412	1326	460	53
KEC55-4L	3	1.25	1/2"	7/8"	412	1826	460	67
KEC70-4L	3	1.21	1/2"	7/8"	412	1826	460	74

## High Temperature (6mm Fin Spacing)

MODEL	FANS	AIR VOL. m <sup>3</sup> /s	CONNECTIONS		DIMENSIONS (MM)			WEIGHT (KG)
			INLET.	OUTLET	H	W	D	
KEC10-6	1	0.31	1/2"	1/2"	412	726	460	27
KEC15-6	1	0.31	1/2"	1/2"	412	726	460	28
KEC20-6	1	0.32	1/2"	5/8"	412	876	460	33
KEC25-6	1	0.43	1/2"	5/8"	412	876	460	33
KEC30-6	1	0.42	1/2"	7/8"	412	876	460	35
KEC35-6	2	0.63	1/2"	7/8"	412	1326	460	47
KEC40-6	2	0.85	1/2"	7/8"	412	1326	460	47
KEC45-6	2	0.83	1/2"	7/8"	412	1326	460	53
KEC55-6	3	1.28	1/2"	7/8"	412	1826	460	67
KEC70-6	3	1.25	1/2"	7/8"	412	1826	460	74

## Electric Defrost (6mm Fin Spacing)

MODEL	FANS	AIR VOL. m <sup>3</sup> /s	CONNECTIONS		DIMENSIONS (MM)			WEIGHT (KG)
			INLET.	OUTLET	H	W	D	
KEC10-6L	1	0.31	1/2"	1/2"	412	726	460	27
KEC15-6L	1	0.31	1/2"	1/2"	412	726	460	28
KEC20-6L	1	0.32	1/2"	5/8"	412	876	460	33
KEC25-6L	1	0.43	1/2"	5/8"	412	876	460	33
KEC30-6L	1	0.42	1/2"	7/8"	412	876	460	35
KEC35-6L	2	0.63	1/2"	7/8"	412	1326	460	47
KEC40-6L	2	0.85	1/2"	7/8"	412	1326	460	47
KEC45-6L	2	0.83	1/2"	7/8"	412	1326	460	53
KEC55-6L	3	1.28	1/2"	7/8"	412	1826	460	67
KEC70-6L	3	1.25	1/2"	7/8"	412	1826	460	74

## Standard Conditions:

CONDITION	AIR INLET TEMPERATURE	EVAPORATING TEMPERATURE	STANDARD TD
SC 2	0°C	-8°C	8K

## Kelvion - KMe Unit Cooler

The KMe range of coolers is ideally suited to large cold rooms and small warehouses where an efficient solution is required. The KMe can also be used for industrial food processing, agricultural applications and cool cabinets. Standard features of the range :- 1/2" OD 'D' fin inner grooved copper tube, 4mm or 6mm fin spacing. 400mm energy efficient fan-set and powder coated galvanised steel case. KMe range comes standard with 1ph fans and 3 phase heaters also available with 3 phase fan motors on request.

### High Temperature (4mm Fin Spacing) at SC 2 (8KTD)

CODE	FAN COIL	DUTY-WATTS
R2100	KMe50-4	7.36
R2101	KMe60-4	8.71
R2102	KMe80-4	12.21
R2103	KMe95-4	14.78
R2104	KMe115-4	18.41
R2105	KMe140-4	22.29
R2106	KMe175-4	27.93



### Electric Defrost (4mm Fin Spacing) at SC 2 (8KTD)

CODE	FAN COIL	DUTY-WATTS
R2120	KMe50-4L	7.36
R2121	KMe60-4L	8.71
R2122	KMe80-4L	12.12
R2123	KMe95-4L	14.84
R2124	KMe115-4L	18.40
R2125	KMe140-4L	22.31
R2126	KMe175-4L	27.95



### High Temperature (6mm Fin Spacing) at SC 2 (8KTD)

CODE	FAN COIL	DUTY-WATTS
R2130	KMe50-6	6.20
R2131	KMe60-6	7.45
R2132	KMe80-6	9.74
R2133	KMe95-6	12.51
R2134	KMe115-6	14.61
R2135	KMe140-6	18.75
R2136	KMe175-6	23.92



### Electric Defrost (6mm Fin Spacing) at SC 2 (8KTD)

CODE	FAN COIL	DUTY-WATTS
R2140	KMe50-6L	6.20
R2141	KMe60-6L	7.45
R2142	KMe80-6L	9.74
R2143	KMe95-6L	12.51
R2144	KMe115-6L	14.61
R2145	KMe140-6L	18.75
R2146	KMe175-6L	23.92



KMe Coolers can be supplied with optional extras as detailed in the table below, please consult our technical dept for prices.

KMe Options	KMe Options
Aerofoil Fans 3PH 50Hz	KMe Fan Plate Heater
Aerofoil Fans 3PH 60Hz	KMe Air Streamer
KMe 400mm EC Fans	Cooler Guard
KMe Peripheral Heater	Stainless Steel Casing

The duties indicated have been calculated using R404A. For other refrigerants please contact us for the relevant selection.

# Kelvion - KMe Unit Cooler Specification



## High Temperature (4mm Fin Spacing)

MODEL	FANS	AIR VOL. m <sup>3</sup> /s	CONNECTIONS		DIMENSIONS (MM)			WEIGHT (KG)
			INLET.	OUTLET	H	W	D	
KMe50-4	1	0.89	1/2"	1-1/8"	574	1007	536	85
KMe60-4	1	0.96	5/8"	1-1/8"	574	1332	536	112
KMe80-4	2	1.89	5/8"	1-1/8"	574	1682	536	129
KMe95-4	2	1.78	5/8"	1-1/8"	574	1682	536	139
KMe115-4	3	2.83	7/8"	1-3/8"	574	2357	536	170
KMe140-4	3	2.68	7/8"	1-3/8"	574	2357	536	195
KMe175-4	4	3.45	7/8"	1-3/8"	574	2732	536	217

## Electric Defrost (4mm Fin Spacing)

MODEL	FANS	AIR VOL. m <sup>3</sup> /s	CONNECTIONS		DIMENSIONS (MM)			WEIGHT (KG)
			INLET.	OUTLET	H	W	D	
KMe50-4L	1	0.89	1/2"	1-1/8"	574	1007	536	85
KMe60-4L	1	0.96	5/8"	1-1/8"	574	1332	536	112
KMe80-4L	2	1.89	5/8"	1-1/8"	574	1682	536	129
KMe95-4L	2	1.78	5/8"	1-1/8"	574	1682	536	139
KMe115-4L	3	2.83	7/8"	1-3/8"	574	2357	536	170
KMe140-4L	3	2.68	7/8"	1-3/8"	574	2357	536	195
KMe175-4L	4	3.45	7/8"	1-3/8"	574	2732	536	217

## High Temperature (6mm Fin Spacing)

MODEL	FANS	AIR VOL. m <sup>3</sup> /s	CONNECTIONS		DIMENSIONS (MM)			WEIGHT (KG)
			INLET.	OUTLET	H	W	D	
KMe50-6	1	0.98	1/2"	1-1/8"	574	1007	536	83
KMe60-6	1	1.01	5/8"	1-1/8"	574	1332	536	109
KMe80-6	2	2.00	5/8"	1-1/8"	574	1682	536	127
KMe95-6	2	1.95	5/8"	1-1/8"	574	1682	536	135
KMe115-6	3	3.00	7/8"	1-3/8"	574	2357	536	167
KMe140-6	3	2.93	7/8"	1-3/8"	574	2357	536	191
KMe175-6	4	3.86	7/8"	1-3/8"	574	2732	536	214

## Electric Defrost (6mm Fin Spacing)

MODEL	FANS	AIR VOL. m <sup>3</sup> /s	CONNECTIONS		DIMENSIONS (MM)			WEIGHT (KG)
			INLET.	OUTLET	H	W	D	
KMe50-6L	1	0.98	1/2"	1-1/8"	574	1007	536	83
KMe60-6L	1	1.01	5/8"	1-1/8"	574	1332	536	109
KMe80-6L	2	2.00	5/8"	1-1/8"	574	1682	536	127
KMe95-6L	2	1.95	5/8"	1-1/8"	574	1682	536	135
KMe115-6L	3	3.00	7/8"	1-3/8"	574	2357	536	167
KMe140-6L	3	2.93	7/8"	1-3/8"	574	2357	536	191
KMe175-6L	4	3.86	7/8"	1-3/8"	574	2732	536	214

## Standard Conditions:

CONDITION	AIR INLET TEMPERATURE	EVAPORATING TEMPERATURE	STANDARD TD
SC 2	0°C	-8°C	8K

The duties indicated have been calculated using R404A. For other refrigerants please contact us for the relevant selection.

## Kelvion - KDC Unit Cooler

The Kelvion KDC provides gentle cooling and quiet operation for sensitive produce and/or areas where people are working. The dual discharge air coolers are suitable for high, medium and low temperature applications in the commercial refrigeration sector. Better performance, easy installation, serviceability and high quality make this unit the perfect fit for your working area needs. Draft-free air circulation and quiet operation: pleasant conditions for people in working spaces. Guides the air across the ceiling and far into the room.

### High Temperature (4.5mm Fin Spacing)

at SC 2 (8KTD)

CODE	FAN COIL	DUTY-WATTS
R4000	KDC-351-2AN	2.4
R4002	KDC-351-4AN	3.2
R4006	KDC-351-6AN	3.7
R4008	KDC-352-2AN	4.9
R4010	KDC-352-4AN	6.5
R4012	KDC-352-6AN	7.4
R4014	KDC-353-2AN	7.4
R4016	KDC-353-4AN	9.8
R4016	KDC-353-6AN	11.2
R4022	KDC-354-2AN	9.9
R4024	KDC-354-4AN	13.1
R4026	KDC-354-6AN	14.9
R4028	KDC-355-2AN	12.5
R4030	KDC-355-4AN	17.6
R4032	KDC-355-6AN	18.5
R4034	KDC-356-2AN	14.9
R4036	KDC-356-4AN	19.7
R4038	KDC-356-6AN	23.0



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### Electric Defrost (4.5mm Fin Spacing)

at SC 2 (8KTD)

CODE	FAN COIL	DUTY-WATTS
R4050	KDC-351-2AE	2.4
R4056	KDC-351-4AE	3.2
R4058	KDC-351-6AE	3.7
R4062	KDC-352-2AE	4.9
R4064	KDC-352-4AE	6.5
R4066	KDC-352-6AE	7.4
R4068	KDC-353-2AE	7.4
R4070	KDC-353-4AE	9.8
R4072	KDC-353-6AE	11.2
R4080	KDC-354-2AE	9.9
R4082	KDC-354-4AE	13.1
R4084	KDC-354-6AE	14.9
R4088	KDC-355-2AE	12.5
R4090	KDC-355-4AE	17.6
R4092	KDC-355-6AE	18.5
R4096	KDC-356-2AE	14.9
R4098	KDC-356-4AE	19.7
R4100	KDC-356-6AE	23.0



### Optional extras/variants

#### Fan variants

V 1.52 variable speed 0-10v ec fan

#### Casing variants

V 3.08 Top plate cover to prevent dust and dirt accumulation

V 3.09 Double-walled, insulated drip tray prevents condensed water from forming on the bottom side of the tray and it reduces the transfer of defrost heat into the cold rooms.

#### Construction variants

V 2.05 & V 2.06 Water / brine circulation small and large pressure drop, 16 bar max pressure

V 4.06 electrical defrost in tray: necessary for units operating below -18°C air temperatures

V 6.22 multiple injection with cal-distributor

**CO<sub>2</sub> variants:** **V7.45** CO<sub>2</sub> - direct expansion up to 45 bar operating pressure. **V7.90** CO<sub>2</sub> - direct expansion up to 90 bar operating pressure.

## Kelvion - KDC Unit Cooler

Application examples: working areas, sales area for sensitive goods, cold rooms, food prep areas and laboratories. Kelvion KDC feature EC fans offering considerable energy cost savings and longer life span. Fans offer a choice of high or low fixed speed. Optional extra V1.52: Fan adjustable via 0-10V interface (speed adjustable from 100% to at least 50%).

### High Temperature (7.0mm Fin Spacing)

at SC 2 (8KTD)

CODE	FAN COIL	DUTY-WATTS
R4137	KDC-351-2BN	1.7
R4139	KDC-351-4BN	2.7
R4141	KDC-351-6BN	3.3
R4142	KDC-352-2BN	3.6
R4143	KDC-352-4BN	5.5
R4145	KDC-352-6BN	6.9
R4147	KDC-353-2BN	5.5
R4149	KDC-353-4BN	8.3
R4150	KDC-353-6BN	10.4
R4151	KDC-354-2BN	7.3
R4152	KDC-354-4BN	11.1
R4153	KDC-354-6BN	13.8
R4154	KDC-355-2BN	8.6
R4155	KDC-355-4BN	14.5
R4156	KDC-355-6BN	17.2
R4157	KDC-356-2BN	11.0
R4158	KDC-356-4BN	16.7
R4159	KDC-356-6BN	20.9



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### Electric Defrost (7.0mm Fin Spacing)

at SC 2 (8KTD)

CODE	FAN COIL	DUTY-WATTS
R4106	KDC-351-2BE	1.7
R4108	KDC-351-4BE	2.7
R4110	KDC-351-6BE	3.3
R4114	KDC-352-2BE	3.6
R4116	KDC-352-4BE	5.5
R4118	KDC-352-6BE	6.9
R4122	KDC-353-2BE	5.5
R4124	KDC-353-4BE	8.3
R4126	KDC-353-6BE	10.4
R4130	KDC-354-2BE	7.3
R4132	KDC-354-4BE	11.1
R4134	KDC-354-6BE	13.8
R4136	KDC-355-2BE	8.6
R4138	KDC-355-4BE	14.5
R4140	KDC-355-6BE	17.2
R4144	KDC-356-2BE	11.0
R4146	KDC-356-4BE	16.7
R4148	KDC-356-6BE	20.9



### Standard Conditions:

CONDITION	AIR INLET TEMPERATURE	EVAPORATING TEMPERATURE	STANDARD TD
SC 2	0°C	-8°C	8K

The duties indicated have been calculated using R404A. For other refrigerants please contact us for the relevant selection.

### Optional extras/variants: protection against corrosion -

V 6.01 Corrosion Protection 1: Tubing: Copper, Fins: Aluminum, epoxy-resin-coated

End plates: Aluminum protective coating casing: Aluminum/zinc coated steel, protective coating on both sides

V 6.04 Corrosion protection 4: Tubing: Copper. Fins: Aluminum, epoxy-resin-coated. End plates: Aluminum Casing: Aluminum/zinc coated steel, protective coating on one side.

## High Temperature (4.5 mm Fin Spacing)

MODEL	FANS	AIR VOL. m <sup>3</sup> /s	CONNECTIONS		DIMENSIONS (MM)			WEIGHT (KG)
			INLET.	OUTLET	H	W	D	
KDC-351-2AN	1	1.970	3/8"	1/2"	266	922	1003	40
KDC-351-4AN	1	1.670	1/2"	3/4"	266	922	1003	43
KDC-351-6AN	1	1.440	5/8"	3/4"	266	922	1003	48
KDC-352-2AN	2	3.940	5/8"	7/8"	272	1472	1005	51
KDC-352-4AN	2	3.340	5/8"	1-1/8"	272	1472	1005	59
KDC-352-6AN	2	2.880	5/8"	1-1/8"	272	1472	1005	67
KDC-353-2AN	3	5.910	5/8"	7/8"	278	2022	1007	56
KDC-353-4AN	3	5.010	7/8"	1-1/8"	278	2022	1007	59
KDC-353-6AN	3	4.320	7/8"	1-1/8"	278	2022	1007	80
KDC-354-2AN	4	7.880	5/8"	1-1/8"	284	2572	1010	78
KDC-354-4AN	4	6.680	7/8"	1-3/8"	284	2572	1010	94
KDC-354-6AN	4	5.760	7/8"	1-3/8"	284	2572	1010	110
KDC-355-2AN	5	9.850	7/8"	1-1/8"	290	3122	1013	100
KDC-355-4AN	5	8.350	7/8"	1-3/8"	290	3122	1013	119
KDC-355-6AN	5	7.200	5/8"	1-1/8"	290	3122	1013	140
KDC-356-2AN	6	11.820	7/8"	1-1/8"	296	3672	1016	125
KDC-356-4AN	6	10.020	7/8"	1-3/8"	296	3672	1016	149
KDC-356-6AN	6	8.640	7/8"	1-3/8"	296	3672	1016	172

## Electric Defrost (4.5 mm Fin Spacing)

MODEL	FANS	AIR VOL. m <sup>3</sup> /s	CONNECTIONS		DIMENSIONS (MM)			WEIGHT (KG)
			INLET.	OUTLET	H	W	D	
KDC-351-2AN	1	1.970	3/8"	1/2"	266	922	1003	42
KDC-351-4AN	1	1.670	1/2"	3/4"	266	922	1003	46
KDC-351-6AN	1	1.440	5/8"	3/4"	266	922	1003	51
KDC-352-2AN	2	3.940	5/8"	7/8"	272	1472	1005	54
KDC-352-4AN	2	3.340	5/8"	1-1/8"	272	1472	1005	63
KDC-352-6AN	2	2.880	5/8"	1-1/8"	272	1472	1005	71
KDC-353-2AN	3	5.910	5/8"	7/8"	278	2022	1007	59
KDC-353-4AN	3	5.010	7/8"	1-1/8"	278	2022	1007	74
KDC-353-6AN	3	4.320	7/8"	1-1/8"	278	2022	1007	85
KDC-354-2AN	4	7.880	5/8"	1-1/8"	284	2572	1010	82
KDC-354-4AN	4	6.680	7/8"	1-3/8"	284	2572	1010	100
KDC-354-6AN	4	5.760	7/8"	1-3/8"	284	2572	1010	116
KDC-355-2AN	5	9.850	7/8"	1-1/8"	290	3122	1013	104
KDC-355-4AN	5	8.350	7/8"	1-3/8"	290	3122	1013	125
KDC-355-6AN	5	7.200	5/8"	1-1/8"	290	3122	1013	146
KDC-356-2AN	6	11.820	7/8"	1-1/8"	296	3672	1016	130
KDC-356-4AN	6	10.020	7/8"	1-3/8"	296	3672	1016	158
KDC-356-6AN	6	8.640	7/8"	1-3/8"	296	3672	1016	181

### Standard Conditions:

CONDITION	AIR INLET TEMPERATURE	EVAPORATING TEMPERATURE	STANDARD TD
SC 2	0°C	-8°C	8K

The duties indicated have been calculated using R404A. For other refrigerants please contact us for the relevant selection.

## High Temperature (7.0 mm Fin Spacing)

MODEL	FANS	AIR VOL. m <sup>3</sup> /s	CONNECTIONS		DIMENSIONS (MM)			WEIGHT (KG)
			INLET.	OUTLET	H	W	D	
KDC-351-2AE	1	1.970	3/8"	1/2"	266	922	1003	39
KDC-351-4AE	1	1.670	1/2"	3/4"	266	922	1003	42
KDC-351-6AE	1	1.440	5/8"	3/4"	266	922	1003	46
KDC-352-2AE	2	3.940	5/8"	7/8"	272	1472	1005	51
KDC-352-4AE	2	3.340	5/8"	1-1/8"	272	1472	1005	59
KDC-352-6AE	2	2.880	5/8"	1-1/8"	272	1472	1005	66
KDC-353-2AE	3	5.910	5/8"	7/8"	278	2022	1007	55
KDC-353-4AE	3	5.010	7/8"	1-1/8"	278	2022	1007	67
KDC-353-6AE	3	4.320	7/8"	1-1/8"	278	2022	1007	78
KDC-354-2AE	4	7.880	5/8"	1-1/8"	284	2572	1010	77
KDC-354-4AE	4	6.680	7/8"	1-3/8"	284	2572	1010	90
KDC-354-6AE	4	5.760	7/8"	1-3/8"	284	2572	1010	108
KDC-355-2AE	5	9.850	7/8"	1-1/8"	290	3122	1013	99
KDC-355-4AE	5	8.350	7/8"	1-3/8"	290	3122	1013	115
KDC-355-6AE	5	7.200	5/8"	1-1/8"	290	3122	1013	138
KDC-356-2AE	6	11.820	7/8"	1-1/8"	296	3672	1016	124
KDC-356-4AE	6	10.020	7/8"	1-3/8"	296	3672	1016	147
KDC-356-6AE	6	8.640	7/8"	1-3/8"	296	3672	1016	169

## Electric Defrost (7.0 mm Fin Spacing)

MODEL	FANS	AIR VOL. m <sup>3</sup> /s	CONNECTIONS		DIMENSIONS (MM)			WEIGHT (KG)
			INLET.	OUTLET	H	W	D	
KDC-351-2AE	1	1.970	3/8"	1/2"	266	922	1003	41
KDC-351-4AE	1	1.670	1/2"	3/4"	266	922	1003	45
KDC-351-6AE	1	1.440	5/8"	3/4"	266	922	1003	49
KDC-352-2AE	2	3.940	5/8"	7/8"	272	1472	1005	53
KDC-352-4AE	2	3.340	5/8"	1-1/8"	272	1472	1005	62
KDC-352-6AE	2	2.880	5/8"	1-1/8"	272	1472	1005	70
KDC-353-2AE	3	5.910	5/8"	7/8"	278	2022	1007	58
KDC-353-4AE	3	5.010	7/8"	1-1/8"	278	2022	1007	72
KDC-353-6AE	3	4.320	7/8"	1-1/8"	278	2022	1007	83
KDC-354-2AE	4	7.880	5/8"	1-1/8"	284	2572	1010	81
KDC-354-4AE	4	6.680	7/8"	1-3/8"	284	2572	1010	96
KDC-354-6AE	4	5.760	7/8"	1-3/8"	284	2572	1010	114
KDC-355-2AE	5	9.850	7/8"	1-1/8"	290	3122	1013	103
KDC-355-4AE	5	8.350	7/8"	1-3/8"	290	3122	1013	121
KDC-355-6AE	5	7.200	5/8"	1-1/8"	290	3122	1013	144
KDC-356-2AE	6	11.820	7/8"	1-1/8"	296	3672	1016	129
KDC-356-4AE	6	10.020	7/8"	1-3/8"	296	3672	1016	156
KDC-356-6AE	6	8.640	7/8"	1-3/8"	296	3672	1016	178

### Standard Conditions:

CONDITION	AIR INLET TEMPERATURE	EVAPORATING TEMPERATURE	STANDARD TD
SC 2	0°C	-8°C	8K

The duties indicated have been calculated using R404A. For other refrigerants please contact us for the relevant selection.

## KEC Spares

CODE	DESCRIPTION
R3120	Fan Set 300mm DIA EC 1 CORE 230V-1ph For Models KEC10/15/20/35
R3121	Fan Set 300mm DIA EC 3 CORE 230V-1ph For Models KEC25/30/40/45/55/70
R3018	Drain Connection Gasket 1" BSP ALL Models
R4125	Defrost Heater "Linked" 2 x 170W 230V 450mm KEC10/15
R4123	Defrost Heater "Linked" 2 x 230W 230V 592mm KEC20/25/30
R4127	Defrost Heater "Linked" 2 x 400W 230V 1050mm KEC35/40/45
R4128	Defrost Heater "Linked" 2 x 600W 230V 1526mm KEC55/70
R3140	Coil Heater Retaining Clamp KEC Range
R3141	End Cover All Models
R3135	Drain Pan - KEC10/15
R3136	Drain Pan - KEC20/25/30
R3137	Drain Pan - KEC35/40/45
R3138	Drain Pan - KEC55/70

## TG Spares

CODE	DESCRIPTION
R3020	Motor 15W, 220/240, 1Ph, 50/60Hz
R3021	Fan 230mm, 5-Blade, 31" Pitch, 50Hz
R3022	Fan 230mm, 5-Blade, 20" Pitch, 60Hz
R3014	Fan Guard TG2-TG8
R3025	Fan Plate / Drain Pan TG1,2
R3026	Fan Plate / Drain Pan TG3
R3027	Fan Plate / Drain Pan TG3-5
R3028	Fan Plate / Drain Pan TG4
R3029	Fan Plate / Drain Pan TG5
R3030	Fan Plate / Drain Pan TG6
R3031	Fan Plate / Drain Pan TG7
R3032	Fan Plate / Drain Pan TG8
R3012	Drain Connection 3/4" BSP
R3013	Drain Connection Gasket 3/4"

Kelvion



## KMe Spares

CODE	DESCRIPTION
R3150	Fanset 400mm DIA 4PL 400-3PH EBM
R3151	Fanset 400mm DIA 4PL 400-1PH EBM
R3018	Drain Connection Gasket 1" BSP ALL Models
R3156	Axial Fan Set 415V 3PH 50Hz
R3157	Axial Fan Set Impeller
R3158	Axial Fan Set Guard
R3076	530W 230V U Bend Coil Heater for a KME50
R3175	800W 230V U Bend Coil Heater for a KME60
R3109	1080W 230V U Bend Coil Heater for a KME80 & 95
R3176	800W 115V Straight Coil Heater for a KME115 & 140
R3177	940W 115V Straight Coil Heater for a KME175
R3178	265W 230V Straight Drain Tray Heater for a KME50
R3179	400W 230V Straight Drain Tray Heater for a KME60
R3180	530W 230V Straight Drain Tray Heater for a KME80 & 95
R3181	800W 230V Straight Drain Tray Heater for a KME115 & 140
R3182	2940W 230V Straight Drain Tray Heater for a KME175
R3185	Peripheral Heater 300W
R3186	Peripheral Heater Kit
R3187	Fanplate Heater (Caution required due to plastic guard)
R3198	Anticreep Clips (1 per coil heater)
R3190	Drain Pan KMe50
R3191	Drain Pan KMe60
R3192	Drain Pan KMe80/KMe95
R3193	Drain Pan KMe115 / KMe140
R3194	Drain Pan KMe175
R3195	End Cover KMe All Models

## DSR Spares

CODE	DESCRIPTION
R3200	Motor 25W, 220/240V, 1Ph, 50/60Hz, 2 Speed (inc Capacitor)
R3201	Motor 70W, 220/240V, 1Ph, 50/60Hz, (inc Capacitor)
R3205	Fan 305mm, 5-Blades, 24° Pitch, 50Hz, Hubless
R3207	Fan 305mm, 4-Blades, 32° Pitch, 50Hz, With Hub
R3208	Fan 305mm, 4-Blades, 26° Pitch, 60Hz, With Hub
R3210	Defrost Heater 790W, 230V, 'U' Bend to suit DSR12/22
R3211	Defrost Heater 1425W, 230V, 'U' Bend to suit DSR36/42
R3212	Defrost Heater 2135W, 230V, 'U' Bend to suit DSR51/62
R3213	Defrost Heater 2850W, 230V, 'U' Bend to suit DSR68/83/100/116
R3214	Defrost Heater 985W, 230V, Linked Pair
R3220	Defrost Heater Sump Heater Assembly
R3224	Defrost Heater Thermal Cut-out (for Air Heaters)
R3230	Fanplate / Draintray DSR 12/19/22
R3231	Fanplate / Draintray DSR 36/42
R3232	Fanplate / Draintray DSR 51/62
R3233	Fanplate / Draintray DSR 68/83/100/116
R3018	Drain Connection Gasket 1" BSP ALL Models
R3235	Triac RVM-5E 230V 1PH 50/60Hz 4.5A
R3236	Triac REE-50 230V 1PH 50/60Hz 5.0A
R3237	Junction Box 264x214x110mm - 03752
R3238	Triac 5A Comp With Junction Box
R3239	Condensate Pump with Remote Sensor
R3240	Insulated Sump Heater Assembly
R3245	1kW Heater Kit
R3246	2kW Heater Kit
R3247	3kW Heater Kit

## TEC Spares

CODE	DESCRIPTION
R3023	Fan Motor Assembly- (Motor, Blade, Guard, Junction Box & Clips.
R3045	Defrost Element 250W for TEC1 & 2 Wall Mount Model Only
R3046	Defrost Element 325W for TEC3 Wall Mount Model Only
R3047	Defrost Element 425W for TEC3.5 & 4 Wall Mount Model Only
R3048	Defrost Element 575W for TEC5 Wall Mount Model Only
R3049	Defrost Element 675W for TEC6 Wall Mount Model Only
R3050	Defrost Element 470W for TEC7 & 8 Wall Mount Model Only
R3055	Heater Clip TEC/TG1-LT Kit
R3056	Heater Clip TEC/TG2 to a TEC/TG8 LT Kit
R3057	Heater Clip All WTG-LT Kit
R3060	Drain Tray Heater Guard WTEC1/2
R3061	Drain Tray Heater Guard WTEC3
R3062	Drain Tray Heater Guard WTEC3.5/4
R3063	Drain Tray Heater Guard WTEC5/6
R3064	Drain Tray Heater Guard WTEC7/8
R3012	Drain Connection 3/4" BSP
R3013	Drain Connection Gasket 3/4"
R3600	Fan Plate/Drain Pan TEC1/TEC2
R3601	Fan Plate/Drain Pan TEC3
R3602	Fan Plate/Drain Pan TEC3.5
R3603	Fan Plate/Drain Pan TEC4
R3604	Fan Plate/Drain Pan TEC5
R3605	Fan Plate/Drain Pan TEC6
R3606	Fan Plate/Drain Pan TEC7
R3607	Fan Plate/Drain Pan TEC8

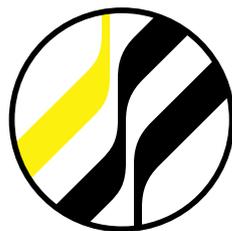
## KS Spares

CODE	DESCRIPTION
R3385	Motor 70W, 220/240V, 1Ph, 50/60Hz
R3386	Capacitor for 210-070-104 Motor
R3387	Fan 305mm, 4-Blade, 22°, 50/60Hz
R3256	Fan 310mm, 4-Blade, 36°, 60Hz
R3388	Fan 310mm, 4-Blade, 28°, 60Hz
R3389	Fan Cowl
R3263	Fan Guard
R3312	575W, 220V, U' Bend to suit KS10/15
R3395	650W, 220V, U' Bend to suit KS20
R3210	790W, 220V, U' Bend to suit KS25
R3396	1210W, 220V, U' Bend to suit KS35/40
R3211	1425W, 220V, U' Bend to suit KS45
R3212	2135W, 220V, U' Bend to suit KS55/70
R3400	Heater Clip
R3405	Drain Pan KS10 & KS15
R3406	Drain Pan KS20
R3407	Drain Pan KS25
R3408	Drain Pan KS35
R3409	Drain Pan KS40
R3410	Drain Pan KS45
R3411	Drain Pan KS55
R3412	Drain Pan KS70
R3413	Motor Bracket All Models
R3414	End Panel KS25/40/45/70
R3415	End Panel KS10/15/20/35/55
R3018	Drain Connection Gasket 1" BSP ALL Models

## JG Spares

CODE	DESCRIPTION
R3010	Fan/Motor assembly to suit all models
R3011	Fan Guard to suit all models
R3012	Drain Connection 3/4" BSP
R3013	Gasket for Drain Connection
R2010	Low Temp Defrost Kit JG1
R2011	Low Temp Defrost Kit JG2
R2012	Low Temp Defrost Kit JG3 & JG4
R2013	Low Temp Defrost Kit JG5 & JG6
R2014	Low Temp Defrost Kit JG7 & JG8

# Kelvion



## KM Spares

Post-1998 for models with round plastic fan guards.

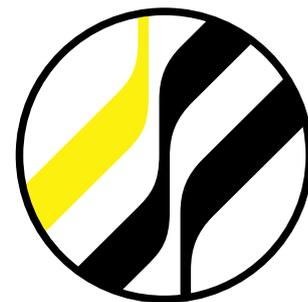
CODE	DESCRIPTION
R3325	Motor 200W, 220/240V-1-50/60Hz
R3326	Capacitor for 210-200-104 Motor
R3327	Motor 200W, 380/440V-3-50/60Hz
R3328	Fan 380mm, 4-Blade, 34°, 50Hz (Rear Hub, from serial no 887009)
R3329	Fan 380mm, 4-Blade, 24°, 60Hz (Rear Hub, from serial no. 887009)
R3330	Plastic Fan Guard
R3156	Axial Fan Set 415V 3PH 50Hz
R3157	Axial Fan Set Impeller
R3158	Axial Fan Set Guard
R3076	Coil HTR 530W 230V U Bend KM50
R3175	Coil HTR 800W 230V U Bend KM60
R3109	Coil HTR 1060W 230V U Bend KM80/95
R3176	Coil HTR 800W 115V Straight KM115/140
R3177	Coil HTR 940W 115V Straight KM175
R3178	Drain Tray HTR 265W 230V Straight KM50
R3179	Drain Tray HTR 400W 230V Straight KM60
R3180	Drain Tray HTR 530W 230V Straight KM80/95
R3181	Drain Tray HTR 800W 230V Straight KM115/140
R3182	Drain Tray HTR 940W 230V Straight KM175
R3185	Peripheral Heater 300W All models
R3186	Peripheral Heater Kit (axial fans only)
R3187	Fan Plate Heater (Caution required due to Plastic Guard)
R3198	Anticreep Clips (1 per Coil Heater)
R3335	Drain Pan KM50
R3336	Drain Pan KM60
R3337	Drain Pan KM80
R3338	Drain Pan KM95
R3339	Drain Pan KM115
R3340	Drain Pan KM140
R3341	Drain Pan KM175
R3018	Drain Connection Gasket 1" BSP ALL Models
R3345	Motor Bracket (From serial no. 123649) (2 Required per motor)
R3346	Motor Bracket ( up to serial no. 123678)
R3347	End Panel (All KM except KM80 & KM115)
R3348	End Panel (KM80 and KM115)

## KM Spares

Pre-1998 for models with square fan guards.

CODE	DESCRIPTION
R3325	Motor 200W, 220/240V-1-50/60Hz
R3326	Capacitor for 210-200-104 Motor
R3327	Motor 200W, 380/440V-3-50/60Hz
R3350	Fan 380mm, 4-Blade, 34°, 50Hz (Front Hub)
R3351	Fan 380mm, 4-Blade, 24°, 60Hz (Front Hub)
R3328	Fan 380mm, 4-Blade, 34°, 50Hz (Rear Hub, from serial no 887009)
R3329	Fan 380mm, 4-Blade, 24°, 60Hz (Rear Hub, from serial no. 887009)
R3281	Fan Guard
R3355	Coil HTR 330W, 110V, Straight KM50
R3356	Coil HTR 500W, 110V, Straight KM60
R3357	Coil HTR 665W, 110V, Straight KM80 & KM95
R3358	Coil HTR 1000W, 110V, Straight KM115 & KM140
R3359	Coil HTR 1165W, 110V, Straight KM175
R3365	Drain Pan HTR 165W, 110V Straight KM50
R3366	Drain Pan HTR 250W, 110V Straight KM60
R3367	Drain Pan HTR 335W, 110V Straight KM80 & KM95
R3368	Drain Pan HTR 500W, 110V Straight KM115 & KM140
R3369	Drain Pan HTR 585W, 110V Straight KM175
R3400	Heater Clips
R3081	Heater Clips (Anti-Creep)
R3377	End Panel
R3378	End Panel
R3379	Air Straightener

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Our range of refrigeration products are versatile and efficient.

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## Friga-Bohn EVB Evaporators

EVB fan assisted evaporators for display counters, understorage and service cabinets. Models M1, M2 and M3 are single side air discharge and models C1 and C2 have air discharged from both sides. The evaporators have a white casing and an ABS drip tray which can be reversed according to site conditions. Easy removal of fan panel and drip tray for cleaning and maintenance. An electric defrost kit can be fitted if required.



### EVB Evaporators

CODE	FAN COIL	DUTY-WATTS at SC1 (10KTD)
H110	EVB-M1	240
H111	EVB-M2	320
H112	EVB-M3	380
H115	EVB-C1	240
H116	EVB-C2	410

### Defrost Kits

CODE	DESCRIPTION	TO SUIT MODEL
H118	Heater Kit	M1, M2, C1
H119	Heater Kit	M3, C2



### Specification:

MODEL	FANS	AIR VOL. cu/m hr	DEFROST Watts	DIMENSIONS (mm)			CONNECTIONS		
				L	W	H	Liquid	Suction	Drain
EVB M1	1	65	210	370	80	440	5/16	5/16	16mm
EVB M2	1	95	210	370	80	440	5/16	5/16	16mm
EVB M3	1	105	290	490	80	440	5/16	5/16	16mm
EVB C1	2	65	210	370	89	440	5/16	5/16	16mm
EVB C2	2	110	290	490	89	440	5/16	5/16	16mm

### Standard Conditions:

Condition	Air Inlet Temperature	Evaporating Temperature	Standard TD
SC1	+10°C	0°C	10K

The duties indicated have been calculated using R404A. For other refrigerants please contact us for the relevant selection.

## FRIGA-BOHN MF/MR Evaporators

FRIGA-BOHN 

Micro-freeze (MF) and Mini-freeze (MR) compact evaporators are suitable for installation in cabinets and small cold rooms. The casings are made using special shock resistant ABS plastic according to the most severe hygiene standards.

Sturdy and corrosion-resistant unit, coils totally anti-corrosion treated as standard, ABS casing and stainless steel screws.



### High Temperature at SC 2 (8KTD)

CODE	MODEL	DUTY-WATTS	DUTY-WATTS	DUTY-WATTS
H120	MF 1	350	-	-
H121	MF 2	400	-	-
H122	MF 3	750	-	-
H123	MF 4	790	-	-

### Electric Defrost

at SC 3 (7KTD)

at SC 4 (6KTD)

CODE	MODEL	DUTY-WATTS	DUTY-WATTS	DUTY-WATTS
H127	MFE 2	-	320	240
H128	MFE 3	-	580	430
H129	MFE 4	-	640	450

### High Temperature at SC 2 (8KTD)

CODE	MODEL	DUTY-WATTS	DUTY-WATTS	DUTY-WATTS
H170	MR 75R	680	-	-
H171	MR 110R	1070	-	-
H172	MR 135R	1270	-	-
H173	MR 210R	2060	-	-
H174	MR 270R	2620	-	-

### Electric Defrost

at SC 3 (7KTD)

at SC 4 (6KTD)

CODE	MODEL	DUTY-WATTS	DUTY-WATTS	DUTY-WATTS
H178	MRE 75+E	-	530	420
H179	MRE 110+E	-	820	640
H180	MRE 135+E	-	1070	840
H181	MRE 210+E	-	1660	1320
H182	MRE 270+E	-	2230	1780

### Application:

MODEL	AIR INLET TEMPERATURE	FIN SPACING	DEFROST
MF	+10°C/+2°C	4.23mm (6 fpi)	None
MFE	-10°C/-25°C	4.23mm (6 fpi)	Electric
MR**R	+10°C/+2°C	4.23mm (6 fpi)	None
MRE**E	-10°C/-25°C	4.23mm (6 fpi)	Electric

### Standard Conditions:

CONDITION	AIR INLET TEMPERATURE	EVAPORATING TEMPERATURE	STANDARD TD
SC 2	0°C	-8°C	8K
SC 3	-18°C	-25°C	7K
SC 4	-25°C	-31°C	6K

The duties indicated have been calculated using R404A. For other refrigerants please contact us for the relevant selection.

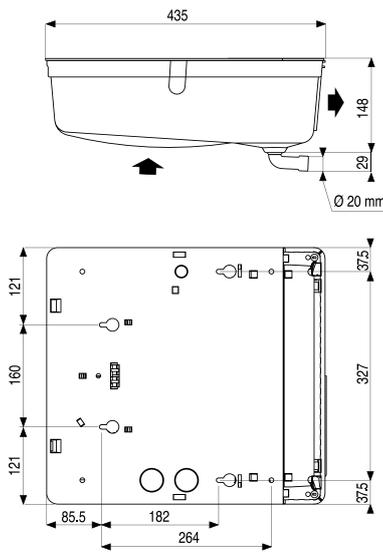
# Friga-Bohn MF/MR Evaporators



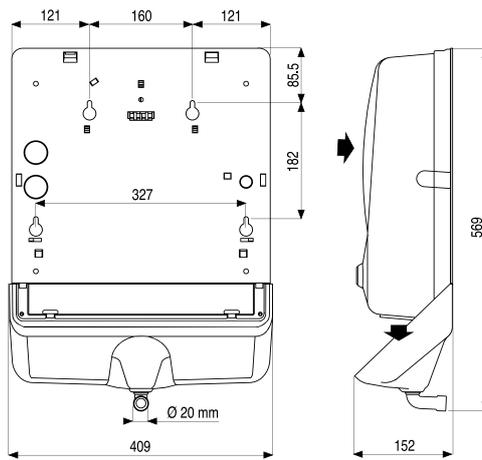
## Specification:

MODEL	FANS	AIR VOL. cu/m hr	DEFROST WATTS	DIMENSIONS (mm)			CONNECTIONS		
				L	W	H	Liquid	Suction	Drain
MF 1	1	270	140	402	435	148	5/16	5/16	20mm
MF 2	1	250	160	402	435	148	5/16	5/16	20mm
MF 3	2	460	330	599	429	150	5/16	5/16	20mm
MF 4	2	430	330	599	429	150	5/16	5/16	20mm
MR 75	1	290	400	514	438	209	3/8	3/8	1"
MR 110	2	650	440	784	438	209	3/8	3/8	1"
MR 135	2	580	730	784	438	209	3/8	3/8	1"
MR 210	3	870	1200	1174	438	209	1/2	1/2	1"
MR 270	4	1160	1600	1504	438	209	1/2	1/2	1"

MF 1-2 / MFE 1-2

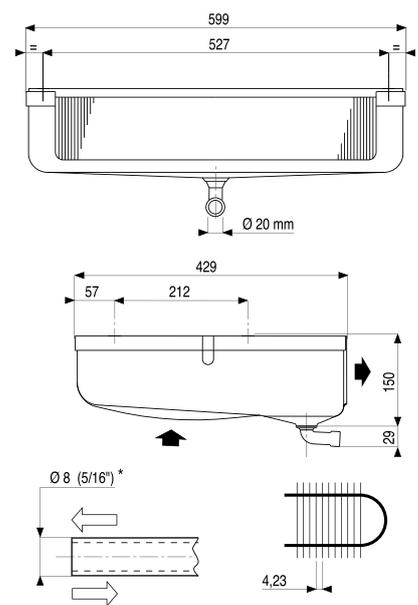


MF 1-2

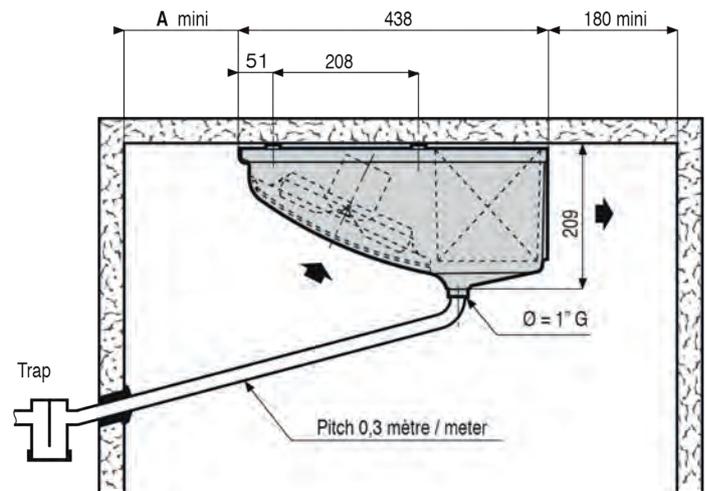
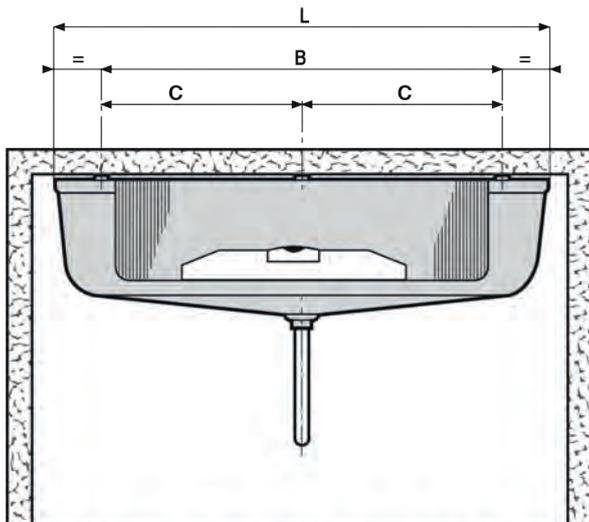


Wall mounting with **EMA** kit for MF 1-2

MF 3-4 / MFE 3-4



## MR/MRE



A mini : 90 mm necessary for casing swivelling  
160 mm necessary for casing disassembly.

	MR 75 R MR 65 L MRE 75 E MRE 65 C	MR 110 - 135 R MR 100 - 120 L MRE 110 - 135 E MRE 100 - 120 C	MR 160 - 180 - 210 R MR 140 - 170 - 190 L MRE 160 - 180 - 210 E MRE 140 - 170 - 190 C	MR 270 R MR 250 L MRE 270 E MRE 250 C
L	514	784	1174	1504
B	326	596	986	1316
C			493	658

## FRIGA-Bohn 3-CA Evaporators

Large space available for easy installation of the expansion valve.  
 Large electrical enclosure rendering maintenance tasks easier.  
 Easy removable side panels and articulated drain pans (interior and exterior), offering fast and easy access to all unit cooler elements (coil, fans, defrost heaters, connections).



**FRIGA-BOHN**



### High Temperature (4mm Fin Spacing)

CODE	MODEL	DUTY-WATTS at SC 2 (8KTD)
H1000	3C-A 3142R	1530
H1001	3C-A 3143R	2100
H1002	3C-A 3145R	2570
H1003	3C-A 3155R	3050
H1004	3C-A 3165R	3420
H1005	3C-A 3243R	4200
H1006	3C-A 3245R	5280
H1007	3C-A 3343R	6360
H1008	3C-A 3344R	7380
H1009	3C-A 3345R	7950
H1140	3C-A 4165R	8140
H1074	3C-A 3354R	8620
H1027	3C-A 4166R	8830
H1075	3C-A 3444R	9840
H1076	3C-A 3445R	10920
H1010	3C-A 4263R	12160
H1206	3C-A 3455R	12460
H1030	3C-A 3545R	13700
H1141	3C-A 4264R	14710
H1142	3C-A 4265R	16650
H1143	3C-A 4266R	18400
H1144	3C-A 4364R	22270
H1145	3C-A 4366R	27220
H1146	3C-A 4386R	33180
H1147	3C-A 4466R	35870

### Electric Defrost (4mm Fin Spacing)

CODE	MODEL	DUTY-WATTS at SC 2 (8KTD)
H1011	3C-A 3142R E1U	1530
H1012	3C-A 3143R E1U	2100
H1013	3C-A 3145R E1U	2570
H1014	3C-A 3155R E1U	3050
H1015	3C-A 3165R E1U	3420
H1016	3C-A 3243R E1U	4200
H1017	3C-A 3245R E1U	5280
H1018	3C-A 3343R E1U	6360
H1019	3C-A 3344R E1U	7380
H1020	3C-A 3345R E1U	7950
H1148	3C-A 4165R E1U	8140
H1077	3C-A 3354R E1U	8620
H1078	3C-A 4166R E1U	8830
H1079	3C-A 3444R E1U	9840
H1080	3C-A 3445R E1U	10920
H1021	3C-A 4263R E1U	12160
H1023	3C-A 3455R E1U	12460
H1022	3C-A 3545R E1U	13700
H1149	3C-A 4264R E1U	14710
H1150	3C-A 4265R E1U	16650
H1151	3C-A 4266R E1U	18400
H1152	3C-A 4364R E1U	22270
H1153	3C-A 4366R E1U	27220
H1154	3C-A 4386R E1U	33180
H1155	3C-A 4466R E1U	35870

Heavy duty defrost available on request, for the above range of evaporators.

# Friga-Bohn 3-CA Evaporators

## Low Temperature (4mm Fin Spacing)

CODE	MODEL	DUTY-WATTS at SC 3 (7KTD)
H1086	3C-A 3142E	1140
H1100	3C-A 3143E	1540
H1101	3C-A 3145E	2010
H1102	3C-A 3155E	2320
H1103	3C-A 3165E	2600
H1104	3C-A 3243E	3250
H1106	3C-A 3245E	4190
H1107	3C-A 3343E	4950
H1108	3C-A 3344E	5820
H1109	3C-A 3345E	6150
H1176	3C-A 4165E	6300
H1110	3C-A 3354E	6820
H1111	3C-A 4166E	6850
H1127	3C-A 3444E	7780
H1128	3C-A 3445E	8470
H1129	3C-A 4263E	9290
H1130	3C-A 3455E	9480
H1131	3C-A 3545E	10150
H1177	3C-A 4264E	11120
H1178	3C-A 4265E	12960
H1179	3C-A 4266E	13700
H1180	3C-A 4364E	17050
H1181	3C-A 4366E	21080
H1182	3C-A 4386E	25120
H1183	3C-A 4466E	27160

## Low Temperature (6mm Fin Spacing)

CODE	MODEL	DUTY-WATTS at SC 3 (7KTD)
H1112	3C-A 3143C	1290
H1113	3C-A 3144C	1570
H1114	3C-A 3145C	1820
H1120	3C-A 3155C	2130
H1115	3C-A 3165C	2390
H1116	3C-A 3243C	2700
H1117	3C-A 3244C	3250
H1121	3C-A 3245C	3780
H1118	3C-A 3343C	4230
H1119	3C-A 3344C	5000
H1184	3C-A 4165C	5540
H1122	3C-A 3345C	5550
H1123	3C-A 3354C	5840
H1124	3C-A 4166C	6000
H1125	3C-A 3444C	6580
H1126	3C-A 3445C	7760
H1185	3C-A 4263C	8000
H1186	3C-A 3455C	8670
H1187	3C-A 3545C	9410
H1188	3C-A 4264C	9520
H1189	3C-A 4266C	12270
H1190	3C-A 4364C	14380
H1191	3C-A 4366C	18640
H1192	3C-A 4386C	22450
H1193	3C-A 4466C	24300

### Application:

MODEL	AIR INLET TEMPERATURE	FIN SPACING	DEFROST
3-CA****R	+10°C/+2°C	4mm (6 fpi)	None
3-CA****R E1U	+10°C/-5°C	4mm (6 fpi)	Electric
3-CA****E	-5°C/-25°C	4mm (6 fpi)	Electric
3-CA****C	-5°C/-25°C	6mm (4 fpi)	Electric

### Standard Conditions:

CONDITION	AIR INLET TEMPERATURE	EVAPORATING TEMPERATURE	STANDARD TD
SC 2	0°C	-8°C	8K
SC 3	-18°C	-25°C	7K

The duties indicated have been calculated using R404A. For other refrigerants please contact us for the relevant selection.



# Friga-Bohn 3-CA Evaporators



## MARKET SEGMENTS

Bars - Restaurants - Corner shops - Mini-markets - Hard Discount  
 Supermarkets - Hypermarkets - Refrigerated storage and transit stocking  
 Dispatch centres - Food processing

## DESCRIPTION

### Casing

- The aesthetic, white pre-painted galvanized sheet steel casing enables easy cleaning of the unit.
- Articulated drain pan with rounded corners to eliminate condensate retention zones and no sharp or cutting edges to guarantee total safety.
- Hinged intermediate drain pan to help limit condensation (3C-A .. E/C).

### Ventilation

- High efficiency motor fan factory wired.
- EC fans available as an option (electronic commutation).
- The 3C-A unit cooler range is equipped with axial fans, requiring no routine maintenance:
  - Ø 300 mm, 4P = 1,320 rpm, 230V/1/50-60Hz, mono-block, IP 44, class B, internal thermal overload protection.
  - Ø 450 mm, two-speed, 4P/6P = 1,320/1,070 rpm, 400V/3/50Hz, mono-block, IP 54, class F, independently thermal overload protections to be connected.
- The high-efficiency, profiled fan blades turn at a very low noise level.
- Fan guards are compliant with safety standards.
- The 2V5 option offers a low speed setting which is ideal for applications in which noise level is a key consideration.

### Coil

- The highly efficient and compact 3C-A range finned coils are designed with aluminium fins (fin spacing 4 or 6 mm) and internally grooved copper tubes.
- The coils are supplied via a Venturi distributor.
- Coils for using the same unit cooler in positive or negative application.
- Multi refrigerant (HFC) coil.
- CO<sub>2</sub> or water glycol as an option on the entire range.

### Defrost

- Depending on the condition in the cold room, different level of defrost capacity are available factory wired or delivered as kits (see table below).
- Shielded electric heating elements are inserted in the sleeved tubes in the finned coil.
- One of the heaters is fastened under the intermediate drain pan. This facility enables homogenous heat distribution for fast and efficient defrosting.
- 230V/1-phase, 230V/3-phase or 400V/3-phase connection possible.
- 3C-A .. E/C range: standard, the heaters are factory wired to a terminal block in a sealed junction box and connected for 230V/1 and 400V/3.
- 3C-A .. R/L range: optional heaters and wiring (E1U and E2U).
- The condensate is recovered in an intermediate drain pan and then drained via a large drain fitting (Ø 1" G).
- Hot gas or glycol water defrost in option.

Designation

**3C-A**<sup>(1)</sup> **3**<sup>(2)</sup> **3**<sup>(3)</sup> **54**<sup>(4)</sup> **-R**<sup>(5)</sup>

- (1) ADVANCED range
- (2) Fan diameter: 3 = Ø 300 mm - 4 = Ø 450 mm
- (3) Number of fans
- (4) Model
- (5) Fin spacing: R/E = 4 mm - L/C = 6 mm

## CERTIFICATIONS



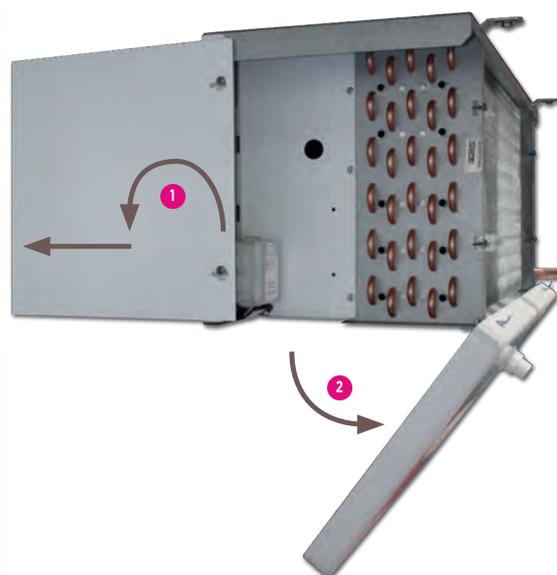
## AVANTAGES

### Installation / Entretien / Maintenance

Large space available for easy installation of the expansion valve.

Large electrical enclosure rendering maintenance tasks easier.

- 1 Easy removable side panels and
- 2 articulated drain pans (interior and exterior), offering fast and easy access to all unit cooler elements (coil, fans, defrost heaters, connections...).



		Number of heaters							
		Mounting		Ø 300 mm			Ø 450 mm		
Defrost	Models	Kit	Factory	Models	Coil	Drain pan	Models	Coil	Drain pan
Light	3C-A .. R/L	E1K option	E1U option	3xxx except 3142	3 2	-	all	3	-
	3C-A .. R/L 3C-A .. E/C	E2K option -	- E2U option	all	2	1	all	5	1
Full	3C-A .. L	E3K option	-	3xx3 3xx4 3xx5	3 3 4	1 1 1	4xxx except 4263	8 5	1 1
	3C-A .. C	-	Standard						
	3C-A .. R	E3K option	-	3xx2 3xx3 3xxx	2 3 5	1 1 1	4xxx except 4263	8 5	1 1
	3C-A .. E	-	Standard						

# Friga-Bohn 3-CA Evaporators

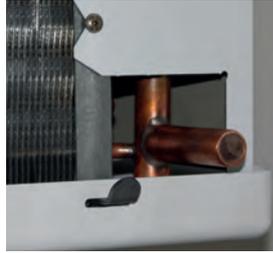
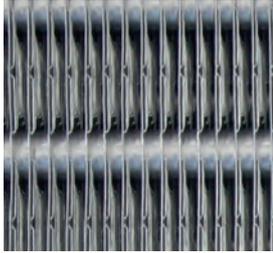
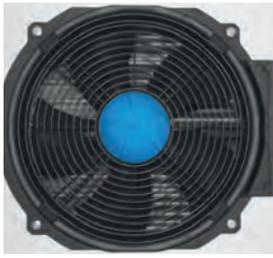


## APPLICATION OF OPTIONS

### Homogenous distribution of air flow

#### RFA option - Air stream deflector (streamer)

Provides increased air throw, optimised air flow and efficient distribution of air in the cold room.



### Application requiring installation of a textile duct



VGT option used to fasten the textile duct (not supplied).

### Adapted ventilation and noise level



#### 2V5 option - Two-speed fan

The fan motor may be wired for high or low speed:

**High speed** during the charging phase requiring high capacity.

**Low speed** during a long storage period or in case of presence of employees for reduced noise level.

### Defrost for low-temperature applications



#### VPM option - Shell / air stream deflector (streamer) + flexible defrost sleeve

Avoid circulation of hot air during defrost cycles.

Reduction of defrost cycle time for energy saving.

Kit	Factory	
DPK	PEI	
	CIN	
	EIS	
RFA	2V5	
	MM5	
	M60	
VGT	MSD	
	VPM	
	EC3	BAE
BXT		
BHE		
WCO	CO2	
	HG1	HGT
		DEG
E1K		E1U
	E2K	
	E2U	
E3K	RVK	
		RVU
2TH	THD	
		THS
EVL		
	EEC	

## OPTIONS

### Casing

PEI White painted casing.

CIN Stainless steel frame.

EIS Insulated drain pan.

Intermediate drain pan Kit (3C-A .. R/L).

### Ventilation

2V5 Two-speed fan 400V/3/50Hz (Ø 450mm).

MM5 Fan 230V/1/50Hz (Ø 450mm).

M60 Fan 230-400V/3/60Hz (Ø 450mm) or 230V/1/60Hz (Ø 300mm).

RFA Shell / air stream deflector (streamer).

VGT RFA + mounting parts for textile duct.

MSD Flexible defrost sleeve.

VPM VGT + MSD

EC3 Dual speed EC fans (electronic commutation).

### Coil

BAE Paint coil protection.

BXT Blygold Polual XT coil protection.

BHE Heresite coil protection.

WCO Glycol water, coolant (please contact us for details).

CO2 R744 optimization DX (please contact us for details).

### Defrost

HG1 Hot gas (coil: hot gas, drain pan: electric heating elements).

HGT Hot gas (coil and drain pan).

DEG Hot glycol water defrost.

E1K E1U Light electric defrost: 3 coil heaters

E2K E2U Intermediate electric defrost: 2 coil heaters + 1 drain pan heater + intermediate drain pan.

E3K Full electric defrost: 5 coil heaters + 1 drain pan heater + intermediate drain pan.

RVK RVU Shell defrost heaters.

HDA Suction hood defrost.

2TH Defrost and safety thermostats (5709L + 5708L).

THD Defrost thermostat (5709L).

THS Safety thermostat (5708L).

### Fully equipped unit coolers

DMP Expansion valve fitted.

EVL DMP + solenoid valve fitted.

EEC EVL + copper siphon equipped with a ball valve delivered not fitted.

## Specification

High Temperature (4mm Fin Spacing)

Model	Air Vol m3/hr	N° of Fans	Fan Volts	Air Throw	Dimensions (mm)			Connections		Weight kg
					L	W	H	Liq.	Suct.	
3C-A 3142R	1600	1	1ph	15m	659	484	428	3/8"	3/8"	17
3C-A 3143R	1480	1	1ph	14m	659	484	428	5/8"	5/8"	18
3C-A 3145R	1270	1	1ph	12m	659	484	428	5/8"	5/8"	20
3C-A 3155R	1420	1	1ph	14m	759	484	428	5/8"	5/8"	22
3C-A 3165R	1530	1	1ph	15m	859	484	428	5/8"	5/8"	24
3C-A 3243R	2950	2	1ph	17m	1059	484	428	5/8"	7/8"	28
3C-A 3245R	2530	2	1ph	15m	1059	484	428	5/8"	7/8"	32
3C-A 3343R	4420	3	1ph	20m	1554	484	428	5/8"	7/8"	41
3C-A 3344R	4100	3	1ph	19m	1554	484	428	5/8"	7/8"	43
3C-A 3345R	3800	3	1ph	18m	1554	484	428	5/8"	7/8"	45
3C-A 4165R	5160	1	3ph	25m	998	610	635	7/8"	7/8"	41
3C-A 3354R	4510	3	1ph	21m	1854	484	428	5/8"	7/8"	48
3C-A 4166R	4850	1	3ph	24m	998	610	635	7/8"	7/8"	43
3C-A 3444R	5460	4	1ph	22m	1954	484	428	5/8"	7/8"	54
3C-A 3445R	5070	4	1ph	21m	1954	484	428	7/8"	1-1/8"	57
3C-A 4263R	11740	2	3ph	32m	1598	610	635	7/8"	1-3/8"	58
3C-A 3455R	5700	4	1ph	23m	2354	484	428	7/8"	1-3/8"	65
3C-A 3545R	6340	5	1ph	24m	2354	484	428	7/8"	1-3/8"	70
3C-A 4264R	10990	2	3ph	31m	1598	610	635	1-1/8"	1-3/8"	62
3C-A 4265R	10310	2	3ph	30m	1598	610	635	1-1/8"	1-3/8"	65
3C-A 4266R	9700	2	3ph	29m	1598	610	635	1-1/8"	1-3/8"	69
3C-A 4364R	16480	3	3ph	35m	2198	610	635	1-1/8"	1-5/8"	84
3C-A 4366R	14560	3	3ph	33m	2198	610	635	1-3/8"	2-1/8"	95
3C-A 4386R	16780	3	3ph	35m	2798	610	635	1-3/8"	2-1/8"	114
3C-A 4466R	19410	4	3ph	36m	2798	610	635	1-3/8"	2-1/8"	123



## Specification

### Electric Defrost (4mm Fin Spacing)

Model	Air Vol m3/hr	N° of Fans	Fan Volts	Air Throw	Defrost load (watts)	Defrost Supply Voltage	Dimensions (mm)			Connections		Weight kg
							L	W	H	Liq.	Suct.	
3C-A 3142R E1U	1600	1	1ph	15m	580	1ph	659	484	428	3/8"	3/8"	17
3C-A 3143R E1U	1480	1	1ph	14m	870	1ph	659	484	428	5/8"	5/8"	18
3C-A 3145R E1U	1270	1	1ph	12m	870	1ph	659	484	428	5/8"	5/8"	20
3C-A 3155R E1U	1420	1	1ph	14m	1080	1ph	759	484	428	5/8"	5/8"	22
3C-A 3165R E1U	1530	1	1ph	15m	1290	1ph	859	484	428	5/8"	5/8"	24
3C-A 3243R E1U	2950	2	1ph	17m	1740	1ph	1059	484	428	5/8"	7/8"	28
3C-A 3245R E1U	2530	2	1ph	15m	1740	1ph	1059	484	428	5/8"	7/8"	32
3C-A 3343R E1U	4420	3	1ph	20m	2580	1ph	1554	484	428	5/8"	7/8"	41
3C-A 3344R E1U	4100	3	1ph	19m	2580	1ph	1554	484	428	5/8"	7/8"	43
3C-A 3345R E1U	3800	3	1ph	18m	2580	1ph	1554	484	428	5/8"	7/8"	45
3C-A 4165R E1U	3160	1	3ph	25m	1080	1ph	998	610	635	7/8"	7/8"	41
3C-A 3354R E1U	4510	3	1ph	21m	3240	3ph	1854	484	428	5/8"	7/8"	48
3C-A 4166R E1U	4850	1	3ph	24m	1080	1ph	998	610	635	7/8"	7/8"	43
3C-A 3444R E1U	5460	4	1ph	22m	3450	3ph	1954	484	428	5/8"	7/8"	54
3C-A 3445R E1U	5070	4	1ph	21m	3450	3ph	1954	484	428	7/8"	1-1/8"	57
3C-A 4263R E1U	11740	2	3ph	32m	2160	1ph	1598	610	635	7/8"	1-3/8"	58
3C-A 3455R E1U	5700	4	1ph	23m	4320	3ph	2354	484	428	7/8"	1-3/8"	65
3C-A 3545R E1U	6340	5	1ph	24m	4320	3ph	2354	484	428	7/8"	1-3/8"	70
3C-A 4264R E1U	10990	2	3ph	31m	2160	1ph	1598	610	635	1-1/8"	1-3/8"	62
3C-A 4265R E1U	10310	2	3ph	30m	2160	1ph	1598	610	635	1-1/8"	1-3/8"	65
3C-A 4266R E1U	9700	2	3ph	29m	2160	1ph	1598	610	635	1-1/8"	1-3/8"	69
3C-A 4364R E1U	16480	3	3ph	35m	3240	3ph	2198	610	635	1-1/8"	1-5/8"	84
3C-A 4366R E1U	14560	3	3ph	33m	3240	3ph	2198	610	635	1-3/8"	2-1/8"	95
3C-A 4386R E1U	16780	3	3ph	35m	3960	3ph	2798	610	635	1-3/8"	2-1/8"	114
3C-A 4466R E1U	19410	4	3ph	36m	3960	3ph	2798	610	635	1-3/8"	2-1/8"	123



## Specification

Low Temperature (4mm Fin Spacing)

Model	Air Vol m3/hr	N° of Fans	Fan Volts	Air Throw	Defrost load (watts)	Defrost supply Voltage	Dimensions (mm)			Connections		Weight kg
							L	W	H	Liq.	Suct.	
3C-A 3142E	1600	1	1ph	15m	870	1ph	659	484	428	3/8"	3/8"	17
3C-A 3143E	1480	1	1ph	14m	1160	1ph	659	484	428	5/8"	5/8"	18
3C-A 3145E	1270	1	1ph	12m	1740	1ph	659	484	428	5/8"	5/8"	20
3C-A 3155E	1420	1	1ph	14m	2160	1ph	759	484	428	5/8"	5/8"	22
3C-A 3165E	1530	1	1ph	15m	2580	1ph	859	484	428	5/8"	5/8"	24
3C-A 3243E	2950	2	1ph	17m	2320	1ph	1059	484	428	5/8"	7/8"	28
3C-A 3245E	2530	2	1ph	15m	3480	1ph	1059	484	428	5/8"	7/8"	32
3C-A 3343E	4420	3	1ph	20m	3440	1ph	1554	484	428	5/8"	7/8"	41
3C-A 3344E	4100	3	1ph	19m	5160	3ph	1554	484	428	5/8"	7/8"	43
3C-A 3345E	3800	3	1ph	18m	5160	3ph	1554	484	428	5/8"	7/8"	45
3C-A 4165E	5160	1	3ph	25m	3240	1ph	998	610	635	7/8"	7/8"	41
3C-A 3354E	4510	3	1ph	21m	6480	3ph	1854	484	428	5/8"	7/8"	48
3C-A 4166E	4850	1	3ph	24m	3240	1ph	998	610	635	7/8"	7/8"	43
3C-A 3444E	5460	4	1ph	22m	6900	3ph	1954	484	428	5/8"	7/8"	54
3C-A 3445E	5070	4	1ph	21m	6900	3ph	1954	484	428	7/8"	1-1/8"	57
3C-A 4263E	11740	2	3ph	32m	4320	3ph	1598	610	635	7/8"	1-3/8"	58
3C-A 3455E	5700	4	1ph	23m	8640	3ph	2354	484	428	7/8"	1-3/8"	65
3C-A 3545E	6340	5	1ph	24m	8640	3ph	2354	484	428	7/8"	1-3/8"	70
3C-A 4264E	10990	2	3ph	31m	6480	3ph	1598	610	635	1-1/8"	1-3/8"	62
3C-A 4265E	10310	2	3ph	30m	6480	3ph	1598	610	635	1-1/8"	1-3/8"	65
3C-A 4266E	9700	2	3ph	29m	6480	3ph	1598	610	635	1-1/8"	1-3/8"	69
3C-A 4364E	16480	3	3ph	35m	9720	3ph	2198	610	635	1-1/8"	1-5/8"	84
3C-A 4366E	14560	3	3ph	33m	9720	3ph	2198	610	635	1-3/8"	2-1/8"	95
3C-A 4386E	16780	3	3ph	35m	11880	3ph	2798	610	635	1-3/8"	2-1/8"	114
3C-A 4466E	19410	4	3ph	36m	11880	3ph	2798	610	635	1-3/8"	2-1/8"	123

## FRIGA-BOHN



## Specification

Low Temperature (6mm Fin Spacing)

Model	Air Vol m3/hr	N° of Fans	Fan Volts	Air Throw	Defrost load (watts)	Defrost supply Voltage	Dimensions (mm)			Connections		Weight kg
							L	W	H	Liq.	Suct.	
3C-A 3143C	1560	1	1ph	15m	1160	1ph	659	484	428	5/8"	5/8"	18
3C-A 3144C	1470	1	1ph	14m	1160	1ph	659	484	428	5/8"	5/8"	19
3C-A 3145C	1380	1	1ph	13m	1450	1ph	659	484	428	5/8"	5/8"	19
3C-A 3155C	1520	1	1ph	15m	1800	1ph	759	484	428	5/8"	5/8"	21
3C-A 3165C	1600	1	1ph	16m	2150	1ph	859	484	428	5/8"	5/8"	23
3C-A 3243C	3120	2	1ph	18m	2320	1ph	1059	484	428	5/8"	7/8"	28
3C-A 3244C	2940	2	1ph	17m	2320	1ph	1059	484	428	5/8"	7/8"	29
3C-A 3245C	2770	2	1ph	16m	3480	1ph	1059	484	428	5/8"	7/8"	30
3C-A 3343C	4680	3	1ph	21m	3440	1ph	1554	484	428	5/8"	7/8"	39
3C-A 3344C	4400	3	1ph	20m	3440	1ph	1554	484	428	5/8"	7/8"	41
3C-A 4165C	5560	1	3ph	26m	3240	1ph	998	610	635	5/8"	7/8"	39
3C-A 3345C	4150	3	1ph	19m	4300	3ph	1554	484	428	5/8"	7/8"	43
3C-A 3354C	4740	3	1ph	22m	4320	3ph	1854	484	428	5/8"	7/8"	46
3C-A 4166C	5290	1	3ph	25m	3240	1ph	998	610	635	7/8"	7/8"	41
3C-A 3444C	5870	4	1ph	23m	4600	3ph	1954	484	428	5/8"	7/8"	52
3C-A 3445C	5540	4	1ph	22m	5750	3ph	1954	484	428	7/8"	1-1/8"	55
3C-A 4263C	12300	2	3ph	33m	4320	3ph	1598	610	635	7/8"	1-3/8"	56
3C-A 3455C	6060	4	1ph	24m	7200	3ph	2354	484	428	7/8"	1-3/8"	62
3C-A 3545C	6920	5	1ph	25m	7200	3ph	2354	484	428	7/8"	1-3/8"	66
3C-A 4264C	11690	2	3ph	32m	6480	3ph	1598	610	635	1-1/8"	1-3/8"	59
3C-A 4266C	10580	2	3ph	31m	6480	3ph	1598	610	635	1-1/8"	1-3/8"	65
3C-A 4364C	17540	3	3ph	36m	9720	3ph	2198	610	635	1-1/8"	1-5/8"	81
3C-A 4366C	15870	3	3ph	34m	9720	3ph	2198	610	635	1-3/8"	2-1/8"	90
3C-A 4386C	17780	3	3ph	36m	11880	3ph	2798	610	635	1-3/8"	2-1/8"	108
3C-A 4466C	21160	4	3ph	37m	11880	3ph	2798	610	635	1-3/8"	2-1/8"	117

## FRIGA-BOHN

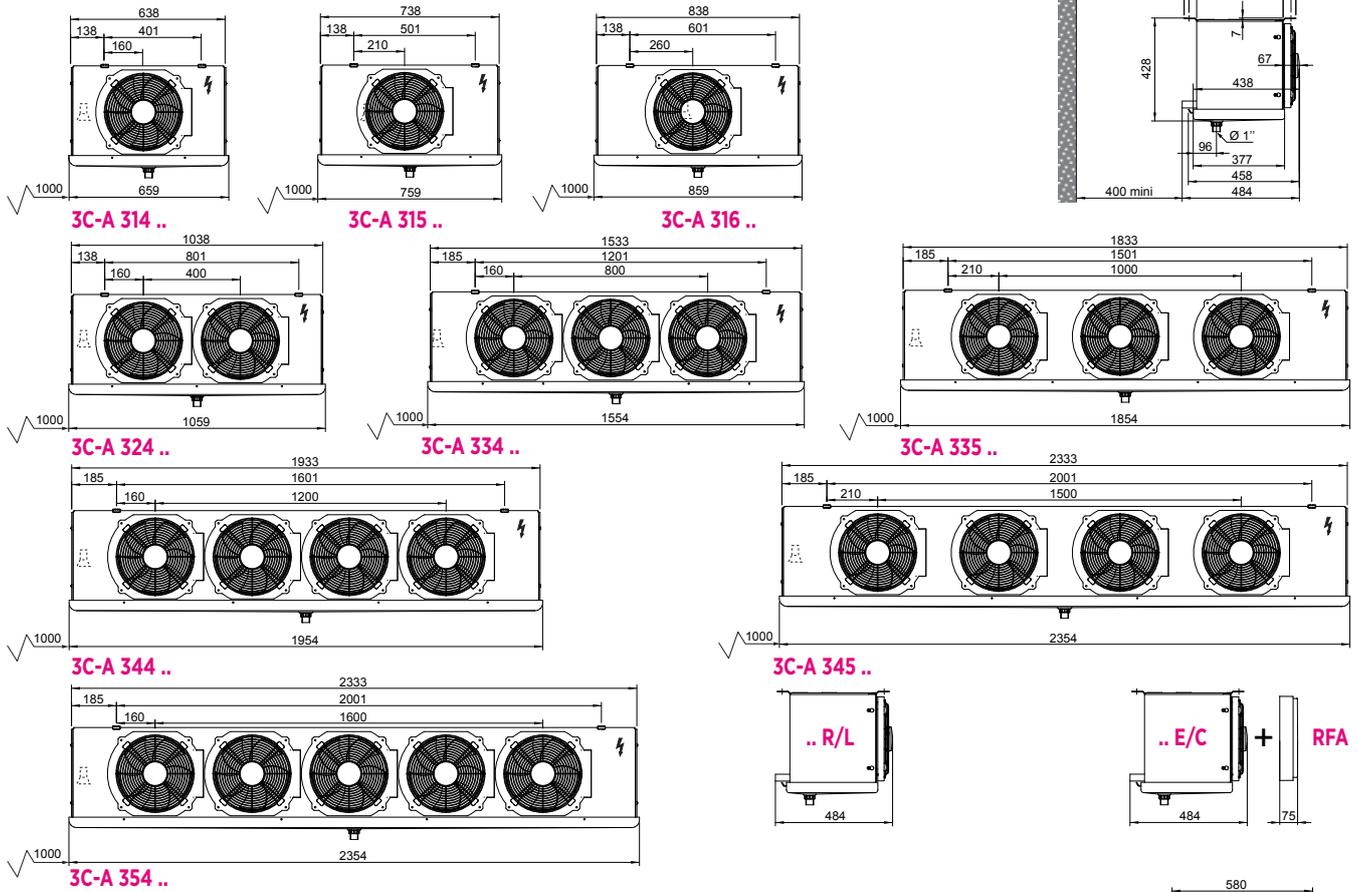


# Friga-Bohn 3-CA Evaporator

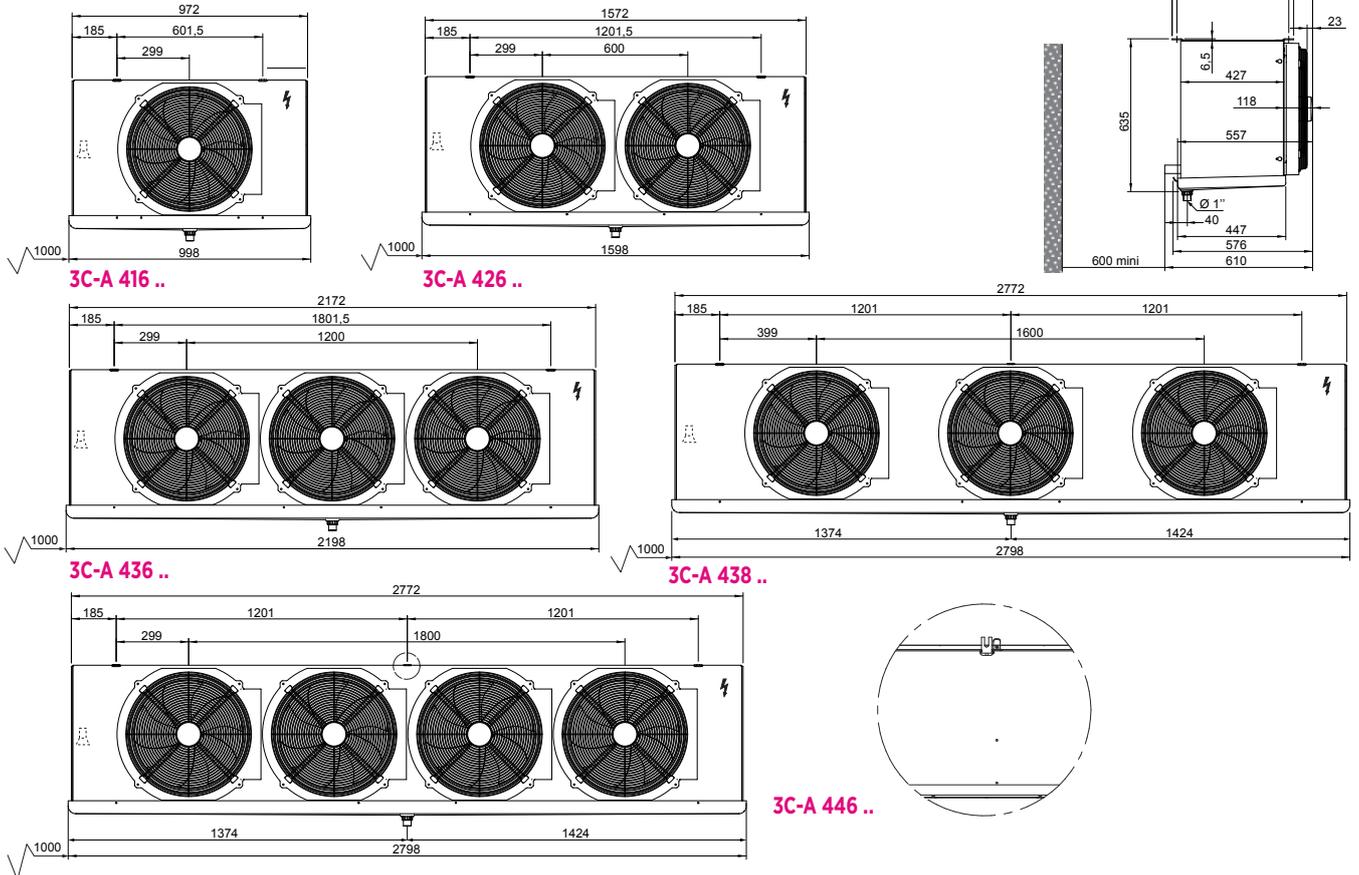
## Dimensions



Ø 300 MM



Ø 450 MM



3C ADVANCED

## CUBIC UNIT COOLER

COMMERCIAL AND SEMI INDUSTRIAL RANGE



1 > 35 kW



# 3C-A

- The 3C-A range is designed for commercial and semi industrial refrigeration applications or low temperature storage.
- Numerous electric, hot water or hot gas defrost possibilities.
- Wide choice of options for specific environment (streamer, stainless steel).
- EC motor (optional) enables optimization of noise level and power consumption.



[www.lennoxemea.com](http://www.lennoxemea.com)

**FRIGA-BOHN**

## Friga-Bohn NTA Evaporators

The latest range of NTA dual discharge commercial unit coolers from Friga-Bohn is based on its 20 years experience with the popular TA range coolers. With removable grill and hinged ABS casing the unit is easy to maintain. Low air speed and low noise level guarantee a comfortable environment.

EC fan motors also available on this range, please contact our technical department for details.



**NEW**



### High Temperature 3.5 mm Fin Spacing

at SC 2 (8KTD)

CODE	MODEL	DUTY-WATTS
H570	NTA M 0R 1-AC GV	1550
H580	NTA M 1R 1-AC GV	2430
H581	NTA M 2R 2-AC GV	3230
H582	NTA M 3R 2-AC GV	4430
H583	NTA M 4R 2-AC GV	5000
H584	NTA M 5R 3-AC GV	6270
H585	NTA M 6R 3-AC GV	8000
H571	NTA M 7R 4-AC GV	10180
H586	NTA M 8R 4-AC GV	11200
H572	NTA M 9R 4-AC GV	13440

### High Temperature 6.0 mm Fin Spacing

at SC 2 (8KTD)

CODE	MODEL	DUTY-WATTS
H573	NTA M 0L 1-AC GV	1150
H574	NTA M 1L 1-AC GV	2140
H575	NTA M 2L 2-AC GV	2960
H576	NTA M 3L 2-AC GV	3960
H577	NTA M 4L 2-AC GV	4420
H578	NTA M 5L 3-AC GV	5540
H579	NTA M 6L 3-AC GV	6670
H568	NTA M 7L 4-AC GV	8330
H569	NTA M 9L 5-AC GV	11200



### Standard Conditions:

CONDITION	AIR INLET TEMPERATURE	EVAPORATING TEMPERATURE	STANDARD TD
SC 2	0°C	-8°C	8K

**NOTE:** For applications with an air inlet temperature of below +2°C defrost heaters will be necessary.

The duties indicated have been calculated using R404A. For other refrigerants please contact us for the relevant selection.

## Specification:

MODEL	AIR VOL. cu/mr	FANS	AIR THROW	SOUND LEVEL	DIMENSIONS (mm)			CONNECTIONS	
					L	W	H	Liq.	Suct.
NTA M 0R 1-AC GV	1630	1	2 x 14	38	872	819	299	3/8"	3/8"
NTA M 1R 1-AC GV	1460	1	2 x 12	38	872	819	299	1/2"	5/8"
NTA M 2R 2-AC GV	3250	2	2 x 14	41	1372	819	299	1/2"	5/8"
NTA M 3R 2-AC GV	3070	2	2 x 13	41	1372	819	299	1/2"	5/8"
NTA M 4R 2-AC GV	2920	2	2 x 12	41	1372	819	299	1/2"	5/8"
NTA M 5R 3-AC GV	4610	3	2 x 13	42	1872	819	316	1/2"	5/8"
NTA M 6R 3-AC GV	4180	3	2 x 12	42	1872	819	316	1/2"	7/8"
NTA M 7R 4-AC GV	5840	4	2 x 12	44	2372	819	316	1/2"	7/8"
NTA M 8R 4-AC GV	5570	4	2 x 12	44	2372	819	316	5/8"	1-1/8"
NTA M 9R 5-AC GV	6960	5	2 x 12	44	2872	819	316	5/8"	1-1/8"
NTA M 0L 1-AC GV	1700	1	2 x 15	38	872	819	299	3/8"	3/8"
NTA M 1L 1-AC GV	1500	1	2 x 13	38	872	819	299	1/2"	5/8"
NTA M 2L 2-AC GV	3250	2	2 x 14	41	1372	819	299	1/2"	5/8"
NTA M 3L 2-AC GV	3120	2	2 x 13	41	1372	819	299	1/2"	5/8"
NTA M 4L 2-AC GV	3010	2	2 x 13	41	1372	819	299	1/2"	5/8"
NTA M 5L 3-AC GV	4680	3	2 x 13	42	1872	819	316	1/2"	5/8"
NTA M 6L 3-AC GV	4520	3	2 x 13	42	1872	819	316	1/2"	7/8"
NTA M 7L 4-AC GV	6020	4	2 x 13	44	2372	819	316	1/2"	7/8"
NTA M 9L 5-AC GV	7520	5	2 x 13	44	2872	819	316	5/8"	1-1/8"

Sound pressure levels are given in dB(A) at Lp 4m (3)  
All models should be fitted with externally equalised expansion valves.

## NTA Evaporator Defrost Kits

CODE	MODEL	TO SUIT MODEL	DEFROST WATTS
H589	KT6F00E1K	E1K NTA 0 R-L	350
H590	KT6F10E1K	E1K NTA 1 R-L	800
H591	KT6F20E1K	E1K NTA 2 R-L	800
H592	KT6F30E1K	E1K NTA 3 R-L	1200
H593	KT6F40E1K	E1K NTA 4 R-L	1600
H594	KT6F5RE1K	E1K NTA 5 R	1800
H595	KT6F5LE1K	E1K NTA 5 L	3000
H596	KT6F60E1K	E1K NTA 6 R-L	3200
H597	KT6F78E1K	E1K NTA 7 R-L / 8R	3200
H598	KT6F90E1K	E1K NTA 9 R-L	3400



## NTA Spare Parts

CODE	DESCRIPTION	PART NUMBER
H850	Fan Assembly - NTA - AC	PDVE00666
H851	Casing - Fan location + Fan guard	PD6F00002
H852	Casing - Fan guard	PD6F00011
H853	Casing - 2 Down thread & 2 Up (drain pan)	PD6F00004
H854	Inside drain pan. NTA 1 Fan	PDHB08071
H855	Inside drain pan. NTA 2 Fans	PDHB08272
H856	Inside drain pan. NTA 3 Fans	PDHB08065
H857	Inside drain pan. NTA 4 Fans	PDHB08068
H858	Inside drain pan. NTA 5 Fans	PDHB08059
H859	Condensate Discharge Pump Kit	PD6F00001



# Friga-Bohn Spares

## 3 CA Spares

CODE	DESCRIPTION	PART NUMBER	TO SUIT
H1500	Fan Assembly 3CA-3 R/L	PDVE00502	314/315/316/324/334/335/344/345/354
H1502	Fan Assembly 3CA-3 E/C	PDLP00962	314/315/316/324/334/335/344/345/354
H1503	Fan Assembly 3CA-4- R/L/E/C	PDVE00524	416/426/436/438/446
H1515	Coil Heater 3CA-R 314	PDDG00059	
H1516	Coil Heater 3CA-R 315	PDDG00060	
H1517	Coil Heater 3CA-R 316	PDDG00061	
H1518	Coil Heater 3CA-R 324	PDDG00062	
H1519	Coil Heater 3CA-R 334	PDDG00063	
H1520	Coil Heater 3CA-R 335	PDDG00049	
H1521	Coil Heater 3CA-R 344	PDDG00064	
H1522	Coil Heater 3CA-R 345/354	PDDG00065	
H1523	Coil Heater 3CA-R 416	PDDG00066	
H1524	Coil Heater 3CA-R 426	PDDG00056	
H1525	Coil Heater 3CA-R 436	PDDG00067	
H1526	Coil Heater 3CA-R 438/446	PDDG00068	
H1540	Drain Pan Heater 3CA-L 314	PDDG00071	
H1541	Drain Pan Heater 3CA-L 315	PDDG00072	
H1542	Drain Pan Heater 3CA-L 316	PDDG00073	
H1543	Drain Pan Heater 3CA-L 324	PDDG00074	
H1544	Drain Pan Heater 3CA-L 334	PDDG00075	
H1545	Drain Pan Heater 3CA-L 335	PDDG00050	
H1546	Drain Pan Heater 3CA-L 344	PDDG00076	
H1547	Drain Pan Heater 3CA-L 345/354	PDDG00077	
H1548	Drain Pan Heater 3CA-L 416	PDDG00078	
H1549	Drain Pan Heater 3CA-L 426	PDDG00058	
H1550	Drain Pan Heater 3CA-L 436	PDDG00079	
H1551	Drain Pan Heater 3CA-L 438/446	PDDG00080	
H1570	Drain Pan 3CA-R/L 314	PDHB05640	
H1571	Drain Pan 3CA-R/L 315	PDHB05683	
H1572	Drain Pan 3CA-R/L 316	PDHB05684	
H1573	Drain Pan 3CA-R/L 324	PDHB05685	
H1574	Drain Pan 3CA-R/L 334	PDHB05686	
H1575	Drain Pan 3CA-R/L 335	PDHB05690	
H1576	Drain Pan 3CA-R/L 344	PDHB05691	
H1577	Drain Pan 3CA-R/L 345/354	PDHB05639	
H1578	Drain Pan 3CA-R/L 416	PDHB05484	
H1579	Drain Pan 3CA-R/L 426	PDHB05604	
H1580	Drain Pan 3CA-R/L 436	PDHB05486	
H1581	Drain Pan 3CA-R/L 438/446	PDHB05487	
H1590	Side Panel 3CA-R/L 314/315/316/324	PDHB05682	
H1591	Side Panel 3CA-R/L 334/335/344/345/354	PDHB05343	
H1592	Side Panel 3CA-R/L 416/426/436/438/446	PDHB05605	

## MF/MR Spares

CODE	DESCRIPTION	PART NUMBER	TO SUIT
H905	Fan Guard	PD520285B	MF/MFE & MR/MRE
H910	Motor/Fan Assembly (1ph)	PD3502900	MF/MFE & MR/MRE
H930	Defrost Heater	PD650483C	MFE 1
H931	Defrost Heater	PD650484C	MFE 2
H932	Defrost Heater	PD650569C	MFE 3 & 4
H903	Heater Clips	PD2043205	MRE
H933	Defrost Heater	PD6A3315B	MRE 75
H934	Defrost Heater	PD6A3316B	MRE 110
H935	Defrost Heater	PD6A3314B	MRE 135
H936	Defrost Heater	PD6A3300B	MRE 210
H937	Defrost Heater	PD6A3299B	MRE 270

## XR Spares

CODE	DESCRIPTION	PART NUMBER	TO SUIT
H911	Motor/Fan Assembly	PD210300	XR60, 72, 80 & 90

## SD Spares

CODE	DESCRIPTION	PART NUMBER	TO SUIT
H913	Motor/Fan Assembly	PD5F00000	SD - All Models (1ph)
H940	Heater - Coil or Tray	PD0101136	SD024, 030, 038R SD021, 027, 035C
H941	Heater - Coil or Tray	PD0101137	SD052R - SD048C
H942	Heater - Coil or Tray	PD0101138	SD062R - SD073C
H943	Heater - Coil or Tray	PD0101139	SD082, 104, 118R, SD095, 110C
H944	Heater - Coil or Tray	PD0101140	SD148, 158R SD136, 148C

## LUC/MUC Spares

CODE	DESCRIPTION	PART NUMBER	TO SUIT
H920	Motor/Fan Assembly (1ph)	PD0210030	MUC145R to MUC620R & LUC150C to LUC645C
H921	Motor/Fan Assembly (3ph)	PD0210140	MUC780R - LUC835C - LUC840E
H922	Motor/Fan Assembly (3ph)	PD0210160	MUC 960R - LUC1025C
H925	1ph Motor	PD3507000	MUC780R - LUC835C & MUC 960R - LUC1025C
H908	Fan Blade (5 Blades)	PDVE00159	MUC/LUC
H907	Fan Guard	PD0240030	LUC/MUC Before June 2012 (White)
H906	Fan Guard	PDVE00289	LUC/MUC After June 2012 (Grey)
H950	E1K Kit	KT5C0747C	MUC145R
H951	E1K Kit	KT5C0748C	MUC200R
H952	E1K Kit	KT5C0749C	MUC285R
H953	E1K Kit	PDLP00831	MUC320R
H954	E1K Kit	KT5C0751C	MUC420R
H955	E1K Kit	KT5C0752C	MUC520R
H956	E1K Kit	KT5C0753C	MUC620R
H957	E1K Kit	KT5C0754C	MUC780R
H958	E1K Kit	KT5C6755C	MUC960R
H960	Coil Heater	PD0310010	LUC150 205C
H961	Coil Heater	PD0310020	LUC290, 345C
H962	Coil Heater	PD0310030	LUC435, 545C
H963	Coil Heater	PD0310040	LUC645, 835, 1015C
H964	Tray Heater	PD0320010	LUC150, 205C
H965	Tray Heater	PD0320020	LUC290, 345C
H966	Tray Heater	PD0320030	LUC435, 545C
H967	Coil Heater	PD0320040	LUC645, 835, 1015C
H902	Heater Clips	PD0196300	LUC

## SK/SKB Spares

CODE	DESCRIPTION	PART NUMBER	TO SUIT
H923	Motor/Fan Assembly (3ph)	PD5900000	SK All Models
H924	Motor/Fan Assembly (3ph)	PDVE00093	SKB All Models
H927	Motor/Fan Assembly (1ph)	PD5900041	SK - ALL Models
H909	Fan Guard	PD0240135	SK - ALL Models
H970	Coil Heater	PD010594C	SK10R, SK08C
H971	Coil Heater	PD010592C	SK12R SK10C
H972	Coil Heater	PD010624C	SK16R, SK12C
H973	Coil Heater	PD010593C	SK19R, SK15C
H974	Coil Heater	PD010625C	SK24R, SK19C
H975	Tray Heater	PD020636C	SK10R, SK08C
H976	Tray Heater	PD020589C	SK12R, SK10C
H977	Tray Heater	PD020637C	SK16R, SK12C
H978	Tray Heater	PD020588C	SK19R, SK15C
H979	Tray Heater	PD020590C	SK24R, SK19C

## TA Spares

CODE	DESCRIPTION	PART NUMBER	TO SUIT
H914	Motor/Fan Assembly (1ph)	PD6B04200	TA - 04P/230V/1/50Hz
H915	Motor/Fan Assembly (1ph)	PD6B06200	TA - 06P/230V/1/50Hz
H916	Motor/Fan Assembly (1ph)	PD6B08200	TA - 08P/230V/1/50Hz

## GTI Spares

CODE	DESCRIPTION	PART NUMBER	TO SUIT
H917	Motor/Fan Assembly	PD0210420	GTI - 04P/50Hz
H918	Motor/Fan Assembly	PD0210430	GTI - 06P/50Hz
H919	Motor/Fan Assembly	PD0210440	GTI - 08P/50Hz

## LU-VE F31HC Unit Coolers

Unit coolers for coldrooms

High Temperature (4.5mm Fin Spacing)

at SC 2 (8KTD)

CODE	MODEL	DUTY-WATTS
R870	F31HC 115-4N	2530
R871	F31HC 116-4N	3100
R872	F31HC 125-4N	5100
R873	F31HC 126-4N	6200
R874	F31HC 135-4N	7600
R875	F31HC 136-4N	9500
R876	F31HC 146-4N	12550



Electric Defrost (4.5mm Fin Spacing)

at SC 2 (8KTD)

CODE	MODEL	DUTY-WATTS
R877	F31HC 115-4E	2530
R868	F31HC 116-4E	3100
R862	F31HC 125-4E	5100
R869	F31HC 126-4E	6200
R878	F31HC 135-4E	7600
R879	F31HC 136-4E	9500
R880	F31HC 146-4E	12550



High Temperature (6.0mm Fin Spacing)

at SC 2 (8KTD)

CODE	MODEL	DUTY-WATTS
R881	F31HC 215-6N	2180
R882	F31HC 216-6N	2800
R883	F31HC 225-6N	4400
R884	F31HC 226-6N	5600
R885	F31HC 235-6N	6600
R886	F31HC 236-6N	8450
R887	F31HC 246-6N	11300

Electric Defrost (6.0mm Fin Spacing)

at SC 2 (8KTD)

CODE	MODEL	DUTY-WATTS
R888	F31HC 215-6E	2180
R889	F31HC 216-6E	2800
R863	F31HC 225-6E	4400
R890	F31HC 226-6E	5600
R891	F31HC 235-6E	6600
R892	F31HC 236-6E	8450
R893	F31HC 246-6E	11300



Standard Conditions:

CONDITION	AIR INLET TEMPERATURE	EVAPORATING TEMPERATURE	STANDARD TD
SC 2	0°C	-8°C	8K

**NOTE:** F31HC evaporator fans are supplied with EC motors as standard. AC motors available on request.

The duties indicated have been calculated using R404A. For other refrigerants please contact us for the relevant selection.

## LU-VE F31HC Unit Coolers

Unit coolers for coldrooms

High Temperature (7.0mm Fin Spacing)

at SC 2 (8KTD)

CODE	MODEL	DUTY-WATTS
R894	F31HC 315-7N	1970
R866	F31HC 316-7N	2580
R865	F31HC 325-7N	3950
R861	F31HC 326-7N	5150
R864	F31HC 335-7N	5950
R860	F31HC 336-7N	7750
R895	F31HC 346-7N	10450



Electric Defrost (7.0mm Fin Spacing)

at SC 2 (8KTD)

CODE	MODEL	DUTY-WATTS
R896	F31HC 315-7E	1970
R897	F31HC 316-7E	2580
R898	F31HC 325-7E	3950
R899	F31HC 326-7E	5150
R858	F31HC 335-7E	5950
R867	F31HC 336-7E	7750
R859	F31HC 346-7E	10450



## LU-VE F31HC Unit Coolers

Specification:

4.5mm Fin Spacing



MODEL	AIR VOL. cu/m hr	NO OF FANS	AIR THROW	DEFROST WATTS	DIMENSIONS (MM)			MOTOR AMPS	CONNECTIONS		WEIGHT KG
					H	W	D		IN	OUT	
F31HC 115-4	1600	1	17M	1700	415	760	416	0.60	12mm	16mm	23
F31HC 116-4	1400	1	15M	2550	415	760	416	0.60	12mm	18mm	25
F31HC 125-4	3200	2	20M	2900	415	1210	416	1.20	12mm	18mm	39
F31HC 126-4	2800	2	18M	4300	415	1210	416	1.20	12mm	22mm	44
F31HC 135-4	4800	3	24M	4050	415	1660	416	1.80	12mm	22mm	56
F31HC 136-4	4200	3	21M	6050	415	1660	416	1.80	16mm	35mm	63
F31HC 146-4	5600	4	22M	7800	415	2110	416	2.40	16mm	35mm	82

6.0mm Fin Spacing

MODEL	AIR VOL. cu/m hr	NO OF FANS	AIR THROW	DEFROST WATTS	DIMENSIONS (MM)			MOTOR AMPS	CONNECTIONS		WEIGHT KG
					H	W	D		IN	OUT	
F31HC 215-6	1700	1	19	1700	415	760	416	0.60	12mm	16mm	22
F31HC 216-6	1500	1	16	2550	415	760	416	0.60	12mm	18mm	24
F31HC 225-6	3400	2	22	2900	415	1210	416	1.20	12mm	18mm	38
F31HC 226-6	3000	2	19	4300	415	1210	416	1.20	12mm	22mm	42
F31HC 235-6	5100	3	25	4050	415	1660	416	1.80	12mm	22mm	54
F31HC 236-6	4500	3	22	6050	415	1660	416	1.80	16mm	35mm	60
F31HC 246-6	6000	4	23	7800	415	2110	416	2.40	16mm	35mm	78

7.0mm Fin Spacing

MODEL	AIR VOL. cu/m hr	NO OF FANS	AIR THROW	DEFROST WATTS	DIMENSIONS (MM)			MOTOR AMPS	CONNECTIONS		WEIGHT KG
					H	W	D		IN	OUT	
F31HC 315-7	1750	1	20	1700	415	760	416	0.60	12mm	16mm	21
F31HC 316-7	1600	1	17	2550	415	760	416	0.60	12mm	18mm	23
F31HC 325-7	3500	2	23	2900	415	1210	416	1.20	12mm	18mm	37
F31HC 326-7	3200	2	20	4300	415	1210	416	1.20	12mm	22mm	41
F31HC 335-7	5250	3	26	4050	415	1660	416	1.80	12mm	22mm	53
F31HC 336-7	4800	3	24	6050	415	1660	416	1.80	16mm	35mm	58
F31HC 346-7	6400	4	25	7800	415	2110	416	2.40	16mm	35mm	76

## LU-VE S2HC & S3HC Commercial Cubic Cooler Spares

CODE	DESCRIPTION	TO SUIT
R910	Fan Motor	S2HC
R914	Fan Blade	S2HC 234-092-001
R911	Fan Guard	S2HC
R912	Fan Mounting Brackets	S2HC
R913	Side Panel	S2HC
R920	Coil Heater	S2HC 25-19-16-36-28-23
R922	Coil Heater	S2HC 49-38-31-71-55-46
R924	Coil Heater	S2HC 107-85-70
R925	Coil Heater	S2HC 142-110-92
R926	Heater Clips	S2HC
R930	Fan Motor up to Feb 02 (V350 A)*	S3HC
R931	Fan Motor up to Feb 02 (V350 B)**	S3HC
R932	Fan Guard	S3HC
R933	Fan Mounting Brackets	S3HC
R934	Fan Motor Capacitor	S3HC
R935	Side Panel	S3HC
R940	Coil Heater	S3HC 73-59-47-106-84-69
R941	Drain Tray Heater	S3HC 73-59-47
R942	Coil Heater	S3HC 106-84-69-73-59-47
R943	Drain Tray Heater	S3HC 106-84-69
R944	Coil Heater	S3HC 133-108-86
R945	Drain Tray Heater	S3HC 133-108-86
R946	Coil Heater	S3HC 145-117-94-215-174-143
R947	Drain Tray Heater	S3HC 145-117-94-215-174-143
R948	Coil Heater	S3HC 215-174-143
R949	Drain Tray Heater	S3HC 215-174-143
R950	Coil Heater	S3HC 272-218-179-323-261-213
R951	Drain Tray Heater	S3HC 272-218-179-323-261-213
R952	Coil Heater	S3HC 323-261-213
R953	Drain Tray Heater	S3HC 323-261-213
R954	Coil Heater	S3HC 362-290-238
R955	Drain Tray Heater	S3HC 362-290-238
R956	Coil Heater	S3HC 430-348-284
R957	Drain Tray Heater	S3HC 430-348-284

\*Capacitor is mounted in electrics box. \*\*Capacitor is mounted on the motor

## LU-VE SHP/SHS/SHF Commercial Panel Cooler Spares

CODE	DESCRIPTION	TO SUIT
R973	Coil Heater	SHP
R974	Coil Heater	SHP 11/19
R975	Fan Motor	SHP
R976	Fan Motor	SHP 11/19 (Also Suit FHS50S/70S)
R978	Coil Heater	SHS 8 & 12
R979	Coil Heater	SHS 13 & 15
R980	Coil Heater	SHS 18 & 22
R981	Coil Heater	SHS 26 & 32
R982	Fan Guard	SHS
R959	Heater Clips	SHS 26 & 32
R984	Inspection Cover	SHS
R985	Coil Heater	SHF 50S/55D
R986	Coil Heater	SHF 60S/65D/70D

## LU-VE SHA/FHA Commercial Panel Cooler Spares

CODE	DESCRIPTION	TO SUIT
R959	Heater Clips	SHA/FHA
R960	Fan Motor	SHA/FHA
R972	Fan Blade	SHA/FHA 234-066-001
R961	Fan Guard	SHA/FHA
R962	Fan Guard	SHA/FHA 60-32/ 41-50/ 28-80
R965	Coil Heater	SHA/FHA 30-21-14
R966	Coil Heater	SHA/FHA 40-27-17
R967	Coil Heater	SHA/FHA 60-41-28
R968	Coil Heater	SHA/FHA 80-53-35
R969	Coil Heater	SHA /FHA120-79-52
R970	Coil Heater	SHA/FHA 160-106-70
R971	Inspection Cover	SHA/FHA

## LU-VE Out of Production Models

CODE	DESCRIPTION	TO SUIT
R987	Fan Motor	HC & NHC
R988	Fan Motor	HDN
R989	Fan Motor	HDS
R990	Fan Motor	SHVS 10/3V-15/3V-13/7
R991	Fan Motor	HA49-1:36-2:26-5
R992	Fan Motor	HS
R993	Fan Motor	HP

## LU-VE F27HC Cubic Cooler Spares

CODE	DESCRIPTION	TO SUIT
R910	Fan Motor	F27HC
R914	Fan Blade	F27HC
R915	Fan Guard	F27HC
R916	Drain Pan	F27HC16/19/23/25/28/36
R917	Drain Pan	F27HC31/38/46/49/55/71
R918	Drain Pan	F27HC70/85/107
R919	Drain Pan	F27HC92/110/142
R920	Defrost Heater	F27HC16/19/23/25/28/36
R922	Defrost Heater	F27HC31/38/46/49/55/71
R924	Defrost Heater	F27HC70/85/107
R925	Defrost Heater	F27HC92/110/142
R927	Drain Pan Heater	F27HC16/19/23/25/28/36
R945	Drain Pan Heater	F27HC31/38/46/49/55/71
R947	Drain Pan Heater	F27HC70/85/107
R928	Drain Pan Heater	F27HC92/110/142

## LU-VE F35HC Cubic Cooler Spares

CODE	DESCRIPTION	TO SUIT
R936	Fan Motor Assembly	F35HC
R937	Fan Guard	F35HC
R948	Drain Pan	F35HC47/59/69/73/84/106
R949	Drain Pan	F35HC94/117/143/145/174/215
R952	Drain Pan	F35HC179/213/218/261/272/323
R953	Drain Pan	F35HC238/284/290/348/362/430
R940	Defrost Heater	F35HC47/59/69/73/84/106
R946	Defrost Heater	F35HC94/117/143/145/174/215
R950	Defrost Heater	F35HC179/213/218/261/272/323
R954	Defrost Heater	F35HC238/284/290/348/362/430
R947	Drain Pan Heater	F35HC47/59/69/73/84/106
R941	Drain Pan Heater	F35HC94/117/143/145/174/215
R951	Drain Pan Heater	F35HC179/213/218/261/272/323
R955	Drain Pan Heater	F35HC238/284/290/348/362/430



# Tecumseh

## TRADITIONAL CONDENSING UNITS

### COOLING CAPACITY

According to EN13215

- ▶ -30°C evap.: from 0.2 to 12kW
- ▶ -10°C evap.: from 0.3 to 26kW

- ▶ A stretch of cooling capacity to suit all requirements with high efficiency

- ▶ Compactness for ease of integration within applications

- ▶ Recognised reliability

*Option: Liquid line with full pre-equipped units*



### EQUIPMENT

#### ELECTRICAL COMPONENTS

- ▶ AC fans (AJ platform: EC fans), compatible with variable speed
- ▶ IP 44 electrical box
- ▶ Casing heater (FH, AG)
- ▶ Compressor electrical protection

#### CIRCUIT

- ▶ Adjustable HP/LP pressure switch with automatic resetting on FH and AG
- ▶ Condenser designed up to +46°C ambient
- ▶ Liquid reservoir

#### INSTALLATION/MAINTENANCE

- ▶ Service check valves

#### ACCESSORY

- ▶ Fan speed control kit



EN13215 Evap. T -10°C, 32 ° amb., 10K superheating, 3K subcooling, Mid/Mid  
EN13215 Evap. T -30°C, 32 ° amb., 10K superheating, 3K subcooling



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# COMPRESSORS

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## Tecumseh Compressors

Founded in 1934, Tecumseh Products Company is a leading global manufacturer offering reciprocating, rotary and scroll compressors with hermetic and semi-hermetic technology.

### 1PH LST LBP R134a/R513A\*

CODE	MODEL	CONN.	APPROX HP	DISP. C.C.
I600	THG1335YS	Tube	1/9	3.58
I601	THG1340YS	Tube	1/8	4.23
I602	THG1352YS	Tube	1/7	5.60
I603	THG1365YS	Tube	1/6	6.10
I403	AE1390Y	Tube	1/3	8.00

### 1PH HST LBP R134a/R513A\*

CODE	MODEL	CONN.	APPROX HP	DISP. C.C.
I4000	AE2410Y	Tube	1/4	9.40
I4001	AE2413Y	Tube	1/3	12.00
I4002	AE2415Y	Tube	3/8	12.50

### 1PH HST HBP R134a/R513A\*

CODE	MODEL	CONN.	APPROX HP	DISP. C.C.
IA446	THB4410Y	Tube	1/10	2.72
IA447	THB4413Y	Tube	1/8	3.60
IA448	THB4415Y	Tube	1/6	4.23
IA449	THB4419Y	Tube	1/5	5.00
IA450	THB4422Y	Tube	1/5	5.90
I450	AE4425Y	Tube	1/5	6.69
I451	AE4430Y	Tube	1/4	8.02
I452	AE4440Y	Tube	1/3	10.33
I448	AE4450Y	Tube	3/8	13.24
I457	AE4456Y	Tube	3/8	14.51
I4010	AE4460Y	Tube	1/2	15.09
I4012	CAJ4452Y	Tube	3/8	15.20
I453	CAJ4452Y	Valve	3/8	15.20
IA409	CAJ4461Y	Tube	1/2	18.30
I454	CAJ4461Y	Valve	1/2	18.30
IA454	CAJ4476Y	Tube	5/8	22.80
I449	CAJ4476Y	Valve	5/8	22.80
IA465	CAJ4492Y	Tube	3/4	25.95
I455	CAJ4492Y	Valve	3/4	25.95
IA404	CAJ4511Y	Tube	1	32.70
I456	CAJ4511Y	Valve	1	32.70
IA455	CAJ4513Y	Tube	1	34.45
IA4015	CAJ4513Y	Valve	1	34.45
I7030	FH4518Y-XC	Tube	1-1/2	48.50
I7031	FH4518Y-XC	Valve	1-1/2	48.50
I7032	FH4525Y-XC	Tube	2	63.00
I7033	FH4525Y-XC	Valve	2	63.00

XC = 220-240V-50Hz XG = 400V-3PH-50Hz

### 3PH HBP R134a/R513A\*

CODE	MODEL	CONN.	APPROX HP	DISP. C.C.
IA410	TAJ4511Y	Tube	1	32.70
I463	TAJ4511Y	Valve	1	32.70
I7034	FH4518Y-XG	Valve	1-1/2	48.50
I7035	FH4525Y-XG	Valve	2	63.00
I466	TAG4528Y	Valve	2-1/2	90.20
I467	TAG4534Y	Valve	2-3/4	100.70
I468	TAG4537Y	Valve	3-1/4	112.50
I469	TAG4543Y	Valve	3-1/2	124.40
I472	TAG4547Y	Valve	4.00	135.00

XC = 220-240V-50Hz XG = 400V-3PH-50Hz



\*R513A/R452A/R449A selections, refer to Tecumseh Guidelines

# Tecumseh Compressors

## 1PH HST LBP R404A/R452A\*

CODE	MODEL	CONN.	APPROX HP	DISP. C.C.
I4018	AE2410Z	Tube	1/4	5.02
I415	AE2415Z	Tube	3/8	7.33
I407	AE2420Z	Tube	1/2	9.35
I417	AE2425Z	Tube	5/8	12.01
IA400	CAJ2428Z	Tube	3/4	15.20
I408	CAJ2428Z	Valve	3/4	15.20
IA401	CAJ2432Z	Tube	3/4	18.30
I409	CAJ2432Z	Valve	3/4	18.30
IA414	CAJ2440Z	Tube	1	21.0
I4022	CAJ2440Z	Valve	1	21.0
IA402	CAJ2446Z	Tube	1-1/4	26.20
I410	CAJ2446Z	Valve	1-1/4	26.20
IA403	CAJ2464Z	Tube	1-1/2	34.50
I411	CAJ2464Z	Valve	1-1/2	34.50
I479	FH2480Z-XC	Tube	2	54.30
I7036	FH2480Z-XC	Valve	2	54.30
I7037	FH2511-XC	Valve	2-1/2	68.00

XC = 220-240V-50Hz XG = 400V-3PH-50Hz



## 3PH LBP R404A/R452A\*

CODE	MODEL	CONN.	APPROX HP	DISP. C.C.
I414	TAJ2446Z	Valve	1-1/4	26.20
IA407	TAJ2464Z	Tube	1-1/2	34.50
I416	TAJ2464Z	Valve	1-1/2	34.50
I7038	FH2480Z-XG	Valve	2	54.30
I7039	FH2480Z-XG	Tube	2	54.30
I7040	FH2511Z-XG	Tube	2-1/2	68.00
I7041	FH2511Z-XG	Valve	2-1/2	68.00
I4025	TAG2513Z	Tube	3-1/2	100.70
I421	TAG2516Z	Valve	4	112.50
I422	TAG2522Z	Valve	5-1/2	135.00
I4028	TAG2525Z	Tube	6	145.00

XC = 220-240V-50Hz XG = 400V-3PH-50Hz



## 1PH HST HBP R404A/R452A/R449A\*

CODE	MODEL	CONN.	APPROX HP	DISP. C.C.
I4032	AE4425Z	Tube	1/5	4.24
I419	AE4430Z	Tube	1/4	5.16
I423	AE4440Z	Tube	3/8	6.69
I425	AE4450Z	Tube	3/8	8.85
I426	AE4460Z	Tube	1/2	10.33
I427	AE4470Z	Tube	5/8	12.01
IA411	CAJ9480Z	Tube	5/8	15.20
I428	CAJ9480Z	Valve	5/8	15.20
IA468	CAJ9510Z	Tube	3/4	18.30
I429	CAJ9510Z	Valve	3/4	18.30
IA470	CAJ9513Z	Tube	1	24.20
I430	CAJ9513Z	Valve	1	24.20
IA405	CAJ4517Z	Tube	1-1/4	25.95
I431	CAJ4517Z	Valve	1-1/4	25.95
I447	CAJ4519Z	Tube	1-1/2	34.45
I432	CAJ4519Z	Valve	1-1/2	34.45
I7042	FH4522Z-XC	Valve	1-5/8	39.60
I7043	FH4524Z-XC	Valve	2	43.30
I7044	FH4532Z-XC	Valve	2-1/2	50.60
I7045	FH4538Z-XC	Valve	3-1/2	63.00

XC = 220-240V-50Hz XG = 400V-3PH-50Hz



3PH HBP R404A Compressors  
continue on next page

\*R513A/R452A/R449A selections, refer to Tecumseh Guidelines

## Tecumseh Compressors



### 3PH - HBP R404A/R452A/R449A\*

CODE	MODEL	CONN.	APPROX HP	DISP. C.C.
I435	TAJ9513Z	Valve	1	24.20
I436	TAJ4517Z	Valve	1-1/4	25.95
I437	TAJ4519Z	Valve	1-1/2	34.45
I7046	FH4522Z-XG	Valve	1-5/8	39.60
I7047	FH4524Z-XG	Valve	2	43.30
I7048	FH4532Z-XG	Valve	2-1/2	50.60
I7049	FH4538Z-XG	Valve	3	63.00
I442	TAG4546Z	Valve	4	90.20
I443	TAG4553Z	Valve	4-1/2	100.70
I444	TAG4561Z	Valve	5	112.50
I445	TAG4568Z	Valve	6	124.40
I446	TAG4573Z	Valve	6-1/2	135.00
I445	TAG4568Z	Valve	7	145.00

\*R513A/R452A/R449A selections, refer to Tecumseh Guidelines



## Tecumseh Air Conditioning Compressors



### 1PH - CSR Air Conditioning R407C

CODE	MODEL	CONN.	APPROX HP	DISP. C.C.
IL494	AE5465C	Tube	1/2	10.33
IL496	AJ5510C	Tube	3/4	18.60
IL497	AJ5512C	Tube	7/8	21.75
IL498	AJ5513C	Tube	1	24.20
IL499	AJ5515C	Tube	1-1/4	25.95
IL500	AJ5518C	Tube	1-1/2	32.70
IL501	AJ5519C	Tube	1-1/2	34.45



### 3PH - Air Conditioning R407C

CODE	MODEL	CONN.	APPROX HP	DISP. C.C.
IL509	TAJ 5515C	Tube	1-1/4	25.95
IL510	TAJ 5519C	Tube	1-1/2	34.45
IL516	TAG 5546C	Tube	4	90.20
IL517	TAG 5553C	Tube	4-1/2	100.70
IL518	TAG 5561C	Tube	5	112.50
IL519	TAG 5568C	Tube	6	124.40
IL520	TAG 5573C	Tube	6-1/2	134.80



**CSR Models** are High Start Torque and include Relay, Start Capacitor and Run Capacitor.

## Tecumseh Rotary Compressors

The Tecumseh range of rotary compressors can be used as replacements in many types of air conditioning systems.



### PSC - Air Conditioning R407C

CODE	MODEL	DISP. C.C.*
IL470	RG5480W-FZ	11.50
IL471	RG5492W-FZ	12.74
IL472	RG5510W-FZ	11.50
IL473	RG5512W-FZ	16.10
IL475	RK5515C-FZ	21.00
IL476	RK5521C-FZ	30.36



\*When selecting an equivalent you must not compare the displacement of a rotary compressor with that of a reciprocating compressor.

## Tecumseh R290 Compressors

Next generation AE2/AJ2 high efficiency compressor from Tecumseh now available for R290.

### 1PH - LBP R290

CODE	MODEL	DISP. C.C.
I5000	AE2410U	5.48
I5005	AE2415U	8.85
I5008	AE2420U	10.96
I5012	CAJ2446U	26.20
I5015	CAJ2464U	34.50

### 1PH - HBP R290

CODE	MODEL	DISP. C.C.
I5020	AE4425U	5.02
I5022	AE4430U	6.12
I5024	AE4440U	8.02
I5028	AE4450U	10.33
I5030	AE4460U	12.01



## Tecumseh R134a/R1234yf

Next generation AE2/AJ2 high efficiency compressor from Tecumseh. Now available for R134a and R1234yf.

### 1PH - HBP R134a only or R134a/R1234yf

CODE	MODEL	DISP. C.C.
I5040	AE4430N (R134a/R1234yf)	8.02
I5042	AE4440N (R134a/R1234yf)	10.33
I5048	AJ4492N (R134a/R1234yf)	25.95
I5052	AJ4511N (R134a/R1234yf)	32.70
I5054	AJ4513N (R134a/R1234yf)	34.45



## Tecumseh FLEXY Range Multi Refrigerant Compressors

FLEXY range is a multi refrigerant compressor range approved for use with R404A, R452A, R134a and R513A on HBP applications and R404A, R452A for LBP applications.



**AJ<sup>2</sup>**



### 1PH - LBP FLEXY Range Multi Refrigerant R404A/R452A

CODE	MODEL	DISP. C.C.
I6010	CAJ2428X	15.20
I6012	CAJ2432X	18.30
I6015	CAJ2440X	21.00
I6020	CAJ2446X	26.20
I6023	CAJ2464X	34.50

### 3PH - LBP FLEXY Range Multi Refrigerant R404A/R452A

CODE	MODEL	DISP. C.C.
I6035	TAJ2440X	21.00
I6038	TAJ2446X	26.20
I6040	TAJ2464X	34.50
I6050	TAG2513X	100.70
I6053	TAG2516X	112.50
I6056	TAG2522X	135.00
I6058	TAG2525X	145.00



### 1PH - HBP FLEXY Range Multi Refrigerant R404A/R452A/R134a/R513A

CODE	MODEL	DISP. C.C.
I6062	CAJ9480X	15.20
I6064	CAJ9510X	18.30
I6067	CAJ9513X	24.20
I6069	CAJ4517X	25.95
I6072	CAJ4519X	34.45

### 3PH - HBP FLEXY Range Multi Refrigerant R404A/R452A/R134a/R513A

CODE	MODEL	DISP. C.C.
I6090	TAJ9480X	15.20
I6092	TAJ9510X	18.30
I6095	TAJ9513X	24.20
I6097	TAJ4517X	25.95
I7000	TAJ4519X	34.45
I7002	TFH4522X	39.90
I7005	TFH4524X	43.50
I7008	TFH4531X	56.60
I7012	TFH4540X	74.20
I7015	TAG4546X	90.20
I7017	TAG4553X	100.70
I7020	TAG4561X	112.50
I7023	TAG4568X	124.40
I7026	TAG4573X	135.00
I7028	TAG4581X	145.00



# Tecumseh Compressors Cross Reference Guide

## FLEXY Range, R134a and R404A equivalents

MULTI REFRIGERANT RANGE	APPLICATION	VOLTAGE	R404A EQUIVALENT	R134A EQUIVALENT
C/TAJ9480X	HBP	FZ / TZ	C/TAJ9480Z	C/TAJ4452Y
C/TAJ9510X	HBP	FZ / TZ	C/TAJ9510Z	C/TAJ4461Y
C/TAJ9513X	HBP	FZ / TZ	C/TAJ9513Z	C/TAJ4484Y
C/TAJ4517X	HBP	FZ / TZ	C/TAJ4517Z	C/TAJ4492Y
C/TAJ4519X	HBP	FZ / TZ	C/TAJ4519Z	C/TAJ4513Y
TAG4546X	HBP	TZ	TAG4546Z	TAG4528Y
TAG4553X	HBP	TZ	TAG4553Z	TAG4534Y
TAG4561X	HBP	TZ	TAG4561Z	TAG4537Y
TAG4568X	HBP	TZ	TAG4568Z	TAG4543Y
TAG4573X	HBP	TZ	TAG4573Z	TAG4547Y
TAG4581X	HBP	TZ	TAG4581Z	TAG4549Y
CAJ2428X	LBP	FZ	CAJ2428Z	
CAJ2432X	LBP	FZ	CAJ2432Z	
C/TAJ2440X	LBP	FZ / TZ	C/TAJ2440Z	
C/TAJ2446X	LBP	FZ / TZ	C/TAJ2446Z	
C/TAJ2464X	LBP	FZ / TZ	C/TAJ2464Z	
TAG2513X	LBP	TZ	TAG2513Z	
TAG2516X	LBP	TZ	TAG2516Z	
TAG2522X	LBP	TZ	TAG2522Z	
TAG2525X	LBP	TZ	TAG2525Z	

\* FZ = 220-240V-50Hz TZ = 400V-3PH-50Hz



## FH<sup>2</sup> Compressor

For more efficiency

-  Reliable
-  Compact
-  Quiet



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# Tecumseh/L'Unite Hermetique Compressor Spares

**Electric Kits for Old AE, CAE and AEZ Range**  
(excluding electrical box)

CODE	PART NO	TO SUIT
IS400	8655007	AE 1417Z
IS401	8655025	CAE 2420Z
IS402	8655022	AEZ4425Y
IS403	8655023	AEZ4430Y
IS404	8655028	CAE4440Y
IS405	8655073	CAE448Y
IS406	8655050	AE 5465/5470E
IS408	8655051	AJ 5510F
IS409	8655053	AJ 5512E
IS410	8655054	AJ 5513E/C
IS411	8655055	AJ 5515E
IS412	8655056	AJ 5518E
IS413	8655057	AJ 5519E
IS414	8655058	FH 5522F
IS415	8655154	FH 5524F
IS416	8655060	FH 5527C/5528F
IS417	8655079	FH 5532F

**Electric Kits for Old AE, CAE, AEZ & AJ Range**  
(Including electrical box)

CODE	PART NO	TO SUIT
IS420	8657114	CAE 2417Z
IS421	8657029	CAJ 2428Z
IS422	8657006	CAJ 2432Z
IS423	8657007	CAJ 2446Z
IS424	8657180	CAJ 2464Z
IS427	8657160	AEZ9440Z
IS428	8657112	CAE 9450Z
IS429	8657220	CAE 9460Z
IS430	8657085	CAE 9470Z
IS431	8657079	CAJ 9480Z
IS432	8657082	CAJ 9510Z
IS433	8657086	CAJ 9513Z
IS434	8657084	CAJ 4517Z
IS435	8657094	CAJ 4519Z
IS438	8657030	CAJ 4452Y
IS439	8657025	CAJ 4461Y
IS440	8657096	CAJ 4476Y
IS441	8657201	CAJ 4492Y
IS442	8657002	CAJ 4511Y

**Electric Kits for New AE<sup>2</sup> Range**  
(excluding electrical box)

CODE	PART NO	SUITS MODELS*
IS470	8655331	AE4425Y FZ
IS472	8655321	AE4430Y FZ
IS474	8655322	AE4440Y FZ
IS476	8655327	AE4450Y FZ
IS478	8655326	AE4456Y FZ
IS480	8655332	AE4460Y FZ
IS485	8655325	AE4425Z FZ
IS487	8655328	AE4430Z FZ
IS489	8655324	AE4440Z FZ
IS490	8655333	AE4450Z FZ
IS492	8655323	AE4460Z FZ

**Electric Kits for New AE<sup>2</sup> Range** (Continued)  
(excluding electrical box)

CODE	PART NO	SUITS MODELS*
IS500	8655341	AE4470Z FZ
IS502	8655337	AE2410Z FZ
IS504	8655329	AE2415Z FZ
IS506	8655339	AE2420Z FZ
IS508	8655342	AE2425Z FZ
IS512	8655357	AE2410U FZ
IS514	8655330	AE2415U FZ
IS516	8655345	AE2420U FZ
IS518	8655343	AE4425U FZ
IS520	8655334	AE4430U FZ
IS523	8655335	AE4440U FZ
IS525	8655336	AE4450U FZ
IS528	8655347	AE4460U FZ

\*For New AE2 Compressors made or assembled in France

**TE-Connect & Junior Electrical Box for NEW AJ<sup>2</sup> Range**

CODE	PART NO	SUITS MODELS
IS535	8657278	CAJ2428Z
IS537	8657272	CAJ2432Z
IS540	8657279	CAJ2440Z
IS542	8657266	CAJ2446Z
IS544	8657267	CAJ2464Z
IS548	8657264	CAJ4517Z
IS550	8657265	CAJ4519Z
IS553	8657277	CAJ9480Z
IS556	8657276	CAJ9510Z
IS558	8657274	CAJ9513Z
IS562	8657358	CAJ4452Y
IS564	8657359	CAJ4461Y
IS568	8657357	CAJ4476Y
IS570	8657345	CAJ4492Y
IS573	8657263	CAJ4511Y
IS575	8657275	CAJ4513Y

**Electric Kits for FH Range**  
(excluding electrical box)

CODE	PART NO	SUITS MODELS
IS580	8655234	FH4522Z
IS582	8655235	FH4524Z
IS584	8655151	FH4531Z
IS586	8655232	FH4540Z
IS590	8655230	FH2480Z
IS593	8655231	FH2511Z
IS596	8655233	FH4518Y
IS598	8655236	FH4525Y

**Electric Kits for FH Range.**  
(including electrical box)

CODE	PART NO	SUITS MODELS
IS425	8657097	FH 2480Z
IS426	8657153	FH 2511Z
IS445	8657119	FH4522Z
IS436	8657117	FH 4524Z
IS437	8657093	FH 4531Z
IS443	8657100	FH4518Y
IS444	8657103	FH4525Y/4524Z



# Tecumseh/L'Unite Hermetique Compressor Spares

## Suction Rotalock Valves

CODE	PART NO	SIZE	ROTOLOCK VALVES TO SUIT L'UNITE MODELS
IS450	8683049	(1"-14) 1/2"	CAJ2428Z, CAJ2432Z, CAJ2446Z, CAJ9480Z, CAJ4452Y, CAJ4461Y, CAJ4476Y, CAJ4492Y.
IS451	8683059	(1"-14) 5/8"	CAJ2464Z, CAJ9510Z, CAJ9513Z, CAJ4517Z, CAJ4519Z, TAJ9513Z, TAJ4517Z, TAJ4519Z, CAJ4511Y, TAJ4511Y.
IS452	8683013	(1-1/4"-12) 5/8"	FH2480Z, FH2511Z, TFH2480Z, TFH2511Z, FH4524Z, TFH4524Z, FH4518Y, FH4525Y, TFH4518Y, TFH4525Y.
IS454	8683014	(1-1/4"-12) 7/8"	FH4531Z, FH4540Z, TFH4531Z, TFH4540Z, TAG2516Z, TAG4546Z, TAG4553Z.
IS455	8683140	(1-1/4"-12) 1-1/8"	TAG2522Z, TAG4561Z, TAG4568Z, TAG4573Z.

## Discharge Rotalock Valves

CODE	PART NO	SIZE	ROTOLOCK VALVES TO SUIT L'UNITE MODELS
IS450	8683049	(1"-14) 1/2"	FH2480Z, FH2511Z, TFH2480Z, TFH2511Z, FH4524Z, TFH4524Z, FH4518Y, FH4525Y, TFH4518Y, TFH4525Y, FH4531Z, FH4540Z, TFH4531Z, TFH4540Z,
IS452	8683013	(1-1/4"-12) 5/8"	TAG2513Z, TAG2516Z, TAG4546Z, TAG4553Z, TAG2522Z, TAG4561Z, TAG4568Z, TAG4573Z.

## Rotalock Valve P.T.F.E Gaskets

CODE	PART NO	SIZE	DESCRIPTION
IS458	8361007	1" - 14	White PTFE Rotalock Valve Gasket
IS459	8361006	1-1/4" - 12	White PTFE Rotalock Valve Gasket
IS460	8361023	1-3/4" - 12	White PTFE Rotalock Valve Gasket



## Tecumseh Retrofit Kits for FH2 Compressors

Retrofit kits designed to make a compressor change easier when changing to the new AJ2 compressor range. See table below.

  Tecumseh FH2 Retrofit Kits		DISCHARGE ADAPTOR		SUCTION ADAPTOR		BRAZE COPPER SLEEVE FF 3/8	BRAZE COPPER SLEEVE FF 1/2	BRAZE COPPER SLEEVE FF 5/8	BRAZE COPPER SLEEVE FF 7/8	FLEXIBLE PRESSO SWITCH BP	CODE	
		Ø 3/8	Ø 1/2	Ø 5/8	Ø 7/8	FF 3/8	FF 1/2	FF 5/8	FF 7/8	700MM		
 INDOOR	TRADITIONAL KIT ALL SIZES	X				X				X	IS529	
	 OUTDOOR	WINTSYS/SILENSYS 5/8 KIT FH2480Z FH2511Z FH4518Y FH4524Z FH4525Y		X	X			X	X		X	IS530
		WINTSYS/SILENSYS 7/8 KIT FH4531Z FH4540Z		X		X		X		X	X	IS531
		WINTSYS/SILENSYS KIT All Sizes		X	X	X		X	X	X	X	IS532

## Cubigel Compressors

Cubigel Compressors® are manufactured in Barcelona by Huayi Compressor Barcelona, S.L. part of Huayi Compressor Co. Ltd, and specialises in designing, manufacturing and selling hermetic compressors and condensing units for the light commercial refrigeration market.

### Refrigerant R134a LBP - LST

CODE	MODEL	CONN.	APPROX HP	DISP. C.C.
I320	GL45AA	Tube	1/5	4.60
I341	GL80AA	Tube	1/5	8.10
I342	GL90AA	Tube	1/4	9.10

### Refrigerant R134a LBP - HST

CODE	MODEL	CONN.	APPROX HP	DISP. C.C.
I301	GLM12LA	Tube	3/8	10.70
I327	GP14FB	Tube	1/2	14.20
I335	GP16FB	Tube	1/2	16.20

### Refrigerant R134a HBP - LST

CODE	MODEL	CONN.	APPROX HP	DISP. C.C.
I316	GL60PB	Tube	1/5	5.70
I317	GL80PB	Tube	1/4	7.60
I318	GL90PB	Tube	1/4	8.90
I319	GP12PB	Tube	3/8	12.00

### Refrigerant R134a HBP - HST

CODE	MODEL	CONN.	APPROX HP	DISP. C.C.
I314	GD40MB-D	Tube	1/8	4.10
I315	GL45TB	Tube	1/6	4.50
I331	GL60TB	Tube	1/5	5.70
I325	GL80TB	Tube	1/4	7.60
I326	GL90TB	Tube	1/4	8.90
I328	GP12TB	Tube	3/8	12.00
I329	GP14TB	Tube	3/8	14.20
I611	GP16TB	Tube	1/2	16.20
I330	GX18TB	Tube	5/8	18.40
I333	GX21TB	Tube	5/8	20.70
I340	GX23TB	Tube	2/3	23.20
I348	GS26TB-T	Tube	3/4	25.90
I334	GS26TB-V	Valve	3/4	25.90
I336	GS30TB-V	Valve	7/8	30.00
I338	GS34TB-V	Valve	1	34.40
I339	GS34TB-T	Tube	1	34.40

**cubigel**  
compressors



**cubigel**  
compressors

## Cubigel Compressors

### Refrigerant R404A LBP - HST

CODE	MODEL	CONN.	APPROX HP	DISP. C.C.
I345	ML45FB	Tube	1/6	4.50
I343	ML80FB	Tube	1/4	8.10
I344	ML90FB	Tube	1/3	9.80
I346	MLY12LAA	Tube	3/8	10.70
I347	MP14FB	Tube	1/2	14.00
I619	MPT14LA	Tube	1/2	14.00
I349	MX18FBa	Tube	5/8	18.00
I351	MX21FBa	Tube	2/3	21.00
I620	MX23FBa	Tube	2/3	23.00
I353	MS26FB-V	Valve	3/4	26.00
I617	MS26FB-T	Tube	3/4	26.00
I618	MS34FB-T	Tube	1	34.00
I355	MS34FB-V	Valve	1	34.00

**cubigel**  
compressors



### Refrigerant R404A H/MBP - HST

CODE	MODEL	CONN	APPROX HP	DISP. C.C.
I359	ML45TB	Tube	1/5	4.50
I360	ML60TB	Tube	1/4	5.70
I361	ML80TB	Tube	3/8	7.60
I362	ML90TB	Tube	3/8	8.80
I363	MPT12RA	Tube	1/2	10.70
I364	MPT14RA	Tube	5/8	14.30
I357	MX18TBa	Tube	3/4	18.00
I337	MX21TBa	Tube	7/8	21.00
I616	MS22TB-V	Valve	1	21.80
I367	MS26TB-V	Valve	1	26.00
I365	MS26TB-T	Tube	1	26.00
I366	MS34TB-T	Tube	1-5/8	34.00
I358	MS34TB-V	Valve	1-5/8	34.00

## Hitachi Horizontal Scroll Compressors

Compact & lightweight horizontal scroll compressor designed for the refrigeration sector offering low noise and vibration and reliability that you come to expect from Hitachi.

**HITACHI**

### Refrigerant R404A LBP/MBP/HBP - LST (1 Phase)

CODE	MODEL	CONNECTIONS	APPROX HP
I147	ZS7516S1	Brazed Stub	1
I140	ZS1120S1	Brazed Stub	1-1/2



### Refrigerant R404A LBP/MBP/HBP - HST (1 Phase)

CODE	MODEL	CONNECTIONS	APPROX HP
I130	DS1836S1	Brazed Stub	2-1/2



## Danfoss Compressors

Danfoss focuses on providing energy efficient, sustainable refrigeration compressors for a varied range of commercial applications such as cold rooms, display windows, ice making machines, glass door merchandisers and process cooling etc.



### LST - LBP R134a

CODE	MODEL	APPROX HP	DISP. C.C.
I223	TL-5FK	1/6	5.08
I224	NL-6FK	1/5	6.13
I225	NL-7FK	1/5	7.27
I226	NL-9FK	1/4	8.35
I227	NL-11FK	1/4	11.15

### HST - LBP R134a

CODE	MODEL	APPROX HP	DISP. C.C.
I228	TL-5FX	1/6	5.08
I229	NL-6FX	1/5	6.13
I230	NL-7FX	1/6	7.27
I231	NL-9FX	1/5	8.35
I232	NL-11FX	1/4	11.15
I233	SC-15FX	1/3	15.28
I234	SC-18FX	2/5	17.69
I235	SC-21FX	1/2	20.95

### HST - MBP R134a

CODE	MODEL	APPROX HP	DISP. C.C.
I267	GS-26MFX	3/4	26.00
I268	GS-34MFX	1	34.00

### HST - HBP R134a

CODE	MODEL	APPROX HP	DISP. C.C.
I254	GS-26GHX	3/4	26.00

### HST - L/M/HBP R134a

CODE	MODEL	APPROX HP	DISP. C.C.
I238	TL-5GX	1/8	5.08
I239	FR-7.5GX	1/6	6.93
I240	FR-8.5GX	1/5	7.95
I241	FR-10GX	1/4	9.05
I242	FR-11GX	1/4	11.15
I243	SC-12GX	1/3	12.87
I244	SC-15GX	1/3	15.28
I245	SC-18GX	2/5	17.69
I246	SC-21GX	1/2	20.95

### HST - LBP R404a

CODE	MODEL	APPROX HP	DISP. C.C.
I256	FR-6CLX	1/3	6.23
I257	FR-8.5CLX	3/8	7.95
I258	SC-10CLX	2/5	10.29
I259	SC-12CLX	1/2	12.87
I260	SC-15CLX	2/3	15.28
I261	SC-18CLX	2/3	17.69
I265	SC-21CLX	3/4	20.95
I255	GS-26CLX	1	26.00
I266	GS-34CLX	1-1/2	34.00

HST - High Start Torque.

LST - Low Start Torque.



## HST - MBP R404A

CODE	MODEL	APPROX HP	DISP. C.C.
I269	GS21-MLX	7/8	21.00
I270	GS26-MLX	1	26.00
I271	GS34-MLX	1-1/2	34.00

## HST - HBP R404A

CODE	MODEL	APPROX HP	DISP. C.C.
I262	SC-10DLX	1/2	10.30
I263	SC-12DLX	2/3	12.90
I264	SC-15DLX	3/4	15.30



## Danfoss Compressor Electric Spares

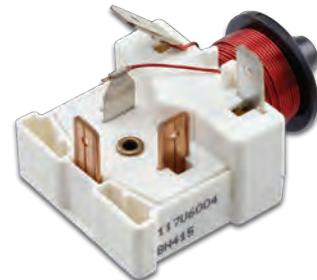
### LST Relays

CODE	MODEL	TO SUIT
I275	103N 0011	PL-TL-NL-FR-SC



### HST Relays

CODE	MODEL	TO SUIT
I276	117U 6009	TL 3B-4A-4F
I277	117U 6004	TL 4B 5A-5G-5F/6F/FR7.5A
I278	117U 6000	NL7F/FR8.5A-6B
I279	117U 6001	NL9F/FR10A-7.5B-7.5G
I280	117U 6015	FR8.5B-8.5G
I281	117U 6010	FR10B-10G-11B-11G
I282	117U 6016	NL11F/FR11A
I283	117U 6002	SC12A-10B
I284	117U 6003	SC15A-12B-12G
I285	117U 6005	SC18A-15B-15G
I286	117U 6011	SC21A-18B
I287	117U 6019	SC18G-15CL-12DL



### Starting Kits

CODE	MODEL	TO SUIT
I288	117U 7011	SC15DL
I289	117U 7012 117U 7027	SC18CL
I290	117U 7028	SC21G



### Capacitors

CODE	MODEL	TO SUIT
I291	117U 5014	TL
I292	117U 5015	NL-FR
I293	117U 5017	SC



## Embraco Compressors

EMBRACO is a company specialised in cooling solutions and world leader in the hermetic compressor market.

### Refrigerant R134a Evaporating Range (-35/-10 Deg.C)

CODE	MODEL	APPROX HP	DISP. C.C.
I393	EMIE30HER	1/12	3.01
I031	EM30HNP	1/10	3.01
I394	EMT-36HLP	1/8	3.97
I033	EM50HNP	1/6	4.99
I034	EM60HNP	1/6	5.54



### Refrigerant R134a Evaporating Range (-35/+15 Deg.C)

CODE	MODEL	APPROX HP	DISP. C.C.
I038	EM30HHR	1/12	3.01
I039	EM45HHR	1/10	3.77
I040	EM55HHR	1/8	4.60



### Refrigerant R134a Evaporating Range (-35/+15 Deg.C)

CODE	MODEL	APPROX HP	DISP. C.C.
I052	EGAS 80	1/5	6.36
I053	EGAS 90	1/5	7.15
I054	EGAS 100	1/3	7.95
I050	FFI12HBK	1/3	11.14



### Refrigerant R134a LBP 1PH LST

CODE	MODEL	APPROX HP	DISP. C.C.
I630	NE1130Z	1/3	12.11

### Refrigerant R134a LBP 1PH HST

CODE	MODEL	APPROX HP	DISP. C.C.
I621	NE1121Z	1/4	9.26
I644	NE2130Z	1/3	12.11



### Refrigerant R134a HBP 1PH HST

CODE	MODEL	APPROX HP	DISP. C.C.
I088	EMT6160Z	1/3	7.99
I639	EMT6170Z	1/3	7.69
I641	NEK6187Z	1/3	10.00
I645	NEK6210Z	1/2	12.11
I384	NEK6214Z	1/2	16.80
I385	NT6215Z	1/2	20.40
I378	NJ6220Z	1	26.11
I379	NJ6226Z	1	34.40

All the above compressors have tube connections.

# embraco

POWER IN.  
CHANGE ON.

01543 437 010

## Embraco Compressors

EMBRACO is a company specialised in cooling solutions and world leader in the hermetic compressor market.

### Refrigerant R404A LBP 1PH HST

CODE	MODEL	CONN.	APPROX HP	DISP. C.C.
I632	NEK2134GK	Tube	1/2	8.77
I386	NEK2168GK	Tube	3/4	14.28
I380	NT2178GK	Tube	1	17.39
I387	NT2180GK	Tube	1	22.37
I381	NJ2192GK	Tube	1	26.20
I399	NJ2192GK	Valve	1-1/4	26.11
I388	NJ2212GK	Tube	1-1/2	34.38

### Refrigerant R404A HBP/MBP 1PH HST

CODE	MODEL	CONN.	APPROX HP	DISP. C.C.
I638	EMT6144GK	Tube	1/4	3.97
I640	NEK6181GK	Tube	1/3	7.28
I642	NEK6210GK	Tube	1/2	8.77
I650	NEK6213GK	Tube	1/2	12.11
I636	NEK6217GK	Tube	3/4	14.28
I643	NT6217GK	Tube	5/8	12.55
I389	NT6220GK	Tube	3/4	14.50
I313	T6222GK	Tube	1	17.39
I390	NJ9226GK	Valve	1-1/4	26.11
I646	NT6226GK	Tube	1	22.40
I391	NJ9232GK	Valve	1-1/4	26.11
I392	NJ9238GK	Valve	1-1/2	32.67
I370	NJ9238GK	Tube	1-1/2	32.67

**embraco** POWER IN. CHANGE ON.



## Embraco Spare Parts

See below for a wide range of spare parts for Embraco and some of the older most popular Aspera compressors.

CODE	TYPE	TO SUIT
I055	Terminal Box	EM/FG
I057	Evaporation Tray	EM
I075	Capacitor	PW/FF
I095	Start Capacitor EGAS Comps	70/80/90/100
I096	Relay and Capacitor EGAS Comps	70/80/90
I097	Relay and Capacitor EGAS Comps	100
I082	PTC Relay	BP1058Z/BP1084Z
I083	Overload	BP1084Z
IS316	Electrics	J9238E
IS318	Electrics	NE6187Z
IS310	Electrics	NJ2192K/NJ2192GK
IS312	Electrics	NJ2212K/NJ2212GK
IS314	Electrics	J9232E/J9232GK
IS320	Electrics	T2178GK
IS322	Electrics	T2180GK



**embraco**

POWER IN.  
CHANGE ON.

## Copeland Scroll Compressors

The following models are all charged with **Ester Oil**.  
Other compressor models are available.

### 1PH - Medium/High Temperature

CODE	MODEL	APPROX. HP
I940	ZR18KE-PFJ	1-1/2
I941	ZR22KE-PFJ	1-3/4
I945	ZR28KE-PFJ	2-1/2
I946	ZR34KE-PFJ	3
I947	ZR40KE-PFJ	3-1/2
I948	ZR48KE-PFJ	4
I951	ZR61KE-PFJ	5
I920	ZB15KE-PFJ	2
I942	ZB19KE-PFJ	2-1/2
I943	ZB21KE-PFJ	3
I944	ZB26KE-PFJ	3-1/2

### 3PH - Medium/High Temperature

CODE	MODEL	APPROX. HP
I953	ZR22KE-TFD	1-3/4
I955	ZR28KE-TFD	2-1/2
I957	ZR34KE-TFD	3
I959	ZR40KE-TFD	3-1/2
I965	ZR48KE-TFD	4
I967	ZR61KE-TFD	5
I969	ZR72KE-TFD	6
I971	ZR81KE-TFD	6-1/2
I925	ZR90KE-TWD	7-1/2
I926	ZR94KE-TFD	8
I982	ZR11ME-TWD	9
I983	ZR12ME-TWD	10
I984	ZR16ME-TWD	13
I949	ZB15KE-TFD	2
I950	ZB19KE-TFD	2-1/2
I952	ZB21KE-TFD	3
I954	ZB26KE-TFD	3-1/2
I956	ZB30KE-TFD	4
I958	ZB38KE-TFD	5
I960	ZB45KE-TFD	6
I938	ZB57KE-TWD	7-1/2
I962	ZB76KE-TFD	10
I963	ZB95KE-TFD	12

### 3PH - Low Temperature

CODE	MODEL	APPROX. HP
I966	ZF09KE-TFD	2-3/4
I968	ZF11KE-TFD	3-1/2
I970	ZF13KE-TFD	4
I972	ZF15KE-TFD	4-1/8
I974	ZF18KE-TFD	5-1/2
I976	ZF24KE-TWD	7-1/2
I978	ZF33KE-TWD	10-1/2
I979	ZF40KE-TWD	12-1/2
I980	ZF48KE-TWD	15

#### Application and Temperature Ranges:

Low Temperature: ZF: between +7 and -45°C (with liquid injection)

High Temperature: ZB: optimised for refrigeration applications between +10 and -30°C.

Air-conditioning scroll compressors ZR are suitable for use in high and medium temperature air-conditioning and process cooling applications with evaporating temperatures ranging from +12.5 to -20°C.

## Copeland Scroll



## Copeland™

brand products



## Copeland Summit Scroll Compressors

The following models are all charged with **Ester Oil**.  
Other compressor models are available.

### 3PH - Medium/High Temperature

CODE	MODEL	APPROX. HP
I932	ZB66KCE-TFD	9
I962	ZB76KCE-TFD	10
I963	ZB95KCE-TFD	13
I935	ZB114KCE-TFD	15

### 3PH - Low Temperature

CODE	MODEL	APPROX. HP
I1000	ZF25K6E-TFD	7-1/2
I1002	ZF34K6E-TFD	9
I1004	ZF41K6E-TFD	10
I1006	ZF49K6E-TFD	13

## Copeland Scroll



## Copeland Digital Scroll Compressors

The following models are all charged with **Ester Oil**.  
Other compressor models are available.

### 3PH - Medium/High Temperature

CODE	MODEL	APPROX. HP
I1020	ZBD29KCE-TFD	4
I1022	ZBD38KCE-TFD	5
I1024	ZBD45KCE-TFD	6
I1026	ZBD57KCE-TFD	7-1/2
I1028	ZBD76KCE-TFD	10



## Copeland ZF EVI Scroll Compressors with Vapour Injection

The following models are all charged with **Ester Oil**.  
Other compressor models are available.

### 3PH - Low Temperature

CODE	MODEL	APPROX. HP
I1050	ZF13KVE-TFD-EVI	4
I1052	ZF18KVE-TFD-EVI	6
I1054	ZF24KVE-TFD-EVI	7-1/2
I1056	ZF33KVE-TFD-EVI	10
I1058	ZF40KVE-TFD-EVI	13
I1060	ZF48KVE-TFD-EVI	15



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## Run Capacitors

Genuine Copeland Run Capacitors, to suit single phase compressors as listed in table below.

CODE	TO SUIT	µF
I1510	ZR18	30
I1511	ZR22, ZB15	40
I1512	ZR28, ZB19	45
I1513	ZR34, ZB21	50
I1514	ZR40	55
I1515	ZR48, ZB26	60



## Start Capacitors

Genuine Copeland Start Capacitor, to suit single phase compressors as listed in table below.

CODE	TO SUIT
I1500	ZR18, ZR22, ZR28, ZR34, ZR40 & ZR48
I1530	ZB15, ZB19, ZB21 & ZB26



## Potential Start Relay

Genuine Copeland Potential Starting Relay, to suit single phase compressors as listed in table below.

CODE	TO SUIT
I1505	ZR18, ZR22, ZR28, ZR34, ZR40, ZR48, ZB15, ZB19, ZB21 and ZB26



## Rotolock Valves

Pair genuine Copeland Rotolock Valves  
Suction (1-1/4" - 12) 7/8"  
Discharge (1" - 14) 5/8"

CODE	TO SUIT
IS982	ZB15 - ZB45, ZF06 - ZF18, ZR18 - ZR72



## Rotolock Valve Adapter Kit

Converts a brazed stub compressor to use with rotolock valves. (Pair of white rotolock valve gaskets included).

CODE	TO SUIT
IS984	ZR18 to ZR61



## Universal Crankcase Heater

Easy to use wraparound 65 watt crankcase heater with velcro fixing strap 65W x 950 Long (Fits around a 300mm Maximum Diameter)

CODE	MODEL
I540	CH-1 Crankcase Heater 65W x 950 Long



# Copeland Bill of Material Codes

CODE	OPTION A	OPTION B	OPTION C
230	Tubes		
232	Rotolock Valve		
250	Tubes	Oil Sight Glass	
251	Tubes	Oil Sight Glass	Capillary Liquid Injection
265	Rotolock Valve	Oil Sight Glass	
422	Tubes	Oil Sight Glass	Tandem Ready
425	Tubes	Oil Sight Glass	Tandem Ready
501	Tubes		
511	Tubes		
512	Tubes		3 Mounting Feet
522	Tubes		
523	Rotolock Valve		
524	Tubes		
532	Tubes		
540	Rotolock Valve	Oil Sight Glass	Tandem Ready 24V Control Circuit
542	Tubes		Tandem Ready 24V Control Circuit
550	Tubes	Oil Sight Glass	
551	Rotolock Valve	Oil Sight Glass	120/240V Control Circuit
552	Tubes		
556	Rotolock Valve	Oil Sight Glass	DTC Valve
557	Rotolock Valve	Oil Sight Glass	240V Control Circuit
561	Rotolock Valve		24V Control Circuit
568	Tubes		24V Control Circuit
570	Rotolock Valve	Oil Sight Glass	Tandem Ready 120/240V Control Circuit
572	Tubes		Tandem Ready 120/240V Control Circuit
599	Tubes		
961	Rotolock Valve	Oil Sight Glass	110/230V & 24V Control Circuit, Includes Rotolock to Tube adaptors

# Copeland™

brand products

**COPELAND®**  
**COMPRESSOR SPARES**

From  
**FSW**  
Where you need us  
When you need us



## Maneurop Compressors

Maneurop® MTZ series compressors are of the hermetic reciprocating type and are designed for medium and high evaporating temperature applications. Available in a wide variety of single and tandem models for refrigerants R134a, R404A, R407A & R407F.

### 1PH - R134a/R404A/R407C/R407A/R407F

CODE	MODEL	APPROX HP	DISP. C.C.
I675	MTZ18-5VI	1-1/2	30
I676	MTZ22-5VI	1-3/4	38
I677	MTZ28-5VI	2	48
I678	MTZ32-5VI	2-3/4	53
I679	MTZ36-5VI	3	60

Single phase compressors are supplied WITHOUT electrics.  
All Maneurop compressors are supplied without valves  
(Please order separately).



**Maneurop**  
RECIPROCATING COMPRESSORS

### 3PH - R134a/R404A/R407C/R407A/R407F

CODE	MODEL	APPROX HP	DISP. C.C.
I681	MTZ18-4VI	1-1/2	30
I682	MTZ22-4VI	1-3/4	38
I683	MTZ28-4VI	2	48
I684	MTZ32-4VI	2-3/4	53
I685	MTZ36-4VI	3	60
I686	MTZ40-4VI	3-1/2	67
I687	MTZ44-4VI	3-3/4	76
I688	MTZ50-4VI	4	85
I689	MTZ56-4ER	4-1/2	96
I690	MTZ64-4VI	5	107
I691	MTZ72-4ER	6	121
I692	MTZ80-4VI	6-1/2	135
I693	MTZ100-4VI	8-1/2	171
I694	MTZ125-4ER	10	215
I695	MTZ144-4VI	11-1/2	242
I696	MTZ160-4VI	13	271



Maneurop tandem compressors and condensing units are available to order.

# Maneurop Compressor Spare Parts

## Maneurop CSR Electric Kit

A complete set of genuine Maneurop compressor electrics to suit models as shown in table below.

### CSR Electric Kit

CODE	PART NO	TO SUIT MODEL
I710	CSR-2/631	18, 22 and 28
I711	CSR-2/633	32 and 36



## Crankcase Heater & Heat Transfer Paste

A PTC crankcase heater is recommended on all Maneurop compressors.

PTC crankcase heaters are self-regulating.

CODE	PART NO	TO SUIT MODEL
I714	30 Watt Heater	All Models
I715	Heat Transfer Paste	



## Maneurop Mineral or Ester Oils

Genuine Maneurop Mineral Oil available in 2 litre container for MT Models and genuine Maneurop Ester Oils available in 2.5 litre container for MTE/Z model compressors.

CODE	PART NO	TO SUIT MODEL
I718	2.0 L Mineral Oil 160P	MT Models
I719	2.5 L Ester Oil 160PZ	MTE/Z Models
M072	2.0 L Ester Oil 160SZ	(NOT MLZ) LTZ, NTZ Models



## Maneurop Rotolock Valves

Rotolock valves to suit models as listed below.

**Please Note:** PTFE Gaskets are not included.

CODE	PART NO	TO SUIT MODEL
I722	3/8 Discharge	18 to 28
I723	1/2 Suction	18 to 40
I726	5/8 Suction	32 to 40
I728	3/4 Discharge	44 to 80
I729	7/8 Suction	44 to 80
I731	7/8 Discharge	100 to 160
I732	1-1/8 Suction	100 to 160



## Maneurop Rotolock Gasket Sets

Assorted multi-pack of Maneurop gaskets.

1 x 1", 1 x 1-1/4", and 1 x 1-3/4" white rotolock gaskets plus 1 x oil sight glass gasket (black).

All 1-2-4 cylinder models; all VTZ models; MFZ166, LFZ166.

CODE	PART NO	DESCRIPTION
I735	8156009	1 x 1", 1 x 1-1/4" & 1 x 1-3/4" White Rotolock Gaskets. Plus 1 x Black Sight glass Gasket





# BAHCO

## PREMIUM QUALITY HAND TOOLS



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## CONDENSING UNITS & UNIT HOUSING

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SECTION

## Tecumseh Condensing Units

The standard range of Tecumseh condensing units are listed below. We also offer standard housed units and low noise housed units.



*Tecumseh*

### 1PH - HBP R404A/R452A/R449A\*

CODE	MODEL	APPROX HP	DISP. C.C.
J705	AE4425ZHR	1/5	4.24
J706	AE4430ZHR	1/4	5.77
J708	AE4440ZHR	1/3	7.55
J709	AE4450ZHR	3/8	9.40
J710	AE4460ZHR	1/2	11.30
J711	AE4470ZHR	5/8	13.30
J712	CAJN9480ZMHR	5/8	15.20
J713	CAJN9510ZMHR	3/4	18.30
J714	CAJN9513ZMHR	1	24.20
J715	CAJN4517ZHR	1-1/4	25.95
J719	CAJN4519ZHR	1-1/2	34.45
J717	FHT4522ZHR-XC	1-5/8	39.60
J778	FHT4524ZHR-XC	2	43.30
J779	FHT4532ZHR-XC	2-1/2	50.60
J724	FHT4538ZHR-XC	3-1/2	63.00



### 3PH - HBP R404A/R452A/R449A\*

CODE	MODEL	APPROX HP	DISP. C.C.
J720	TAJN9510ZMHR	3/4	18.30
J721	TAJN9513ZMHR	1	24.20
J722	TAJN4517ZHR	1-1/4	25.95
J723	TAJN4519ZHR	1-1/2	34.45
J726	FHT4522ZHR-XG	1-5/8	39.60
J725	FHT4524ZHR-XG	2	43.30
J727	FHT4532ZHR-XG	2-1/2	56.65
J729	FHT4538ZHR-XG	3	63.00
J731	TAGT4546ZHR	4	90.20
J733	TAGT4553ZHR	4-1/2	100.70
J735	TAGT4561ZHR	5	112.50
J737	TAGT4568ZHR	6	124.40
J738	TAGT4573ZHR	6-1/2	134.80
J739	TAGT4581ZHR	7	145.00



*Tecumseh*

### 1PH - HBP R134a/R513A\*

CODE	MODEL	APPROX HP	DISP. C.C.
J743	AE4425YHR	1/5	6.69
J744	AE4430YHR	1/4	8.02
J746	AE4440YHR	1/3	10.33
J747	AE4450YHR	3/8	13.24
J742	AE4456YHR	3/8	14.51
J745	AE4460YHR	1/2	15.09
J748	CAJN4452YHR	3/8	15.20
J749	CAJN4461YHR	1/2	18.30
J752	CAJN4476YHR	5/8	22.80
J750	CAJN4492YHR	3/4	25.90
J751	CAJN4511YHR	1	32.70
J754	CAJN4513YHR	1	34.45
J781	FHT4518YHR-XC	1-1/2	48.50
J783	FHT4525YHR-XC	2	63.00



\*R513A/R452A/R449A selections, refer to Tecumseh Guidelines

## Tecumseh Condensing Units

### 3PH - HBP R134a/R513A\*

CODE	MODEL	APPROX HP	DISP. C.C.
J757	TAJN4511YHR	1	32.70
J758	TFHT4518YHR	1-1/2	53.20
J760	TFHT4525YHR	2	74.25
J761	TAGT4528YHR	2-1/4	90.20
J759	TAGT4534YHR	2-3/4	100.70
J763	TAGT4537YHR	3-1/4	112.50
J764	TAGT4543YHR	3-1/2	124.40
J768	TAGT4547YHR	4	135.00



*Tecumseh*



### 1PH - LBP R404A/R452A\*

CODE	MODEL	APPROX HP	DISP. C.C.
J770	AE2410ZBR	1/4	5.02
J772	AE2415ZBR	3/8	7.33
J765	AE2420ZBR	1/2	11.30
J776	AE2425ZBR	5/8	12.01
J767	CAJN2428ZBR	3/4	15.20
J769	CAJN2432ZBR	3/4	18.30
J777	CAJN 2440ZBR	1	21.00
J771	CAJN2446ZBR	1-1/4	26.20
J773	CAJN2464ZBR	1-1/2	34.50
J787	FHT2480ZBR-XC	2	54.30
J791	FHT2511ZBR-XC	2-1/2	68.00

### 3PH - LBP R404A/R452A\*

CODE	MODEL	APPROX HP	DISP. C.C.
J780	TAJN2446ZBR	1-1/4	26.20
J782	TAJN2464ZBR	1-1/2	34.45
J784	FHT2480ZBR-XG	2	54.30
J793	FHT2511ZBR-XG	2-1/2	68.00
J792	TAGT2513ZBR	3-1/2	100.70
J788	TAGT2516ZBR	4	112.50
J790	TAGT2522ZBR	5-1/2	135.00
J794	TAGT2525ZBR	6	145.00

\*R513A/R452A/R449A selections, refer to Tecumseh Guidelines

## Tecumseh Condensing Units (Optional Extras)

Optional variable fan speed kit (see below for specific models)

CODE	PART NO	DESIGNATION	TO SUIT
J7000	8587000	Variable fan speed kit. AC Fan, 10bar, R134a	Standard Units* and Wintsys (S and M) Single Phase Models Only
J7002	8587001	Variable fan speed kit. AC Fan, 16bar, R404A	Standard Units* and Wintsys (S and M) Single Phase Models Only
J7005	8687300	Variable fan speed kit. 230V ESM Fan, 250/300mm ø 10bar, R134a	AJ Silence Units - Except CAJN/TAJN 4517 and 4519. Single Phase Models Only
J7007	8687301	Variable fan speed kit. 230V ESM Fan, 250/300mm ø 16bar, R404A	AJ Silence Units - Except CAJN/TAJN 4517 and 4519. Single Phase Models Only
J7010	8587002	Variable fan speed kit. EC Fan, 350mm ø, 10bar, R134a	AJ Silence Units - Models CAJN/TAJN 4517 and 4519. Single Phase Models Only
J7012	8587003	Variable fan speed kit. EC Fan, 350mm ø, 16bar, R404A	AJ Silence Units - Models CAJN/TAJN 4517 and 4519. Single Phase Models Only

\*TH/AE<sup>2</sup>/AJ<sup>2</sup> (Except Silence range) /FH/AG and VS Families

# Tecumseh Condensing Unit Data

MODEL	Dimensions mm			Connections		Sound Power	Horse Power	Net Weight kg	Voltage
	Length	Width	Height	Suction	Liquid				
AET4425YHR-FZ	404	322	257	3/8"	1/4"	59	1/5	18.9	220 - 240V 1~ 50 Hz
AE4430YHR-FZ	404	322	257	3/8"	1/4"	59	1/4	15.2	220 - 240V 1~ 50 Hz
AE4440YHR-FZ	404	322	257	3/8"	1/4"	59	1/3	19.3	220 - 240V 1~ 50 Hz
AE4450YHR-FZ	501	346	303	3/8"	1/4"	69	1/2	19.3	220 - 240V 1~ 50 Hz
AE4456YHR-FZ	501	346	303	3/8"	1/4"	69	1/2	25	220 - 240V 1~ 50 Hz
AE4460YHR-FZ	501	346	303	3/8"	1/4"	69	1/2	25.4	220 - 240V 1~ 50 Hz
CAJN4452YHR-FZ	511	345	304	1/2"	1/4"	58	1/2	29	220 - 240V 1~ 50 Hz
CAJN4461YHR-FZ	511	345	304	1/2"	1/4"	58	1/2	29	220 - 240V 1~ 50 Hz
CAJN4476YHR-FZ	488	432	340	1/2"	3/8"	62	3/4	29	220 - 240V 1~ 50 Hz
CAJN4492YHR-FZ	488	432	340	1/2"	3/8"	63	3/4	34	220 - 240V 1~ 50 Hz
CAJN4511YHR-FZ	488	432	340	5/8"	3/8"	64	1	35	220 - 240V 1~ 50 Hz
TAJN4511YHR-TZ	488	432	340	5/8"	3/8"	64	1	33	400V 3~ 50 Hz / 440V 3~ 60 Hz
CAJN4513YHR-FZ	608	513	437	5/8"	3/8"	70	1	41	220 - 240V 1~ 50 Hz
FHT4518YHR-XC	607	512	436	5/8"	3/8"	73	1-1/2	48	220 - 240V 1~ 50 Hz
FHT4518YHR-TX	607	512	436	5/8"	3/8"	73	1-1/2	49	400V 3~ 50Hz
FHT4525YHR-XC	607	512	436	5/8"	3/8"	73	2	49	220 - 240V 1~ 50 Hz
FHT4525YHR-TX	607	512	436	5/8"	3/8"	74	2	50	400V 3~ 50Hz
TAGT4528YHR-TZ	685	591	555	7/8"	3/8"	81	2-1/2	72	400V 3~ 50 Hz / 440V 3~ 60 Hz
TAGT4534YHR-TZ	685	591	555	7/8"	3/8"	83	3	75	400V 3~ 50 Hz / 440V 3~ 60 Hz
TAGT4537YHR-TZ	685	591	555	7/8"	3/8"	80	3	74	400V 3~ 50 Hz / 440V 3~ 60 Hz
TAGT4543YHR-TZ	707	591	555	7/8"	3/8"	81	3-1/2	76	400V 3~ 50 Hz / 440V 3~ 60 Hz
TAGT4547YHR-TZ	642	760	608	1-1/8"	1/2"	75	6	87	400V 3~ 50 Hz / 440V 3~ 60 Hz
AET4425ZHR-FZ	404	322	257	3/8"	1/4"	62	1/5	19	220 - 240V 1~ 50 Hz
AET4430ZHR-FZ	404	322	257	3/8"	1/4"	59	1/4	19.3	220 - 240V 1~ 50 Hz
AET4440ZHR-FZ	501	346	303	3/8"	1/4"	69	1/3	23.9	220 - 240V 1~ 50 Hz
AET4450ZHR-FZ	501	346	303	3/8"	1/4"	69	1/2	24.9	220 - 240V 1~ 50 Hz
AET4460ZHR-FZ	496	433	338	3/8"	1/4"	69	1/2	24.8	220 - 240V 1~ 50 Hz
AET4470ZHR-FZ	496	433	338	3/8"	1/4"	70	1/2	27.6	220 - 240V 1~ 50 Hz
CAJN9480ZMHR-FZ	488	432	340	1/2"	3/8"	64	1	33	220 - 240V 1~ 50 Hz
CAJN9510ZMHR-FZ	488	432	340	5/8"	3/8"	65	1-1/4	33	220 - 240V 1~ 50 Hz
TAJN9510ZMHR-TZ	488	432	340	5/8"	3/8"	67	1-1/4	31	400V 3~ 50 Hz / 440V 3~ 60 Hz
CAJN9513ZMHR-FZ	488	432	340	5/8"	3/8"	65	1-3/4	34	220 - 240V 1~ 50 Hz
TAJN9513ZMHR-TZ	488	432	340	5/8"	3/8"	65	1-3/4	32	400V 3~ 50 Hz / 440V 3~ 60 Hz
CAJN4517ZHR-FZ	608	513	437	5/8"	3/8"	71	1-1/2	44	220 - 240V 1~ 50 Hz
TAJN4517ZHR-TZ	608	513	437	5/8"	3/8"	70	1-1/2	40	400V 3~ 50 Hz / 440V 3~ 60 Hz
CAJN4519ZHR-FZ	608	513	437	5/8"	3/8"	72	1-1/2	44	220 - 240V 1~ 50 Hz
TAJN4519ZHR-TZ	608	513	437	5/8"	3/8"	71	1-1/2	41	400V 3~ 50Hz / 440V 3~ 60 Hz
FHT4522ZHR-XC	607	512	436	5/8"	3/8"	74	1-3/4	52	220 - 240V 1~ 50 Hz
FHT4522ZHR-TX	607	512	436	5/8"	3/8"	75	1-3/4	52	400V 3~ 50 Hz
FHT4524ZHR-XC	643	592	540	5/8"	3/8"	80	2	61	220 - 240V 1~ 50 Hz
FHT4524ZHR-TX	643	592	540	5/8"	3/8"	80	2	61	400V 3~ 50 Hz
FHT4532ZHR-XC	643	592	540	7/8"	1/2"	81	2-1/2	66	220 - 240V 1~ 50 Hz
FHT4532ZHR-TX	643	592	540	7/8"	1/2"	80	2-1/2	66	400V 3~ 50 Hz
FHT4538ZHR-XC	643	592	540	7/8"	1/2"	81	1/2	67	220 - 240V 1~ 50 Hz
FHT4538ZHR-TX	643	592	540	7/8"	1/2"	81	1/2	68	400V 3~ 50 Hz
TAGT4546ZHR-TZ	615	1060	555	7/8"	1/2"	86	4	100	400V 3~ 50 Hz / 440V 3~ 60 Hz
TAGT4553ZHR-TZ	615	1060	555	7/8"	5/8"	85	4-1/2	101	400V 3~ 50 Hz / 440V 3~ 60 Hz
TAGT4561ZHR-TZ	615	1060	555	1-1/8"	5/8"	86	5	101	400V 3~ 50 Hz / 440V 3~ 60 Hz
TAGT4568ZHR-TZ	615	1060	555	1-1/8"	5/8"	85	5-1/2	102	400V 3~ 50 Hz / 440V 3~ 60 Hz
TAGT4573ZHR-TZ	615	1060	555	1-1/8"	5/8"	85	6	107	400V 3~ 50 Hz / 440V 3~ 60 Hz
TAGT4581ZHR-TZ	615	1060	555	1-1/8"	5/8"	86	6-1/2	107	400V 3~ 50 Hz / 440V 3~ 60 Hz
AET2415ZBR-FZ	398	312	237	3/8"	1/4"	59	1/3	19.40	220 - 240V 1~ 50 Hz
AET2420ZBR-FZ	404	322	25	3/8"	1/4"	58	1/2	19.40	220 - 240V 1~ 50 Hz
AET2425ZBR-FZ	501	346	303	3/8"	1/4"	65	1/2	25.50	220 - 240V 1~ 50 Hz
CAJN2428ZBR-FZ	511	345	304	1/2"	1/4"	57	3/4	30.00	220 - 240V 1~ 50 Hz
CAJN2432ZBR-FZ	511	345	304	1/2"	1/4"	59	3/4	30.00	220 - 240V 1~ 50 Hz
CAJN2440ZBR-FZ	488	432	340	1/2"	3/8"	58	1	32.00	220 - 240V 1~ 50 Hz
CAJN2446ZBR-FZ	488	432	340	1/2"	3/8"	62	1-1/4	33.00	220 - 240V 1~ 50 Hz
TAJN2446ZBR-TZ	488	432	340	1/2"	3/8"	64	1-1/4	33.00	400V 3~ 50 Hz / 440V 3~ 60 Hz
CAJN2464ZBR-FZ	488	432	340	5/8"	3/8"	64	1-1/2	34.00	220 - 240V 1~ 50 Hz
TAJN2464ZBR-TZ	488	432	340	5/8"	3/8"	65	1-1/2	34.00	400V 3~ 50 Hz / 440V 3~ 60 Hz
FHT2480ZBR-XC	607	512	436	5/8"	3/8"	74	2	52.00	220 - 240V 1~ 50 Hz
FHT2511ZBR-XC	607	512	436	5/8"	3/8"	76	2-1/2	53.00	220 - 240V 1~ 50 Hz
TAGT2513ZBR-TZ	685	591	540	7/8"	3/8"	82	3	73.00	400V 3~ 50 Hz / 440V 3~ 60 Hz
TAGT2516ZBR-TZ	685	710	540	7/8"	3/8"	81	4	79.00	400V 3~ 50 Hz / 440V 3~ 60 Hz
TAGT2522ZBR-TZ	642	760	608	1-1/8"	3/8"	79	5-1/2	86.00	400V 3~ 50 Hz / 440V 3~ 60 Hz
TAGT2525ZBR-TZ	685	755	60	1-1/8"	1/2"	84	6	87.00	400V 3~ 50 Hz / 440V 3~ 60 Hz

# Tecumseh Condensing Unit Performance Data

## R134a/R513A\* HBP Capacity Data

\* For R513A Capacity Data Contact **FSW** Technical Department

MODEL	FULL LOAD CURRENT (A)	VOLTAGE CODE*	COOLING CAPACITY IN W EN13215, AMBIENT TEMP. 32°C, SUPERHEATING 10K SUBCOOLING 3K EVAPORATING TEMPERATURE (DEW)						
			-15°C	-10°C	-5°C	0°C	+5°C	+10°C	+15°C
			AET4425YHR-FZ	2.6	FZ	224	298	382	477
AE4430YHR-FZ	3.3	FZ	297	381	478	589	713	849	998
AE4440YHR-FZ	3.9	FZ	385	481	590	712	847	995	1155
AE4450YHR-FZ	5	FZ	513	643	788	951	1131	1328	1542
AE4456YHR-FZ	6.2	FZ	569	713	875	1057	1258	1481	1724
AE4460YHR-FZ	5.1	FZ	587	738	907	1096	1304	1534	1785
CAJN4452YHR-FZ	5.6	FZ	444	575	723	885	1061	1250	1449
CAJN4461YHR-FZ	5.9	FZ	541	685	846	1024	1218	1425	1646
CAJN4476YHR-FZ	7.1	FZ	700	915	1162	1442	1756	2104	2488
CAJN4492YHR-FZ	9.1	FZ	864	1120	1410	1733	2088	2474	2887
CAJN4511YHR-FZ	8.8	FZ	1104	1396	1718	2067	2439	2831	3240
TAJN4511YHR-TZ	3.5   3.5	TZ	1078	1373	1696	2044	2416	2806	3213
CAJN4513YHR-FZ	10.5	FZ	1295	1669	2101	2595	3154	3781	4479
FHT4518YHR-XC	11.1	XC	1637	2170	2789	3498	4296	5179	6141
FHT4518YHR-TX	5.3	TX	1586	2096	2690	3370	4141	5002	5955
FHT4525YHR-XC	14.4	XC	2113	2784	3554	4423	5388	6439	7565
FHT4525YHR-TX	6.3	TX	2058	2714	3469	4324	5273	6310	7422
TAGT4528YHR-TZ	11.1   10.1	TZ	1979	2846	3866	5010	6253	7572	8948
TAGT4534YHR-TZ	11.5   12.1	TZ	2718	3670	4792	6056	7438	8916	10479
TAGT4537YHR-TZ	11.1   11.5	TZ	3116	4131	5331	6684	8164	9749	11431
TAGT4534YHR-TZ	11.5   12.1	TZ	2718	3670	4792	6056	7438	8916	10479
TAGT4547YHR-TZ	11.6   11.5	TZ	3930	5153	6538	8084	9788	11652	13679

\* FZ = 220-240V-50Hz TZ = 400V-3PH-50Hz \* XC = 220-240V-50Hz TX = 400V-3PH-50Hz

## R404A HBP Capacity Data

MODEL	FULL LOAD CURRENT (A)	VOLTAGE CODE*	COOLING CAPACITY IN W EN13215, AMBIENT TEMP. 32°C, SUPERHEATING 10K SUBCOOLING 3K EVAPORATING TEMPERATURE (DEW)				
			-15°C	-10°C	-5°C	0°C	+5°C
			AET4425ZHR-FZ	3.0	FZ	258	323
AET4430ZHR-FZ	3.1	FZ	315	392	479	575	682
AET4440ZHR-FZ	4.1	FZ	432	535	652	784	930
AET4450ZHR-FZ	5.5	FZ	545	666	799	944	1101
AET4460ZHR-FZ	6.5	FZ	721	880	1059	1261	1488
AET4470ZHR-FZ	5.9	FZ	840	1020	1222	1448	1700
CAJN9480ZMHR-FZ	6.9	FZ	877	1084	1315	1571	1852
TAJN9480ZMHR-TZ	3.2   3.1	TZ	889	1103	1342	1608	1901
CAJN9510ZMHR-FZ	8.6	FZ	1058	1295	1557	1845	2159
TAJN9510ZMHR-TZ	3.2   3.2	TZ	1065	1301	1562	1847	2159
CAJN9513ZMHR-FZ	11.5	FZ	1277	1569	1884	2219	2572
TAJN9513ZMHR-TZ	4.1   4.1	TZ	1226	1507	1812	2139	2489
CAJN4517ZHR-FZ	13.5	FZ	1629	2000	2415	2876	3386
TAJN4517ZHR-TZ	4.4   4.7	TZ	1619	2015	2454	2937	3468
CAJN4519ZHR-FZ	16.0	FZ	2023	2491	3002	3553	4148
TAJN4519ZHR-TZ	5.6   5.5	TZ	2025	2471	2957	3482	4046
FHT4522ZHR-XC	14.4	XC	2237	2813	3445	4123	4831
FHT4522ZHR-TX	5.8	XG	2149	2726	3365	4055	4781
FHT4524ZHR-XC	17.2	XC	2432	3057	3750	4509	5331
FHT4524ZHR-TX	7.8	XG	2338	2966	3666	4436	5270
FHT4532ZHR-XC	21.9	XC	2973	3743	4591	5512	6505
FHT4532ZHR-TX	7.8	XG	2937	3669	4477	5359	6315
FHT4538ZHR-XC	27.0	XC	3733	4650	5666	6784	8005
FHT4538ZHR-TX	9.7	XG	3841	4773	5800	6922	8145
TAGT4546ZHR-TZ	15.6   15.3	TZ	4563	5907	7429	9127	10998
TAGT4553ZHR-TZ	16.3   17	TZ	5100	6544	8162	9948	11901
TAGT4561ZHR-TZ	17.6   17.7	TZ	5870	7419	9151	11061	13148
TAGT4568ZHR-TZ	20.1   20.5	TZ	6682	8346	10204	12256	14509
TAGT4573ZHR-TZ	21.3   21.3	TZ	7596	9448	11482	13703	16135
TAGT4581ZHR-TZ	23.1   24.4	TZ	8324	10242	12350	14642	17118

\* FZ = 220-240V-50Hz TZ = 400V-3PH-50Hz \* XC = 220-240V-50Hz TX = 400V-3PH-50Hz

## R452A HBP Capacity Data

MODEL	FULL LOAD CURRENT (A)	VOLTAGE CODE*	COOLING CAPACITY IN W EN13215, AMBIENT TEMP. 32°C, SUPERHEATING 10K SUBCOOLING 3K EVAPORATING TEMPERATURE (DEW)				
			-15°C	-10°C	-5°C	0°C	+5°C
			AET4425ZHR-FZ	3	FZ	246	311
AET4430ZHR-FZ	3.1	FZ	301	378	465	563	672
AET4440ZHR-FZ	4.1	FZ	412	516	634	768	917
AET4450ZHR-FZ	5.5	FZ	521	643	779	929	1093
AET4460ZHR-FZ	6.5	FZ	689	848	1028	1233	1464
AET4470ZHR-FZ	5.9	FZ	803	986	1191	1420	1677
CAJN9480ZMHR-FZ	6.9	FZ / TZ	837	1044	1278	1538	1826
TAJN9480ZMHR-TZ	3.2   3.1	FZ / TZ	774	990	1247	1551	1913
CAJN9510ZMHR-FZ	8.6	FZ / TZ	1010	1249	1515	1809	2133
TAJN9510ZMHR-TZ	3.2   3.2	FZ / TZ	1017	1255	1520	1812	2134
CAJN9513ZMHR-FZ	11.5	FZ / TZ	1216	1511	1832	2177	2544
TAJN9513ZMHR-TZ	4.1   4.1	FZ / TZ	1168	1452	1762	2099	2463
CAJN4517ZHR-FZ	13.5	FZ / TZ	1554	1926	2344	2812	3333
TAJN4517ZHR-TZ	4.4   4.7	FZ / TZ	1542	1938	2380	2870	3412
CAJN4519ZHR-FZ	16	FZ / TZ	1929	2400	2916	3479	4091
TAJN4519ZHR-TZ	5.6   5.5	FZ / TZ	1932	2382	2875	3412	3995
FHT4522ZHR-XC	14.4	XC	2003	2560	3171	3830	4527
FHT4522ZHR-XG	5.8	XG	1905	2458	3072	3741	4454
FHT4524ZHR-XC	17.2	XC	2163	2764	3430	4161	4960
FHT4524ZHR-XG	7.8	XG	2073	2674	3345	4086	4896
FHT4532ZHR-XC	21.9	XC	2648	3396	4218	5114	6084
FHT4532ZHR-XG	7.8	XG	2628	3334	4112	4963	5889
FHT4538ZHR-XC	27	XC	3348	4235	5216	6295	7479
FHT4538ZHR-XG	9.7	XG	3453	4344	5326	6402	7579
TAGT4546ZHR-TZ	15.6   15.3	TZ	4340	5719	7277	9012	10929
TAGT4553ZHR-TZ	16.3   17.0	TZ	4925	6431	8112	9968	12000
TAGT4561ZHR-TZ	17.6   17.7	TZ	5652	7281	9087	11068	13234
TAGT4568ZHR-TZ	20.1   20.5	TZ	6502	8238	10165	12293	14647
TAGT4573ZHR-TZ	21.3   21.3	TZ	7337	9283	11429	13780	16363
TAGT4581ZHR-TZ	23.1   24.4	TZ	7712	9655	11790	14116	16645

\* FZ = 220-240V-50Hz TZ = 400V-3PH-50Hz \* XC = 220-240V-50Hz TX = 400V-3PH-50Hz

## R449A HBP Capacity Data

MODEL	FULL LOAD CURRENT (A)	VOLTAGE CODE*	COOLING CAPACITY IN W EN13215, AMBIENT TEMP. 32°C, SUPERHEATING 10K SUBCOOLING 3K EVAPORATING TEMPERATURE (DEW)				
			-15°C	-10°C	-5°C	0°C	+5°C
			AET4425ZHR-FZ	3	FZ	229	293
AET4430ZHR-FZ	3.1	FZ	281	357	445	543	654
AET4440ZHR-FZ	4.1	FZ	379	484	604	740	895
AET4450ZHR-FZ	5.5	FZ	486	613	754	912	1085
AET4460ZHR-FZ	6.5	FZ	634	792	974	1182	1417
AET4470ZHR-FZ	5.9	FZ	745	929	1136	1370	1632
CAJN9480ZMHR-FZ	6.9	FZ / TZ	779	986	1222	1488	1785
TAJN9480ZMHR-TZ	3.2   3.1	FZ / TZ	789	1003	1247	1523	1834
CAJN9510ZMHR-FZ	8.6	FZ / TZ	944	1186	1458	1764	2105
TAJN9510ZMHR-TZ	3.2   3.2	FZ / TZ	950	1192	1464	1769	2109
CAJN9513ZMHR-FZ	11.5	FZ / TZ	1147	1445	1774	2135	2530
TAJN9513ZMHR-TZ	4.1   4.1	FZ / TZ	1087	1376	1698	2055	2450
CAJN4517ZHR-FZ	13.5	FZ / TZ	1443	1814	2236	2711	3247
TAJN4517ZHR-TZ	4.4   4.7	FZ / TZ	1427	1822	2266	2763	3319
CAJN4519ZHR-FZ	16	FZ / TZ	1794	2268	2793	3374	4015
TAJN4519ZHR-TZ	5.6   5.5	FZ / TZ	1797	2252	2758	3315	3929
FHT4522ZHR-XC	14.4	XC	1981	2570	3235	3976	4791
FHT4522ZHR-XG	5.8	XG	1883	2468	3136	3887	4720
FHT4524ZHR-XC	17.2	XC	2141	2778	3500	4312	5217
FHT4524ZHR-XG	7.8	XG	2049	2683	3408	4229	5147
FHT4532ZHR-XC	21.9	XC	2592	3385	4285	5295	6413
FHT4532ZHR-XG	7.8	XG	2592	3342	4192	5144	6202
FHT4538ZHR-XC	27	XC	3314	4251	5310	6501	7832
FHT4538ZHR-XG	9.7	XG	3410	4370	5450	6656	7996
TAGT4546ZHR-TZ	15.6   15.3	TZ	3825	5133	6663	8420	10401
TAGT4553ZHR-TZ	16.3   17.0	TZ	4306	5730	7379	9256	11354
TAGT4561ZHR-TZ	17.6   17.7	TZ	5130	6643	8364	10300	12461
TAGT4568ZHR-TZ	20.1   20.5	TZ	5874	7530	9417	11554	13960
TAGT4573ZHR-TZ	21.3   21.3	TZ	6540	8398	10526	12932	15617
TAGT4581ZHR-TZ	23.1   24.4	TZ	7121	9079	11285	13747	16468

\* FZ = 220-240V-50Hz TZ = 400V-3PH-50Hz \* XC = 220-240V-50Hz TX = 400V-3PH-50Hz

# Tecumseh Condensing Unit Performance Data



## R404A LBP Capacity Data

MODEL	FULL LOAD CURRENT (A)	VOLTAGE CODE*	COOLING CAPACITY IN W EN13215, AMBIENT TEMP. 32°C, SUPERHEATING 10K SUBCOOLING 3K EVAPORATING TEMPERATURE (DEW)				
			-30°C	-25°C	-20°C	-15°C	-10°C
			AET2415ZBR-FZ	3.2	FZ	208	263
AET2420ZBR-FZ	4.6	FZ	271	347	432	526	628
AET2425ZBR-FZ	4.6	FZ	359	456	565	685	817
CAJN2428ZBR-FZ	5.7	FZ	339	442	561	694	844
CAJN2432ZBR-FZ	6	FZ	415	536	673	824	991
CAJN2440ZBR-FZ	5.8	FZ	577	756	962	1194	1453
CAJN2446ZBR-FZ	8.4	FZ	707	907	1129	1370	1629
TAJN2446ZBR-TZ	3.3   3.6	TZ	675	868	1083	1320	1575
CAJN2464ZBR-FZ	10.8	FZ	881	1109	1361	1634	1924
TAJN2464ZBR-TZ	4   4.2	TZ	875	1101	1349	1614	1893
FHT2480ZBR-XC	12.4	XC	1591	2084	2647	3281	3987
FHT2480ZBR-XG	7	XG	1484	1935	2443	3011	3649
FHT2511ZBR-XC	24.4	XC	2168	2838	3578	4397	5319
FHT2511ZBR-XG	8.7	XG	2010	2647	3359	4148	5022
TAGT2513ZBR-TZ	9.3   9.7	TZ	2092	2810	3632	4550	5553
TAGT2516ZBR-TZ	10.2   10.3	TZ	2681	3582	4605	5746	7005
TAGT2522ZBR-TZ	14.2   14.6	TZ	3306	4353	5542	6872	8343
TAGT2525ZBR-TZ	14.1   14.1	TZ	3589	4676	5888	7220	8671

\* FZ = 220-240V-50Hz TZ = 400V-3PH-50Hz \* XC = 220-240V-50Hz TX = 400V-3PH-50Hz

## R452A LBP Capacity Data



MODEL	FULL LOAD CURRENT (A)	VOLTAGE CODE*	COOLING CAPACITY IN W EN13215, AMBIENT TEMP. 32°C, SUPERHEATING 10K SUBCOOLING 3K EVAPORATING TEMPERATURE (DEW)				
			-30°C	-25°C	-20°C	-15°C	-10°C
			AET2415ZBR-FZ	3.2	FZ	197	253
AET2420ZBR-FZ	4.6	FZ	252	327	412	509	616
AET2425ZBR-FZ	4.6	FZ	333	430	540	664	801
CAJN2428ZBR-FZ	5.7	FZ	314	415	533	669	824
CAJN2432ZBR-FZ	6	FZ	377	495	632	787	962
CAJN2440ZBR-FZ	5.8	FZ	535	711	915	1149	1415
CAJN2446ZBR-FZ	8.4	FZ	656	852	1074	1320	1590
TAJN2446ZBR-TZ	3.3   3.6	TZ	626	815	1030	1271	1538
CAJN2464ZBR-FZ	10.8	FZ	820	1048	1304	1588	1902
TAJN2464ZBR-TZ	4   4.2	TZ	815	1040	1292	1569	1871
FHT2480ZBR-XC	12.4	XC	1260	1646	2086	2600	3204
FHT2480ZBR-XG	7	XG	1284	1714	2202	2752	3374
FHT2511ZBR-XC	24.4	XC	1858	2504	3229	4037	4943
FHT2511ZBR-XG	8.7	XG	1722	2335	3028	3802	4662
TAGT2513ZBR-TZ	9.3   9.7	TZ	1992	2758	3628	4596	5667
TAGT2516ZBR-TZ	10.2   10.3	TZ	2357	3214	4191	5294	6535
TAGT2522ZBR-TZ	14.2   14.6	TZ	3046	4077	5260	6603	8125
TAGT2525ZBR-TZ	14.1   14.1	TZ	3357	4448	5673	7039	8562

\* FZ = 220-240V-50Hz TZ = 400V-3PH-50Hz \* XC = 220-240V-50Hz TX = 400V-3PH-50Hz



Tecumseh



## Tecumseh/L'Unite Hermetique Condensing Unit Spares

### Replacement Fan Motors for Original L'Unite Hermetique Condensing Units

(see below for specific models)



CODE	PART NO	DESIGNATION	TO SUIT
JS700	8668733	1ph 240V	AEZ9440ZMHR, CAE9540ZMHR, CAE9460ZMHR, CAE4448YHR CAJ4452YHR, CAJ4461YHR, CAJ2428ZBR, CAJ2432ZBR
JS701	8668734	1ph 240V	CAE9470ZMHR, CAJ9480ZMHR, T/CAJ9510ZMHR, T/CAJ9513ZMHR CAJ4476YHR, CAJ4492YHR, T/CAJ4511YHR, T/CAJ2446ZBR, T/CAJ2464ZBR.
JS702	8668594	1ph 240V	T/CAJ4517ZHR, T/CAJ4519ZHR, T/FH4524ZHR, T/FH4531ZHR, T/FH4540ZHR, T/FH4518YHR, T/FH4525YHR, T/FH2480ZBR, T/FH2511ZBR, TAG2516ZBR/, TAG2522ZBR.



### Replacement Fan Motor for the Tecumseh AJ2 Silence Condensing Units

(see below for specific models)

CODE	PART NO	DESIGNATION	TO SUIT
JS760	8551136	250MM EC FAN 230V 50/60HZ	CAJN4452YHR/ CAJN4461YHR/ TAJN4461YHR/ CAJN2432ZBR/ CAJN2428ZBR/ TAJN2428ZBR/ CAJN2440ZBR
JS761	8551137	300MM EC FAN 230V 50/60HZ	CAJN4476YHR/ CAJN4492YHR/ CAJN4511YHR/ TAJN4492YHR/ TAJN4511YHR/ CAJN2446ZBR/ TAJN2446ZBR/ CAJN2464ZBR/ TAJN2464ZBR/ CAJN9480ZMHR/ TAJN9480ZMHR/ CAJN9510ZMHR/ TAJN9510ZMHR/ CAJN9513ZMHR/ TAJN9513ZMHR
JS762	8551135	350MM EC FAN 230V 50/60HZ	CAJN4517ZHR/ TAJN4517ZHR/ CAJN4519ZHR/ TAJN4519ZHR

### Replacement Condenser for New AJ2 Condensing Units

(see below for specific models)

CODE	PART NO	DESIGNATION	TO SUIT
JS765	8338285	AJ Condenser M350/8200	CAJN4517ZHR/ TAJN4517ZHR/ CAJN4519ZHR/ TAJN4519ZHR
JS767	8338283	AJ Condenser M250/2050	CAJN4452YHR/ CAJN4461YHR/ TAJN4461YHR/ CAJN2432ZBR/ CAJN2428ZBR/ TAJN2428ZBR/ CAJN2440ZBR
JS769	8338284	AJ Condenser M300/3900	CAJN4476YHR/ CAJN4492YHR/ CAJN4511YHR/ TAJN4492YHR/ TAJN4511YHR/ CAJN2446ZBR/ TAJN2446ZBR/ CAJN2464ZBR/ TAJN2464ZBR/ CAJN9480ZMHR/ TAJN9480ZMHR/ CAJN9510ZMHR/ TAJN9510ZMHR/ CAJN9513ZMHR/ TAJN9513ZMHR



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# Tecumseh WINTSYS® Condensing Units

## 1PH - HBP R404A/R452A/R449A\*

CODE	MODEL	APPROX HP	DISP. C.C.
J7040	WINAE4450Z	3/8	13.24
J7041	WINAE4460Z	1/2	15.09
J7043	WINAE4470Z	5/8	13.30
J7044	WINAJ9480Z	5/8	15.20
J7046	WINAJ9510Z	3/4	18.30
J7048	WINAJ9513Z	1	24.20
J7050	WINAJ4517Z	1-1/4	25.95
J7052	WINAJ4519Z	1-1/2	34.45
J7054	WINFH4524ZXC	2	43.30
J7056	WINFH4532ZXC	2-1/2	50.60
J7058	WINFH4538ZXC	3	63.00

\*R452A/R449A selections, refer to Tecumseh Guidelines

## 3PH - HBP R404A/R452A/R449A\*

CODE	MODEL	APPROX HP	DISP. C.C.
J7060	WINFH4524ZXG	2	43.30
J7062	WINFH4532ZXG	2-1/2	50.60
J7064	WINFH4538ZXG	3	63.00

\*R452A/R449A selections, refer to Tecumseh Guidelines

## 1PH - HBP R134a

CODE	MODEL	APPROX HP	DISP. C.C.
J7068	WINAE4450Y	3/8	13.24
J7070	WINAE4460Y	1/2	15.09
J7072	WINAJ4476Y	5/8	21.75
J7074	WINAJ4492Y	3/4	25.95
J7076	WINAJ4511Y	1	32.70
J7077	WINAJ4513Y	1-1/4	34.45
J7078	WINFH4518YXC	1-1/2	48.50
J7080	WINFH4525YXC	2	63.00

## 3PH - HBP R134a

CODE	MODEL	APPROX HP	DISP. C.C.
J7083	WINAJ4518TZ	1-1/2	53.20
J7085	WINAJ4525YTZ	2.0	74.25

## 1PH - LBP R404A/R452A\*

CODE	MODEL	APPROX HP	DISP. C.C.
J7088	WINAE2425Z	1/2	12.01
J7090	WINAJ2440Z	5/8	21.00
J7092	WINAJ2446Z	3/4	26.15
J7094	WINAJ2464Z	1-1/2	34.45
J7045	WINFH2480ZXC	2	54.30
J7047	WINFH2511ZXC	2-1/2	74.25

\*R452A elections, refer to Tecumseh Guidelines

## 3PH - LBP R404A/R452A\*

CODE	MODEL	APPROX HP	DISP. C.C.
J7098	WINFH2480ZXG	2	54.30
J7099	WINFH2511ZXG	2-1/2	68.00

\*R452A selections, refer to Tecumseh Guidelines



**READY-TO-INSTALL  
OUTDOOR CONDENSING UNIT FOR  
MEDIUM AND LOW TEMPERATURE  
APPLICATIONS**

- PRE-WIRED ELECTRICAL BOX
- CRANKCASE HEATER
- ISOLATOR SWITCH
- CONTACTOR
- HIGH/LOW PRESSURE WITH AUTO/MANUAL RESET SWITCH
- DIN RAIL LENGTH INCREASED



# Tecumseh WINTSYS® Condensing Unit Data



MODEL	DIMENSIONS MM			CONNECTIONS		Sound Power	Net Weight, Kg	Horse Power
	LENGTH	WIDTH	HEIGHT	SUCTION	LIQUID			
WINAE4450Y-FZ	942.00	654.00	710.00	3/8"	1/4"	59	53.00	1/2
WINAE4460Y-FZ	942.00	654.00	710.00	3/8"	1/4"	59	53.00	1/2
WINAJ4476Y-FZ	942.00	654.00	710.00	1/2"	3/8"	59	62.00	3/4
WINAJ4492Y-FZ	942.00	654.00	710.00	1/2"	3/8"	58	62.00	3/4
WINAJ4511Y-FZ	942.00	654.00	710.00	5/8"	3/8"	60	63.00	1
WINAJ4513Y-FZ	942.00	654.00	710.00	5/8"	3/8"	59	63.00	1
WINFH4518Y-FZ	1174.00	654.00	710.00	5/8"	3/8"	67	75.00	1-1/2
WINFH4525Y-FZ	1174.00	654.00	710.00	5/8"	3/8"	72	77.00	2
WINAE4450Z-FZ	942.00	654.00	710.00	3/8"	1/4"	58	53.00	1/2
WINAE4460Z-FZ	942.00	654.00	710.00	3/8"	1/4"	59	53.00	1/2
WINAE4470Z-FZ	942.00	654.00	710.00	3/8"	1/4"	60	53.00	1/2
WINAJ9480Z-FZ	942.00	654.00	710.00	1/2"	3/8"	61	62.00	1
WINAJ9510Z-FZ	942.00	654.00	710.00	5/8"	3/8"	61	63.00	1-1/4
WINAJ9513Z-FZ	942.00	654.00	710.00	5/8"	3/8"	61	65.00	1-3/4
WINAJ4517Z-FZ	942.00	654.00	710.00	5/8"	3/8"	61	65.00	1-1/2
WINAJ4519Z-FZ	942.00	654.00	710.00	5/8"	3/8"	63	65.00	1-1/2
WINFH4524Z-FZ	1174.00	654.00	710.00	5/8"	1/2"	72	79.00	2
WINFH4531Z-FZ	1174.00	654.00	710.00	7/8"	1/2"	73	83.00	2-1/2
WINFH4538Z-XC	1174.00	654.00	710.00	7/8"	1/2"	73	80.00	3-1/2
WINAE2425Z-FZ	942.00	654.00	710.00	3/8"	1/4"	57	53.00	1/2
WINAJ2440Z-FZ	942.00	654.00	710.00	1/2"	1/4"	58	61.00	1
WINAJ2446Z-FZ	942.00	654.00	710.00	1/2"	3/8"	58	63.00	1-1/4
WINAJ2464Z-FZ	942.00	654.00	710.00	5/8"	3/8"	59	65.00	1-1/2
WINFH2480Z-FZ	1174.00	654.00	710.00	5/8"	1/2"	70	74.00	2
WINFH2511Z-FZ	1174.00	654.00	710.00	5/8"	1/2"	71	82.00	2-1/2



# Tecumseh WINTSYS® Condensing Unit Performance Data

## R134a - HBP Capacity Data

MODEL	FULL LOAD CURRENT (A)	VOLTAGE CODE*	COOLING CAPACITY IN W						
			EN13215, AMBIENT TEMP. 32°C, SUPERHEATING 10K SUBCOOLING 3K EVAPORATING TEMPERATURE (DEW)						
			-15°C	-10°C	-5°C	0°C	+5°C	+10°C	+15°C
WINAE4450Y-FZ	5.1	FZ	571	730	918	1138	1395	1691	2032
WINAE4460Y-FZ	5	FZ	642	823	1035	1283	1569	1896	2266
WINAJ4476Y-FZ	8.3	FZ	740	975	1250	1571	1943	2369	2856
WINAJ4492Y-FZ	9.4	FZ	947	1235	1571	1960	2404	2908	3474
WINAJ4511Y-FZ	9.1	FZ	1220	1568	1967	2418	2924	3486	4105
WINAJ4513Y-FZ	10.4	FZ	1307	1691	2136	2648	3231	3893	4641
WINFH4518Y-FZ	11.9	FZ	1530	2074	2712	3453	4307	5284	6397
WINFH4518Y-TZ	4.9   5.3	TZ	1548	2091	2730	3473	4330	5308	6421
WINFH4525Y-FZ	15.9	FZ	2262	2963	3768	4685	5718	6875	8166
WINFH4525Y-TZ	7.4   8	TZ	2190	2848	3616	4504	5523	6686	8012

\* FZ = 220-240V-50Hz TZ = 400V-3PH-50Hz \* XC = 220-240V-50Hz XG = 400V-3PH-50Hz

# Tecumseh WINTSYS® Condensing Unit

## Performance Data

### R404A - HBP Capacity Data



MODEL	FULL LOAD CURRENT (A)	VOLTAGE CODE*	COOLING CAPACITY IN W				
			EN13215, AMBIENT TEMP. 32°C, SUPERHEATING 10K SUBCOOLING 3K EVAPORATING TEMPERATURE (DEW)				
			-15°C	-10°C	-5°C	0°C	+5°C
WINAE4450Z-FZ	5.6	FZ	627	790	980	1199	1450
WINAE4460Z-FZ	6.4	FZ	762	942	1152	1394	1673
WINAE4470Z-FZ	7.6	FZ	888	1096	1334	1605	1912
WINAJ9480Z-FZ	7.3	FZ	1014	1266	1556	1888	2265
WINAJ9510Z-FZ	8.9	FZ	1248	1549	1894	2286	2730
WINAJ9513Z-FZ	11.8	FZ	1548	1938	2382	2881	3440
WINAJ4517Z-FZ	13.2	FZ	1671	2066	2512	3012	3575
WINAJ4519Z-FZ	15.5	FZ	2068	2562	3108	3719	4408
WINFH4524Z-XC	16.3	XC	2427	3075	3812	4646	5589
WINFH4524Z-XG	8.4   8.6	XG	2397	3064	3817	4658	5593
WINFH4532Z-XC	21.9	XC	2976	3742	4597	5548	6604
WINFH4532Z-XG	7.8	XG	2974	3713	4545	5481	6534
WINFH4538Z-XC	27.0	XC	3812	4734	5748	6847	8024
WINFH4538Z-XG	9.7	XG	3774	4704	5724	6828	8007
WINFH4544Z-XG	12,6	XG	4290	5329	6459	7675	8978

\* FZ = 220-240V-50Hz TZ = 400V-3PH-50Hz \* XC = 220-240V-50Hz XG = 400V-3PH-50Hz

### R452A - HBP Capacity Data

MODEL	FULL LOAD CURRENT (A)	VOLTAGE CODE*	COOLING CAPACITY IN W				
			EN13215, AMBIENT TEMP. 32°C, SUPERHEATING 10K SUBCOOLING 3K EVAPORATING TEMPERATURE (DEW)				
			-15°C	-10°C	-5°C	0°C	+5°C
WINAE4450Z-FZ	5.6	FZ	598	760	948	1167	1419
WINAE4460Z-FZ	6.4	FZ	728	907	1117	1359	1639
WINAE4470Z-FZ	7.6	FZ	846	1055	1293	1564	1873
WINAJ9480Z-FZ	7.3	FZ	966	1216	1506	1839	2219
WINAJ9510Z-FZ	8.9	FZ	1190	1489	1834	2229	2677
WINAJ9513Z-FZ	11.8	FZ	1475	1862	2306	2808	3373
WINAJ4517Z-FZ	13.2	FZ	1594	1989	2436	2942	3514
WINAJ4519Z-FZ	15.5	FZ	1973	2467	3019	3639	4342
WINFH4524Z-XC	16.3	XC	2154	2773	3473	4267	5167
WINFH4524Z-XG	7	XG	2074	2691	3394	4191	5096
WINFH4532Z-XC	21.9	XC	2760	3540	4417	5398	6495
WINFH4532Z-XG	7.8	XG	2668	3375	4168	5059	6065
WINFH4538Z-XC	27	XC	3731	4387	5321	6460	7732
WINFH4538Z-XG	9.7	XG	3760	4591	5522	6555	7694

\* FZ = 220-240V-50Hz TZ = 400V-3PH-50Hz \* XC = 220-240V-50Hz XG = 400V-3PH-50Hz

\*R452A/R449A selections, refer to Tecumseh Guidelines

### R449A - HBP Capacity Data

MODEL	FULL LOAD CURRENT (A)	VOLTAGE CODE*	COOLING CAPACITY IN W				
			EN13215, AMBIENT TEMP. 32°C, SUPERHEATING 10K SUBCOOLING 3K EVAPORATING TEMPERATURE (DEW)				
			-15°C	-10°C	-5°C	0°C	+5°C
WINAE4450Z-FZ	5.6	FZ	554	712	896	1110	1357
WINAE4460Z-FZ	6.4	FZ	675	852	1057	1295	1571
WINAE4470Z-FZ	7.6	FZ	788	992	1227	1496	1802
WINAJ9480Z-FZ	7.3	FZ	893	1138	1422	1751	2127
WINAJ9510Z-FZ	8.9	FZ	1102	1396	1736	2128	2575
WINAJ9513Z-FZ	11.8	FZ	1361	1742	2181	2681	3248
WINAJ4517Z-FZ	13.2	FZ	1478	1870	2317	2826	3405
WINAJ4519Z-FZ	15.5	FZ	1833	2328	2885	3515	4234
WINFH4524Z-XC	16.3	XC	2127	2769	3505	4347	5309
WINFH4524Z-XG	7	XG	2046	2686	3424	4271	5243
WINFH4532Z-XC	21.9	XC	2691	3502	4433	5493	6695
WINFH4532Z-XG	7.8	XG	2648	3391	4236	5195	6285
WINFH4538Z-XC	27	XC	3461	4450	5521	6698	8002
WINFH4538Z-XG	9.7	XG	3332	4344	5449	6648	7942
WINFH4544Z-XG	12,6	TX	3827	4916	6124	7456	8913

\* FZ = 220-240V-50Hz TZ = 400V-3PH-50Hz \* XC = 220-240V-50Hz XG = 400V-3PH-50Hz

\*R452A/R449A selections, refer to Tecumseh Guidelines

# Tecumseh WINTSYS® Condensing Unit

## Performance Data

### R404A - LBP Capacity Data



MODEL	FULL LOAD CURRENT (A)	VOLTAGE CODE*	COOLING CAPACITY IN W EN13215, AMBIENT TEMP. 32°C, SUPERHEATING 10K SUBCOOLING 3K EVAPORATING TEMPERATURE (DEW)				
			-30°C	-25°C	-20°C	-15°C	-10°C
WINAE2425Z-FZ	4.5	FZ	412	540	690	867	1071
WINAJ2440Z-FZ	6.2	FZ	595	787	1013	1277	1582
WINAJ2446Z-FZ	8.7	FZ	768	999	1270	1586	1951
WINAJ2464Z-FZ	10.9	FZ	1033	1337	1688	2087	2532
WINFH2480Z-FZ	16.7	FZ	1447	1893	2397	2962	3597
WINFH2480Z-TZ	7.0 / 7.1	TZ	1429	1851	2324	2853	3441
WINFH2511Z-FZ	24.7	FZ	1860	2453	3131	3900	4762
WINFH2511Z-TZ	7.9 / 7.9	TZ	1882	2489	3190	3989	4889

\* FZ = 220-240V-50Hz TZ = 400V-3PH-50Hz \* XC = 220-240V-50Hz XG = 400V-3PH-50Hz



### R452A - LBP Capacity Data

MODEL	FULL LOAD CURRENT (A)	VOLTAGE CODE*	COOLING CAPACITY IN W EN13215, AMBIENT TEMP. 32°C, SUPERHEATING 10K SUBCOOLING 3K EVAPORATING TEMPERATURE (DEW)				
			-30°C	-25°C	-20°C	-15°C	-10°C
WINAE2425Z-FZ	4.5	FZ	382	506	655	829	1034
WINAJ2440Z-FZ	6.2	FZ	558	752	982	1252	1567
WINAJ2446Z-FZ	8.7	FZ	713	938	1205	1520	1891
WINAJ2464Z-FZ	10.9	FZ	960	1255	1601	2000	2454
WINFH2480Z-FZ	16.7	FZ	1327	1775	2282	2855	3504
WINFH2480Z-TZ	7.0   7.1	TZ	1311	1739	2221	2761	3368
WINFH2511Z-FZ	24.7	FZ	1725	2302	2975	3750	4638
WINFH2511Z-TZ	7.9   7.9	TZ	1743	2331	3023	3826	4749

\* FZ = 220-240V-50Hz TZ = 400V-3PH-50Hz \* XC = 220-240V-50Hz XG = 400V-3PH-50Hz

\*R452A/R449A selections, refer to Tecumseh Guidelines

# FSW

Where you need us  
When you need us

**FSW** Offer a wide range of Tecumseh® compressors, and standard Tecumseh® condensing units.

**WINTSYS®** Housed condensing units.

**SILENSYS®** Low noise housed and dressed condensing units.

We also stock a wide range of Tecumseh® spare parts for both compressors and condensing units.

27 Branches across the UK & Ireland



## Tecumseh SILENSYS® Low Noise Housed Condensing Units

The SILENSYS® housed units are specifically designed for areas requiring very low noise levels. They come complete with a low noise housing and electrical section fitted with all the electrical components; including, fan speed control and contactor. The units are also fitted with liquid receiver, liquid line drier, sight glass and adjustable HP and LP switches.



### 1PH - LBP R404A/R452A\*

CODE	MODEL	APPROX HP	dB(A)
J1108	SILAJ2432ZFZ	5/8	57
J1109	SILAJ2440ZFZ	5/8	57
J1110	SILAJ2446ZFZ	3/4	57
J1112	SILAJ2464ZFZ	1-1/2	58
J1114	SILFH2480ZXC	2	66
J1116	SILFH2511ZXC	3	74

\*R452A selections, refer to Tecumseh Guidelines



### 3PH - LBP R404A/R452A\*

CODE	MODEL	APPROX HP	dB(A)
J1111	SILAJ2446ZTZ	3/4	57
J1113	SILAJ2464ZTZ	1-1/2	58
J1115	SILFH2480ZYG	2	66
J1117	SILFH2511ZYG	2-1/2	74
J1128	SILAG2516ZTZ	4	69
J1129	SILAG2522ZTZ	5	71
J1135	SILAGD2532ZTZ	8	74
J1136	SILAGD2544ZTZ	10	74

\*R452A/R449A selections, refer to Tecumseh Guidelines



### 1PH - HBP R404A /R452A/R449A\*

CODE	MODEL	APPROX HP	dB(A)
J1102	SILAJ9480ZFZ	7/8	59
J1104	SILAJ9510ZFZ	1	57
J1106	SILAJ9513ZFZ	1-1/8	57
J1118	SILAJ4517ZFZ	1-1/4	58
J1120	SILAJ4519ZFZ	1-1/2	59
J1162	SILFH4524ZXC	2	65
J1124	SILFH4532ZXC	2-1/2	66
J1126	SILFH4538ZXC	3	67

\*R452A/R449A selections, refer to Tecumseh Guidelines



### 3PH - HBP R404A/R452A/R449A\*

CODE	MODEL	APPROX HP	dB(A)
J1103	SILAJ9480ZTZ	7/8	59
J1105	SILAJ9510ZTZ	1	57
J1107	SILAJ9513ZTZ	1-1/8	57
J1130	SILAG4546ZTZ	1	77
J1131	SILAG4553ZTZ	1-1/4	79
J1132	SILAG4561ZTZ	1/1/2	78
J1133	SILAG4568ZTZ	2	74
J1134	SILAG4573ZTZ	2-1/2	73
J1137	SILAGD4590ZTZ	3	78
J1138	SILAGD4610ZTZ	4	79
J1139	SILAGD4612ZTZ	4-1/2	76
J1140	SILAGD4614ZTZ	5	51
J1119	SILAJ4517ZTZ	1-1/4	58
J1121	SILAJ4519ZTZ	1-1/2	59
J1123	SILFH4524ZYG	2	65
J1125	SILFH4532ZYG	2-1/2	66
J1127	SILFH4538ZYG	3	67

\*R452A/R449A selections, refer to Tecumseh Guidelines

Presentation of the acoustic values in maximum ventilation speed in free field according to the reference point of standard EN13215. We comply with the acoustic standard EN ISO 3743-1

# Tecumseh SILENSYS® Low Noise Housed Condensing Units

## 1PH - HBP R134a

CODE	MODEL	APPROX HP	dB(A)
J1143	SILAJ4461YFZ	1/2	57
J1145	SILAJ4476YFZ	5/8	57
J1146	SILAJ4492YFZ	3/4	57
J1148	SILAJ4511YFZ	1	58
J1150	SILFH4518YXC	1-1/2	65
J1152	SILFH4525YXC	2	65



*Tecumseh*



Presentation of the acoustic values in maximum ventilation speed in free field according to the reference point of standard EN13215. We comply with the acoustic standard EN ISO 3743-1

## 3PH - HBP R134a

CODE	MODEL	APPROX HP	dB(A)
J1144	SILAJ4461YFZ	3/4	57
J1147	SILAJ4492YFZ	3/4	57
J1149	SILAJ4511YFZ	1	58
J1151	SILFH4518YXC	1-1/2	65
J1153	SILFH4525YXC	2	65
J1154	SILAG4528YFZ	2-1/4	70
J1155	SILAGD4534YFZ	2-3/4	68
J1156	SILAGD4537YFZ	3-1/4	68
J1157	SILAG4543YFZ	3-1/2	69



MODEL	DIMENSIONS MM			CONNECTIONS		Horse Power	Sound Power	Net Weight, kg
	LENGTH	HEIGHT	WIDTH	SUCTION	LIQUID			
SILAJ4461Y-FZ	942.00	654	837	1/2"	1/4"	1/2	57	68
SILAJ4476Y-FZ	942.00	654	837	1/2"	3/8"	3/4	57	70
SILAJ4492Y-FZ	942.00	654	837	1/2"	3/8"	3/4	57	70
SILAJ4511Y-FZ	942.00	654	837	5/8"	3/8"	1	58	72
SILFH4518Y-XC	1174.00	654	837	5/8"	3/8"	1-1/2	65	64
SILFH4525Y-XC	1174.00	654	837	5/8"	3/8"	2	65	66
SILAG4528Y-TZ	1174.00	654	837	7/8"	1/2"	2-1/2	70	102
SILAG4534Y-TZ	1174.00	654	837	7/8"	1/2"	3	68	104
SILAG4537Y-TZ	1174.00	654	837	7/8"	1/2"	3	68	104
SILAG4543Y-TZ	1174.00	654	837	7/8"	1/2"	3-1/2	69	107
SILAJ9480Z-FZ	942.00	654	837	1/2"	3/8"	1	59	70
SILAJ9510Z-FZ	942.00	654	837	5/8"	3/8"	1-1/4	57	72
SILAJ9513Z-FZ	942.00	654	837	5/8"	3/8"	1-3/4	57	74
SILAJ4517Z-FZ	942.00	654	837	5/8"	3/8"	1-1/2	58	73
SILAJ4519Z-FZ	942.00	654	837	5/8"	3/8"	1-1/2	59	74
SILFH4524Z-XC	1174.00	654	837	5/8"	3/8"	2	65	69
SILFH4532Z-XC	1174.00	654	837	7/8"	1/2"	2-1/2	66	72
SILFH4538Z-XC	1174.00	654	837	7/8"	1/2"	3-1/2	67	82
SILAG4546Z-TZ	1209.00	654	1465	7/8"	5/8"	4	77	128
SILAG4553Z-TZ	1209.00	654	1465	7/8"	5/8"	4-1/2	79	133
SILAG4561Z-TZ	1209.00	654	1465	1-1/8"	5/8"	5	78	134
SILAG4568Z-TZ	1209.00	654	1465	1-1/8"	5/8"	5-1/2	74	138
SILAG4573Z-TZ	1209.00	654	1465	1-1/8"	5/8"	6	73	139
SILAGD4590Z-TZ	1666.00	654	1465	1-1/8"	5/8"	7-1/2	78	246
SILAGD4610Z-TZ	1666.00	654	1465	1-1/8"	5/8"	8-1/2	78	249
SILAGD4612Z-TZ	1666.00	654	1465	1-3/8"	7/8"	10	79	253
SILAGD4614Z-TZ	1666.00	654	1465	1-3/8"	7/8"	11-1/2	76	256
SILAJ2432Z-FZ	942.00	837	654	1/2"	1/4"	3/4	57	71
SILAJ2440Z-FZ	942.00	837	654	1/2"	1/4"	1	57	70
SILAJ2446Z-FZ	942.00	837	654	1/2"	3/8"	1-1/4	57	72
SILAJ2464Z-FZ	942.00	837	654	5/8"	3/8"	1-1/2	58	74
SILFH2480Z-XC	1174.00	837	654	5/8"	3/8"	2	66	74
SILFH2511Z-XC	1174.00	837	654	5/8"	3/8"	2-1/2	74	71
SILAG2516Z-TZ	1174.00	837	654	7/8"	1/2"	4	69	128
SILAG2522Z-TZ	1174.00	837	654	7/8"	1/2"	5-1/2	71	112
SILAGD2532Z-TZ	1666.00	1465	654	1-1/8"	5/8"	8	74	236
SILAGD2544Z-TZ	1666.00	1465	654	1-1/8"	5/8"	11	74	252



# Tecumseh SILENSYS® Condensing Unit

## Performance Data



### R134a - HBP Capacity Data

MODEL	FULL LOAD CURRENT (A)	VOLTAGE CODE*	COOLING CAPACITY IN W EN13215, AMBIENT TEMP. 32°C, SUPERHEATING 10K SUBCOOLING 3K EVAPORATING TEMPERATURE (DEW)						
			-15°C	-10°C	-5°C	0°C	+5°C	+10°C	+15°C
SILAJ4461Y-FZ	6.1	FZ	633	827	1060	1338	1666	2049	2493
SILAJ4461Y-TZ	2.5   2.9	TZ	664	864	1105	1392	1732	2131	2594
SILAJ4476Y-FZ	7.2	FZ	740	975	1250	1571	1943	2369	2856
SILAJ4492Y-FZ	9.2	FZ	947	1235	1571	1960	2404	2908	3474
SILAJ4492Y-TZ	3.1   3.1	TZ	951	1248	1595	1996	2455	2976	3564
SILAJ4511Y-FZ	8.9	FZ	1220	1568	1967	2418	2924	3486	4105
SILAJ4511Y-TZ	3.9   4.2	TZ	1190	1540	1939	2390	2894	3454	4071
SILFH4518Y-FZ	12	FZ	1530	2074	2712	3453	4307	5284	6397
SILFH4518Y-TZ	5   5.4	TZ	1548	2091	2730	3473	4330	5308	6421
SILFH4525Y-FZ	16	FZ	2262	2963	3768	4685	5718	6875	8166
SILFH4525Y-TZ	7.5   8.1	TZ	2190	2848	3616	4504	5523	6686	8012
SILAG4528Y-TZ	10.8   9.4	TZ	1956	2851	3904	5093	6397	7805	9313
SILAG4534Y-TZ	10.6   11.1	TZ	2693	3705	4910	6282	7792	9413	11117
SILAG4537Y-TZ	10.2   10.7	TZ	3203	4332	5685	7235	8955	10823	12819
SILAG4543Y-TZ	11.5   11.3	TZ	3353	4489	5910	7578	9455	11509	13716

\* FZ = 220-240V-50Hz TZ = 400V-3PH-50Hz \* XC = 220-240V-50Hz XG = 400V-3PH-50Hz

### R404A - HBP Capacity Data



MODEL	FULL LOAD CURRENT (A)	VOLTAGE CODE*	COOLING CAPACITY IN W EN13215, AMBIENT TEMP. 32°C, SUPERHEATING 10K SUBCOOLING 3K EVAPORATING TEMPERATURE (DEW)				
			-15°C	-10°C	-5°C	0°C	+5°C
SILAJ9480Z-FZ	7	FZ	1014	1266	1556	1888	2265
SILAJ9480Z-TZ	3.7   4.3	TZ	1015	1269	1561	1892	2265
SILAJ9510Z-FZ	8.7	FZ	1248	1549	1894	2286	2730
SILAJ9510Z-TZ	4.1   4.6	TZ	1239	1532	1868	2252	2688
SILAJ9513Z-FZ	11.6	FZ	1518	1894	2313	2780	3298
SILAJ9513Z-TZ	4.7   4.8	TZ	1485	1877	2320	2818	3372
SILAJ4517Z-FZ	13	FZ	1671	2066	2512	3012	3575
SILAJ4517Z-TZ	4.7   5.1	TZ	1648	2062	2524	3038	3613
SILAJ4519Z-FZ	15.5	FZ	2068	2562	3108	3719	4408
SILAJ4519Z-TZ	6.5   6.6	TZ	2058	2534	3064	3654	4319
SILFH4524Z-XC	16.3	XC	2427	3075	3812	4646	5589
SILFH4524Z-XG	7	XG	2343	2991	3731	4571	5518
SILFH4532Z-XC	21.9	XC	2976	3742	4597	5548	6604
SILFH4532Z-XG	7.8	XG	2974	3713	4545	5481	6534
SILFH4538Z-XC	27	XC	3890	4825	5855	6981	8211
SILFH4538Z-XG	9.7	XG	3859	4799	5834	6964	8194
SILAG4546Z-TZ	14.9   13.9	TZ	4317	5543	6931	8485	10212
SILAG4553Z-TZ	15.6   15.6	TZ	5097	6499	8087	9866	11845
SILAG4561Z-TZ	16.9   16.3	TZ	5562	6976	8562	10327	12288
SILAG4568Z-TZ	19.4   19.5	TZ	6733	8412	10313	12450	14851
SILAG4573Z-TZ	20.6   19.9	TZ	7177	8900	10831	12980	15363
SILAGD4590Z-TZ	25   26	TZ	8769	11430	14447	17779	21364
SILAGD4610Z-TZ	29   29	TZ	9819	12683	15885	19372	23056
SILAGD4612Z-TZ	32   31	TZ	11025	14037	17368	20949	24673
SILAGD4614Z-TZ	37   36	TZ	12735	16024	19658	23529	27468

\* FZ = 220-240V-50Hz TZ = 400V-3PH-50Hz \* XC = 220-240V-50Hz XG = 400V-3PH-50Hz

# Tecumseh SILENSYS® Condensing Unit

## Performance Data



### R452A - HBP Capacity Data

MODEL	FULL LOAD CURRENT (A)	VOLTAGE CODE*	COOLING CAPACITY IN W EN13215, AMBIENT TEMP. 32°C, SUPERHEATING 10K SUBCOOLING 3K EVAPORATING TEMPERATURE (DEW)				
			-15°C	-10°C	-5°C	0°C	+5°C
SILAJ9480Z-FZ	7	FZ	966	1216	1506	1839	2219
SILAJ9480Z-TZ	3.7   4.3	TZ	887	1142	1447	1811	2245
SILAJ9510Z-FZ	8.7	FZ	1190	1489	1834	2229	2677
SILAJ9510Z-TZ	4.1   4.6	TZ	1182	1474	1811	2197	2638
SILAJ9513Z-FZ	11.6	FZ	1475	1862	2306	2808	3373
SILAJ9513Z-TZ	4.7   4.8	TZ	1448	1828	2264	2759	3317
SILAJ4517Z-FZ	13	FZ	1594	1989	2436	2942	3514
SILAJ4517Z-TZ	4.7   5.1	TZ	1570	1983	2447	2967	3552
SILAJ4519Z-FZ	15.5	FZ	1973	2467	3019	3639	4342
SILAJ4519Z-TZ	6.5   6.6	TZ	1964	2442	2978	3578	4257
SILFH4524Z-XC	16.3	XC	2154	2773	3473	4267	5167
SILFH4524Z-XG	7	XG	2074	2691	3394	4191	5096
SILFH4532Z-XC	21.9	XC	2760	3540	4417	5398	6495
SILFH4532Z-XG	7.8	XG	2668	3375	4168	5059	6065
SILFH4538Z-XC	27	XC	3468	4367	5360	6449	7638
SILFH4538Z-XG	9.7	XG	3465	4367	5357	6441	7625
SILAG4546Z-TZ	14.9   13.9	TZ	4160	5416	6819	8383	10137
SILAG4553Z-TZ	15.6   15.6	TZ	4877	6334	7955	9754	11761
SILAG4561Z-TZ	16.9   16.3	TZ	5383	6849	8455	10224	12212
SILAG4568Z-TZ	19.4   19.5	TZ	6492	8221	10152	12316	14769
SILAG4573Z-TZ	20.6   19.9	TZ	6937	8705	10673	12858	15305
SILAGD4590Z-TZ	25   26	TZ	8315	10947	13952	17302	20940
SILAGD4610Z-TZ	29   29	TZ	9316	12153	15351	18864	22614
SILAGD4612Z-TZ	32   31	TZ	10476	13472	16811	20435	24247
SILAGD4614Z-TZ	37   36	TZ	12122	15410	19076	23027	27110

\* FZ = 220-240V-50Hz TZ = 400V-3PH-50Hz \* XC = 220-240V-50Hz XG = 400V-3PH-50Hz

\*R452A/R449A selections, refer to Tecumseh Guidelines

### R449A - HBP Capacity Data

MODEL	FULL LOAD CURRENT (A)	VOLTAGE CODE*	COOLING CAPACITY IN W EN13215, AMBIENT TEMP. 32°C, SUPERHEATING 10K SUBCOOLING 3K EVAPORATING TEMPERATURE (DEW)				
			-15°C	-10°C	-5°C	0°C	+5°C
SILAJ9480Z-FZ	7	FZ	893	1138	1422	1751	2127
SILAJ9480Z-TZ	3.7   4.3	TZ	895	1142	1429	1758	2134
SILAJ9510Z-FZ	8.7	FZ	1102	1396	1736	2128	2575
SILAJ9510Z-TZ	4.1   4.6	TZ	1095	1383	1717	2101	2542
SILAJ9513Z-FZ	11.6	FZ	1361	1742	2181	2681	3248
SILAJ9513Z-TZ	4.7   4.8	TZ	1335	1708	2138	2630	3189
SILAJ4517Z-FZ	13	FZ	1478	1870	2317	2826	3405
SILAJ4517Z-TZ	4.7   5.1	TZ	1452	1862	2325	2849	3442
SILAJ4519Z-FZ	15.5	FZ	1833	2328	2885	3515	4234
SILAJ4519Z-TZ	6.5   6.6	TZ	1826	2307	2848	3460	4156
SILFH4524Z-XC	16.3	XC	2127	2769	3505	4347	5309
SILFH4524Z-XG	7	XG	2046	2686	3424	4271	5243
SILFH4532Z-XC	21.9	XC	2691	3502	4433	5493	6695
SILFH4532Z-XG	7.8	XG	2648	3391	4236	5195	6285
SILFH4538Z-XC	27	XC	3430	4382	5457	6663	8006
SILFH4538Z-XG	9.7	XG	3412	4382	5472	6690	8039
SILAG4546Z-TZ	14.9   13.9	TZ	3677	4894	6303	7912	9731
SILAG4553Z-TZ	15.6   15.6	TZ	4355	5746	7348	9173	11231
SILAG4561Z-TZ	16.9   16.3	TZ	4844	6294	7936	9784	11857
SILAG4568Z-TZ	19.4   19.5	TZ	5892	7594	9538	11754	14283
SILAG4573Z-TZ	20.6   19.9	TZ	6304	8060	10062	12324	14866
SILAGD4590Z-TZ	25   26	TZ	7623	10188	13148	16492	20183
SILAGD4610Z-TZ	29   29	TZ	8552	11331	14496	18023	21859
SILAGD4612Z-TZ	32   31	TZ	9648	12607	15940	19614	23563
SILAGD4614Z-TZ	37   36	TZ	11214	14497	18211	22297	26653

\* FZ = 220-240V-50Hz TZ = 400V-3PH-50Hz \* XC = 220-240V-50Hz XG = 400V-3PH-50Hz

\*R452A/R449A selections, refer to Tecumseh Guidelines

# Tecumseh SILENSYS® Condensing Unit

## Performance Data



### R404A - LBP Capacity Data

MODEL	FULL LOAD CURRENT (A)	VOLTAGE CODE*	COOLING CAPACITY IN W EN13215, AMBIENT TEMP. 32°C, SUPERHEATING 10K SUBCOOLING 3K EVAPORATING TEMPERATURE (DEW)				
			-30°C	-25°C	-20°C	-15°C	-10°C
SILAJ2432Z-FZ	6.2	FZ	531	714	931	1184	1476
SILAJ2440Z-FZ	6	FZ	611	807	1037	1306	1618
SILAJ2446Z-FZ	8.5	FZ	768	999	1270	1586	1951
SILAJ2446Z-TZ	3.4   3.7	TZ	738	965	1232	1541	1898
SILAJ2464Z-FZ	10.9	FZ	1033	1337	1688	2087	2532
SILAJ2464Z-TZ	4.1   4.3	TZ	1046	1351	1703	2102	2550
SILFH2480Z-XC	12.5	XC	1624	2143	2744	3441	4253
SILFH2480Z-XG	6.7	XG	1526	2021	2595	3257	4016
SILFH2511Z-XC	8.7	XC	2201	2926	3763	4711	5770
SILFH2511Z-XG	24.4	XG	2083	2774	3580	4504	5548
SILAG2516Z-TZ	10.3   10.2	TZ	2535	3409	4400	5498	6690
SILAG2522Z-TZ	14.2   14.6	TZ	3275	4295	5454	6749	8180
SILAGD2532Z-TZ	22   23	TZ	5096	7003	9220	11715	14422
SILAGD2544Z-TZ	28   29	TZ	6328	8453	10905	13620	16485

\* FZ = 220-240V-50Hz TZ = 400V-3PH-50Hz \* XC = 220-240V-50Hz XG = 400V-3PH-50Hz

### R452A - LBP Capacity Data



MODEL	FULL LOAD CURRENT (A)	VOLTAGE CODE*	COOLING CAPACITY IN W EN13215, AMBIENT TEMP. 32°C, SUPERHEATING 10K SUBCOOLING 3K EVAPORATING TEMPERATURE (DEW)				
			-30°C	-25°C	-20°C	-15°C	-10°C
SILAJ2432Z-FZ	6.2	FZ	466	646	864	1121	1419
SILAJ2440Z-FZ	6	FZ	558	752	982	1252	1567
SILAJ2446Z-FZ	8.5	FZ	713	938	1205	1520	1891
SILAJ2446Z-TZ	3.4   3.7	TZ	685	905	1168	1477	1839
SILAJ2464Z-FZ	10.9	FZ	960	1255	1601	2000	2454
SILAJ2464Z-TZ	4.1   4.3	TZ	971	1267	1613	2013	2469
SILFH2480Z-XC	12.5	XC	1398	1890	2464	3132	3913
SILFH2480Z-XG	6.7	XG	1314	1782	2330	2965	3698
SILFH2511Z-XC	8.7	XC	1885	2572	3371	4286	5318
SILFH2511Z-XG	24.4	XG	1789	2441	3206	4093	5105
SILAG2516Z-TZ	10.3   10.2	TZ	2343	3204	4182	5277	6495
SILAG2522Z-TZ	14.2   14.6	TZ	3033	4037	5186	6490	7968
SILAGD2532Z-TZ	22   23	TZ	4712	6565	8740	11218	13963
SILAGD2544Z-TZ	28   29	TZ	6426	8582	11120	14020	17239

\* FZ = 220-240V-50Hz TZ = 400V-3PH-50Hz \* XC = 220-240V-50Hz XG = 400V-3PH-50Hz

\*R452A/R449A selections, refer to Tecumseh Guidelines

## J&E Hall Fusion Reciprocating Housed Condensing Units

J & E Hall Fusion and Fusion Scroll commercial refrigeration units create the perfect answer for those demanding a compact yet efficient unit. The units are the ideal solution for commercial refrigeration sectors where noise, size and reliability are paramount. Housed in a cabinet made of electro-galvanised mild steel with an anti-corrosion treatment and coated in baked polyester powder paint, units are able to withstand the most stringent weather testing. The integral IP54 rated control panel provides further protection to all essential electrical components.

### 1PH - M/HBP R404A, R448A, R449A

CODE	MODEL	APPROX HP	dB(A)*
J220	JEHR-0050-B1-M-1	0.50	29
J221	JEHR-0067-B1-M-1	0.67	28
J102	JEHR-0100-B1-M-1	0.88	28
J223	JEHR-0113-B1-M-1	1.13	28
J230	JEHR-0140-B2-M-1	1.4	32
J4140	JEHR-0170-B2-M-1	1.5	37



Small Casing (Fusion only)

\*Sound Pressure Level (SPL) @ 10m free field at -10/+32°C condition. Alternative conditions may produce different results.

### 3PH - M/HBP R404A, R448A, R449A

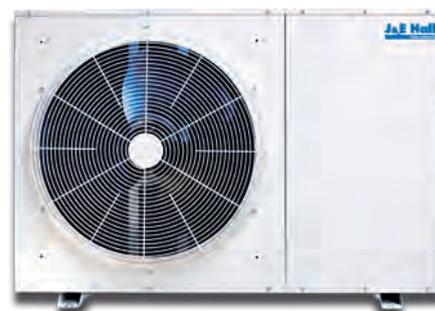
CODE	MODEL	APPROX HP	dB(A)*
J231	JEHR-0140-B2-M-3	1.4	32
J4142	JEHR-0170-B2-M-3	1.5	37



Medium Casing (Fusion & Fusion Scroll)

### 1PH - LBP R404A, R452A

CODE	MODEL	APPROX HP	dB(A)*
J297	JEHR-0135-B1-L-1	1.5	27
J4146	JEHR-0180-B2-L-1	1.75	37
J4150	JEHR-0210-B2-L-1	2.25	40



Large Casing (Fusion & Fusion Scroll)

### 3PH - LBP R404A, R452A

CODE	MODEL	APPROX HP	Db(A)
J4147	JEHR-0180-B2-L-3	1.75	37
J4151	JEHR-0210-B2-L-3	2.25	40



Twin Casing (Fusion & Fusion Scroll)

**J&E Hall**  
International

# J&E Hall Fusion Scroll Housed Condensing Units

## Key Features on all Reciprocating and Scroll models

Robust weather resistant housing. Highly reliable hermetic compressor. Liquid receiver with fusible plug. Adjustable HP/LP pressure safety switch. Liquid line with sight glass and filter drier factory fitted IP54 rated control panel with isolator. Noise data tested to ISO 3774-2 standard. Oil separator and check valve for low temperature models. CE marked. Anti corrosion blue fins for improved condenser efficiency. Polyurethane foam insulation for improved noise reduction. Externally mounted service valves for easy isolation and an extended tail for easy installation. Hexagon head screws and stainless steel washers for easy removal of access panels

### 1PH - M/HBP R404A, R448A, R449A, R134A

CODE	MODEL	APPROX HP	dB(A)*
J240	JEHS-0200-B2-M-1	2.0	33
J242	JEHS-0250-B2-M-1	2.5	34
J244	JEHS-0300-B2-M-1	3.0	36
J246	JEHS-0350-B2-M-1	3.5	39
J4105	JEHS-0350-B3-M-1	3.5	37
J4109	JEHS-0400-B3-M-1	4.0	37



\*Sound Pressure Level (SPL) @ 10m free field at -10/+32°C condition. Alternative conditions may produce different results.

### 3PH - M/HBP R404A, R448A, R449A, R134A

CODE	MODEL	APPROX HP	dB(A)*
J241	JEHS-0200-B2-M-3	2.0	33
J243	JEHS-0250-B2-M-3	2.5	34
J245	JEHS-0300-B2-M-3	3.0	36
J247	JEHS-0350-B2-M-3	3.5	39
J4107	JEHS-0350-B3-M-3	3.5	37
J4111	JEHS-0400-B3-M-3	4.0	37
J4113	JEHS-0500-B3-M-3	5.0	38
J4115	JEHS-0600-B3-M-3	6.0	40
J4117	JEHS-0680-B3-M-3	6.8	40
J4118	JEHS-0800-B4-M-3	8.0	43
J4119	JEHS-1000-B4-M-3	10.0	43
J4124	JEHS-1300-B4-M-3	13.0	46
J4125	JEHS-1500-B4-M-3	15.0	48



### 3PH - LBP R404A, R448A, R449A

CODE	MODEL	APPROX HP	dB(A)*
J282	JEHS-0300-B2-L-3	3.0	33
J284	JEHS-0400-B3-L-3	4.0	37
J286	JEHS-0500-B3-L-3	5.0	39
J288	JEHS-0600-B3-L-3	6.0	41
J290	JEHS-0750-B4-L-3	7.5	41
J292	JEHS-0950-B4-L3-EVI	9.5	37
J4121	JEHS-1150-B4-L3-EVI	11.5	42



## J&E Hall Digital Single & Twin Scroll Condensing Units

J & E Hall has now extended its range of digital single scroll units to include 4hp and 8hp versions. With capacities up to 24kW, the units now offer multi refrigerant options including R448A and R449A. The digital single scroll compressor capacity control matches varying evaporator loads and provides an energy efficient solution for commercial refrigeration applications. The units are also suitable for multi cabinet systems.

### Digital Single Scroll

The single scroll is an ideal solution for convenience stores, supermarkets and petrol forecourts. The digital scroll compressor capacity control matches varying display case loads and provides an energy efficient solution for commercial refrigeration applications.

- Single ZBD Copeland digital compressor
- Variable capacity control
- Fan speed controller
- Cu/Al condenser
- Electrical control panel with mains isolator
- Carel electronic controller with LCD display
- Mechanical back up system
- Oil separator
- External service valves
- Liquid line drier and sight glass
- Operates with refrigerants R448A & R449A
- Volt free alarm relay

#### SERIES 3: 3PH - MBP R448A, R449A

CODE	MODEL	APPROX HP	dB(A)*
J4129	JEHSD-0400-B3-M-3	4.0	39
J4130	JEHSD-0600-B3-M-3	6.0	40
J4131	JEHSD-0800-B3-M-3	8.0	44

### Digital Twin Scroll

Following the success of the 12HP digital twin scroll condensing unit, J & E Hall has developed a smaller sized unit with no compromise on design or quality. The new unit still offers capacities up to 38kW but with the benefit of a smaller footprint.

The digital twin scroll is an ideal solution for larger convenience store applications and is an alternative to multi compressor racks. Digital compressor capacity control matches varying display case loads and provides the perfect energy efficient commercial refrigeration solution.

- Twin Copeland scroll compressors, 1 fixed speed and 1 digital
- Hinged door access
- Two condenser fans
- Fan speed controller
- Electrical Control panel with mains isolator
- Carel electronic controller with LCD display
- Mechanical back up system
- Compressor HP switches
- External status lights
- Oil separator/reservoir
- Electronic oil control on both compressors
- Internal ball valves and external service valves
- Liquid line drier and sight glass
- Pressure relief valve on liquid receiver
- Operates with refrigerants R448A & R449A

#### SERIES 5: 3PH - MBP R448A, R449A

CODE	MODEL	APPROX HP	dB(A)*
J205	JEHSDT-1200-B5-M-3	12.0	42
J207	JEHSDT-1600-B6-M-3	16.0	44



\*Sound Pressure Level (SPL) @ 10m free field at -10/+32°C condition. Alternative conditions may produce different results.



# J&E Hall Condensing Unit Data

## Fusion and Fusion Scroll HBP Unit Specification

Casing	Unit Model	Compressor Model	Ph ~	Electrical Data (A)			SPL @ 10m dB(A)	Unit Connections		Dry Weight (kgs)	Dimensions (mm) (W x D x H)	Mounting Dimensions (mm) (W x D)
				NC	MCC	LRC		Liquid	Suction			
Small	JEHR-0050-B1-M-1	AE 4460Z-FZ1C	1	3.6	5.9	19.4	28	1/4	3/8	49	876 x 430 x 606	545 x 400
	JEHR-0067-B1-M-1	CAJ 9480Z	1	3.3	6.7	24.1	28	3/8	1/2	56		
	JEHR-0100-B1-M-1	CAJ 9510Z	1	4.1	8.4	29.5	28	3/8	1/2	57		
	JEHR-0113-B1-M-1	CAJ 9513Z	1	5.1	11.3	33.5	28	3/8	1/2	58		
Medium	JEHR-0140-B2-M-1	CAJ 4517Z	1	5.9	12.7	38.5	32	3/8	1/2	67	1101 x 444 x 662	703 x 408
	JEHR-0140-B2-M-3	TAJ 4517Z	3	2.9	4.0	18.0	32	3/8	1/2	67		
	JEHR-0170-B2-M-1	CAJ 4519Z	1	7.0	15.2	45.0	33	3/8	5/8	68		
	JEHR-0170-B2-M-3	TAJ 4519Z	3	3.7	4.8	22.0	33	3/8	5/8	68		
	JEHS-0200-B2-M-1	ZB15KQE-PFJ	1	7.9	18.5	58.0	33	3/8	3/4	70		
	JEHS-0200-B2-M-3	ZB15KQE-TFD	3	3.5	7.0	26.0	33	3/8	3/4	70		
	JEHS-0250-B2-M-1	ZB19KQE-PFJ	1	9.9	20.5	61.0	34	3/8	3/4	72		
	JEHS-0250-B2-M-3	ZB19KQE-TFD	3	4.8	7.0	32.0	34	3/8	3/4	72		
	JEHS-0300-B2-M-1	ZB21KQE-PFJ	1	12.8	21.5	82.0	36	3/8	3/4	74		
	JEHS-0300-B2-M-3	ZB21KQE-TFD	3	5.0	10.3	40.0	36	3/8	3/4	74		
	JEHS-0350-B2-M-1	ZB26KQE-PFJ	1	15.4	25.0	97.0	39	3/8	3/4	74		
	JEHS-0350-B2-M-3	ZB26KQE-TFD	3	6.4	9.0	46.0	39	3/8	3/4	74		
Large	JEHS-0350-B3-M-1	ZB26KQE-PFJ	1	14.8	25.0	97.0	37	1/2	3/4	112	1353 x 575 x 872	945 x 500
	JEHS-0350-B3-M-3	ZB26KQE-TFD	3	6.8	9.0	46.0	37	1/2	3/4	112		
	JEHS-0400-B3-M-1	ZB29KQE-PFJ	1	17.0	28.0	114.0	37	1/2	7/8	119		
	JEHS-0400-B3-M-3	ZB29KQE-TFD	3	8.2	11.0	50.0	37	1/2	7/8	119		
	JEHS-0500-B3-M-3	ZB38KQE-TFD	3	9.1	13.5	65.5	38	1/2	7/8	123		
	JEHS-0600-B3-M-3	ZB45KQE-TFD	3	9.6	14.2	74.0	40	1/2	1 1/8	125		
	JEHS-0680-B3-M-3	ZB48KQE-TFD	3	12.3	19.1	101.0	40	1/2	1 1/8	126		
Twin	JEHS-0800-B4-M-3	ZB57KQE-TFD	3	11.4	21.3	102.0	43	3/4	1 1/8	204	1348 x 612 x 1727	940 x 560
	JEHS-1000-B4-M-3	ZB76KQE-TFD	3	16.2	28.0	118.0	43	3/4	1 3/8	226		
	JEHS-1300-B4-M-3	ZB95K5E-TFD	3	22.0	34.0	140.0	46	3/4	1 3/8	238		
Sp	JEHS-1500-B6-M-3	ZB114K5E-TFD	3	27.4	38.0	174.0	48	3/4	1 3/8	332	1735 x 854 x 1727	1240 x 808

## Fusion and Fusion Scroll LBP Unit Specification

Casing	Unit Model	Compressor Model	Ph ~	Electrical Data (A)			SPL @ 10m dB(A)	Unit Connections		Dry Weight (kgs)	Dimensions (mm) (W x D x H)	Mounting Dimensions (mm) (W x D)
				NC	MCC	LRC		Liquid	Suction			
Small	JEHR-0115-B1-L-1	CAJ2446Z	1	3.0	8.2	30.0	27	3/8	1/2	59	876 x 430 x 606	545 x 400
	JEHR-0135-B1-L-1	CAJ2464Z	1	4.8	10.0	40.0	27	3/8	1/2	61		
Medium	JEHR-0180-B2-L-1	FH2480Z XC3A	1	6.7	12.0	65.0	35	3/8	5/8	81	1101 x 444 x 662	703 x 408
	JEHR-0180-B2-L-3	FH2480Z XG1A	3	3.1	6.4	31.0	35	3/8	5/8	80		
	JEHR-0210-B2-L-1	FH2511Z XC3A	1	7.3	24.0	71.0	38	3/8	5/8	83		
	JEHR-0210-B2-L-3	FH2511Z XG1A	3	4.0	8.3	60.0	38	3/8	5/8	81		
	JEHS-0300-B2-L-3	ZF09KQE-TFD	3	4.4	6.5	40.0	33	3/8	3/4	78		
Large	JEHS-0400-B3-L-3	ZF13KQE-TFD	3	5.8	10.0	51.5	37	1/2	7/8	132	1353 x 575 x 872	945 x 500
	JEHS-0500-B3-L-3	ZF15KQE-TFD	3	7.6	12.0	64.0	39	1/2	7/8	132		
	JEHS-0600-B3-L-3	ZF18KQE-TFD	3	8.5	12.5	74.0	41	1/2	7/8	133		
Twin	JEHS-0750-B4-L-3	ZF25K5E-TFD	3	8.1	16.6	102.0	41	1/2	1 1/8	203	1348 x 612 x 1727	940 x 560
	JEHS-0950-B4-L-3-EVI	ZF18KVE-TFD-EVI	3	8.5	13.0	74.0	37	1/2	7/8	200		
	JEHS-1150-B4-L-3-EVI	ZF136KQE-TFD-EVI	3	10.7	20.5	102.0	42	1/2	1 1/8	211		
	JEHS-1400-B4-L-3-EVI	ZF34K5E TFD-EVI	3	15.5	24.0	100.0	44	1/2	1 3/8	235		

NC = Nominal Current at -10°Cte/+32°Cta MT and -35°Cte/+32°Cta LT conditions with R448A refrigerant. MCC = Maximum Continuous Current. LRC = Locked Rotor Current. Sound Pressure Level (SPL) measured in an anechoic room at -10°Cte/+32°Cta MT and -25°Cte/+32°Cta LT conditions. Alternative conditions may produce different results.



# J&E Hall Condensing Unit Data

## Digital Single Scroll Unit Specification

Unit Model	Refrigerant	SEPR	Cooling Capacity (Watts) @ Te							20°C RGT Cooling Capacity (Watts)*	SPL @ 10m dB(A)	Unit Connections		Dry Weight (Kgs)	Dimensions (mm) (W x D x H)
			-20°C	-15°C	-10°C	-5°C	0°C	5°C	10°C			Liquid	Suction		
JEHSD-0400-B3-M-3	R407A	3.26	4210	5270	6440	7790	9380	11250	-	6620	39	1/2	7/8	128	1353 x 575 x 872
	R407F	3.23	-	5660	6910	8350	10050	12150	-	7030					
	R448A	3.15	4320	5280	6380	7610	9010	10600	12450	6590					
	R449A	3.15	4320	5280	6380	7610	9010	10600	12450	6590					
JEHSD-0600-B3-M-3	R407A	3.24	6030	7470	9150	11050	13200	15550	-	9450	40	1/2	7/8	134	1353 x 575 x 872
	R407F	3.08	6410	7990	9730	11650	13700	15950	-	9950					
	R448A	2.93	6220	7700	9320	11050	13000	15100	17450	9640					
	R449A	2.93	6220	7700	9320	11050	13000	15100	17450	9640					
JEHSD-0800-B4-M-3	R407A	2.75	8120	10000	12200	14750	17650	20900	-	12650	44	3/4	1 1/8	213	1348 x 612 x 1727
	R407F	2.84	8300	10250	12450	15000	17850	21000	-	12750					
	R448A	2.75	8370	10200	12300	14650	17300	20400	23900	12700					
	R449A	2.75	8370	10200	12300	14650	17300	20400	23900	12700					

## Digital Twin Scroll Unit Specification

Unit Model	Refrigerant	SEPR	Cooling Capacity (Watts) @ Te							20°C RGT Cooling Capacity (Watts)*	SPL @ 10m dB(A)	Unit Connections		Dry Weight (Kgs)	Dimensions (mm) (W x D x H)
			-20°C	-15°C	-10°C	-5°C	0°C	5°C	10°C			Liquid	Suction		
JEHSDT-1200-B5-M-3	R407A	2.70	-	14300	17480	21200	25400	30200	-	-	42	3/4	1 3/8	315	1387 x 851 x 1697
	R407F	2.79	-	15760	19440	23500	27900	32800	-	19860					
	R448A	2.71	-	15480	18800	22600	26900	31900	37800	19440					
	R449A	2.71	-	15480	18800	22600	26900	31900	37800	19440					
JEHSDT-1600-B6-M-3	R407A	2.66	-	19480	23800	28300	33600	-	-	-	44	3/4	1 3/8	380	1735 x 854 x 1727
	R407F	2.70	-	19650	24250	28950	34300	40300	-	-					
	R448A	2.72	-	19570	23700	28050	33200	39250	46100	24550					
	R449A	2.72	-	19570	23700	28050	33200	39250	46100	24550					

Rating Condition: Suction Gas Superheat 10K / Subcooling 0K / 32°C Ambient  
Capacity data presented in accordance with BS EN 13215:2016

Sound Pressure Level (SPL) measured in an anechoic room (-10/+32°C) MT conditions. Alternative conditions may produce different results  
\*Alternative cooling capacity condition: -10°Cte/+32°Cta MT with 0K SC

# J&E Hall Condensing Unit Performance Data

## R134a - HBP Capacity Data (Medium, Large & Twin Fan)

Casing	Unit Model	R134a Cooling Capacity (Watts) @ Te							Ecodesign Conditions ①		
		-15°C	-10°C	-5°C	0°C	5°C	10°C	15°C	COP	SEPR	Watts
Small	JEHR-0050-B1-M-1	-	-	-	-	-	-	-	-	-	-
	JEHR-0067-B1-M-1	-	-	-	-	-	-	-	-	-	-
	JEHR-0100-B1-M-1	-	-	-	-	-	-	-	-	-	-
	JEHR-0113-B1-M-1	-	-	-	-	-	-	-	-	-	-
Medium	JEHR-0140-B2-M-1	-	-	-	-	-	-	-	-	-	-
	JEHR-0140-B2-M-3	-	-	-	-	-	-	-	-	-	-
	JEHR-0170-B2-M-1	-	-	-	-	-	-	-	-	-	-
	JEHR-0170-B2-M-3	-	-	-	-	-	-	-	-	-	-
	JEHS-0200-B2-M-1	1610	2050	2550	3120	3770	4530	5360	1.92	-	2130
	JEHS-0200-B2-M-3	1730	2170	2700	3310	4020	4850	5770	2.19	-	2240
	JEHS-0250-B2-M-1	2010	2590	3230	3980	4870	5930	7140	(2.14)	-	-
	JEHS-0250-B2-M-3	1980	2480	3070	3770	4570	5510	6550	(2.13)	-	-
	JEHS-0300-B2-M-1	2410	3090	3830	4690	5690	6890	8240	(2.13)	-	-
	JEHS-0300-B2-M-3	2460	3060	3790	4620	5600	6740	7990	(2.10)	-	-
	JEHS-0350-B2-M-1	2700	3410	4250	5240	6410	7800	9330	(1.86)	-	-
	JEHS-0350-B2-M-3	2800	3480	4300	5240	6320	7610	9010	(2.08)	-	-
Large	JEHS-0350-B3-M-1	2840	3610	4520	5600	6850	8290	9920	2.13	-	3730
	JEHS-0350-B3-M-3	2940	3690	4570	5600	6790	8150	9680	2.36	-	3810
	JEHS-0400-B3-M-1	3850	4900	5950	7170	8740	10800	13600	(2.28)	-	5050
	JEHS-0400-B3-M-3	3400	4240	5220	6360	7690	9230	11000	2.36	-	4370
	JEHS-0500-B3-M-3	4160	5240	6460	7870	9490	11350	13450	-	(2.69)	-
	JEHS-0600-B3-M-3	4930	6160	7610	9300	11250	13350	15700	-	(2.63)	-
	JEHS-0680-B3-M-3	5570	6890	8400	10150	12100	14400	16850	-	(2.57)	-
Twin	JEHS-0800-B4-M-3	6340	7950	9850	12050	14650	17550	20800	-	3.10	8210
	JEHS-1000-B4-M-3	8360	10400	12750	15500	18700	22200	26100	-	3.37	10750
	JEHS-1300-B4-M-3	10474	13043	15952	19241	22951	27122	31795	-	3.09	13519
Sp	JEHS-1500-B6-M-3	12251	15573	19386	23734	28665	34224	-	-	2.96	16134

Rating Condition: Suction Gas Superheat 10K / Subcooling 0K / 32°C Ambient  
 ① Ecodesign conditions: -10°Cte/+32°Cta MT with RGT 20°C & 0K SC

COP & SEPR data in brackets shown at 10K SH condition where RGT 20°C data unavailable  
 Capacity data presented in accordance with BS EN 13215:2016

# J&E Hall Condensing Unit Performance Data

## R448A - HBP Capacity Data

Casing	Unit Model	R448A Cooling Capacity (Watts) @ Te							Ecodesign Conditions ①			
		-20°C	-15°C	-10°C	-5°C	0°C	5°C	10°C	COP	SEPR	Watts	
Small	JEHR-0050-B1-M-1	496	643	817	1023	1267	1558	1902	1.66	-	872	
	JEHR-0067-B1-M-1	611	811	1045	1322	1652	2045	2514	1.64	-	1120	
	JEHR-0100-B1-M-1	740	977	1252	1575	1958	2448	2959	1.64	-	1345	
	JEHR-0113-B1-M-1	859	1169	1523	1926	2442	3000	3665	1.71	-	1639	
Medium	JEHR-0140-B2-M-1	1192	1571	2016	2540	3158	3942	4889	2.09	-	2149	
	JEHR-0140-B2-M-3	1156	1556	2020	2560	3194	3936	4808	2.00	-	2152	
	JEHR-0170-B2-M-1	1409	1869	2399	3010	3715	4526	5459	1.73	-	2574	
	JEHR-0170-B2-M-3	1452	1892	2399	2980	3645	4405	5273	1.76	-	2572	
	JEHS-0200-B2-M-1	2080	2620	3240	3940	4740	5670	6740	2.02	-	3330	
	JEHS-0200-B2-M-3	2080	2620	3240	3940	4740	5670	6740	2.02	-	3330	
	JEHS-0250-B2-M-1	2440	3030	3700	4470	5360	6380	7560	1.93	-	3820	
	JEHS-0250-B2-M-3	2440	3030	3700	4470	5360	6380	7560	1.93	-	3820	
	JEHS-0300-B2-M-1	3060	3770	4570	5470	6510	7710	9120	1.85	-	4730	
	JEHS-0300-B2-M-3	3060	3770	4570	5470	6510	7710	9120	1.85	-	4730	
	JEHS-0350-B2-M-1	3530	4340	5270	6320	7530	8940	10600	-	2.72	5460	
	JEHS-0350-B2-M-3	3530	4340	5270	6320	7530	8940	10600	-	2.72	5460	
	Large	JEHS-0350-B3-M-1	3630	4550	5600	6770	8130	9690	11500	-	3.02	5760
		JEHS-0350-B3-M-3	3630	4550	5600	6770	8130	9690	11500	-	3.02	5760
JEHS-0400-B3-M-1		4100	5070	6170	7410	8840	10500	12400	-	3.13	6370	
JEHS-0400-B3-M-3		4100	5070	6170	7410	8840	10500	12400	-	3.13	6370	
JEHS-0500-B3-M-3		4830	6190	7600	9120	10850	12900	15300	-	2.97	7880	
JEHS-0600-B3-M-3		5790	7420	9130	10950	13000	15400	18200	-	3.22	9450	
JEHS-0680-B3-M-3		6430	8240	10150	12100	14350	16950	20000	-	2.96	10500	
Twin	JEHS-0800-B4-M-3	7250	9670	12300	15200	18450	22100	-	-	2.88	12650	
	JEHS-1000-B4-M-3	-	12150	15250	18800	22800	27300	-	-	2.83	15850	
	JEHS-1300-B4-M-3	11693	15327	19164	23283	27761	32674	38100	-	2.97	19909	
Sp	JEHS-1500-B6-M-3	14757	19205	24093	29487	35458	42072	49399	-	2.94	24876	

## R448A - LBP Capacity Data

Casing	Unit Model	R448A Cooling Capacity (Watts) @ Te							Ecodesign Conditions ①		
		-45°C	-40°C	-35°C	-30°C	-25°C	-20°C	-15°C	COP	SEPR	Watts
Small	JEHR-0115-B1-L-1	-	-	-	-	-	-	-	-	-	-
	JEHR-0135-B1-L-1	-	-	-	-	-	-	-	-	-	-
Medium	JEHR-0180-B1-L-1	-	-	937	1372	1911	2569	-	0.96	-	1082
	JEHR-0180-B2-L-3	-	-	846	1247	1743	2351	-	1.00	-	979
	JEHR-0210-B2-L-1	-	-	1221	1790	2491	3339	-	0.99	-	1420
	JEHR-0210-B2-L-3	-	-	1170	1701	2354	3145	-	1.00	-	1356
	JEHS-0300-B2-L-3	-	1230	1580	1990	2480	3030	-	0.97	-	1700
Large	JEHS-0400-B3-L-3	-	1820	2380	3030	3790	4670	-	-	1.67	2530
	JEHS-0500-B3-L-3	-	2200	2850	3600	4480	5480	-	-	-	3040
	JEHS-0600-B3-L-3	-	2430	3250	4150	5160	6310	-	-	1.64	3490
Twin	JEHS-0750-B4-L-3	-	3550	4510	5630	6900	8370	-	-	1.64	4810
	JEHS-0950-B4-L-3 EVI	-	3880	4860	5970	7250	8750	-	-	(1.76)	4860
	JEHS-1150-B4-L-3 EVI	-	4920	6230	7730	9390	11200	-	-	(1.71)	6230
	JEHS-1400-B4-L-3 EVI	-	5965	7839	9902	12149	14567	-	-	(1.67)	7839

Rating Condition: Suction Gas Superheat 10K / Subcooling 0K / 32°C Ambient  
 ① Ecodesign conditions: -10°C<sub>Te</sub>/+32°C<sub>Ta</sub> MT with RGT 20°C & 0K SC

COP & SEPR data in brackets shown at 10K SH condition where RGT 20°C data unavailable  
 Capacity data presented in accordance with BS EN 13215:2016



# J&E Hall Condensing Unit Performance Data

## R449A - HBP Capacity Data

Casing	Unit Model	R449A Cooling Capacity (Watts) @ Te							Ecodesign Conditions ①		
		-20°C	-15°C	-10°C	-5°C	0°C	5°C	10°C	COP	SEPR	Watts
Small	JEHR-0050-B1-M-1	496	643	817	1023	1267	1558	1902	1.66	-	872
	JEHR-0067-B1-M-1	611	811	1045	1322	1652	2045	2514	1.64	-	1120
	JEHR-0100-B1-M-1	740	977	1252	1575	1958	2448	2959	1.64	-	1345
	JEHR-0113-B1-M-1	859	1169	1523	1926	2442	3000	3665	1.71	-	1639
Medium	JEHR-0140-B2-M-1	1192	1571	2016	2540	3158	3942	4889	2.09	-	2149
	JEHR-0140-B2-M-3	1156	1556	2020	2560	3194	3936	4808	2.00	-	2152
	JEHR-0170-B2-M-1	1409	1869	2399	3010	3715	4526	5459	1.73	-	2574
	JEHR-0170-B2-M-3	1452	1892	2399	2980	3645	4405	5273	1.76	-	2572
	JEHS-0200-B2-M-1	2080	2620	3240	3940	4740	5670	6740	2.02	-	3330
	JEHS-0200-B2-M-3	2080	2620	3240	3940	4740	5670	6740	2.02	-	3330
	JEHS-0250-B2-M-1	2440	3030	3700	4470	5360	6380	7560	1.93	-	3820
	JEHS-0250-B2-M-3	2440	3030	3700	4470	5360	6380	7560	1.93	-	3820
	JEHS-0300-B2-M-1	3060	3770	4570	5470	6510	7710	9120	1.85	-	4730
	JEHS-0300-B2-M-3	3060	3770	4570	5470	6510	7710	9120	1.85	-	4730
	JEHS-0350-B2-M-1	3530	4340	5270	6320	7530	8940	10600	-	2.72	5460
	JEHS-0350-B2-M-3	3530	4340	5270	6320	7530	8940	10600	-	2.72	5460
Large	JEHS-0350-B3-M-1	3630	4550	5600	6770	8130	9690	11500	-	3.02	5760
	JEHS-0350-B3-M-3	3630	4550	5600	6770	8130	9690	11500	-	3.02	5760
	JEHS-0400-B3-M-1	4100	5070	6170	7410	8840	10500	12400	-	3.13	6370
	JEHS-0400-B3-M-3	4100	5070	6170	7410	8840	10500	12400	-	3.13	6370
	JEHS-0500-B3-M-3	4830	6190	7600	9120	10850	12900	15300	-	2.97	7880
	JEHS-0600-B3-M-3	5790	7420	9130	10950	13000	15400	18200	-	3.22	9450
	JEHS-0680-B3-M-3	6430	8240	10150	12100	14350	16950	20000	-	2.96	10500
	JEHS-0800-B4-M-3	7250	9670	12300	15200	18450	22100	-	-	2.88	12650
Twin	JEHS-1000-B4-M-3	-	12150	15250	18800	22800	27300	-	-	2.83	15850
	JEHS-1300-B4-M-3	11693	15327	19164	23283	27761	32674	38100	-	2.97	19909
	JEHS-1500-B6-M-3	14757	19205	24093	29487	35458	42072	49399	-	2.94	24876

## R449A - LBP Capacity Data

Casing	Unit Model	R449A Cooling Capacity (Watts) @ Te							Ecodesign Conditions ①		
		-45°C	-40°C	-35°C	-30°C	-25°C	-20°C	-15°C	COP	SEPR	Watts
Small	JEHR-0115-B1-L-1	-	-	-	-	-	-	-	-	-	-
	JEHR-0135-B1-L-1	-	-	-	-	-	-	-	-	-	-
Medium	JEHR-0180-B1-L-1	-	-	937	1372	1911	2569	-	0.96	-	1082
	JEHR-0180-B2-L-3	-	-	846	1247	1743	2351	-	1.00	-	979
	JEHR-0210-B2-L-1	-	-	1221	1790	2491	3339	-	0.99	-	1420
	JEHR-0210-B2-L-3	-	-	1170	1701	2354	3145	-	1.00	-	1356
	JEHS-0300-B2-L-3	-	1230	1580	1990	2480	3030	-	0.97	-	1700
Large	JEHS-0400-B3-L-3	-	1820	2380	3030	3790	4670	-	-	1.67	2530
	JEHS-0500-B3-L-3	-	2200	2850	3600	4480	5480	-	-	-	3040
	JEHS-0600-B3-L-3	-	2430	3250	4150	5160	6310	-	-	1.64	3490
Twin	JEHS-0750-B4-L-3	-	3550	4510	5630	6900	8370	-	-	1.64	4810
	JEHS-0950-B4-L-3 EVI	-	3880	4860	5970	7250	8750	-	-	(1.76)	4860
	JEHS-1150-B4-L-3 EVI	-	4920	6230	7730	9390	11200	-	-	(1.71)	6230
	JEHS-1400-B4-L-3 EVI	-	5965	7839	9902	12149	14567	-	-	(1.67)	7839

Rating Condition: Suction Gas Superheat 10K / Subcooling 0K / 32°C Ambient  
 ① Ecodesign conditions: -10°Cte/+32°Cta MT with RGT 20°C & 0K SC

COP & SEPR data in brackets shown at 10K SH condition where RGT 20°C data unavailable  
 Capacity data presented in accordance with BS EN 13215:2016



# J&E HALL Condensing Unit Performance Data

## R452A - HBP Capacity Data

Casing	Unit Model	R452A Cooling Capacity (Watts) @ Te							Ecodesign Conditions ①			
		-20°C	-15°C	-10°C	-5°C	0°C	5°C	10°C	COP	SEPR	Watts	
Small	JEHR-0050-B1-M-1	552	696	866	1065	1301	1580	1908	1.67	-	949	
	JEHR-0067-B1-M-1	687	885	1116	1388	1707	2085	2533	1.67	-	1229	
	JEHR-0100-B1-M-1	837	1071	1341	1656	2026	2463	2982	1.68	-	1481	
	JEHR-0113-B1-M-1	983	1277	1612	1997	2444	2968	3584	1.73	-	1788	
Medium	JEHR-0140-B2-M-1	1232	1585	1995	2475	3041	3711	4505	1.92	-	2196	
	JEHR-0140-B2-M-3	1188	1564	1995	2493	3076	3759	4565	1.83	-	2195	
	JEHR-0170-B2-M-1	1456	1904	2417	3005	3681	4454	5344	1.65	-	2685	
	JEHR-0170-B2-M-3	1506	1931	2423	2981	3618	4340	5390	1.73	-	2688	
	JEHS-0200-B2-M-1	-	-	-	-	-	-	-	-	-	-	
	JEHS-0200-B2-M-3	-	-	-	-	-	-	-	-	-	-	
	JEHS-0250-B2-M-1	-	-	-	-	-	-	-	-	-	-	
	JEHS-0250-B2-M-3	-	-	-	-	-	-	-	-	-	-	
	JEHS-0300-B2-M-1	-	-	-	-	-	-	-	-	-	-	
	JEHS-0300-B2-M-3	-	-	-	-	-	-	-	-	-	-	
	JEHS-0350-B2-M-1	-	-	-	-	-	-	-	-	-	-	
	JEHS-0350-B2-M-3	-	-	-	-	-	-	-	-	-	-	
	Large	JEHS-0350-B3-M-1	-	-	-	-	-	-	-	-	-	-
		JEHS-0350-B3-M-3	-	-	-	-	-	-	-	-	-	-
JEHS-0400-B3-M-1		-	-	-	-	-	-	-	-	-	-	
JEHS-0400-B3-M-3		-	-	-	-	-	-	-	-	-	-	
JEHS-0500-B3-M-3		-	-	-	-	-	-	-	-	-	-	
JEHS-0600-B3-M-3		-	-	-	-	-	-	-	-	-	-	
JEHS-0680-B3-M-3		-	-	-	-	-	-	-	-	-	-	
Twin	JEHS-0800-B4-M-3	-	-	-	-	-	-	-	-	-	-	
	JEHS-1000-B4-M-3	-	-	-	-	-	-	-	-	-	-	
	JEHS-1300-B4-M-3	-	-	-	-	-	-	-	-	-	-	
Sp	JEHS-1500-B6-M-3	-	-	-	-	-	-	-	-	-	-	

## R452A - LBP Capacity Data

Casing	Unit Model	R452A Cooling Capacity (Watts) @ Te							Ecodesign Conditions ①		
		-45°C	-40°C	-35°C	-30°C	-25°C	-20°C	-15°C	COP	SEPR	Watts
Small	JEHR-0115-B1-L-1	-	-	517	708	938	1213	-	1.05	-	637
	JEHR-0135-B1-L-1	-	-	658	886	1164	1498	-	0.98	-	814
Medium	JEHR-0180-B1-L-1	-	635	985	1425	1967	2626	-	1.01	-	1223
	JEHR-0180-B2-L-3	-	590	912	1315	1813	2415	-	1.07	-	1133
	JEHR-0210-B2-L-1	-	827	1279	1839	2523	3342	-	0.99	-	1604
	JEHR-0210-B2-L-3	-	805	1228	1753	2394	3162	-	1.05	-	1532
	JEHS-0300-B2-L-3	-	-	-	-	-	-	-	-	-	-
Large	JEHS-0400-B3-L-3	-	-	-	-	-	-	-	-	-	-
	JEHS-0500-B3-L-3	-	-	-	-	-	-	-	-	-	-
	JEHS-0600-B3-L-3	-	-	-	-	-	-	-	-	-	-
Twin	JEHS-0750-B4-L-3	-	-	-	-	-	-	-	-	-	-
	JEHS-0950-B4-L-3 EVI	-	-	-	-	-	-	-	-	-	-
	JEHS-1150-B4-L-3 EVI	-	-	-	-	-	-	-	-	-	-
	JEHS-1400-B4-L-3 EVI	-	-	-	-	-	-	-	-	-	-

Rating Condition: Suction Gas Superheat 10K / Subcooling 0K / 32°C Ambient  
 ① Ecodesign conditions: -10°Cte/+32°Cta MT with RGT 20°C & 0K SC

COP & SEPR data in brackets shown at 10K SH condition where RGT 20°C data unavailable  
 Capacity data presented in accordance with BS EN 13215:2016

Note: R404A, R407A and R407F data available on request.



# J&E Hall Inverter Fusion Scroll Housed Condensing Units

## CAPACITY MODULATION AT ITS BEST

With an increased demand for higher energy efficiency refrigeration systems at part load, J&E Hall introduce the first of their Fusion Scroll Inverter condensing unit models.

### SPECIFICATION

- Highly reliable scroll compressors
- Full inverter control giving 1.5kW to 25.7kW range
- Oil return cycle
- Liquid line drier and sight glass
- External service valves
- Hinged access doors



### 3PH - MBP R448A/R449A

CODE	MODEL	dB(A)*
J4160	JEHSI-033-B3-M-3	31
J4164	JEHSI-066-B3-M-3	40
J4169	JEHSI-087-B4-M-3	44

### PERFORMANCE DATA

Unit Model	Compressor Model	Ph	Electrical Data			SPL @ 10m dB(A)	Unit Connections		Dry Weight (kgs)	Unit Dimensions (mm) (W x D x H)	Mounting Dimensions (mm) (WxD)
			NC	MCC	LRC		Liquid	Suction			
JEHSI-033-B3-M-3	AGK33FDAMTS	3	3.9	10.8	n/a	31	1/2"	5/8"	116	1334 x 546x 872	945 x 500
JEHSI-066-B3-M-3	AGK66FDAMTS	3	7.0	17.5	n/a	40	1/2"	3/4"	134	1334 x 546x 872	945 x 500
JEHSI-087-B4-M-3	AGK87FDAMTS	3	8.8	24.0	n/a	44	3/4"	7/8"	212	1348 x 600 x 1727	940 x 560

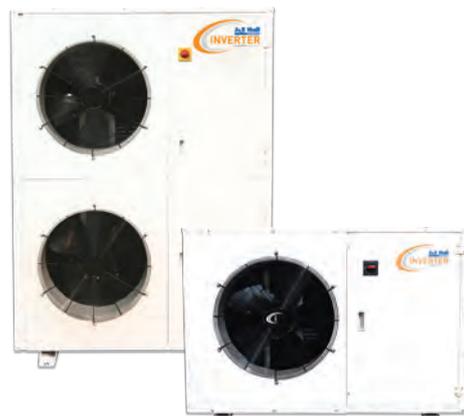
NC = Nominal Current at -10°Cte/+32°Cta MT conditions @ 60rps with R448A refrigerant  
MCC = Maximum Continuous Current LRC = Locked Rotor Current

Sound Pressure Level (SPL) measured in an anechoic room at -10°Cte/+32°Cta MT conditions @ 60rps. Alternative conditions may produce different results

### R448A/R449A Capacity Data

Casing	Unit Model	Comp. Speed (rps)	SEPR	R448A/R449A Cooling Capacity (Watts) @ Te					
				-20°C	-15°C	-10°C	-5°C	0°C	5°C
Large	JEHSI-033-B3-M-3	30	3.03	1497	1795	2142	2542	2999	3517
		60		1498	3665	4348	5110	5951	6875
		80		1499	4659	5503	6446	7496	8657
		100		1500	5713	6704	7807	9030	10380
	JEHSI-066-B3-M-3	30	3.39	2827	3897	4966	6036	7105	8175
		60		4787	6694	8600	10507	12413	14320
		80		7723	9386	11049	12712	14375	16038
		100		9037	11117	13196	15276	-	-
Twin	JEHSI-087-B4-M-3	30	3.60	3328	4220	5112	6310	7508	8706
		60		6609	8644	10680	13449	16217	18986
		80		9416	11589	13762	16480	19198	21916
		100		11703	13906	16109	19296	22483	25670

Rating Condition MT: Suction Gas Superheat 10K / Subcooling 0K / 32°C Ambient Capacity data presented in accordance with BS EN 13215:2016



## Copeland EazyCool™ ZX Scroll Low Noise Housed Condensing Units —

The New Copeland EasyCool™ outdoor condensing units feature; high efficiency **Copeland Scroll** compressors, for significant energy savings. Slim and compact soundproof housing design, with a fan speed controller for low noise operation. Fully equipped electrical panel including overload protector and fitted LP/HP switch. Fitted drier and sight glass with isolating valve for future drier replacement. Suction and liquid line connections on the side of unit for easy connection.

**1PH - M/HBP** (see table for refrigerants on next page)

CODE	MODEL	APPROX HP	Db(A)
J416	ZXME-020E-PFJ	2	39
J417	ZXME-025E-PFJ	2.5	39
J418	ZXME-030E-PFJ	3	40
J419	ZXME-040E-PFJ	4	40

**3PH - M/HBP** (see table for refrigerants on next page)

CODE	MODEL	APPROX HP	Db(A)
J420	ZXME-020E-TFD	2	39
J421	ZXME-030E-TFD	3	40
J422	ZXME-040E-TFD	4	40
J423	ZXME-050E-TFD	5	41
J424	ZXME-060E-TFD	6	41
J425	ZXME-075E-TFD	8	42

**3PH - LBP** (see table for refrigerants on next page)

CODE	MODEL	APPROX HP	Db(A)
J428	ZXLE-020E-TFD	2	39
J429	ZXLE-030E-TFD	3	40
J430	ZXLE-040E-TFD	4	40
J431	ZXLE-050E-TFD	5	41
J432	ZXLE-060E-TFD	6	41
J438	ZXLE-075E-TFD	8	41

**FEATURES:** 1. Front Door with Quick Check Window 2. Universal controller with status display and adjustable settings 3. Copeland Scroll™ compressor with crankcase heater and sound jacket 4. Easy accessible suction and liquid line connections – slanted for compact design 5. Liquid line isolating valve for drier replacement 6. Low speed fan motors with sickle blades 7. Filter drier and sight glass 8. Oil separator (LT version only) 9. Suction accumulator (LT version only)

**Copeland™  
EazyCool™**



## Copeland EazyCool™ ZX Low Noise Digital Scroll Housed Condensing Units

Copeland EasyCool™ ZX Digital refrigeration units represent the top level of the ZX product platform. The advantages of the standard models compactness, silence and efficiency are further extended by the capability of continuous capacity modulation. This makes ZX Digital refrigeration units the perfect fit for applications with wide load variations.

**FEATURES:**

1. Front door with quick check window
2. Universal controller with status display and adjustable settings
3. Copeland scroll digital™ compressor with crankcase heater and sound jacket
4. Easy, accessible suction and liquid line connections – slanted for compact design
5. Liquid line isolating valve for drier replacement
6. Low speed fan motors with sickle blades
7. Filter drier and sight glass
8. Oil separator

**3PH - M/HBP** (see table for refrigerants on next page)

CODE	MODEL	APPROX HP	Db(A)
J433	ZXDE-040E-TFD	4	40
J434	ZXDE-050E-TFD	5	41
J435	ZXDE-060E-TFD	6	41
J436	ZXDE-075E-TFD	8	42

**Copeland™  
EazyCool™**



# Copeland EazyCool™ ZX Scroll Condensing Unit Performance

Performance data for medium and low temperature models.

MEDIUM TEMPERATURE MODEL	CAPACITY (kW*)							
	R134A	R404A	R407A	R407F	R448A	R449A	R450A	R513A
ZXME-020E	2.3	3.6	3.5	3.4	3.4	3.4	1.9	2.3
ZXME-025E	2.7	4.3	4.2	4.1	4.2	4.2	2.4	2.8
ZXME-030E	3.2	5.2	4.9	4.9	5.1	5.1	2.8	3.4
ZXME-040E	4.4	7.0	6.3	6.9	6.6	6.6	3.8	4.6
ZXME-050E	5.5	9.1	8.7	8.6	8.8	8.8	4.8	5.9
ZXME-060E	6.5	10.4	9.8	9.7	10.1	10.1	5.6	6.8
ZXME-075E	7.5	11.9	11.3	11.2	11.6	11.6	6.3	7.7

\*EN13215 Conditions: Te -10°C, Ta 32°C, SGT 20°C

LOW TEMPERATURE MODEL	CAPACITY (kW*)				
	R404A	R407A	R407F	R448A	R449A
ZXLE-020E	1.7	1.5	1.6	1.5	1.5
ZXLE-030E	2.4	2.0	2.1	2.1	2.1
ZXLE-040E	4.0	3.2	3.3	3.2	3.2
ZXLE-050E	5.0	3.6	3.8	3.6	3.6
ZXLE-060E	5.8	4.2	4.4	4.6	4.6
ZXLE-075E	6.5	4.8	5.0	5.1	5.1

\*EN13215 Conditions: Te -35°C, Ta 32°C, SGT 20°C

# Copeland EazyCool™ ZX Digital Scroll Condensing Unit Performance.

Performance data for medium temperature model with capacity modulation.

MEDIUM TEMPERATURE MODEL	CAPACITY (kW*)							
	R134A	R404A	R407A	R407F	R448A	R449A	R450A	R513A
ZXDE-040E	4.3	7.6	7.3	7.2	7.2	7.2	3.8	4.6
ZXDE-050E	5.3	9.0	8.7	8.6	8.7	8.7	4.8	5.9
ZXDE-060E	6.3	10.5	9.8	9.0	10.1	10.1	5.6	6.8
ZXDE-075E	7.2	11.9	11.3	10.2	11.4	11.4	6.3	7.7

\*EN13215 Conditions: Te -10°C, Ta 32°C, SGT 20°C

# Copeland EazyCool™ ZX Scroll & Digital Scroll Condensing Unit Data

MODEL	DIMENSIONS MM			CONNECTIONS	
	LENGTH	WIDTH	HEIGHT	SUCTION	LIQUID
ZXME-020E	1029	424	840	3/4	1/2
ZXME-030E	1029	424	840	3/4	1/2
ZXME-040E	1029	424	840	7/8	1/2
ZXME-050E	1029	424	1242	7/8	1/2
ZXME-060E	1029	424	1242	7/8	1/2
ZXME-075E	1029	424	1242	7/8	1/2
ZXLE-020E	1029	424	840	3/4	1/2
ZXLE-030E	1029	424	840	3/4	1/2
ZXLE-040E	1029	424	840	7/8	1/2
ZXLE-050E	1029	424	1242	7/8	1/2
ZXLE-060E	1029	424	1242	7/8	1/2
ZXLE-075E	1029	424	1242	7/8	1/2
ZXDE-040E	1029	424	1242	7/8	1/2
ZXDE-050E	1029	424	1242	7/8	1/2
ZXDE-060E	1029	424	1242	7/8	1/2
ZXDE-075E	1029	424	1242	7/8	1/2

## Profroid QuietCool CO<sub>2</sub> Packaged Condensing Units

Profroid QUIETCOOL CO<sub>2</sub> packaged condensing units comprising 4 medium and 3 low temp models. Medium temp application 0.8 - 9.74kW. low temp application 1.31 to 6.48kW. These high quality units include everything you expect in a packaged condensing unit with easy access to all components.

Weatherproof housing with electrical isolator, fitted service valves, variable speed capacity controlled rotary compressor with inverter drive.

Carel controller designed specifically for CO<sub>2</sub> applications and circuit breakers to supply single or multiple evaporators.

Medium temperature models have a single compressor and the low temp models have twin compressors. Ecodesign compliant.



### CO<sub>2</sub> - MBP

CODE	MODEL	PHASE
J540	QuietCo <sub>2</sub> ol MT30	1 PH
J541	QuietCo <sub>2</sub> ol MT45	1 PH
J544	QuietCo <sub>2</sub> ol MT67	3 PH
J546	QuietCo <sub>2</sub> ol MT100	3 PH



### CO<sub>2</sub> - LBP

CODE	MODEL	PHASE
J560	QuietCo <sub>2</sub> ol LT75	1 PH
J562	QuietCo <sub>2</sub> ol LT112	3 PH
J565	QuietCo <sub>2</sub> ol LT167	3 PH



#### OPTIONS

- Water Cooled Version
- EC Fans



# Profroid Quiet CO<sub>2</sub> OL Packaged Condensing Units

Performance data for medium and low temperature models.

## Medium Temperature

	Quiet CO <sub>2</sub> OL 30MT	Quiet CO <sub>2</sub> OL 45MT	Quiet CO <sub>2</sub> OL 67MT	Quiet CO <sub>2</sub> OL 100MT
Refrigerant	CO <sub>2</sub> (R744)			
Size	1	1	1	2
Nominal capacity (kW*)	2.25	3.17	5.02	6.82
Minimum capacity (kW*)	0.80	1.13	1.79	2.43
Maximum capacity (kW*)	3.21	4.52	7.18	9.74

Nominal Capacities with CO<sub>2</sub>: Saturated suction temperature -8°C / Ambient Air Temperature +32°C

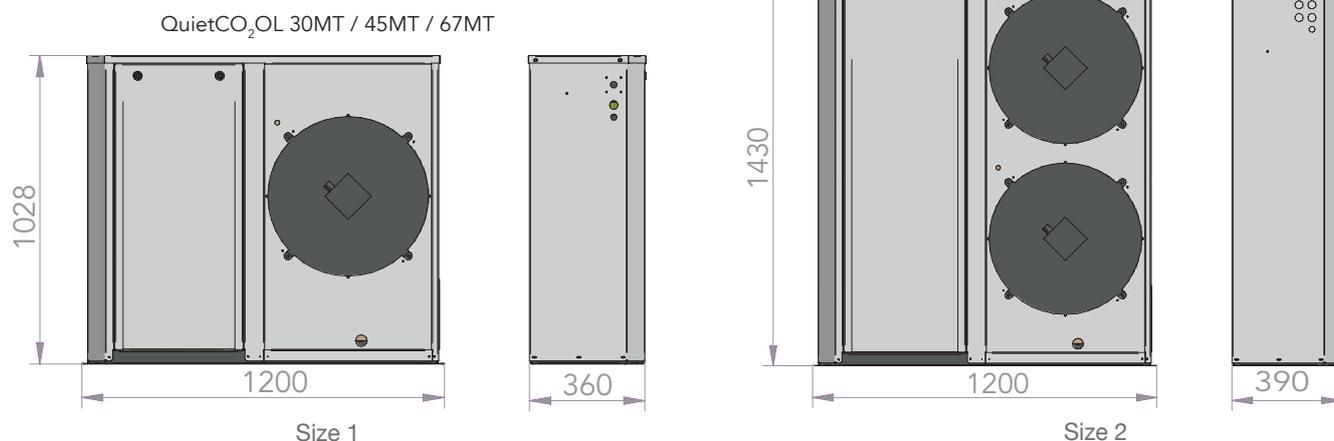
## Low Temperature

	Quiet CO <sub>2</sub> OL LT75	Quiet CO <sub>2</sub> OL LT112	Quiet CO <sub>2</sub> OL LT167
Refrigerant	CO <sub>2</sub> (R744)		
Size	3	4	4
Nominal capacity (kW*)	2.04	3.20	4.54
Minimum capacity (kW*)	1.31	2.00	2.92
Maximum capacity (kW*)	2.92	4.64	6.48

Nominal Capacities with CO<sub>2</sub>: Saturated suction temperature -32°C / Ambient Air Temperature +32°C

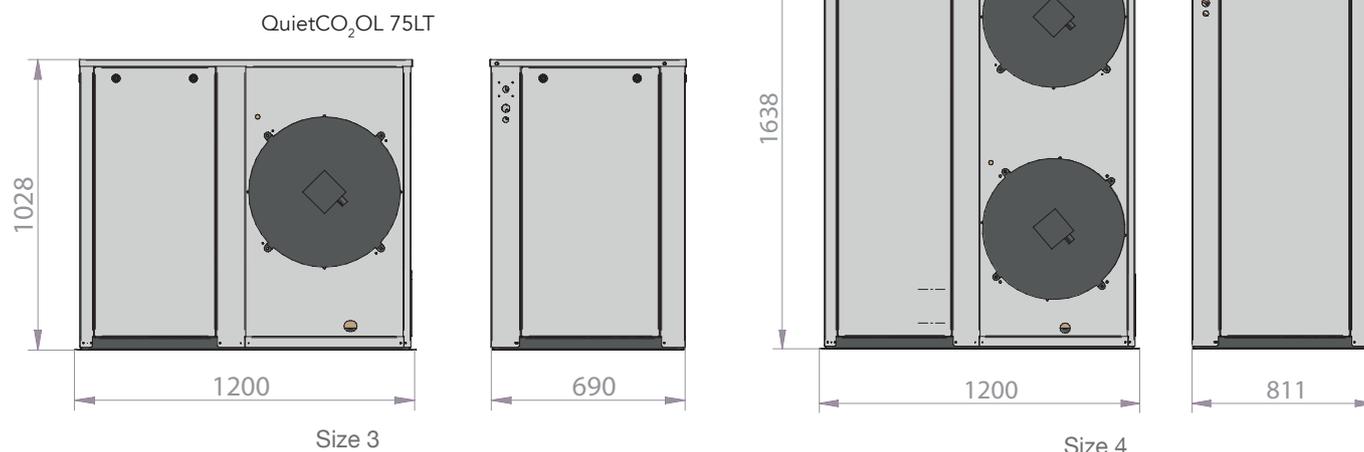
## Condensing Unit Dimensions

### Medium Temperature



## Condensing Unit Dimensions

### Low Temperature



## GRP Unit Housing

Virgo condensing unit housings are designed to suit a wide range of refrigeration units. Available as standard or acoustic with foam lining to reduce noise.



### Standard

CODE	MODEL
J330	GRP-01
J331	GRP-1
J332	GRP-2
J333	GRP-3
J334	GRP-4
J335	GRP-5
J336	GRP-6
J337	GRP-7



### Acoustic Lined

CODE	MODEL
J340	GRP-01-AC
J341	GRP-1-AC
J342	GRP-2-AC
J343	GRP-3-AC
J344	GRP-4-AC
J345	GRP-5-AC
J346	GRP-6-AC
J347	GRP-7-AC

### Dimensions

MODEL	WIDTH	DEPTH	HEIGHT
GRP-01	584	584	381/432
GRP-1	660	762	559/609
GRP-2	838	965	686/762
GRP-3	1143	813	737/787
GRP-4	1118	1092	864/914
GRP-5	1753	965	864/914
GRP-6	1422	1092	1168/1219
GRP-7	1879	1346	1295/1371

## Metal Condensing Unit Housings

Metal unit housings designed to fit Tecumseh Condensing Units. They are supplied flat packed for easy transportation.

CODE	MODEL
JN760	LUH-01
JN761	LUH-02

### Dimensions

MODEL	WIDTH	DEPTH	HEIGHT
LUH-01	500	660	360
LUH-02	540	660	490





## FAN MOTORS & FAN BLADES

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**K**  
SECTION

## Multi-Fit Fan Motors

Fan motor - CCW rotation with multiple choices for mounting.  
 Individually boxed complete with fixings.  
 3 tapped holes for front / rear mounting.  
 Adjustable bolt-plate for base / top mounting on bracket.  
 4 corner bolts for ring mounting.  
 1000mm power cord for greater flexibility of installation.

CODE	MODEL	WATTAGE
K400	MF5	5
K401	MF7	7
K402	MF10	10
K403	MF16	16
K404	MF18	18
K405	MF25	25
K406	MF34	34



## Elco Multi-Fit Fan Motors

Our N series motors are shaded pole motors with rated output power from 5 to 34 Watt, 4 pole, single-speed, sleeve bearings. All standard models are VDE, UL, CE or CSA approved and offer multiple mounting options, such as threaded holes drive end, threaded holes non-drive end, through bolts, side studs and brackets. CCW rotation, 500mm power cord.

CODE	MODEL	WATTAGE
K580	NET5T05ZVN001	5
K585	NET5T07ZVN001	7
K581	NET5T10ZVN001	10
K586	NET5T16ZVN001	16
K582	NET5T18PVN001	18
K583	NET5T25PVN001	25
K584	NET5T34PVN001	34



CODE	DESCRIPTION
K597	High Speed 18 Watt 2600rpm motor with capacitor

## Mounting Brackets

Select the correct bracket and blade combination from the table on the next page.

CODE	TYPE	HEIGHT
K480	71882	52mm
K481	71883	72mm
K482	71884	84mm
K485	71887	109mm



## Mounting Rings

Mounting rings in various sizes.  
 Please select correct combination of blade and /or bracket from the table on the next page.

CODE	TYPE	BLADE Ø mm
K470	Ring-154	154
K471	Ring-172	172
K472	Ring-200	200
K473	Ring-230	230
K474	Ring-254	254



## Fan Blades

One-piece aluminium fan blades to suit most types of motor. For condenser application (air over blade then over motor) use a clockwise (CW) blade with a counter-clockwise motor (CCW). All our multi-fit motors are CCW

### Suckers

CODE	ROTATION	BLADE Ø mm	PITCH
K440	CW Blade	154	28°
K441	CW Blade	154	34°
K442	CW Blade	172	28°
K443	CW Blade	172	34°
K444	CW Blade	200	28°
K445	CW Blade	200	34°
K446	CW Blade	230	28°
K447	CW Blade	230	34°
K448	CW Blade	254	28°
K449	CW Blade	254	34°
K450	CW Blade	300	28°
K451	CW Blade	300	34°



### Blowers

CODE	ROTATION	BLADE Ø mm	PITCH
K453	CCW Blade	154	28°
K454	CCW Blade	172	28°
K455	CCW Blade	200	28°
K456	CCW Blade	200	34°
K457	CCW Blade	254	28°
K458	CCW Blade	254	34°
K459	CCW Blade	300	28°
K460	CCW Blade	300	34°

## Blade and Bracket Selection Chart

MOTOR	MAXIMUM BLADE	BRACKET
5 WATT	172mm 34°	71882
5 WATT	200mm 28°	71883
10 WATT	230mm 34°	71883
16 WATT	254mm 28°	71884
18 WATT	254mm 34°	71885
25 WATT	300mm 28°	71886
34 WATT	300mm 34°	71887

## Motor Ring Assemblies

We offer a few common models already made up. If you require any other combination please select from the Individual components.

CODE	TYPE	WATTAGE	BLADE Ø mm
K430	5W-154	5	154
K431	5W-172	5	172
K432	7W-200	7	200
K143	7W-230	7	230
K433	10W-254	10	254
K434	16W-254	16	254



## Tangential Fan Motor Assembly

### Single Fan

CODE	MODEL	WATT	MOTOR POSITION
K150	ETD 6090.15	15	Right Hand Side
K151	ETD 60120.15	15	Right Hand Side
K152	ETD 60180.20	20	Right Hand Side
K175	TAS18-16	28	Left Hand Side
K153	ETD 60240.30	30	Right Hand Side
K154	ETD 60300.30	30	Right Hand Side



### Double Fan

CODE	MODEL	WATT
K155	ETD 6090.20	20
K156	ETD 60120.20	20
K157	ETD 60180.30	30
K158	ETD 60240.30	30

### Tangential Fan Specification

CODE	MODEL	LENGTH	AIR OFF DUCT
K150	ETD 6090.15	150mm	35mm x 98mm
K151	ETD 60120.15	180mm	35mm x 128mm
K152	ETD 60180.20	242mm	35mm x 185mm
K175	TAS18-16	180mm	35mm x 182mm
K153	ETD 60240.30	315mm	35mm x 248mm
K154	ETD 60300.30	375mm	35mm x 308mm
K155	ETC 6090.20	287 mm	2 x 35mm x 100mm
K156	ETC 60120.20	347 mm	2 x 35mm x 130mm
K157	ETC 60180.30	467mm	2 x 35mm x 190mm
K158	ETC 60240.30	587mm	2 x 35mm x 250mm

## Axial Square Frame Fan Motors

Three different motors to choose from. The 2 x 120mm square motors are available either 25 or 38mm Thick. The 80 x 80mm is one thickness only (38mm).

CODE	SIZE (H x W x D)	CFM	VOLTAGE
K190	80 x 80 x 38	25/30	230V
K191	120 x 120 x 25	64/77	230V
K192	120 x 120 x 38	85/105	230V



### Axial Square Frame Motor Power Lead

CODE	DESCRIPTION
K169	Power Lead to suit K191& K192 Motors



### Axial Square Frame Motor Fan Guard

CODE	DESCRIPTION
K198	120 x 120mm Metal Guard to suit K191 & K192 motors



## Universal Round Fan Motor

7 Watt CCW round fan motor, with 4 thread protruding mounting bolts, 3 on the rear and 1 on the side of the motor.

Threaded shaft with nut and rubber mounting washer included.

CODE	TYPE	WATT	ROTATION
K060	GA27R	7	CCW



## Cooleo Guard Mounted Axial Fan Motors

Cooleo YWF range of external rotor axial fan motors feature built in run capacitors. YWF guard mounted motors are compact easy to install and efficient. Available in 1ph 220V/50Hz or 3ph 380V/50Hz Airflow direction: choose from sucker or blower option. All Cooleo motors listed on this page are fitted with variable speed option. Motors can be speed controlled between 40 and 100% via suitable fan speed controller (not supplied).

### 220V/50Hz 1PH Suckers

CODE	MODEL	BLADE Ø	SPEED	VOLTAGE
K717	YWF4E-200-S	200mm	4 pole	1ph
K700	YWF4E-250-S	250mm	4 pole	1ph
K702	YWF4E-300-S	300mm	4 pole	1ph
K704	YWF4E-315-S	315mm	4 pole	1ph
K752	YWF4E-330-S	330mm	4 pole	1ph
K706	YWF4E-350-S	350mm	4 pole	1ph
K710	YWF4E-400-S	400mm	4 pole	1ph
K714	YWF4E-450-S	450mm	4 pole	1ph
K716	YWF4E-500-S	500mm	4 pole	1ph
K718	YWF4E-550-S	550mm	4 pole	1ph
K719	YWF4E-600-S	600mm	4 pole	1ph
K720	YWF4E-630-S	630mm	4 pole	1ph



### 220V/50Hz 1PH Blowers

CODE	MODEL	BLADE Ø	SPEED	VOLTAGE
K721	YWF4E-200-B	200mm	4 pole	1ph
K722	YWF4E-250-B	250mm	4 pole	1ph
K723	YWF4E-300-B	300mm	4 pole	1ph
K724	YWF4E-315-B	315mm	4 pole	1ph
K708	YWF4E-350-B	350mm	4 pole	1ph
K712	YWF4E-400-B	400mm	4 pole	1ph
K725	YWF4E-450-B	450mm	4 pole	1ph
K726	YWF4E-500-B	500mm	4 pole	1ph
K727	YWF4E-550-B	550mm	4 pole </td <td>1ph</td>	1ph
K728	YWF4E-600-B	600mm	4 pole	1ph
K729	YWF4E-630-B	630mm	4 pole	1ph



### 380V/50Hz 3PH Suckers

CODE	MODEL	BLADE Ø	SPEED	VOLTAGE
K730	YWF4D-200-S	200mm	4 pole	3ph
K731	YWF4D-250-S	250mm	4 pole	3ph
K732	YWF4D-300-S	300mm	4 pole	3ph
K733	YWF4D-315-S	315mm	4 pole	3ph
K734	YWF4D-350-S	350mm	4 pole	3ph
K735	YWF4D-400-S	400mm	4 pole	3ph
K736	YWF4D-450-S	450mm	4 pole	3ph
K737	YWF4D-500-S	500mm	4 pole	3ph
K738	YWF4D-550-S	550mm	4 pole	3ph
K739	YWF4D-600-S	600mm	4 pole	3ph
K740	YWF4D-630-S	630mm	4 pole	3ph



### 380V/50Hz 3PH Blowers

CODE	MODEL	BLADE Ø	SPEED	VOLTAGE
K741	YWF4D-200-B	200mm	4 pole	3ph
K742	YWF4D-250-B	250mm	4 pole	3ph
K743	YWF4D-300-B	300mm	4 pole	3ph
K744	YWF4D-315-B	315mm	4 pole	3ph
K745	YWF4D-350-B	350mm	4 pole	3ph
K746	YWF4D-400-B	400mm	4 pole	3ph
K747	YWF4D-450-B	450mm	4 pole	3ph
K748	YWF4D-500-B	500mm	4 pole	3ph
K749	YWF4D-550-B	550mm	4 pole	3ph
K750	YWF4D-600-B	600mm	4 pole	3ph
K751	YWF4D-630-B	630mm	4 pole	3ph



## Remco Fan Motor and Blade Selection Guide

Table below shows details of Remco motors that fit some of the most common makes of evaporators and condensing units in the refrigeration industry.

### Searle Replacement Motors & Blades

CODE	VOLTAGE	MOTOR	BLADE
ECL 45/65	1PH/3PH	K341/K343	K253
ECL 85	1PH/3PH	K341/K343	K252
ECL 120	1PH/3PH	K341/K343	K254
ECL 180	1PH/3PH	K360/K361	K256
ECL 240	1PH/3PH	K365/K366	K258
ECL 360/720	1PH/3PH	K377/K378	K259
K 45/120	1PH	K341	K251
K 45/120	3PH	K343	K251
K 180/360	1PH	K365	K255
K 180/360	3PH	K366	K255
KM	1PH	K362	-
KM	3PH	K363	-
SR MK1 (Screwed)	1PH	K322	-
SR MK2 (Plain)	1PH	K326	-
SU	1PH	K310	K218
T1, J1 AND J2	1PH	K310	K218
T2-T6, J3 AND J4	1PH	K318	K219
UCL	1PH	K330	K220
KS 10/15/20/25	1PH	K332	-
BC (All Models)	1PH	K332	-
DSR100	1PH	K332	-
DSR116	1PH	K332	-

### Prestcold Replacement Motors

CODE	VOLTAGE	MOTOR	BLADE
25 Watt (54713-201)	1PH	K328	-
AS100/150	1PH	K350	-
AS375/ASR1500	3PH	K351	-
AS375/ASR1500	3PH	K379	-
27131/0134	1PH	K354	-
27130/0122	3PH	K355	-

### Maneuropo Replacement Motor

CODE	VOLTAGE	MOTOR	BLADE
Y, A & B Condensers	1PH	K338	-

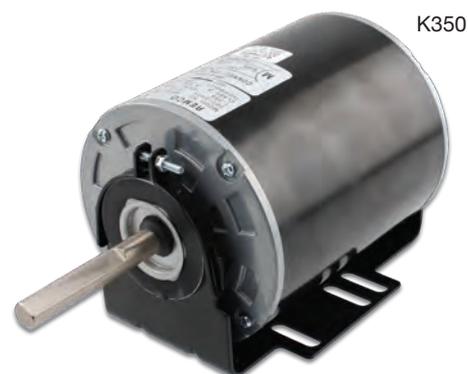
### Contardo Replacement Motor

CODE	VOLTAGE	MOTOR	BLADE
G90	1PH	K339	-

### Foster Replacement Motor

CODE	VOLTAGE	MOTOR	BLADE
High Speed Motor	1PH	K329	-

Please Note: The above tables are for guidance only and does not necessarily indicate a direct replacement.



# Remco Electric Motors

CODE	MODEL	OUTPUT	ROTATION	SHAFT	MOUNTING **
K300	33-4-5AF-BKT18	5 Watt	CCW	Threaded	A
K301	33-4-5CF-BKT18	5	CW	Threaded	A
K302	33-4-7AF-BKT18	7	CCW	Threaded	A
K310	33-2-7A1	7	CCW	1/2"	B
K315	33-4-12AF	12	CCW	Threaded	C
K316	33-4-12CF	12	CW	1/2"	C
K318	33-4-15A1	15	CCW	5-1/6"	B
K322	33-4-18AFL	18	CCW	Threaded	C
K323	33-4-18CFL	18	CW	Threaded	C
K326	33-4-18A	18	CCW	5-1/6"	D
K328	33-4-25A3	25	CCW	5-1/6"	D
K329	33-2-33RF	33	REV	Threaded	C
K330	33-2-35A	35	CCW	5-1/6"	C
K331	35-2-75AB	75	CCW	5-1/6"	J
K332	35-4-70AL	70	CCW	12mm	L
K336	35-4-75R1	75	REV	5-1/6"	H
K339	48-4-90AG	90	CCW	1/2"	I
K341	48-4-90AR	90	CCW	1/2"	E
K343	48-4-90AR-3P	90-3PH	CCW	1/2"	E
K344	48-4-90-AB-FT	90-1PH	CCW	1/2"	H
K350	48-4-125A	125-1PH	CCW	1/2"	F
K351	48-4-125-3P	125-3PH	REV	1/2"	F
K354	48-6-180AB	180-1PH	CCW	1/2"	K
K355	48-6-180-3PB	180-3PH	CCW	1/2"	K
K360	60-4-180RB1P/R	180-1PH	REV	5/8"	E
K361	55-4-180RB3P/R	180-3PH	REV	5/8"	E
K362	63-4-200AB	200-1PH	REV	12mm	H
K363	63-4-2003PB	200-3PH	REV	12mm	H
K365	60-4-250RB1P/R	250-1PH	REV	5/8"	E
K366	55-4-250RB3P/R	250-3PH	REV	5/8"	E
K375	60-4-370RIP/R	370-1PH	REV	1/2"	E
K377	60-4-550RB1P/R	550-1PH	REV	5/8"	E
K378	55-4-550RB3P/R	550-3PH	REV	5/8"	E
K379	60-6-550RB3P/R	550-3PH	REV	5/8"	E

## \*\* Mountings:

A	3 Rear fixings on 2.81" PCD 2 Pin base mounting
B	2 M4 extended bolts 0.50" long on 2.84" PCD rear
C	3 Rear fixings on 2.81" PCD
D	3 Rear and 3 front fixings on 2.81" PCD
E	Cradle and 4 mounting pads (Spider)
F	Cradle
G	Spider (To suit Maneurop)
H	Foot mounting
I	3 Rear fixings on 113.4mm PCD
J	4 Rear and 4 front fixings on 67.5mm PCD
K	Clamp in fan guard
L	4 Lugs to rear of motor



K332

## Shaft Sleeves

To convert plain shafts up to next diameter.

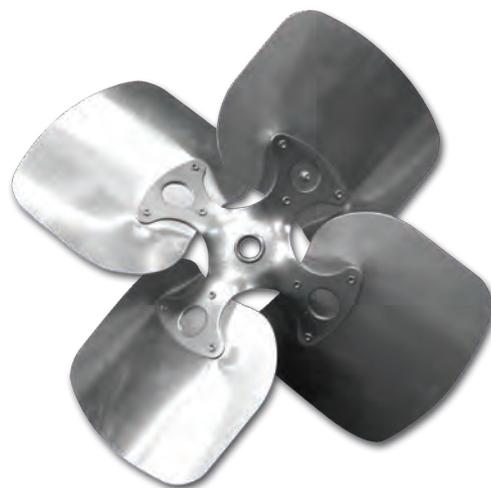
CODE	TYPE	SIZE
K390	SS 45	1/4 to 5/16
K391	SS 56	5/16 to 3/8
K392	SS 68	3/8 to 1/2
K393	SS 810	1/2 to 5/8



## Aluminium Fan Blades

### Clockwise Fan Blade with Hub

CODE	BLADE Ø INCH	DESCRIPTION*
K218	5-1/2	-4B-32-CW-RH-1/4
K219	9	-5B-31 CW-RH-8mm
K220	10	-5B-12-CW-RH-8mm
K221	10	-4B-24-CW-FH-8mm
K222	10	-4B-36-CW-FH-12mm
K223	12	-4B-31-CW-RH-8mm
K224	12	-4B-31-CW-FH-1/2
K225	14	-4B-31-CW-FH-1/2
K226	15	-4B-31-CW-FH-1/2
K227	15	-4B-31-CW-FH-5/8
K228	16	-4B-31-CW-FH-5/8
K229	18	-4B-31-CW-FH-5/8



### Counter Clockwise Fan Blade with Hub

CODE	BLADE Ø INCH	DESCRIPTION*
K250	12	-4B-31-CCW-RH-8mm
K251	12	-4B-36-CCW-FH-1/2
K252	12	-4B-32-CCW-RH-1/2
K253	12	-4B-40-CCW-RH-1/2
K254	14	-4B-24-CCW-RH-1/2
K255	15	-4B-40-CCW-RH-5/8
K256	15	-4B-32-CCW-RH-5/8
K257	16	-4B-32-CCW-RH-5/8
K258	18	-4B-24-CCW-RH-5/8
K259	22	-4B-16-CCW-RH-5/8

\*Description Explanation: Taking the K259 as an example, 22 = Diameter of Blade in inches, 4B = Four Blade, 16 = Pitch of Blades in Degrees, CCW = Counter Clockwise Rotation, RH = Rear Hub, (FH = Front Hub) 5/8 = Hub Bore.

## Supco Open Wound Fan Motor Kits

**Supco SM-998** Evaporator fan universal motor kit 230 volt 3000 RPM, rotation (reversible): CW/CCW break off 2" long motor shaft with breakaways at 1/2" and 1-1/2".

**Supco SM-672** Evaporator Fan universal motor kit 240 volt, 3000 RPM, rotation (reversible): CW/CCW motor shaft dimensions: 1-1/4" long x 3/16" diameter kit includes: 2 blades, 1 x 4" & 1 x 5-1/4" and mounting accessories.

CODE	MODEL	BLADE/S INCLUDED
K030	SM-998	No
K032	SM-672	Yes ( x 2 )



Image shows SM-672 Kit which includes 2 blades

## Open Wound Fan Motors Blades and Bracket

### MA-VIB Open Wound Fan Motors

CODE	MODEL	ROTATION	OUTPUT WATTS
K098	E1.5A	CCW	1.5
K099	E2A	CCW	2.0

### MA-VIB Open Wound Motor Bracket

CODE	DESCRIPTION
K119	Metal Bracket to suit E1.5A & E2A MA-VIB Motors Listed above.

### MA-VIB Open Wound Fan Motor Blades

3 Different sizes of aluminium blades ALL with hub and grub screw. To suit our range of MA-VIB motor listed above.

CODE	BLADE Ø mm	TO SUIT MOTOR MODELS
K127	100	E1.5A
K128	130	E1.5A & E2A
K129	154	E2A



# Airflow Explained!

On this page we have attempted to demonstrate how the direction of airflow created by a fan may be changed by the manner in which it is fitted to a motor shaft.

Remember, fans are normally described as being clockwise or anticlockwise.

The easy way to tell which rotation fan you have is to lay it on a flat surface with one blade approximately at 12 o'clock. If the **right** hand edge of that blade is touching the table, then it is a **clockwise** fan, If the **left** hand edge of the fan touches the table, then it is an

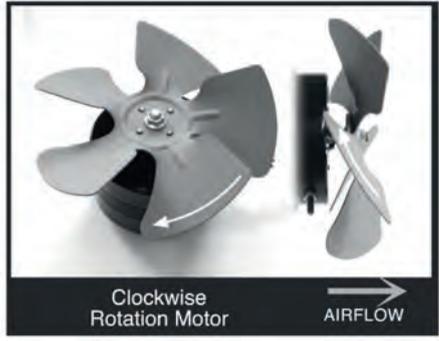
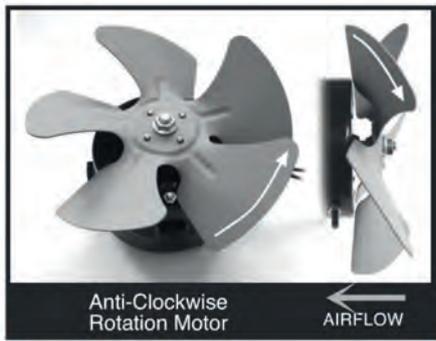
**anticlockwise** fan.

Turning the fan over makes no difference to which edge touches the table.

For one piece fans we show below four illustrations showing the air flow direction for both clockwise and anti-clockwise fans fitted to motors both with clockwise and anticlockwise rotation, looking on the shaft end.

Remember also that a fan runs correctly when the concave sides of the fan blades are facing the direction of rotation.

One piece 5 bladed fans with hubless fan drives for use on small refrigeration motors. (clockwise fan)



One piece 5 bladed fans with hubless fan drives for use on small refrigeration motors. (anticlockwise fan)



To the right we show the same relationships, but for bladed fans with hubs. Here, when describing a fan requirement, it is useful also to add whether the fan is fixed to the motor shaft with the fan hub to the front, i.e. on the opposite side of the fan to the motor, or with the fan hub to the rear, i.e. on the same side of the fan as the motor. The same rules for clockwise and anticlockwise fans apply as above.

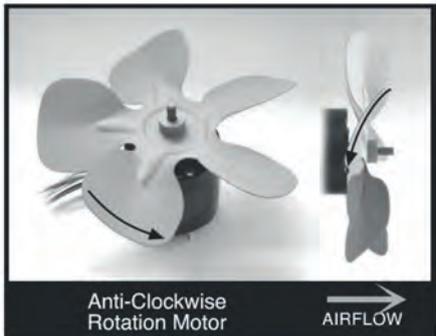
CW Fan - Rear Hub



CW Fan - Front Hub



ACW Fan - Front Hub



ACW Fan - Rear Hub



System NO. Charge size

**REFRIGERANT  
PIPEWORK  
THESE PIPES CONTAIN  
R-134a-REFRIGERANT**



FRIDGE SPARES WHOLESALE

**R-134a**

CH<sub>2</sub>FCF<sub>3</sub>  
1,1,1,2-tetrafluoroethane  
CAS number 811-97-2  
2.2, UN3159

System NO. Charge size

**REFRIGERANT  
PIPEWORK  
THESE PIPES CONTAIN  
R-407F-REFRIGERANT**



FRIDGE SPARES WHOLESALE

**R-407F**

Performax LT  
UN3163  
GWP1825

System NO. Charge size

**REFRIGERANT  
PIPEWORK  
THESE PIPES CONTAIN  
R-404A-REFRIGERANT**



FRIDGE SPARES WHOLESALE

**R-404A**

FX70, HP62  
UN3337  
GWP3922

System NO. Charge size

**REFRIGERANT  
PIPEWORK  
THESE PIPES CONTAIN  
R-407C-REFRIGERANT**



FRIDGE SPARES WHOLESALE

**R-407C**

Klea66, Suva 9000  
UN3340  
GWP1774

System NO. Charge size

**REFRIGERANT  
PIPEWORK  
THESE PIPES CONTAIN  
CARBON DIOXIDE (R744) REFRIGERANT-GRADE CO<sub>2</sub>**



FRIDGE SPARES WHOLESALE

**R-744**

UN1013  
GWP-1  
NATURAL REFRIGERANT

System NO. Charge size

**REFRIGERANT  
PIPEWORK  
THESE PIPES CONTAIN  
R-410A-REFRIGERANT**



FRIDGE SPARES WHOLESALE

**R-410A**

AZ20  
UN3163  
GWP2088

System NO. Charge size

**REFRIGERANT  
PIPEWORK  
THESE PIPES CONTAIN  
R-449A-REFRIGERANT**



FRIDGE SPARES WHOLESALE

**R-449A**

OPTEON XP40  
UN1078  
GWP1397

System NO. Charge size

**REFRIGERANT  
PIPEWORK  
THESE PIPES CONTAIN  
R-448A-REFRIGERANT**



FRIDGE SPARES WHOLESALE

**R-448A**

Solstice N40  
UN3163  
GWP1387

System NO. Charge size

**REFRIGERANT  
PIPEWORK  
THESE PIPES CONTAIN  
R-32-REFRIGERANT**



FRIDGE SPARES WHOLESALE

**R-32**

UN3252  
GWP675



## SELF ADHESIVE REFRIGERATION PIPE LABELS

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Other refrigerant labels  
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contact  
**FSW** for details  
(sold in packs of 10)

\*Min order of 10 packs of 10 labels when  
you request non standard refrigerant labels





## DEFROST CONTROLS, ELECTRICAL ACCESSORIES, CABLE & CONTROL PANELS

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L  
SECTION

## FSW EZ Range of Electronic Controllers

New range of electronic controllers made exclusively to **FSW** specification by Eliwell. Three models available for high, medium and low temperature applications called the **EZ-HT, EZ-MT & EZ-LT**.

The **EZ** range are supplied complete with NTC probes dependent on model, but can be changed via the parameters to accept PTC probes if required. See specification table below for full details of each controller.

**FSW EZ-HT** is a single relay module which is suitable as a thermostat or digital temperature read out, preset to +3°C.

CODE	MODEL	DESCRIPTION
L670	EZ-HT	High Temperature Controller Preset to +3°C

**FSW EZ-MT** is a three relay module for compressor, defrost and evaporator fans plus temperature display, preset to 0°C

CODE	MODEL	DESCRIPTION
L672	EZ-MT	Medium Temperature Controller Preset to 0°C

**FSW EZ-LT** is a three relay module for compressor, defrost and evaporator fans plus temperature display, preset to -18°C

CODE	MODEL	DESCRIPTION
L671	EZ-LT	Low Temperature Controller Preset to -18°C



Specification Table for FSW EZ Range of Controllers

MODEL	DEFROST TYPE	RANGE	COMP RELAY (FLA)	FAN DELAY	ALARM TYPE	PROBE INCLUDED	SUPPLY VOLTAGE
EZ-HT	Off Cycle	Preset to +3°C	12 amp	No	No Alarm	Yes (1 x NTC)	230V (50/60HZ)
EZ-MT	Time/Temp	Preset to 0°C	12 amp	Yes	No Alarm	Yes (2 x NTC)	230V (50/60HZ)
EZ-LT	Time/Temp	Preset to -18°C	12 amp	Yes	No Alarm	Yes (2 x NTC)	230V (50/60HZ)

## Eliwell Digifrost Controllers

Front dimensions: 74mm x 32mm – cut out: 71mm x 29mm  
 Models available for 12 volt DC/AC supply or 230 volt 50Hz.  
 The controls are supplied excluding probes but preset for NTC probes. They can be altered to work with PTC probes within the parameters. **Please remember to order probes separately.**

Easy to use thanks to the large-digit display and coloured status icons. Dedicated push-buttons provide direct access to the main functions.

CODE	MODEL	DESCRIPTION
L614	ID-Plus 974	12V controller (excludes probes)

CODE	MODEL	DESCRIPTION
E460	ID-Plus 974	230V controller (excludes probes)



MODEL	DEFROST TYPE	RANGE	COMP RELAY	FAN DELAY	ALARM TYPE	PROBE INCLUDED	SUPPLY VOLTAGE
ID-Plus 974	Time/Temp	NTC -50°C to +110°C PTC -55°C to +140°C	12 amp (FLA)	Yes	Buzzer	NO	12V ac/dc (50/60HZ)
ID-Plus 974	Time/Temp	NTC -50°C to +110°C PTC -55°C to +140°C	12 amp (FLA)	Yes	Buzzer	NO	230V (50/60HZ)

## Eliwell Controllers

**ICPlus 915** - Two relay two stage thermostat plus temperature display.

CODE	MODEL	DESCRIPTION
L594	ICPlus 915	12V Controller (excluding probes)



**ID985LX** - Four relay thermostat that can be configured for twin evaporator defrost, plus temperature display.

CODE	MODEL	DESCRIPTION
L655	ID985LX	12V Controller (excludes probes)



MODEL	DEFROST TYPE	RANGE	COMP RELAY (FLA)	FAN DELAY	ALARM TYPE	PROBE INCLUDED	SUPPLY VOLTAGE
ICPlus 915	N/A	NTC -50°C to +110°C PTC -55°C to +140°C	8 Amp	No	No Alarm	NO	12V
ID985LX	Time/Temp	NTC -50°C to +110°C PTC -55°C to +140°C	8 Amp	Yes	Visual	NO	12V

## Eliwell NTC & PTC Probes

### Probes

A wide range of genuine Eliwell NTC or PTC probes available in either 1.5 or 3 metre lengths.

CODE	MODEL	TYPE
L628	PTC - 1.5M	PTC 6 x 30 1.5M PVC Probe
L620	PTC - 1.5M	PTC 6 x 40 1.5M Silicone Probe
L622	PTC - 3.0M	PTC 6 x 40 3.0M Silicone Probe
L624	NTC - 1.5M	NTC 6 x 40 1.5M Silicone Probe
L626	NTC - 3.0M	PTC 6 x 40 3.0M Silicone Probe
L627	NTC - 1.5M	NTC Tadpole Probe 1.5M Probe*

\* These probes are the same probes that are supplied with FSW EZ range of controllers

**eliwell**



## Eliwell Transformer

Genuine Eliwell 230V to 12V transformer, to power 1 x controller. Suitable for most other makes of controllers that require a 230-12V 3VA transformer.

CODE	MODEL	TYPE
L640	TR230/12	Transformer 230/12 3VA



## Controller Mounting Box

C-Box is a small compact wall box to suit a single controller with 74mm x 32mm cut out. Box dims: 110 x 110 x 90mm (H x W x D)

EW-1 genuine Eliwell control box is larger than the C-Box also designed for wall mounting a single controller with a 74mm x 32mm front cut out. Dims: 170 x 110 x 100mm (H x W x D)

CODE	MODEL	TYPE
L685	C-Box	Small Wall Box to Suit Single Controller (Grey)
L644	EW - 1	Large Wall Box to Suit Single Controller (Black)



## Eliwell Master Controllers

The IS972-LX & IS974-LX master controllers are devices suitable for applications on normal or low temperature refrigerating units with fans; they include a master unit and a power slave module EWEM 233 and EWEM 243, connected to each other by a multi-polar cable with quick coupling. PTC probe compatible can be configured for use with NTC probes.



CODE	MODEL	DESCRIPTION
L616	IS972-LX	Eliwell IS972-LX Controller

CODE	MODEL	DESCRIPTION
L617	IS974-LX	Eliwell IS974-LX Controller

Specification:

MODEL	RANGE	COMPRESSOR RELAY	FAN DELAY	ALARM TYPE	PROBE INCLUDED	OUTPUTS	SUPPLY VOLTAGE
IS972-LX	NTC -50°C to +110°C PTC -55°C to +140°C	Use EWEM 233 Module	Yes	Visual	NO (2 x NTC Req'd)	3	From EWEM Slave Module
IS974-LX	NTC -50°C to +110°C PTC -55°C to +140°C	Use EWEM 243 Module	Yes	Visual	NO (2 x NTC Req'd)	4	From EWEM Slave Module

## Eliwell EWEM Power Slave Modules

Slave modules for IS972 & IS974 Digifrost controllers shown above.

CODE	MODEL	DESCRIPTION
L618	EWEM233	Power Slave Module for IS972-LX

CODE	MODEL	DESCRIPTION
L619	EWEM243	Power Slave Module for IS974-LX



MODEL	COMPRESSOR RELAY	DEFROST RELAY	FAN RELAY	ALARM RELAY	SUPPLY VOLTAGE
EWEM233	15 Amp	10 Amp	8 Amp	NO	230 Volt
EWEM243	15 Amp	10 Amp	8 Amp	YES (8 Amp)	230 Volt

## Eliwell Master Slave Multi-polar Connection Cable

Multi-polar cable with quick coupling ends, used to join between the Master & Slave units above.

CODE	MODEL	DESCRIPTION
L632	Multi Polar Cable	1.0M - IS972/4 to EWEM



## Eliwell COLDFACE Coldroom Control Panel

The Eliwell EWRC 500 NT control panel comes complete with circuit breaker, easily accessible via a drop down front panel. Large easy to read LED Display with 6 large size keys for direct access to functions.

Works with NTC or PTC probes, selectable within the parameters. (Supplied with 2 x NTC Probes)

Suitable for chiller and freezer coldroom applications.

RELAY OUTPUTS	AMPS
DEFROST	8A
COMPRESSOR	12A
FANS	8A
LIGHTS	8A
ALARM	8A
Internal Circuit Breaker	16 Amps 1ph

Large high visibility display  
Enclosure rating IP65.  
Dimensions 221(W) x 318 (H) x 107mm (D)  
Reversible hinged door using robust brass 180° hinges

CODE	MODEL	DESCRIPTION
L678	EWRC500NT	Eliwell EWRC 500 NT with Breaker



## Dixell Universal-R Controller

The Universal-R replaces most digital thermostats, cooling, heating & off cycle defrost models. It can work with PTC or NTC probes (comes complete with 2 x NTC probes) and is dual voltage, working on either 12V ac/dc or 230Vac. Will also control twin evaporators via a fourth (aux) relay (requires extra probe for this feature).

CODE	MODEL	DESCRIPTION
L155	Universal-R	Universal Electronic Controller



## LAE Controllers

Universal digital controllers from LAE: the AT1-5 is off-cycle defrost and the AT2-5 is electric defrost model. (Both controllers are NTC or PTC probe compatible)

CODE	MODEL
L213	LAE AT1-5BS2E-AG 230V Controller (c/w 1 x probe)
L214	LAE AT2-5BS4E-AG 230V Controller (c/w 2 x probes)

## LAE Probes

The PTC probe shown below suits the old CDC models, but most LAE controllers are now both PTC and NTC probe compatible as standard. NTC Probes are available in 1.5 or 2.0 metre lengths.

CODE	MODEL
L212	LAE ST1K20P1-T1 PTC Probe x 1.5 Metre
L206	LAE SN4K20P1 NTC Probe x 1.5 Metre
L207	LAE SN4K20P2 NTC Probe x 2 Metre



## RDM PRO 150 Coldroom Control Panel

The Pro 150 panel has been specifically developed to suit a variety of coldroom needs.

The purpose developed enclosure has a detachable display/keypad with 5m long cable (included) for applications where it is desirable to mount the power supply panel away from the user controls.

The Pro 150 includes mains isolator switch.

Each individual relay has circuit breaker protection. (see table below)

Based on RDM's Mercury technology, the controller has parameters that give this product complete flexibility for controlling either high temperature produce (HT) or low temperature freezer coldrooms (LT).

Requires 3 probes per panel (see table below).

CODE	MODEL
L1120	PRO-150-MSB Coldroom
L1122	PRO-150 Air Probe 6m (3 required per panel)

RELAY OUTPUTS	INTERNAL CIRCUIT BREAKER (1PH)
DEFROST	20A
COMPRESSOR	10A
FANS	8A
LIGHTS	6A

### Remote Display:

Removable panel display can be wall mounted remotely from control box. Supplied as standard with 5m cable.



## Carel MasterCella Control Panel

The MD33D2EN00 is a microprocessor based digital controller specifically designed for refrigeration systems. With a protection rating of IP65 the panel can be installed in high moisture areas.

The case can be directly mounted onto a wall on the front of the coldroom, while wiring is made simple by the significant space available inside, inserting the wires from either below or above.

**MasterCella Controller** (Excludes Probes, Please order separately)

CODE	MODEL
L215	MD33D2EN00 Control Panel
L190	MD33D5FB00 Control Panel + Isolator

### Probes to Suit MasterCella Control Panel

CODE	MODEL
L216	1.5M Probe
L217	3.0M Probe
L218	6.0M Probe

Two probes are required one for room control and the other for defrost control. Probes are available in three lengths to aid installation.

**Please order probes separately.**

RELAY OUTPUTS	AMPERAGE	
COMPRESSOR	30A	Max. running current = 10a 250 vac
DEFROST	16A	Resistive 250Vac
FANS	8A	Resistive 250Vac
LIGHTS	16A	Resistive 250Vac
ALARM	2A	Resistive 250Vac

# CAREL



## Danfoss Optyma Control Panel Single Phase

Can control systems up to 2 HP.  
(max controller current 16amps).  
With off-cycle or electric defrost.  
(max defrost load 3kW).  
Direct or pump down compressor stop.  
Simple, wiring with live outputs.  
Simple, flexible programming for ease of use.  
2 Temp probes included - 1 x 1.5m & 1 x 3.0m.  
Enclosure to IP 65.



CODE	MODEL
L255	AK-RC101 - Single Phase
L253	Spare Probe for 1 & 3ph Controllers

### Applications:

Complete management of single-phase static or ventilated refrigeration systems up to 2 HP, with off-cycle or electrical defrosting and with direct or pump-down compressor stop. Control of single-phase evaporator unit only with solenoid valve or remote condensing unit.

### Main characteristics:

Direct control of defrosting elements, evaporator fans, room light with outputs directly connectible to the various units. Automatic fuse protect the refrigeration unit. Stylish ABS housing with transparent cover for access to the automatic fuse, all with an IP65 protection rating so that panel can be used outside the room. LED indicators and large display show system status. User-friendly keypad. Display resolution to 0.1 °C.

## Danfoss Optyma Control Panel Three Phase

Can control systems up to 7.5 HP.  
With off-cycle or electric defrost.  
Direct or pump down compressor stop.  
Simple, wiring with live outputs.  
Simple, flexible programming for ease of use.  
Selection of function mode for compressor - pumpdown / thermostat.  
Direct control of compressor, condenser / evaporator fans,  
defrosting heaters, compressor oil heater, solenoid valve.  
2 Temp probes included - 1 x 1.5m & 1 x 3.0m.  
Enclosure to IP 65.



CODE	MODEL
L256	AK-RC103 - Three Phase 4HP (4.5 - 6.3A)
L257	AK-RC103 - Three Phase 4HP (7.0- 10.0A)
L258	AK-RC103 - Three Phase 7.5HP 11.0 - 16.0A)
L259	AK-RC103 - Three Phase 7.5HP 14.0- 20.0A)
L253	Spare Probe for 1 & 3ph Controllers

### Description:

The OPTYMA three-phase is a controller for refrigeration systems with a three-phase compressor or for controlling the three-phase evaporating unit only, for complete cold room management. Front access to the automatic fuse and motor protector for the compressor and an innovative design combine to make it the ideal choice for effective refrigeration control. Complete management of three-phase refrigerating systems up to 7.5 HP static or ventilated, with off-cycle or electrical defrosting.

## Universal Coldroom Control Panels

### Universal Coldroom Control Panels:

- Technopolymer enclosure / RAL7035 (Grey) / Top entry / IP55
- Door interlocked isolator
- Contactor for 1ph/3ph DOL compressor (selectable) - MMS\* or MCB
- Evaporator control via Eliwell EWPlus 974 controller
- Indications via controller display only
- Coldroom door switch connections to stop fans
- Pump-down or non pump-down (selectable)
- Suitable for air defrost applications
- MCB & illuminated switch for coldroom lights
- MCB for drain heater • NTC probes included



### 1PH/3PH Compressor/1PH Evaporator Fan/1PH Defrost/Coldroom Lightswitch

CODE	MODEL	COMP (AMPS)	EVAP FAN	DEFROST	SIZE (mm)
L1000	GBUC-EEW-001	MMS 2.5 - 4	1ph 4.5A	1ph 4.1kW	310 x 390 x 130
L1001	GBUC-EEW-002	MMS 4 - 6	1ph 4.5A	1ph 4.1kW	310 x 390 x 130
L1002	GBUC-EEW-003	MMS 6 - 9	1ph 4.5A	1ph 4.1kW	310 x 390 x 130
L1003	GBUC-EEW-004	MMS 9 - 13	1ph 4.5A	1ph 4.1kW	310 x 390 x 130
L1004	GBUC-EEW-005	MMS 13 - 17	1ph 4.5A	1ph 4.1kW	310 x 390 x 130
L1006	GBUC-EEW-000	MCB 18 Amp Max	1ph 4.5A	1ph 4.1kW	310 x 390 x 130

\*MMS Manual Motor Starter (thermal overload)

## Universal Electric Defrost Evaporator Panels

- Technopolymer enclosure / RAL7035 (Grey) / Top entry / IP55
- Door interlocked isolator
- Evaporator control via Eliwell EWPlus 974 controller
- Indications via controller display only
- Coldroom door switch connections to stop fans
- MCB & illuminated switch for coldroom lights
- MCB for drain heater
- MCB for door heater
- NTC probes included



### 1PH Evaporator Fan/1PH/3PH Defrost/Coldroom Lightswitch/Door Heater

CODE	MODEL	EVAP FAN	DEFROST	SIZE (mm)
L1100	GBUE-EEW-01E	1ph 4.5A	1ph 4.1kW	310 x 390 x 130
L1101	GBUE-EEW-02E	1ph 4.5A	3ph 12.4kW	310 x 390 x 130
L1102	GBUE-EEW-03E	1ph 8A	3ph 12.4kW	310 x 390 x 130
L1103	GBUE-EEW-04E	1ph 8A	3ph 15.5kW	310 x 390 x 130
L479	GBUE-EEW-01A2	1ph 4.5A	NO DEFROST	310 x 390 x 130

## Universal Electric Defrost Twin Evaporator Control Panel

- Technopolymer enclosure / RAL7035 (Grey) / Top entry / IP55
- Door interlocked isolator
- Twin evaporator control via Eliwell EWPlus 978 controller
- Indications via controller display only
- Coldroom door switch connections to stop fans
- MCB & illuminated switch for coldroom lights
- MCB for drain heater
- MCB for door heater
- NTC probes included



### 1PH Evaporator Fan/1PH/3PH Defrost/Coldroom Lightswitch/Door Heater

CODE	MODEL	EVAP FAN	DEFROST	SIZE (mm)
L1104	GBUE-EEW-1E2	1ph 8A x 2	1ph 3.3kW	390 x 470 x 130
L1105	GBUE-EEW-3E2	1ph 8A x 2	3ph 9.9kW	390 x 470 x 130

## Trafag Pressure Transducers

Swiss based Trafag is a leading international supplier of high quality sensors and monitoring instruments for measurement of pressure and temperature. The industrial pressure transducer NAT 8252 features an exceptionally long-term stable thin-film-on-steel sensor cell with triple (optionally 5-fold) overpressure safety.

The robust design and the wide temperature range from -40°C to +125°C qualify the NAT 8252 as the ideal solution for a wide range of demanding applications. 1/4" SAE internal flare thread with depressor.



CODE	MODEL
L3000	NAT 8252 Pressure Transducer (0-30 Bar)
L3001	NAT 8252 Pressure Transducer (-1 to 8 Bar)
L3002	NAT 8252 Pressure Transducer (-1 to 12 Bar)
L3010	4 Pin Connecting Lead 5m

## BLUESCIENCE UV AIR DISINFECTION SYSTEM

Convert your air-conditioning system into a powerful air-sanitiser in just 15 minutes.

BlueScience utilises the disinfectant properties of UV-c light to convert an air-conditioning unit into a powerful air sanitiser. Warm and contaminated air is pulled in through the top of the unit, where it is then cooled via the unit's cooling coil. BlueScience immerses the air around the cooling coil in UV-c light, sanitising it during the process. The cool air is then dispensed by the air-conditioning unit free of virus, bacteria, moulds and odours.



### Standard LED Driver & 700mm UV-C LED Strip Kit

An easy retro-fit system for all existing air-conditioning units, to treat and protect the air, providing constant UV disinfection, every time it passes through the unit. This standard kit includes: LED Driver, 1m extension cable, 700mm UV-c 18 LED Strip, AC unit safety seal, store front display sticker and installation guide.

CODE	DESCRIPTION
L430	BlueScience LED Driver & 700mm UV-c LED Strip



### Pro-Kit UV-C 1000mm LED Strip Upgrade Kit

Firstly you must purchase the Standard Kit and install the LED Driver & 700mm LED Strip. The Pro-Kit can then be added by adding the splitter (supplied with the Pro-Kit).

Then connect the 700mm LED Strip (supplied with the standard-kit) and 1000mm LED Strip (supplied with the Pro-Kit) into the splitter.

CODE	DESCRIPTION
L431	BlueScience Pro-Kit UV-c 1000mm LED Strip



### BlueScience Portable UV Radiometer (for UV-c)

Portable UV-c Intensity meter with 4.0 digit LCD display. Integrated sensor & display, Absolute Power, Dose & Max Power Displayed.

Applications: UV-c intensity measurements, UV-c light transmittance measurements. 143mm H x 73mm W x 31mm D

CODE	DESCRIPTION
L434	BlueScience Pro-Kit UV-c 1000mm LED Strip



### BlueScience PPE - Eyewear & Safety Gloves

UV-c Safety Glasses, anti-scratch. Reliable protection against specified levels of hazardous UV radiation.

PU coated gloves for the safest handling.

CODE	DESCRIPTION
L432	BlueScience Approved Safety Glasses
L433	BlueScience Approved PU Coated Safety Gloves



## Grasslin Compact Mechanical Time Switches

Two different 24 hour mechanical time switches, with slight differences. Please check specification table to ensure you choose timer that best suits your application.

CODE	MODEL	DESCRIPTION
L020	MIL-72A (Tactic 111.1)	Grasslin Time Clock with Hands
L021	FM1/STu	Grasslin Time Clock w/out Hands

**L020:** Time clock has terminal screw electrical connections with clip on terminal cover and plastic clock-face cover (not shown).

**L021:** Time clock has push on crimp connections, but NO clock-face or electrical terminal cover, so designed for mounting inside a panel.



CODE	MODEL	SUPPLY VOLTAGE	CURRENT RESISTIVE	CURRENT INDUCTIVE	PROGRAMMING STEPS	CYCLE	MANUAL OVERRIDE	MOUNT OPTIONS*	SIZE (mm)
L020	MIL-72A	250V AC	16 amp	8 amp	15 min each tappet	24 hrs	NO	S, P & D	72 x 80
L021	FM1/STu	250V AC	16 amp	8 amp	15 min each tappet	24 hrs	NO	S	62 x 62

\* MOUNTING OPTIONS:- S = SURFACE, P = PANEL, D = DIN-RAIL

## Flash Compact Time Clock

The Flash Compact clock is an OEM style 24hr time switch with 20 minute minimum interval. Programming by unlosable segments (attached to the time switch). A red zone is uncovered by the segment when put into the ON state; in the OFF state this red zone is covered.

CODE	MODEL
L012	FLSH200 24 Hour Defrost Timer



## Replacement Bigatti Time Clock

This CDC13102 alternative time clock replaces old model Bigatti timer models: SB1-82, SB3-81 & SB3-82 as Bigatti are no longer in business.

2 x 16(4)A 250VAC contacts.

Adjustable defrost cycle from 1 - 12 (24hrs)

Adjustable defrost duration 2-60 min. Adjustable fan delay 0- 14 min

CODE	MODEL
L013	CDC13102 Defrost Timer



## Supco EDT20/21 Electronic Adjustable Defrost Timers

Adjustable Defrost Frequency: 4, 6, 8, 10, 12 hours

Adjustable Defrost Time: 10, 15, 20, 30, 35 minutes

The EDT-20 and 21 are identical apart from the contact rating the EDT-20 is rated at 5 amp and the EDT-21 at 20 amp.

CODE	MODEL	CONTACT RATING
L038	EDT-20	5 amp
L039	EDT-21	20 amp



## Omron® 30 Amp Relay

30 Amp 240V SPNO Relay complete with retaining clip.

Perfect for mounting in control panels when original relays won't carry the load or space is at a premium.

52.5mm (Long) x 33.5mm (Deep) x 53mm (High)

CODE	DESCRIPTION
L050	Omron G7L-1A-T Relay (including retaining clip)



## Supco Universal Relay Clip On

Supco ICG Universal One Size Relay for all compressors from 1/12 to 1/2 HP.

This solid state device will replace most relays.

Easy to install, clip on or screw on.

Can be used with or without a start capacitor.

CODE	MODEL
L100	ICG Universal Relay



## Supco Universal Relay Push On

Supco PO-230 Universal Push on Relay

One size for all compressors from 1/12 to 1/2HP.

This solid state device will replace most relays.

Easy to install, pushes directly onto a compressor terminals.

Can be used with or without a start capacitor.

CODE	MODEL
L101	PO-230 Universal Push on Relay



## Supco Universal Relay and Overload

Four models available to suit compressors from 1/8 to 1/2 HP.

Can be used with or without a start capacitor.

Pre-wired for fast, simple installation. Complete with mounting clip.

CODE	MODEL	DESCRIPTION
L105	R082	1/12 - 1/8 HP
L106	R062	1/6 - 1/5 HP
L107	R042	1/4 - 1/3 HP
L108	R022	1/2- HP



## Supco Universal Potential Relay

PR-90 Universal Potential Relay

Replaces all potential starting relays for compressors up to 5HP.

Any voltage between 110 and 270 volt a.c.

Replaces thousands of O.E.M models.

Reduces van stock.

Universal fixing bracket.

Screw on or push-on terminals.

CODE	MODEL
L103	PR-90 Universal Potential Relay



## Eaton Cold Room Door Switch

Quality coldroom door switch used to shut off evaporator fans when door is opened to reduce heat loss. Also used to turn cold room lights on and off. 1 x N/O 1 x NC contact. Rounded plunger as standard on L077, easily converted to roller lever style plunger with addition of code L078.

CODE	MODEL
L077	LS-S11 Double Pole Door Switch
L078	LS-XLB Roller Lever (to suit above)



**EATON**  
Powering Business Worldwide

## Start Capacitors

Start Capacitors 275v RMS - 50 Hz.  
Capacitance Tolerance: 0 + 25%



CODE	RATING
L115	40 mfd
L116	60 mfd
L117	80 mfd
L118	100 mfd
L119	125 mfd
L120	150 mfd



If two capacitors are connected in parallel the total capacitance is the sum of their values.

## Run Capacitors

Run Capacitors 440v RMS - 50 Hz.  
Tolerance:  $\pm 5\%$



CODE	RATING
L123	3 mfd
L124	5 mfd
L125	10 mfd
L126	15 mfd
L127	20 mfd
L129	25 mfd
L128	30 mfd



If two capacitors are connected in parallel the total capacitance is the sum of their values.

## Eaton Contactors Enclosures & Overloads

Eaton Contactors (formerly Moeller) available in 2 versions.  
1 version with 4 N/O contacts and the other version with 4 N/O contacts plus a removable aux contact with 1 x N/O and 1 NC contact.

### Eaton Contactors

CODE	MODEL	RATING
L045	DIL M9-10	16 amp 4 N/O
L046	DIL M9-10 + Aux Contact	16 amp 4 N/O on Contactor Plus 1 x N/O & 1 x NC on Aux
L047	DIL M17+ Aux Contact	30 amp 4 N/O on Contactor Plus 1 x N/O & 1 x NC on Aux

### Eaton Contactor Enclosure

Clear fronted enclosure allowing plenty of space to accommodate contactor with auxiliary contact and overload

CODE	MODEL	RATING
L052	CiD	DIL M17

### Eaton Overloads

Wide range overloads to suit most applications.

CODE	MODEL	RATING
L060	ZB12-4	2.4 to 4 amp
L061	ZB12-6	4 to 6 amp
L062	ZB12-10	6 to 10 amp
L063	ZB32-16	10 to 16 amp
L064	ZB32-24	16 to 24 amp



Powering Business Worldwide



L045

L046/L047



## Danfoss Contactors, Enclosures & Overloads

We offer a wide range of Danfoss, contactors, enclosures, overloads, and delay timers etc. Widely used throughout the refrigeration industry.



### Contactors (240V)

CODE	MODEL	RATING
L260	CI 9-3 Pole	9 amp
L261	CI 9-4 Pole	9 amp
L262	CI 12-3 Pole	12 amp
L263	CI 12-4 Pole	12 amp
L264	CI 16-3 Pole	16 amp
L265	CI 15-4 Pole	15 amp
L266	CI 20-3 Pole	20 amp
L267	CI 25-3 Pole	25 amp
L268	CI 30-3 Pole	30 amp



### Auxiliary Contacts

CODE	MODEL	DESCRIPTION
L272	CB-NO	Normally Open
L273	CB-NC	Normally Closed



### Contactor Coil Only

CODE	MODEL	DESCRIPTION
L274	24 Volt Coil	To suit 6-30A Contactor



### Thermal Overloads

CODE	MODEL	RATING
L276	T1 16C 1.8 - 2.8	1.8 - 2.8 amp
L277	T1 16C 2.7 - 4.2	2.7 - 4.2 amp
L278	T1 16C 4.0 - 6.2	4.0 - 6.2 amp
L279	T1 16C 6.0 - 9.2	6.0 - 9.2 amp
L280	T1 16C 8.0 - 12	8.0 - 12 amp
L281	T1 16C 11 - 16	11 - 16 amp



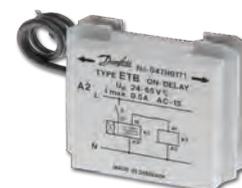
### Enclosures

CODE	MODEL	DESCRIPTION
L290	BCI	Plain
L291	BCI 1	Stop Button



### Delay Timers

CODE	MODEL	RATING
L284	ETB 0.5 - 20 Sec	24 to 65 v.a.c.
L285	ETB 4 - 160 Sec	24 to 65 v.a.c.
L286	ETB 0.5 - 20 Sec	110 to 240 v.a.c.
L287	ETB 4 - 160 Sec	110 to 240 v.a.c.



## Aspen Xtra Electrical Isolators

4 Pole 20 or 32A isolators from The ASPEN Xtra Range. Separate back plate with spirit level for ease of installation. Surface mountable with or without backplate. Removable switch for ease of wiring. IP66 rated for interior and exterior use. Lockable 'OFF' position (up to two padlocks) and 'ON' position.

**Xtra**  
the installer's choice



CODE	TYPE	DESCRIPTION
L374	AX6001/2	20 Amp 4 pole isolator
L375	AX6002/2	32 Amp 4 pole isolator

### 13 Amp Metal Clad Switched Fused Spur with Neon

- Manufactured to BS 1363 part 4
- Mounting box with 1 x 20mm knockouts in each side and rear face
- Removable flex outlet bung to front of switch

CODE	TYPE	DESCRIPTION
L369	MC551F	13A M/C Switched Fused Spur with Neon



### 20 Amp Metal Clad Double Pole Switch with Neon

- Manufactured to BS EN 60669-1 : 2000
- Easy access generous terminals
- Mounting box has full selection of 20mm knockouts

CODE	TYPE	DESCRIPTION
L371	GMC20SN	20A M/C D/Pole Switch with Neon



### 13 Amp Switched Fuse Spur with Neon

A standard design - suitable for domestic or commercial installations. Colour coded terminals with backed out captive screws for easy installation. Flex outlet with cord grip in the lower edge with removable knockout. Flush neon indicator.

CODE	TYPE	DESCRIPTION
L372	BG951	13A Switched Fused Spur with Neon



### 10 Amp 3 Pole MK Fan Isolator Switch

The fan isolator can be used as a double or triple pole isolator. In addition it includes a clear on/off indicator and the front plate and features a fan isolator symbol for easy circuit identification.

- 10 Amp Rated
- Conforms to BS EN 60669 - 1 : 2000

CODE	TYPE	DESCRIPTION
L376	K4859WHT	10A 3 Pole Fan Isolator



### White Plastic Surface Mount Pattress

The 25mm deep version from Schneider has standard multiple knockouts, the 32mm deep version from MK has ONE cut out for 20mm conduit in the top face, one cut out for 20 or 25mm oval conduit in lower face and one 20mm round push out in the base.

CODE	TYPE	DESCRIPTION
L373	BG951	25mm Deep Pattress
L379	K2181WHT	32mm Deep Pattress with 20mm Knockout



## Hensel Grey Adaptable Boxes

Quality adaptable boxes made in Germany by Hensel.

IP 65 Rated.

Colour - RAL 7035 Grey.

Complete with cable terminals.

CODE	TYPE	SIZE
L357	DM9025	(H) 88 x (W) 88 x (D) 53mm
L358	DM9145	(H) 96 x (W) 96 x (D) 55mm
L359	K8100	(H) 125 x (W) 167 x (D) 82mm



## WISKA Combi 407 Black Adaptable Box

Black IP66/67 adaptable box complete with 3 x 221 series lever cable connectors.

Dimensions: 95 x 95 x 60 mm.

7 x 20mm threaded entries and 1 x 25mm knockout.

Easy access via 1/4 turn screws on lid.

CODE	TYPE	SIZE
L361	Combi 407	(H) 95 x (W) 95 x (D) 60mm



## Standard 20mm Cable Glands

Packs of ten 20mm cable glands complete with locknuts.

available in white with 6-12mm cable diameter or black with 6-12mm and 10-14mm cable diameter.

CODE	DESCRIPTION	SIZE
L394	20mm White Cable Gland	6-12mm
L420	20mm Black Cable Gland	6-12mm
L422	20mm Black Cable Gland	10-14mm



## Smartfit Cable Glands

Time saving grey colour cable glands (just snaps into place).

Locknut or threaded hole not required. Push and twist gland to fit in seconds. Available in 20 or 25mm. Easy removal with separate tool.

CODE	TYPE	SIZE
L397	CG/SF-20G	20mm Grey Smartfit Gland (10-14mm) (Pack of 10)
L398	CG/SF-25G	25mm Grey Smartfit Gland (13-18mm) (Pack of 5)
L399	CGSFA-2025	Removal Tool for 20 & 25mm Glands (Pack of 2)

SmartfitGland™



## PVC Insulation Tape

See table below for options on single pack of PVC electrical tape.

CODE	DESCRIPTION
L328	33M (L) x 19mm (W) Black PVC Tape
L329	33M (L) x 25mm (W) Black PVC Tape
L330	33M (L) x 50mm (W) Black PVC Tape
L319	20M (L) x 19mm (W) White PVC Tape
L320	20M (L) x 19mm (W) Green PVC Tape
L321	20M (L) x 19mm (W) Red PVC Tape
L322	20M (L) x 19mm (W) Yellow PVC Tape
L324	20M (L) x 19mm (W) Blue PVC Tape
L318	20M (L) x 19mm (W) Earth Pattern PVC Tape



### Smartypak™

Pack of 10 assorted colour PVC tapes: 2 x black, 2 x white, and 1 each of red, yellow, blue, grey, brown and earth pattern tape. (19mm x 20M).

CODE	TYPE	DESCRIPTION
L327	BJP100	Pack of 10 Assorted PVC Tapes 19mm x 20M



## Standard Cable Ties

- 4 different lengths in 2 different widths (4.8 or 7.8mm wide)
- UV resistant for outdoor use
- General operating temperature -40°C to +85°C
- Pack Quantity 100

CODE	TYPE	DESCRIPTION
L340	CT160-4.8B	Black Cable Tie 160 x 4.8mm
L341	CT200-4.8B	Black Cable Tie 200 x 4.8mm
L342	CT300-4.8B	Black Cable Tie 300 x 4.8mm
L344	CT370-7.8B	Black Cable Tie 370 x 7.8mm



## Releasable Cable Ties

Standard releasable cable ties. The finger latch mechanism allows for simple and quick release of the cable ties for re-use.

Ideal for any application where temporary fastening is required. Perfect for both installation and service work. Pack quantity 100.

CODE	TYPE	DESCRIPTION
L347	ARH37	Releasable Cable Tie 370 x 7.8mm (W)



## Cable Tie Mounts

**Self Adhesive Cable Tie Mounts 2 Way:** Black nylon self adhesive cable mounts with 6mm centre screw fixing hole.

Dimensions: 25 x 25mm, accepts cable ties up to 4.8mm wide. Pack quantity 100.

**Screw Mounted cable Ties 1 Way:** Black cable tie cradles with 5mm centre screw fixing hole. Dimensions: 15mm (W) x 58mm (L), accepts ties up to 9mm Wide: Pack Quantity 100.

**Wall Plug Cable Tie Mount:** Hammer in fixing, a quick and easy way for securing cables to a wall. Simply drill hole and hammer in. Drill a 7mm hole for use in soft materials (e.g. wood, chipboard, plasterboard etc) and a 8mm hole for hard materials (e.g. brick, stone etc). They are used with cable ties up to 9mm wide.

CODE	TYPE	DESCRIPTION
L345	SAM25B-2	Self Adhesive Cable Tie Mounts (PK 100)
L346	CRAD78B	Screw Mount Cable Tie Cradle (PK 100)
L405	CTFB9	Wall Plug Cable Tie Mount (PK 100)



## Selectabox™ of Cable Tie Cradles & Self Adhesive Cable Tie Mounts

Good selection of both white and black cable tie mounts and cradles in self adhesive and screw fix version. Handy box for service engineers.

CODE	TYPE	DESCRIPTION
L343	FSWCTB/S	Assorted Self Adhesive Cable Tie Mounts



## All Round Fixing Band

Versatile all round band, perfect for everyday use for both installation and service engineers. Pre-drilled no wastage and very strong. Pack quantity 10M (L) x 17mm (W).

CODE	TYPE	DESCRIPTION
L400	ARB17-GA	Galvanised Banding 10M x 17mm Wide
L402	ARB17-BL	Black Banding 10M x 17mm Wide
L404	ARB17-SS	S/Steel Banding 10M x 17mm Wide



## Strip Connectors

12 way strip connectors available in 3 sizes: 5, 15 or 30 Amp.  
or a Selectabox box of assorted strip connectors and plug top fuses.

CODE	TYPE	DESCRIPTION
L332	12WSC5	5A 12 Way Strip Connector
L333	12WSC15	15A 12 Way Strip Connector
L334	12WSC30	30A 12 Way Strip Connector
L335	FSW-SCF	Asst Box of Strip Connectors & Fuses

\* See Code L355 below for packs of 13 Amp Plug Top Fuses only.



## Selectabox™ of PVC Cable Grommets

Assorted selection of PVC cable grommets in 20 and 25mm in both open and closed versions. Low cost protection for wires and cables passing through metal panels. Quick and easy to install.

CODE	TYPE	DESCRIPTION
L416	FSW-GRO	Asst Box of PVC Cable Grommets



## Selectabox™ of Piano Key Connectors

These new piano push in wire connectors are ideal for a quick reliable and easy way to join cable, perfect for both service and installation engineers. Quick to connect, quick to release, Takes 0.75 to 2.5mm solid or flexible cables. Operating voltage 400V AC. Operating current 24A (max).

CODE	TYPE	DESCRIPTION
L336	SAB-PKC	Asst Box of Piano Key Connectors



## Plug Tops and Fuses

13 Amp plug top available in black or white resilient plastic, complete with fitted 13 Amp fuse.

Spare 13 Amp fuses are supplied in a pack of 10.

CODE	TYPE	DESCRIPTION
L337	RPT13W	13A White Plug Top
L338	RPT13B	13A Black Plug Top
L355	FU1-13	Pack of 10 x 13A Plug Top Fuses*

\* See Selectabox Code L335 above for assorted 3, 5 & 13 Amp Plug Top Fuses



## Replacement Kettle Leads

Replacement kettle leads in 240 and 110 Volt versions, ideal as a replacement or spare leads for your vacuum pumps or recovery rigs

CODE	DESCRIPTION
L406	240V Kettle lead with fitted 13A Plug (2m x 1m Long)
L407	110V Kettle lead with fitted 16A Plug (2m x 1.5m Long)



## Replacement 110V 16 Amp Plug/Socket

Replace your damaged 110 Volt 16 amp plug or socket on your extensions leads, transformers, recovery rigs or vacuum pumps with these spare BS approved 110 Volt 16 Amp plugs and sockets.

CODE	TYPE	DESCRIPTION
Q161	59851	Draper 110 Volt Plug
Q162	63779	Draper 110 Volt Socket



## Heatshrink

Standard grade Polyolefin heat shrink packs.  
Both packs contain 5 different colours: black, blue, brown, green/yellow and grey. Each strip is 250mm long choose either 6mm wide or 12.7mm wide.

CODE	TYPE	DESCRIPTION
L410	SP6EU	6.4mm Ø Shrinks to 3mm Ø
L412	SP12EU	12.7mm Ø Shrinks to 6mm Ø



## Selectabox™ of Heatshrinks

Assorted selection of standard grade Polyolefin heat shrinks.  
All heat shrinks 250mm long with various diameters between 6.4 and 12.7mm.  
Safely stored in a quality Selectabox™ container.

CODE	TYPE	DESCRIPTION
L413	FSW-HS	Asst Box of Heatshrinks



## Flexible Conduit Kit

Cut to length flexible black conduit in a 10m x 20mm (diameter) continuous length. Simply cut to size and click on the included cable glands, simple, quick and easy to use.  
Kit includes 10 x 20mm cable gland complete with locknuts.

CODE	TYPE	DESCRIPTION
L378	FX15N	10m (L) x 20mm Ø Flexible Conduit Kit



## Plastic Speedfix (Self Adhesive) Trunking

3m lengths of white self adhesive plastic trunking.  
Available in 3 different sizes, see table below for full details.  
Micro version perfect for hiding A/C remote control cables.

CODE	DESCRIPTION	SIZE
L389	Small Self Adhesive Mini Trunking	10mm x 16mm x 3m
L384	Medium Self Adhesive Mini Trunking	16mm x 16mm x 3m
L385	Large Self Adhesive Mini Trunking	25mm x 16mm x 3m



## Round LED Bulkhead Light Fitting

Melana round LED bulkhead light perfect for freezer & chiller coldrooms  
Operating temp -30°C to +50°C.  
15W IP66 rating cool white 4000k. 308mm ø surface mounted. Suitable for outdoor use. Also perfect for sheds, garages, workshops, offices etc.

CODE	TYPE	DESCRIPTION
L360	CWS6492	Melana 15W Round LED Bulkhead Light



## Bulkhead Light Fittings (Standard or LED)

Standard 100 Watt rectangular bulkhead light fitting  
(L) 250 x (W) 130 x (H) 110mm. IP65 rated.

10 Watt LED rectangular bulkhead light fitting 240mm x 119mm x 110mm. Operating Temp -20°C to +40°C. 6400 Kelvin.

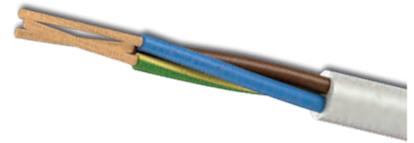
CODE	TYPE	DESCRIPTION
L325	BJP100	100 Watt Bulkhead Light Fitting
L331	10WLED	10 Watt L.E.D Bulkhead Light Fitting



## Electric Cable

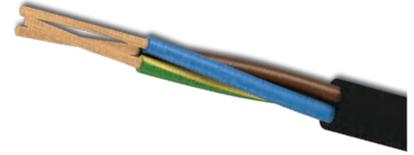
### White Flex

CABLE TYPE	CORE SIZE MM	50M COIL	100M COIL
2 Core	0.75	L778	L749
3 Core	0.75	-	L750
3 Core	1.50	L851	L751
3 Core	2.50	L852	L752



### Black Flex

CABLE TYPE	CORE SIZE MM	50M COIL	100M COIL
2 Core	0.75	L855	L755
2 Core	1.00	-	L757
3 Core	0.75	-	L756
3 Core	1.50	L776	L753
3 Core	2.50	-	L754
4 Core	1.50	L860	L759



### YY Non Screened Multi Flex (Grey)

CABLE TYPE	CORE SIZE MM	25M COIL	100M COIL
2 Core	0.75	L800	L699
2 Core	1.00	L801	L700
2 Core	1.50	L802	L701
3 Core	0.75	-	L703
3 Core	1.00	-	L704
3 Core	1.50	-	L705
3 Core	2.50	-	L706
4 Core	0.75	-	L707
4 Core	1.00	-	L708
4 Core	1.50	L777	L709
4 Core	2.50	-	L710



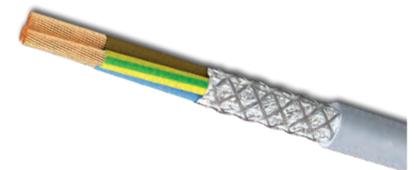
### SY (Grey Flex with Outer Braid and Clear PVC Coating)

CABLE TYPE	CORE SIZE MM	25M COILS	100M COILS
2 Core	0.75	-	L698
2 Core	1.00	-	L711
2 Core	1.50	-	L712
3 Core	0.75	-	L713
3 Core	1.00	-	L714
3 Core	1.50	L780	L715
3 Core	2.50	L817	L716
3 Core	4.00	-	L771
4 Core	0.75	-	L717
4 Core	1.50	L775	L719
4 Core	2.50	L825	L720
5 Core	1.50	-	L741
5 Core	2.50	L840	L730
7 Core	1.50	-	L740



### CY Screened Multicore Flex (Grey)

CABLE TYPE	MM	25M	100M
2 Core	0.75	L779	L721
2 Core	1.00	-	L722
2 Core	1.50	L832	L723
2 Core	2.50	-	L724
3 Core	0.75	-	L731
3 Core	1.50	-	L725
4 Core	0.75	-	L726
4 Core	1.50	L838	L728



## UV Rated Cable

### FLEXISHEILD Black

CABLE TYPE	CORE SIZE MM	50M COIL	100M COIL
3 Core + E	1.5	-	L770



### SY (Black Flex with Outer Braid and Black UV Rated Outer Coating)

CABLE TYPE	CORE SIZE MM	50M COIL	100M COIL
3 Core + E	1.5	-	L732



## Crimp on Terminals

Wide range of the most popular red, blue or yellow crimp connectors, supplied in packs of 50.

### RED (To suit 0.5 - 1.5mm Wire)

CODE	MODEL	TYPE
L500	43 RER	4mm Ring
L501	53 RER	5mm Ring
L503	43 RF	4mm Fork
L507	15 BSL	Butt Connector
L508	63 RFP	Female Spade
L509	63 RMP	Male Spade
L510	63 RFPT	Insulated Spade
L511	63 RPIG	Piggy Back Spade



### BLUE (To suit 1.5 - 2.5mm Wire)

CODE	MODEL	TYPE
L530	43 BER	4mm Ring
L531	53 BER	5mm Ring
L533	43 BF	4mm Fork
L534	53 BF	5mm Fork
L538	25 BSL	Butt Connector
L539	63 BFP	Female Spade
L540	63 BMP	Male Spade
L541	63 BFPT	Insulated Spade
L542	63 BPIG	Piggy Back Spade



### YELLOW (To suit 4.0 - 6.0mm Wire)

CODE	MODEL	TYPE
L560	53 YER	5mm Ring
L561	65 YER	6mm Ring
L562	85 YER	8mm Ring
L565	6 BSL	Butt Connector



## Heat Shrink Crimp Connectors

Heat shrinkable environmentally sealed, nylon crimp connectors. Protects cable joints from water. Completely insulates and protects electrical connections. Adhesive lining offers greater protection that is more reliable than conventional connectors. Supplied in packs of 50.

CODE	MODEL	TYPE
L570	533-673	Red Heat Shrink Butt Connector (0.5 - 1.5mm Wire)
L572	533-667	Blue Heat Shrink Butt Connector (1.0 - 2.5mm Wire)



## Selectabox™ of Crimp Terminals

Assorted selection of the most popular crimp connectors. Safely stored in a quality Selectabox™ container. Must have item for both service and installation engineers.

CODE	TYPE	DESCRIPTION
L568	FSW-PRE	Asst Box of Pre Insulated Crimps



## Ratchet Crimping Tool

The RPI ratchet crimp Tool for pre-insulated terminals between 0.5mm<sup>2</sup> - 6.0mm<sup>2</sup> for precise crimping both conductor and insulation in one easy action. New improved ergonomic design for easy crimping. Also available in a kit box format with assorted crimps.

CODE	MODEL	DESCRIPTION
L581	RPI	Ratchet Crimp Pliers
L585	PK156	Ratchet c/w Crimps and Box



## Flexelec Heater Tapes

CSC2 heaters are designed to be laid inside pipes for draining water from thawing refrigeration equipment installed in cold rooms. They only operate during defrost.

Power output: 40 watts per metre.

Dimensions: 7mm x 5 mm oval cross section.

Supplied with 1m long integrated cold tail.

Fully sealed.



CODE	LENGTH
L130	1.0 Metre
L131	1.5 Metre
L132	2.0 Metre
L133	3.0 Metre
L134	4.0 Metre
L135	5.0 Metre
L136	6.0 Metre

## Safe Trace Self Regulating Heater Tape

Plain self regulating heating cable with conductive polymer matrix and primary electrical insulation (i.e. no earth wire, screen or additional jacket). 230V.

Available in 15 or 30 metres long heater length supplied on a plastic reel. Can be cut to any length.

Suitable for all refrigeration applications.

We strongly recommend the use of a 30mA residual current device to provide maximum safety.

Minimum bend radius 10 mm.



CODE	DESCRIPTION
L156	Safe Trace Plain 26 Watt Plain Heater Tape 15m Roll (Grey)
L152	Safe Trace Plain 26 Watt Plain Heater Tape 30m Roll (Grey)

Please Note: Other lengths and wattages available to order along with

## Self Regulating Heater Tape Termination Kits

Flexelec kit contains detailed instructions for connecting the heating cable. The kit includes illustrated instructions step by step and all the components to connect the heating element to the power supply or the end of the heating circuit. This heating cable kit is essential to be sure that your trace heating system will work in optimum conditions.

**Flexkit® FS/KIT** for use with plain heater tape.

**Flexkit® FS/KIT-TP** for use with braided heater tape.

CODE	TYPE
L150	Single Termination Kit for Plain Heater Tape
L148	Single Termination Kit for Braided Heater Tape



Plain Heater Tape Kit



Braided Heater Tape Kit





# REFRIGERANTS, OILS & CLEANING CHEMICALS

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**M**  
SECTION

## Refrigerants

Over the last decade, refrigerant gas has fast become a minefield subject to navigate. Now faced with a multitude of options driven by F-GAS legislation and the need for lower GWP, refrigerants including A2L, Hydrocarbon and CO<sub>2</sub> meaning engineers have to deal with flammability and high pressure issues more than ever.

Choosing the correct refrigerant for your application has never been tougher but with FSW to help guide you through the process you are not alone in navigating that minefield. FSW help make sense of the issues engineers face. So when it comes to refrigerant gas whether that's advice on which refrigerant is best on a new install or retro-fitting existing equipment FSW are here to help.

### HFC Grade Refrigerants

REFRIGERANT	GWP	ASHRAE CLASS	FLAMMABILITY
R134a	3922	A1	No
R407A	2107	A1	No
R407C	1774	A1	No
R407F	1825	A1	No
R410A	2088	A1	No
R507	3985	A1	No
R508B	13396	A1	No
R23	14800	A1	No

### HFC Grade - Replacement Refrigerants

REFRIGERANT	GWP	ASHRAE CLASS	FLAMMABILITY
R422D	2729	A1	No
R437A	1805	A1	No
R417A	2346	A1	No
R442A	3143	A1	No
R13B1	3805		
R438A	2252	A1	No
R426A	1508	A1	No
R424A	2440	A1	No
R434A	3238	A1	No
R442A	1888	A1	No
R428A	2999	A1	No

### HFC Grade - Low GWP Refrigerants

REFRIGERANT	GWP	ASHRAE CLASS	FLAMMABILITY
R448A	1387	A1	No
R449A	1397	A1	No
R452A	2140	A1	No
R32	675	A2L	Yes (Low)
R513A	631	A1	No

### Hydrocarbon Refrigerants

REFRIGERANT	GWP	ASHRAE CLASS	FLAMMABILITY
R1270	2	A3	Yes
R290 (Propane)	3	A3	No
R600a (Isobutane)	4	A3	No

### HFO Refrigerants

REFRIGERANT	GWP	ASHRAE CLASS	FLAMMABILITY
R1234yf	4	A2L	Yes (Low)
R123zd(E)	4.5	A2L	Yes (Low)

## Refrigerants

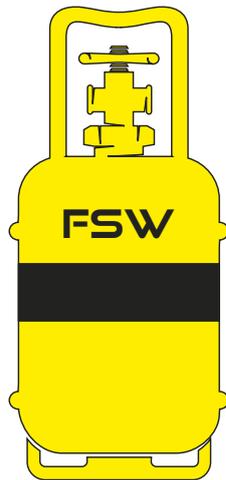
### Carbon Dioxide CO<sub>2</sub>

CO<sub>2</sub> cylinders available with liquid or vapour charge in various fill weights. For conditions of cylinder loan please see the information section C.O.S.H.H. regulations apply, please ask for a copy.



#### CO<sub>2</sub> TYPE & CYLINDER SIZE

Contact FSW as we offer various cylinder size options available filled with either vapour or liquid CO<sub>2</sub>.



## REFRIGERANT GAS

RECOVERY & RECLAIM  
SERVICE

### FSW Refrigerant Reclaim & Recovery Service

FSW offer cylinders for the sole purpose of returning used or reclaimed refrigerant and therefore normal refrigerant cylinders must not be used for transporting used material. A non-return valve is fitted to prevent the use of normal cylinders for reclaim; removal of this device will incur a charge.

We only offer this service to customers who purchase refrigerants from us and who are registered for F-Gas with one of the three governing bodies - Refcom, Bureau Veritas or Quidos.

With regards to company F-Gas certification, the Environmental Services Agency are taking this matter very seriously and will prosecute any company or individual that does not comply with government rules and regulations.

When refrigerant is removed from a system it becomes chemical waste and is covered by that legislation. We can only offer reclaim cylinders to customers that are able to collect from our branches or fall within our normal van delivery network. This is because most carriers will not handle chemical waste.

The cylinder must be returned with a completed hazardous waste consignment note. Waste refrigerant can only be transported in the appropriate cylinder and with the waste consignment note filled in correctly.

### Refrigerant Recovery & Receiver Cylinders

#### DESCRIPTION

Reclaim cylinders for returning used or reclaimed refrigerant.

Recovery cylinders for temporarily holding refrigerant allowing repair or maintenance to system.

Please note: These cylinders must be returned empty.

### Hydrocarbon Refrigerant Receiver Cylinder

#### DESCRIPTION

Receiver cylinders available for hydrocarbons but usually with a reduced fill weight due to the density of H/C's, Designed for use with both R600a (Isobutane) and R290 (Propane) and R1270 (Propylene).

Cylinder is labelled 'Hydrocarbon Refrigerants Only'.



## Refcom Approved Digital Scales Calibration Check Centre



**FREE**  
**DIGITAL**  
**SCALES**  
Calibration Checks  
**HERE**



Refcom Approved Scales Calibration Check Centres.

**FSW** Where you need us - When you need us

For full details of this FREE service, see overleaf.



## Secondary Refrigerant (Glycol)

**GLY-COOL® (MEG)** is a high performance, Monoethylene Glycol (MEG) based, heat transfer fluid designed for secondary refrigerant and industrial cooling applications. GLY-COOL (MEG) fluids have been specifically designed to deliver high resistance to degradation, scale, bacterial growth and corrosion.

### GLY-COOL® (MEG) - Mono Ethylene Glycol

CODE	CONTAINER SIZE
M406	25 kgs containers

**GLY-COOL+® (MPG)** is a high performance, Monopropylene Glycol (MPG) based, heat transfer fluid designed for use in indirect cooling in food processing and beverage cooling applications. GLY-COOL+ (MPG) fluids have been specifically designed to deliver higher resistance to degradation, scale, bacterial growth and corrosion.

### GLY-COOL® (MPG) - Mono Propylene Glycol

CODE	CONTAINER SIZE
M407	25 kgs containers



## Industrial Gases

For conditions of cylinder loan please see the information section. C.O.S.H.H. regulations apply, please ask for a copy.

### Oxygen Free Nitrogen

OFN (Oxygen Free Nitrogen) is available in 3 sizes 10, 30 or 40 litres.

CYLINDER SIZE
10 Litre
30 Litre
40 Litre



### BRAZE-A-GAS® Oxygen and Acetylene

Braze-A-Gas range of oxygen and acetylene from A-Gas. The professional engineer's choice for brazing copper tubes together in refrigeration and air conditioning systems.

Oxygen and Acetylene cylinders available in 2 sizes 5 or 10 litres.

CODE	CYLINDER SIZE
M605	5 Litre Oxygen
M606	10 Litre Oxygen
M589	5 Litre Acetylene
M590	10 Litre Acetylene



### TRACE-A-GAS®

Trace-A-Gas is a premium leak detection solution. Trace-A-Gas is a 5% Hydrogen and 95% Nitrogen mixture which is non-flammable, non-toxic and safe for the environment. When used with a suitable electronic leak detector, Trace-A-Gas will enable engineers to detect much smaller leaks than they can with oxygen free Nitrogen and a leak detection spray. See Q section for details of the CPS LS II and the GasMate electronic leak detectors, both suitable for use with Trace-A-Gas.

CODE	CYLINDER SIZE
M4000	10 Litre
M4002	30 Litre



## Refrigerant Analysis

The A-Gas laboratory has been constructed and equipped under strict guidelines of AHRI 700 testing requirements. A-Gas provides refrigerant analysis services through our state-of-the-art on site laboratory. Our analysis services enable end users to identify the refrigerant in a system and detect potential contaminant levels.

Our refrigerant analysis kit includes a sample cylinder, complete with full instructions and a submission form. A minimum sample of 500g is required for an accurate analysis and the instruction form must be filled in and returned to A-Gas with the sample. The analysis test results will indicate problems with oil residue, moisture, acidity, composition, purity, non-condensables and R40 (Methyl Chloride).

## Oil Analysis

Oil analysis can provide early warning of potential problems by identifying concentrations of metals and other contaminants in the oil. This can avoid unscheduled downtime and also prevent damage to equipment. Our oil analysis kit contains a small bottle to take the oil sample and an instruction form which both need to be returned to A-Gas for analysis to take place.

## CO<sub>2</sub> Analysis

Refrigeration systems that contain Carbon Dioxide (CO<sub>2</sub>/R744) require strict controls on moisture, oil and other contaminants. Our CO<sub>2</sub> analysis service enables end users to identify the purity and moisture levels of the product in the system. Our analysis cylinders have been designed specifically for liquid CO<sub>2</sub> samples to be charged into the cylinder and our laboratory facilities have been set up to handle the analysis based on the specifications set by the industry standard. The correct sampling techniques and appropriate cylinders are essential for obtaining a meaningful analytical result (a standard refrigerant analysis cylinder is not suitable for this use). For further information on our CO<sub>2</sub> analysis service please consult you local FSW.

CODE	ANALYSIS KIT
M4400	Refrigerant Analysis Kit
M4402	Oil Analysis Kit
M4401	CO <sub>2</sub> Analysis Kit



## Refrigerant Oil Disposal Service

You can now pick up a clean, empty 10 litre portable container from your local FSW branch as and when needed or keep on your van ready to fill with waste oil when required.

When it's full, simply return the container with no more than 10 litres of oil\* and we will return it to A-GAS® for safe and responsible disposal.

You can mix different types of refrigeration oil into the container, however the container is not suitable for oils containing CFCs and/or Ammonia.

The container is considered disposable so there are no rental charges, you simply pay one price when you collect it and return when it's full, or when you have finished with it.

In order to use this service, you will be required to fill in a Hazardous Waste consignment note with each return. A Hazardous Waste note with oil section is now available from FSW branches.

CODE	DESCRIPTION
M4405	10 Litre Waste Oil Container

\*Containers are not to be filled over the 10 litre max fill weight. Additional charges may apply if you over fill the container or we reserve the right to reject and return the container.



## System Flushing Agents

### AK Flush

AK Flush has been developed specifically for flushing refrigerant and air conditioning systems to remove unwanted contaminants reducing the chance of future system failures. AK Flush contains a range of polar solvents that dissolve and remove oil along with particulates, sludge, acids, carbon residues and moisture thus avoiding compressor damage. For use after a compressor burnout, or when carrying out an oil change.

AK Flush is delivered in a pressurised cylinder and comes complete with a waste receptacle. The cost of waste destruction is included in the initial price making AK Flush a complete and easy to use solution as well as being environmentally friendly. Non-toxic and non-ozone depleting but can be flammable under certain conditions. AK Flush has a CO2 propellant at 10 bar that pushes solvent through a system. A 5kg AK Flush pack is sufficient to effectively clean up to a 50Kw system

**A-GAS®**  
TOGETHER WE CAN



CODE	DESCRIPTION
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M208	AK Flush includes 1 x 5kg Pressurised Cylinder plus a metal receptacle for waste product to be returned for disposal
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### Diversitech Pro-Flush™ Flushing Kit

Pro-Flush™ Refrigerant Line Cleaner is a solvent based product for use in cleaning any refrigeration and AC systems. Simply fill the reusable tank with the solvent included and blow through the contaminated system using your own OFN and regulator. The refillable cylinder has a PRV that vents at 200psi preventing over pressurisation of cylinder. The kit includes: reusable tank. 475ml of pro-flush, hose and injector trigger nozzle. Great for service engineers on smaller systems such as service cabinets and split systems etc.



CODE	DESCRIPTION
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M449	Pro-Flush Kit
M448	Pro-Flush Refill (475ml)

### Gallo Gun

The Gallo Gun is a lightweight, portable tool designed to blow out condensate drain lines instantly. Simply insert a SWOOSH CO2 cartridge into the Gallo Gun and with a press of the trigger, 800 psi of oil free air clears the line.

CODE	DESCRIPTION
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M412	Gallo Gun (excludes cartridges)
M413	Gallo Gun Cartridges (Box of 12)



### AC-Pro F-Gas System Labels

The F-Gas regulations require that all stationary refrigeration, air conditioning and heat pump equipment commissioned after the 31st of March 2008 be labelled with the type of refrigerant used and the total system charge. Labels let you record the total system refrigerant charge. Keep a refrigerant leak check record. Water and weather resistant.

The pack contains everything that you need, including:-  
30 x System charge adhesive labels  
30 x Refrigerant leak check record adhesive labels  
1 x Marker pen



CODE	DESCRIPTION
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M085	AC-Pro F-Gas System Labels
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## Refrigerant Accessories

### Refrigerant Cylinder Adapters

CODE	DESCRIPTION
M012	1/4" Refrigerant Cylinder Brass Adapter (including fibre washer)
M009	3/8" Refrigerant Cylinder Brass Adapter (including fibre washer)
M013	Fibre Washer (for above brass adaptor)
M014	Refrigerant Cylinder Adapter (Nylon) including Gasket
M015	1/4" Refrigerant Cylinder Adapter (Brass) Left handed thread to suit all red topped cylinders includes PTFE Gasket



### Refrigerant Can Adapter Valve

Valve to suit disposable refrigerant cans like R290, R600a.

CODE	DESCRIPTION
M016	Can Adaptor Valve to suit Disposable Refrigerant Cans



### Self Adhesive Hazard Warning Labels

Self adhesive "Hazard Warning" labels for compressed and flammable gas in 2 size options: 100 or 200 mm square.

CODE	DESCRIPTION
M092	Green Compressed Gas Label 100 x 100 mm
M093	Red Flammable Gas Label 100 x 100 mm
M094	Green Compressed Gas Label 200 x 200 mm
M095	Red Flammable Gas Label 200 x 200 mm



### AC-Pro™ Stationery Pad

AC Pro Pads are an efficient record management system, with the reporting sheets providing engineers with a concise, efficient way to keep accurate records and give peace of mind to customers; particularly those worried about their legal F-Gas duties.

AC-Pro report pads cover the wide spectrum of jobs which must now be recorded by law. Whether it's a service, breakdown, installation or commission, a purpose-built form is at hand to keep client equipment log books up-to-date – including the right details to exceed current regulations.

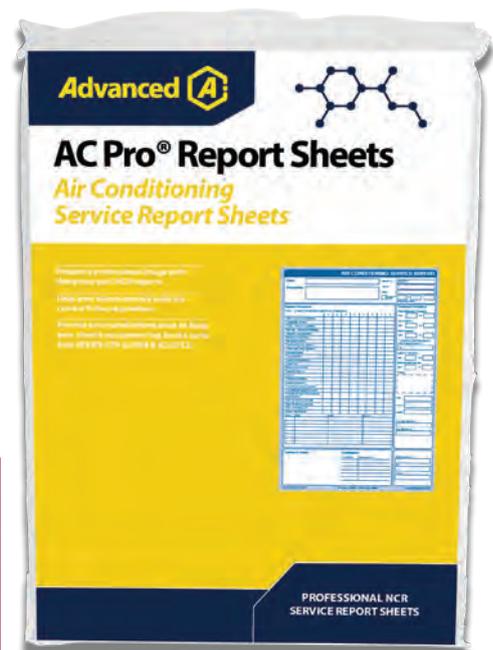
Eliminating the need for costly bespoke stationery or software, the record sheets present clients with a professional image – at a fraction of the cost – and simply need to be kept on file to complete the paper trail the law requires.

Meanwhile, because the two-part reports are carbonated, the system also simplifies invoicing and enhances customer service, encouraging faster payments from customers.

Now, fulfilling the legislation really is as simple as ticking the boxes!

CODE	DESCRIPTION
M086	AC-Pro Air Conditioning Service Report Sheets
M087	AC-Pro Refrigeration Service Report Sheets
M088	AC-Pro AC Installation Report Sheets
M089	AC-Pro Breakdown Report Sheets
M096	AC-Pro Refrigerant Cylinder Tracking Report Sheets
M099	AC-Pro Commissioning Report Pad

Advanced



## EasyFinish™ Fascia and Case Cleaner

EasyFinish™ is a diffuser and case cleaner specially formulated to remove nicotine, grease and general grime, allowing engineers to leave everything clean and tidy. Suitable for most air conditioning units. Safely removes finger marks from plastic and metal casework.

CODE	DESCRIPTION
M490	EasyFinish Fascia & Case Cleaner (600 ml Aerosol)



## Big Wipes

Big Wipes are industrial-strength, multi-purpose, antibacterial cleaning wipes designed for use by anyone who needs a very tough, highly tear resistant, very absorbent and immediate on-hand cleaning product.

CODE	DESCRIPTION
M441	Big Wipes (Tub of 80 Wipes)



## EasyWipes

EasyWipes™ are professional formulation hand wipes containing powerful yet safe cleaning agents. These convenient wipes loosen, dissolve and absorb dirt, grease, grime, oil, paint and tar.

CODE	DESCRIPTION
M442	EasyWipes (Pack of 50 Wipes)



## Ultragrime Wipes

Ultragrime are the biggest and best wipes you can buy. Use these dirt eating wipes all day, every day on your hands, tools and many other surfaces, including fabric and upholstery. They effortlessly cut through oil, grease, ink, paint, silicone, bitumen, adhesives, uncured PU foam and other stubborn, ground-in grime – they're your ultimate cleaning companion!

CODE	DESCRIPTION
M444	Ultragrime Pro XXL Multi Use Cloth Wipes (Pack of 100)



## WypALL® Paper Towels and Blue Roll

WypAll® Plus towels easily absorb grease, oil, water and solvents from floors, hands, parts, tools and machinery. Tough enough for extra heavy jobs, they come in a convenient pop-up box of 100 towels. Blue Tissue Roll approx 120 m long, 2 Ply Perfect for everyday cleaning and maintenance work.

CODE	DESCRIPTION
M443	Blue Roll (120 m Approx)
M440	WypAll-Plus Heavy Duty Paper Towels (Pack 100)



## WD-40 Multi Use Maintenance Spray

WD-40 is an all purpose liquid for displacing moisture, corrosion control, lubrication, cleaning and penetration. It has the ability to penetrate the minute grain boundaries on all metals.

CODE	DESCRIPTION
M180	WD-40 Aerosol (400 ml)



## Rectorseal Epoxy Putty

Epoxy Putty bonds to most surfaces and hardens in 15 to 20 minutes. It can then be sanded, painted, drilled, taped, and/or machined.

CODE	DESCRIPTION
M170	Rectorseal EP-200 Epoxy Putty



## Errecom Oil Test Kit

The Errecom Oil Test Kit allows you to identify within seconds the type of lubricant in your system, in two short steps it is possible to identify POE, mineral or alkyl benzene oil. Compatible with all refrigerants.

Kit contains 2 tests. Not recommended for automotive a/c systems using PAG oils.



CODE	DESCRIPTION
M243	Errecom Oil Test Kit

## Acid Test Kits

### Errecom Acid-Test Set

The Errecom Acid Test Set is indispensable for quickly and accurately testing refrigeration lubricants for acid contamination levels. Works well with ALL lubricants (POE - ABZ- PAO - PAG - Mineral).

Accurate results in seconds. Easy to use and read. No need to buy separate POE and Mineral Oil Acid test this one kit does it all!

The plastic box contains 4 tests.



CODE	DESCRIPTION
M334	Errecom Acid Test (Plastic storage box containing 4 oil tests)

### Diversitech Acid Test Kits

The ATK-1 for alkyl benzene and mineral oil and the ATK-1P Acid Test Kit for POE oil provides a quick and reliable way to test for excessive acid in the system. Simple to use one step process means there are no chemicals to mix. Easy to evaluate the results as the colour intensity indicates the amount of acid present in the sample. Individual test pack. Simple one step test.



CODE	DESCRIPTION
M154	Diversitech ATK-1 Acid Test Kit for Mineral Oils
M155	Diversitech ATK-1P Acid Test Kit for Polyolester Oils

### Test-All TA-1 Acid Test Kit

TA-1 acid compact test kit offers you a simple way to test different kinds of lubricant. TA-1 uses a simple scientific method capable to precisely measure the amount of acid in a lubricant sample taken from a contaminated system. The TA-1 has pre-measured solutions supplied in bottles with screw caps for easy handling. Multi lubricant testable, Mineral, Alkyl benzene, POE. Reliable and accurate one shot test.



CODE	DESCRIPTION
M157	Parker Sporlan TA-1 Acid Test Kit

### QwikCheck® Acid Test Kit

QwikCheck is a fast and effective way to check for acid in air conditioning and refrigeration circuits, which can lead to system burnouts. The yellow to red colour change is an easily visible indicator. Unlike other methods, QwikCheck is clean, fast (just 5 seconds) and is safe to use on nearly ALL refrigeration systems.



CODE	DESCRIPTION
M470	QwikCheck Acid Test Kit

## Errecom No-Acid

No-Acid completely neutralises and eliminates acid present in AC&R systems. Acids are often caused by moisture, compressor burn-out and lubricant breakdown, once injected No-Acid acts immediately, preventing acids from forming. Perfect for adding to system after fitting a replacement compressor. No-Acid is compatible with all types of refrigerant gas & refrigerant lubricants. Supplied in a pack of 6 x 12 ml easy to use syringes.



CODE	DESCRIPTION
M335	Errecom No-Acid for all oil types (Pack of 6 x 12ml Syringes)

## Rectorseal Acid Away®

Acid-Away® is a unique patented chemical treatment for use in air conditioning and refrigeration systems that have experienced a burnout, or operating systems that are showing a build up in acid content. It circulates quickly throughout the system, neutralizes acids in the system after a burnout occurs. Once neutralized, this acid can no longer continue its corrosive attack and cause another burnout.



CODE	DESCRIPTION
M162	Acid Away for Mineral Oil
M163	Acid Away for POE Oil

## Errecom FixQuick External Leak Stop

FIXQUICK is the new ultra-fast leak stop by Errecom, specifically formulated to repair in max 30 seconds leaks up to 1 mm in diameter on flat and curved surfaces. It guarantees a seal up to 50 Bar pressure and 250°C. It can be used on metals and plastic components of AC/R systems. Its fluorescent formulation allows to easily check the status of the performed fixing using a UV lamp and to identify any previous repairs. Wait 20 min for a repair that can withstand a pressure of 50 Bar.



CODE	DESCRIPTION
M267	Errecom FixQuick External Leak Stop

## Sealpro - Leak Stop Sealant

Seal Pro permanently and quickly seals refrigerant leaks up to 300 microns. It gives HVACR engineers a powerful chemical tool, especially when repairing older installations in which small persistent leaks cannot be identified. Seal Pro contains no refrigerant, no propellant and no dyes in its hermetic long-life vacuum canister, so it works with all common refrigerants, HFCs, HCs, HFOs, and blends including R410a & R32.



CODE	DESCRIPTION
M190	Sealpro HVACR 1.5 Tons (5 kw)
M191	Sealpro HVACR 1.5 - 5 Tons (5 - 18 kw)
M192	Sealpro HVACR 5+ Tons (18+ kw)

## Extreme & Extreme White Ultra- Leak Sealant

EXTREME is specifically designed for the safe repair of small refrigerant gas leaks that frequently occur all types of AC&R systems including automotive AC. The critical ingredients of Extreme are triggered into action only when there is a leak, mechanically building a flexible permanent seal.

EXTREME ULTRA WHITE is an essential product, specifically designed to solve all the problems related to refrigerant gas micro leaks that occur in refrigerators with hermetic compressor with R600, R290 and R1234a refrigerant gases (domestic and industrial refrigerators, wine cellars, beverage dispensers, ice cream refrigerators etc. Dosage: 6 mL every 200 mL of compressor oil.



CODE	DESCRIPTION
M330	Errecom Extreme (Pack of 6 x 12 ml Syringes)
M262	Errecom Extreme White Ultra (Pack of 1 x 6 ml Syringes)

NEW Extreme White Ultra is suitable for R600 & R290 refrigerants.

## Errecom Super Dry - Anti Moisture Additive

Super-Dry is a dehydrating additive that prevents the creation of moisture in AC&R systems. Super-Dry contains special chemicals that improve the lubricant stability and prevent creation of moisture in the system. Super Dry is compatible with all types of refrigerant gas and refrigerant lubricants. Super-Dry can be added to a system suffering moisture problem's or added from new to prevent moisture. Supplied in a pack of 6 easy to use 12 ml syringes.

1 x 12 ml syringe is capable of treating a 6 kw system with up to 1.8kg of refrigerant making it a cost effective anti moisture solution.

CODE	DESCRIPTION
M332	Errecom Super Dry (Pack of 6 x 12ml Syringes)



\*See Errecom Products Dosing chart at end of Section M for dosing systems up to 75 kw

## Errecom Cool-Shot Performance Enhancer

Cool-Shot is the ultimate system performance enhancer. It contains two synthetic catalysts that removes all the old oils coating and insulating the insides of the evaporator and condenser.

- Improves coil heat transfer by up to 73%
- Increases cooling capacity by 20-30%
- Offers a minimum 20% energy saving
- Delivers improved air off temps (by approx 2-4 °C)
- Cool Shot is compatible with all types of refrigerant gas & refrigerant lubricants.

1 x 12 ml syringe is capable of treating a 6 kw system with up to 1.8kg of refrigerant making it a cost effective anti moisture solution.

CODE	DESCRIPTION
M331	Errecom Cool-Shot (Pack of 6 x 12ml Syringes)



Cool Shot is more effective on older AC&R systems that have built up an oil coating over time.

\*See Errecom Products Dosing chart at end of Section M for dosing systems up to 75 kW

## Anti Corrosive Coil Treatments

### Errecom No-Age Protective Coil Coating

No-Age is a ready-to-use protective treatment designed for all those systems that are exposed to highly oxidising environments (seaside or heavily polluted sites) where salt and acid rain significantly reduce the life of the condenser coil.

#### How does it work?

Once you have cleaned the condenser with either an acid or alkaline based condenser cleaner. Simply spray No-Age directly onto the coil. No-Age generates a microfilm that does not limit the heat exchange of the condenser coil, but reduces the ability of dirt (such as salt and smog) to cling to the surfaces, protecting the metals thanks to its anti-corrosive barrier.

CODE	DESCRIPTION
M244	No-Age Ready-to-Use Trigger Spray (1 Litre)
M245	No-Age Ready-to-Use (5 Litre)



### EasyCoat™ Protective Coil Coating

EasyCoat™ is an acrylic coating aerosol, designed to guard air cooled coils against corrosive environmental factors such as acid rain, saline atmospheres and airborne ammonia. Its rapid-drying waterproof, oils resistant formulation ensures long-term protection for your air conditioning and refrigeration systems.

CODE	DESCRIPTION
M485	EasyCoat Protective Coil Coating (500 ml Aerosol)



## Refrigeration & AC Chemicals

We stock an extensive range of cleaning and specialist chemicals for the refrigeration and air conditioning industry. From acid and alkaline based to solvent cleaning chemicals and because the range is so vast we have categorised the chemicals into groups, condenser, evaporator, universal and odour control chemicals to make it a little easier to identify which chemical suits your requirements.

### Condenser Cleaners

#### SuperClean™ Heavy Duty Alkaline Condenser Cleaner

SuperClean™ is quite simply the strongest alkaline based condenser coil cleaner on the market. Unique in its formulation, it brings all of the benefits of a heavy-duty acid based cleaner - but is considerably safer to use. Powerful foaming action, brightens the coil and inhibits further oxidation. Highly concentrated and effective, it will safely remove the wide range of contaminants commonly found in condensers - without damaging the coil. The coil is left visibly bright and clean - in fact super clean. (Supplied in 5 litre concentrate, requires dilution).

CODE	DESCRIPTION
M467	SuperClean Heavy Duty Condenser Cleaner (5 Litre)



#### Errecom 'Best Acid CC' Condenser Cleaner

Best Acid CC is a specific acid-based liquid treatment that deeply removes incrustations from the finned coils of condensers on refrigeration, air conditioning and transport air conditioning. Supplied in 5 litre concentrate, requires dilution.

CODE	DESCRIPTION
M237	Best Acid CC Acid Condenser Cleaner (5 Litre)



#### HydroFoam® Acid Condenser Cleaner

HydroFoam® is an ultra heavy-duty cleaner for condenser coils. As such great care must be taken with its application. If user safety is a priority with your condenser cleaner then Advanced Engineering recommends SuperClean™ - a safer high strength alternative (see product above). Supplied in 5 Litre concentrate, requires dilution.

CODE	DESCRIPTION
M464	Hydrofoam Alkaline Condenser Cleaner (5 Litre)



#### RTU® Ready-to Use Condenser Cleaner

RTU® from Advanced Engineering is a convenient ready-to-use condenser cleaner ideal for application as part of a regular maintenance programme. It is highly effective at removing common types of dirt and debris. RTU® Condenser Cleaner also has a biodegradable formula that is very safe to use.

CODE	DESCRIPTION
M450	RTU Condenser Cleaner (1 Litre) Trigger Spray Bottle
M456	RTU Condenser Cleaner (5 Litre) Container



#### Aerosol Condenser Cleaners

Errecom Power-Clean-Out gives a high pressure blast of chemical to clean out even the dirtiest and hard to reach condensers.

EasyFoam® is a heavy duty ready-to-use cleaner for use on condenser coils. Its foaming formulation and powerful aerosol jet make it ideal for removing stubborn dirt from deep within the problem coils.

CODE	DESCRIPTION
M232	Power Clean-Out High Pressure Cond Cleaner Aerosol (750 ml)
M488	EasyFoam Foaming Aerosol Condenser Cleaner (600 ml)



## Condenser Cleaners

### Errecom 'Chisel' Alkaline Condenser Cleaner

'Chisel' is a specific alkaline-based liquid treatment with anti-corrosion ability that cleans and deeply degreases the dirt that sets within the finned coils of condensers on refrigeration, air conditioning, transport air conditioning and refrigeration.

Supplied in 5 litre concentrate, requires dilution.

CODE	DESCRIPTION
M234	Chisel Alkaline Condenser Cleaner (5 Litre)



### Errecom 'Best' Alkaline Condenser Cleaner

Best Cond Cleaner is a specific alkaline-based liquid treatment that cleans and deeply degreases the dirt that sets within the coils of the condensers on refrigeration, air conditioning and transport air conditioning and refrigeration.

Supplied in 5 litre concentrate, requires dilution.

CODE	DESCRIPTION
M238	Best Alkaline Condenser Cleaner (5 Litre)



### Errecom 'Restore' Alkaline Condenser Cleaner

Errecom 'Restore' is a specific fast acting and effective chemical product formulated to completely clean condensers.

This product has a mildly perfumed smell.

Supplied in 1 litre pre diluted ready-to-use trigger spray bottle.

CODE	DESCRIPTION
M233	Restore Alkaline Condenser Cleaner (1 Litre)



### Errecom Eco-Restore Alkaline Condenser Cleaner (Biodegradable)

Eco-Restore is a alkaline based fast acting chemical product, with high biodegradability, formulated to clean condensers.

Will cope with cleaning severe dirt build up on condensers fins.

Suitable for frequent use. Supplied in 5 litre concentrate.

CODE	DESCRIPTION
M231	Eco-Restore Condenser Cleaner (5 Litre)



### AdvancedGel CC (Condenser Cleaner)

As air is pulled through a condenser coil, small amounts of dirt deposit on the fins. Left untreated, a layer of dirt builds up over time – acting as an insulating blanket and restricting air flow. This prevents effective heat transfer, so the system has to work harder to dissipate the heat. Energy consumption increases, and the life of the system may be shortened. Avoid all these problems by using AdvancedGel CC, with its powerful cleaning and brightening action.

CODE	DESCRIPTION
M284	Advanced Gel CC Condenser Cleaner (490ml)



### GreaseGobbler® Solvent Condenser Cleaner

GreaseGobbler™ is perfect for dissolving built up grease on condensing unit coils usually found in kitchens. GreaseGobbler™ is a no rinse, high powered solvent based condenser cleaner that quickly and easily removes heavy grease deposits in a matter of seconds.

CODE	DESCRIPTION
M135	GreaseGobbler Solvent Condenser Cleaner (400 ml)



## Evaporator Cleaners

### Errecom 'Jab' Evaporator & Plastics Cleaner

Errecom Jab is a specific fast-acting very low alkaline, effective scented chemical product, formulated to completely clean internal units. It acts both on the evaporator and on plastic surfaces without damaging them. Supplied in 5 litre concentrate & 1 litre ready-to use.



CODE	DESCRIPTION
M240	Jab Ready-To-Use Evaporator Cleaner (1 Litre)
M235	Jab Evaporator Cleaner (5 Litre Concentrate)

### RTU® Ready-to-Use Evaporator Cleaner

RTU® evaporator cleaner is the ideal application as part of a regular maintenance programme. It is highly effective at removing all common types of dirt and debris, RTU® evaporator cleaner has a biodegradable formula that is very safe to use.

Supplied in 1 litre ready-to-use trigger spray.

CODE	DESCRIPTION
M454	RTU Evaporator Cleaner (1 Litre) Trigger Spray Bottle



### Errecom 'Clench' Ready-to Use Evaporator Cleaner

Clench is an alkaline, scented chemical product, fast acting and effective. Formulated for cleaning evaporators. It is designed to eliminate possible corrosion and prevent the reformation. Supplied in 1 litre ready-to-use spray bottle. As efficient as an acid cleaner but more safe.

CODE	DESCRIPTION
M246	Clench Evaporator Cleaner (1 Litre) Trigger Spray Bottle



ERRECOM  
AIR CONDITIONING & REFRIGERATION CHEMICAL SOLUTIONS

### Errecom 'Power Clean-In' High Pressure Evaporator Cleaner

Power Clean-in from Errecom is a special aerosol can that has been designed to achieve a high and constant supply pressure that allows you to easily remove extreme dirt that accumulates between the fins of the evaporators. Particularly suitable for hard to reach evaporators.

CODE	DESCRIPTION
M230	Power Clean-in Evaporator Cleaner (600ml Aerosol)



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AIR CONDITIONING & REFRIGERATION CHEMICAL SOLUTIONS

### CoolSafe® Evaporator Cleaner

CoolSafe® is an effective coil cleaner for refrigeration systems. Its unique formula will remove all common contaminants left by organic materials and foodstuffs on cooling coils... with minimum hazard to the user and immediate environment. Because it is mild enough to be used in sensitive food-preparation and storage areas, CoolSafe® is ideal for use on food-display cabinets, walk-in refrigerators and freezers.

CODE	DESCRIPTION
M254	CoolSafe Evaporator Cleaner (5 Litre)



### Errecom 'Chinook' Air Filter Cleaner

Non aggressive towards the material. Ready to use, it quickly and effectively cleans. Easily removing smog, dust, mould and microbial contaminants, leaving a fresh fragrance of cleanliness. Chinook is an effective cleaner for standard indoor unit washable air filters. Safe for the operator and for the filters, leaving no harmful residues. Chinook is ready for use.

CODE	DESCRIPTION
M247	Chinook Air Filter Cleaner Ready-to-Use (1 Litre) Trigger Spray



ERRECOM  
AIR CONDITIONING & REFRIGERATION CHEMICAL SOLUTIONS

HACCP Product

## Indoor A/C Cleaning Covers



### Errecom Wall Mounted A/C Cleaning Kit

Errecom's WALLY (pronounced wall-e) is a transparent disposable polyethylene cover that ensures complete protection of the area around the split unit during cleaning operations.

Thanks to WALLY the technician can clean the evaporator and its heat exchanger with minimum disassembly, leaving the split still attached to the wall.

Cleaners, rinsing water and dirt will flow into the 20 litre bucket without damaging the surrounding surfaces.

CODE	DESCRIPTION
M265	Errecom Wally Wall Mounted A/C Cleaning Kit Includes: 1 x bucket and 5 covers

**NEW**



### Errecom Ceiling Cassette Cleaning Cover

Errecom's CEILY is a plastic cover with a metal frame specifically designed to guarantee the cleaning operation of ceiling air conditioner without dirtying the surrounding area.

CEILY comes complete in zipped access storage bag containing both the metal structure and one protective cover.  
Bucket shown in Image NOT Included.

**Advantages:**

- No dirt on surrounding surfaces.
- Fast and easy installation.
- Spare plastic covers are available.



**NEW**



CODE	DESCRIPTION
M266	Errecom "Ceily" Ceiling Cassette A/C Cleaning Cover
M268	Spare plastic cover for "Ceily" A/C Cleaning Cover

Bucket shown is not included with the Ceily

### Coolero Wall Mounted A/C Cleaning Cover

Heavy-Duty re-usable waterproofed nylon covers from Coolero are designed to help protect the surrounding area from splashes by collecting grime, dirt and mould etc whilst chemical cleaning wall mounted a/c units.

Also ideal for catching dust and debris when brushing clean the coils and casework etc.

**Coolero covers are available in 2 sizes:**

- Medium to suit 2.5 to 5.2kW
- Large to suit 5.2 to 7.6kW

CODE	DESCRIPTION
M136	Coolero Medium Wall Mounted A/C Cleaning Cover
M137	Coolero Large Wall Mounted A/C Cleaning Cover



**NEW**



## Evaporator Coil Cleaner & Disinfectant

### CondenCide® Evap Cleaner & Disinfectant

CondenCide is a heavy duty coil cleaner that will not only shift the worst evaporator dirt and grime, but contains a powerful disinfectant to kill virtually all bacteria in under sixty seconds. It is the perfect coil cleaner for indoor units – it features a heavy duty formula that will thoroughly clean and disinfect. Supplied in 5 Litre concentrate, requires dilution.



**MAKES  
25L**

CODE	DESCRIPTION
<b>M468</b>	CondenCide Alkaline Evaporator Cleaner 5 litre

### RTU® ECD Evaporator Cleaner & Disinfectant

RTU® ECD evaporator cleaner and disinfectant has a highly effective cleaning action which improves the efficiency of your system, while its disinfectant ensures total hygiene. RTU ECD is supplied in 1 litre Trigger Spray and 5 litre container.



CODE	DESCRIPTION
<b>M452</b>	RTU ECD Evaporator Cleaner & Disinfectant (1 Litre)
<b>M455</b>	RTU ECD Evaporator Cleaner & Disinfectant (5 Litre)

### SANIBACT (Evap Cleaner & Disinfectant)

Sanibact is the ultimate disinfectant as its perfect for cleaning and disinfecting evaporators whilst being suitable for HACCP planning. It is also suitable for food disinfecting surface areas (rinsing required). Highly concentrated as one litre dilutes to 25 litres of usable product.



CODE	DESCRIPTION
<b>M264</b>	Sanibact Concentrated Disinfectant (1 Litre) Trigger Spray
<b>M236</b>	Sanibact Concentrated Disinfectant (5 Litre)



### AdvancedGel ECD (Evap Cleaner & Disinfectant)

AdvancedGel ECD is an evaporator cleaner and disinfectant which has been formulated to address concerns over indoor air quality. Its highly effective cleaning action improves the efficiency of your system, while its disinfectant ensures total hygiene. The improved formulation now includes a high-strength disinfectant that kills 99.9% of germs. This gives extra reassurance that the unit is safe and clean.



CODE	DESCRIPTION
<b>M283</b>	Advanced Gel ECD - Evap Cleaner & Disinfectant (490ml)

### EasyCare® (Evap Cleaner & Disinfectant)

EasyCare is an evaporator cleaner and disinfectant designed to address concerns over indoor air quality. Its highly effective cleaning action improves the efficiency of your air conditioning system, while its disinfectant ensures total hygiene and the reassurance that the unit is safe and clean.



CODE	DESCRIPTION
<b>M264</b>	Easycare EvapCleaner & Disinfectant (600 ml Aerosol)

## Disinfectants

### Errecom Sanibact Concentrated Disinfectant

Sanibact is highly concentrated disinfectant suitable for both evaps and food surface areas. Now available in both 1 and 5 litre containers that requires diluting to 1:25, so 1 litre makes 25 litres of ready to use product.

Sanibact is effective against the following virus: Influenza, Hepatitis B/C, HIV, Rota virus, Noro virus and Ebola virus. Concerning the bacteria, Sanibact passes the tests EN1276 -EN13697. For molds, it passes the EN13697 test. It eliminates allergens (dust mites, dogs, cats, pollens etc) from hard and non porous surfaces. Sanibact doesn't leave smell and residues. Its disinfectant action acts in just 5 minutes, allowing a very deep and rapid result. It can be sprayed on food contact surfaces (rinse needed). It is suitable for HACCP plan.

CODE	DESCRIPTION
M264	Sanibact Concentrated Disinfectant (1 Litre)
M236	Sanibact Concentrated Disinfectant (5 Litre)



### Errecom Smartbact 500 Disinfectant Kit

Smartbact Kit contains a 500ml bottle of SaniBact concentrated disinfectant, 20 mL measuring cup and 500 mL spray pump empty bottle.

Fill the empty bottle with water first then add 20ml of Sanibact. This gives you 500ml of ready to use disinfectant. The Smartbact Kit gives you enough sanibact to make 12.5 litres of disinfectant.

The Smartbact kit is the perfect size for vehicles, keeping in the office or home or carrying in your toolbag for site work.

CODE	DESCRIPTION
M292	Smartbact 500 Kit includes 500ml of Sanibact, 1 x empty 500ml spray bottle and a 20ml measuring cup.



### Errecom CleanSi Disinfectant

CleanSi is a powerful 80% alcohol-based purifier in aerosol can that deeply cleanse. CleanSi evaporates quickly and completely, without leaving residues and streaks. Purifies any surface thanks to its high alcohol content. Particularly suitable for remote controls and TV screens, smartphones and tablets. It can also be used in offices on desks, monitors etc. Ready to use. Rinse not required. Suitable for the HACCP system so can be used on food surfaces. Simply shake the can apply the product on the entire surface to be treated and wipe with a soft cloth.

CODE	DESCRIPTION
M263	Errecom Cleansi 80% Alcohol Disinfectant (400 ml Aerosol)



### Errecom SaniHands

SaniHands is a hygienic hand gel with more than 70% ethanol content registered in Germany as disinfectant with registration no. N-91689. It therefore removes viruses, germs and bacteria from the epidermis and can be used for the correct frequent hand sanitization as recommended by the WHO.

Thanks to the practical dispenser, dispensed directly on the hands and spread over their entire surface, SaniHands guarantees deep hygiene even in the absence of water. SaniHands is allergen-free and can be used frequently on even the most delicate skin. SaniHands not only sanitizes but refreshes and leaves a pleasant scent.

It can also be used after washing your hands to ensure an even higher level of hygiene. Thanks to the presence of emollient agents, it does not dry out the skin but hydrates it leaving pleasantly soft hands. Unlike many sanitising gels, SaniHands is non-sticky and pleasant to touch.

CODE	DESCRIPTION
M293	Errecom SaniHands 1 Litre Pump Action Plastic Dispenser



## Universal Evaporator & Condenser Cleaners

### Errecom Nano Universal Coil Cleaner

Universal nano cleaner is a restoring, fast-acting cleaner. It removes organic residues and accumulated dirt on surfaces of condensers and evaporators, slowing down their appearance.

It is not an aggressive product and can be used frequently to maintain system efficiency. It has an intense purifying action and releases a pleasant smell of cleanliness.

Ready to use for condensers, spray coil wait 5 mins and rinse off. Dilute 1:6 for evaporators (no need to rinse) Alkaline based, non-aggressive, suitable for frequent use, fragrant.

CODE	TYPE
M260	Errecom Nano Universal Cleaner (1 Litre)
M261	Errecom Nano Universal Cleaner (5 Litre)

**NEW**



### VerteX® Universal Coil Cleaner

New Adaptive low alkaline cleaner which will clean any type of dirt. Quickly removes grease, fats and organic matter and also removes rust, scales and inorganic salts. Non corrosive – Neutral pH 7.6  
Ideal for micro channel and coils with protective coatings.  
Neutralises all unpleasant malodour.  
Supplied in 5 litre concentrate, requires dilution. (1:8 Evaps 1:4 Cond)

CODE	DESCRIPTION
M479	VerteX Universal Coil Cleaner (5 Litre)



### EasyClean® Universal Coil Cleaner

EasyClean is an effective cleaner, suitable for use on both air cooled evaporator and condenser coils.  
Its formulation is safe to use and provides effective cleaning as part of routine maintenance.

CODE	DESCRIPTION
M487	EasyClean Universal Coil Cleaner (600ml Aerosol)



### Clean-N-Safe® Universal Coil Cleaner

Clean-N-Safe is a non-acid, non-caustic biodegradable coil cleaner for use on evaporators and condensers. Clean-N-Safe will not attack the coil or surrounding items. Safer for people, animals and plant life.

CODE	TYPE
M130	Clean-N-Safe Aerosol (568 grams)
M132	Clean-N-Safe (5 Litre)



### EnviroCoil® Universal Coil Cleaner

EnviroCoil® is an effective detergent-based cleaner for A/C & R coils. Its mild formulation makes it perfect for use in almost any maintenance scenario, either indoor or outdoor. Contains no acids, no phosphates, no harmful solvents, no sodium hydroxide and no Potassium Hydroxide. What's more, its surfactants are almost totally biodegradable. Supplied in 5 litre concentrate, requires dilution.

CODE	DESCRIPTION
M460	EnviroCoil Universal Coil Cleaner (5 Litre)



## Universal Evaporator & Condenser Cleaners

### Pro-Universal - Universal Alkaline Coil Cleaner

Pro-Universal™ is an NSF food safe registered universal indoor and outdoor coil cleaner, Pro-Universal features a special inhibitor that prevents the cleaner from attacking delicate fins. It is a non foaming, self rinsing product available in granular form that you make up as and when needed or standard 5 litre concentrate that requires dilution.



CODE	TYPE
M447	Pro-Universal Coil Cleaner Granules (480 grams)
M438	Pro-Universal Coil Cleaner Concentrate (5 Litre)

### AdvancedGel UC (Universal Cleaner)

AdvancedGel UC is an effective detergent-based cleaner for air conditioning coils. Its mild formulation makes it perfect for use in almost any maintenance scenario, either indoors or outdoors. Powerful and effective cleaning against common dirt, including dust, lint and grease. Biodegradable and environmentally friendly, improves energy efficiency of unit.



CODE	DESCRIPTION
M282	Advanced Gel UC - Universal Cleaner (490ml)

## A/C Evaporator Odour Control Products

### Errecom No-Odor

No-Odor from Errecom completely eliminates unpleasant odour. Spray on to smelly a/c evaporators to refresh and restore indoor air quality. Eliminates bad smells from interiors and surfaces leaving a pleasant clean smell.

Effective against odours from smoke, cigarettes, pets and food.

CODE	DESCRIPTION
M253	No-Odor Ready-to-Use (1 Litre)



### Smell Buster

A unique odour elimination product which is not a cover up perfume, but actually removes unpleasant smells from the air. It eliminates odours caused by smoke, mold mildew, cat litter and pets. Easy to use, Smell Buster has a pleasant, fresh smell.

CODE	DESCRIPTION
M484	Smell Buster Trigger Spray (1 Litre)



### EasyFresh®

EasyFresh Odour neutraliser for AC systems is specifically designed for use with air conditioning units.

It eliminates odours as well as producing a long-lasting fresh scent.

This product works on contact.

CODE	DESCRIPTION
M497	EasyFresh Aerosol (400 ml)



## Ceiling Tile Restorer

### All-White Ceiling Tile Restorer

All-White® ceiling tile restorer is a quick and easy way of re-colouring stained ceiling tiles to their original whiteness – saving you the time and expense of sourcing a new tile.

CODE	DESCRIPTION
M165	All-White Ceiling Tile Restorer



## Condensate Drain Cleaners

### Errecom Drizzle - Drain Cleaner

Drizzle is a specific fast acting and effective chemical product, formulated to remove dirt and clogging of condensate drain tubes in A/C & R systems.



HACCP  
Product

CODE	DESCRIPTION
M252	Errecom Drizzle Drain Line Cleaner (1 Litre)

### DrainKleen® and DrainKleen® One Shot

DrainKleen® will quickly remove limescale, rust deposits and sludge from refrigeration drains and traps. What's more, because its specific gravity is heavier than that of water, it quickly finds its way to the source of a blockage – even when a U-trap is situated between the blockage and the access point.



CODE	DESCRIPTION
M475	DrainKleen One Shot (250 ml)
M465	DrainKleen (5 Litre)

### AdvancedGel DU (Drain Unblocker)

The heavy-duty formula will clear organic and inorganic blockages. Heavier than water, it will sink and find the blockage. Safe to use with condensate pumps. Dilute the Condensate Drain Unblocker, using 1 part product to 8 parts water, in a suitable plastic container. Once the water is added, the product will be ready to use in 5 minutes.



CODE	DESCRIPTION
M280	Advanced Gel DU Drain Unblocker (490ml)

## Ice Machine Cleaners

### AdvancedGel IMC (Ice Machine Cleaner)

Advanced Gel IMC will effectively remove limescale and slime – which are common problems in ice machines – and will clean all surfaces. Limescale is formed by the insoluble calcium carbonate coating the ice-making elements. Clears heavy limescale and slime deposits. Nickel and aluminium safe – suitable for all ice machines. Colour indicator ensures product is completely flushed.



CODE	DESCRIPTION
M281	Advanced Gel IMC - Ice Machine Cleaner (490ml)

### Errecom SnowPlow - Ice Machine Cleaner

SnowPlow is a specific fast-acting and effective chemical product, formulated to clean ice maker machines with descaling and anti-limescale action. Ready to use.



HACCP  
Product

CODE	DESCRIPTION
M239	SnowPlow Ready to Use (5 Litre)

### Ice & Clean Ice Machine Cleaner & Disinfectant

HB-30 has had a REVAMP. The original formula has been improved resulting in a phenomenal new product. This odour-free ice machine cleaner unlocks the cleaning power of phosphoric acid to remove limescale and other harmful deposits. It is now equipped with a colour indicator which allows the user complete assurance that the product has been completely flushed from the machine.



CODE	DESCRIPTION
M453	Ice Machine Cleaner & Disinfectant Concentrate (1 Litre)
M469	Ice Machine Cleaner & Disinfectant Concentrate (5 Litre)

## Condensate Tray Treatments

### Errecom Drain Tabs

Errecom Drain Tabs eliminates the putrefaction process of the condensate. Eliminates the formation of algae, mucilage and moulds. Prevents the clogging of condensate drain pans. Biocide Free.



CODE	DESCRIPTION
M242	Errecom Drain Tabs (Pack of 18)

### Emerald Tabs Mini

Developed to prevent and eliminate the putrefaction process of the condensate. Eliminates the formation of algae, mucilage and moulds. Prevents the clogging of condensate drain pans. Emerald Tabs Mini high biodegradability level (more than 99%) limit the impact caused to the environment.



CODE	DESCRIPTION
M241	Errecom Emerald Tabs Mini (Pack of 100)

### StayClean Tablets

StayClean Tablets are an inexpensive, easy to use, long lasting condensate pan treatment. They will control odours and prevent build up in the condensate tray and drain. They are safe to use and non-corrosive. Multiple tablets can be used for larger systems for maximum flexibility.



CODE	DESCRIPTION
M476	StayClean Mini Tablets (Pack of 20)

### Gel-clear Tablets

Effective for up to 12 months, Gel-clear condensate drain tablets are a unique approach to blocked condensate case drains preventing the build up of microbial mass, jelly and slime. Gel-clear is safe, and simple to use. By comparison, the most cost effective condensate drain treatment on the UK market.



CODE	DESCRIPTION
M482	Gel-clear Tablets (Pack of 10 Tablets in a Tube)

### Smelly Jelly

Smelly Jelly has been formulated to provide a pleasant fragrance in fan coil and cassette units. Easy to apply, Smelly Jelly is simply placed within the unit ideally as close to the discharge grille as possible.

Once in position and the unit is switched on the fragrance will immediately become noticeable. Available in five fragrances.



CODE	DESCRIPTION
M492	Citrus Fragrance
M493	Floral Fragrance
M494	Herbal Fragrance
M495	Morning Fragrance
M496	Mountain Fresh Fragrance
M491	Smelly Jelly Mini (Mixed Pack of 6 Fragrances)

## Refrigeration Oils

### Errecom Polyolester Oil (POE)

POE are synthetic lubricants with high chemical and thermal stability. Due to their good miscibility with refrigerants they are the best choice for applications with HFC/FC such as R134a, R404A, R407C. POE oils are also compatible with hydrocarbons such as R290 propane and R1270 propylene. In addition, our additive offer is always evolving: POE Errecom is also the best solution for applications with new generation HFO such as R1234yf and R1234ze, which are both low-GWP latest formulation gases.



CODE	TYPE	SIZE
M220	Errecom POE-22	5 Litre
M222	Errecom POE-32	1 Litre
M221	Errecom POE-32	5 Litre
M228	Errecom POE-32	25 Litre
M223	Errecom POE-46	5 Litre
M224	Errecom POE-68	5 Litre

### Mobil Arctic EAL 22CC Polyolester Oil (POE)

Mobil EAL Arctic 22CC has been developed especially for Copeland refrigeration compressors where it provides outstanding protection against compressor wear.

CODE	TYPE	SIZE
M418	Arctic EAL 22CC	5 Litre



### Suniso Mineral Oil

SUNISO GS Mineral Oils are premium quality oils expressly designed for use as refrigeration compressor lubricants.

CODE	TYPE	SIZE
M041	Suniso 3GS	4 Litre
M043	Suniso 4GS	4 Litre



### Reniso C85 CO<sub>2</sub> Compatible Refrigerant Oil

RENISO C series refrigeration oils are based on special synthetic esters, formulated for use in carbon dioxide (CO<sub>2</sub>) compressors in all fields of industrial and commercial refrigeration.

RENISO C is a versatile oil that can be used in sub- as well as trans-critical applications and will ensure optimum wear protection even under arduous CO<sub>2</sub> operating conditions.

CODE	TYPE	SIZE
M067	Reniso C85	1 Litre
M068	Reniso C85	10 Litre



### Maneurop Compressor Oil (Mineral & POE)

Genuine Maneurop mineral oil available in 2 litre container for MT Models and genuine Maneurop polyolester oils available in 2.5 litre container for MTE/Z model compressors.

CODE	TYPE	TO SUIT MODEL
I718	2.0 L Mineral Oil 160P	MT Models
I719	2.5 L Ester Oil POE 175PZ	MTE/Z Models
M072	2.0 L Ester Oil 160SZ	(NOT MLZ) LTZ, NTZ Models



See I Section for Maneurop Compressors and accessories

## Vacuum Pump Oil

On average and after general use your vacuum pump oil should be changed after every 4-5 uses. On heavily contaminated systems with moisture and acid issues vacuum pump oil should be changed after every use.

My vacuum pump oil looks clean, why should I change it?

It is recommended that a micron gauge be attached directly to the pump and should pull to 50 microns or lower if the oil is clean. If the micron gauge does not pull to 50 microns, it is an indication that the oil is becoming contaminated and should be changed.

CODE	TYPE	SIZE
Q202	FSW Vacuum Pump Oil	1 Litre
Q203	FSW Vacuum Pump Oil	5 Litre



See Section Q For vacuum pumps and accessories

## Silicone Sealant

A one part flexible fast curing silicone sealant ideal for cold rooms and refrigeration applications. Available in translucent and white. Conforms to BS5889 Type B - ISO 9047 - DIN18540F - DIN1845F.

CODE	DESCRIPTION
M173	Clear Silicone Sealant (300 ml)
M174	White Silicone Sealant (300 ml)
M176	Silicone Sealant Gun



## Errecom Ultra Coil Cleaners

Acid Ultra, Alkaline Ultra and Evo Ultra are designed and formulated to dilute with water and used to clean AC/R Evaporators and Condensers. Indeed, Acid Ultra, Alkaline Ultra and Evo Ultra are packed in 250 mL glass bottles to create 5L of cleaner which removes even the most stubborn dirt. The optimal recommended dilution is 50 mL per liter of water. The supplied dispenser allows to obtain the exact quantity of cleaner required without diluting the whole product in a single solution. They are small and easy to carry, however and can be used with any trigger or pressure sprayer.

CODE	DESCRIPTION
M286	Errecom Acid Ultra Condenser Cleaner 250 ml Bottle
M287	Errecom Alkaline Ultra Condenser Cleaner 250 ml Bottle
M288	Errecom Evo Ultra Evaporator Cleaner 250 ml Bottle

**NEW**



Using the unique Ultra formula and recyclable glass bottles helps create an eco-friendlier product. By reducing the amount of plastic normally used to package traditional concentrated cleaners we are helping reducing the impact on the ecosystem.

## Hand Pressure Sprayers and 12V Electric Backpack Pressure Sprayer

Three sizes of hand pressure sprayers to choose from. The Hozelock 1.25 & 5 litre and the HydroSprayer 8 litre are all suitable for use with coil cleaner concentrates used during routine maintenance and service work.

HydroSprayer Elite 12V Battery Operated Back Pack Sprayer. 15 litre capacity with supportive backpack-style straps. Fully rechargeable battery with class leading battery life that supplies the 60 psi pump with all its power.

CODE	DESCRIPTION
M427	Hozelock 1.25 Litre Pressure Sprayer
M428	Hozelock 5 Litre Pressure Sprayer
M429	Advanced Engineering Hydro-Sprayer 8 Litre
M425	HydroSprayer Elite 15 Litre 12V Battery Pressure Sprayer

**NEW**



# BLUEDIAMOND<sup>®</sup>

## CONDENSATE REMOVAL PUMPS

**3** YEAR  
WARRANTY

### MICROBLUE<sup>®</sup>

PERFORMANCE  17dba

MAX FLOW	MAX HEAD	MAX LIFT
5 L/ HOUR	5 METRES	2 METRES

### MINIBLUE

PERFORMANCE  21dba

MAX FLOW	MAX HEAD	MAX LIFT
8 L/ HOUR	8 METRES	5 METRES

### MAXIBLUE<sup>®</sup>

PERFORMANCE  21dba

MAX FLOW	MAX HEAD	MAX LIFT
14 L/ HOUR	8 METRES	8 METRES

### MEGABLUE<sup>®</sup>

PERFORMANCE  23dba

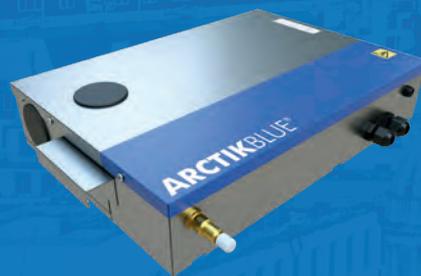
MAX FLOW	MAX HEAD	MAX LIFT
50 L/ HOUR	20 METRES	7 METRES

### ARCTIKBLUE<sup>®</sup>

PERFORMANCE  23dba

MAX FLOW	MAX HEAD	MAX LIFT
50 L/ HOUR	20 METRES	7 METRES

WATER TANK CAP.	PUMP ON/ OFF	ALARM ON VOL.
4.1 LITRES	330 ML	3600 ML



[WWW.BLUEDIAMONDPUMP.COM](http://WWW.BLUEDIAMONDPUMP.COM)

01543 437 010



**Doses:**

	KW	BTU/H	TONS	LUBRICANT	EXTREME
UP TO	6	24.000	2	0.2 L / 7 FL. OZ.	12 ML / 0.5 FL. OZ.
	15	48.000	4	0.5 L / 17 FL. OZ.	30 ML / 1 FL. OZ.
	21	72.000	6	0.7 L / 24 FL. OZ.	42 ML / 1.5 FL. OZ.
	30	96.000	8	1 L / 34 FL. OZ.	60 ML / 2 FL. OZ.
	45	144.000	12	1.5 L / 51. FL. OZ.	90 ML / 3 FL. OZ.
	60	192.000	16	2 L / 68 FL. OZ.	120 ML / A FL. OZ.
	75	240.000	20	2.5 L / 85 FL. OZ.	150 ML / 5 FL. OZ.
DILUTION IN LUBRICANT = 1.16					



**Doses:**

	KW	BTU/H	TONS	LUBRICANT	SUPER-DRY
UP TO	6	24.000	2	0.2 L / 7 FL. OZ.	12 ML / 0.5 FL. OZ.
	15	48.000	4	0.5 L / 17 FL. OZ.	30 ML / 1 FL. OZ.
	21	72.000	6	0.7 L / 24 FL. OZ.	42 ML / 1.5 FL. OZ.
	30	96.000	8	1 L / 34 FL. OZ.	60 ML / 2 FL. OZ.
	45	144.000	12	1.5 L / 51. FL. OZ.	90 ML / 3 FL. OZ.
	60	192.000	16	2 L / 68 FL. OZ.	120 ML / A FL. OZ.
	75	240.000	20	2.5 L / 85 FL. OZ.	150 ML / 5 FL. OZ.
DILUTION IN LUBRICANT = 1.16					



**Doses:**

	KW	BTU/H	TONS	LUBRICANT	COOL-SHOT
UP TO	6	24.000	2	0.2 L / 7 FL. OZ.	12 ML / 0.5 FL. OZ.
	15	48.000	4	0.5 L / 17 FL. OZ.	30 ML / 1 FL. OZ.
	21	72.000	6	0.7 L / 24 FL. OZ.	42 ML / 1.5 FL. OZ.
	30	96.000	8	1 L / 34 FL. OZ.	60 ML / 2 FL. OZ.
	45	144.000	12	1.5 L / 51. FL. OZ.	90 ML / 3 FL. OZ.
	60	192.000	16	2 L / 68 FL. OZ.	120 ML / A FL. OZ.
	75	240.000	20	2.5 L / 85 FL. OZ.	150 ML / 5 FL. OZ.
DILUTION IN LUBRICANT = 1.16					



**Doses:**

	LUBRICANT	BRILLIANT HVAC&R
UP TO	0.5 L / 17 FL. OZ.	7.5 ML (1/4 FL. OZ.)
	1 L / 34 FL. OZ.	15 ML (1/2 FL. OZ.)
	2 L / 68 FL. OZ.	30 ML (1.0 FL. OZ.)
	4 L / 1.06 FL. GAL.	60 ML (2.0 FL. OZ.)
For bigger quantity of Lubricant use 1:60 Dilution of the Product		



**Doses:**

Zero to Low Acid Level (pH ≤ 6.8): add 30ml (1.0 FL. OZ.) NO-ACID per 2 litre (64 FL. OZ.) of Compressor oil.  
 Medium Acid Level (6.8 ≤ pH ≤ 5.2): add 30ml (1.0 FL. OZ.) NO-ACID per 1,5 litre (48 FL. OZ.) of Compressor oil.  
 High Acid Level (pH ≤ 5.2): add 30ml (1.0 FL. OZ.) NO-ACID per 0,70 litre (24 FL. OZ.) of Compressor oil.



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MINI PUMPS  
2001



Best  
in  
Class  
MINI PUMPS  
2021



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*Then, now & always.*

The new Silent+ Mini Lime, only from Aspen Pumps.



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CONDENSATE PUMPS,  
WATER TUBES, FITTINGS  
& PVC HOSES

---



**N**  
SECTION

# Aspen Condensate Pumps

## Mini Aqua

The worlds slimmest condensate removal pump is designed to fit where others can't! Perfect for installing directly inside the unit.



CODE	MODEL
N623	Aspen Mini Aqua Pump

Mini Aqua Pump Specification					
Max Flow	L/h @ Max Rec Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage	Max Unit Output
12 L/h @ 0 Head	6L/h @ 10m Head	2m	21 dB(A)	230VAC 0.1A, 16W 50/60Hz	16kW

## Silent+ Mini Aqua

Combining Silent+ technology and the slimmest mini pump on the market, the Silent+ Mini Aqua leads the way in innovation.



CODE	MODEL
N640	Aspen Silent+ Mini Aqua Pump

Silent+ Mini Aqua Pump Specification					
Max Flow	L/h @ Max Rec Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage	Max Unit Output
12 L/h @ 0 Head	6L/h @ 10m Head	2m	19 dB(A)	230VAC 0.1A, 16W 50/60Hz	16kW

## Mini Orange

The world's best selling mini pump offers unrivalled reliability and performance.



CODE	MODEL
N619	Aspen Mini Orange Pump

Mini Orange Pump Specification					
Max Flow	L/h @ Max Rec Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage	Max Unit Output
12 L/h @ 0 Head	6L/h @ 10m Head	2m	21 dB(A)	230VAC 0.11A, 16W 50/60Hz	16kW

## Silent+ Mini Orange

The world's N° 1 mini pump becomes the quietest in its class. Featuring an acoustic damper, the Silent+ Mini Orange is whisper quiet.



CODE	MODEL
N642	Aspen Silent+ Mini Orange Pump

Silent+ Mini Orange Pump Specification					
Max Flow	L/h @ Max Rec Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage	Max Unit Output
12 L/h @ 0 Head	6L/h @ 10m Head	2m	19 dB(A)	230VAC 0.1A, 16W 50/60Hz	16kW

## Micro-v i<sup>4</sup>

The logical step in pump evolution - the Micro-V i<sup>4</sup> is what you have always wanted from a mini pump



CODE	MODEL
N645	Aspen Micro-v Pump

Micro v i <sup>4</sup> Pump Specification					
Max Flow	L/h @ Max Rec Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage	Max Unit Output
14.5 L/h @ 0 Head	10L/h @ 10m Head	2m	19 dB(A)	100/250V AC 0.45A, 50/60Hz	19.3kW



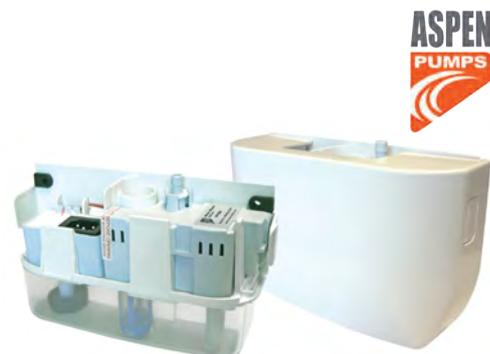
## Aspen Condensate Pumps

### Mini Blanc

The 'ultra quick fit' Mini Blanc is designed to be fitted beneath high wall indoor units offering easy access for future maintenance.

CODE	MODEL
N633	Aspen Mini Blanc Pump

Mini Blanc Pump Specification					
Max Flow	L/h @ Max Rec Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage	Max Unit Output
12 L/h @ 0 Head	6L/h @ 10m Head	2m	21 dB(A)	230VAC 0.1A, 16W 50/60Hz	16kW



182 W x 55 D x 115 mm H

### Silent+ Mini Lime

The Silent+ Mini Lime is designed around a 'total system approach' and includes many features to create a truly silent system. Perfect for offices and meeting rooms. ('Pump only pack' also available).

CODE	MODEL
N639	Aspen Silent+ Mini Lime (With Ivory Slimline Trunking)
N638	Aspen Silent+ Mini Lime (With Ivory BBJ Economy Trunking)
N644	Aspen Silent+ Mini Lime (With Ivory Inoac Trunking)
N641	Aspen Silent+ Mini Lime (Pump Only)

Silent+ Mini Lime Pump Specification					
Max Flow	L/h @ Max Rec Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage	Max Unit Output
12 L/h @ 0 Head	6L/h @ 10m Head	n/a	21 dB(A)	230VAC 0.1A, 16W 50/60Hz	16kW



### Maxi Lime

Designed for larger units and humid environments.

The Maxi Lime trunking pump gives you supreme power when needed. ('Pump only pack' also available).

Maxi Lime Pump Specification					
Max Flow	L/h @ Max Rec Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage	Max Unit Output
35 L/h @ 0 Head	10L/h @ 15m Head	n/a	35 dB(A)	230VAC 0.1A, 16W 50/60Hz	46kW

CODE	MODEL
N628	Aspen Maxi Lime (With Ivory BBJ Economy Trunking)
N627	Aspen Maxi Lime (Pump Only)



## Aspen Tank Pumps

A great selection of tank pumps from the condensate pump leaders designed specifically for the refrigeration and air conditioning industry.

### Mini Tank Pump

The new and improved Mini Tank pump can be wall mounted, floor mounted, in-pan or suspended on M8/M10 rod. Using piston technology this is a compact powerful and multi functional tank pump.

CODE	MODEL
N643	Aspen Mini Tank Pump (69 H x 210 W x 89mm D)

Mini Tank Pump Specification					
Max Flow	Max Rec Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage	Max Unit Output
35 L/h @ 0 Head	15m	N/A	35 dB(A)	230VAC 0.1A, 16W 50/60Hz	46kW



Full range of Aspen Tank Pumps continues over page

## Aspen Tank Pumps

### Max Hi-Flow

The best in class Max Hi-Flow tank pump carries on the Aspen Pumps tradition of build quality and high performance. With the lowest dB(A) rating & best IP rating (IP24 splash proof) of any tank pump, the Max Hi-Flow is the quietest and safest pump in its class.

- IP24 - Splash proof
- Easy access tank
- Built in spirit level
- Plug & play



CODE	MODEL
<b>N609</b>	Aspen Max Hi-Flow Tank Pump (134 H x 285 W x 144mm D)

Aspen Max Hi-Flow Specification					
Max Flow	L/h @ Max Rec Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage	Max Unit Output
550 L/h	55L/h @ 5m Head	N/A	44 dB(A)	230VAC, 0.2A 50/60Hz	733kW

### Hi-Lift 1 Litre & 2 Litre

The world's only peristaltic tank pump offers unsurpassed high head and unmatched reliability.

CODE	MODEL
<b>N606</b>	Aspen Hi-Lift Tank Pump 1 Litre (132 H x 244 W x 148mm D)
<b>N607</b>	Aspen Hi-Lift Tank Pump 2 Litre (164 H x 244 W x 148mm D)

Aspen Hi-Lift 1 & 2 Litre Specification					
Max Flow	Max Rec Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage	Max Unit Output
11 L/h @ 0 Head	12m	N/A	51 dB(A)	230VAC, 0.4A 50/60Hz	14kW



### Heavy Duty 6 & 10

With an impressive flow rate, these robust and reliable heavy duty pumps are perfect for the rapid removal of large quantities of condensate water. 4 litre tank capacity on both models.

CODE	MODEL
<b>N625</b>	Aspen HD6 Tank Pump 4 Litre (205 H x 300 W x 150mm D)
<b>N626</b>	Aspen HD10 Tank Pump 4 Litre (265 H x 300 W x 150mm D)

Aspen Heavy Duty 6 & 10 Specification					
Max Flow 6 - 10	Max Rec Head 6 - 10	Suction Max Lift	Sound Level dB(A) @ 1m	Supply Voltage	Max Unit Output kW
900 - 1070 L/h	7m - 9m 180 - 100 L/h	N/A	HD6-60 HD10-64	230VAC, 1.5A 50Hz	HD6-1200 HD10-1460



### Macerator 4 Litre & 10 Litre

Designed to collect water from multiple refrigeration cabinets. The internal filter blade prevents the pumps from clogging.

CODE	MODEL
<b>N516</b>	Aspen Macerator Pump 4 Litre (230 H x 335 W x 150mm D)
<b>N517</b>	Aspen Macerator Pump 10 Litre (230 H x 390 W x 310mm D)

Aspen Macerator 4L & 10L Specification					
Max Flow	Max Rec Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage	Max Unit Output kW
780 L/h @ 0 Head	8.5m	N/A	64 dB(A)	230VAC, 0.38A 50/60Hz	N/A



# Aspen Peristaltic Condensate Pumps

## Universal

The top selling universal is operated by 2 air temperature sensors. The peristaltic rotary movement creates a continuous pressure meaning the pump can be sited 8m away via optional 8m cable supplied separately.

CODE	MODEL
N602	Aspen Universal Peristaltic Pump

Aspen Universal Specification					
Max Flow	Max Rec Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage	Max Unit Output
6.5 L/h @ 12m Head	12m	3m	47 dB(A)	230VAC, 0.2A 50/60Hz	8.5kW



115 H x 77 W x 135mm D

## Standard

Operated by a 230V AC cooling signal, the standard peristaltic sets the standard for reliability.

CODE	MODEL
N600	Aspen Standard Peristaltic Pump

Aspen Standard Specification					
Max Flow	Max Rec Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage	Max Unit Output
6.5 L/h @ 12m Head	12m	3m	47 dB(A)	230VAC, 0.2A 50/60Hz	8.5kW



115 H x 77 W x 135mm D

## MK4

The MK4 operates using two water sensors. The lower sensor comes into contact with water, the heat conductivity from that sensor provides a temperature difference between the second - energising the pump.

CODE	MODEL
N604	Aspen MK4 Peristaltic Pump

Aspen MK4 Specification					
Max Flow	L/h @ Max Rec Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage	Max Unit Output
6.5L/h @ 12m Head	12m	3m	47 dB(A)	230VAC, 0.2A 50/60Hz	16kW



145 H x 83 W x 160mm D

## Mechanical

The Mechanical operates via a reservoir sensor with float switch.

CODE	MODEL
N603	Aspen Mechanical Peristaltic Pump

Aspen Mechanical Specification					
Max Flow	L/h @ Max Rec Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage	Max Unit Output
6.5 L/h @ 12m Head	12m	3m	21 dB(A)	230VAC, 0.1A, 16W 50/60Hz	16kW

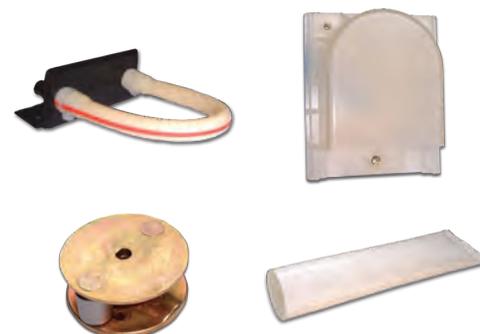


145 H x 83 W x 160mm D

## Aspen Peristaltic Pump Spare Parts

A selection of the most popular peristaltic pump spare parts that fit ALL the pumps listed above.

CODE	DESCRIPTION
N612	Spare Head Tube
N6100	Front Housing
N6102	Pump Rotor assembly
N6104	Silicon Grease (100 ml)



## Little Giant Condensate Pumps

### VCC-20S

Low profile at 125mm, this 1 litre tank pump from world leading Little Giant offers proven reliability. Ideal for cassette air conditioning and refrigeration dairy decks.

CODE	MODEL
<b>N650</b>	Little Giant VCC-20S 1 Litre Tank Pump

Little Giant VCC-20S Specification				
Max Flow	Max Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage
294 L/h	4.3m	N/A	58-62 dB(A)	240VAC, 0.6A 50Hz

LittleGIANT®



125 H x 300 W x 125mm D

### VCMA-20S

This world leading tank pump has been unrivalled since 1999 with proven reliability perfect for both refrigeration and a/c applications.

CODE	MODEL
<b>N651</b>	Little Giant VCMA-20S 2 Litre Tank Pump

Little Giant VCMA-20S Specification				
Max Flow	Max Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage
294 L/h	4.3m	N/A	58-62 dB(A)	240VAC, 0.6 A 50Hz

LittleGIANT®



178 H x 288 W x 127mm D

### VCL-24S

This heavy duty 3.8 litre tank pump from Little Giant was designed to offer high flow rates, high lifts with its quality centrifugal pump.

CODE	MODEL
<b>N652</b>	Little Giant VCL-24S 3.8 Litre Heavy Duty Tank Pump

Little Giant VCL-24S Specification				
Max Flow	Max Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage
900 L/h	5.9m	N/A	58-62 dB(A)	240VAC, 1.0A 50Hz

LittleGIANT®



263 H x 305 W x 150mm D

### VCL-45S

This robust large capacity 3.8 litre tank pump offers a high flow and lift rate at 1560 L/h with a 10 meter lift. Built to move large volumes of water.

CODE	MODEL
<b>N653</b>	Little Giant VCL-45S 3.8 Litre Heavy Duty Tank Pump

Little Giant VCL-45S Specification				
Max Flow	Max Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage
1560 L/h	10.5m	N/A	58-62 dB(A)	240VAC, 1.8A 50Hz

LittleGIANT®



267 H x 305 W x 150mm D

### PH-2L

This PH-2L pump, from Little Giant, still has the reliability you associate with such a well respected brand, but with no bells and whistles making it competitively priced and totally reliable.

CODE	MODEL
<b>N647</b>	Little Giant PH-2L 2 Litre Tank Pump

Little Giant PH-2L Specification				
Max Flow	Max Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage
300 L/h	4.8m	N/A	58 dB(A)	230VAC, 0.1A 50Hz

LittleGIANT®



180 H x 290 W x 130mm D

## Little Giant Condensate Pumps EC-400

Two piece design to allow installation within the smallest A/C unit or the pump unit can be placed in the ceiling void above or in trunking. Pump can be mounted up to one metre above the sensing unit.

CODE	MODEL
N666	Little Giant EC-400 Mini Pump

Little Giant EC-400 Specification				
Max Flow	Max Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage
14 L/h	6 L/h @ 4m Head	1m	58 dB(A)	230VAC, 0.1A 50Hz

LittleGIANT®



45 H x 110 W x 35mm D, Pump Dims Only

## Sauermann Condensate Pumps

### Delta Pack

Complete kit intended for wall mounted air conditioning units.

Includes a new elbow design that can be easily opened by hand by a simple finger push - no tool is needed - and the Si-10 UNIVERS'L pump which incorporates the latest in piston pump technology.

The new Delta Pack's streamlined design complements wall mounted air conditioning units. Low sound level and highly resistance to pollution created by the general environment.

CODE	MODEL
N758	Delta Pack Condensate pump (80 x 60 mm) White

Sauermann Delta Pack Specification					
Max Flow	Max Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage	Max Unit Output
20 L/h	4 L/h @ 10m Head	N/A	22 dB(A)	230VAC, 14W 50Hz	20kW

Sauermann®



### Omega Pack

The complete under the unit packaged pump for wall mounted split system air conditioning units.

CODE	MODEL
N701	Omega Pack Condensate Pump

Sauermann Omega Pack Specification					
Max Flow	Max Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage	Max Unit Output
20 L/h	4 L/h @ 10m Head	N/A	22 dB(A)	230VAC, 14W 50Hz	20kW

Sauermann®



102 H x 358 W x 85mm D

### Si-20

The Si-20 is the same pump fitted to the Omega Pack. This slimline condensate pump can be fitted inside the split or in the trunking.

CODE	MODEL
N705	Si-20 Slimline Condensate Pump

Sauermann Si-20 Specification					
Max Flow	Max Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage	Max Unit Output
20 L/h	4 L/h @ 10m Head	3m	22 dB(A)	240VAC, 14W 50Hz	20kW

Sauermann®



38 H x 133 W x 38mm D (Pump body only)

## Sauermann Condensate Pumps

### Si-83

#### *The Tank Pump Re-Invented*

Sauermann engineers have redesigned the tank pump from the inside-out, making the Si-83 more durable, compact, and powerful than any other tank pump in its class, all while redefining just how easy tank pump installation and maintenance can be in the field.

The Si-83 even comes with a customized Smartphone App that makes installation both simple and intuitive. Can be floor-mounted, wall-mounted, or suspended from the ceiling. Rod mounting system makes leveling easy.

The Si-83 is a 2 litre tank pump with an ultra low profile making it the perfect pump for replacing 0.5, 1.0 and 2.0 litre tank pumps.

CODE	MODEL
<b>N755</b>	Si-83 2 Litre Condensate Tank Pump

Sauermann Si-83 Specification				
Max Flow	Max Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage
700 L/h	65 L/h @ 5.4m Head	N/A	45 dB(A)	230VAC, 70W 50/60Hz

**sauermann®**



129 H x 287W x 146mm D

### Si-10 Univers'L

The Universal replacement pump, that not only fits the Delta Pack but other trunking systems.

CODE	MODEL
<b>N719</b>	Si-10 Condensate Pump

Sauermann Si-10 Specification					
Max Flow	Max Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage	Max Unit Output
20 L/h	10m	N/A	22 dB(A)	230VAC, 14W 50/60Hz	20kW

**sauermann®**



94 H x 86 W x 75mm D

### Si-30

The Si-30 is a mini pump with float operated reservoir. The three way mounting bracket allows fitting to the wall, pipework or ceiling.

CODE	MODEL
<b>N723</b>	Si-30 Mini Condensate Pump

Sauermann Si-30 Specification					
Max Flow	Max Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage	Max Unit Output
20 L/h	4 L/h @ 10m Head	3m	58-62 dB(A)	240VAC, 14W 50/60Hz	20kW

**sauermann®**



Si-30 : can replace SI3080, SI3100, SI3200

### Si-30 Detect+

New version of the Si-30 two piece pump (above) with state of the art reservoir sensor and fault diagnostics.

CODE	MODEL
<b>N728</b>	Si-30-04 Mini Condensate Pump

Sauermann Si-30 Detect+ Specification					
Max Flow	Max Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage	Max Unit Output
20 L/h	4 L/h @ 10m Head	3m	58-62 dB(A)	240VAC, 14W 50/60Hz	20kW

**sauermann®**



102 H x 358 W x 85mm D

## Sauermann Condensate Pumps

### PE 5100

The PE 5100 operates by detecting a 6°C temperature change via two temperature probes located in the air on and air off position.

CODE	MODEL
N711	PE 5100 Peristaltic Condensate Pump

Sauermann PE 5100 Peristaltic Pump Specification					
Max Flow	Max Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage	Max Unit Output
6 L/h	12m	2m	30 dB(A)	230VAC, 75W 50/60Hz	8kW

 **sauermann®**



91 H x 110 W x 109mm D

### Si-2052

Universal a/c unit lift pump. Can be used as a replacement pump for most makes of cassette systems.

CODE	DESCRIPTION
N727	Universal A/C Condensate Lift Pump

Sauermann Si-2052 Specification					
Max Flow	Max Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage	Max Unit Output
70 L/h	95cm	3m	30 dB(A)	230VAC, 14W 50/60Hz	20kW

 **sauermann®**



94 H x 86 W x 75mm D

## EQUIPMENT SPARE PARTS

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N SECTION

249

## Sauermann Condensate Pump Accessories

### Cassette to Tank Pump Adapters

Rubber Adapter to connect tank pump to cassette



CODE	DESCRIPTION
N737	1" x 3/4" Rubber Adaptor (Pack 3)
N738	1-1/4" x 3/4" Rubber Adaptor (Pack 3)
N739	1-1/2" x 3/4" Rubber Adaptor (Pack 2)

### Self Seal Adapter for 1/4 Condensate Hose

Simply drill 10 mm hole in your soil or waste pipe, tighten up fitting to hold securely in the soil pipe then fit and secure your 1/4 hose pipe. Simple and easy.



CODE	DESCRIPTION
N746	Self Seal Adapter for 1/4" Hose (6 Pack)

### Rubber Hose

Soft and flexible clear rubber tubing 15mm I.D. 500 mm long.



CODE	DESCRIPTION
N478	Clear Rubber Hose (15mm x 500mm Long)

### Sauermann Peristaltic Pump Spare Parts

N715 is a complete front end pump head replacement assembly.  
N716 is just a replacement tube only.



CODE	DESCRIPTION
N715	Sauermann Peristaltic Head Assembly
N716	Sauermann Peristaltic Replacement Tube Only

### Pumphouse Cassette to Tank Pump Adapters

#### Rubber Adapter To Connect Tank Pump To Cassette

These adapters are coloured to make them quicker and easier to identify, green for the 1", blue for the 1-1/4" and black for the 1-1/2". The multi-pack (N730) contains 1 x green, 1 x blue and 1 x black cassette adapter.



CODE	DESCRIPTION
N776	1" x 3/4" Green Coloured Rubber Adaptor (Pack 3)
N777	1-1/4" x 3/4" Blue Coloured Adaptor (Pack 3)
N778	1-1/2" x 3/4" Black Coloured Adaptor (Pack 3)
N730	Cassette Drain Adaptors Assorted Multi-pack (Pack 3)

## CONSOLVE®

### Premium Rubber to Solvent Weld A/C Drain Adaptor

CONSOLVE® is Hydro-Dynamically designed for an unrestricted cascading flow of condensate! The flexible rubbery end is made of a very high quality automotive grade rubber, which is simply pushed over and hose-clamped onto the drain outlet of the AC Unit.

Available in the popular sizes:

SMALL 1" - 3/4" (21.5mm) & MEDIUM 1 1/4" - 3/4" (21.5mm)

NO MORE COSTLY CALL OUTS AND NO MORE CEILING STAINS!



CODE	DESCRIPTION
NT100	Small Consolve Drain Adaptor 1" - 3/4" (21.5mm)
NT101	Medium Consolve Drain Adaptor 1-1/4" - 3/4" (21.5mm)

# Blue Diamond Condensate Pumps

## MicroBlue®

MicroBlue® is a silent running micro pump available as a fascia pack to fit underneath wall mount splits, a trunking pack or simply the pump and reservoir on its own. The MicroBlue® can also be mounted in any orientation whilst operating both wet and dry continuously.

CODE	DESCRIPTION
N773	MicroBlue Pump with Reservoir with High Level Audible Alarm
N767	MicroBlue Pump with Reservoir with Fail Safe Alarm Shut Off
N774	MicroBlue Fascia Kit Only for Wall Mount Split A/C Units (MicroBlue pump not included)
N775	MicroBlue Pump Including Ducting with Fail Safe Alarm Shut Off

MicroBlue Specification					
Max Flow	Max Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage	Max Unit Output
5L/h	5m	2m	17 dB(A)	230VAC, 0.2A 50/60Hz	3.5kW



## MiniBlue®

Running either wet or dry, the MiniBlue® is whisper quiet whilst reliably removing condensate and debris. Inherently reliable whilst self priming it gives peristaltic performance at the price of a piston pump.

CODE	DESCRIPTION
N766	MiniBlue (Pump only requires cooling signal)
N768	MiniBlue with Temperature Sensor

MiniBlue Specification					
Max Flow	Max Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage	Max Unit Output
5 L/h	8m	5m	21 dB(A)	230VAC, 0.2A 50/60Hz	3.5-8kW



## MaxiBlue®

MaxiBlue® is available with Reservoir, Temperature or Drainstik® sensor. Making it a versatile pump for mid range air conditioning applications.

CODE	DESCRIPTION
N637	MaxiBlue with Reservoir
N636	MaxiBlue with Temperature sensor
N635	MaxiBlue with Drainstik®

MaxiBlue Specification					
Max Flow	Max Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage	Max Unit Output
14 L/h	8m	8m	21 dB(A)	230VAC, 0.2A 50/60Hz	8-14kW



## MegaBlue®

MegaBlue® is available with Reservoir, Temperature or Drainstik® sensor. The MEGABLUE® is the juggernaut of the condensate removal range.

CODE	DESCRIPTION
N762	MegaBlue with Reservoir
N760	MegaBlue with Temperature sensor
N765	MegaBlue with Drainstik®

MegaBlue Specification					
Max Flow	Max Head	Suction Max Lift	Sound Level @ 1m	Supply Voltage	Max Unit Output
50L/h	20m	7m	23 dB(A)	230VAC, 0.2A 50/60Hz	14-50kW



## Dairy Cabinet Condensate Pumps

A good range of dairy cabinet pumps to suit both budget and requirements from plastic to stainless steel manufactured by well known names in condensate removal.

### Aspen ERRP Dairy Cabinet Pumps

Made of robust plastic, the lightweight ERRP (Economical Retail Refrigeration Pump) effectively pumps away defrost water & filters debris.



CODE	MODEL	DESCRIPTION
N6110	FP2597	Low Profile ERRP Dairy Pump - Top Inlet (3.5 Litres)
N613	FP2318	ERRP Dairy Pump - Top Inlet (11 Litres)

#### Aspen Low Profile ERRP Specification

Max Flow	Max Rec Head	Sound Level @ 1m	Supply Voltage	Dimensions (mm) H x W x D
190 L/h @ 0 Head	21m	60 dB(A)	230VAC, 0.2A 50/60H	75 x 530 x 240

#### Aspen ERRP Specification

Max Flow	Max Rec Head	Sound Level @ 1m	Supply Voltage	Dimensions (mm) H x W x D
225 L/h @ 0 Head	35m	60 dB(A)	230VAC, 0.2A 50/60Hz	100 x 590 x 450

## Dairy Cabinet Pumps

Our dairy cabinet range offers an unrivaled solution to supermarket refrigeration. Only 76 mm high this s/steel easy to service pump delivers a complete solution.

Available in 2 models with:

DCP-30A standard model supplied with lid and high level alarm  
DCP-30E Economy model - no lid and no alarm.

CODE	MODEL	DESCRIPTION
N529	DCP-30A	Standard Dairy Cabinet Pump (5.5 Litres)
N532	DCP-30E	Economy Dairy Cabinet Pump (5.5 Litres)

#### DCP-30A/E Specification

Max Flow	Max Head	Sound Level @ 1m	Supply Voltage	Dimensions (mm) H x W x D
700 L/h	22.5 m	65 dB(A)	240V AC 0.6A 50Hz	76 x 200 x 640 (A&E)



N529



N532

## BlueDiamond® ArctikBlue®

Designed for use in multideck and dairy cabinet condensate removal, the ArctikBlue® incorporates the ultra-reliable MegaBlue pump which is able to run dry or self-prime, meaning it can be sited above any pipe work and away from hazardous areas.

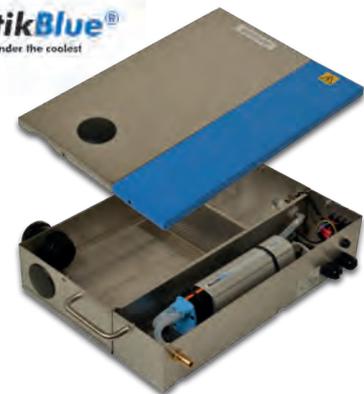
CODE	MODEL
N771	BlueDiamond ArctikBlue Dairy Cabinet Pump

#### Blue Diamond ArctikBlue Specification

Max Flow	Max Head	Sound Level @ 1m	Supply Voltage	Dimensions (mm) H x W x D
50 L/h	20 m	23 dB(A)	230VAC 60Hz	87 x 430 x 305



Reliability under the coolest cabinets



## Sauermann Si-1931 Dairy Cabinet Pump

With the ability to discharge heavy and contaminated condensates this stainless steel pump with non return valve and easy clean mesh filter is suitable to slide under most refrigeration cabinets.

CODE	MODEL
N704	Sauermann Si-1931 Dairy Cabinet Pump

#### Sauermann Si-1931 Specification

Max Flow	Max Head	Sound Level @ 1m	Supply Voltage	Dimensions (mm) H x W x D
700 L/h	24 m	> 60 dB(A)	230VAC 50Hz	80 x 610 x 235



## Condensate Evaporator Tray

A cast aluminium evaporator tray with built in electric elements for use with air conditioning, refrigeration and display case applications where the need for forced evaporation is required for condensate removal. Model is self regulating, with thermal overload protection.



CODE	MODEL
N510	ET150 Condensate Tray (150 ml/hr)



**FSW** | **cooleo**  
Pre Insulated Copper

AVAILABLE IN BLACK OR WHITE

<b>20M COIL LENGTH</b>	<b>QUICK &amp; EASY INSTALL</b>	<b>PROTECTS COPPER DURING TRANSPORT</b>
<b>IDEAL FOR ONE PERSON INSTALLS</b>	<b>TOUGH OUTER COATING</b>	<b>RESISTANT TO BIRDS &amp; VERMIN</b>



[www.fsw.uk.com](http://www.fsw.uk.com)



## Aspen Xtra Condensate Pump Accessories

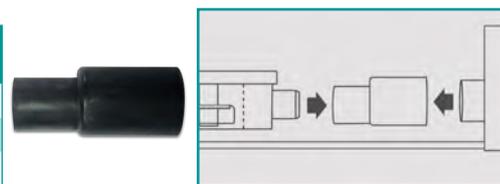
Extensive range of condensate pumps accessories from the Aspen Xtra range.



### Mini Pump Adapters

Rubber Adapter to connect ducted unit to a mini pump

CODE	DESCRIPTION	AC OUTLET	PUMP INLET
N7060	AC Drain to Mini Pump Adaptor (Pack 3)	20 mm	16 mm
N7061	AC Drain to Mini Pump Adaptor (Pack 3)	25 mm	16 mm
N7062	AC Drain to Mini Pump Adaptor (Pack 3)	32 mm	16 mm



### Long Arm Bend

To connect a wall mount to mini pump reservoir.

CODE	DESCRIPTION	AC OUTLET	PUMP INLET
N7053	Long Arm Bend (Pack 3)	12 mm	16 mm



### Offset Connector

For a wall mount to mini pump reservoir.

CODE	DESCRIPTION	AC OUTLET	PUMP INLET
N7063	Offset Connector (Pack 3)	16 mm	16 mm

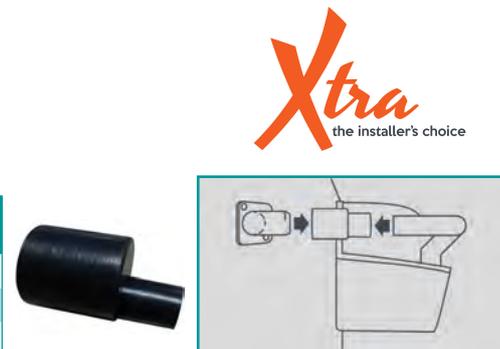


### Tank Pump Adapters

#### Rubber Adapter

To connect a cassette unit condensate drain pipe to a tank pump.

CODE	DESCRIPTION	AC OUTLET	O/FLOW PIPE
N7070	Rubber Tank Pump Adapter (Pack 3)	16 mm	21 mm
N7071	Rubber Tank Pump Adapter (Pack 3)	26 mm	21 mm
N7072	Rubber Tank Pump Adapter (Pack 3)	32 mm	21 mm

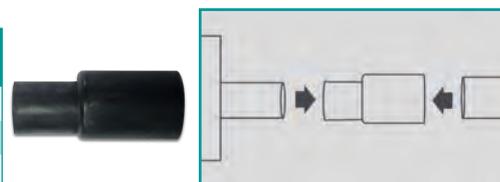


### Pipe to Pipe Adapters

#### Rubber Adapter

To Connect 3/4" (21 mm) overflow pipe to waste pipe

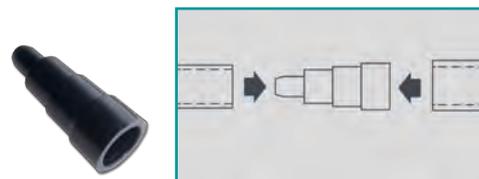
CODE	DESCRIPTION	WASTE	O/FLOW PIPE
N7050	Overflow To Waste Pipe Adapter (Pack 3)	25 mm	21 mm
N7051	Overflow To Waste Pipe Adapter (Pack 3)	32 mm	21 mm
N7052	Overflow To Waste Pipe Adapter (Pack 3)	40 mm	21 mm



### Hose Adapters & Connector

#### Stepped Hose Adapter

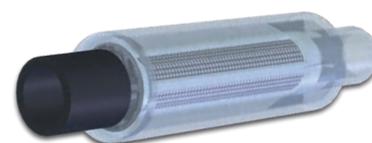
CODE	DESCRIPTION
N7045	Stepped Hose Reducer 1/4", 3/8", 1/2" & 5/8" (Pack 5)



### In-line Filter

16 mm in-line filter fits directly onto the pump reservoir inlet to protect the pump from dirt and debris entering the pumps mechanism.

CODE	DESCRIPTION
N7080	In-Line Filter (16 mm)



## Aspen Xtra Condensate Pump Accessories

Extensive range of condensate pumps accessories from the Aspen Xtra range.

### Hose To Hose Connectors and Reducer

#### Straight, Elbow, Tee & Reducing Hose Connectors

CODE	DESCRIPTION
N611	1/4" Straight Connector (Pack 5)
N7040	3/8" Straight Connector (Pack 5)
N7044	1/4" to 3/8" Straight Reducing Connector (Pack 5)
N7031	1/4" 90° Elbow (Pack 5)
N7041	3/8" 90° Elbow (Pack 5)
N7032	1/4" Equal Tee (Pack 5)
N7082	3/8" Equal Tee (Pack 5)



### Overflow To Hose Adapter

Adapts end of overflow pipe to take 1/4 or 3/8 hose.

CODE	DESCRIPTION
N7035	Overflow to Hose Adapter (3 Pack)



### Hose To Soil Pipe Adapter

Simply drill a 11.5 mm hole in your soil or waste pipe, tighten up fitting to hold securely in the soil pipe then fit and secure your 1/4 or 3/8 hose pipe. Simple and easy.

CODE	DESCRIPTION
N7034	Hose to Soil Pipe Adaptor (Pack of 3)



### Non-Return Valve

Prevents back flow of water. Available to suit either 1/4 or 3/8 hose.

CODE	DESCRIPTION
N617	Non-Return Valve 1/4" x 1/4" (Pack of 5)
N618	Non-Return Valve 3/8" x 3/8" (Pack of 5)



### Replacement Mini Lime Hose

1 metre long replacement mini lime hose. This soft and very flexible hose has proved popular with both service and installation engineers and used for a multitude of drain type applications.

CODE	DESCRIPTION
N7015	Replacement Mini Lime Hose (1 Metre)



### 1 Amp In-Line Fuse & Holder

This 1 Amp fuse should always be installed between the power supply and the live feed to the pump, these fuses should be used when installing the mini and maxi pumps plus the hi flow tank pumps.

CODE	DESCRIPTION
N7042	1 Amp In-Line Fuse & Holder



### Xtra Drain Accessories Kit

This quality toolbox contains 12 compartments with a range of Xtra accessories, simply replace or refill the compartments with your favorite Xtra accessories when you run out.

CODE	DESCRIPTION
N7020	Aspen Xtra Drain Accessories Kit



# Copper Water Tube & Solder Fittings

## Copper Water Tube - Half Hard x 3m Lengths

CODE	SIZE
N100	15 mm
N101	22 mm
N102	28 mm



## Copper Elbow 90°

CODE	SIZE
N110	15 mm C x C
N111	22 mm C x C
N112	28 mm C x C



## Copper Solder Tee

CODE	SIZE
N125	15 mm C x C
N126	22 mm C x C
N127	28 mm C x C



## Copper Solder Coupler

CODE	SIZE
N120	15 mm C x C
N121	22 mm C x C
N122	28 mm C x C



## Copper Solder Reducing Coupler (C x C)

CODE	SIZE
N130	22 x 15 mm C x C
N131	28 x 22 mm C x C



## Copper Solder Reducing Coupler (F x C)

CODE	SIZE
N134	22 x 15 mm F x C
N135	28 x 22 mm F x C
N136	28 x 15 mm F x C



## Copper Solder End Cap

CODE	SIZE
N138	15 mm
N139	22 mm
N140	28 mm



## Evaporator Drain Pan Adapter

Plastic drain tray adapter fits most common evaporators: Friga Bohn Searle and Luve. Most commonly used with the N167 Brass 22mm to 1" Female BSP Compression Elbow. (N157 Straight Compression Coupler also fits adapter) Some of the smaller panel cooler evaporators come with a 3/4" BSP male threaded plastic adapter. For these outlets please choose the N156 (straight) or N166 (elbow) brass fitting.



CODE	SIZE
N190	1" Male BSP

# Compression Fittings

## Compression Coupler

CODE	SIZE
N145	15 mm
N146	22 mm
N147	28 mm



## Compression Adapter to Male BSP

CODE	SIZE
N150	15 mm x 1/2" Male BSP
N151	22 mm x 3/4" Male BSP
N152	22 mm x 1" Male BSP



## Adapter - Female BSP

CODE	SIZE
N155	15 mm x 1/2" Female BSP
N156	22 mm x 3/4" Female BSP
N157	22 mm x 1" Female BSP



## Compression Elbow

CODE	SIZE
N160	15 mm
N161	22 mm
N162	28 mm



## Compression Elbow to Female BSP

CODE	SIZE
N165	15 mm x 1/2" Female BSP
N166	22 mm x 3/4" Female BSP
N167	22 mm x 1" Female BSP



## Compression Tee

CODE	SIZE
N170	15 mm
N171	22 mm
N172	28 mm



## PTFE Tape

12 mm Wide x 12 M Long

CODE	SIZE
N180	PTFE Tape

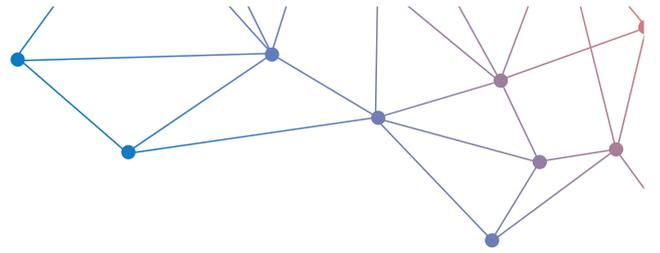


## Alfa Tape

A self fusing tape utilised to insulate and seal electrical cable splices where high and low temperature stability is needed, and where moisture, weather and radiation resistance is required. Mechanically it provides a high tension wrap that creates an enduring seal under extreme environmental conditions. Due to its remarkable properties, it is also used to repair punctured water, air and hydraulic pipes that are subject to pressure and temperature variants.

CODE	SIZE
N185	Alfa Tape Roll (25 mm Wide x 3.6 M long)





# Sauermann's new Delta Pack 80X60

## Pump inside a trunk



Large space  
for tubing



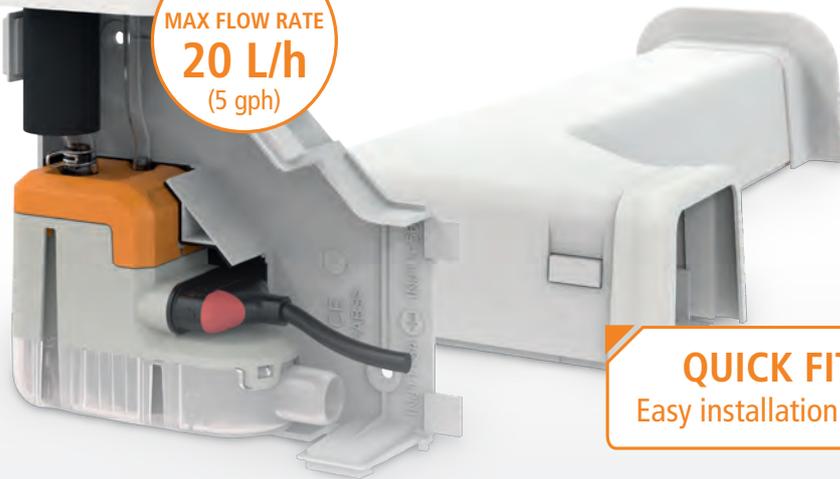
Quick and easy  
installation



Low operating  
sound level  
EN ISO 3744 tested



Patented  
piton pump  
technology



**QUICK FIT & RELEASE**  
Easy installation - Easy maintenance

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info.uk@sauermanngroup.com

[www.sauermann.co.uk](http://www.sauermann.co.uk)

## FloPlast Strap on Boss

110 mm Grey Strap on Boss with rubber reducers to suit 3/4", 1-1/4" and 1-1/2" waste pipe.

CODE	DESCRIPTION
N459	110mm Strap on Boss
N461	1-1/4 x 3/4 Rubber Reducer
N460	1-1/2 x 3/4 Rubber Reducer
N463	1-1/4 Rubber for Strap on Boss
N464	1-1/2 Rubber for Strap on Boss



## Hep2o Waste Valve (White Only)

Hygienic self sealing valve designed to prohibit the escape of foul sewage smells in to the air. Fits where space is limited. Won't dry out. Solvent weld and universal adaptor to suit the larger Floplast and grey PVC pipe sizes.

CODE	DESCRIPTION
N428	32mm White Hepvo Self Seal Waste Valve
N433	32mm White Hepvo Universal Adaptor
N429	32mm White Hepvo Adaptor (Solvent Adaptor)



## 3/4" Convalve

### In-line Vertical Non-Return Valve

The Convalve from McAlpine is an In-Line Non-Return Valve that must be fitted in the vertical position. Inlet and outlet connection for 19/23mm pipe. Available in white only.

CODE	DESCRIPTION
N438	Convalve 3/4" In-line Vertical Non Return Valve



## Rothenberger 42TC Plastic Pipe Cutters

Designed to cut almost every type of plastic pipe without deforming or squashing the wall. Cuts pipe up to 42 mm Ø.

CODE	DESCRIPTION
N415	42TC Rothenberger Ratchet Tube Cutter



# FloPlast Solvent Weld Waste Pipe & Fittings

3/4" Overflow Pipe and 1-1/4" ABS Solvent Weld Drain Pipe and fittings in white and black.

## Waste Pipe (White)

CODE	DESCRIPTION
N440	3/4" Pipe x 3M (White)
N420	1-1/4" Pipe x 3M (White)



## Elbows (White)

CODE	DESCRIPTION
N442	3/4" 90° Elbow (White)
N422	1-1/4" 90° Short Radius Elbow (White)
N423	1-1/4" 92.5° Long Radius Elbow (White)



## 45° Elbow (White)

CODE	DESCRIPTION
N445	3/4" 45° Elbow (White)
N424	1-1/4" 45° Elbow (White)



## Straight Coupler (White)

CODE	DESCRIPTION
N444	3/4" Straight Coupler (White)
N421	1-1/4" Straight Coupler (White)



## Equal Tee (White)

CODE	DESCRIPTION
N443	3/4" Equal Tee (White)
N425	1-1/4" Equal Tee (White)



## Reducer & Rodding Eye (White)

CODE	DESCRIPTION
N462	1-1/4" to 3/4" Reducer (White)
N426	1-1/4" Rodding Eye (White)



## Waste Pipe (Black)

CODE	DESCRIPTION
N4140	3/4" Pipe x 3M (Black)
N4142	1-1/4" Pipe x 3M (Black)



## Elbows (Black)

CODE	DESCRIPTION
N4145	3/4" 90° Elbow (Black)
N4147	1-1/4" 90° Short Radius Elbow (Black)



## 45° Elbow (Black)

CODE	DESCRIPTION
N4180	3/4" 45° Elbow (Black)
N4182	1-1/4" 45° Elbow (Black)



## Straight Coupler (Black)

CODE	DESCRIPTION
N4184	3/4" Straight Coupler (Black)
N4186	1-1/4" Straight Coupler (Black)



## Equal Tee (Black)

CODE	DESCRIPTION
N4188	3/4" Equal Tee (Black)
N4190	1-1/4" Equal Tee (Black)



## Reducer & Rodding Eye (Black)

CODE	DESCRIPTION
N4191	1-1/4" to 3/4" Reducer (Black)
N4192	1-1/4" to 1-1/2" Reducer (Black)
N4194	1-1/4" Rodding Eye (Black)



## FloPlast Pipe Clips

Snap-in open pipe clips 3/4" in white or black.  
Saddle style pipe clip for the 1-1/4" (32 mm) pipe in white or black.

CODE	DESCRIPTION
N441	3/4" (22 mm) mm Open Snap-In Pipe Clip (White)
N447	3/4" (22 mm) mm Open Snap-In Pipe Clip (Black)
N427	1-1/4" (32 mm) Saddle Pipe Clip (White)
N431	1-1/4" (32 mm) Saddle Pipe Clip (Black)



## Snap-in Closed Top Pipe Clips

Snap-in, closed top pipe clips, prevent the pipe from accidentally slipping out of the clip particularly when full with water and fitted to ceilings.

CODE	DESCRIPTION
N448	15 mm Snap-In Closed Top Pipe Clip
N450	22 mm Snap-In Closed Top Pipe Clip
N452	28 mm Snap-In Closed Top Pipe Clip



## FloPlast Solvent Cement

FloPlast Solvent Cement available in either 125 or 250 ml tubs with brush.

CODE	DESCRIPTION
N430	FloPlast Solvent Cement (125 ml)
N432	FloPlast Solvent Cement (250 ml)



## RPC Studding Clips for Waste Pipe

Unique one-piece design manufactured from a composite polyamide alloy combining strength with light weight. RPC Studding Clips are perfect for attaching our wide range of condensate waste pipe onto threaded rod.



Supplied in packs of 10

CODE	MODEL	STUD	DESCRIPTION
A222	SC08-22	M8	Suits 21.5mm FloPlast overflow pipe (N440) on 8mm rod
A214	SC08-28	M8	Suits 3/4" (ID) Grey PVC Pipe (N469) on 8mm rod.
A224	SC08-35	M8	Suits 32mm FloPlast waste pipe (N420) and 1" Grey PVC Pipe (N458) on 8mm rod
A225	SC08-42	M8	Suits 40mm waste pipe (XX01159) on 8mm rod
A226	SC10-22	M10	Suits 21.5 mm FloPlast overflow pipe (N440) on 10 mm rod
A227	SC10-28	M10	Suits 3/4" (ID) Grey PVC Pipe on 10mm rod.
A228	SC10-35	M10	Suits 32 mm FloPlast waste pipe (N420) and 1" Grey PVC Pipe (N458) on 10 mm rod

## Rigid PVC Grey Drain Pipe & Fittings

Grey Imperial PVC Condensate Drain Pipe to BS-EN1452-2 dimensions supplied in 3mtr lengths and fittings to BS-EN1452-3".

### Waste Pipe (Grey)

CODE	DESCRIPTION
N469	3/4" (ID) Pipe x 3M (Grey)
N458	1" (ID) Pipe x 3M (Grey)



### 90° Elbow (Grey)

CODE	DESCRIPTION
N466	3/4" 90° Elbow (Grey)
N471	1" 90° Elbow (Grey)



### Equal Tee (Grey)

CODE	DESCRIPTION
N467	3/4" Equal Tee (Grey)
N472	1" Equal Tee (Grey)



### Straight Coupler (Grey)

CODE	DESCRIPTION
N468	3/4" Straight Coupler (Grey)
N473	1" Straight Coupler (Grey)



### Reducer & Threaded Adapter (Grey)

CODE	DESCRIPTION
N477	1" PVC x 3/4" Reducer
N476	1" PVC x 1" BSP Adaptor



### 45° Elbow (Grey)

CODE	DESCRIPTION
N4700	3/4" 45° Elbow
N4702	1" 45° Elbow



### PVC Pipe Clips (Grey)

CODE	DESCRIPTION
N4705	3/4" PVC Pipe Clip
N4707	1" PVC Pipe Clip



### PVC Pipe Cleaner & Solvent Cement

CODE	DESCRIPTION
N475	PVC Pipe Cleaning Fluid (500 ml)
N474	PVC Tube Solvent Cement (500 ml)



## PVC Hose

Wide range of coiled PVC hose available in plain or reinforced and clear to black. Different hose lengths and diameters to meet all your condensate pump waste requirements. See tables below for details.

### 6 Metre Coils (Clear Braided)

CODE	SIZE	TYPE
N487	1/2" I.D. x 3/4" O.D.	Clear Braided Hose
N489	3/4" I.D. x 1" O.D.	Clear Braided Hose

### 30 Metre Coils (Clear)

CODE	SIZE	TYPE
N480	1/8" I.D. x 1/4" O.D.	Clear Hose
N481	1/4" I.D. x 3/8" O.D.	Clear Hose
N483	3/8" I.D. x 1/2" O.D.	Clear Hose
N479	1/2" I.D. x 18mm O.D.	Clear Hose

### 30 Metre Coils (Clear Braided)

CODE	SIZE	TYPE
N482	1/4" I.D. x 1/2" O.D.	Reinforced
N484	3/8" I.D. x 5/8" O.D.	Reinforced
N498	1/2" I.D. x 18mm O.D.	Reinforced

### 30 Metre Coils (Black Braided)

CODE	SIZE	TYPE
N485	1/4" I.D. x 1/2" O.D.	Reinforced Black
N488	3/8" I.D. x 5/8" O.D.	Reinforced Black



## Hose Clips

Bright zinc plated mild steel hose clips, available singly or assorted in a Selectabox.

CODE	SIZE	TO SUIT Ø
N490	HC12	9.5 - 12mm
N491	HC16	11 - 16mm
N492	HC20	13 - 20mm
N493	HC22	14 - 22mm
N494	HC25	17 - 25mm
N495	HC30	22 - 30mm
N496	HC35	25 - 35mm
N497	HC45	35 - 45mm
N499	Assorted	8 - 50mm



## Fermod Coldroom Hardware



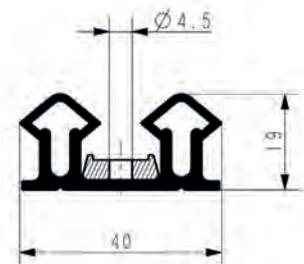
CODE	TYPE	DESCRIPTION	IMAGE N°
N907		Fermod 920 Handle	1
N908		Fermod 921 Handle (Locking)	2
N940		Fermod 920/921 Strike (27/42mm Strike 47mm Deep)	3
N931		Fermod 920/921 Strike (52/72mm Strike 82mm Deep)	4
N934		Fermod 1220E Door Handle* (Non Locking)	5
N935		Fermod 1221E Door Handle* (Locking)	5
N933		Fermod 1220 Strike	6
N966		Fermod 1220/1221 Block	7
N952		Fermod 556 Hinge	8
N968		Fermod 920/921 Internal Unlocking Device (Complete)	9
N975		Fermod 920/921 Green Cap Only) for Unlocking Device	10

\* Please specify which side your door hinges are fitted when ordering the 1220 or 1221 handles.  
Right hand hinged door = left hand handle. : Left hand hinged door = Right Hand handle.

## Fermod N° 67 Coldroom Door Gasket

Extremely soft black EPDM soft rubber for temperatures down to - 45°. Price is per meter and cut to customers specified length. Does not include Fermod 252 central fixing plastic strip.

CODE	DESCRIPTION
N979	Fermod No 67 Black EPDM Coldroom Door Gasket



This page displays a small selection of the Fermod products available, please contact FSW if you require Fermod products, other than those listed above.

## PVC Strip Curtains

### Made to Measure - S/Steel Hook-On PVC Strip Curtains

We offer a made to measure ordering service on PVC Strip curtain that feature a stainless steel hanging hook rail. Available up to maximum height of 5 metres, and come in 2 specifications as follows:

**Polar Grade Material:**

Perfect for both chiller and low temperature applications. EEC, Scandinavia, and USA Food & Drugs approved for contact with food.

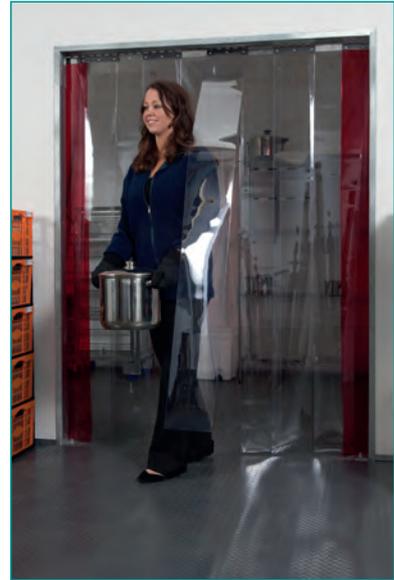
**Standard Grade Material:**

Available for non-food contact suitable for both internal and external use. To obtain a quote please tell us if it's a polar or standard grade curtain you require and supply the door width and height (actual opening). Curtains will be provided with sufficient overlap on each side and the top.

Prices we quote are for PVC strips 200mm x 2mm thick with partial overlap (50%) and the s/steel hook-on track.

Please state if you need face or under lintel fixing.

Curtains can be supplied over 5m high but will come with aluminium bolt-on hanging system.



The red PVC, edge marker strips shown in above image, can be supplied on request.

### Ready-Made Polar Grade Hook on PVC Strip Curtain (1m Wide x 2m High x 2mm Thick)

We now stock the most popular size polar grade chiller and freezer coldroom curtain ready made. Set contains 1 x 984 wide s/steel hook on track (surface mounted) and 6 x 200mm wide x 2m high x 2mm thick strip curtains allowing for a 50% overlap.

We also stock the individual strips complete with fitted s/steel clamp plate & eyelets and the 984mm wide s/steel hook-on track should you want to buy replacements or make up your own size curtain.



CODE	DESCRIPTION
N225	Ready - Made Polar Grade PVC Curtain with S/Steel Header 1m wide x 2m high x 2mm thick (exact width is 984mm)
N220	S/Steel Hook-On Coldroom Curtain Track (984mm Long)
N221	Single Ready - Made Polar Grade PVC Strip only c/w s/steel eyelet clamp plate (200mm wide x 2m drop x 2mm thick)

### Replacement PVC Strip Material

We supply replacement PVC Strip in both standard and polar grade curtains cut by the metre. Strips are 200mm wide x 2mm thick.



CODE	DESCRIPTION
N210	Standard Grade PVC Curtain supplied by the Metre
N212	Polar Grade PVC Strip supplied by the Metre

### Replacement PVC Strip Material on 50m Roll

50 metre roll of PVC Strip 200mm wide x 2mm thick, polar grade only.

CODE	DESCRIPTION
N218	Polar Grade PVC Strip on a 50 metre Continuous Roll



### Magnetic Door Gasket Material

Grey magnetic door gasket for commercial refrigerators and freezers. Supplied in a 3m length.

CODE	DESCRIPTION
N036	MG-1 Magnetic Gasket x 3m length



## REFRIGERATION DISPLAY CASE PUMPS



**ACR**  
supplies

- UV Pump 'Biofilm Killer'
- Wall Mounted Coldroom Pump
- Pump & Drainage Solution Package\*

\*Package includes pump, drain connector, hose and adjustable pipe support.  
By using this solution your install becomes BSEN12056 compliant. You also significantly decrease the chances of a faulty pump on site.

01543 437 010



## LINE TAPS & ACCESS FITTINGS

---

## Line Taps

### Diversitech DLT Line Taps and Control Valve

The quick, safe and easy option to charge, recover and test a line. Simply clamp on the DLT valve, attach the DCV-1G control valve, and pierce the line. The control valve features a port for connecting charging lines or gauges. The valve can swivel to any position and also be removed and re-used. Available in three sizes from 3/16". OD tube size to 5-1/6". The DCV-1G is designed for use with all three sizes.



CODE	MODEL	TO SUIT PIPE (INCH)
P010	DLT-3G	3/16
P011	DLT-4G	1/4
P012	DLT-5G	5/16
P016	DCV-1G	Control Valve

### Supco BPV 31 Bullet Piercing Valve

The ONLY valve with a permanent type, patented gasket application. Sealing force of over 180 inch lbs, torque tested with 450 lbs. Pressure tested at 250°f patented valve gasket provides 50 times more sealing area than competitive 'o' ring types, corrosion resistant piercing needle is engineered for concentricity and hardness to insure perfect seating every time. 500 psi maximum pressure. No adapter valve required, requires only 2" clearance for installation and operation hex key wrench included.



CODE	MODEL	TO SUIT
P008	BPV-31	1/4, 5/16, 3/8

### Diversitech Quick Tap

Features a schrader valve core in the 1/4" male port. Simply pierce the line and back seat the needle. Flow starts when depressor type charging hose is connected. Flow shuts off automatically when hose is removed. If valve core is not desired, it may be removed. Connect hose, pierce line and back seat needle. This method offers full unrestricted flow. Valve core can be removed or changed at any time without loss of refrigerant if needle is front seated.



CODE	MODEL	TO SUIT
P019	QT-1	1/4, 5/16, 3/8

### Diversitech Quick Tap 2

Identical to the Quick-Tap except that a nylon handle replaces the hex wrench and Phillips head screws are used.



CODE	MODEL	TO SUIT
P022	QTH-1	1/4, 5/16, 3/8
P023	QTH-2	1/2, 5/8

### MAC - The Ultimate Line Piercing Valve

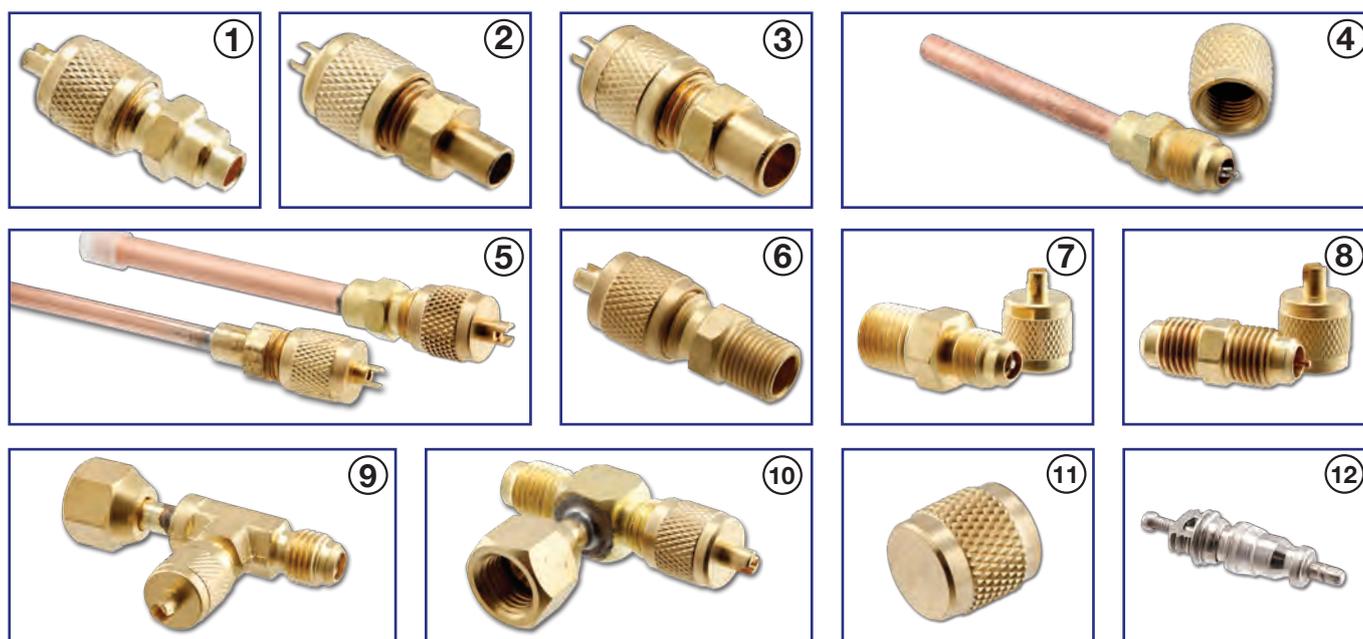
Mac valve features a uniport single connection for piercing and servicing. Needle depressor is inserted into head of needle. Wing cap is turned down easily by hand until line is pierced. Sealed with refrigerant resistant 'O' rings the needle automatically back seats after servicing. Very compact line tap valve when access is an issue.



CODE	MODEL	TO SUIT
P025	QTM-1	1/4, 5/16, 3/8

## Access Fittings

We offer a wide range of access valves and fittings designed for quick and easy installation for both service and installation work. They can be installed anywhere on either the low side for charging, purging, quick testing or pressure checking. Our access fittings have 1/4 SAE male flare access ports and include a quick seal cap and have a stainless and brass core Schrader valve fitted.



CODE	MODEL	DESCRIPTION	IMAGE NUMBER
P030	VA-3-346	3 way straight solder 3/16, 1/4, 3/8 Schrader valve	1
P031	VA-34	2 way straight solder 3/16, 1/4 Schrader Valve	2
P032	VA-46	2 way straight solder 1/4 or 3/8 Schrader Valve	3
P037	4048-516	Extended 1/4 copper tube with 5/16 Flare Schrader Valve	4
P033	SU-03	Extended 3/16 copper tube with 1/4 Flare Schrader Valve	5
P034	SU-04	Extended 1/4 copper tube with 1/4 Flare Schrader Valve	5
P035	VAU-24	1/8 MPT x 1/4 Flare Schrader Valve	6
P036	VAU-45	1/4 MPT x 1/4 Flare Schrader Valve	7
P038	VUR-4	1/4 Flare x 1/4 Flare Union C/W Flare Cap and Schrader	8
P039	VST-44	1/4 Swivel Tee with Depressor Female 1/4 Swivel Flare Nut with Depressor on Run 1/4 Male Schrader Access on Run - Branch 1/4 MFL	9
P040	VST-4	1/4 Swivel Tee with Depressor 1/4 Male Schrader Access on Run, 1/4 Male Flare on Run 1/4 Female Swivel Flare Nut with Depressor on Branch	10
P041	VC-4	1/4 Flare Cap	11
P042	VC-6400	Pack of 10 Spare Schrader Cores	12

## Core Removal Tools

The P100 is a simple but handy schrader core removal tool complete with spare schrader cores that store in the lid.

The NAVTEK NVR1 Core removal tool fits both 1/4" and 5/16" flares. Vacuum rated double o-ring design.

The Yellow Jacket Core removal tool fits 1/4" flares only. Double Vacuum rated due to double o-ring design.

CODE	DESCRIPTION
P100	90376 Schrader Core Remover c/w Spare Cores
QN1014	NAVTEK NVR1 1/4" & 5/16" Core Removal Tool
Q1044	Yellow Jacket 1/4" Core Removal Tool



# NAVTEK

Empowering you to work smarter

## NEW HVAC&R Service Tools Available Now!

Exclusively Available From FSW Branches & online!



**NAVTEK is a global manufacturer with over 20 years R&D experience in industrial vacuum solutions and HVAC/R tools.**

The product portfolio is designed to provide unsurpassed efficiency, accuracy and ease of use. Navtek understands how valuable your time can be and products like the BIG BOY Hi-Flow vacuum hoses and the NRDD Recovery machine with its innovative twin condenser design speeds the recovery process to get you onto the next job quicker and easier.

**NAVTEK products available online for next working day delivery.  
Click & Collect available from any one of our 24 branches around the UK.**

**NAVTEK UK Sales & Technical Support call 01543 437 010**



**[www.navtek.uk](http://www.navtek.uk)**



01543 437 010



# VACUUM PUMPS, MANIFOLDS, HAND TOOLS, THERMOMETERS & LEAK DETECTION

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## VALUE® Manifold 1-Way



The Value VMG-1, 1-Way manifold with 68mm diameter gauges.  
Read: R410A/R407C/R404A/R134a in bar/psi.  
Available in high and low side options.

Anti collision rubber boot and hanging hook.  
No carry case or line included with single valve manifold.



CODE	MODEL
Q219	Value VMG-1-U-L Low Side Single Gauge Manifold
Q211	Value VMG-1-U-H High Side Single Gauge Manifold

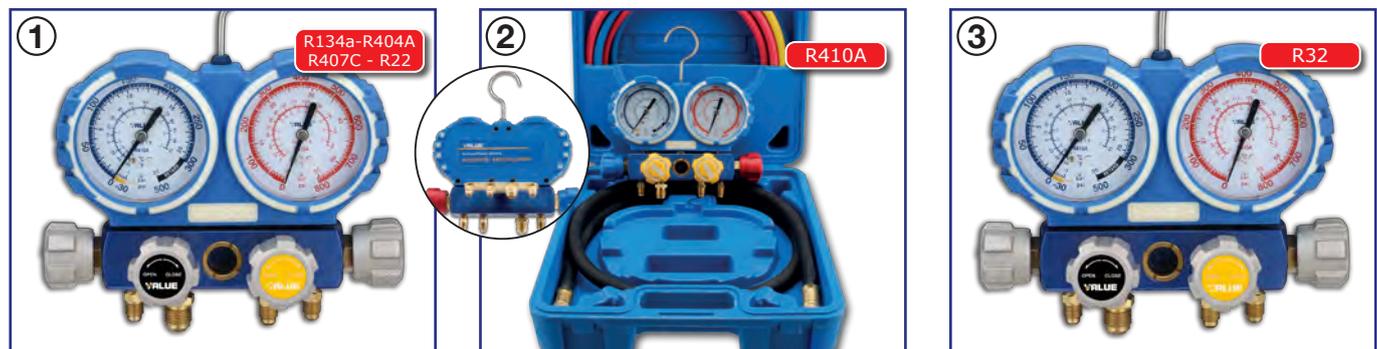
## VALUE® Manifold Kits 2-Way

All Value 2 & 4-way manifolds include a set of R/Y/B hoses, carry case and one piece anti-collision boot to protect gauges.



CODE	DESCRIPTION	IMAGE NUMBER
Q218	Value VMG-2-R22. 2-Way Manifold Kit, 80mm Ø gauges. One Piece Anti Collision Boot. Reads: psi only / °C & °F. Sightglass. 3 x 48" R/Y/B hoses with 1/4" on all hose ends. Carry case included. <b>Reads: R134A / R404A / R407C / R22</b>	1
Q217	Value VMG-2-R410A. 2-Way Manifold Kit, 80mm Ø gauges. One Piece Anti Collision Boot. Reads: psi only / °C & °F. Sightglass. 1 x 48" Red & Blue hose 1/4" x 5/16" 1 x Yellow hose 1/4" x 1/4" Carry case included. <b>Reads: R410A</b>	2
QV1020	Value VMG-2-R32. 2-Way Manifold Kit, 80mm Ø gauges. One Piece Anti Collision Boot. Reads: psi only / °C & °F. Sightglass. 1 x 48" Red & Blue hose 1/4" x 5/16" 1 x Yellow hose 1/4" x 1/4". Carry case included. <b>Reads: R32.</b>	3
QV1025	Value VMG-2-R1234yf. 2-Way Manifold Kit, 80mm Ø gauges. One Piece Anti Collision Boot. Reads: psi only / °C & °F. Sightglass. 3 x 48" R/Y/B hoses with 1/4" on all hose ends. Carry case included. <b>Reads: R1234yf</b>	4

## VALUE® Manifold Kits 4-Way



CODE	DESCRIPTION	IMAGE NUMBER
QV1033	Value VMG-4-R22. 4-Way Manifold Kit, 80mm Ø gauges. One Piece Anti Collision Boot. Reads: psi only / °C & °F. Sightglass. 3 x 4' R/Y/B hoses with 1/4" on all hose ends. Rear Hose Holder and Carry Case included. <b>Reads: R134A / R404A / R407C / R22</b>	1
QV1030	Value VMG-4-R410A. 4-Way Manifold Kit, 80mm Ø gauges. One Piece Anti Collision Boot. Reads: psi only / °C & °F. Sightglass. 2 x 4' Red & Blue Hoses 1/4" x 5/16", 1 x 4' Yellow Hose 1/4" to 1/4" Plus 1 x 4' 3/8" Vacuum Hose. Inc Hose Holder & Case. <b>Reads: R410A</b>	2
QV1021	Value VMG-4-R32. 4-Way Manifold Kit, 80mm Ø gauges. One Piece Anti Collision Boot. Reads: psi only / °C & °F. Sightglass. 2 x 4' Red & Blue Hoses 1/4" x 5/16", 1 x 4' Yellow Hose 1/4" to 1/4" Plus 1 x 3/8" Vacuum Hose. Inc Hose Holder & Case. <b>Reads: R32.</b>	3

## Value VTB Integrated Tool Kits

**VALUE**<sup>®</sup>

We now offer 2 versions of the popular VTB Integrated Tool Kits from Value. Both kits contain the superb VFT808 Eccentric Flare Kit, 1 x VTC-19 and 1 x VTC-28B Pipe Cutters, 1 x Deburrer plus one set of 5ft long R/Y/B hoses.

All you have to do is choose the 2-way manifold you prefer in your kit. We still offer the original kit with the R410a manifold, but now you have the option of the multi refrigerant manifold which reads R22/R134a/R407C & R404A.



CODE	MODEL
Q047	VTB-5B-I-R410A Tool Kit with R410A Manifold
QV1044	VTB-5B-I-R22 Tool Kit with Multi Manifold, R22, R134a, R407C and R404A

## NAVTEK Manifolds

**NAVTEK**

### NAVTEK N1B9H One Way Manifold

The N1A9H single valve manifold features an impact resistant body and fold away hanging hook. Class 1.0 Gauges for accuracy. Suitable for BOTH high & low pressure sides of the system as gauge pressure reads -30 inHg to 800psi. Reads R134A - R404A - R410A - R32. Complete with 2 x 1.5m long hoses 1 x red & 1 x yellow 1/4" x 1/4" all stored neatly in carry case supplied.



CODE	DESCRIPTION
QN1004	NAVTEK N1A9H One Way Manifold with R/Y Lines & Case

### NAVTEK N2B9H Two Way Manifold

The N2A9H two way manifold features an impact resistant body and fold away hanging hook. Class 1.0 Gauges for accuracy. Reads R134A - R404A - R410A - R32. Sightglass. Complete with 3 x 1.5m long hoses 1 x red, 1 x blue & 1 x yellow 1/4" x 1/4" all stored neatly in carry case supplied.



CODE	DESCRIPTION
QN1005	NAVTEK N2A9H Two Way Manifold with R/Y/B Lines & Case

### NAVTEK N4A9H Four Way Manifold

The N4A9H four way manifold features an impact resistant body.

Class 1.0 Gauges for accuracy.

Foldaway Hanging Hook - Sightglass.

Reads R134A - R404A - R410A - R32.

Complete with 4 x 1.5m long hoses: 1 x red, 1 x blue, 1 x yellow all 1/4" x 1/4" & 1 x 3/8" x 3/8" black vacuum hose all stored neatly in carry case supplied.



CODE	DESCRIPTION
QN1006	NAVTEK N4A9H Four Way Manifold with R/Y/B/BK Lines & Case

**NAVTEK**

*When it comes to evacuation, charging & recovery, speed is everything!*

In fact the **NEW NAVTEK BIG BOY** vacuum hoses are a game changer, they improve vacuum efficiency when compared to using a 1/4" hose with core depressor by a whopping 68%. Check out page 279 to find out how they also help improve charging AND recovery times!



UP TO  
**68%**  
FASTER  
VAC TIMES

## Refco R290-R600-R600A 2 Way Manifold

The BM2-3-DS-R290 two-way manifold from Refco is designed specifically for R290/R600/R600A hydrocarbon refrigerants.

The manifold comes complete with bourdon type gauges, hanging hook and 3 charging hoses 1/4" SAE on both hose ends.

Hoses are colour-coded, blue, red and yellow, all 36 inches (90 cm) long, packs away neatly in a sturdy plastic carry case also included.



CODE	DESCRIPTION
Q3432	Refco BM2-3-DS-R290 2 Way Manifold for R290/R600/R600A

## Refco Clim 2 Way Air Conditioning Manifold

The Refco BM2-6-DS-CLIM multi refrigerant 2-Way Manifold Kit, is a great favourite with engineers working on A/C equipment as it contains both 1/4" and 5/16" hoses making it perfect for R410A and R32 systems.

Kit includes 2 Way Manifold, 3 x 36" R/Y/B hoses with 1/4" on all hose ends and 2 x 1/4" x 5/16" hoses.

60mm Diameter Gauges.

Reads: R22 / R407C / R410A in PSI / Bar / °C.



CODE	DESCRIPTION
Q344	Refco BM2-3-DS-CLIM Multi Refrigerant 2 Way Manifold Kit with 5 hoses, 3 x 1/4" x 1/4" and 2 x 1/4" x 5/16"

## Titan® 4-Way Test & Charge Manifold

With NO sightglass and high and low side gauges that read 800psi. The Titan 4-Way Manifold from Yellow Jacket was designed to test and charge equipment.

3/8" Vacuum port for use with larger hose to cut evacuation time by up to 33% (all other fittings are 1/4"). (Manifold only- no lines - no case).



CODE	DESCRIPTION
Q1098	Yellow Jacket 49972 Titan 4-Way Test & Charge Manifold

## Mastercool 2 Way Manifold for R448A/R449A R452A and R455A C/W 150cm R/Y/B Hoses

Mastercool 2 Way Manifold reads R448A/R449A/R452A/R455A.

Includes R/Y/B Hose Set 150cm long 1/4" x 1/4" SAE both ends.

80mm<sup>ø</sup> Gauges. Solid extruded aluminium body.

Free-floating piston type valves reduce o-ring wear.

Extra access port for vacuum line.

Silicone dampened gauges smooth out needle movement.

Gauges can be easily recalibrated in the field to maintain accuracy.

Extra large sight glass for visual refrigerant check.

Large easy-to-grip knobs.



CODE	DESCRIPTION
Q200	Mastercool 2 Way Manifold for R448A/R449A/R452A/R455A



## Everything at a glance. In your hand.

Introducing the brand-new refrigeration manifold range from Testo

- ✓ IP54 rating for outdoor operation
- ✓ 100m range with Bluetooth wireless probes
- ✓ Suitable for use with A2L refrigerants
- ✓ Graphic display for pressure test and vacuum with new testo 552i smart probe
- ✓ Simple visualisation and documentation with free smart app

[www.testo.co.uk](http://www.testo.co.uk)

## testo 550i App Operated 2-Way Digital Manifold

Say hello to the testo 550i the smallest digital manifold on the market.

Operated via your smart phone via the FREE testo SMART app. Featuring Bluetooth 5 Technology with a 150m range, IP54 rated and compatible with testo smart probes, this really is the manifold for those looking to move away from analogue gauges in a cost effective way.

### The 550i comes in 2 options:

550i App Operated 2 Way Manifold only (no case or lines).  
(Vacuum Measurement in conjunction with optional 552i).

Testo 550i Smart Set - Includes Manifold, 2 x 115i Wireless Temp. Probes & Case) (Vacuum measurement in conjunction with optional 552i).

CODE	DESCRIPTION
QT060	Testo 550i App Operated 2 Way Manifold Only
QT061	Testo 550i Smart Set - Includes Manifold, 2 x 115i Wireless Temp Probes & Case)



## testo 550s 2-Way Digital Manifold

As part of the new testo 55x range the new testo 550s manifold now features a wider Bluetooth range up to 150m. Larger graphic display. Increased protection class now IP54. And auto updates of refrigerants via the app.

### The 550s comes in 3 kit options:

550s basic kit with 2 x plug in temp clamp probes, case & batteries.  
(Vacuum measurement in conjunction with optional 552i)

550s Smart Kit includes 2 x 115i Wireless Smart Probe temp clamps, case & batteries. (Vacuum measurement in conjunction with optional 552i)

550s Smart Kit with Hoses includes 2 x 115i Wireless Smart Probe temp clamps, 3 x hoses, case & batteries. (Vacuum measurement in conjunction with optional 552i)

CODE	DESCRIPTION
QT062	Testo 550s Basic Kit (M/Fold, 2 x Cable Temp Probes & Case)
QT063	Testo 550s Smart Kit (Manifold, 2 x 115i Wireless Temp Probes & Case)
QT064	Testo 550s Smart Kit with Hoses (Manifold, 2 x 115i Wireless Temp Probes, 3 x Hoses & Case)



## testo 557s 4-Way Digital Manifold

As part of the new testo 55x range the new testo 550s manifold now features a wider Bluetooth range up to 150m. Larger graphic display. Increased protection class now IP54. And auto updates of refrigerants via the app.

### The 557s comes in 2 options:

Testo 557s Smart Vacuum Kit (Smart Digital manifold, 2 x 115i Wireless Temp Probes, 1 x 552i Wireless Vacuum Probe & Case).

Testo 557s Smart Vacuum Kit with Hoses (Smart Digital manifold, 2 x Wireless Temp Probes, 1 x Wireless Vacuum Probe, Set of 4 Filling hoses (3 x 1/4 x 1/4 & 1 x 3/8 x 3/8 Vac Hose) and Case.

CODE	DESCRIPTION
QT065	Testo 557s Smart Vacuum Kit (Smart Digital manifold, 2 x Wireless Temp Probes, 1 x Wireless Vacuum Probe & Case)
QT066	Testo 557s Smart Vacuum Kit (Smart Digital manifold, 2 x Wireless Temp Probes, 1 x Wireless Vacuum Probe, Filling Hose Set x 4 and Case.



## testo Refrigeration Smart Probes

Get even **Smarter**, with the Testo **Smart Probe** Range

CODE	DESCRIPTION
QT042	testo 115i Clamp Thermometer Smart Probe (0560 2115 02)
QT043	testo 549i High Pressure Smart Probe (0560 2549 02)
QT020	testo 605i Thermohygrometer Smart Probe Measures Air Temp & Relative Humidity. (0560 2605 02)
QT018	testo 805i Infrared Thermometer Smart Probe (0560 1805)
QT019	testo 410i Vane Anemometer Smart Probe (0560 1410)

Go to page 288 to view the new 552i Vacuum Smartprobe and page 293 for the new range of testo 915i Smartprobe thermometers using K Type probes.



## testo 2<sup>nd</sup> Generation Refrigeration Smart Probe Set

The new model features updated 549i refrigerant pressure probes with 45° angled connector to allow for easier access to test ports. Both the 549i and the 115i supplied in the new version of the testo refrigeration smart probe set, feature the new Bluetooth module to allow 100m operating range.

Plus a new on/off switch to secure against accidental switch-on. (All other features remain the same as the original model).

CODE	DESCRIPTION
QT041	Testo Smart Probe Refrigeration Set 2 Gen (0563 0002 10)



## testo manifold accessories

**testo Magnetic Manifold Strap** • Fits new 55x range of manifolds only - 550i, 550s & 557s • Strong magnet and sturdy strap • One-off assembly for flexible use of the magnet or hook • Simple click system enables quick switch in everyday situations.

**testo Temperature Clamp Kit** • 2 x NTC temperature clamps fits all models of testo manifolds.

CODE	DESCRIPTION
QT068	testo Magnetic Manifold Strap (0564 1001)
QT069	testo Temperature Clamp Kit (NTC x 2) (0613 5507)



## FSW 2 Way Smart Manifold Block

Due to the popularity of testo smart probes FSW has created the SmartBlock.

Designed specifically for the Testo 549i Smart Probes, the SmartBlock gives you the versatility to charge, pressure test and evacuate the system whilst maintaining the benefits that smart probes offer.

CODE	DESCRIPTION
QV1150	FSW 2 Way Smart Manifold Block complete with Hanging Hook



## Smartprobe Access Valve Kit

The 2pc Smartprobe Access Valve Kit adds extra versatility to your smart probes by making it possible to charge and evacuate a system whilst the testo smart probes are connected. Kit includes 1/4" Access Tee with Knurled Nut and a 5/16" FFL x 1/4" MFL Adaptor to access R410A/R32 systems.

CODE	DESCRIPTION
QT100	Smartprobe Access Valve Kit fits 1/4" and 5/16"



Image above shows the 2 parts joined together to access R410A/R32 Systems

## CO<sub>2</sub> Equipment

### Refco 2 Way CO<sub>2</sub> Subcritical Manifold

M2-DELUXE 2 Way Manifold with 63mm Ø oil filled bellow type gauges made from anodized aluminium. Zero point adjustable. Two-piece, O-ring seal piston style valve. Comes with 3 charging lines 1/4" SAE blue, red and yellow, length 36 inches (90 cm), in a sturdy plastic case.

Manifold for the application with CO<sub>2</sub> in subcritical cascade systems up to maximum allowed operating pressure of 60 bar/870 psi.



CODE	DESCRIPTION
Q3430	Refco M2-3-DELUXE-DS-CO2 - 2 Way Manifold

### Refco 2 Way CO<sub>2</sub> Transcritical Manifold

2-way-manifold with 80mm Ø oil filled bellow type gauges, 3 charging hoses 1/4" SAE, 72 inches (180 cm), 80/160 bar, (1160/2320 psi), packed in a sturdy plastic case.

This manifold is suitable for transcritical applications. Metal sealed needle valves are being used to handle the high pressures. This allows for a very precise adjustability.



CODE	DESCRIPTION
Q3431	Refco M2-3-DELUXE-DS-R744-TC - 2 Way Manifold

### CO<sub>2</sub> Charging Hose Kit

CO<sub>2</sub> Charging Hose Kit inc BSP to SAE flare connector - 1/4" & 3/8"

CODE	DESCRIPTION
Q347	CO <sub>2</sub> Charging Hose Kit inc BSP to SAE flare connector - 1/4" & 3/8"



### D-TEK Stratus & D-Tek 3 CO<sub>2</sub> Leak Detectors

The new D-TEK Stratus is the next big step in the world of refrigerant leak detection. Detects all CFCs, HCFCs, HFCs, and HFOs. Also Detects CO<sub>2</sub> with purchase of additional CO<sub>2</sub> sensor. Designed for ergonomic comfort with rugged carrying case and comes with a two-year replacement warranty. See page 318 for full details.

**Please remember to order the additional CO<sub>2</sub> sensor**

The all new, D-Tek 3 with redesigned infrared sensor. Longest sensor life in the industry. Easy field replacement. New lithium ion battery. Long life (~10 hours) low, medium, high, and super sensitivity settings.

Automatic and manual zero modes. Rugged carrying case included. Detects all CFCs, HCFCs, HFCs, HFOs and blends (including A2Ls) Detects CO<sub>2</sub> with optional CO<sub>2</sub> sensor.

"Please remember to order the additional CO<sub>2</sub> sensor"



CODE	DESCRIPTION
Q3442	D-Tek-Stratus Leak Detector Kit (724-202-G11)
Q3444	D-TEK 3 Refrigerant Leak Detector (721-202-G21)
Q3443	CO <sub>2</sub> Sensor for D-Tek-Stratus and D-Tek 3 (704-701-G2)

## OFN Equipment

### 50 bar OFN Regulator

Quality 50 bar OFN regulator from Gas Arc. All brass construction. Inlet and outlet pressure gauges to EN 562 for accurate gas pressure control. Encapsulated valve 1/4" SAE flare outlet. Can be used with all refrigerant systems up to 50 bar test pressure, in accordance with BS EN 378. 0-70 bar working pressure gauge scale to allow for accurate delivery pressure setting.



CODE	DESCRIPTION
Q840	GA-750 50 bar OFN Regulator
Q297	Replacement 'Pressure' Gauge for 50 bar OFN Regulator
Q296	Replacement 'Contents' Gauge for 50 bar OFN Regulator

### Nitro-Vue™ OFN Purge Braze Tool

Set your OFN Reg to 60PSI, connect your NV-1 and control the flow of OFN into the system via the NV-1 valve. The easy to see orange float ball visually confirms the nitrogen is flowing and allows the technician to first "PURGE" the copper lines at 20+ SCFH and then reduce the flow to "BRAZE" at 3-5 SCFH during the brazing process thus conserves its consumption and reduces operating cost.



CODE	DESCRIPTION
Q845	Nitro-Vue NV-1 Nitrogen Purge Braze tool

### DP-1 OFN Purge Braze Tool

The Nitrogen Purge Tool is a quick and easy way to purge copper pipes with nitrogen. Then, with a turn of the dial, quickly switch to a very low flow of nitrogen to correctly braze the copper. It has a durable aluminium design so you can just throw it into your tool bag when you are done.



CODE	DESCRIPTION
Q544	DP-1 Nitrogen Purge Braze Tool

### JAVAC PVR Nitrogen Testing Kit

2-in-1 Nitrogen pressure and vacuum testing manifold. The PVR is designed for use with oxygen free nitrogen (OFN) only. The PVR speeds up the process of pressure and vacuum testing. Designed to handle high pressures involved in pressure testing R410A systems. The PVR has a built in vent valve for safe de-pressurisation of systems. A 3/8" vacuum hose adaptor is included for larger systems DO NOT use for refrigerant charging.



CODE	DESCRIPTION
Q309	JAVAC PVR Nitrogen Pressure & vacuum Testing Manifold.

### Nitrogen Purge - Braze - Clean & Blow Kit

The Nitrogen Purge Kit does it all, use for pressure testing or purging lines during brazing, you can even use it for blowing out condensate drains with the 1/2 & 3/4 inch rubber bung adaptors included, there is even a cleaning blowgun attachment for blowing out condensers. So if you are looking for more than just a nitrogen regulator then this is the kit for you.



CODE	DESCRIPTION
M411	Uniweld Nitrogen Purging Kit

## Yellow Jacket Single Charging Hose

1/4" PLUS II™ Hoses are rated for 4000 psi (276 bar) minimum burst and 800 psi (55 bar) Maximum Working Pressure. All hose and ball valve ends use black rubber gaskets.



### 1/4" x 1/4" SAE x 3ft Long, Single Hose

CODE	MODEL	COLOUR
Q1090	21236	Blue
Q1092	21636	Red
Q1088	21036	Yellow



### 1/4" x 1/4" SAE x 6ft Long, Single Hose

CODE	MODEL	COLOUR
Q1091	21272	Blue
Q1093	21672	Red
Q1089	21072	Yellow



### 1/4" x 5/16" SAE x 3ft Long, Single Hose

CODE	MODEL	COLOUR
Q1084	21423	Blue
Q1085	21463	Red



### 1/4" x 5/16" SAE x 6ft Long, Single Hose

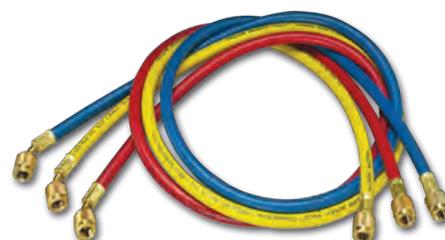
CODE	MODEL	COLOUR
Q1087	21426	Blue
Q1086	21466	Red

## Yellow Jacket Hose Sets (3 Pack)

YELLOW JACKET PLUS II™ hoses have double barrier protection for CFC, HCFC and HFC refrigerants.

### 1/4" x 1/4" or 1/4" x 5/16" SAE, Pack of 3 Hoses

CODE	MODEL	DESCRIPTION
Q1035	21983	3 PK Red-Yellow-Blue 1/4" x 1/4" Hose Set (3ft)
Q1040	21986	3 PK Red-Yellow-Blue 1/4" x 1/4" Hose Set (6ft)
Q1046	21486	3 PK Red-Yellow-Blue Hose Set (6ft) Red & Blue Hose 1/4" x 5/16" Yellow hose 1/4" x 1/4"



### 1/4" x 1/4" or 1/4" x 5/16" SAE, Pack of 3 Hoses with Ball Valves

CODE	MODEL	DESCRIPTION
Q1096	29985	3 PK Red-Yellow-Blue 1/4" x 1/4" Hose Set (5ft) (Complete with compact ball valves)
Q1025	29986	3 PK Red-Yellow-Blue 1/4" x 1/4" Hose Set (6ft) (Complete with compact ball valves)
Q1026	29485	3 PK Red-Yellow-Blue Hose Set (5ft) Red & Blue Hose 1/4" x 5/16" Yellow hose 1/4" x 1/4" (Complete with compact ball valves)



## Yellow Jacket 3/8 Vacuum Hose Single

PLUS II™ features a larger volume 3/8" hose for fast, high vacuum or charging. 600 psi (41 bar) maximum working pressure.

### 3/8" x 3/8" SAE x 6ft Long, Single Vacuum Hose

CODE	MODEL	COLOUR
Q1032	18172	Yellow



## NAVTEK Charging Hose Set (3 PK)



NAVTEK Charging Hose Set (Pack of 3).  
1500mm (5ft) long red - yellow - blue.  
1/4" x 1/4" SAE fittings with 45° angle to one end.  
High Quality Lines - 800 psi MWP, 4000 psi burst pressure.



1/4" x 1/4" SAE x 5ft Long 3 Pack Hose set

CODE	MODEL	DESCRIPTION
QN1015	NRHH53	Hose Set (3PK) R/Y/B 1.5m Long (5ft) 1/4" x 1/4"

## NAVTEK Ball Valve Charging Hose Set (3 PK)



NAVTEK Charging Hose Set (Pack of 3).  
1500mm (5ft) long red - yellow - blue.  
1/4" x 1/4" SAE fittings with 45° angled ball valves to one end.  
High Quality Lines - 800 psi MWP, 4000 psi burst pressure.



1/4" x 1/4" SAE x 5ft Long 3 Pack Hose set with Ball Valves

CODE	MODEL	COLOUR
QN1016	NRHH53C	Hose Set (3PK) R/Y/B 1.5m Long (5ft) C/W Ball Valves

## Mastercool Charging Hose Sets (3 PK)



Set of 3 x 3ft x 1/4" SAE Hoses

CODE	MODEL	COLOUR
Q374	Set 36-4	Red-Yellow-Blue

Set of 3 x 6ft x 1/4" SAE Hoses

CODE	MODEL	COLOUR
Q375	Set 72-4	Red-Yellow-Blue



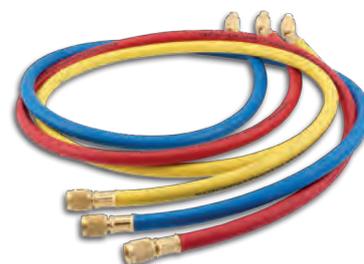
## Value® Single Charging Hose



Individual charging hoses from Value.  
1200mm (4ft) long 1/4" x 1/4" flare ends.  
Choose from Red, Yellow or Blue. 800 psi MWP.

1/4" x 1/4" SAE x 4ft Long, Single Hose

CODE	MODEL	COLOUR
Q223	VRP-48-B	Blue
Q222	VRP-48-R	Red
Q224	VRP-48-Y	Yellow



## NAVTEK Big Boy Hi-FLOW 1/2" Diameter Evacuation Hoses



*When it comes to evacuation, charging & recovery, speed is everything.*

In fact the NEW NAVTEK BIG BOY Vacuum Hoses are a game changer, they improve vacuum efficiency when compared to using a 1/4" hose with core depressor by a whopping 68%\*.

**Fast and Efficient Evacuation** 1/2" bore hose diameter for fast evacuation:

- 4 - layer construction for low permeation
- 3200 psi burst pressure, 640 psi working pressure
- Vacuum rated to 20 microns



UP TO  
**68%**  
FASTER  
VAC TIMES

CODE	MODEL	DESCRIPTION
QN1011	NHB1	Big Boy 1/2" Bore Vacuum Hose 1/4" x 3/8" x 1.8m L
QN1012	NHB2	Big Boy 1/2" Bore Vacuum Hose 1/4" x 1/2" x 1.8m L
QN1013	NHB3	Big Boy 1/2" Bore Vacuum Hose 1/2" x 1/2" x 152mm L
M009	GBC38	3/8" Brass Cylinder Adaptor (Increases flow when charging or recovering refrigerant)

### TECH TIPS

- Larger bore hoses significantly improve evacuation times
- Avoid using 1/4" hoses they only extract 0.7cfm regardless of the size of vacuum pump used!
- Always remove the valve cores you'll be amazed how much quicker, recovery, evacuation and charging will be
- Avoid using manifolds for evacuation as they restrict flow, attach vacuum hose from unit direct to pump whenever possible.
- For more tech tips & information on evacuation visit [www.fsw.uk.com/downloads](http://www.fsw.uk.com/downloads)

## Refco Single Charging Hose

Standard 870 psi working pressure, 3600 psi burst pressure making the REFCO charging hoses good for all refrigerants including R410A.

### 1/4" x 1/4" SAE x 3ft Long, Single Hose

CODE	MODEL	COLOUR
Q751	9881253	Blue
Q752	9881262	Red
Q753	9881271	Yellow



### 1/4" x 1/4" SAE x 6ft Long, Single Hose

CODE	MODEL	COLOUR
Q754	9881250	Blue
Q755	9881259	Red
Q756	9881268	Yellow



### 1/4" x 5/16" SAE x 3ft Long, Single Hose

CODE	MODEL	COLOUR
Q757	9884076	Blue
Q758	9884077	Red



### 1/4" x 5/16" SAE x 5ft Long, Single Hose

CODE	MODEL	COLOUR
Q759	9884621	Blue
Q760	9884622	Red



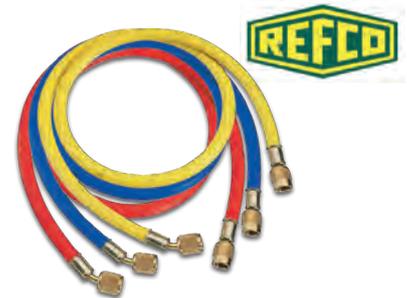
### 3/8" x 3/8" SAE x 6ft Long Yellow Vacuum Hose

CODE	MODEL	COLOUR
Q305	9881312	Yellow 3/8" Vacuum Hose

## Refco Charging Hose Set

### 1/4" x 1/4" SAE x 3ft Long Hose Set (Pack 3)

CODE	MODEL	COLOUR
Q761	9881278	Red-Yellow-Blue



### 1/4" x 1/4" SAE x 6ft Long Hose Set (Pack 3)

CODE	MODEL	COLOUR
Q762	9881275	Red-Yellow-Blue

## Refco Charging Hose Set with Ball Valves

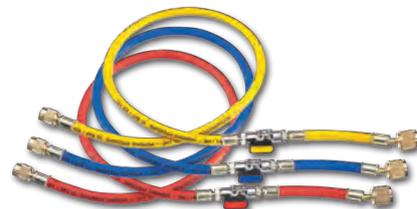
### 1/4" x 1/4" SAE x 6ft Hose Set (Pack 3) with Ball Valves

CODE	MODEL	COLOUR
Q748	4493631	Red-Yellow-Blue



### 1/4" x 1/4" SAE x 6ft Hose Set (Pack 3) with Extended Ball Valves

CODE	MODEL	COLOUR
Q763	4675521	Red-Yellow-Blue



### 1/4" x 5/16" SAE x 5ft Hose Set (Pack 3) with Extended Ball Valves

CODE	MODEL	COLOUR
Q749	4666522	Red-Yellow-Blue

## Refco Extra Long Single Charging Hose

Handy Extra Long 10ft charging hoses supplied in singles. Red, yellow or blue. 1/4" SAE fittings both ends

### 1/4" SAE x 10ft Long, Single Refco Hose

CODE	MODEL	COLOUR
Q371	120-4-B	Blue
Q372	120-4-R	Red
Q373	120-4-Y	Yellow



**EXTRA  
LONG**

## Heavy Duty Lines C/W Ball Valve

Heavy duty replacement charging lines available in 3 lengths for the 1/4" hoses and one length for 3/8" vacuum hose.

1/4" x 3FT

CODE	MODEL	DESCRIPTION
Q382	HD-36-4-B-V	Black Hose with Blue End
Q383	HD-36-4-R-V	Black Hose with Red End
Q384	HD-36-4-Y-V	Black Hose with Yellow End

1/4" x 5ft

CODE	MODEL	DESCRIPTION
Q388	HD-60-4-B-V	Black Hose with Blue End
Q389	HD-60-4-R-V	Black Hose with Red End
Q390	HD-60-4-Y-V	Black Hose with Yellow End

1/4" x 6ft

CODE	MODEL	DESCRIPTION
Q391	HD-72-4-B-V	Black Hose with Blue End
Q392	HD-72-4-R-V	Black Hose with Red End
Q393	HD-72-4-Y-V	Black Hose with Yellow End

3/8" x 3ft Vacuum Hose

CODE	MODEL	DESCRIPTION
Q385	HD-36-6-B-V	Black Hose with Yellow End



## NAVTEK NVR1 Core Removal Tool

When it comes to evacuation, charging and recovery, speed is everything. For quicker recovery, vacuum and recharge times get into the habit of removing valve cores using the NAVTEK NVR1 core removal tool. Vacuum rated due to it's double o-ring design.

Fits 1/4" and 5/16" Flare Fittings.

Use with the NAVTEK Big Boy Hi-Flow Hoses for even quicker results.

CODE	MODEL	DESCRIPTION
QN1014	NVR1	NAVTEK 1/4" & 5/16" Core Removal Tool



2 Sizes in 1 Tool

## Yellow Jacket Core Removal Tool

This versatile tool for the low or hi-side of a system does four jobs: 1/4" side port to attach vacuum gauge right at the system for greater accuracy or to add refrigerants. Lets you evacuate and charge through an unrestricted line for increased speed and higher vacuum. Core replacement & core removal allows recovery unit to work at maximum efficiency, speeding the recovery process. Double o-ring Vacuum rated.

CODE	MODEL	DESCRIPTION
Q1044	18975	1/4" Core Removal Tool
Q1116	18985	5/16" Core Removal Tool



## JAVAC EDGE SAFE SEAL CHARGING HOSES

72" hose (183cm), Suitable for standard refrigerants.

Patented Safe Seal technology: 'One-Touch' design allows you to screw the fitting on to the system before starting refrigerant flow, avoiding refrigerant loss and risk of 'refrigerant burn'. Then simply turn the knob to start/stop flow.

The safety swivel sleeve allows free rotational movement of the hose without the fitting coming loose being put under unnecessary strain and preventing unwanted leaks.

JAV-1071 1/4" Safe Seal, Charging Hose Set. MWP: 600/3000 PSI (41 bar)  
Bursting pressure of 3000psi (207 bar)

JAV-1072 1/4" x 5/16" Safe Seal, Charging Hose Set. MWP: 600/3000PSI (41 bar)  
Bursting pressure of 3000psi (207 bar)

CODE	MODEL	DESCRIPTION
QJ001	JAV-1071	Safe Seal 3pc Hose Set 1/4" x 1/4" x 72" Long
QJ002	JAV-1072	Safe Seal 3pc Hose Set 1/4" x 5/16" x 72" Long
QJ003	JAV-1275	Replacement Hose Gaskets - Manifold End 1/4 (Bag 10)
QJ004	JAV-1276	Replacement Hose Gaskets - Service End 5/16 + 1/4 (Bag 10)



## Replacement Manifold Gauges



CODE	DESCRIPTION	IMAGE NUMBER
QV1055	Value 80mm Ø Low Side Gauge. Reads: R410A Pressure: -1 to 20 Bar / PSI / °C	1
QV1054	Value 80mm Ø High Side Gauge. Reads: R410A Pressure: 0 to 55 Bar / PSI / °C	2
QV1059	Value 80mm Ø Low Side Gauge. Reads: R134a/R404A/R407C/R22 Pressure: 30 inHg to 145 PSI / °C	3
QV1058	Value 80mm Ø High Side Gauge. Reads: R134a/R404A/R407C/R22 Pressure: 0 to 450 PSI / °C	4
QV1061	Value 80mm Ø Low Side Gauge. Reads: R32 Pressure: -1 to 20 Bar / PSI / °C	5
QV1060	Value 80mm Ø High Side Gauge. Reads: R32 Pressure: 0 to 55 Bar / PSI / °C	6

## Value® Manifold Spare Parts



### Manifolds Knobs for 2 & 4 Way Manifolds

CODE	DESCRIPTION
QV1050	Red High Side Manifold Knob fits all Value 2 & 4 Way Manifolds
QV1051	Blue Low Side Manifold Knob fits all Value 2 & 4 Way Manifolds
QV1053	Yellow Manifold Knob fits all Value 4 Way Manifolds



### Brass Valve Assembly (Complete) 2 & 4 Way Manifolds

CODE	DESCRIPTION
QV1066	Complete Brass Valve Stem Assembly suits ALL 2 Way Manifolds, but fits <u>side only</u> of All 4 Way Manifolds
QV1067	Complete Brass Valve Stem Assembly for front of 4 Way Manifolds only



### Replacement Hose Gaskets (supplied singly)

CODE	DESCRIPTION
QV1056	Black Rubber Hose Seal for either end of Value R/Y/B Hoses
QV1057	White Teflon Hose Seal for either end of Value R/Y/B Hoses



## Refco® Manifold Spare Parts



### Manifold knobs for 2 & 4 Way Manifolds

CODE	DESCRIPTION
Q3400	Pair of Red & Blue, Refco High & Low Side manifolds knobs



### Brass Valve Assembly (Complete) 2 & 4 Way Manifolds

CODE	DESCRIPTION
Q3405	1 x Complete Brass Valve Stem Assembly for 2 & 4 Way Refco Manifolds



### Replacement Hose Gaskets

CODE	DESCRIPTION
Q357	Pack of 10, White PTFE Refco Hose Gaskets



## ITE Hose Rubber & Depressor Set



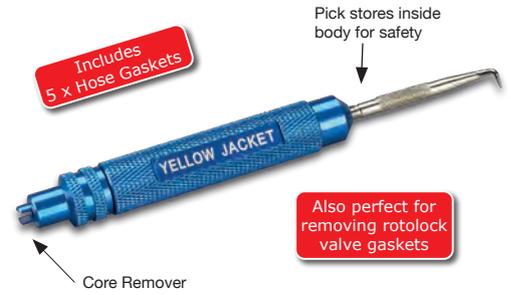
Set of 6 universal replacement standard hose rubbers that fit most makes of 1/4" hoses and 3 x replacement brass schrader core depressors.

CODE	DESCRIPTION
Q378	6 Gaskets/3 Lifters fits most standard hoses



## Yellow Jacket Gasket Removal Tool

Easily remove worn gaskets from hoses and replace with new gaskets. Sharp, angled pick is long enough to pull the gasket from deep inside the hose. Notch on the opposite end of the pick for placing the depressor inside the hose. Pick stores inside case along with five CH20 Hose gaskets (included) for protection and safety.



CODE	DESCRIPTION
Q1112	Yellow Jacket (19047) Gasket Removal Tool

## Refrigerant Control Valves

Easy to use refrigerant control valve allows you to connect and remove your hoses avoiding refrigerant loss and risk of refrigerant burn.

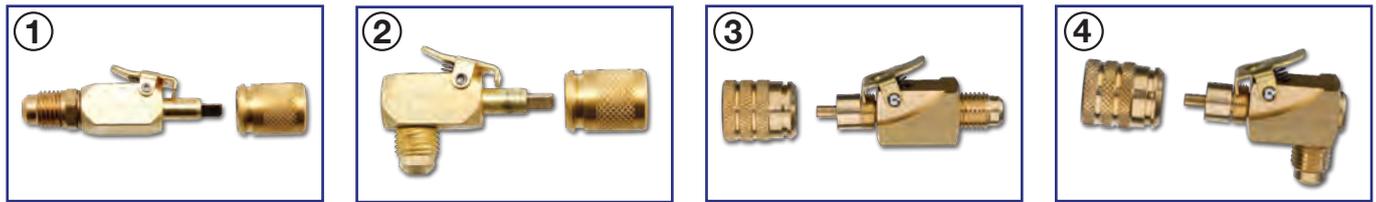
Turn control valve clockwise to depress and open the schrader core. Turn the valve anti-clockwise to close.



CODE	DESCRIPTION
Q130	Refrigerant Control Valve 1/4" Female x 1/4" Male
Q131	Refrigerant Control Valve 5/16" Female to 1/4" Male
Q132	Refrigerant Control Valve 5/16" Female x 5/16" Male

## Imperial® & Refco Quick Couplers Hose Shut Off Adapters

1/4" or 5/16" Options available in Straight or 90° Elbow Versions from Imperial and Refco



CODE	DESCRIPTION	IMAGE NUMBER
Q5200	Imperial 16-C Straight Kwik Coupler 1/4" Male x 1/4" Female	1
Q5202	Imperial 17-C Elbow Kwik Coupler 1/4" Male x 1/4" Female	2
Q518	Imperial 26-C Straight Kwik Coupler 5/16" Male x 5/16" Female	1
Q5206	Imperial 27-C Elbow Kwik Coupler 5/16" Male x 5/16" Female	2
Q386	Refco Straight Quick Coupler 1/4" Male x 5/16" Female	3
Q387	Refco Elbow Quick Coupler 1/4" Male x 5/16" Female	4

## Hose Adaptors



CODE	DESCRIPTION	IMAGE NUMBER
Q380	Robinair "Quick Seal" automatically shuts off the charging hose when you disconnect it from the system, so any refrigerant left in the hose is not released. This also prevents "finger burn" and adds an extra measure of safety. 1/4" MFL to 1/4" FFL.	1
Q381	R410A Flare Adaptor Converts 1/4" Hose to 5/16" FFL for use with R410A Systems	2
Q377	R410A Flare Adapter 1/4" FFL to 5/16" MFL	3

## Gauge Line Ball Valve Set

Set of 3 x 1/4" MFL to 1/4" FFL red, yellow and blue 1/4" Turn Ball Valves. Perfect for converting any standard 1/4" hose into a shut off hose.



CODE	DESCRIPTION
Q339	Set of 3 R/Y/B - 1/4" Turn Ball Valves (1/4 MFL x 1/4 FFL)



CODE	DESCRIPTION	IMAGE NUMBER
Q503	Value VRR12L, 3/4 HP Single Cylinder Recovery Machine. 230V. Recovers 15kg Vapour & 111kgs of Liquid per/hr. Recovers all commonly used CFC, HFC & HCFC refrigerants	1
Q517	Value VRR12L, 3/4 HP Single Cylinder Recovery Machine. 110V. Recovers 15kg Vapour & 111kgs of Liquid per/hr. Recovers all commonly used CFC, HFC & HCFC refrigerants	1
Q516	Value VRR24L, 1 HP Twin Cylinder Recovery Machine. 230V. Recovers 24kg Vapour & 222kgs of Liquid per/hr. Recovers all commonly used CFC, HFC & HCFC refrigerants	2
Q285	Value VRR24L, 1 HP Twin Cylinder Recovery Machine. 110V. Recovers 24kg Vapour & 222kgs of Liquid per/hr. Recovers all commonly used CFC, HFC & HCFC refrigerants	2
QV1111	Value VRR24M-R32, 1 HP Twin Cylinder Recovery Machine. 230V. Recovers 30kg Vapour & 231kgs of Liquid per/hr. Recovers all commonly used CFC, HFC & HCFC refrigerants, Plus it's <b>A2L Compatible for Mildly Flammable Refrigerants like R32 &amp; R1324yf</b>	3
QV1110	Value VRR24M-R32, 1 HP Twin Cylinder Recovery Machine. 110V. Recovers 30kg Vapour & 231kgs of Liquid per/hr. Recovers all commonly used CFC, HFC & HCFC refrigerants, Plus it's <b>A2L Compatible for Mildly Flammable Refrigerants like R32 &amp; R1324yf</b>	3

Promax® BOSCH Recovery Machines —



CODE	DESCRIPTION	IMAGE NUMBER
Q507	Promax RG3000, Recovery Machine. 240V. Recovers 8kg Vapour & 58kgs of Liquid per/hr. Recovers all commonly used CFC, HFC & HCFC refrigerants*	1
Q506	Promax RG3000, Recovery Machine. 110V. Recovers 8kg Vapour & 58kgs of Liquid per/hr. Recovers all commonly used CFC, HFC & HCFC refrigerants*	1
Q500	Promax MiniMax, Recovery Machine. 240V. Recovers 9kg Vapour & 90kgs of Liquid per/hr. Recovers all commonly used CFC, HFC & HCFC refrigerants*	2
Q501	Promax MiniMax, Recovery Machine. 110V. Recovers 9kg Vapour & 90kgs of Liquid per/hr. Recovers all commonly used CFC, HFC & HCFC refrigerants*	2
Q1498	Bosch RG-4.0A, Single Cylinder Recovery Machine. 240V. Recovers 10.7kg Vapour & 165 kgs of Liquid per/hr. Recovers all commonly used CFC, HFC & HCFC refrigerants, Plus it's <b>A2L and A3 compatible, so suitable for hydrocarbons</b>	3
Q1499	Bosch RG-4.0B, Single Cylinder Recovery Machine. 110V. Recovers 10.7kg Vapour & 165 kgs of Liquid per/hr. Recovers all commonly used CFC, HFC & HCFC refrigerants, Plus it's <b>A2L and A3 compatible, so suitable for hydrocarbons</b>	3

## NAVTEK NRDD Brushless Recovery Machine

The NRDD recovery unit features a Brushless DC Motor making it lightweight and much more efficient, a large backlit display, twin cylinder design with 2-row oversized condenser, oil free compressor and self-purging functionality. The NRDD recovery unit is suitable for all commonly used refrigerants including A2L's making it the ideal recovery unit. Recovers 21kg Vapour, 350kg of Liquid & 570kg per/hr in push/pull mode. Not suitable for hydrocarbons.

CODE	DESCRIPTION
QN1009	NAVTEK NRDD Recovery Machine 230V 50/60Hz
QN1010	NAVTEK NRDD Recovery Machine 110V 50Hz



## NAVTEK NRDC4M Brushless Recovery Machine

The NRDD is quick but the NRDC4M is even quicker, in fact up to 40% quicker due to its two twin cylinder compressors. So if you are looking for a recovery machine to get the job done then the NAVTEK NRDC4M is the machine for you.

Recovers 33kg vapour, 420kg of liquid & 480kg per/hr in push/pull mode. Not suitable for hydrocarbons.

CODE	DESCRIPTION
QN1024	NAVTEK NRDC4M Recovery Machine 230V 50/60Hz
QN1025	NAVTEK NRDC4M Recovery Machine 110V 50/60Hz



## JAVAC XTR-PRO A2L Dual Voltage Recovery Machine

The Javac XTR PRO-DV A2L features DUAL VOLTAGE TECHNOLOGY and enables a quick and easy switch between 110v to 240v on site using separate mains leads. 240 Volt mains lead included, (110V lead optional extra) and you can't blow it up if you select the wrong voltage. Recovers - 15 kg/hr Vapour, 90 kg/hr Liquid. New X - Connect Technology Trip protects the machine should you select the incorrect voltage. Not suitable for hydrocarbons.

CODE	DESCRIPTION
Q1506	Javac XTR-PRO A2L Dual Voltage Recovery Machine (110/240V)



## NAVTEK NRS3i01 Wireless Charging Scales

The NAVTEK NRS3i01 Bluetooth Electronic Refrigerant Scale is designed and reinforced with advanced technology, providing more precise and portable refrigerant charging technology.

- Bluetooth Scale with Remote Keypad - 10m Bluetooth Range
- Buzzer sounds within 50 grams of setting to alert operator
- Keypad stored in pocket at back of scale base
- Large rubber gripped platform designed to hold both small or large cylinders safely in position during charging or recovery procedures
- 120kg Max Capacity.

CODE	DESCRIPTION
QN1050	NAVTEK NRS3i01 Wireless Refrigerant Scales 120kg Max Cap
QN1055	NAVTEK NRS3i01 Replacement Keypad (Only)



## ITE WS-150 Electronic Charging Scales

Battery and 240V mains operated electronic refrigerant charging scales.

CODE	DESCRIPTION
Q286	ITE WS-150 Electronic Charging Scales, 150kg Max Capacity.

## R600/R290 Charging Scales with Stand

Accurate to 1g with a 5000g capacity. Comes with R600 Cylinder base and a valve.

CODE	DESCRIPTION
Q294	R600/R290 Charging Scale with cylinder stand/valve assembly



## NAVTEK Vacuum Pumps



### NP2DLM Cordless Vacuum Pumps

Featuring Cordless DC Technology, this lightweight, highly efficient vacuum pump is perfect for service engineers. With a high-performance 18V 5Ah Li-ion battery that provides higher capacity and longer running time. Weighs only 3.8kg with battery. Comes complete with mains charger, 1 x 18V/5Ah battery, carry case and vacuum pump oil.

**BREAKFREE**  
CORDLESS SERIES



CODE	DESCRIPTION
QN1003	NAVTEK Model NP2DLM 2cfm Cordless Vacuum Pump
QN1017	Spare or Replacement 5Ah 18V Lithium-Ion Battery
QN1018	Replacement Mains Battery Charger for NP2 & 4DLM Pumps

### NP4DLM Cordless Vacuum Pump

Featuring Cordless DC Technology, this lightweight, highly efficient vacuum pump. With a high-performance 18V 9Ah Li-ion battery that provides higher capacity and longer running time. Weighs only 6.98kg with battery. Comes complete with mains charger, 1 x 18V/9Ah battery, carry case and vacuum pump oil. Suitable for light commercial work.

**BREAKFREE**  
CORDLESS SERIES



CODE	DESCRIPTION
QN1023	NAVTEK Model NP4DLM 4cfm Cordless Vacuum Pump
QN1026	Spare or Replacement 9Ah 18V Lithium-Ion Battery
QN1018	Replacement Mains Battery Charger for NP2 & 4DLM Pumps

### NP4DP & NP7DP Dual Voltage Vac-Pump

Available in 4 or 7 cfm models these NAVTEK dual voltage vacuum pumps feature dual stage for high ultimate vacuum down to 15 microns. Integrated cylinder structure coupled with forced oil circulation assure its high performance and reliability. Built-in hook makes it easier to carry to a high workplace.



CODE	DESCRIPTION
QN1007	NAVTEK NP4DP 4 cfm Dual Voltage Vacuum Pump
QN1008	NAVTEK NP7DP 7 cfm Dual Voltage Vacuum Pump

### NRP6DV & NRP8DV Brushless Vacuum Pumps

The light-weight, inverter-driven, brushless dual stage vacuum pump delivers high-speed evacuation along with high ultimate vacuum of 15 microns. Built-in solenoid valve prevents oil back flow and seals the system to preserve the vacuum during power outage or accidental disconnect. Embedded vacuum gauge. Available in either 110 or 240V options.



CODE	DESCRIPTION
QN1019	NRP6DV 6 cfm Brushless Inverter Vacuum Pump 220V/50Hz
QN1020	NRP6DV 6 cfm Brushless Inverter Vacuum Pump 110V/50Hz
QN1021	NRP8DV 8 cfm Brushless Inverter Vacuum Pump 220V/50Hz
QN1022	NRP8DV 8 cfm Brushless Inverter Vacuum Pump 110V/50Hz

### NP12DM Brushless Vacuum Pump

THE BRAND NEW – NAVTEK NP12DM VACUUM PUMP DELIVERS SPEED, ROBUSTNESS & POWER

With industrial grade technology, this high capacity 12cfm vacuum pump is designed for evacuation of large AC & R Systems. The dual stage rotary vane pump and inverter motor lead to faster evacuation and deeper vacuum. Integrated pump structure and built-in oil back-flow prevention assure superior performance and reliability. The NP12DM is an efficient and lightweight pump with superb performance levels.



CODE	DESCRIPTION
QN1001	NP12DM 12 cfm Brushless Inverter Vacuum Pump 220V/50Hz
QN1002	NP12DM 12 cfm Brushless Inverter Vacuum Pump 110V/50Hz

## Value® Vacuum Pumps

### VE245ND 5 cfm Vacuum Pump

5 cfm (142 Litres/Min) Dual Voltage Vacuum Pump  
Dual Stage with 1/4" & 3/8" M/FL Inlet ports.  
Supplied with both 110V & 230V kettle lead style mains leads with fitted plugs.

5 CFM  
Dual Voltage



CODE	DESCRIPTION
Q239	Value VE-245ND 5 cfm Dual Voltage Vacuum Pump

### VE260ND 6 cfm Vacuum Pump

6 cfm (198 Litres/Min) Dual Voltage Vacuum Pump  
Dual Stage Vacuum Pump with 1/4" & 3/8" M/FL Inlet ports.  
Supplied with both 110V & 230V kettle lead style mains leads with fitted plugs.

6 CFM  
Dual Voltage



CODE	DESCRIPTION
Q240	Value VE-260ND 6 cfm Dual Voltage Vacuum Pump

### V-i260Y-R32 A2L Ready 5 cfm Vacuum Pump

5 cfm 230V Only, (170 Litres/Min) Dual Stage Vacuum Pump.  
1/4" M/FL Inlet port only. Non-return valve stops vacuum pump oil being sucked into system if you lose mains power. Fitted with easy to read horizontal vacuum gauge.  
Supplied with 230V kettle lead style mains plug.

5 CFM  
230V Only



CODE	DESCRIPTION
QV1101	Value V-i260Y-R32 5 cfm Vacuum Pump (240V Only)

### VE2100ND 10 cfm Vacuum Pump

10 cfm Dual Voltage, (340 Litres/Min)  
Dual Stage Vacuum Pump. 1/4" & 3/8" M/FL Inlet ports.  
Supplied with both 110V & 230V kettle lead style mains leads with fitted plugs.

10 CFM  
Dual Voltage



CODE	DESCRIPTION
Q246	Value VE-2100ND 10 cfm Dual Voltage Vacuum Pump

### Robinair® CoolTech Vacuum Pumps

Two Stage Design - second stage starts pumping at a lower pressure to pull a deeper ultimate vacuum. Offset Rotary Vanes - proven design creates the deep vacuum conditions needed for a thorough evacuation  
Gas Ballast feature - helps keep the pump oil clean by reducing condensation of moisture  
Iso-Valve™ - isolates pump from the system with just a 1/4 turn, making it simple to measure rate of rise.  
Integral Check Valve - prevents pump oil from being sucked into the system if a power loss occurs.

6 CFM  
Dual Voltage



CODE	MODEL	CFM	SUPPLY
Q248	15601	6.0	110/230V

Factory wired for 240V, can be rewired inside electrical box to 110V.  
See "L Section" for 110V Plug (Q161)

**When it comes to evacuation, charging & recovery, speed is everything!**

In fact the **NEW NAVTEK BIG BOY** vacuum hoses are a game changer, they improve vacuum efficiency when compared to using a 1/4" hose with core depressor by a whopping 68%. Check out page 277 to find out how they also help improve charging AND recovery times!



UP TO  
**68%**  
FASTER  
VAC TIMES

## Vacuum Gauges

### testo 552i Wireless Vacuum Probe

Fast and easy vacuum measurement including graphical display of value: in the app or on the display of your digital testo 550s or testo 557s manifold. Robust housing with IP54 for maximum reliability in daily use. Integrated 45° angle: Easy installation on any service port connects automatically to the testo smart app and manifolds via Bluetooth - 130m range. One app for everything: Display, calculation, customer data and documentation.



CODE	DESCRIPTION
QT067	testo 552i Wireless Vacuum Probe

### testo 552 Digital Bluetooth Vacuum Gauge

Testo 552 Bluetooth Digital Vacuum Gauge for evacuation of refrigeration systems and heat pumps. Now with Bluetooth connection for wireless monitoring of measurement results via the Testo Smart probes app. Reads vacuum in 8 units: mmHg, Torr, mbar, hPa, micron, inH2O & Pa. Sensor max overload 6 bar/87 psi. Back lit display.



CODE	DESCRIPTION
QT002	testo 552 Bluetooth Digital Vacuum Gauge

### JAVAC Absolute Analogue Torr Gauge

The ever popular Javac CR2-40 Absolute Torr Gauge. Easy to read 100mm Diameter Analogue Gauge. 1/4" M/FL Connection. Range: 0 - 40 Torr & 0 - 50 mbar. Stainless steel construction.



CODE	DESCRIPTION
Q276	Javac CR2-40 Absolute Analogue Torr Gauge

### NAVTEK Vacuum Gauge Coupler

Looking for a better way to connect your vacuum gauge to your core tool or access port? The vacuum gauge coupler is a great solution. Constructed of brass, this easy to use connector has a schrader core depressor at one end and an open port opposite.

The angled fitting makes vacuum gauge connection quick and easy and the perfect way to check if your vacuum pump will pull below 100 microns or less, before evacuating a system.



CODE	DESCRIPTION
Q192	Vacuum Gauge Coupler (angled) 1/4" x 1/4"

### CPS® Vacuum Pump Anti-Siphon Valve Kit

The CPS anti-siphon valve is an essential accessory to any vacuum pump. The anti-siphon valve prevents the mineral oil from the vac pump being sucked into the system due to mains failure. Mixing of vacuum pump oil and compressor oil can cause premature failure in the A/C or refrigeration system. Fits all makes of vacuum pumps.

The kit includes the anti-siphon valve body with a 3/8" female knurl nut to connect onto your vacuum pump and 3 x flare to UNF adaptors for the outlet side of the valve giving you the option of a 1/4", 3/8" or 1/2" MFL connection.



CODE	DESCRIPTION
Q206	CPS Anti-Siphon Valve Kit

### Exhaust Filter Cap

CODE	DESCRIPTION
QV1098	Exhaust Filter Cap for Value Vacuum Pumps Models VE245ND
QV1099	Exhaust Filter Cap for Value Vacuum Pumps Models VE260ND/ Vi260SV



### Oil Fill Cap

CODE	DESCRIPTION
QV1097	Oil Fill Cap for Value Vacuum Pumps (Suits All Models)



### Brass Inlet Ports

CODE	DESCRIPTION
QV1159	Brass Inlet Port for VE245ND
QV1160	Brass Inlet Port for VE260ND & VE2100ND



### Oil Housing

CODE	DESCRIPTION
QV1157	Oil Housing with gasket to suit VE245ND



### Oil Housing

CODE	DESCRIPTION
QV1158	Oil Housing with gasket to suit Models VE260ND / 2100ND / V-1260-R32



### Torr Gauge and Solenoid Valve

CODE	DESCRIPTION
QV1095	Torr Gauge for Value Vi-1260-SV Vacuum Pump
QV1096	Torr Gauge and Solenoid Valve assembly for Value Vi-1260-SV Vacuum Pump



## Value® Recovery Machine Spare Parts

### HP Switch

CODE	DESCRIPTION
QV1047	Manual Reset HP Switch suits VRR12L Machines



### Valve Assembly (6pc)

CODE	DESCRIPTION
QV1046	Valve Assembly Kit 6pc - suits all VRR12/24L & VRR24M models.



### Valve Plate (Piston) and Cylinder Head

CODE	SIZE
QV1048	Valve Plate (Piston) - suits all VRR12/24L & VRR24M models.
QV1049	Cylinder Head suits all VRR12/24L & VRR24M models.



### Control Knob

CODE	DESCRIPTION
QV1056	Control Knob suits VRR12L VRR24L & VRR24M models.



## Vacuum Pump Oil

Chillair Universal Vacuum pump oil from **FSW** is suitable for all makes of AC&R vacuum pumps.

CODE	SIZE
Q202	1 Litre
Q203	5 Litre



## Test Meters

### Value® VMC-1 Digital Clamp Meter

Value® VMC-1 Digital Clamp Meter with built in non contact voltage testing. Measures AC/DC voltage, AC current, resistance, diode and reads °C/°F with included K probe and carry case. Auto shut-off, low battery alarm and 250 volt overload protection. Max measurements: Volts 600, AC current 400 amps, Temp -40°C to +1000°C.



Quick and easy voltage testing with built-in non-contact voltage test function.

CODE	DESCRIPTION
Q221	Value VMC-1 Digital Clamp Meter with Temperature

### Tenmars® TM-16E Clamp Meter

Tenmars TM-16E, 600V Digital Clamp Meter. Data Hold. AC volts, DC volts, AC current, resistance, continuity, diode ranges. Auto-ranging. Maximum conductor size 30mm. Low battery indication. Continuity buzzer. Auto power off.



CODE	DESCRIPTION
Q256	Tenmars TM-16E Digital Clamp Meter

### testo 770-1 Digital TRMS Clamp Meter

The testo 770-1 clamp meter is the standard version in the 770 range. Perfect for the majority of daily measuring tasks, including starting current, auto AC/DC for current and voltage, large two-line display. TRMS - true root mean square measurement. Capacitance range 0.001 µF to 100 µF.



CODE	DESCRIPTION
QT005	Testo 770-1 Digital TRMS Clamp Meter

### testo 770-3 Digital TRMS Clamp Meter

In addition to the above features of the 770-1, the testo 770-3 model offers a performance measurement function and can be connected to the testo Smart probes app by Bluetooth. Another huge strength of the 770-3 version is it has the facility to measure Power/Wattage, and auto-calculates this. Capacitance range: 0.001 µF to 60,000 µF.



CODE	DESCRIPTION
QT025	Testo 770-3 Digital Clamp Meter with Bluetooth & µF

### Value® VDM-151 Digital Multimeter

Value® VDM-151 Digital Multi Meter. Measures 30 different ranges, has overload protection. Great for testing capacitors up to 200 µF. Measures temperature -40°C to +1000°C test leads, K probe & 9V battery included.



CODE	DESCRIPTION
Q220	Value VDM-151 Digital Multimeter with Temp and µF

### testo 760 Multimeters

The testo 760-1 model is the standard version, ideal for the majority of daily electrical measuring tasks. The testo 760-3 is the model with the highest specification and, in addition to the features of the 760-1, it has a voltage range of up to 1,000 V, along with higher measuring ranges for frequency and capacitance.



CODE	DESCRIPTION
QT006	Testo 760-1 Digital Multimeter (0 to 100µF)
QT026	Testo 760-3 TRMS Digital Multimeter

## Test Meters

### testo 410-1 Compact Vane Anemometer

The testo 410-1 vane anemometer measures air velocity and air temperature. Carry out quick spot measurements at ventilation grilles. The anemometer is also ideal for use outdoors. It displays the units m/s, km/h, fpm, mph and kts, and also calculates wind chill and the Beaufort wind force.

CODE	DESCRIPTION
QT050	Testo 410-1 Compact Vane Anemometer (0560 4101)



### testo 410i Smart Probe Vane Anemometer

Compact testo 410i vane anemometer with smartphone operation measures the volume flow, air velocity and temperature at air outlets quickly and reliably. The FREE testo Smart probes app download enables readings to be viewed conveniently and offers intelligent additional functions.

CODE	DESCRIPTION
QT019	Testo 410i Smartprobe Vane Anemometer (0560 1410)



### testo 750 Voltage Testers

Testo 750-1 voltage tester including batteries, measuring tip protector and measuring tip caps.

Testo 750-3 as above but with additional features inc: RC Trigger function. LCD screen to show current reading plus torch and non contact voltage testing function.

CODE	DESCRIPTION
QT030	Testo 750-1 Voltage Tester
QT031	Testo 750-3 Voltage Tester with LCD Screen



### Non Contact Voltage Testers

We offer 2 options for non contact voltage testers. The Original Sagab Volt-Stick yellow and the Testo 745. The Sagab Volt Stick is designed to quickly detect 220-230V. The Testo 745 voltage range is wider at 12 to 1000 V AC. Visual and acoustic signal plus built in light.

CODE	DESCRIPTION
Q745	Sagab Volt Stick 230V N/Contact Voltage Tester 220/230V AC
QT032	Testo 745 Non-Contact Voltage Tester 12 to 1000 V AC



### Supco Capacitor Tester

Supco MFD-10 Capacitor Tester is a perfect addition to any engineers tool-kit. Accuracy  $\pm 5\%$  Range 0.01 to 9,999  $\mu\text{F}$ . Soft carrying case included. Test clip storage within case. Leads clip to capacitor terminals. LED display. One button operation. Operates on 3 'AAA' batteries (not included).

CODE	DESCRIPTION
Q251	Supco MFD-10 Capacitor Tester



### EDC Inverter Phase Checker

It shows whether the inverter and also the serial communication are functioning correctly. Suitable for all sizes of air conditioner shows any fault on the inverter, identifies connection errors in the data circuit, rapid visual display. Optional crocodile clamp test leads available.

CODE	DESCRIPTION
Q198	EDC Inverter Phase Checker
Q194	Inverter Crocodile Clamp Test Leads



## Thermometers

### PROEX Digital Thermometer

Proex RT-905A hand held & pocket digital thermometer. Read out in Celsius or Fahrenheit. Range: -50/+150°C and -58/+302°F Cable 1000mm long. Stainless steel probe 100mm long.



CODE	DESCRIPTION
<b>Q875</b>	Proex RT-905A Digital Hand Held & Pocket Thermometer

### ETI HVAC Thermometer Kit-2

HVAC Kit-2 features the ETI Therma 231-022 differential thermometer with 1 x K-Type penetration probe and K-Type 1 x air probe. All supplied in a neat foam filled ABS carry case.



CODE	DESCRIPTION
<b>Q417</b>	HVAC Thermometer Kit-2 with Probes & Case

### ETI TN-2 Infrared Pocket Thermometer

Pocket infrared thermometer with max/min, display hold and lock functions LED spot alignment. Wide temperature range. Lock function for continuous measurement. Max/min memory function. Range: -49.9 to 349.9°C.



CODE	DESCRIPTION
<b>N357</b>	ETI 814-060 Infrared Pocket Thermometer

### Comark KM340 Thermometer Kit

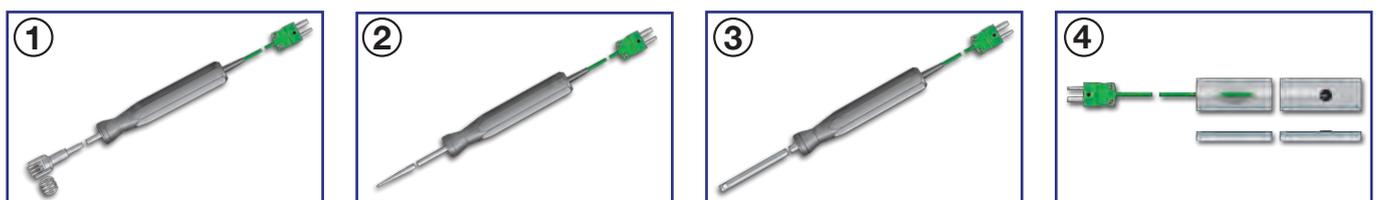
The KM340 Industrial Thermometer with twin inputs, comes complete with 1 x K-type surface probe and 1 x K-Type wire probe and a soft style zipped carry case. Displays temperature in °C or °F maximum temperature memory, protective slip-on boot with desk stand. (Calibration Certificate NOT included).



CODE	DESCRIPTION
<b>N330</b>	Comark KM340 Thermometer Kit with 2 Probes and Carry Case

### Replacement K-Type ETI Thermometer Probes

We stock a range of the most popular replacement K-Type thermocouple probes used by the RAC Industry. Many other types are available to order if required. Please contact your local FSW for details.



CODE	DESCRIPTION	IMAGE NUMBER
<b>N325</b>	ETI 123-000 K-Type Surface Probe	1
<b>N326</b>	ETI 123-160 K-Type Penetration Probe	2
<b>V910</b>	ETI 123-300 K-Type Air Probe	3
<b>N329</b>	ETI 133-080 K-Type Velcro Pipe Probe	4

## testo 915i Smartprobe Thermometers

The new 915i K Type Probe thermometers add even more versatility to the smartprobe range. The 915i is available in kit form containing 1 x 915i Smartprobe, 1 x Air, 1 x Penetration & 1 x Surface Probe in a zip case.

Individual 915i smart probes with the K Type probe included. Choose from an air, penetration, surface or flexible wire probe.

CODE	DESCRIPTION
<b>QT074</b>	testo 915i Temperature kit with 3 x Type K temperature probes 1 x Air, 1 x Penetration, 1 x Surface. (0563 5915)
<b>QT070</b>	testo 915i with Type K Penetration Probe (1563 1915)
<b>QT071</b>	testo 915i with Type K Surface Probe (0563 2915)
<b>QT072</b>	testo 915i with Type K Air Temperature Probe (0563 3915)
<b>QT073</b>	testo 915i with K Type Flexible Temperature Probe (0563 4915)



## testo 830-T2 Infrared Thermometer

Twin laser points for fast and accurate non-contact measurement of surface temperature. High resolution processor for utmost accuracy (resolution 0.1 °C) 12:1 optics for precise measurements even at medium distances. External K Type probe connection. External probe or carry case is not included.

## testo 830-T2 SET Infrared Thermometer

As above, but set includes leather case and surface probe.

CODE	DESCRIPTION
<b>QT037</b>	testo 830-T2 Infrared Thermometer (0560 8312)
<b>QT058</b>	testo 830-T2 SET Infrared Thermometer (0563 8312)



## testo 830-T4 Infrared Thermometer

Fast and accurate non-contact measurement of surface temperature. High resolution processor for utmost accuracy (resolution 0.1 °C) 30:1 optics enable great accuracy at great distances on small objects being measured (1 m distance = 36 mm measuring spot diameter). External K Type probe connection (probe not included).

CODE	DESCRIPTION
<b>QT052</b>	testo 830-T4 Infrared Thermometer (0560 8134)



## testo 805i Smart Probe Infrared Thermometer

The testo 805i infrared thermometer, in conjunction with a smartphone or tablet, functions as a compact IR thermometer for wall temperatures, as well as fuse and component temperatures in air conditioning systems. The measuring point is marked clearly with a laser circle made up of eight dots - so you always know precisely where to measure. More smart probes on page 275.

CODE	DESCRIPTION
<b>QT018</b>	testo 805i Smart Probe Infrared Thermometer (0560 1805)



## Digital Fridge & Freezer Thermometers

ETI features 1m PVC lead for the appliance temperature, and an internal sensor for the room temperature. Remote probe has suction pad or mounting bracket supplied. Foot-stand for shelf mounting.

The Proex has 3m long probe. Surface mounting. Solar Powered with battery back-up.

CODE	DESCRIPTION
<b>Q416</b>	ETI Digital Fridge Freezer Alarm Thermometer (-50/+70.C)
<b>Q872</b>	Proex DT-1001-S Solar Powered Thermometer (-50/+70.C)



## Flaring Tools



### NAVTEK NEF6LM Cordless Flaring Tool

A welcome departure from creating flares manually, the NEF6LM Cordless Power Flare yields accurate, hassle-free flares in a fraction of the time compared to traditional flaring methods. Weighing only 1.3 kgs the new Cordless Power Flaring Tool comes equipped with a high-performance rechargeable lithium-ion battery which makes over 100 flares per charge.

The NEF6LM Cordless Power Flare also allows one-button, one-hand operation. In addition, it features a battery power indicator and a flashlight. It comes in a sturdy blow-molded case with five commonly sized flare dies for 1/4", 3/8", 1/2", 5/8" & 3/4". One battery, a charger, and a NFG1 flare gauge tool.



**BREAKFREE**  
CORDLESS SERIES

**NEW**

CODE	DESCRIPTION
QN1052	NAVTEK Cordless Flaring Tool

### VALUE® VFT-808 Eccentric Flare tool

The Value® VFT-808 not only looks quality with its superb satin finish, it also makes quality flares.

Its large ergonomic handle and torque release makes for effortless flaring. Flares from 3/16" to 3/4". Blow moulded carry case included.



CODE	DESCRIPTION
Q044	Value® Eccentric Flare Tool Kit

### Imperial 275-FS Flare-Swage Tool Kit

Imperial® Flaring and Swage Tool Kit: Flares 1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8 and 3/4 and Swages 3/16, 1/4, 5/16, 3/8, 1/2, 5/8 and 3/4 tube. Converting between the two is quick and easy with its interchangeable, hardened steel chrome finished, swivel-type swaging adapters and flaring cone. Due to its compact size, it is ideal for use in close quarters. The 275-FS is also self centering and features a slip-on forged steel yoke. Supplied in sturdy tool case.



CODE	DESCRIPTION
Q020	Imperial 275-FS Flare Swage Tool Kit



### ITE Eccentric Flare Kit (Full Version)

ITE Full Eccentric Flare Tool Kit includes the Flare kit and drill adaptor and TC-274 pipe cutter (1/8" to 1-1/8"). Inner outer reamer, 127-RW ratchet wrench, stepped swage punch for 1/4, 5/16, 3/8, 1/2 and 5/8 and 1/4, 3/8, 1/2 and 5/8 bending spring.

CODE	DESCRIPTION
Q023	ITE FTE-800-F Full Eccentric Flare Tool Kit



### Bending Springs

Selection of individual sized bending springs from 1/4 to 7/8 for bending soft copper tube or a multi-pack of seven different sized bending springs: 1/4, 5/16, 3/8 - 7/16 - 1/2 - 5/8 - 3/4.

CODE	MODEL	SIZE
Q035	102-F-04	1/4
Q036	102-F-06	3/8
Q037	102-F-08	1/2
Q038	102-F-10	5/8
Q039	102-F-12	3/4
Q040	102-F-14	7/8
Q042	9881635	1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4



## Tube Benders

Selection of tube benders from triple head mini benders, lever benders, to gear and hydraulic tube benders.



CODE	MODEL	DESCRIPTION	IMAGE NUMBER
Q070	CH 666	Proex Mini Aluminium Triple Head Lever Benders for 1/4, 5/16 and 3/8 O.D. Tube	1
Q075	BABY-S	Scols "Baby S" Tube Bender for 3/8, 1/2 and 5/8	2
Q080	364 FHA-08	Imperial® Lever Type Tube Bender for 1/2 O.D. Tube	3
Q081	364 FHA-10	Imperial® Lever Type Tube Bender for 5/8 O.D. Tube	3
Q082	364 FHA-12	Imperial® Lever Type Tube Bender for 3/4 O.D. Tube	3
Q083	364 FHA-14	Imperial® Lever Type Tube Bender for 7/8 O.D. Tube	3
Q091	9.0614	Rothenberger Multi Bender for 1/2 and 5/8, 3/4 and 7/8 O.D. Tube	4
Q086	270-F-18	Imperial® Gear Benders for 1-1/8 O.D. Tube	5
Q088	HB-85	Hydraulic Tube Bender for Soft Copper Tube 1/4, 5/16, 3/8, 1/2, 5/8, 3/4 and 7/8 O.D. Tube.	6

## Javac Tube Straightening Tools

The world's first efficient hand held straightening tool which easily and accurately straightens tubing, piping from coils and cables.

This revolutionary and affordable pipe straightening tool will straighten all types of light wall coiled tubing such as copper, aluminium, stainless steel, brass plus various others. Imperial sizes 1/4", 3/8", 1/2" & 5/8".

CODE	MODEL	SIZE
Q048	JAV-TST14	1/4 Tube Straightening Tool
Q049	JAV-TST38	3/8 Tube Straightening Tool
Q052	JAV-TST12	1/2 Tube Straightening Tool
Q053	JAV-TST58	5/8 Tube Straightening Tool



## Easybend Line Set Benders

Pack of 4 internal pipe benders called line set benders designed for use with pre-insulated copper pipe (pair coil) see page 6 for details.

Set includes 4 benders: 1 x 1/4" 1 x 3/8" 1 x 1/2" and 1 x 5/8".

Manufactured in solid plastic these internal are re-usable. Designed for use with Pair coil but will work with any soft copper coil pipe.

CODE	DESCRIPTION
Q076	4 Pack of Easy Bend Line Set Benders 1/4", 3/8", 1/2," 5/8"



## Tube Cutters

Superb Range of Tube Cutters from **Imperial**®, **Bahco**® and **Value**® Tools, available from stock.



CODE	MODEL	DESCRIPTION	IMAGE NUMBER
Q002	174-F	Imperial® 3/8 to 1-1/8 Compact Tube Cutter includes Spare Cutting Wheel	1
Q005	TC-1050	The Original <b>IMP</b> ™ 1/8 to 5/8 Compact Tube Cutter from Imperial	2
Q007	TC-1000	Imperial® 1/8 to 1-1/8 Tube Cutter with Fold Away Reamer and Spare Blade	3
Q008	312-FC	Imperial® 1/8 to 1-5/8 Tube Cutter with Fold Away Reamer and Spare Blade	3
Q092	VTC-19	Value® 1/8 to 3/4 Mini Tube Cutters	4
Q095	VTC-32	Value® 1/8 to 1-1/4 Tube Cutters	5
Q096	VTC-42	Value® 1/8 to 1-5/8 Tube Cutters	5
QV1001	VTC-70	Value® 1/8 to 2-5/8 Large Tube Cutters	6
QB1000	301-22	Bahco® 1/4 to 7/8 Mini Tube Cutters	7
QB1001	302-35	Bahco® 1/4 to 1-3/8 Tube Cutters includes Spare Cutting Wheel	8

## Tube Cutter Spare Parts

### Imperial® Tube Cutter Spare Parts

CODE	MODEL	TO SUIT CUTTER
Q010	Cutter Wheel	TC-1050/227-FA
Q011	Cutter Wheel	TC-1000/312-FC
Q012	Cutter Wheel	206-FB
Q019	Cutter Wheel	406-FA
Q100	Cutter Wheel Screw	TC-1050/227-FA
Q101	Cutter Wheel Screw	TC-1000/312-FC
Q099	Cutter Wheel Screw	206-FB



### Value® Tools Tube Cutter Spare Parts

CODE	DESCRIPTION
QV1082	Spare Cutter Wheel for VTC-19 Tube Cutter
QV1083	Spare Cutter Wheel for VTC-28/28B Tube Cutter
QV1084	Spare Cutter Wheel for VTC-32/42 Tube Cutter
QV1085	Spare Cutter Wheel for VTC-70 Tube Cutter



## Zoom Spout Oiler

When equipment is in hard-to-reach places, professionals use the Zoom Spout Oiler to get the job done. With a specially designed telescoping spout.

The Zoom Spout Oiler can reach up to 7" to lubricate motors, bearings and more.

CODE	DESCRIPTION
Q143	Zoom Spout Oiler (118ml)



## Tube Cutters

### Value® Tools Tube Cutter Spare Parts (continued)

CODE	DESCRIPTION
<b>QV1077</b>	Spare Bearing for VTC-19 Tube Cutter*
<b>QV1078</b>	Spare Bearing for VTC-28/28B Tube Cutter
<b>QV1079</b>	Spare Bearing for VTC-32/42/70 Tube Cutter

\* Please Note: The VTC-19 Tube Cutter has one bearing inside the cutting wheel - ALL other models have two.

### Value® Tools Tube Cutter Spare Parts

CODE	DESCRIPTION
<b>QV1070</b>	Spare Blade Pin for VTC-19 Tube Cutter
<b>QV1071</b>	Spare Blade Pin for VTC-28 Tube Cutter
<b>QV1072</b>	Spare Blade Pin for VTC-28B Tube Cutter
<b>QV1073</b>	Spare Blade Pin for VTC-32/42 Tube Cutter
<b>QV1074</b>	Spare Blade Pin for VTC-70 Tube Cutter

### Value® Tools Tube Cutter Spare Parts

CODE	DESCRIPTION
<b>QV1088</b>	Spare Circlip for VTC-19 Tube Cutter
<b>QV1089</b>	Spare Circlip for VTC-28/28B Tube Cutter
<b>QV1090</b>	Spare Circlip for VTC-32/42 Tube Cutter
<b>QV1091</b>	Spare Circlip for VTC-70 Tube Cutter

### Bahco® Tube Cutter Spare Parts

CODE	DESCRIPTION
<b>QB1002</b>	Spare Cutting Wheel for 301-22 Mini Tube Cutter
<b>QB1003</b>	Spare Cutting Wheel for 302-35 Tube Cutter



## ITE Capillary Tube Cutters

For cutting capillary tubes without collapsing or narrowing the tube.

Cuts ALL sizes of capillary tube.

CODE	DESCRIPTION
<b>Q014</b>	ITE Model CTP-1 Capillary Tube Cutter



## Swaging Punches

Swaging tools enables the engineers to make tubing connections with out fittings. The swaging tool allows the engineer to enlarge the end of the tube, allowing another tube of the original O.D. size to be inserted. The two can then be brazed together, creating the connection. Available individually or in a multi-pack.

CODE	MODEL	TO SUIT TUBE SIZE
<b>Q025</b>	93S 03	3/16
<b>Q026</b>	93S 04	1/4
<b>Q027</b>	93S 05	5/16
<b>Q028</b>	93S 06	3/8
<b>Q029</b>	93S 08	1/2
<b>Q030</b>	93S 10	5/8
<b>Q031</b>	93S 12	3/4
<b>Q032</b>	93S 14	7/8
<b>Q033</b>	Proex CH-193	Set of 5 Swages - 1/4, 5/16, 3/8, 1/2, 5/8



## Reamers



CODE	MODEL	DESCRIPTION	IMAGE NUMBER
QB1040	316-1	Bahco Pen Type Reamer (No pocket clip)	1
QB1041	316-2	Bahco Plastic Bodied Reamer C/W 2 Blades, 1 stored inside Handle	2
Q098	VTT-5	Value Plastic Bodied Reamer C/W 2 Blades stored inside Handle	3

### Yellow Jacket Max-Flow™ Combination Oil Pump

Remove oil for recovery and conversion. Add oil to existing systems. Pumps 2.6 oz. or 78 ml per stroke. Pumps against 200 psi pressure. Comfort-grip rubber handle. Universal stopper automatically adjusts to all standard openings in 1, 2-1/2 and 5 gallon oil containers. Suction transfer hose and fittings included. Pump oil into the compressor on the down stroke while the system is under pressure, making pumping easier with a positive stroke.



CODE	MODEL	DESCRIPTION
Q135	77940	Y/Jacket Max Flow Combination Oil Pump

### Yellow Jacket Max-Flow™ Deluxe Oil Pump

Remove oil for recovery and conversion. Add oil to existing systems. Pumps 3.8 oz. (112.38 ml) per stroke. Fits all size oil containers. Foot stand base provides support and leverage while pumping against the high pressures of a running compressor. Operating unit in reverse with adapter hose accessory removes oil from equipment quickly and efficiently. Use with alkyl-benzene, ester-based, poe, mineral and synthetic oils. Will pump against 250 psi pressure.



CODE	MODEL	DESCRIPTION
Q1009	77930	Y/Jacket Max Flow Deluxe Oil Pump

### Wipcool Electric Oil Pump

Want to significantly speed up your refrigeration oil charging and recovery then look no further than the R4 electric oil pump from Wipcool. This superb little pump has an incredible flow rate of 150L/h against a system pressure of up to 16 bar when charging oil into the system.

The R4 pump comes complete with inlet and outlet hoses and 1/4" 3/8" SAE adaptors all housed in a handy aluminium flight case.



CODE	MODEL	DESCRIPTION
Q137	R4	230V 50/60Hz Electric Oil Pump

## Javac Torque Wrench Set

The TW-8 Torque Wrench Set from Javac is designed specifically for refrigeration & air conditioning engineers. Set features 7 heads. Size 17, 19, 22, 24, 26, 27, 29mm and a torque wrench designed for 10 - 75 Nm.

All 8 pieces store in a hard carry case.

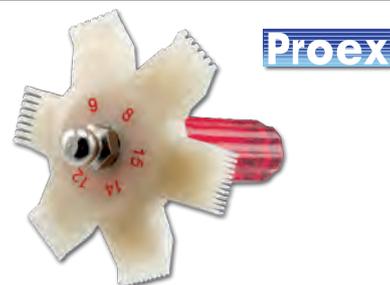


CODE	MODEL	DESCRIPTION
Q168	TW-8	Javac Torque Wrench Set

## Universal Fin Comb

Fin Comb with 6 different fins sizes on removable head attached via screwdriver style handle

CODE	MODEL	DESCRIPTION
Q120	2503-112	Multi Fin Comb



## ITE Coil Fin Cleaning Brush

75mm Wide plastic handled, synthetic bristle brush for cleaning condensers and evaporators

CODE	MODEL	DESCRIPTION
Q121	WB-1	ITE Coil Fin Cleaning Brush



## ITE Inspection Mirrors

Original all-angle ball joint mirrors with brushed stainless steel mirror backs. Both models listed are telescopic, available in 2 sizes.

CODE	MODEL	DIA. OF MIRROR	EXTENSION
Q059	MIR-1	1-1/4"	4-3/4" to 19-1/2"
Q060	MIR-2	2"	8-1/2" to 18"



## Einhell Wet & Dry Vacuum Cleaner

1250 Watt (240V) Wet & Dry Vacuum Cleaner. 20 litre capacity, stainless steel tank. Safety float. Castors, Weight: 6.8kg. Std Accessories: 3m suction hose, 3 x extension pipes, crevice tool, carpet brush, smooth floor attachment, 1 x cloth filter & 1 x paper bag. Spare dust bags available in a pack of 5.

CODE	DESCRIPTION
Q921	Einhell 1250W Wet & Dry Vacuum Cleaner (240V)
Q920	Pk 5 Dust Bags to suit Einhell 1250W Wet & Dry Vacuum Cleaner



## Imperial KWIK-VISE™ Refrigerant Recovery Tool

The KWIK-VISE™ pierces, seals and locks onto copper lines in one swift motion. It is self adjusting with no need to alter the tool for different pipe sizes from 1/4 to 1/2.

CODE	MODEL	DESCRIPTION
Q050	PT109	Imperial KWIK-VISE Piercing Tool



## Tube Expanders

We offer both the original lever style and newer hydraulic tube expanders from **some** the leading suppliers of refrigeration and air conditioning tools in the world: **Value**,<sup>®</sup> **Imperial**,<sup>®</sup> **ITE**, **Rothenberger** and **REFCO & PROEX**.

### ITE TEC-7 Tube Expander Set

The TEC-7 includes 7 heads from 3/8 to 1-3/8, you can buy spare heads separately including a 1-5/8 head.



CODE	MODEL
<b>Q180</b>	TEC-7 Expander Set includes Expander Tool, 7 Heads - 3/8, 1/2, 5/8, 3/4, 7/8, 1-1/8 and 1-3/8 in a Foam Filled Metal Carry Case
<b>Q181</b>	TEC-7 Expander Tool Only (Pt No: TE-6-01)
<b>Q182</b>	3/8" Head to suit TE-7 Kit
<b>Q183</b>	1/2" Head to suit TE-7 Kit
<b>Q184</b>	5/8" Head to suit TE-7 Kit
<b>Q185</b>	3/4" Head to suit TE-7 Kit
<b>Q186</b>	7/8" Head to suit TE-7 Kit
<b>Q187</b>	1-1/8" Head to suit TE-7 Kit
<b>Q188</b>	1-3/8" Head to suit TE-7 Kit
<b>Q189</b>	1-5/8" Head to suit TE-7 Kit

### PROEX CH-1000 Tube Expander Set

The CH-1000 includes 6 heads from 3/8 to 1-1/8, you can buy spare heads separately including 1-3/8 and 1-5/8.



CODE	DESCRIPTION
<b>Q179</b>	CH-1000 Set includes Expander Tool, Inner/Outer Reamer 6 Heads - 3/8, 1/2, 5/8, 3/4, 7/8 and 1-1/8 Metal Carry Case
<b>Q169</b>	Expander Tool Only to suit CH-1000 Kit

### Rothenberger ROCAM<sup>®</sup> Tube Expander Set

ROCAM<sup>®</sup> Expander set includes expander tool, internal and external deburrer and 6 heads 3/8, 1/2, 5/8, 3/4, 7/8, 1-1/8 in steel carry case.



CODE	DESCRIPTION
<b>Q190</b>	ROCAM Tube Expander Set (12318) including 6 heads 3/8, 1/2, 5/8, 3/4, 7/8, 1-1/8

Genuine Rothenberger replacement expander Head and Expander Tool are available to order only.

### Replacement Tube Expander Heads

These Generic Replacement Expander heads fit both the Proex CH-1000 and the Rothenberger ROCAM tube expanders.

CODE	DESCRIPTION
<b>Q170</b>	Spare 3/8" Head to suit CH-1000 & ROCAM Expanders
<b>Q171</b>	Spare 1/2" Head to suit CH-1000 & ROCAM Expanders
<b>Q172</b>	Spare 5/8" Head to suit CH-1000 & ROCAM Expanders
<b>Q173</b>	Spare 3/4" Head to suit CH-1000 & ROCAM Expanders
<b>Q174</b>	Spare 7/8" Head to suit CH-1000 & ROCAM Expanders
<b>Q175</b>	Spare 1-1/8" Head to suit CH-1000 & ROCAM Expanders
<b>Q176</b>	Spare 1-3/8" Head to suit CH-1000 & ROCAM Expanders
<b>Q177</b>	Spare 1-5/8" Head to suit CH-1000 & ROCAM Expanders



## Value Hydraulic Tube Expander Set

The Value® VHE-29A pistol grip tube expander is perfect for working in confined spaces such as ceiling voids and risers etc.

Simple one handed operation.

Suitable for soft copper only, can be used on half hard but you MUST anneal the copper first, as you should using any brand of tube expander.

Comes complete with 7 heads 3/8, 1/2, 5/8, 3/4, 7/8, 1-1/8, 1-3/8 and a blow moulded carry case.



**VALUE**

CODE	DESCRIPTION
<b>QV1041</b>	Value VHE-29A Compact Hydraulic Tube Expander including 7 Heads 3/8, 1/2, 5/8, 3/4, 7/8, 1-1/8, 1-3/8 & Plastic C/Case

Replacement Tube Expander Heads for VHE & VST-29A Models						
QV1140	QV1141	QV1142	QV1143	QV1144	QV1145	QV1146
3/8	1/2	5/8	3/4	7/8	1-1/8	1-3/8

## Automotive Quick Couplers

### Yellow Jacket Car A/C Quick Couplers

CODE	MODEL	DESCRIPTION
<b>Q1001</b>	41338	Low Side Coupler (Blue)
<b>Q1000</b>	41337	High Side Coupler (Red)



### PROEX Car A/C Quick Couplers

CODE	MODEL	DESCRIPTION
<b>Q520</b>	254-A	Low Side Coupler (Blue)
<b>Q521</b>	253-A	High Side Coupler (Red)
<b>Q5208</b>	1234QCL	R1234yf Low Side Coupler (Blue)
<b>Q5209</b>	1234QCH	R1234yf High Side Coupler (Red)



R1234yf Couplers

## Draper Expert Schrader Core Torque Driver

Allows replacement of Schrader valve cores to the correct torque.

Max torque 0.60Nm.

Clicks when correct tightness is reached.

CODE	MODEL	DESCRIPTION
<b>QD1070</b>	46795	Draper Schrader Core Torque Driver



## Bahco Adjustable Wrenches

Considered by many engineers to be the “best adjustable wrench in the world” with wide handle for comfort in use. Improved access in confined spaces with the slim 15° angled jaws. High performance alloy steel. Scale in mm for pre-adjusting and accurate measurement. Head combines slimness for accessibility with strength for performance. Black finish. Precision-hardened and anti-corrosion treated.



QB1362  
Set of 3  
Wrenches

### Bahco 80 Series Adjustable Wrenches

CODE	DESCRIPTION
Q712	Bahco 8070 150mm Adjustable Wrench
Q713	Bahco 8071 200mm Adjustable Wrench
Q714	Bahco 8072 254mm Adjustable Wrench
Q715	Bahco 8073 305mm Adjustable Wrench
QB1362	Bahco Set of 3 Adjustable Wrenches includes a 8070/8071/8072

## Bahco Wide Jaw Adjustable Wrenches

Bahco offer 2 versions of these popular Ergo 90 Series wide jaw wrenches. The 9029 & 9031 come in 150mm or 200mm lengths with a wide opening jaw that expands to 38mm and comfortable non-slip thermoplastic grip handle. Scale in mm for pre-adjusting and accurate measurement. Black finish, precision-hardened and anti-corrosion treated.



### Bahco 90 Series Wide Jaw Adjustable Wrenches

CODE	MODEL
Q716	Bahco 9029 150mm Wide Jaw Adjustable Wrench
Q717	Bahco 9031 200mm Wide Jaw Adjustable Wrench

## Bahco Wide & Slim Jaw Adjustable Wrench

Same wide jaw as the 9031 shown above, but this model has 45% slimmer jaws for greater accessibility in very confined areas. Adjustable wrench developed according to the scientific ERGO™ process. High performance alloy steel. Comfortable non-slip thermoplastic grip handle. Scale in mm for pre-adjusting and accurate measurement.



### Bahco 90 Series Slim & Wide Jaw Adjustable Wrench

CODE	MODEL
QB1201	Bahco 9031T 257mm Slim Jaw Adjustable Wrench

## Bahco Reversible Jaw Adjustable Wrench

Bahco 90 Series Reversible Jaw Adjustable Wrenches developed according to the scientific ERGO™ process. Reversible jaw for pipe use. Comfortable non-slip thermoplastic grip handle. Scale in mm for pre-adjusting and accurate measurement. Head angle 15° provides better accessibility. High performance alloy steel. Black finish. Precision hardened and anti-corrosion treated.



CODE	MODEL
QB1203	Bahco 9072P 257mm Reversible Jaw Adjustable Wrench

## Bahco Ergo® 5pc File Set

Maximum comfort with minimum effort due to the ergonomic design. Comfortable 2 Component handle giving an excellent grip.

High removal rate files. Contains 1 each, hand bastard, hand second, square bastard, half round bastard, round bastard.



CODE	DESCRIPTION
QB1650	Bahco 47808 5pc File Set

## Bahco Water Pump Pliers

250mm long water pump pliers. Comfortable 2 component handles giving an excellent grip. Simple box joint operation. Black finish, anti-corrosion treated high alloy steel.



CODE	DESCRIPTION
QB1451	Bahco 2971G250 Water Pump Pliers

## Bahco Stillson Pipe Wrench

18" (450mm) self clamping one-hand traditional Stillson wrench. Spring loaded for ratchet-like use. Body in traditional forged steel, anti-corrosion treated. Induction hardened jaws.



CODE	DESCRIPTION
QB1302	Bahco 36118 450mm Stillson Pipe Wrench

## Bahco 9pc Metric Ball End Hex Key Set

Set of long metric ball end black finish hexagon key set. All sizes marked on the holder for an easy selection. 1.5, 2.0, 2.5, 3.0, 4.0, 5.0, 6.0, 8.0 & 10mm.



CODE	DESCRIPTION
QB1190	Bahco 9770 9pc Hex Key Set with Plastic Holder

## Draper 30pc Metric/Imperial Hex Key Set

Comprehensive hex key set as it includes both metric and AF long reach hex keys all held within a handy plastic storage case. Perfect for those odd occasions that you come across imperial grub screws on fan motor blade hubs etc.



CODE	DESCRIPTION
Q462	Draper 30pc Metric/Imperial Hex Key Set in Storage Case

## Bahco 5 in 1 Panel Key

Switch cabinet wrench for all usual technical shut-off systems. 1 wrench for 5 different applications. A double turning mechanism allows 4 different locks to be positioned. Body houses a 5 mm square and 1/4" bit holder, including magnet.



CODE	DESCRIPTION
QB1369	Bahco MK5 5 in 1 Panel Key

## Bahco Ergo® & Standard Side Cutters

Ergo® 2101G side cutters with comfortable 2 component handles giving an excellent grip. Self opening handles when spring activated. Black finish, anti corrosion treated high alloy steel with hardened jaws.

Bahco 2171G side cutters with two component handles for added comfort. Polished and oiled finish.

CODE	DESCRIPTION
QB1400	Bahco 2101G Ergo Side Cutters (160mm Long)
QB1401	Bahco 2171G Side Cutters (160mm Long)



## Bahco Pliers

Bahco 2430G Bahco ERGO™ Long Snipe Nose Pliers. Equipped with a return spring featuring an on/off function. Self-opening handles when spring activated. Available in 140 or 160mm lengths.

Bahco 2678G Combination Pliers, comfortable handles give excellent grip. Greater leverage and cutting capacity thanks to joint position Shaped head for better access with specially designed edges for cutting piano wire and spring steel.

CODE	DESCRIPTION
QB1452	Bahco 2430G-140 Long Snipe Nose Pliers (140mm Long)
QB1453	Bahco 2430G-160 Long Snipe Nose Pliers (160mm Long)
QB1450	Bahco 2678G 200mm Combination Pliers



## Bahco Magnetic Torpedo Level

Solid aircraft grade aluminium.

3 vials, plumb, horizontal and 45°.

V Groove base for use on pipes.

Rare earth magnets on base Accurate to 0.5 mm/m.

CODE	DESCRIPTION
QB1720	Bahco 426TOR9 230mm Torpedo Level



## Bahco 20oz Fibreglass Claw Hammer

The Bahco 428 Curved Claw Hammer has an octagonal neck and a brightly polished round head. Fitted with a fibreglass handle for maximum shock absorption and a comfortable black hand grip. The shaft is painted a bright orange, making it easier to find in a toolbox.

CODE	DESCRIPTION
QB1550	Bahco 20oz Fibreglass Claw Hammer



## Bahco Folding Insulation Knife

Bahco 396-INS Folding Insulation Saw with super sharp wavy tothing (WT) for a smooth and clean cut. Fitted with a strong handle and a soft, non-slip grip for increased comfort and control. There is also a safety lock on the blade that can be used in the opened and closed position. Perfect for both pipe and sheet insulation.

CODE	DESCRIPTION
QB1610	Bahco Folding Insulation Knife



## Draper Expert Tin Snips

Expert quality, straight cut chrome molybdenum steel compound action blades which increase leverage, serrated for extra grip. Capacity 1.2mm mild steel, 1.5mm aluminium and 0.8mm stainless steel. The spring loaded handles have moulded vinyl grips with slip guards.

CODE	DESCRIPTION
QD1165	Draper Expert Tin Snips



## Bahco Rivet Gun

Swivel head rivet tool with head that swivels 360° to rivet at any angle. Fasten metal, leather, canvas and vinyl, using 2,4 / 3,2 / 4,0 or 4,8 mm rivets. Three interchangeable nose pieces can be stored in handle when not in use. 285mm long.



CODE	DESCRIPTION
QB1680	Bahco 2681 Rivet Gun
Q166	Faithfull 4mm Ø Pop Rivets (Pack of 100)

## Bolle "Slam" Safety Glasses

Stylish and easy-to-wear, the SLAM provides protection at all times while offering unbeatable comfort. The spectacles have a wraparound fit to provide a panoramic visual field. The lenses have an anti-scratch coating and the arms feature comfortable straight temples. The Perfect glasses, if you have to wear eye protection for long periods.



CODE	DESCRIPTION
Q903	Bolle "Slam" Wraparound Safety Glasses

## Work Gloves

The Scan gloves provide good dexterity with decent protection and available in Size 9 (yellow) or Size 10 (orange). The black gloves are thinner but offer very high dexterity, available in size 9 only.



CODE	DESCRIPTION
Q928	Scan Yellow Foam Latex Coated Work Gloves Size 9
Q929	Scan Orange Foam Latex Coated Work Gloves Size 10
Q927	Black PU Coated PU work Gloves Size 9

## Bahco Work & Power Tool Gloves

Bahco work gloves designed for day to day working and use with power tools with anti-vibration pads on fingers and palms. Reflective strip across the back. Absorption patch on the thumb.



CODE	DESCRIPTION
QB1800	Bahco 101-10, Size 10 Work & Power Tool Gloves

## SCAN Premium Vinyl Disposable Gloves

Pack of 100 ambidextrous design, powder and latex free, non-sterile gloves for single use. Perfect for keeping hands clean whilst retaining good fingertip sensitivity. Keeps hands clean when working with grease and oils etc. Conforms to EN 455 (1/2/3/4).



CODE	DESCRIPTION
Q924	Scan Vinyl Disposable Gloves

## Utility Knives



CODE	DESCRIPTION	IMAGE NUMBER
Q438	Rolson Lock Back Utility Knife C/W 11 Blades (10 Stored in handy blade dispenser)	1
QB1366	Bahco Folding Lockable Sports Knife	2
QS1211	Stanley Quickslide Pocket Knife	3
QS1230	Stanley Trimming Knife Blades Pack of 10 including Storage Dispenser	4

## Tape Measures

Wide range of tape measures to suit both service and installation engineers.



CODE	DESCRIPTION	IMAGE NUMBER
QS1150	Stanley 5m Rubber Grip Tape Measure	1
QS1151	Stanley 8m Rubber Grip Tape Measure	2
QB1700	Bahco 5m Rubber Grip Tape Measure. Markings both sides, magnetic tip.	3
QB1701	Bahco 8m Rubber Grip Tape Measure. Markings both sides, magnetic tip.	4

## Bahco 31pc Bit Set

Bahco 31pc Bit Set with an assortment of flat, PX, PH TX & hex bits, The quick release magnetic bit holder ensures that the bit remains securely in the holder until the release is driven. It features a groove part in both sides of the black coated body for a better grip and a lock-in type system with forward function. In a handy pocket sized plastic storage case.



CODE	DESCRIPTION
QB1107	Bahco 59S31 - 31 Piece Bit Set

## Bahco 54pc Colour Coded Bit Set

The Bahco 59/S54BC Colour Coded Bit Set contains a wide selection of bits suitable for universal use. Each bit is made from high-performance alloy steel. Supplied in a durable carry case. Set includes a wide variety of bits plus 1 x Magnetic Universal Bit Holder 1 x Magnetic Quick-Release Bit Holder, 1 x Socket Adapter 1/4in and 7 Extra long colour coded bits.



CODE	DESCRIPTION
QB1620	Bahco 54pc Colour Coded Bit Set

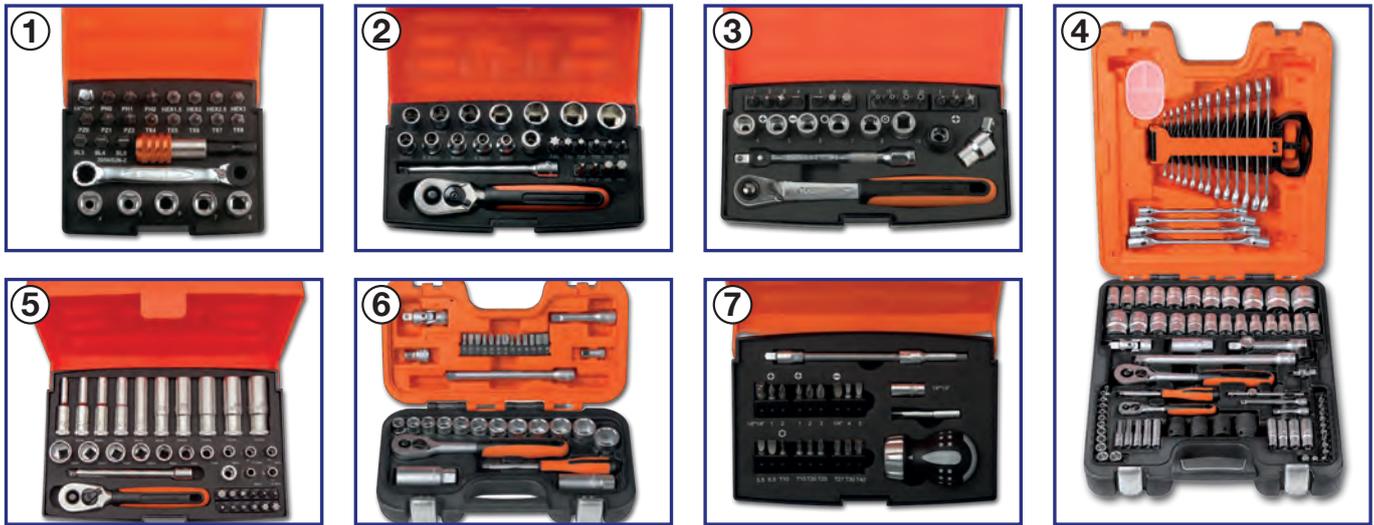
## Stanley Magnetic Bit Holder

Stanley Magnetic Bit Holder for 1/4in hexagonal bits.



CODE	DESCRIPTION
QS1008	Stanley Magnetic Bit Holder for 1/4in hexagonal bits.

## Bahco Socket Sets



CODE	MODEL	DESCRIPTION	IMAGE NUMBER
QB1502	2058-S26	Bahco 26pc 1/4 Drive Mini Socket and Bit Set with Micro Ratchet	1
QB1352	SL-25	Bahco 25pc 1/4 Drive Pocket Socket & Bit Set	2
QB1363	SL-24	Bahco 24pc 1/4 Drive Pocket Socket & Bit Set with Bit Adaptor and Knuckle Joint	3
QB1355	S877	Bahco 94pc Socket Set 1/4 & 1/2 Drive includes metric Box and Combination Spanners stored inside lid Plus 1/4 Drive Long Reach Sockets	4
QB1364	SL25-L	Bahco 37pc 1/4 Drive Socket Set same as SL-25 but with additional Long Reach Sockets: 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 mm	5
QB1365	S330	Bahco 34pc 1/4 & 3/8 Socket & Bit Set	6
QB1104	808050S22	Bahco 22pc Stubby Ratchet Screwdriver & Bit Set	7

## Bahco Ratchet Combination Spanner

Individual metric ratcheting combination spanners.  
Easier to use in confined spaces with the 15° operating angle.  
Simple direction reversal with single switch operation.  
Better grip and knuckle clearance with the 15° ring end angle.  
Less wear of fastener with the 12 point Dynamic Drive™ profile ring end.

CODE	DESCRIPTION
QB1052	Bahco 10mm Ratchet Combination Spanner
QB1053	Bahco 11mm Ratchet Combination Spanner
QB1054	Bahco 13mm Ratchet Combination Spanner
QB1055	Bahco 17mm Ratchet Combination Spanner



## Bahco 4 Sizes in 1 Ratcheting Combination Spanner Set

Set of 3 ratcheting ring spanners with 4 different sizes per spanner.  
8/9/10/11mm on one spanner. 12/13/14/15mm, 16/17/18 & 19mm on the other 2 spanners. Comes with a practical storage pouch.

Quicker turning of fastener from the ratcheting action with 4 sizes per wrench. Easier to use in confined space with 5° operating angle.  
Simple direction reversal with single switch operation.  
Better grip and knuckle clearance with the 15° ring end angle.  
Less wear of fastener with the 12 point Dynamic Drive™ profile.

CODE	DESCRIPTION
QB1050	Bahco BAHS4RM3T Ratcheting Combination Spanner Set



## Wera Kraftform 18pc KOMPAKT VDE SET

18pc Wera Kraftform VDE Kompact interchangeable screwdriver set comprises of a VDE handle with blade auto-lock system and VDE blades. Supplied in a rugged belt pouch making compact and easy to carry. Very popular set with both service and installation engineers.

### 18pc set includes:

- 1 x VDE blade holding handle.
- 1 x PZ1 & PZ2, 1 x PH1 & 2 VDE blades
- 4 x Slotted VDE Bblades: 2.5, 3.5, 4 & 5.5mm.
- 4 x VDE combi blades: PZ & PH 1 & 2 (for electrical panels and etc).
- 4 x Various size panel keys for elect & air con panels.
- 1 x Mains tester with pocket clip.
- 1 x Rugged belt pouch.



CODE	DESCRIPTION
Q4010	Wera Kraftform 18pc Kompakt VDE Screwdriver Set

## Bahco 5pc VDE Screwdriver Set (Pozidrive)

Bahco 5pc VDE Insulated Screwdriver Set contains:  
 3 x Slotted: 3.5 x 100mm, 4 x 100mm & 6.5 x 150mm.  
 2 x Poz: PZ1 x 80mm & PZ2 x 100mm.  
 2-component handles with vertical grooves for comfortable grip and maximum force transmission.



CODE	DESCRIPTION
QB1359	Bahco 220.015 5pc VDE Insulated Screwdriver Set

## Bahco Ergo® Combi Tipped Screwdriver Set

Bahco Ergo Insulated Combined Tipped 2pc Screwdriver Set for slotted and pozidriv (PZ 1 & 2, slotted 5 & 6mm) head screws found on contactors, MCB's, electrical isolators and control panel work. 3-component handle, for maximum user comfort.



CODE	DESCRIPTION
QB1361	Bahco 9890S 2pc Combi Insulated Screwdriver Set

## Bahco 6 Bit Magnetic Ratcheting Screwdriver

The Bahco 6 Bit Ratchet Screwdriver is a 1/4in ratcheting bit holder screwdriver with a magnetic bit holder. Has an interchangeable bit storage compartment with release button for quick access to the 6 bits. 1 x PH1, 1 x PH2. 1 x PZ1, 1 x PZ2. 2 x slotted bits: 4.5mm, 5.5mm. Smooth 3 position ratchet mechanism: forward, reverse and neutral.



CODE	DESCRIPTION
QB1100	BAH808050 6pc Ratchet Screwdriver

## Stanley Screwdrivers

The Stanley Long reach screwdrivers are the "must have" item in every engineers tool-kit. Perfect for hard to reach screws on those awkward jobs. Available in Pozidrive N°2 or Phillips N°2 tip. Both 350mm long. The iconic 6 way screwdriver with 2 x slotted and 2 x Phillips bits plus 2 nut spinners, make this a great favourite with all engineers.



CODE	MODEL
QS1002	Stanley Fatmax PZ 2 Long Reach Screwdriver
QS1003	Stanley Fatmax PH 2 Long Reach Screwdriver
QS1006	Stanley 6 Way Screwdriver

## Bahco VDE Insulated Side Cutters

The Bahco 2101S 160mm long side cutters now features the new red and yellow colour scheme on the handles. Anti-corrosion treated finish made from high performance alloy steel, and have plastic injected handles. Induction hardened cutting edges, and round shaped jaws give improved accessibility in confined spaces.



CODE	DESCRIPTION
QB1308	Bahco 2101-S160 VDE 160mm Long

## Stanley Fatmax VDE Insulated Side Cutters

The bi-material handles offer the user improved control and grip, incorporating slip guard shoulders for additional safety. They are resistant to temperatures from -20° to +70° C making them ideal for use in demanding or hostile environments. Length 160mm.



CODE	DESCRIPTION
QS1200	Stanley Fatmax VDE Side cutters 160mm

## Channel Sockets 1/2" Drive x 17mm

These sockets make installing slotted channel so much easier. Unlike standard round 17mm sockets that get stuck in the channel, these British made sockets are specifically engineered with flat sides that fit in & out of the slotted channel with ease. Channel sockets are available in 2 sizes, one for shallow channel 41 x 21mm and one for deep channel 41 x 41mm.



CODE	DESCRIPTION
XX02196	17mm Channel Socket for 41 x 21mm Channel
XX02197	17mm Channel Socket for 41 x 41mm Channel

## Saws (Wood & Metal)

Selection of saws to suit wood, plastic, plasterboard and metal. Spare blades available for both junior hacksaws (supplied in pack 10) and large frame hacksaws supplied singly.



CODE	DESCRIPTION	IMAGE NUMBER
QB1511	Bahco Superior XT range has a thicker blade than conventional handsaws Gives very fast cutting on modern medium hard materials such as chipboard or plastics	1
QB1504	Bahco Junior Hacksaw with fibreglass handle. Supplied with one blade	2
QB1503	Bahco Mini Saw For use in difficult to access areas. Supplied with one blade.	3
QB1510	Bahco Jabsaw for cutting into drywall/plasterboard.	4
QB1520	Bahco Lightweight 300mm Large Frame Hacksaw. Supplied with one blade.	5
QB1522	Bahco Ergo Professional Large Frame Hacksaw. Solid aluminium frame. Alternative 55° blade mounting pins for flush cutting. Supplied with one blade.	6
Q437	Morse 12" (300mm) Large Frame Hacksaw Blades (24tpi) (supplied in singles)	7
Q435	Pack of 10 Spare Junior Hacksaw Blades	8

# VALUE®



Recovery Machines

Manifold Gauges

Tube Cutters

Digital Scales

Vacuum Pumps

Tube Expanders

Digital Test Meters

Flaring Tool

Integrated Tool Kits

Spare Parts

**WIDE RANGE OF VALUE® STOCK  
AVAILABLE ACROSS 24  
FSW BRANCHES**

Value® are the largest refrigeration recovery machine and vacuum pump manufacturer in the world and as one of the only authorised Value® distributors in the UK, FSW are proud to offer a wide range of Value® tools as well as spare and replacement parts from stock.

**Shop the Value® range at  
[www.fsw.uk.com](http://www.fsw.uk.com)**



01543 437 010

## Cable Extension Leads and Transformer

2 options available for the 240 Volt extension leads, choose from either closed or open reel models 10 or 20M lengths. 110V model only available as open reel, 25 meters long.



CODE	DESCRIPTION	IMAGE NUMBER
Q1702	Masterplug PRO-XT 10M 240V Cassette Cable Reel 4 Socket 13A	1
SW1704	Defender 20M 240V Open Cable Reel, 4 Sockets, Power On Indicator, Thermal Cut-Out	2
SW1703	Defender 25M 110V Open Cable Reel, 2 Sockets, Power On Indicator, Thermal Cut-Out	3
Q167	110V 3.3Kva Twin Socket Transformer.	4

## Replacement Kettle Leads

Replacement kettle Leads in 240 and 110 Volt versions, ideal as a replacement or spare leads for your vacuum pumps or recovery rigs.

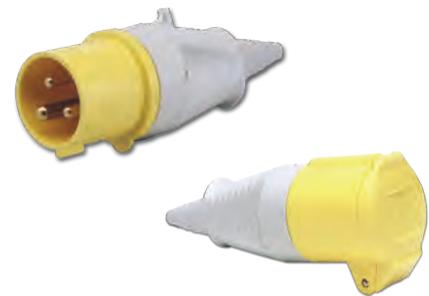
CODE	DESCRIPTION
L406	240V Kettle lead with fitted 13A Plug (2m x 1m Long)
L407	110V Kettle lead with fitted 16A Plug (2m x 1.5m Long)



## Replacement 110V 16 Amp Plug/Socket

Replace your damaged 110 Volt 16 amp plug or socket on your extensions leads, transformers, recovery rigs or vacuum pumps with these spare BS approved 110 Volt 16 Amp plugs and sockets.

CODE	TYPE	DESCRIPTION
Q161	59851	Draper 110 Volt Plug
Q162	63779	Draper 110 Volt Socket



## Rechargeable LED Worklight

The perfect portable worklight offers service and install engineers instant light without mains power. 12-24V DC vehicle charger and UK mains charger included. Very bright 6000K.

CODE	DESCRIPTION
Q729	10 Watt Rechargeable LED Floodlight



## Elite Focus - 3 Function CREE LED Torch

The Lighthouse 210 lumen Elite Focus has three functions: high, low and strobe. This top of the range torch features the very latest technology by incorporating CREE LED's, providing a super bright beam from a single source. Small and compact only 35 x 110mm

CODE	DESCRIPTION
Q514	Elite Focus, 3 Function CREE LED Torch



## Veto Pro Pac® - Tech Pac Backpack

Veto Pro Pac's Tech Pac is Veto's first backpack tool bag designed specifically for professional AC&R service and commissioning engineers carrying tools & test meters etc. Ideal for those long walks on large sites and city centre call outs. 5 year zero downtime warranty on all Veto Pro Pac Tool Bags.



Tools Not Included

CODE	DESCRIPTION
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QA1602	Veto Pro Pac - Tech Pac Rucksack
--------	----------------------------------

## Veto Pro Pac® - Tech Pac MC Backpack

The Tech Pac MC is a compact backpack tool bag designed for techs that need to "hands-free" carry a minimum amount of tools and test meters for service calls and minor installs. Ergonomic padded back bag hanging hook. Waterproof base. 39 pockets. Stainless steel tape measure clip. Dimensions: H43 X L33 X W20 cm



Tools Not Included

CODE	DESCRIPTION
------	-------------

QA1612	Veto Pro Pac Tech MCT Tool Bag
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## Veto Pro Pac® - Tech LC

Designed for the AC&R technicians' tools and working environment. The Tech LC is built to last, incorporating 53 pockets for everything from screwdrivers, pipe cutters, test meters, and tape measure etc. Padded shoulder strap with plastic handle clip. 12 Large tool pockets, 12 Small punch & bit pockets, 4 Small neoprene pockets.



Tools Not Included

CODE	DESCRIPTION
------	-------------

QA1600	Veto Pro Pac Tech LC Tool Bag
--------	-------------------------------

## Veto Pro Pac® - Tech XL

The Tech XL is an extra wide tool bag with 80 pockets giving ample pocket room for hand tools, parts boxes, meters, a cordless impact drill and other bulkier items. Padded shoulder strap clips onto handle. Heavy duty fastenings and zips. Weatherproof body fabric.



Tools Not Included

CODE	DESCRIPTION
------	-------------

QA1601	Veto Pro Pac Tech XL Tool Bag
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## Veto Pro Pac® Tech-Pac Blackout Backpack

The Tech Pac Black is a blacked-out back pack based on the best selling Veto Tech Pac (shown opposite) but with removable tool pocket panels which can be rotated or swapped out with a laptop panel (available as an optional extra), to turn the bag into a tool bag/ laptop bag.



Tools Not Included



CODE	DESCRIPTION
------	-------------

QA1620	Veto Pro Pac - Tech Pac Blackout Rucksack (AX3561)
--------	--

QA1621	Laptop Panel for Tech Pac Blackout (AX3575)
--------	---

QA1622	Spare Front Tool Panel for Tech Pac Blackout (AX3573)
--------	---

QA1623	Spare Back Tool Panel for Tech Pac Blackout (AX3574)
--------	--

Rucksack comes complete with front and back panels. Additional laptop panel also available. You can also buy replacement front and back panels.

## Veto Pro Pac® - TP3B Tool Pouch

The TP3B is a “next generation” revised version of the TP3 with a “hard bottom”, extra tool pocket depth and riveted stainless steel tape measure clip. This service pouch stands up, bottom protected, and ready to help carry and help organise your most needed tools for any job or service call. It also has a streamlined metal clip on the back.



Tools Not Included

CODE	DESCRIPTION
QA1611	Veto Pro Pac TP3B Small Tool Pouch

## Veto Pro Pac® - MB & MB2 Meter Tool Pouch

The MB is a clip-on bag designed to hold a small selection of tools and meters. The MB2 is a taller version of the MB meter tool pouch and accommodates taller meters, analysers and repair tools. Heavy duty fastenings and zips. 10 interior and exterior tool pockets.



Tools Not Included

CODE	DESCRIPTION
QA1606	Veto Pro Pac MB Meter Tool Pouch
QA1607	Veto Pro Pac MB2 Meter Tool Pouch

## Veto Pro Pac® - MB3B Large Meter Bag

Small yet spacious, these clip-on bags are designed to hold a small selection of meters, analysers and repair tools. Organise multiple job specific bags. Heavy duty fastenings and clips. Detachable rubber handles. Various size tool pockets. Clips onto any model Veto tool bag's tape clip or D-Rings.



Tools Not Included

CODE	DESCRIPTION
QA1613	Veto Pro Pac MB3B Large Meter Bag

## Veto Pro Pac® TP-XL Extra Large Tool Pouch

Features extra tool pocket depth and riveted stainless steel tape measure clip, closable mid-sized tool pouch that holds a variety of tools, meters, fasteners and wire nuts along with a tablet pocket on the backside to help techs needing a compact bag for a variety of service calls and installs.



Tools Not Included

CODE	DESCRIPTION
QA1614	Veto Pro Pac TP-XL Extra Large Tool Pouch

## Bahco Open Tool Bag



The Bahco 3100TB tool bag has an open top for easy access & use, it has a comfortable padded carry strap and handle. There are 10 internal and 11 external pockets for holding various tools as well as a tape measure clip and straps to hold your spirit level, it also has a waterproof base to help protect your tools.

Dimensions: 400mm L x 220mm W x 300mm H



CODE	DESCRIPTION
QB1740	Bahco 19" Open Tool Bag

## Bahco Electricians Open Tool Bag

Bahco Electricians Open Tool Bag. Easy access open tool bag. Comfortable carrying strap and handle. Convenient external pockets for an assortment of tools. Waterproof base. Includes plastic storage box hidden in the bottom section. Padded shoulder strap with clicking adjustment. Measuring tape, card and phone holder section. Dimensions: 280mm L x 220mm W x 285mm H.



Tools Not Included



CODE	DESCRIPTION
QB1410	Bahco Electricians Open Tool Bag

## Stanley Fatmax™ Rucksacks

The Stanley Rucksack is a hugely popular tool bag with our customers. 50 Pockets / tool holders for a wide variety of tools, plus a waterproof base.

It is now available with wheels and extendible handle to making a classic rucksack tool bag even more versatile.



CODE	DESCRIPTION
QS1110	Stanley Fatmax Rucksack
QS1010	Stanley Fatmax Rucksack with Wheels and Extendible Handle

## Stanley Fatmax™ Pro Organiser

Transparent polycarbonate lid locks components in position for easy access, 14 removable storage cups for easy access. Extra large storage capacity for small parts and accessories. Rust proof metal back hinges and aluminium latches. Combined metal/high impact resin. Comfortable heavy duty shoulder strap. Aluminium tubular handle.



CODE	DESCRIPTION
QS1132	Stanley Fatmax Pro Organiser

## Stanley Permanent Marker Pens

Choose from the 4 pack multi colour mini markers, with their fine tips in red, green, blue & black or the 2 pack of chisel tip black markers allowing a broad or fine line.



CODE	DESCRIPTION
QS1050	Stanley Mini Marker (Pack of 4)
QS1051	Stanley Fatmax Chisel Tip Markers (Pack of 2)

## Magma Technicians Rucksack



Perfect if you have to travel distances without your van, climb or simply need to have a professional profile. Unique lockable zip system to keep tools/documents secure whilst on site or in transit. Multiple vertical storage internally and externally provide maximum organisation potential. 31 pockets and holders including fold out panels for easy tool access. Mobile phone holder. Internal and external document pockets.



CODE	DESCRIPTION
Q152	Magma Technician Rucksack

## Magma Technicians Tool Case Plus



Featuring a 100% waterproof, rubber base designed to keep tools/documents protected and dry, the Technician's Tool Case Plus is a unique storage solution specifically designed with the technician in mind, including fold out panels for easy tool access.



CODE	DESCRIPTION
Q153	Magma Technicians Toolcase Plus with Rubberised Base

## Magma Technicians Tool Case MAX

Benefiting from 35% greater capacity, the Technician's Tool case Max features a wide central compartment and deep side panels, perfect for storing electronic equipment and larger tools. Extra deep square pockets for easy tool access Removable and adjustable divider for maximum flexibility, 100% waterproof and crack proof base. Heavy duty, pierce protected zips for long life and performance.



CODE	DESCRIPTION
Q129	Magma Technicians Tool Case MAX

## Magma Test Equipment Case

The C.K Magma Test Equipment Case is an industry first, allowing AC&R engineers to carry diagnostic testing equipment and a selection of essential tools in one handy case.

- Dimensions: 35 x 24 x 18 cm Weight: 1.8kg.
- Adjustable padded compartments.
- Convenient tool kit storage.
- Handle and padded shoulder strap.

**NEW**



CODE	DESCRIPTION
Q128	Magma Test Equipment Case

## Einhell Extendible Folding Sack Truck

Superb little sack truck is suitable for both install and service engineers. It folds and extends making it compact and easy to store on your vehicle.

Strong lightweight aluminium frame & rubber wheels.

Perfect for carrying refrigerant cylinders and tool bags etc. So handy, every engineer should own one.



CODE	DESCRIPTION
Q922	Einhell Extendible Folding Sack Truck

## Stanley 3pc Paint Brush Set

Budget paint brush set perfect for use with insulation paint. The Stanley Hobby paint brush has pure black bristles and a rust resistant ferrule. The yellow polypropylene handle is shaped for comfort. Set of 3 - 25mm, 38mm and 50mm.



CODE	DESCRIPTION
QS1009	Stanley Hobby Paint Brush Set

## Dust Sheet

Professional quality plain cotton dust sheet 12ft x 9ft. Perfect for both service, installation and maintenance engineers.



CODE	DESCRIPTION
Q918	Plain Cotton Dust Sheet (12ft x 9ft)

## Irwin Titanium Coated HSS Drill Bit Set

Irwin Professional HSS Titanium coated jobbers drillbits with 135° split point. The titanium coating resists wear and minimises friction, thus allowing increased cutting speeds. Contains the following sizes: 1.5, 2.0, 2.5, 3.0, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0, 6.5, 7.0, 8.0, 9.0 and 10mm.



CODE	DESCRIPTION
Q4200	Irwin 15pc Titanium Drill Bit Set

## Electricians Hole Saw Kits

Electrician Kit 1: 9pc set contains: 16-20-25-32-40-51mm hole saws, 2 arbors & 4 spare pilot drills. Electrician Kit 2: 6pc set contains, 64-76-89 & 102mm hole saws, 1 large arbor, and 4 spare pilot drills.



CODE	DESCRIPTION
Q737	Kit 1, 9pc Electricians Hole Saw Set including Hard Case
Q738	Kit 2, 6pc Electricians Hole Saw Set including Hard Case

Kit 1

Kit 2

## Ratchet Straps and Bungees

Masterlock Assorted Bungees 6 piece jar. Jar contains: 2 x 60, 2 x 80 and 2 x 100cm bungees.

2pc Quick Straps are 25mm x 5M and a great addition to any van stock.

The 4.5m Single Ratchet Strap offers a more substantial tie down for gas cylinders etc.



CODE	DESCRIPTION
Q414	Masterlock Pack of 6 Asst Size Bungees
Q448	Pair Automatic Quick Acting Straps
Q441	Single 4.5 Metre Ratchet Strap

## Universal A/C Remote Controller

KT-1000 Universal A/C remote control.  
1000 codes in 1. Controls most makes of A/C Brands.  
Simple setting and easy to use.  
Two operations: Model selection by code input (list of most popular codes included) or model selection by auto search.

CODE	DESCRIPTION
<b>Q259</b>	KT-1000 Universal A/C Remote Controller



## Square Drive Ratchet Wrench Valve Keys

4 in One Square Drive Ratchet Service Wrenches.

CODE	MODEL	DESCRIPTION
<b>Q116</b>	RW-123	Proex Reversible Square Drive Ratchet Wrench 3/16 - 1/4. One end 1/2 - 9/16 other end
<b>Q118</b>	RW-122	Proex Reversible Square Drive Ratchet Wrench 3/16 - 1/4 one end 3/8 - 5/16 other end
<b>Q141</b>	127-RW	ITE Reversible Square Drive Ratchet Wrench 3/8 - 5/16 one end 1/4 - 3/16 other end Square



Image shows ITE 127-RW

## Refco Offset Ratchet Wrench

Refco Reversible Square Drive Offset Ratchet Wrench.  
Specially designed to access valves in hard to reach places.  
Fits 1/4", 3/8" one end and 3/16" and 5/16" the other.

CODE	DESCRIPTION
<b>Q142</b>	Refco SW-127 Offset Ratchet Wrench



## Solenoid Valve Opening Magnet

The SV-OM will manually open solenoid valves when there is no mains power available. This can be very useful when commissioning or reclaiming a refrigerant. The solenoid magnet suits all makes of solenoid valve with a 15 mm and 18 mm diameter stem.

CODE	SIZE
<b>Q508</b>	SV-OM 15mm Diameter
<b>Q509</b>	SV-OM 18mm Diameter



## Refrigerant Service Cylinder

10 Kg Service Cylinder with liquid and vapour valve  
Suitable for use as a refrigerant reclaim cylinder.  
Use for long term storage of refrigerants to avoid cylinder rental charges.

CODE	DESCRIPTION
<b>Q505</b>	10 Kg Service Cylinder



## ABUS Brass Padlock

Perfect for day to day use. Locking off electrical isolators etc.  
The ABUS 65/50 is suitable for low to medium security requirements and are also suitable where a strong requirement for service performance and longevity is required. Includes 2 keys.

CODE	DESCRIPTION
<b>QB1682</b>	ABUS 65/50 Padlock complete with 2 Keys



## Tek-Mate Leak Detector

F-Gas compliant tested to BSEN14624 base unit includes sensor, 2 D-size alkaline batteries, spare filters, and a hard plastic carrying case. Sensitivity to CFCs, HCFCs, HFCs 0.4 oz/yr. R22: 2g/yr, R410A: 5g/yr. 3-position soft touch switch— off, low sensitivity, high sensitivity. Powered by 2 D-size (1.5-volt) alkaline batteries. Automatic contamination adjustment.



**JAVAC**  
MEASURED PERFORMANCE

CODE	DESCRIPTION
Q493	Tek-Mate Leak Detector

## D-Tek-3 Rechargeable Leak Detector

All new, redesigned infrared sensor. Longest sensor life in the industry. Easy field replacement. New lithium ion battery. Long life (~10 hours).

Low, medium, high, and super sensitivity settings. Automatic and manual zero modes. Rugged carrying case included. Detects all CFCs, HCFCs, HFCs, HFOs, and blends (including A2Ls) Detects CO2 with optional CO2 sensor.



**NEW**

A2L  
Compatible

**JAVAC**  
MEASURED PERFORMANCE

CODE	DESCRIPTION
Q3444	D-TEK 3 Refrigerant Leak Detector (721-202-G21)
Q3443	CO2 Sensor for D-Tek-Stratus and D-Tek 3 (704-701-G2)

## testo 316-3 Leak Detector

The testo 316-3 refrigerant leak detector can detect all the most common cooling agents and locate even the smallest leaks. Complies with all important regulations and norms. One piece of kit you as a refrigerant technician won't want to be without. Can detect all the most common cooling agents: CFCs, HFCs, HCFCs & HFO.



testo

A2L  
Compatible

CODE	DESCRIPTION
QT035	testo 316-3 Leak Detector (0563 3163)

## Gas Mate Leak Detector

The Only ATEX approved hydrocarbon leak detector for ALL hydrocarbons including R600 and R290. Also suitable for R32, R1234yf and R1234ze also detects Ammonia. Can also be used with **TRACE-A-GAS®**.



A2L & A3  
Compatible

**JAVAC**  
MEASURED PERFORMANCE

CODE	DESCRIPTION
Q4900	Gas Mate Leak Detector

## CPS Leak Seeker II Leak Detector

Simply turn it on and pinpoint the leak, simple intuitive bar graph display. Meets and exceed EN14624. The world's only leak detector with fully automatic sensitivity selection and control. Also perfect for use with **TRACE-A-GAS®**. Sensitivity better than 1oz per/year (3 grams annually). Suitable for HFC's, CFC's, HC's & HCFC's. 3 x "C" size batteries.



A2L & A3  
Compatible

**cps**

CODE	DESCRIPTION
Q491	CPS Leak Seeker II Leak Detectors

## Leak Detector Spares

CODE	MODEL
Q495	Replacement Sensor for TEK-Mate & D-TEK Select
Q496	Replacement Filters for TEK-Mate
Q497	Replacement Filters for D-TEK Select
Q490	Replacement Infrared Sensor for D-TEK Select
Q482	Replacement Sensor for CPS Leak Seeker II
Q511	Replacement Filters for CPS Leak Seeker II (Pack 10)
QT076	Replacement Sensor for testo 316-3



Q495

Q482

Q511

## D-TEK-STRATUS LEAK DETECTOR

The D-TEK Stratus is the next big step in the world of refrigerant leak detection.

D-TEK Stratus combines the superior leak detection of INFICON D-TEK leak detectors with the cloud hunting capability of a portable monitor all in one hand-held unit. Quickly locate the area containing the leak using the large, easy-to-read LCD display, and then pinpoint the leak all with one instrument! D-TEK Stratus is the next big thing in refrigerant leak detection.

3 operating modes to locate leaks faster than ever:

Cloudhunt; pinpoint and manual zero mode which allows you to locate general area of the leak (cloud hunt) and then to accurately locate (pinpoint) the precise area - all with a portable easy-to-read LCD display in one hand-held unit. Sensitivity of 0.03 oz/year (1 g/year).

Cloud hunter and pinpoint modes is like having two leak detectors in one. 4-sensitivity sensitivity settings in pinpoint mode (super, high, medium and low). New lithium ion battery with quick charge capability and easy field replacement.

Manual zero mode allows the engineer to zero the detector to background refrigerants. Probe filter (pre installed) can be easily checked and replaced, and redesigned infrared sensor has the longest life in the industry.

Detects all CFCs, HCFCs, HFCs, and HFOs. Also detects CO<sub>2</sub> with purchase of additional CO<sub>2</sub> sensor. Designed for ergonomic comfort with rugged carrying case and comes with a two-year replacement warranty.

CODE	DESCRIPTION
<b>Q3442</b>	D-Tek-Stratus Leak Detector Kit (724-202-G11)
<b>Q3443</b>	CO2 Sensor for D-Tek-Stratus (704-701-G2)



**JAVAC**  
MEASURED PERFORMANCE

**A2L**  
Compatible

R22, R32, R134a, R404a, R407c, R410a, R422b, R448a, R449a, R452a, R452b, R507 (AZ50), R1234yf, CO<sub>2</sub> (requires CO<sub>2</sub> sensor), ammonia, SF<sub>6</sub>, and more.

- Kit Includes
- D-TEK Stratus Infrared sensor
- Lithium ion battery
- Spare filters
- AC wall charger
- DC car charger
- Extra-long probe
- Carrying case
- Earbuds

## Errecom Best Bubbles

A fast and easy solution to identify leaks in refrigerant lines and in components of refrigeration and air-conditioning systems.

Best Bubbles should be sprayed close to the leak point, thanks to its special formulation it adheres to surfaces ensuring immediate identification of the leak through the formation of a large size and thick bubble. Ready to use. Operating range: -40°C to +80°C.

CODE	DESCRIPTION
<b>Q799</b>	Errecom Best Bubbles 1 Litre (Ready to use) (-40°C to +80°C)



## RTU® and EasyFind™ Leak Detectors

RTU Bubble-up Leak Detector, 1 litre, in ready to use trigger spray

EasyFind Bubble up Leak Detector Spray in 400ml Aerosol

CODE	DESCRIPTION
<b>M480</b>	RTU® Bubble Up Leak Detector 1 Litre Trigger Spray
<b>M486</b>	EasyFind Bubble-up Leak Detector Spray (400ml Aerosol)



## Gotec LDS & LT45 Leak Detector Spray

Gotec leak detection spray is a reliable, safe, economical, quick and convenient method of detecting the precise location of the smallest leak.

Operating range: LDS      0 Deg.C to +50 Deg.C  
LT-45    -45 Deg.C to +50 Deg.C

CODE	DESCRIPTION
<b>Q145</b>	Gotec LDS leak Detector Spray (0° to +50°C)
<b>Q146</b>	Gotec LT-45 leak Detector Spray (-45 to +50°C)



## Errecom "Brilliant" UV Dye

Locate refrigerant gas leaks with BRILLIANT the leak detection dye visible with UV light. Universally suitable for every air conditioning and refrigeration system. Brilliant UV Dye is supplied in 12 x 7.5 ml syringes making it simple to add the UV Dye to the system and reduce wastage.



CODE	DESCRIPTION
M336	Errecom "Brilliant" UV Dye Syringes (Pack 12)

## Spectroline® Optimax Junior UV Starter Kit

The Optimax Junior UV Starter Kit comes with everything you need to get started at a breakthrough price. Kit supplied with: Optimax Junior LED Lamp, 2 x EZ-4/E dye cartridges, EZ-Ject Injector Kit, UVS-40 Spectacles, UV dye cleaner remover and carry case. We also stock spares to re-stock any used items from your kit like replacement dyes, dye remover and even replacement UV specs.



CODE	DESCRIPTION
Q552	Optimax Junior UV Dye Starter Kit
Q554	Spare EZ4/E, EZ/Ject Dye Cartridge
Q600	Glo-Away PLUS+ UV Dye Remover 60ml Aerosol

## Spectroline® Glo-Stick® Dye Capsules

The revolutionary way to add fluorescent dye and refrigerant into AC&R systems. No complicated hookups! Ideal for preventive maintenance programs and for multiple, small AC&R units.

**Universal Cartridges:** For Mineral Oil, Polyol Ester and Alkyl Benzene

CODE	MODEL
Q594	GS1E-CS Glo-Stick® 1E (15 ml Fluorescent Dye Capsule)
Q595	GS101E-CS Glo-Stick® 101E (0.89 ml Fluorescent Dye Capsule)
Q596	GS2E-CS Glo-Stick® 2E (15 ml Fluorescent Dye Capsule)
Q597	GS3E-CS Glo-Stick® 3E (15 ml Fluorescent Dye Capsule)

The following table gives an approximate guide to Glo-Stick capacity. Multiple Glo-Sticks can be used in larger systems.

CAPSULE	APPROX REFRIGERANT CHARGE KGS	APPROX LITRES OF OIL IN SYSTEM
GS1E-CS	1.4 to 2.2 kg	445 ml to 1.5 L
GS101E-CS	1.3kg	445ml
GS2E-CS	2.3 to 4.5 kg	1.6 to 3.0 L
GS3E-CS	4.6 to 11.3 kg	3.1 to 7.6 L

Easy to use — pre-filled, disposable capsules allow dye to be injected into pressurised systems using refrigerant.



## JAVAC Inficon Leak Detector Checker

Check your leak detector with this trusted leak source.

TEK-Check is a compact reference leak source that leaks R134a refrigerant at a rate of 5 to 9 g/year (0.18 to 0.32 oz./year), depending on environmental conditions. It is an easy and dependable way to verify your leak detector is working properly.

Features:

Leak rate of 5 grams of R134a at 20°C. Compact size easily fits in most leak detector carrying cases. Easy-to-use. No batteries required. \*Note: This is not meant to be a true "calibration" only a reference for proof of functionality. Size: 94mm High x 31mm Diameter.

CODE	DESCRIPTION
Q3441	Javac Inficon Leak Detector Checker



**ONLY**  
AVAILABLE FROM  
**FSW**



**FSW** |  **cooleo**  
Pre Insulated Copper

**AVAILABLE IN  
BLACK OR WHITE**

**20M  
COIL  
LENGTH**

**QUICK  
& EASY  
INSTALL**

**PROTECTS  
COPPER  
DURING  
TRANSPORT**

**IDEAL FOR  
ONE PERSON  
INSTALLS**

**TOUGH  
OUTER COATING**

**RESISTANT TO  
BIRDS &  
VERMIN**



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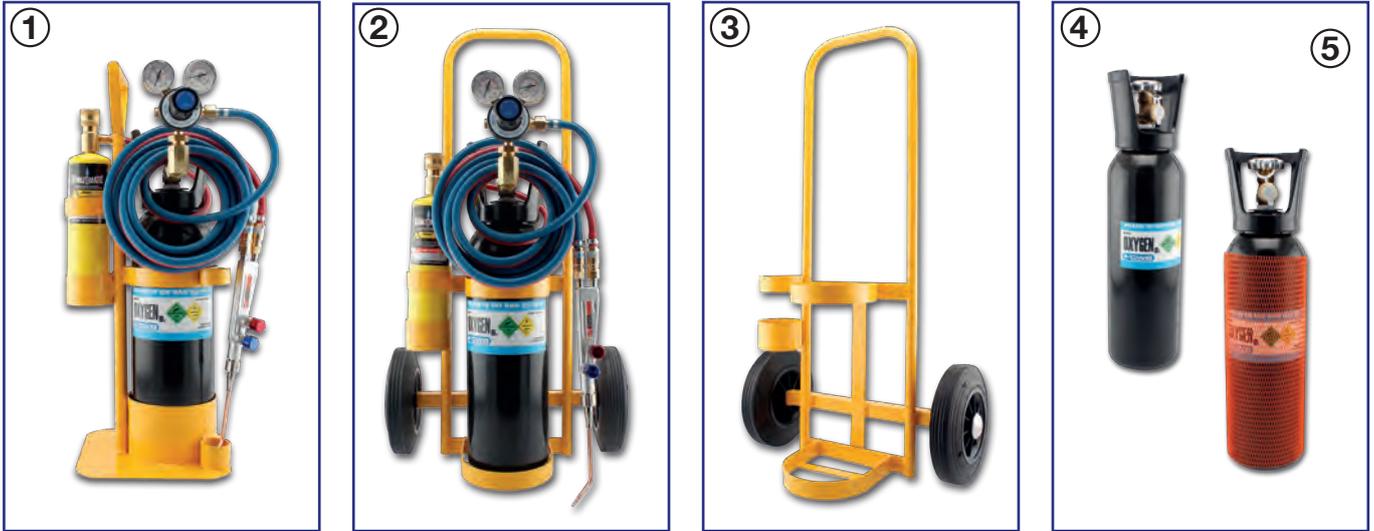


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## FlameTech Brazing Kits

The Flametech compact brazing kits include an oxygen cylinder that “you own” when you purchase the kit. You simply exchange your oxygen cylinder for a refill at any FSW. That means NO Cylinder rental charges. Most of our customers even purchase a second oxygen cylinder as a back-up so they never run out. A Mapp Gas cylinder is used in place of acetylene, yet still gives similar performance compared to any standard oxy/acetylene portapak kit. Both the Pro & Elite feature the same welding kits, The Elite comes with trolley whilst the Pro has a carry stand.



CODE	DESCRIPTION	IMAGE NUMBER
Q525	Flametech Pro Compact Brazing Kit Set with Carry Stand	1
Q528	Flametech Elite Compact Brazing Kit Set with Trolley	2
Q529	Flametech Elite Trolley Only	3
Q526	Flametech Oxygen Exchange Cylinder	4
Q527	Flametech Spare Oxygen Cylinder	5

## Toolbox Brazing Kit

The Toolbox Brazing Kit Includes:

- 1 x Oxygen regulator, 1 x acetylene regulator
- 1 x Brazing torch & mixer
- 1 x Pair of 5m hoses
- 1 x Flip up brazing goggles
- 3 x Assorted size nozzles
- 1 x Pistol grip spark lighter
- 1 x Cylinder spanner, 1 x nozzle cleaning set
- 1 x Pair of flashback arrestors, 1 x plastic toolbox

CODE	DESCRIPTION
Q543	Toolbox Brazing Kit



## Portapak Trolleys

We offer a choice of 2 Portapak Trolleys. The K1 Trolley is fixed height and the K2 Trolley has an adjustable handle which allows you to reduce the overall trolley height to only 700mm using 5L cylinders.

This is a bonus if you struggle for head room in your vehicle. If you prefer to use the larger 10 litre cylinders on your trolley then we would suggest you use the fixed height trolley, as its more suited for the taller 10L cylinders.

CODE	DESCRIPTION
Q548	K1 Fixed Height Portapak Trolley
Q549	K2 Adjustable Height Portapak Trolley



## Turbo Set 1000 Portable Brazing Kit

The Turbo 1000 is a compact and light brazing kit weighing only 5kg. Spare cylinders are readily available from all FSW branches. The perfect kit for service work and ideal for “small” installation jobs.



CODE	DESCRIPTION	IMAGE NUMBER
Q530	Turbo 1000 Brazing Kit	1
Q532	Turbo 1000 Replacement Oxygen Cylinder	2
Q533	Turbo 1000 Replacement Maxy Gas	3
Q538	Turbo 1000 Replacement Hose & Regulator Set Set includes: pair of hoses/valve/gauge regulators & brazing nozzle	4
Q541	Turbo 1000 Replacement Brazing Nozzle	5

## Hand Brazing Torches



CODE	DESCRIPTION	IMAGE NUMBER
Q454	Turbo Torch Single Barrel Hand Held Brazing Torch	1
Q455	Turbo Torch Double Barrel Hand Held Brazing Torch	2
Q452	Turbo Torch TX504 Extreme Self Lighting (Piezo) Hand Held Brazing Torch	3
Q4500	Rothenberger Superfire 2 Self Lighting (Piezo) Held Brazing Torch	4
Q4505	Javac Flexi Torch - Self Lighting with Swirl Tip Flame	5

## Rothenberger Heat Deflector

Rothenberger Heat Deflector Guard fits most makes of hand torches, helps retain heat around flame and helps prevent area around braze getting scorched.



CODE	DESCRIPTION
Q459	Rothenberger Heat Deflector

## Mapp Gas, Propane & Rothenberger Refills

Spare Map-Plus and Propane cylinders. Plus spare oxygen and Maxygas cylinders to suit the Rothenberger Roxy 120L kits and compatible sets.

CODE	TYPE
Q489	Map-Plus Cylinder (Yellow)
Q465	PT-1 Propane (Cylinder Red)
Q531	Rothenberger 110 bar Oxygen Cylinder
Q587	Rothenberger Maxygas 400 Cylinder (600ml)



## Brazing Accessories



CODE	DESCRIPTION	IMAGE NUMBER
Q842	Single Stage 2 Gauge Oxygen Regulator with Base Entry Threads	1
Q844	Single Stage 2 Gauge Acetylene Regulator with Base Entry Threads	2
Q848	Replacement Oxy/Acetylene Hose Set (5 Metre)	3
Q849	Replacement Oxy/Acetylene Hose Set (10 Metre)	3
Q858	Acetylene Flashback Arrestor	4
Q860	Oxygen Flashback Arrestor	5
Q846	Brazing Torch and Mixer	6
Q852	N° 7 Nozzle	7
Q854	N° 10 Nozzle	7
Q856	N° 13 Nozzle	7
Q857	N° 18 Nozzle	7
Q862	Cylinder Spanner	8
Q847	Pistol Grip Sparker	9
Q863	3 Flint Cup Sparker	10

## First Aid Kit

Small One Man & Van first aid kit, perfect for service and installation engineers. A compact briefcase style box made of polypropylene. Supplied with a wall hanging bracket.

CODE	DESCRIPTION
Q472	One Man & Van First Aid Kit



## Fire Extinguisher

Powder fire extinguisher. UK rating 8A34BC. Used for wood, paper, cloth, plastic, flammable liquids, petrol and gaseous fires also safe for use on electrical fires.

CODE	DESCRIPTION
Q473	2kg Fire Extinguisher



## Blaze Barrier Cloth

Protects walls, floors, equipment, components and adjacent surfaces when soldering, brazing or welding. Asbestos free. All cloths have edges taped and sewn with grommets at each corner.

Highly resistant to many chemicals and acids.

Will withstand heat up to 3000 °F

CODE	DESCRIPTION
Q480	18" x 18" Plain Blaze Barrier Cloth
Q481	18" x 18" Keyhole Blaze Barrier Cloth with cut-out for draping over pipes and tubes



## Extreme Brazing Mat

Extreme soldering and brazing mat. Asbestos free, professional quality, mat will withstand 1200 degrees C can be used repeatedly with Turbo Type high performance Torches.

CODE	DESCRIPTION
Q479	Brazing Mat (200 x 276 mm)



## Errecom Flame Retardant Brazing Gel

PROTECT GEL is a special product in gel formulation to protect the surfaces surrounding the point of contact of the flame during welding or brazing operations. Easy to use. It protects painted and varnished surfaces. Safe and non-toxic. It absorbs the heat from the welding or soldering torch avoiding the areas surrounding the affected point to burn or deform. Gel formula adheres to the surface to be protected without drip, stain or leaving any residue.

CODE	DESCRIPTION
Q486	Errecom Protect Gel (1 Litre)



## Blue Monster Open Mesh Abrasive Cloth

Premium blended 165 grit white Aluminum Oxide cuts and scores surfaces faster for more effective cleaning and deburring. 2" Width – 33% wider than traditional 1-1/2" wide plumbers rolls. Blue Monster provides contractors with more "surface-to-surface" coverage.

CODE	DESCRIPTION
Q633	Blue Monster Abrasive Cloth Roll 50mm x 4.6M Long



## Rothenberger Rovlies Cleaning pads

Solvent-resistant and flexible.

Removes oxide layers, corrosion, surface dirt, oil and grease residues.

Reduced corrosion damage.

No metal abrasion, can be used wet if needed.

CODE	DESCRIPTION
Q634	Rothenberger Rovlies Cleaning Pads (Pack 10)



## Stop-Heat - Heat Blocking Putty

Anti-Heat putty for soldering and brazing operations, Stop-Heat blocks the heat conduction, protecting surfaces and preventing areas surrounding the welding point from burning or deforming. Its formula in putty adheres without dripping, slipping or leaving residues. Re-usable up to 40 times. Easy to use. Safe and non-toxic.

CODE	DESCRIPTION
Q604	Errecom Stop-Heat Heat Blocking Paste (500gm)



# Silver Solder

## Cadmium Free Silver Alloy

CODE	TYPE	AG%	ROD SIZE	FLUX COATED	PACK QUANTITY
Q680	440	40	1.5 mm	No	5 Sticks
Q681	440	40	2.4 mm	No	5 Sticks
Q683	440	40	2.4 mm	No	0.5 Kilo

## 40% Cadmium Free Silver Alloy Flux Coated

CODE	TYPE	AG%	ROD SIZE	FLUX COATED	PACK QUANTITY
Q678	440F	40	1.5mm	Yes	5 Sticks
Q684	440F	40	2.0 mm	Yes	5 Sticks
Q685	440F	40	2.0 mm	Yes	0.5 Kilo

## 56% Cadmium Free Silver Alloy

CODE	TYPE	AG%	ROD SIZE	FLUX COATED	PACK QUANTITY
Q686	455	40	1.5 mm	No	5 Sticks
Q687	455	40	2.4 mm	No	5 Sticks

## 56% Cadmium Free Silver Alloy Flux Coated

CODE	TYPE	AG%	ROD SIZE	FLUX COATED	PACK QUANTITY
Q690	455F	56	2.0 mm	Yes	5 Sticks



# Brazing Alloys

## Copper Phosphorus Alloy

CODE	TYPE	ROD SIZE	PACK QUANTITY
Q800	CUP-7	1.5 mm	10 Sticks
Q801	CUP-7	2.5 mm	10 Sticks
Q802	CUP-7	3.0 mm	10 Sticks
Q805	CUP-7	2.5 mm	1 Kilo
Q808	CUP-7	2.0 mm (Square)	0.5 Kilo
Q775	Silweld PH	3.2 x 1.5 mm (Flat)	1 LB

## Copper Phosphorus Alloy with 2% Ag

CODE	TYPE	ROD SIZE	PACK QUANTITY
Q810	Ag2P	1.5 mm	10 Sticks
Q811	Ag2P	2.5 mm	10 Sticks
Q812	Ag2P	3.0 mm	10 Sticks
Q814	Rothenberger S2	2.0 mm	1 Kilo
Q816	Thessco S5	2.5 mm	1 Kilo
Q824	Ag2P	2.5 mm	1 Kilo
Q815	Ag2P	2.5 mm	2.5 Kilo

## Copper Phosphorus Alloy with 6% Ag

CODE	TYPE	ROD SIZE	PACK QUANTITY
Q820	Ag6PN	1.5 mm	10 Sticks
Q821	Ag6PN	2.5 mm	10 Sticks
Q825	Ag6PN	2.5 mm	1 Kilo

## Copper Phosphorus Alloy with 15% Ag

CODE	TYPE	ROD SIZE	PACK QUANTITY
Q828	Ag15P	2.5 mm	5 Sticks
Q829	Ag15P	3.0 mm	5 Sticks

## Flux Powder

CODE	DESCRIPTION
Q693	Flux Powder 250 grams



## Brazing Alloys Guidance Table

TYPE	%AG	TEMP. DEG. C	MAX STRENGTH N/MM SQUARE	APPLICATION AND USE
<b>CUP-7</b>	0	710/810	494	Suitable for joining Cu to Cu where ductility is not of prime consideration.
<b>PHOSON</b>	0	644/652	470	Suitable for joining Cu to Cu and designed repairs of leaks where it can be used without adversely affecting joints.
<b>Ag2P</b>	2	644/825	432	A silver alloy offering both capillary action and gap filling ability.
<b>S2</b>	2	650/810	245	Particularly suitable for gap and joint soldering in copper tube.
<b>Ag6PN</b>	6	644/718	476	Extremely fluid alloys for penetration of tight joints with the addition of pure silver, to further enhance fluidity
<b>Ag15P</b>	15	644/800	655	This alloy has the highest ductility in the Cu/P range and is free flowing. It is mostly used for gap filling and for joints subjected to excessive vibration and stress.
<b>440 Cd FREE Ag</b>	40	650/710	432	A cadmium free high silver alloy containing Copper, Zinc and Tin. Recommended for use on ferrous metals, stainless steel, copper and brass.
<b>440F Cd FREE Ag</b>	40	650/710	432	A Flux coated version of the above.
<b>455 Cd FREE Ag</b>	56	620/650	490	A high silver bearing cadmium free alloy. Offers excellent fluidity and capillary penetration at low temperatures. Recommended for use on ferrous metals, stainless steel, copper and brass.
<b>455F Cd FREE Ag</b>	56	620/650	490	A flux coated version of the above.
<b>Flux</b>	-	550/850	-	A powder flux for use with silver brazing alloys that ensures a continual uniform film of flux over the surface when heated.

**PLEASE NOTE:**

Cu/P alloys are not recommended for joining ferrous metals because of the formation of brittle intermetallics at the interface which can lead to cracking and subsequent failure. They are also not recommended where the joints made are subject to a temperature in excess of 200 Deg.C.

# COMMERCIAL REFRIGERATION PRODUCTS



## CONDENSING UNITS

A comprehensive range of **Reciprocating** and **Scroll** condensing units for commercial refrigeration sectors.

**Digital** and **Inverter** units are suitable for multi-cabinet systems or varying load applications.

## CELLAR COOLERS

The **JCC** range provides cost effective and reliable units designed with electronic control down to 4°C.

**CELLAR+** systems have increased capacities and longer pipe runs for larger cellar cooler applications.



## REGISTER NEW UNITS FOR LABOUR ASSIST...

A unique scheme which contributes towards an installer's labour costs in the rare event of a warranty failure. Access our commercial hub to register.



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Visit for technical manuals, literature, parts lists, troubleshooting and more...



# CELLAR COOLING SYSTEMS, ICE MACHINE SPARES & WATER FILTERS

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**T**  
SECTION

## J&E Hall JCC Packaged Cellar Cooling Systems

The system consists of two matching units, the JCC2 indoor unit and the J5LC outdoor condensing unit. Galvanised mild steel casing with polyester powder coating. 6 fins per inch brewery specification evaporator coils. Condensing unit fitted with rotary compressor. Low pressure switch fitted to all indoor models. The indoor unit is suitable for wall or ceiling mounting without the use of additional brackets. R410A refrigerant.

**J&E Hall**  
International



### JCC Cellar Cooling System\*

CODE	DESCRIPTION
T450	JCC2 25E
T452	JCC2 40E
T454	JCC2 50E
T456	JCC2 60E

\*FSW part number consists of both indoor and outdoor units



### JCC Cellar Cooling System Quick Selection:

**At following conditions:** Based on typical cellar construction. Insulation factor 1.40 w/m<sup>2</sup>. Typical fresh air infiltration, 1.5 air change/hr and lighting loads of 10 w/m<sup>2</sup>. Assumed plant running time 18 hrs/day and product load 16 litres/m<sup>3</sup> and no other mechanical thermal loads.

MODEL	ABOVE GROUND (max. room m <sup>3</sup> )	BELOW GROUND (max. room m <sup>3</sup> )	COOLING CAPACITIES @ 32°C AMBIENT				
			4C	8C	10C	12.7C	16C
JCC2 25E	25	45	2.70	2.78	2.82	2.87	2.94
JCC2 40E	48	70	3.78	4.02	4.14	4.31	4.53
JCC2 50E	56	90	4.19	4.45	4.59	4.78	5.02
JCC2 60E	70	120	5.29	5.53	5.65	5.82	6.03

32°C Ambient, (21°C below ground). Max product load 16 l/m<sup>3</sup> entering at 21°C. System running 18 hours per day.

## JCC Cellar Cooling Systems Specification

### General Specification

MODEL	MAX PIPE RUN / RISE**	AIRFLOW M <sup>3</sup> /S	COND UNIT PRE-CHARGE	NOISE LEVEL NR (DB (A))	PIPE SIZES	
					SUCTION	LIQUID
JCC2 25E J5LC 15C	25m / 5m	0.71 0.45	7.6m	48 29	1/2"	1/4"
JCC2 40E J5LC 20C	25m / 8m	0.63 0.61	7.6m	48 29	* 1/2"	1/4"
JCC2 50E J5LC 25C	25m / 8m	0.74 0.69	7.6m	47 32	5/8"	1/4"
JCC2 60E J5LC 28C	25m / 8m	0.71 0.69	7.6m	47 34	* 5/8"	3/8"

\* Reducer required on indoor unit. Liquid line is the expansion line and requires insulating  
\*\* For pipe runs between 15M and 25M an additional fan speed controller is required please use FSW Code E526

### Weights and Dimensions

MODEL	DIMENSIONS (mm)			WEIGHT KGS
	W	D	H	
JCC2 25E J5LC 15C	865 700	372 250	489 540	31 34
JCC2 40E J5LC 20C	865 855	372 328	489 654	34 57
JCC2 50E J5LC 25C	902 855	370 328	545 756	36 60
JCC2 60E J5LC 28C	902 855	370 328	545 756	38 65

# J&E Hall Cellar+ Packaged Cellar Cooling Systems

Introducing the all new 7kW & 8kW Cellar+ systems from J&E Hall. With increased capacity and longer pipe runs, the new systems are an ideal solution for larger cellar cooler applications

## FEATURES & BENEFITS

- Up to 50m pipe run capability for total flexibility\*
- Ease of installation
- Room temperature down to 4°C
- Operates with either R448A and R449A refrigerant
- Air straighteners fitted as standard for increased air throw
- Expansion valve kit included
- 3 years manufacturer's warranty for total peace of mind
- Single phase and three phase outdoor unit option
- Outdoor units with high quality Copeland scroll compressors



## Cellar+ Cooling System

CODE	DESCRIPTION	VOLTAGE
T510	Cellar Plus 70-S1	1ph
T512	Cellar Plus 70-S3	3ph
T518	Cellar Plus 80-S1	1ph
T520	Cellar Plus 80-S3	3ph

## Cellar+ Cooling System Quick Selection:

**At following conditions:** Based on typical cellar construction. Insulation factor 1.40 w/m<sup>2</sup>. Typical fresh air infiltration, 1.5 air change/hr and lighting loads of 10 w/m<sup>2</sup>. Assumed plant running time 18 hrs/day and product load 16 litres/m<sup>3</sup> and no other mechanical thermal loads.

MODEL	ABOVE GROUND (max. room m3)	BELOW GROUND (max. room m3)	COOLING CAPACITIES @ 32°C AMBIENT				
			4C	8C	10C	12.7C	16C
Cellar Plus 70-S1/S3	100	155	5.5	6.4	6.9	7.5	8.2
Cellar Plus 80-S1/S3	120	180	6.7	7.5	7.9	8.5	9.1

32°C Ambient, (21°C below ground). Max product load 16 l/m<sup>3</sup> entering at 21C. System running 18 hours per day.

## Cellar+ Cellar Cooling Systems

### General Specification

System	EVAP MODEL	POWER SUPPLY	FLC	SFR	AIR FLOW	AIR FLOW	NOISE LEVEL @10M	COND UNIT MODEL	POWER SUPPLY	MCC	LRC	SFR	AIR FLOW	NOISE LEVEL @ 10M	MAX PIPE RUN
Cellar Plus 70-S1	JCC2-80E	230/1/50	1.9	6	4070	10	50	BSCU-30-M1	230/1/50	21.5	82.0	25	2765	34	50
Cellar Plus 70-S3	JCC2-80E	230/1/50	1.9	6	4070	10	50	BSCU-30-M3	400/3/50	10.3	40.0	16	2765	34	50
Cellar Plus 80-S1	JCC2-80E	230/1/50	1.9	6	4070	10	50	BSCU-35-M1	230/1/50	25.0	97.0	32	3350	36	50
Cellar Plus 80-S3	JCC2-80E	230/1/50	1.9	6	4070	10	50	BSCU-35-M3	400/3/50	9.0	46.0	20	3350	36	50

Noise levels are measured in an anechoic chamber at nominal test conditions (Troom 10°C / 32°C Ta)  
Air throws are based on a final velocity of 0.4m/s

Maximum pipe run is total equivalent length of all piping  
SFR ~ Suggested Fuse Rating (Motor Rated for Outdoor Unit)

### Weights and Dimensions

MODEL	INDOOR MODEL	WIDTH (MM) ①	DEPTH (MM) ②	HEIGHT (MM)	WEIGHT (KG)	OUTDOOR MODEL	WIDTH (MM)	DEPTH (MM)	HEIGHT (MM)	WEIGHT (KG)
Cellar Plus 70-S1/S3	JCC2-80E	1437	505	557	63	BSCU-30-M1/M3	1108	478	650	77
Cellar Plus 80-S1/S3	JCC2-80E	1437	505	557	63	BSCU-35-M1/M3	1334	530	864	97

① Indoor unit width excludes pipe services - add approximately 70mm ② Indoor unit depth includes fan motor

### Installation Piping Guide

SYSTEM	CONDENSING UNIT MODEL	EVAPORATOR MODELS	TEV Model	Pipe Sizing: 10°C Cellar R448A/R449A					
				10m		20m		30m	
				Liquid	Suction	Liquid	Suction	Liquid	Suction
CellarPlus 70-S1/S3	BSCU-30-M1/M3	1x JCC2-80E	1x TE2-03	3/8"	3/4"	3/8"	7/8"	3/8"	7/8"
CellarPlus 80-S1/S3	BSCU-35-M1/M3	1x JCC2-80E	1x TE2-04	1/2"	7/8"	1/2"	7/8"	1/2"	7/8"

\*For pipe runs between 30-50m please contact the FSW Tech Dept

# J&E Hall Twin Cellar+ Systems

To expand the application of the current cellar cooler range, three new twin systems using new outdoor units are now available.

They offer lower GWP refrigerant options and longer pipe runs.

## Outdoor Unit

- Single phase and three phase option
- High quality Copeland scroll compressors
- Blue Fin coating on condenser coils for added protection

## Features & Benefits

- Up to 50m pipe run capability for total flexibility\*
- Ease of installation
- Air straighteners included for increased air flow
- Expansion valve kits included
- Room temperature down to 4°C
- Operates with either R448A and R449A refrigerant

## Twin Cellar+ Cooling System

CODE	DESCRIPTION	VOLTAGE
T514	Cellar Plus 70-T1	1ph
T516	Cellar Plus 70-T3	3ph
T522	Cellar Plus 80-T1	1ph
T524	Cellar Plus 80-T3	3ph
T526	Cellar Plus 90-T1	1ph
T528	Cellar Plus 90-T3	3ph



## Twin Cellar+ Cooling System Quick Selection:

At following conditions: Based on typical cellar construction. Insulation factor 1.40 w/m<sup>2</sup>. Typical fresh air infiltration, 1.5 air change/hr and lighting loads of 10 w/m<sup>2</sup>. Assumed plant running time 18 hrs/day and product load 16 litres/m<sup>3</sup> and no other mechanical thermal loads.

MODEL	ABOVE GROUND (max. room m3)	BELOW GROUND (max. room m3)	COOLING CAPACITIES @ 32°C AMBIENT				
			4C	8C	10C	12.7C	16C
Cellar Plus 70-T1/T3	100	155	6.3	6.9	7.2	7.6	8.0
Cellar Plus 80-T1/T3	120	180	6.7	7.5	7.9	8.5	9.2
Cellar Plus 90-T1/T3	145	210	8.0	8.8	9.2	9.7	10.3

32°C Ambient, (21°C below ground). Max product load 16 l/m<sup>3</sup> entering at 21°C. System running 18 hours per day.

## General Specification

System	EVAP MODEL (2x)	POWER SUPPLY	FLC	SFR	AIR FLOW	AIR FLOW	NOISE LEVEL @10M	COND UNIT MODEL	POWER SUPPLY	MCC	LRC	SFR	AIR FLOW	NOISE LEVEL @ 10M	MAX PIPE RUN
Cellar Plus 70-T1	JCC2-40E	230/1/50	1.0	6	2270	8	48	BSCU-30-M1	230/1/50	21.5	82.0	25	2765	34	50
Cellar Plus 70-T3	JCC2-40E	230/1/50	1.0	6	2270	8	48	BSCU-30-M3	400/3/50	10.3	40.0	16	2765	34	50
Cellar Plus 80-T1	JCC2-50E	230/1/50	1.0	6	2680	8	47	BSCU-35-M1	230/1/50	25.0	97.0	32	3350	36	50
Cellar Plus 80-T3	JCC2-50E	230/1/50	1.0	6	2680	8	47	BSCU-35-M3	400/3/50	9.0	46.0	20	3350	36	50
Cellar Plus 90-T1	JCC2-60E	230/1/50	1.0	6	2560	8	47	BSCU-40-M1	230/1/50	28.0	114.0	40	4250	41	50
Cellar Plus 90-T3	JCC2-60E	230/1/50	1.0	6	2560	8	47	BSCU-40-M3	400/3/50	9.0	50.0	20	4250	41	50

Above selections based on typical UK cellar construction: 32°C ambient (21°C for below ground)  
Product cooling time 24 hours, plant running time of 18 hours a day

Maximum product load of 16 l/m<sup>3</sup> entering room at max temp of 21°C

## Weights and Dimensions

MODEL	INDOOR MODEL	WIDTH (MM) ①	DEPTH (MM) ②	HEIGHT (MM)	WEIGHT (KG)	OUTDOOR MODEL	WIDTH (MM)	DEPTH (MM)	HEIGHT (MM)	WEIGHT (KG)
Cellar Plus 70-T1/T3	JCC2-40E	155	155	155	33	BSCU-30-M1/M3	1108	478	650	77
Cellar Plus 80-T1/T3	JCC2-50E	180	180	180	36	BSCU-35-M1/M3	1334	530	864	97
Cellar Plus 90-T1/T3	JCC2-60E	210	210	210	38	BSCU-40-M1/M3	1351	530	864	107

① Indoor unit width excludes pipe services - add approximately 70mm ② Indoor unit depth includes fan motor

## Installation Piping Guide

SYSTEM	CONDENSING UNIT MODEL	EVAPORATOR MODELS	TEV Model	Pipe Sizing: 10°C Cellar R448A/R449A					
				10m		20m		30m	
				Liquid	Suction	Liquid	Suction	Liquid	Suction
CellarPlus 70-T1/T3	BSCU-30-M1/M3	2x JCC2-40E	2x TE2-03	<b>3/8"</b> (2 x 3/8")	<b>3/4"</b> (2 x 5/8")	<b>3/8"</b> (2 x 3/8")	<b>7/8"</b> (2 x 5/8")	<b>3/8"</b> (2 x 3/8")	<b>7/8"</b> (2 x 5/8")
CellarPlus 80-T1/T3	BSCU-35-M1/M3	2x JCC2-50E	2x TE2-04	<b>1/2"</b> (2 x 3/8")	<b>7/8"</b> (2 x 5/8")	<b>1/2"</b> (2 x 3/8")	<b>7/8"</b> (2 x 5/8")	<b>1/2"</b> (2 x 3/8")	<b>7/8"</b> (2 x 5/8")
CellarPlus 90-T1/T3	BSCU-40-M1/M3	2x JCC2-60E	2x TE2-03	<b>1/2"</b> (2 x 3/8")	<b>7/8"</b> (2 x 3/4")	<b>1/2"</b> (2 x 3/8")	<b>7/8"</b> (2 x 3/4")	<b>1/2"</b> (2 x 3/8")	<b>1-1/8"</b> (2 x 3/4")

- The pipe sizes indicated in bold are from condensing unit to 'T' piece. - The pipe sizes indicated in brackets are from the 'T' piece to each evaporator.  
- The pipe sizes indicated in brackets are from the 'T' piece to each evaporator. \*For pipe runs between 30-50m please contact the FSW Tech Dept

## J&E Hall Ambient Beer Cooler

It is estimated that up to a quarter of a pub's energy bill can be accounted for by its cellar cooling requirements, so publicans and breweries are often looking for a more cost effective way to cool their cellars. The J & E Hall ambient beer cooler provides the answer.

Most beer cellars are kept at 10°C and the UK temperature between October and April often falls below that figure. When the outdoor temperature falls to 8°C Or below, the J & E Hall ambient beer cooler uses the cold outdoor air to cool your cellar at a fraction of the cost.

The ambient beer cooler is a fan module that, when the outside temperature is low enough, brings cold air into the cellar to reduce the temperature. Typical annual savings can be up to 40%.

**J&E Hall**  
International



CODE	DESCRIPTION
T468	Ambient Beer Cooler
T472	Installation Kit

## Installation

The J & E Hall ambient beer cooler is easy to mount via simple “keyhole” fixings and is compatible with any make of new and existing refrigeration cellar cooling system.

The unit is fitted to an internal cellar wall and connected to the outside via a rigid 150mm circular duct.

It is then electrically connected to a mains supply and the refrigeration cellar cooler system.

The J & E Hall ambient beer cooler will sense if the outdoor ambient temperature is low enough to provide cooling to the cellar and will switch off the refrigeration cellar cooler system while it can draw in cold air from the outside.

If the outdoor temperature rises above 8°C the ambient beer cooler will turn itself off and revert back to the refrigeration cellar cooler system.

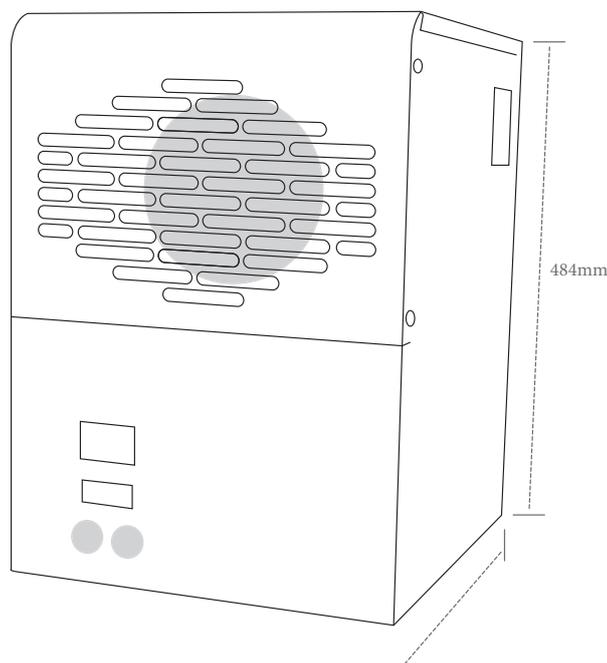
Unit Weight	Supply Voltage	Suggested Fuse rating
12kgs	230/1/50hz	6A

### Ambient Beer Cooler supplied with...

- ▶ Fresh air entry duct (rear or base entry)
- ▶ Ambient air temperature sensor
- ▶ Cellar temperature sensor
- ▶ Washable air filter
- ▶ 2m mains lead
- ▶ Instruction manual

### Installation Kit supplied with...

- ▶ Outside wall grille
- ▶ 2 internal door relief grilles
- ▶ 1 x 500mm length of 150mm ø plastic ducting

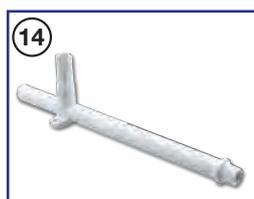
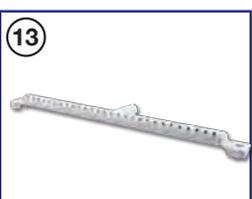
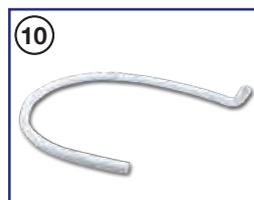
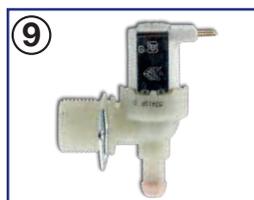
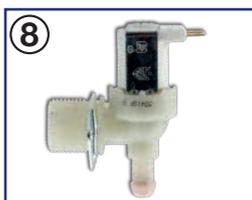
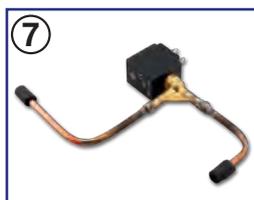
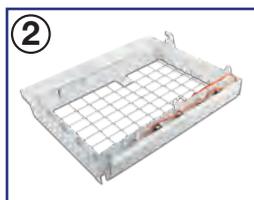
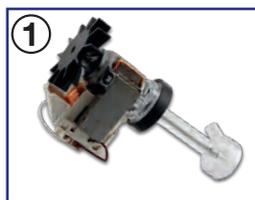


**J&E Hall**  
International

## Ice Machine Spares K20 & K40

For Philips, Whirlpool and Ignis ice machines. Spares for other makes are available to order.

CODE	MODEL	DESCRIPTION	IMAGE NUMBER
T250		Water Pump (See Note Below)	1
T252		Cutting Grid	2
T254		Bin Thermostat	3
T256		Thickness Thermostat	4
T258		Hot Gas Coil (Large)	5
T260		Hot Gas Valve Coil Only (ODE) New	6
T261		Hot Gas Valve (Complete)	7
T265		Inlet Valve for K20	8
T266		Inlet Valve for K40	9
T267		Drain Hose	10
T248		K20/40 Gasket Seal	11
T249		K40 Microswitch Arm	12
T268		K20/40 Spray Bar	13
T269		K20/40 Drain Tee (Internal)	14
T270		K20/40 Green Switch	15



Note: The twelve month warranty on this pump will be invalid if it becomes seized due to cleaning maintenance not being carried out on a regular basis.

## Everpure Water Filters

The Everpure "H" series filters have been designed for use with ice machines, hot drink and coffee machines where the appliances are susceptible to scale formation. The filters remove all impurities as small as 0.5 micron and eliminates all off-tastes and odours such as chlorine.

CODE	DESCRIPTION	RATED FLOW
T282	4H Filter	1.9 l/min (5768 ltr)
T284	MH Filter	6.3 l/min (34000 ltr)



FORMS,  
TERMS & CONDITIONS  
& INFORMATION

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OPENI

SECTION





### Belfast

Unit 6, Hawthorn Business Centre,  
Wildflower Way, Boucher Road,  
Belfast, BT12 6TA  
email: belfast@fsw.uk.com  
**Tel: 028 9066 5999**

### Birmingham

Unit 3,  
No 9, Lichfield Road Industrial Estate,  
Vine Street, Aston, Birmingham, B6 5TS  
email: birmingham@fsw.uk.co  
**Tel: 0121 328 8388**

### Bradford

Unit 4, Winchester Business Park,  
Broad Lane,  
Bradford BD4 8NY  
email: bradford@fsw.uk.com  
**Tel: 01274 664 900**

### Bristol

102 Farendell Road,  
Emerald Park East, Emersons Green,  
Bristol, BS16 7FF  
email: bristol@fsw.uk.com  
**Tel: 0117 906 1300**

### Cardiff

Units 9-10, Ringside Business Centre,  
Heol-Y-Rhosog, Rumney,  
Cardiff, CF3 2EW  
email: cardiff@fsw.uk.com  
**Tel: 02920 794 573**

### Cannock (HQ)

Delta House,  
Fairway, Bridgtown,  
Cannock, WS11 0DJ  
email: sales@fsw.uk.com  
**Tel: 01543 437 010**

### Chelmsford

2-4 Richmond Road,  
Dukes Park Industrial Est, Chelmsford,  
Essex, CM2 6UA  
email: chelmsford@fsw.uk.com  
**Tel: 01245 468 836**

### Dartford

5 - 6 Avery Way,  
Questor, Dartford,  
Kent, DA1 1JZ  
email: dartford@fsw.uk.com  
**Tel: 01322 275559**

### Edinburgh

Unit 5, Dryden Loan,  
Bilston Glen Industrial Estate,  
Edinburgh, EH20 9HR  
email: edinburgh@fsw.uk.com  
**Tel: 0131 440 9515**

### Glasgow

Unit 2a & b, Payne Street,  
Port Dundas Trading Estate,  
Glasgow, G4 0LE  
email: glasgow@fsw.uk.com  
**Tel: 0141 332 7060**

### Gloucester

Unit 11, Quadrant Distribution Centre,  
Quedgeley,  
Gloucester, GL2 2RN  
email: gloucester@fsw.uk.com  
**Tel: 01452 521 263**

### Hull

Unit 3A, Merrick Business Park,  
Merrick Street,  
Hull, HU9 1NG  
email: hull@fsw.uk.com  
**Tel: 01482 219 888**

### Isleworth

Unit 19,  
Clock Tower Road, Isleworth,  
London, TW7 6GF  
email: isleworth@fsw.uk.com  
**Tel: 0208 758 1363**

### Leicester

Unit 15,  
Langham Road,  
Leicester, LE4 9WF  
email: leicester@fsw.uk.com  
**Tel: 0116 276 9613**

### Manchester

Unit 4-5, Harp Trading Estate,  
Guinness Road,  
Trafford Park, M17 1SR  
email: manchester@fsw.uk.com  
**Tel: 0161 876 4926**

### Newcastle

311A, Foster Court,  
Team Valley Trading Estate,  
Gateshead, NE11 0NH  
email: newcastle@fsw.uk.com  
**Tel: 0191 4877982**

### Northampton

83 Tenter Road, Moulton Park,  
Northampton,  
Northants, NN3 6AX  
email: northampton@fsw.uk.com  
**Tel: 01604 671 366**

### Norwich

C5 Rhombus Park Industrial Estate,  
Diamond Road,  
Norwich, Norfolk, NR6 6NN  
email: norwich@fsw.uk.com  
**Tel: 01603 487 961**

### Nottingham

4 Genesis Park,  
Midland Way, Radford,  
Nottingham, NG7 3EF  
email: nottingham@fsw.uk.com  
**Tel: 0115 970 8943**

### Preston

Unit 229, Brierley Road,  
Walton Summit Centre,  
Bamber Bridge, Preston PR5 8BQ  
email: preston@fsw.uk.com  
**Tel: 01772 697 855**

### Reading

15, The Markham Centre,  
Station Road, Theale,  
Reading, Berkshire, RG7 4PE  
email: reading@fsw.uk.com  
**Tel: 01189 323 000**

### Shrewsbury

10 Monkmoor Industrial Estate,  
Monkmoor Road,  
Shrewsbury, Shropshire, SY2 5TX  
email: shrewsbury@fsw.uk.com  
**Tel: 01743 235 341**

### Southampton

Unit B2, Millbrook Close,  
School Lane, Chandlers Ford,  
Hampshire, SO53 4BZ  
email: southampton@fsw.uk.com  
**Tel: 02380 252 245**

### Stoke

Unit 36, Brookhouse Road,  
Parkhouse Industrial Estate-West,  
Newcastle Under Lyme, Staffordshire, ST5 7RU  
email: stoke@fsw.uk.com  
**Tel: 01782 565 566**

# FRIDGE SPARES WHOLESALE LIMITED

Based in Ireland and founded in 1965 Fridge Spares Wholesale Ltd are the parent company of the FSW UK Group



## Dublin (Ireland HQ)

Unit 15, Blackwater Road,  
Dublin Industrial Estate,  
Dublin 11, D11 YK26  
email: [Info@fridgespares.ie](mailto:Info@fridgespares.ie)  
Tel: 00353-1-8303466

## Dublin (West)

Unit 1, Ballymount Drive,  
Ballymount Industrial Estate,  
Dublin 12, D12 XC7H  
email: [landennis@fridgespares.ie](mailto:landennis@fridgespares.ie)  
Tel: 00353-1-4507514

## Cork

Unit 15, Southside Industrial Estate,  
Togher Cork,  
T12 D659  
email: [Cork@fridgespares.ie](mailto:Cork@fridgespares.ie)  
Tel: 00353-21-4317645

# FSW

## FSW UK GROUP Contact Details



## FSW HEAD OFFICE

(Robert Littler)

Delta House,  
Fairway, Bridgtown,  
Cannock, Staffs WS11 0DJ  
email: [sales@fsw.uk.com](mailto:sales@fsw.uk.com)  
**Tel: 01543 437010**  
This location for Central Warehouse,  
Sales and Purchasing Department

## FSW PROSPECT HOUSE

(Karan Riggan)

Prospect House,  
Prospect Business Park, Longford Road,  
Cannock, Staffs, WS11 0LG  
email: [sales@fsw.uk.com](mailto:sales@fsw.uk.com)  
**Tel: 01543 437010**  
This location for Accounts, IT Dept, Training,  
Sales Offices and Company Secretary



## Beacon Design & Engineering Ltd

(George Austin)

Units D3 & D4,  
Portfield Road, Portsmouth,  
Hampshire, PO3 5GQ  
email: [sales@beacon-design.co.uk](mailto:sales@beacon-design.co.uk)  
web: [www.beacon-design.co.uk](http://www.beacon-design.co.uk)  
**Tel: 02392 694152**



## Equipment Spare Parts Ltd

(Andy Fisher)

Unit 227,  
Brierley Road, Walton Summit Centre,  
Bamber Bridge, Preston, PR5 8BQ  
email: [sales@equipmentspares.co.uk](mailto:sales@equipmentspares.co.uk)  
web: [www.equipmentspareparts.co.uk](http://www.equipmentspareparts.co.uk)  
**Tel: 01772 694474**

# JUSTONECALL

## Just One Call

(Polly Knight)

102 Farendell Road,  
Emerald Park East, Emersons Green,  
Bristol BS16 7FF  
email: [sales@justonecall.uk.com](mailto:sales@justonecall.uk.com)  
**Tel: 0117 906 1303**



## NRWfm Ltd

(Charlotte Curran)

203-204 Merlin Park,  
Ringtail Road, Burscough,  
Lancashire L40 8JY  
email: [charlotte.curran@nrw-fm.co.uk](mailto:charlotte.curran@nrw-fm.co.uk)  
**Tel: 01704 898660**



The dedicated AC Support Centre from FSW

email: [acassist@fsw.uk.com](mailto:acassist@fsw.uk.com)  
**Tel: 01189 305 110**



### Price Update:

1. After the end of the free loan period, rental will be charged on cylinders on the first working day of each month, every month until the cylinder is returned to **FSW**. The free loan period of a cylinder differs, depending on the product type.

Please see below list for details of free loan periods.

Cylinder Type	Size	Free Loan Period	Monthly Rental	Lost Cylinder Charge
Refrigerant	Small	6 Months	£	£
Refrigerant	Midi	6 Months	£	£
Refrigerant	Large	6 Months	£	£
Refrigerant	HP	3 Months	£	£
CO2	10L	3 Months	£	£
CO2	30L	3 Months	£	£
OFN	10L	3 Months	£	£
OFN	30L	3 Months	£	£
Acetylene	5L	3 Months		
Acetylene	10L	3 Months		
Acetylene	40L	3 Months		
Oxygen	5L	3 Months		
Oxygen	10L	3 Months		
Oxygen	40L	3 Months		
Trace-A-Gas	10L	3 Months		
Trace-A-Gas	30L	3 Months		
Reclaim and Receiver	10kg	3 Months		
Reclaim and Receiver	45kg	3 Months		

For up to date  
prices on  
cylinder rentals  
please visit  
our website  
[www.fsw.uk.com](http://www.fsw.uk.com)

2. All lost cylinder charges are non-refundable (even if the cylinder is returned to **FSW** at a later date) as per the terms and conditions with our suppliers.
3. It is the responsibility of the customer/buyer to return any cylinders to **FSW**. It is not the responsibility of FSW to collect cylinders from customers before the end of the free loan period.
4. Rental will be charged on the first working day of the month, after the free loan period on a cylinder expires. All cylinders supplied by **FSW** are subject to cylinder rentals/charges – there are no exceptions.
5. Any cylinders returned to **FSW** damaged will be subject to a lost cylinder charge to cover the replacement of the cylinder.
6. Rental invoices shall be deemed valid and correct, and purchaser hereby waives any claim that any invoice or the sums stated thereon as due and owing are invalid or incorrect, unless purchaser notifies **FSW** within thirty (30) days of receipt of any inaccuracies or discrepancies.
7. **FSW**'s minimum cylinder rental period is one month. This means part month rentals will be charged as a full month. For example, a cylinder returned during May will be subject to a rental charge for the full month of May.

For current Rental & Lost Cylinder prices please see our website [www.fsw.uk.com](http://www.fsw.uk.com)

[WWW.FSW.UK.COM](http://WWW.FSW.UK.COM)

#### THE COMPETE SERVICE SOLUTION

- DESIGN
- SALES
- TECHNICAL SUPPORT
- 24 BRANCHES NATIONWIDE
- SPARES
- SERVICING
- AVAILABLE FROM STOCK
- DEDICATED AC CALL CENTRE

## Credit Account Application Form

**PLEASE COMPLETE IN BLOCK CAPITALS.**

Please return your completed form via email or post to:  
 accounts@fsw.uk.com  
 Delta House, Fairway, Bridgtown, Cannock, Staffs WS11 0DJ

Company Details			
Full Registered Name:		Date of Incorporation:	
Trading Name:		Registration Number:	
Trading Address:		VAT Number:	
		Company Type:	Limited <input type="checkbox"/> Government <input type="checkbox"/> Partnership <input type="checkbox"/> Sole Trader <input type="checkbox"/>
Telephone:			
E-mail:			
Sole Traders and Partnerships Only. Names and home addresses of the business owners.			
Name:		Name:	
D-O-B		D-O-B	
Home Address:		Home Address:	
Post Code:		Post Code:	
Sole Traders and Partnerships Only. Previous home addresses of the business owners (if less than 3 years at current address).			
Name:		Name:	
D-O-B		D-O-B	
Home Address:		Home Address:	
Post Code:		Post Code:	
Account requirements			
Type of Account requested:	Credit <input type="checkbox"/>	Non-Credit <input type="checkbox"/>	
Monthly Credit Required:	£		
Company Bank Details			
Bank Name:		Sort Code:	
Address:		Account Number:	
	Post Code:		
Previous Trading Experience			
Have you, any parent or subsidiary company, previously traded with FSW, NRW, ESP before in any other capacity?			
Account Name:		Account Number:	
Do any of your directors hold other directorships? If yes please attach details			
Have you ever filed for bankruptcy or been disqualified as a director? If yes, please attach details			

**Certification Requirements**

Do you employ <u>directly</u> , or are you a skilled refrigeration or air conditioning engineer?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Do you, or your engineers hold either a <u>City &amp; Guilds</u> or a <u>Refrigeration Industry Board Certificate</u> for the safe handling of refrigerants?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Do You hold a Company F-Gas Certificate?	Yes <input type="checkbox"/> No <input type="checkbox"/>
If You answered Yes, Please provide details below: If NO (see * below)	
Registration Number: .....	
Expiry Date : .....	

\*Under Regulation (EU) N° 517/2014 we are unable to sell refrigerant to anyone without a valid F-Gas Certificate

Please be aware that by applying for a credit account your business will be subjected to some or all of the following searches: • Land Registry • Credit History • Bank References.

In accordance with the Data Protection Act 1998 I/we confirm that I am/we are the above named individuals or have their consent to provide you with the above information insofar as it comprises personal data and consent to you processing that, and any other information which comes into your possession during the period in which this account is running. I understand that in the course of opening and running the account you will obtain further personal data from and may disclose personal data to third parties (including reference agencies) for the purpose of running your business and accounts management. I consent to that processing.

**Acceptance of Terms**

All sales of products and services by FSW to the applicant will be subject to the standard terms and conditions in force at the time of order.

I/We CONFIRM

- That I/we have read and understood the terms and conditions enclosed and am authorised to sign and accept the Terms.
- That I/we agree to your payment terms.

I agree to receive marketing messages via email from and about Fridge Spares Wholesale Ltd.

FSW reserves the right to terminate this Agreement for credit forthwith without notice upon a breach, by the customer, of any Terms and Conditions and all amounts then outstanding will become due forthwith. Thereafter interest will be charged on a daily basis until the account is paid in full.

Authorised Signature:		Position:	
Print Name:		Date:	

**Office Use Only :**

Account opened by :	
Account Number :	
Credit Rating :	
Credit Limit :	
Payment Terms :	
F-Gas Details entered online:	
Authorised :	
Date :	
Comments :	

# FSW STANDARD TERMS AND CONDITIONS FOR THE SALE OF GOODS (EFFECTIVE APRIL, 2010)

## 1. Application of Conditions

- 1.1 The Seller shall sell and the Buyer shall purchase the Goods in accordance with any quotation or offer of the Seller which is accepted by the Buyer, or any order of the Buyer which is accepted by the Seller.
- 1.2 These Conditions shall govern the Contract to the exclusion of any other terms and conditions subject to which any such quotation is accepted or purported to be accepted, or any such order is made or purported to be made, by the Buyer.

## 2. Interpretation

- 2.1 In these Conditions:-

- "Business Day"** means any day other than a Saturday, Sunday or bank holiday;
- "The Buyer"** means the person who accepts a quotation or offer of the Seller for the sale of the Goods or whose order for the Goods is accepted by the Seller;
- "The Contract"** means the contract by the purchase and sale of the Goods under these conditions;
- "These Conditions"** means the standard terms and conditions of sale set out in this document and (unless the context otherwise requires) includes any special terms and conditions agreed in writing between the Buyer and the Seller;
- "The Delivery Date"** means the date on which the Goods are to be delivered as stipulated in the Buyers order and accepted by the Seller;
- "The Goods"** means the goods (including any instalment of the goods or any parts for them) which the Seller is to supply in accordance with these Conditions;
- "Month"** means a calendar month;
- "The Seller"** means Fridge Spares Wholesale Limited (FSW), a company registered in England under 1801677 and includes all employees and agents of Fridge Spares Wholesale Limited (FSW).
- "Writing"** includes any communications effected by text, facsimile transmission, electronic mail or any other means.

- 2.2 Any reference in these Conditions to a statute or a provision of a statute shall be construed as a reference to that statute or provision as amended, re-enacted or extended at the relevant time.

- 2.3 The headings in these Conditions are for convenience only and shall not affect their interpretation.

## 3. Basis of Sale

- 3.1 The Seller's employees or agents are not authorised to make any representations concerning the Goods unless confirmed by the Seller in writing. In entering into the Contract the Buyer acknowledges that it does not rely on, and waives any claim for breach of, any such representations which are not so confirmed.
- 3.2 No variation to these Conditions shall be binding unless agreed in writing between the authorised representatives of the Buyer and the Seller.
- 3.3 Sales literature, price lists and other documents issued by the Seller in relation to the Goods are subject to alteration without notice and do not constitute offers to sell the Goods which are capable of acceptance. An order placed by the Buyer may not be withdrawn cancelled or altered prior to acceptance by the Seller and no contract for the sale of the Goods shall be binding on the Seller unless the Seller has issued a quotation which is expressed to be an offer to sell the goods or has accepted an order placed by the Buyer by whichever is the earlier of:- The Seller's written acceptance; Delivery of the Goods; or The Seller's invoice.
- 3.4 Any typographical, clerical or other accidental errors or omissions in any sales literature, quotation, price list, acceptance of offer, invoice or other document or information issued by the Seller shall be subject to correction without any liability on the part of the Seller.

## 4. Orders and Specifications

- 4.1 No order submitted by the Buyer shall be deemed to be accepted by the Seller unless and until confirmed in writing by the Seller's authorised representative.
- 4.2 The specification for the Goods shall be those set out in the Seller's sales documentation unless varied expressly in the Buyer's order (if accepted by the Seller). The Goods will only be supplied in the minimum units (or multiples) stated in the Seller's price list or in multiples of the sales pack quantities as specified. Orders received for quantities other than these will be adjusted accordingly, illustrations, photographs or descriptions whether in catalogues, brochures, price lists or other documents issued by the Seller are intended as a guide only and shall not be binding on the Seller.
- 4.3 The Seller reserves the right to make any changes in the specification of the Goods which are required to conform with any applicable safety or other statutory or regulatory requirements or, where the Goods are to be supplied to the Seller's specification, which do not materially affect their quality or performance.
- 4.4 No order which has been accepted by the Seller may be cancelled by the Buyer except with the agreement in writing of the Seller on the terms that the Buyer shall indemnify the Seller in full against all loss (including loss of profit), costs (including the cost of all labour and materials used), damages, charges and expenses incurred by the Seller as a

result of cancellation in which event the Seller shall be entitled to invoice the Buyer for the price at any time after the Seller has notified the Buyer that the Goods are ready for collection or (as the case may be) the Seller has tendered delivery of the Goods.

## 5. Price

- 5.1 The price of the Goods shall be the price listed in the Current Sales Literature at the date of acceptance of the Buyer's order or such other price as may be agreed in writing by the Seller and the Buyer.
- 5.2 Where the Seller has quoted a price for the Goods other than in accordance with the Seller's published price list the price quoted shall be valid for 30 days only or such lesser time as the Seller may specify.
- 5.3 The Seller reserves the right, by giving notice to the Buyer at any time before delivery, to increase the price of the Goods to reflect any increase in the cost to the Seller which is due to any factor beyond the control of the Seller (such as, without limitation, any foreign exchange fluctuation currency regulation, alteration of duties, significant increase in the costs of labour, materials or other costs of manufacture), any change in delivery dates, quantities or specifications for the Goods which is requested by the Buyer, or any delay caused by any instructions of the Buyer or failure of the Buyer to give.
- 5.4 Any settlement discount specified by the Seller in the examined.
- 5.5 Except as otherwise stated under the terms of any quotation or in any price list of the Seller, and unless otherwise agreed in writing between the Buyer and the Seller, all prices or shortages that would be apparent on reasonable careful inspection if the terms of this clause are not complied with and, in any event will be under no liability if shortages are not reported within 24 hours and a written complaint is not delivered to the Seller within 3 days of delivery detailing the alleged damage or shortage.
- 5.6 The price is exclusive of any applicable value added tax excise, sales or taxes or levies of a similar nature which are imposed or charged by any competent fiscal authority in respect of the Goods, which the Buyer shall be additionally liable to pay to the Seller.

## 6. Payment

- 6.1 Subject to any special terms agreed in writing between the Buyer and the Seller, the Seller shall invoice the Buyer for the price of the Goods on or at any time after delivery of the Goods, unless the Goods are to be collected by the Buyer or the Buyer wrongfully fails to take delivery of the Goods, in before any use is made there of or any alteration or modification is made thereto by the Buyer.
- 6.2 The Buyer shall pay the price of the Goods (less any discount or credit allowed by the Seller, but without any other deduction credit or set off) within 30 days from the end of the month of the date of the Seller's invoice or otherwise in accordance with such credit terms as may have been agreed in writing between the Buyer and the Seller in respect of the Contract. Payment shall be made on the due date notwithstanding that delivery may not have taken place and/or that the property in the Goods has not passed to the Buyer. The time for the payment of the price shall be of the essence of the Contract. Receipts for payment will be issued only upon request.
- 6.3 All payments shall be made to the Seller as indicated on the form of acceptance or invoice issued by the Seller.
- 6.4 The Seller is not obliged to accept orders from any customer or buyer who has not supplied the Seller with references satisfactory to the Seller; if at any time the Seller is not satisfied as to the creditworthiness of the Buyer it may give notice in writing to the Buyer that no further credit will be allowed to the Buyer in which event no further goods will be delivered to the Buyer other than against cash payment and notwithstanding Clause 6.2 of these conditions, all amounts owing by the Buyer to the Seller shall be immediately payable in cash.
- 6.5 The Seller will only accept cheque payments up to the value of £300.00 if accompanied by a valid cheque guarantee card unless the cheque is in payment of an outstanding authorised credit account.
- 6.6 The Seller accepts payment by most major credit and debit cards. If however payment is made by credit card the Seller reserves the right to charge a 3% handling fee.

## 7. Delivery

- 7.1 Delivery of the Goods shall be made by the Seller delivering the Goods to the place in the United Kingdom specified in the Buyer's order and/or the Seller's acceptance as the location to which the Goods are to be delivered by the Seller or, if no place of delivery is so specified, by the Buyer collecting the Goods at the Seller's premises at any time after the Seller has notified the Buyer that the Goods are ready for collection.
- 7.2 The Delivery Date is approximate only and time for delivery shall not be of the essence unless previously agreed by the Seller in writing. The Goods may be delivered by the Seller in advance of the Delivery Date upon giving reasonable notice to the Buyer.
- 7.3 Where the Goods are to be delivered in instalments, each delivery shall constitute a separate contract and failure by the Seller to deliver any one or more of the instalments in accordance with these Conditions or any claim by the Buyer in respect of any one or more instalments shall not entitle the Buyer to treat the Contract as a whole as repudiated.
- 7.4 If the Buyer fails to take delivery of the Goods or any part of them on the Delivery Date and/or fails to provide any

instructions, documents, licences, consents or authorisations required to enable the Goods to be delivered on that date, the Seller shall be entitled upon given written notice to the Buyer to store or arrange for the storage of the Goods and then notwithstanding the provision of Condition 10.1 of these Conditions risk in the Goods shall pass to the Buyer, delivery shall be deemed to have taken place and the Buyer shall pay to the Seller all costs and expenses including storage and insurance charges arising from such failure. The Goods are available for collection; or in the case of Goods to be delivered otherwise than at the Seller's premises, the time of delivery or if the Buyer wrongfully fails to take delivery of the Goods, the time when the Seller has tendered delivery of the Goods.

## 8. Non-Delivery

- 8.1 If the Seller fails to deliver the Goods or any part thereof on the Delivery Date other than for reasons outside the Seller's reasonable control or the Buyer's or its carrier's fault:- If the Seller delivers the Goods at any time thereafter the Seller shall have no liability in respect of such late delivery; if the Buyer gives written notice to the Seller within 2 Business Days after the Delivery Date and the Seller fails to deliver the Goods within 5 Business Days after receiving such notice the Buyer may cancel the order and the Seller's liability shall be limited to the excess (if any) of the cost of the Buyer (in the cheapest available market) of similar goods to those not delivered over the price of the Goods not delivered.
9. **Inspection/Shortage**
- 9.1 The Buyer is under a duty whenever possible to inspect the Goods on delivery or on collection as the case may be.
- 9.2 Where the Goods cannot be examined the carriers note or such other note as appropriate shall be marked "not examined".
- 9.3 The Seller shall be under no liability for any damage or shortages that would be apparent on reasonable careful inspection if the terms of this clause are not complied with and, in any event will be under no liability if shortages are not reported within 24 hours and a written complaint is not delivered to the Seller within 3 days of delivery detailing the alleged damage or shortage.
- 9.4 In all cases where defects or shortages are complained of, the Seller shall be under no liability in respect thereof unless an opportunity to inspect the Goods is supplied to the Seller "The Goods" "Month". The Seller means the goods (including any instalment of the goods or any parts for them) which the Seller is to supply in accordance with these Conditions; means a calendar month; means Fridge Spares Wholesale Limited (FSW), a company registered in England under 1801677 and includes all employees and agents of Fridge Spares Wholesale Limited (FSW) inclusive of the Seller's charges for packaging and transport.
- 9.5 Subject to condition 9.3 and condition 9.4, the Seller shall make good any shortage in the Goods and where appropriate replace any goods damaged in transit as soon as it is reasonable to do so, but otherwise shall be under no liability whatsoever arising from such shortage or damage.
10. **Risk and Retention of Title**
- 10.1 Risk of damage to or loss of the Goods shall pass to the Buyer at: In the case of Goods to be delivered at the Seller's premises, the time when the Seller notifies the Buyer that "Writing" includes any communications effected by telex, facsimile transmission, electronic mail or any comparable means.
- 10.2 Not with standing delivery and the passing of risk in the Goods, or any other provision of these Conditions, legal and beneficial title of the Goods shall not pass to the Buyer until the Seller has received in cash or cleared funds payment in full of the price of the Goods.
- 10.3 Sub-clause 10.2 notwithstanding, legal and beneficial title of the Goods shall not pass to the Buyer until the Seller has received in cash or cleared funds payment in full of the price of the Goods and any other goods supplied by the Seller and the Buyer has repaid any moneys owed to the Seller, regardless of how such indebtedness arose.
- 10.4 Until payment has been made to the Seller in accordance with these Conditions and title in the Goods has passed to the Buyer, the Buyer shall be in possession of the Goods as bailee for the Seller and the Buyer shall store the Goods separately and in an appropriate environment shall ensure that they are identifiable as being supplied by the Seller and shall insure the Goods against all reasonable risks.
- 10.5 In the event that the Buyer sells or transfers the Goods to a third party before legal and beneficial title has passed to him under these Conditions, the proceeds of the sub-sale or transfer (or such proportion as is due to the Seller) shall be held by the Buyer on behalf of the Seller. The Buyer shall ensure that such moneys are held separately from, and are in no way mixed with, any other moneys or funds, and that all moneys held on the Seller's behalf are identified as such.
- 10.6 If the Goods are manufactured into another form or are used in the process of manufacturing other goods, the Supplier shall acquire legal and beneficial title to the resulting goods, or a proportion of the title equal to the contribution made to the resulting goods by the Goods.
- 10.7 The Seller may, in accordance with the provisions of the Companies Act 1985, register any charge created by these Conditions.
- 10.8 The Buyer shall not be entitled to pledge or in any way charge by way of security for any indebtedness any of the goods which remain the property of the Seller, but if the

Buyer does so all money owing by the Buyer to the Seller shall (without prejudice to any other right or remedy of the Seller) forthwith become due and payable.

- 10.9 The Seller reserves the right to repossess any Goods in which the Seller retains title without notice. The Buyer irrevocably authorises the Seller to enter the Buyer's premises during normal business hours for the purpose of repossessing the Goods in which the Seller retains title and to allow inspection of the Goods to ensure compliance with the storage and identification requirements of sub-clause 10.4.
- 10.10 The Buyer's right to possession of the Goods in which the Seller maintains legal and beneficial title shall terminate if; The Buyer commits or permits any material breach of his obligations under these Conditions; The Buyer enters into a voluntary arrangement under Part 1 of the Insolvency Act 1986, or any other scheme or arrangement is made with his creditors; The Buyer is or becomes the subject of a bankruptcy order or takes advantage of any other statutory provision for the relief of insolvent debtors; The Buyer convenes any meeting of its creditors, enters into voluntary or compulsory liquidation, has a receiver, in respect of its assets or undertaking or any part thereof, any documents are filed with the court for the appointment of an administrator in respect of the Buyer, notice of intention to appoint an administrator is given by the Buyer or any of its directors or by a qualifying floating charge-holder (as defined in paragraph 14 of Schedule B1 of the Insolvency Act 1986), a resolution is passed or petition presented to any court for the winding up of the Buyer or for the granting of an administration order in respect of the Buyer, or any proceedings are commenced relating to the insolvency or possible insolvency of the Buyer.
- 11. Instructions and Safety Compliance**  
The Buyer must ensure that all Goods are installed, maintained and used strictly in accordance with the appropriate instructions and recommendations both for the safety of users and third parties and also to prevent damage to the Goods.
- 12. Warranty Conditions and Procedure**  
12.1 In the case of Goods sold by the Seller where the Manufacturers and/or other recommended installation and maintenance procedures have been correctly followed the Seller warrants that: If any Goods sold by the Seller are found not to be of merchantable quality within one year from the date of sale or within such longer time within the warranty period given to the Seller by the Manufacturer of the Goods and the Buyer complies with the procedure in Condition 12.2, then a credit note will be given in respect of the original Goods provided that: Where a part of the Goods is found not to be of merchantable quality this warranty applies only to that part and not to the Goods in their entirety. Items supplied under this warranty are only warranted for the remainder of the period of the warranty of the Goods originally sold under the Contract. The Seller does not accept claims for postage, carriage or delivery of an item under this warranty. Such costs will be at the expense of the Buyer. The Seller reserves the right to make site visits in order to inspect installations in the case of a warranty claim. All Goods returned under warranty must have gas or liquid connections sealed to prevent ingress of any foreign body or moisture. The Seller does not accept any labour charges for the replacement of warranty items unless expressly offered by the Manufacturer. The Seller does not accept claims where the procedures and uses in Condition 11 have been misapplied. The Seller will not accept any warranty liability where the Goods fail to meet the specifications if the failure results from the operation of other goods not supplied by the Seller with which the Seller's Goods are set to work. The Warranty shall not apply to any Goods which have not been paid for in full.  
Returns procedure - In the event where Goods need to be returned under our warranty for repair, they must be packed in the original undamaged packaging. The Buyer must keep all original packaging and documentation - as these must be sent back with the goods under warranty repair, and the packaging clearly marked with the name/address of the sender. The Buyer is responsible for keeping their original sales invoice with the sales order number. In order to process a warranty claim we need the original sales invoice or order number. On receipt of the Goods back to the Seller, the Buyer must ensure in all cases he receives a Returned Materials (RM) Note. Warranty claims are invalid if the Buyer cannot produce their original sales invoice with the sales order number and also proof that the Goods have been returned by production of the RM Note. The Buyer must keep their original sales invoice as it is the ONLY proof of purchase we can accept in case of a warranty claim. Genuine faults occurring within the warranty period, will be processed Free of Charge On receipt of Goods proven to be non-faulty, or Goods which have been incorrectly maintained, installed or assembled by the consumer, we reserve the right to charge for our labour and examination costs. All non-faulty returns will be subject to an additional return postage charge. Any charges must be paid in full before the equipment is released back to the consumer. In the event that a consumer does not agree to pay charges for examination, repair or return postage costs of the items, the items will be quarantined for a period of three (3) months, after which they will be disposed of without further contact with the Customer. Advanced Warranty Replacement The Seller appreciates that on occasions it is inconvenient to be without your Goods whilst undergoing our returns procedures. In the event that a customer requests replacement Goods to be dispatched prior to our receipt and processing at our premises, we will make a full

- charge for the Goods, including postage & packing costs. Upon receipt and examination of the returned Goods, if they are found to be genuinely faulty, a refund will be processed immediately. We endeavour to process all warranty returns within 28 days of receipt whenever possible.
- 12.2 The Seller shall be under no liability in respect of any defect arising from fair wear and tear, or any willful damage, negligence, subjection to normal conditions, failure to follow the Seller's instructions (whether oral or in writing), misuse or alteration of the Goods without the Seller's approval, or any other act or omission on the part of the Buyer, its employees or agents or any third party.
- 12.3 Subject as expressly provided in these Conditions, and except where the Goods are sold under a consumer sale, all warranties, conditions or other terms implied by statute or common law are excluded to the fullest extent permitted by law.
- 12.4 Where the Goods are sold under a consumer sale the statutory rights of the Buyer are not affected by these Conditions.
- 12.5 Except in respect of death or personal injury caused by the Seller's negligence, or as expressly provided in these Conditions, the Seller shall not be liable to the Buyer by reason of any representation, or any implied warranty, condition or other term, or any duty at common law or under statute, or under the express terms of the Contract, for any direct or consequential loss or damage sustained by the Buyer (including without limitation loss of profit or indirect or special loss), costs, expenses or other claims for consequential compensation whatsoever (and whether caused by the negligence of the Seller, its servants or agents or otherwise) which arise out of or in connection with the supply of the Goods or their use or resale by the Buyer.
- 12.6 The Buyer shall be responsible to ensure that, except to the extent that instructions as to the use or sale of the Goods are contained in the packaging or labelling of the Goods, any use or sale of the Goods by the Buyer is in compliance with all applicable statutory handling and sale of the Goods by the Buyer is carried out in accordance with directions given by the Seller or any competent governmental or regulatory authority and the Buyer will indemnify the Seller against any liability loss or damage which the Seller might suffer as a result of the Buyer's failure to comply with this condition.
- 13. Returned Goods**  
13.1 Goods cannot be returned except when previously agreed in advance, and subject to their return in perfect and re-saleable condition, a re-handling charge of 25% of the price of the Goods will be made to cover administration expenses.  
13.2 Goods that have been Special Ordered by the Seller and are not detailed in our catalogue, cannot be returned under any circumstances.
- 14. Buyer's Default**  
14.1 If the Buyer fails to make any payment on the due date then, without prejudice to any other right or remedy available to the Seller, the Seller shall be entitled to Cancel the order or suspend any further deliveries to the Buyer; Appropriate any payment made by the Buyer to such of the Goods (or the goods supplied under any other contract between the Buyer and the Seller) as the Seller may think fit (notwithstanding any purported appropriation by the Buyer); and charge the Buyer interest (both before and after any judgement) on the amount unpaid, at the rate of eight per cent per annum above National Westminster Bank base rate from time to time, until payment in full is made (interest is charged on a daily rate).  
14.2 This condition applies if:- The Buyer fails to perform or observe any of its obligations hereunder or is otherwise in breach of the Contract; or the Buyer becomes subject to an administration order or makes any voluntary arrangement with its creditors (within the meaning of the Insolvency Act 1986) or (being an individual or firm) becomes bankrupt or (being a company) goes into liquidation; or An encumbrancer takes possession, or a receiver is appointed, of any of the property or assets of the Buyer; or The Buyer ceases, or threatens to cease, to carry on business; or The Seller reasonably apprehends that any of the events mentioned above is about to occur in relation to the Buyer and notifies the Buyer accordingly.
- 14.3 If Condition 14.2 applies then, without prejudice to any other right or remedy available to the Seller, the Seller shall be entitled to cancel the Contract or suspend any further deliveries under the Contract without any liability to the Buyer, and if the Goods have been delivered but not paid for the price shall become immediately due and payable notwithstanding any previous agreement or arrangement to the contrary.
- 15. Limitation of Liability**  
15.1 Subject to condition 7, condition 8 and condition 14, the following provisions set out the entire financial liability of the Seller (including any liability for the acts or omissions of its employees, agents and sub-contractors) to the Buyer in respect of: Any breach of these conditions; Any use made (including but not limited to modifications) or resale by the Buyer of any of the Goods, or of any product incorporating any of the Goods; and any representation, statement or tortious act or omission including negligence arising under or in connection with the Contract.  
15.2 All warranties, conditions and other terms implied by statute or common law (save for the conditions implied by section 12 of the Sale of Goods Act 1979) are, to the fullest extent permitted by law, excluded from the Contract.  
15.3 Nothing in these conditions excludes or limits the liability of

- the Seller: For death or personal injury caused by the Seller's negligence; or for any matter which it would be illegal for the Seller to exclude or attempt to exclude its liability; or for fraud or fraudulent misrepresentation.
- 15.4 Subject to condition 15.2 and condition 15.3: The Seller's total liability in contract, tort (including negligence or breach of statutory duty), misrepresentation, restitution or otherwise, arising in connection with the performance or contemplated performance of the Contract shall be limited to the Contract price; and the Seller shall not be liable to the Buyer for any pure economic loss, loss of profit, loss of business, depletion of goodwill or otherwise, in each case whether direct, indirect or consequential or any claims for consequential compensation whatsoever (howsoever caused) which arise out of or in connection with the Contract.
- 16. Confidentiality, Publications and Endorsements**  
16.1 The Buyer undertakes to the Seller that the Buyer will regard as confidential the contract and all information obtained by the Buyer relating to the business and/or products of the Seller and will not use or disclose to any third party such information without the Seller's prior written consent provided that this undertaking shall not apply to information which is in the public domain other than by reason of the Buyer's default; the Buyer will not use or authorise or permit any other person to use any name, trademark, house mark, emblem or symbol which the Seller is licensed to use or which is owned by the Seller upon any premises, note paper, visiting cards, advertisement or other printed matter or in any other manner whatsoever unless such use shall have been previously authorised in writing by the Seller and (where appropriate) its Licensor; The Buyer will use all reasonable endeavours to ensure compliance with this Condition by its employees, servants and agents. This Condition shall survive the termination of the Contract.
- 17. Communications**  
17.1 All communications between the parties about the Contract shall be in writing and delivered by hand or sent by pre-paid first class post, fax or electronic mail; (in the case of communications to the Seller) to its registered office or such changed address as shall be notified to the Buyer by the Seller; or (in the case of the communications to the Buyer) to the registered office of the addressee (if it is a company) or (in any other case) to any address of the Buyer set out in any document which forms part of the Contract or such other address as shall be notified to the Seller by the Buyer.  
17.2 Communications shall be deemed to have been received: if sent by pre-paid first class post, two Business Days after posting (exclusive of the day of posting); or if delivered by hand, on the day of delivery; or if sent by fax or electronic mail on a Business Day prior to 4.00 pm, at the time of transmission and otherwise on the next Business Day.  
17.3 Communications addressed to the Seller shall be marked for the attention of the Managing Director.
- 18. Force Majeure**  
18.1 In the event that either party is prevented from fulfilling its obligations under this Agreement by reason of any supervening event beyond its control including but not limited to war, national emergency, flood, earthquake, strike or lockout (subject to Sub-clause 18.2) the party shall not be deemed to be in breach of its obligations under this agreement. The party shall immediately give notice of this to the other party and must take all reasonable steps to resume performance of its obligations.  
18.2 Sub-clause 18.1 shall not apply with respect to strikes and lockouts where such action has been induced by the party so incapacitated.  
18.3 Each party shall be liable to pay to the other damages for any breach of this Agreement and all expenses and costs incurred by that party in enforcing its rights under this agreement.  
18.4 If and when the period of such incapacity exceeds 6 months then this agreement shall automatically terminate unless the parties first agree otherwise in writing.
- 19. Assignment**  
19.1 The Seller may assign the Contract or any part of it to any person, firm or company.  
19.2 The Buyer shall not be entitled to assign the Contract or any part of it without the prior written consent of the Seller.
- 20. Waiver**  
No waiver by the Seller of any breach of the Contract by the Buyer shall be considered as a waiver of any subsequent breach of the same or any other provision.
- 21. Severance**  
If any provision of these Conditions is held by any competent authority to be invalid or unenforceable in whole or in part the validity of the other provisions of these Conditions and the remainder of the provision in question shall not be affected thereby.
- 22. Third Party Rights**  
A person who is not a party to the Contract shall have no rights under the Contract pursuant to the Contracts (Rights of Third Parties) Act 1999.
- 23. Governing Law and Jurisdiction**  
The Contract shall be governed by the laws of England and the parties agree to submit to the exclusive jurisdiction of the English courts.

# FSW PRODUCT RETURN POLICY

## A. Items to be returned under Warranty

All Goods supplied by FSW are covered by a warranty period of a minimum of one year from the date of sale. In some cases, a longer period of Warranty is provided by the Manufacturer of the Goods and where this is the case, this warranty will be given by FSW to the customer.

Where goods are deemed not to be of merchantable quality or defective, and they are within the period of the warranty, then a request can be registered on the FSW RMA (Return Merchandise Authorisation) portal. Once a request has been received by FSW, it will be processed as quickly as possible and a response given to the customer by email. The item must not be returned until advised by FSW. The email will contain either an RMA authorisation number, or alternatively, a reason for rejection of the warranty claim.

The issue of the RMA authorisation number does not constitute acceptance that warranty has been agreed by FSW or the manufacturer, but it does confirm that the item as identified by the customer and the date of the invoice which has been entered in the RMA system, does fall within the Warranty period and therefore the request for a Warranty claim can proceed to the next stage, which is to ship the item to FSW and in turn the manufacturer, for inspection and confirmation that the warranty is valid.

When returning the item, it must be accompanied by the RMA Packing slip and RMA Shipping label, with the RMA number that you have received visible on the returned product, otherwise the Warranty claim cannot be processed.

Any product returned to FSW must be complete and contain all parts as originally supplied. Compressors returned must be properly sealed, with caps fitted or brazed and with all relevant electrics.

If items are received back incomplete or if compressors are not sealed, then the warranty claim will be void and you will be advised accordingly.

## Advanced Warranty Replacement

FSW understands that on occasions, it is inconvenient to be without the Goods whilst undergoing our Warranty procedures. In the event that a customer requests replacement Goods prior to the Warranty claim being processed, we will make a full charge for the Goods, including delivery charges. The customer must return the goods that have been identified as being faulty within 7 days of reporting the original claim. Upon receipt and examination of the returned Goods under Warranty, if they are found to be faulty, a refund covering the replacement cost of the goods will be processed as quickly as possible.

## B. Items surplus to requirements, for return for credit

You may return a Standard Stock item (FSW Alpha numeric or XX part numbers) to us for a refund or replacement, providing the return is agreed in advance by an authorised FSW employee, and it is subject to the returned part being in an 'as new' re-saleable condition, contained in the original packaging.

If you wish to return the relevant part within 48 hours of purchase, please contact an FSW branch & providing it meets the above conditions, you will be given an immediate 100% credit.

If you wish to return the relevant part and it is greater than 48 hours from your purchase date, then you must agree the return in advance with an authorised FSW employee and then process the return request through the FSW RMA Returns system. The name of the FSW person who has agreed the return must be included in your RMA request in the field 'Detailed Problem Description' which is part of the 'Enter other information' Page of the FSW RMA portal.

Once an RMA request has been submitted by you we will endeavour to process your request as quickly as possible. We will confirm that the information entered by you is valid and we will provide an RMA number authorising you to return the goods to your nearest FSW location. The RMA packing slip, containing the RMA number must accompany the goods. If the return is not processed through our RMA system or goods are returned to us without an accompanying RMA number, the goods cannot be accepted, unless the return has been made within 48 hours of purchase (as per the above – return within 48 hours of purchase).

If the goods returned are in an 'as-new', re-saleable condition, and providing they are returned in the period up to 30 days from date of original sale, then a 100% credit will be given to you and no restocking charges will be applied; if the goods are returned on a date that is greater than 30 days from the date of original sale, then a restocking charge of 25% of the nett price of the Goods will be applied to the credit note.

Goods that have been especially ordered for you using YY, ZZ or 'Manual' part numbers cannot be accepted for return; if they are returned to us, no credit will be given.

## C. Reporting damages

Any damages received on delivery must be reported within 24 hours of receiving goods; if not reported within 24 hours, no credit will be given.

## Process for Creating an RMA (Return Merchandise Authorisation)

1. Create a Request by logging in to our RMA website <http://fswltd.returnsportal.net/>  
If you do not have an account, please click "Create an Account" and enter all valid information - name, shipping address and an email address.
2. Once registered, you can use the RMA system to create returns requests. Please select the appropriate 'Reason for Return' category for your item and record a 'Detailed Problem Description' in the relevant field.
3. We will review your request and respond to you by email, as quickly as possible; please do not return your item until you have received any further communication back from us. If your request is approved you will receive a notification email with your RMA number and you can login to the RMA website to print 2 copies of your RMA packing slip and RMA Shipping label so that you can then return your item to the nearest FSW location.

You can log in to our RMA website at any time to check the status of your request.

# FSW

## Calibration Service

Calibration service available for old and new equipment such as test meters, thermometers, charging scales, leak detectors, vacuum gauges, manifolds digital and analogue.

We can send your existing equipment away for calibration, or to speed up the process and reduce the cost slightly you can order new equipment such as manifolds or leak detector complete with calibration certificate.

To obtain the latest FSW Calibration price list contact your local FSW or visit [www.fsw.uk.com](http://www.fsw.uk.com).



# FSW

## After Sales Service & Repair

Maintaining your equipment is important, that is why FSW offer servicing and repair on all FSW supplied products and most other brands of equipment.

So, if you think your vacuum pump or recovery machine isn't performing like it used to or simply fails to run and you would like it inspected\* before buying a new machine, why not consult your local FSW for the latest prices on our service and repair programme.

(\*Charges apply.)



# PROFROID

## PROFROID QUIET COOL CO2 PACKAGED CONDENSING UNITS



- Four medium & 3 low-temperature models
- Single or twin compressors
- High-quality units with easy access to all components
- Weatherproof housing with electrical isolator
- Carel controller designed specifically for CO2 applications
- Ecodesign compliant



[www.fsw.uk.com](http://www.fsw.uk.com)  
PROFROID AVAILABLE IN STOCK  
ACROSS 24 FSW BRANCHES

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