



# The Refrigeration & A/C Component Wholesaler



# **CARS**

REFRIGERATION & A/C COMPONENTS WHOLESALERS



# CARS

REFRIGERATION & A/C COMPONENTS WHOLESALE

## Refrigeration Engineer Attending Emergency Service

Contact \_\_\_\_\_

Tel \_\_\_\_\_

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# STANDARD DELIVERY CHARGES

For all deliveries made by carriers

FREE NEXT DAY DELIVERY ON ALL  
ORDERS OVER £100.00 NETT (UK MAINLAND)

### Consignments

Next Day delivery (orders under £100.00 Nett)	£9.25
Next Day by 10.30am	£23.00
Next Day AM delivery	£15.00
Same Day within 30 miles	£40.00

### Same day over 30 miles

Please call for details

### Weekend deliveries

Please call for details

### Out of hours charges

Emergency call out - each call	£75.00
Emergency call out - each delivery	£P.O.A

**OUT OF HOURS EMERGENCY CONTACT:**

**07957 492893**



Dear Customer,

**Did you know that we offer F-gas courses throughout the year?**

## **2 day full F-gas course at our premises**

**£525.00** per person  
(+£60.00 certificate fee)

***Fee includes:** course materials, lunch and refreshments*

**Please note...It is a legal requirement that we can only sell refrigerant to a company that holds an FGAS qualification. We must have a copy of your certificate in order to supply you with refrigerant gas. If you wish for us to supply you with refrigerant at any time please send us a copy in advance.**

Please feel free to contact a member of our dedicated sales team for further details:

**0800 328 6283**

**info@carsrefrigeration.co.uk**

# FAX - 01782 823344

## Request for detailed coldroom or cellar cooling selection

Name: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Tel: \_\_\_\_\_ Fax: \_\_\_\_\_

Installation Type: \_\_\_\_\_

Ambient Temp. \_\_\_\_\_ deg. F or C

Floor Temp. (if known) \_\_\_\_\_ deg. F or C

Required Room Temp. \_\_\_\_\_ deg. F or C

External Dimensions:

Length \_\_\_\_\_ ft or metres

Width \_\_\_\_\_ ft or metres

Height \_\_\_\_\_ ft or metres

Insulation:	Type	Thickness
Wall	_____	_____ fins or mm
Ceiling	_____	_____ fins or mm
Floor	_____	_____ fins or mm

Product Type: \_\_\_\_\_

Input per day: \_\_\_\_\_ lbs or kg

Entering Temp. \_\_\_\_\_ deg. F or C

Cooling Time (if known) \_\_\_\_\_ hours

Air Changes: \_\_\_\_\_ light, normal or heavy

Number of Occupants: \_\_\_\_\_

Working Time \_\_\_\_\_ hours/day

Motor Power (Excl. Coolers) \_\_\_\_\_ watts per sq. ft. or sq. m

Working Time (Lights): \_\_\_\_\_ hours/day

Desired Plant Running Time: \_\_\_\_\_ hours/day

Refrigerant: \_\_\_\_\_ type

Preferred Number of Coolers: \_\_\_\_\_

Preferred Number of Cond. Units: \_\_\_\_\_

\_\_\_\_\_

Any Other Relevant Information? \_\_\_\_\_

\_\_\_\_\_

For office use only:

Celc Ref:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**FOR A COMPUTERISED CELLAR COOLING/COLDROOM SELECTION PLEASE PHOTOCOPY THIS PAGE COMPLETE AND FAX IT TO US FOR PROMPT ATTENTION**





# compressors

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# compressors



Embraco R134A  
Compressors

Embraco  
Accessories



Model	Nom/H.P.	Disp(cc)	Back/Press	List Price
<b>EMBRACO R134A COMPRESSORS</b>				
EMIE40HJP	1/8	4	LOW	107.70
EM50HNP	1/8+	5	LOW	97.60
EM65HHR	1/6	5.5	L/M/H	107.71
EGAS90HLR	1/4	8.8	L/M/H	142.76
FF112HAX	1/3	11.15	L/M/H	158.70
FFU130HAX	1/3	11.15	L/M/H	133.28

<b>EMBRACO ACCESSORIES</b>		
OETV	80 $\mu$ F Capacitor for FF/FG/Comps	9.86
OETV40	40 $\mu$ F Capacitor for EM65HHR	9.22
TBEM	Terminal Box for EM/FG Comps	5.60
TBPW	Terminal Box for PW/FF Comps	5.60
EVTEM	Evaporation Tray For EM Comps	2.74
EVTBW	Evaporation Tray For FF Comps	1.90



Model	Refrigerator (capacity litres)	Freezer (capacity litres)
<b>EMBRACO PRELIMINARY COMPRESSOR SELECTION (Ambient Temperature 32°C/90°F)</b>		
EM40	160 - 300	90 - 200
EM50	220 - 400	120 - 280
EM65	250 - 450	135 - 310
EGAS90	400 - 600	250 - 400
FFI 12	650 - 1100	425 - 700



<b>EMBRACO PRELIMINARY COMPRESSOR SELECTION (Ambient Temperature 43°C/110°F)</b>		
EM65	215 - 350	105 - 225
EGAS90	300 - 500	150 - 300
FFI 12	575 - 900	375 - 575

**FREE NEXT DAY DELIVERY**  
on orders over **£100.00 nett\*** (UK Mainland)

# compressors



**Cubigel R134A  
Compressors LBP**

**Cubigel R134A  
Compressors M/HBP**

**Cubigel R404A  
Compressors LBP**

Model	Nom/H.P.	Disp(cc)	Back/Press	List Price
<b>Cubigel R134A COMPRESSORS LBP</b>			<b>-35°C to -10°C Evap</b>	
GD36AA	1/10	3.6	LOW	219.17
GD40AA	1/8	4.0	LOW	240.32
GL40AB	1/8	4.0	LOW	242.12
GL45AA	1/8	4.5	LOW	248.16
GL50AB	1/6	5.01	LOW	254.19
GL60AB	1/6	6.0	LOW	268.12
GL70AB	1/5	7.0	LOW	279.40
GL80AB	1/5	8.01	LOW	287.18
GL90AA	1/4	9.1	LOW	293.26
GL99AA	1/4	9.9	LOW	324.16
GP12FB	1/3	12.0	LOW	190.72
GP14FB	3/8	14.0	LOW	223.26
GP16FB	1/2	16.0	LOW	219.32



*Models designated - V  
have suction valve fitted  
(ROTORLOCK)*

Model	Nom/H.P.	Disp(cc)	Back/Press	List Price
<b>Cubigel R134A COMPRESSORS M/HBP</b>			<b>-25°C to +10°C Evap</b>	
GD36MBD	1/10	3.6	MED/HIGH	224.56
GD40MBD	1/6	4.0	MED/HIGH	149.00
GL40PB	1/8	4.0	MED/HIGH	244.22
GL45PB	1/6	4.5	MED/HIGH	246.28
GL45TB	1/6	4.5	MED/HIGH	151.46
GL60PB	1/5	5.7	MED/HIGH	248.40
GL60TB	1/5	5.7	MED/HIGH	177.58
GL80PB	1/4	7.6	MED/HIGH	257.62
GL80TB	1/4	7.6	MED/HIGH	181.56
GL90PB	1/4+	8.8	MED/HIGH	266.64
GL90TB	1/4+	8.8	MED/HIGH	198.80
GP12PB	3/8	12.0	MED/HIGH	328.14
GP12TB	3/8	12.0	MED/HIGH	206.52
GP14TB	3/8+	14.0	MED/HIGH	241.76
GP16TB	1/2	16.0	MED/HIGH	289.84
GX18TB	5/8	18.0	MED/HIGH	270.40
GX21TB	2/3	21.0	MED/HIGH	333.22
GS26TB-T	3/4	26.0	MED/HIGH	454.42
GS26TB-V	3/4	26.0	MED/HIGH	470.00
GS30TB-V	7/8	30.0	MED/HIGH	498.32
GS34TB-T	1.00	34.0	MED/HIGH	437.58
GS34TB-V	1.00	34.0	MED/HIGH	401.08

*Models designated - TB/FB  
are HST (CAPACITOR  
FITTED)*



*All models are HST  
(CAPACITOR FITTED)  
Except AA/AB/PB*

# compressors



Cubigel R404A  
Compressors LBP

Cubigel R404A  
Compressors M/HBP



Models designated -V have  
Suction Valve Fitted  
(ROTORLOCK)

All models are HST  
(CAPACITOR FITTED)

Cubigel R404A COMPRESSORS LBP			-40°C to -10°C Evap		
ML45FB	1/8	4.5	LOW	228.34	
ML60FB	1/6	5.5	LOW	170.68	
ML90FB	1/3	8.8	LOW	193.54	
MP12FB	3/8	12.0	LOW	228.32	
MP14FB	3/8	14.0	LOW	227.20	
MX16FB	1/2	16.0	LOW	350.60	
MX18FB	1/2	18.0	LOW	359.02	

Model	Nom/H.P.	Disp(cc)	Back/Press	List Price
Cubigel R404A COMPRESSORS LBP			-40°C to -10°C Evap	
MX21FB	2/3	21.0	LOW	378.66
MX23FB	2/3	23.0	LOW	390.74
MS26FB-T	3/4	26.0	LOW	430.84
MS26FB-V	3/4	26.0	LOW	434.76
MS30FB-T	7/8	30.0	LOW	476.12
MS30FB-V	7/8	30.0	LOW	484.16
MS34FB-T	1.00	34.0	LOW	395.50
MS34FB-V	1.00	34.0	LOW	403.92

Cubigel R404A COMPRESSORS M/HBP			-15°C to +10°C Evap		
ML40TB	1/6	4.0	MED/HIGH	132.32	
ML45TB	1/5	4.5	MED/HIGH	132.32	
ML60TB	1/4	5.7	MED/HIGH	173.88	
ML80TB	3/8	7.6	MED/HIGH	157.06	
ML90TB	3/8	8.8	MED/HIGH	193.54	
MP12TB	1/2	12.0	MED/HIGH	235.62	
MP14TB	5/8	14.0	MED/HIGH	258.02	
MX16TB	5/8	16.0	MED/HIGH	306.30	
MX18TB	3/4	18.0	MED/HIGH	353.42	
MX21TB	7/8	21.0	MED/HIGH	374.76	
MX23TB	7/8	23.0	MED/HIGH	444.42	
MS26TB-T	1.00	26.0	MED/HIGH	441.38	
MS26TB-V	1.00	26.0	MED/HIGH	452.02	
MS34TB-T	1.5/8	34.0	MED/HIGH	359.00	
MS34TB-V	1.5/8	34.0	MED/HIGH	502.76	

All are supplied individually boxed complete with electrics.

## ALL CUBIGEL SPARES AVAILABLE

## FREE NEXT DAY DELIVERY

on orders over **£100.00 nett\*** (UK Mainland)

# compressors



Cubigel R22  
Compressors M/HBP

Cubigel R22 A/C  
Compressors

Horizontal  
Compressors

Model	Nom/H.P.	Disp(cc)	Back/Press	List Price
<b>Cubigel R22 COMPRESSORS M/HBP</b>			-25°C to +10°C Evap	
L45TN	1/6	4.5	MED/HIGH	189.06
L57TN	1/4	5.7	MED/HIGH	173.90
L76TN	1/3	7.6	MED/HIGH	199.14
L88TN	3/8	8.8	MED/HIGH	187.92
P12TN	1/2	12.0	MED/HIGH	299.90
R18TN-T	3/4	18.0	MED/HIGH	528.60
R18TN-V	3/4	18.0	MED/HIGH	534.22
S22TN-V	7/8	22.0	MED/HIGH	568.48
S26TN-V	1.00	26.0	MED/HIGH	598.38

Model	Nom/H.P.	Disp(cc)	Back/Press	List Price
<b>Cubigel R22 A/C COMPRESSORS</b>			-10°C to +10°C Evap	
S19UNPSC	7/8	18.6	A/C	371.61
S19UNCSR	7/8	18.6	A/C	394.89
S22UNPSC	1.00	21.8	A/C	377.68
S22UNCSR	1.00	21.8	A/C	401.35
S26UNPSC	1.1/4	26.0	A/C	409.69
S26UNCSR	1.1/4	26.0	A/C	433.85
S33UNPSC	1.1/2	32.7	A/C	430.51
S33UNCSR	1.1/2	32.7	A/C	460.01
S34UNPSC	1.5/8	34.3	A/C	440.49
S34UNCSR	1.5/8	34.3	A/C	470.63

CSR - Capacitor Start & Run  
PSC - Run Capacitor only

All models are HST  
(CAPACITOR FITTED)



Models designated - V  
have suction valve fitted  
(ROTORLOCK)

Spare electrics available  
on request

See page 175 for CUBIGEL Physical Dimensions



Model	Refrigerant	Disp(cc)	Back/Press	List Price
<b>Horizontal Compressor R404A</b>				
CRHN110E5A	R404A	22	M/HBP	1347.76
HGA4512Z	R404A	16	M/HBP	525.92
QHD23K	R404A	23	M/HBP	960.80
QHD30K	R404A	30	M/HBP	1075.66



# compressors

Embraco Aspera  
Compressors

**embraco Aspera**  
POWER IN. CHANGE ON.

A wide range of fractional horsepower hermetic compressors for low, high & air conditioning applications Available for use with a variety of refrigerants, including CFC's to support existing condensing units & HCFC/HFC for new installations.

All ranges are developed for quiet operation, high reliability & compact dimensions. All single phase models are supplied with their respective electrical components.

Expansion Device C - Capillary V - TEV Compressor Cooling S - Static cooling F - Fan cooling OC - Oil cooling Connections T - Tube V - Valve (1" rotalock threaded spud)

Compressor Model	(HP)	Displ. (cc)	Comp. Conn.	ASHRAE Capacity Input		FLC	LRA	Cooling	Height	List Price
<b>R12 LBP</b>										
NB1116B	1/3	8.00	T/T	143	163	1.05	9.50	S	187	188.12
NB2118B	1/4	8.85	T/T	160	180	0.86	9.30	S	187	222.33
NE2121A	1/4	12.00	T/T	192	232	1.80	11.00	F	200	258.66
T2134A	1/2	17.40	T/T	306	340	2.40	18.00	F	191	286.45
T2140A	1/2	20.40	T/T	340	390	3.00	20.00	F	221	324.94

Compressor Model	(HP)	Displ. (cc)	Expan. Device	Comp. Conn.	ASHRAE Capacity Input		FLC	LRA	Cooling	Height	List Price
<b>R134A LBP</b>											
EMIE30	-	3.0	C	T/T	75	63	0.4	2.8	S	158	95.93
EMIE40	-	4.0	C	T/T	108	85	0.6	3.8	S	166	95.93
EM50HNP	-	4.9	C	T/T	132	102	0.7	4.7	S	166	97.61
EM65HHR	-	5.6	C	T/T	151	114	0.8	4.8	S	166	107.71
EMYE70	-	6.8	C	T/T	177	151	1.0	6.2	S	166	109.39
NEK2121Z	1/4	9.3	C/V	T/T	252	198	1.4	15.0	F	200	151.30
NEK2130Z	1/3	12.1	C/V	T/T	344	260	2.1	14.3	F	206	205.34
NEK2140Z	1/2	16.8	C/V	T/T	436	340	2.4	16.9	F	206	188.49

Compressor Model	(HP)	Displ. (cc)	Expan. Device	Comp. Conn.	ASHRAE Capacity Input		FLC	LRA	Cooling	Height	List Price
<b>R404A LBP</b>											
EMT2117GK	1/4	4.5	C/V	T/T	244	181	1.2	7.7	S	166	214.58
EMT2121GK	1/3	5.2	C/V	T/T	300	214	1.3	8.5	S	166	POA
EMT2125GK	1/3	6.0	C/V	T/T	351	251	1.6	9.8	S	166	190.40
NEK2134GK	1/2	8.8	C/V	T/T	464	358	2.4	16.1	S	200	216.76
NEK2150GK	1/2	12.1	C/V	T/T	616	497	3.1	19.5	S	206	POA
NEK2168GK	3/4	13.3	C/V	T/T	688	610	4.1	24.0	F	206	313.36
NT2168GK	3/4	14.5	C/V	T/T	642	502	2.4	25.0	F	220	353.43
NT2178GK	1	17.4	C/V	T/T	782	601	3.0	26.0	F	220	348.02
NT2180GK	1	20.4	C/V	T/T	935	749	3.7	26.5	F	220	348.01
NT2192GK	1	22.4	C/V	T/T	1089	742	3.5	35.0	F	234	381.46
NJ2192GK	1-1/4	26.1	C/V	T/T	1126	854	4.0	26.0	F	261	460.58
NJ2192GK	1-1/4	26.1	C/V	V/T	1126	854	4.0	26.0	F	261	455.18
NJ2192GS	1-1/4	26.1	C/V	V/T	1128	913	1.9	13.0	F	261	POA
NJ2212GK	1-1/2	34.4	C/V	V/T	1481	986	5.3	36.0	F	277	460.18
NJ2212GS	1-1/2	34.4	C/V	V/T	1481	1139	2.0	13.0	F	277	350.00
NT2212GK	1-1/2	27.8	C/V	T/T	1373	999	5.04	33.0	F	250	420.76

Compressor Model	(HP)	Displ. (cc)	Expan. Device	Comp. Conn.	ASHRAE Capacity Input		FLC	LRA	Cooling	Height	List Price
<b>R404A MBP</b>											
EMT6144GK	1/4	4.0	C/V	T/T	679	284	1.6	7.7	F	166	182.32
EMT6152GK	1/4	4.5	C/V	T/T	758	329	1.4	8.5	F	166	197.74
EMT6165GK	1/3	5.2	C/V	T/T	877	394	2.5	10.4	F	166	189.70
NEK6181GK	1/3	7.3	C/V	T/T	1089	515	3.0	12.0	F	187	221.78
NEK6210GK	1/2	8.8	C/V	T/T	1304	628	3.5	16.1	F	200	POA
NEK6213GK	1/2	12.1	C/V	T/T	1761	952	5.5	19.3	F	206	232.68
NEK6217GK	3/4	14.3	C/V	T/T	2075	1010	4.9	21.5	F	206	305.58
NT6220GK	3/4	14.5	C/V	T/T	2119	961	5.8	29.5	F	220	356.22
NT6222GK	1	17.4	C/V	T/T	2482	1228	5.5	30.0	F	220	377.83
NT6224GK	1	20.4	C/V	T/T	3023	1271	6.0	29.0	F	220	357.06
NJ9226GK	1	21.7	C/V	T/T	3249	1325	5.8	27.5	F	261	397.76
NJ9226GK	1	21.7	C/V	V/T	3249	1325	5.8	27.5	F	261	421.88
NJ9226GS	1	21.7	C/V	T/T	3248	1300	2.4	10.0	F	261	POA
NJ6226GK	1	22.4	C/V	T/T	3355	1376	6.6	38.0	F	234	421.88
NJ9232GK	1-1/4	26.2	C/V	T/T	4030	1576	7.7	33.7	F	277	420.74
NJ9232GK	1-1/4	26.2	C/V	V/T	4030	1576	7.7	33.7	F	277	477.94
NJ9232GS	1-1/4	26.2	C/V	T/T	4030	1615	2.9	13.0	F	277	POA
NJ9232GS	1-1/4	26.2	C/V	V/T	4021	1576	2.9	13.0	F	277	POA
NJ9238GK	1-1/2	32.7	C/V	T/T	4620	2216	9.6	43.0	F	277	417.92
NJ9238GK	1-1/2	32.7	C/V	V/T	4620	2216	9.6	43.0	F	277	481.98
NJ9238GS	1-1/2	32.7	C/V	T/T	4839	1900	4.0	22.0	F	277	POA
NJ9238GS	1-1/2	32.7	C/V	V/T	4839	1900	4.0	22.0	F	277	561.72

Compressor Model	(HP)	Displ. (cc)	Comp. Conn.	ASHRAE Capacity Input		FLC	LRA	Cooling	Height	List Price
<b>R22 HBP</b>										
NB6144E	1/6	4.38	T/T	679	284	1.82	15.30	F	187	171.03
NB6152E	1/5	4.85	T/T	758	329	1.90	15.30	F	187	177.44
NB6165E	1/4	6.00	T/T	877	394	2.47	13.80	F	187	179.57
NE6181E	1/4	7.40	T/T	825	470	2.85	16.30	F	200	185.98
NE6210E	1/3	8.90	T/T	927	510	2.85	13.80	F	187	194.52
NE9213E	1/2	12.00	T/T	1441	628	2.85	16.00	F	206	299.29
T6217E	5/8	14.50	T/T	2075	1010	3.23	18.00	F	221	382.64
T6220E	3/4	17.40	T/T	2119	961	3.89	20.00	F	221	393.34
NJ7228F	1	23.80	T/T	2765	1135	5.17	30.00	F	253	440.37
J9232E	1-1/4	26.20	T/T	2800	1265	6.46	42.50	F	277	430.01
NJ9238E	1-1/2	32.70	T/T	3801	1801	7.95	43.00	F	277	506.63
NJ7240F	1-1/2	34.37	V/T	4095	1902	9.12	50.00	F	277	441.51

Valve/Rotorlock versions are also available. Please ask!

# compressors

Embraco Aspera  
Compressors

**embraco** Aspera  
POWER IN. CHANGE ON.

Compressor Model	(HP)	Displ. (cc)	Expan. Device	Comp. Conn.	ASHRAE		FLC	LRA	Cooling	Height	List Price
					Capacity	Input					
<b>R134A HBP</b>											
EMT37HDP	1/10	3.4	C	T/T	351	137	0.8	4.3	S	158	POA
EMT45HDR	1/8	4.0	C/V	T/T	421	158	1.0	5.4	S	166	POA
EMT50HDP	1/8+	4.5	C	T/T	475	184	1.1	6.4	S	166	POA
EMT6144Z	1/5	5.2	C/V	T/T	577	222	1.4	8.5	F	166	POA
EMT6160Z	1/6	6.8	C/V	T/T	720	300	1.7	9.8	F	166	POA
NEK6160Z	1/4	7.3	C/V	T/T	716	297	2.0	29.0	F	187	POA
EMT6170Z	1/4	7.7	C/V	T/T	806	356	2.0	10.4	F	166	161.58
NEK6170Z	1/3	8.4	C/V	T/T	837	347	2.4	16.5	F	187	POA
NEK6187Z	1/3	10.0	C/V	T/T	967	410	2.6	16.1	F	200	175.56
NEK6210Z	1/3	12.1	C/V	T/T	1129	497	2.9	16.1	F	200	240.62
NEK6212Z	1/2	14.3	C/V	T/T	1314	628	3.5	19.5	F	206	235.50
NEK6214Z	3/4	16.8	C/V	T/T	1486	775	4.8	21.2	F	206	286.10
NT6215Z	1/2	17.4	C/V	T/T	1620	707	3.9	21.0	F	220	324.98
NT6217Z	3/4	20.4	C/V	T/T	1863	806	4.7	25.0	F	220	374.84
NJ6220Z	1	22.4	C/V	T/T	2016	862	5.2	28.0	F	220	487.20
NJ6220Z	1	26.1	C/V	V/T	2547	978	5.7	35.0	F	251	471.72
NJ6220ZX	1	26.1	C/V	V/T	2547	875	1.6	10.0	F	251	POA
NJ6226Z	1-1/4	34.4	C/V	V/T	2976	1232	6.0	31.0	F	251	494.60
NJ6226Z	1-1/4	34.4	C/V	T/T	2976	1232	6.0	31.0	F	251	448.26

Compressor Model	(HP)	Displ. (cc)	Comp. Conn.	ASHRAE		FLC	LRA	Cooling	Height	List Price
				Capacity	Input					
<b>R22 A/C</b>										
NE7213E	1/2	12.12	T/T	1441	628	3.30	15.00	F	218	241.56
NE7213E	1/2	12.12	T/T	1441	628	3.30	15.00	F	218	284.32
NE7215F	1/2	13.54	T/T	1761	952	3.80	19.00	F	218	235.14
NE7215F	1/2	13.54	T/T	1761	952	3.80	19.00	F	218	275.76
T7220F	3/4	17.40	T/T	2482	1228	4.80	26.00	F	221	271.48
T7220F	3/4	17.40	T/T	2482	1228	4.80	26.00	F	221	292.86
T7223F	1	20.40	T/T	3023	1271	5.80	30.00	F	221	314.23
T7223F	1	20.40	T/T	3023	1271	5.80	30.00	F	221	319.64
J7225F	1	21.70	T/T	2899	1143	5.40	30.00	F	253	342.02
NJ7225F	1	21.70	T/T	2899	1143	5.40	30.00	F	253	342.02
J7228F	1	23.80	T/T	3173	1263	5.45	30.00	F	253	315.85
NJ7228F	1	23.80	T/T	3173	1263	5.45	30.00	F	253	353.91
J7231F	1-1/4	26.20	T/T	3605	1460	6.80	37.00	F	265	325.36
NJ7231F	1-1/4	26.20	T/T	3605	1460	6.80	37.00	F	265	363.42
NJ7231P	1-1/2	26.20	T/T	3485	1473	3.00	18.00	F	265	395.76
J7238E	1-1/2	32.65	T/T	4427	1959	9.80	51.00	F	277	336.77
NJ7238E	1-1/2	32.65	T/T	4427	1959	9.80	51.00	F	277	372.94
NJ7238P	1-1/2	32.65	T/T	4427	1929	3.60	51.00	F	277	410.99
J7240F	1-1/2	34.37	T/T	4850	2048	9.60	50.00	F	277	361.52
NJ7240F	1-1/2	34.37	T/T	4850	2048	9.60	50.00	F	277	399.57
NJ7240P	1-1/2	34.37	T/T	4850	2018	3.80	22.00	F	277	424.30

Valve/ Rotorlock Versions are also available. Please ask!



# compressors



**Embraco Aspera  
Compressors**

Compressor Model	(HP)	Displ. (cc)	Comp. Conn.	ASHRAE		FLC	LRA	Cooling	Height	List Price
				Capacity	Input					
<b>R290 HBP</b>										
EMT6144U	1/4	4.50	T/T	616	235	1.30	7.70	S	166	189.74
EMT6152U	1/4	5.20	T/T	728	279	1.20	8.50	F	166	POA
EMT6165U	1/3	6.00	T/T	840	327	2.00	10.40	F	166	POA
NEK6181U	1/3	7.30	T/T	949	386	2.40	7.30	F	187	POA
NEK6210U	1/2	8.80	T/T	1169	459	2.80	16.10	F	200	241.58
NEK6213U	1/2	12.10	T/T	1586	692	4.20	19.30	F	206	POA
NEK6217U	1/2	14.30	T/T	1820	824	4.90	24.00	F	206	POA
NT6217U	1/2	14.50	T/T	1786	693	4.00	25.00	F	220	416.54
NT6220U	3/4	17.40	T/T	2250	806	4.30	29.00	F	220	POA
NT6222U	1	20.40	T/T	2635	953	4.90	30.00	F	220	468.98

Compressor Model	(HP)	Displ. (cc)	Comp. Conn.	ASHRAE		FLC	LRA	Cooling	Height	List Price
				Capacity	Input					
<b>R290 LBP</b>										
EMT2121U	1/3	5.60	T/T	265	182	1.00	7.70	S	166	172.16
EMT2125U	1/3	6.00	T/T	301	204	1.40	9.80	F	166	164.08
NEK2117U	1/5	4.50	T/T	188	158	1.20	9.80	S	187	POA
NEK2121U	1/4	6.20	T/T	247	207	1.60	12.40	F	197	172.17
NEK2125U	1/3	7.20	T/T	317	242	1.70	12.40	F	187	164.08
NEK2134U	1/2	10.00	T/T	449	330	2.00	13.10	F	200	POA
NEK2150U	1/2	13.50	T/T	582	444	3.00	19.50	F	206	255.24
NT2160U	3/4	17.40	T/T	703	487	2.50	21.00	F	220	POA
NT2170U	1	20.40	T/T	831	578	2.90	25.00	F	220	508.64
NT2180U	1	22.40	T/T	935	642	3.20	35.00	F	234	394.00
NT2210U	1-1/4	27.80	T/T	1186	844	4.40	33.00	F	234	467.44

# compressors

Embraco Aspera  
Compressors

**embraco** Aspera  
POWER IN. CHANGE ON.

Model	Voltage/ Frequency	Applic.	Displ. (cm <sup>3</sup> )	Operating Voltage Range (V)	Cooling Type*	Check Point Data ASHRAE		List Price
						Capacity W	COP W/W	
<b>R600a - L/MBP - 50Hz</b>								
EMT 17CLP	220-240V 50Hz	LBP	3.40	187-255	S	44	0.97	POA
EMT 23CLP	220-240V 50Hz	LBP	4.50	187-255	S	78	1.37	POA
EMT 26CLP	220-240V 50Hz	L/MBP	5.19	187-255	S	64	0.98	POA
EMT 36CLP	220-240V 50Hz	L/MBP	5.96	198-254	S	73	1.00	99.06
EMT 40CLP	220-240V 50Hz	L/MBP	7.23	198-254	S	119	1.28	109.42
EMT 46CLP	220-240V 50Hz	L/MBP	7.96	198-254	S	155	1.35	125.06
EMT 56CLP	220-240V 50Hz	LBP	9.34	198-254	S	155	1.35	125.06
EMX 66CLC	220-240V 50Hz	LBP	10.61	187-255	S	137	1.37	POA
EMY 70CLP	220-240V 50Hz	LBP	11.14	198-255	S	143	1.36	137.18
EGX 80CLC	220-240V 50Hz	LBP	11.14	198-255	S	149	1.47	POA
EGX 90CLC	220-240V 50Hz	LBP	12.21	198-255	S	215	1.69	POA
NBM1118Y	220-240V 50Hz	LBP	14.28	198-255	S	185	1.31	215.98



# compressors



**TECUMSEH Hermetic Compressors**

**KIRBY Hermetic Compressors**

Model	Disp(cc)	Nom.HP	Refrigerant	APP.	list Price
<b>TECUMSEH HERMETIC COMPRESSORS</b>					
<b>LOW BACK PRESSURE (LBP) 220/240V 1 PHASE 50Hz</b>					
AZ 1335YS	4.00	1/8	R134A/R12	LST	130.54
AZ 1345YS	5.59	1/6	R134A/R12	LST	134.35
AE 1360YS	6.90	1/5	R134AR12	LST	162.64
AE 1390YS	9.41	1/4	R134A/R12	LST	184.72
AE 2410YS	12.04	1/3	R134A/R12	HST	198.24
AE 2415AS	16.10	3/8	R12	HST	235.19
AE16LMY	16.10	3/8	R502/R404A/R134A/R12	HST	322.84
AKL 19ZS	18.80	3/4	R502/R404A	HST	387.06
AKL 26ZS	26.00	3/4	R502/R404A	HST	410.64



<b>MEDIUM/HIGH BACK PRESSURE 20/240V 1 PHASE 50Hz</b>					
AE 6MHG	5.51	1/5	R407C/R22/R404A/R507	HST	180.10
AE8MG	7.55	1/4	R407C/R22/R404A/R507	HST	252.78
AE 9MG	8.88	1/3	R407C/R22/R404A/R507	HST	268.80
AE 12MG	12.01	3/8	R407C/R22/R404A/R507	HST	313.04
AE 14MG	14.14	1/2	R407C/R22/R404A/R507	HST	331.40
AKM19ZS	18.80	3/4	R404A	HST	370.26
AKM 26ZS	26.00	1	R404A	HST	418.20
AE 9440ES	12.01	3/8	R22	HST	239.00
AZ 0411YS	5.59	1/5	R134a/R22	LST	137.69
AE 4425YS	7.57	1/5	R134a/R12	HST	166.60
AE 4430YS	8.85	1/4	R134a/R12	HST	180.00
AE 4440YS	12.04	1/3	R134a/R12	HST	188.48
AE 4448YS	14.17	3/8	R134a/R12	HST	218.78
AKM 19YS	18.80	1/2	R134a/R12	HST	390.97
AJA 4492YXC	26.00	3/4	R134a/R12	HST	393.42
AJA 4512YXC	34.24	1	R134a/R12	HST	440.40

**Explanatory Notes**

LST: Low Start Torque; suitable for capillary tube applications

HST: High Start Torque; suitable for capillary tube and expansion valve applications

Model	Disp(cc)	Motor Data	Refrigerant	APP.	List Price
<b>AIR CONDITIONING/HEAT PUMP APPLICATIONS (AC): 220-240V/1/50Hz</b>					
AKA 5510EXC	18.60	PSC	R22	AC	353.42
AKA 5512EXC	22.30	PSC	R22	AC	353.42
AJB 5515EXC	26.13	CSR	R22	AC	353.44
AJA 5518EXC	32.66	CSR	R22	AC	630.92
AJA 5519EXC	34.24	CSR	R22	AC	635.16
AWG 5517EVA	32.70	CSR	R22	AC	709.31
AWG 5520EVA	37.50	CSR	R22	AC	724.67
AWG 5524EVA	43.10	CSR	R22	AC	553.70
AWG 5528EVA	48.40	CSR	R22	AC	752.85
AWG 5532EVA	53.50	CSR	R22	AC	565.48
AVA 5542EXC	73.30	CSR	R22	AC	880.10



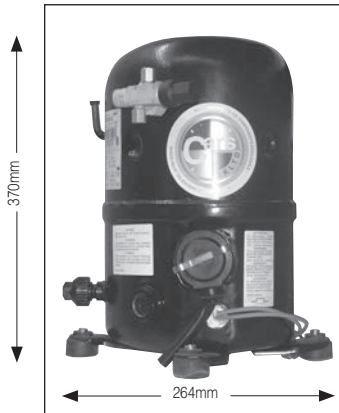
# compressors

L'Unite Compressors  
R134A LBP

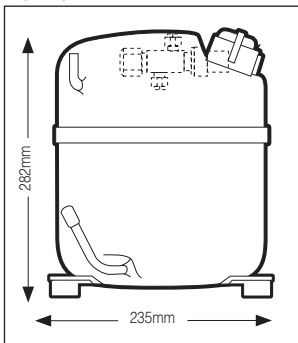
L'Unite Compressors  
R134A M/HBP



AH/FH



AJ, CAJ, TAJ



Model	Nom/H.P.	Disp(cc)	Supply	List Price
<b>L'UNITE COMPRESSORS R134A LBP</b>				
AZ1320Y	1/12	2.95	1PH	146.33
AZ1330Y	1/10	3.6	1PH	148.36
AZ1335Y	1/8	4.0	1PH	154.46
AZ1339Y	1/7	5.0	1PH	156.50
AZ1348Y	1/6	5.6	1PH	162.59
AEZ1355Y	1/5	6.9	1PH	203.24
AEZ1380Y	1/4	9.4	1PH	207.31
AEZ2380Y	1/4	9.4	1PH	219.50
AE1410Y	1/3	12.05	1PH	239.82
CAE2410Y	1/3	12.05	1PH	256.08
AE1412Y	3/8	14.15	1PH	241.86
CAE2412Y	3/8	14.15	1PH	266.24

Model	Nom/H.P.	Disp(cc)	Supply	List Price
<b>L'UNITE COMPRESSORS R134A M/HBP</b>				
AZ4410Y	1/8	2.95	1PH	166.66
AZ4412Y	1/7	3.6	1PH	168.68
AZ4414Y	1/6	4.0	1PH	170.72
AZ3419Y	1/5	5.6	1PH	160.57
AZ4419Y / THB44194FZ	1/5	5.6	1PH	206.40
AEZ3425YS	1/5	7.55	1PH	195.11
AEZ4425Y	1/5	7.55	1PH	264.14
AEZ3430YS	1/4	8.85	1PH	211.37
AEZ4430Y	1/4	8.85	1PH	399.70
AE3440Y	1/3	12.05	1PH	245.91
CAE4440Y	1/3	12.05	1PH	260.15
CAE4448Y	3/8	14.15	1PH	271.06
CAE4456Y / AE4456Y	3/8	16.0	1PH	305.90
CAJ4452Y	3/8	15.2	1PH	423.32
CAJ4461Y / AE4460Y	1/2	18.3	1PH	408.20
TAJ4461Y	1/2	18.3	3PH	554.84
CAJ4492Y	3/4	25.95	1PH	557.06
TAJ4492Y	3/4	25.95	3PH	631.86
CAJ4511Y	1	32.7	1PH	631.60
TAJ4511Y	1	32.7	3PH	885.50
FH4518Y	1.1/2	53.20	1PH	863.92
TFH4518Y	1.1/2	53.20	3PH	771.34
FH4525Y	2	74.25	1PH	939.54
TFH4525Y	2	74.25	3PH	806.86
TAG4528Y	2.1/2	90.2	3PH	1044.64
TAG4534Y	2.1/2	100.7	3PH	1508.46
TAG4537Y	3.1/4	112.5	3PH	1040.57
TAG4543Y	3.3/4	124.4	3PH	1580.88

S RSIR Motor Type

**NOTE: All CAJ/ TAJ/ FH/ TFH/ TAG models are available in TUBE/TUBE or TUBE/VALVE connections. Please specify at time of order.**

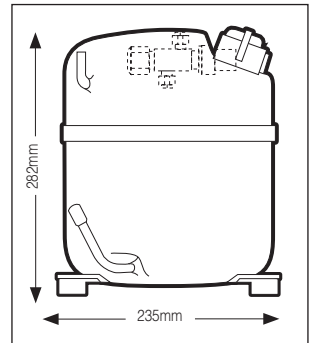
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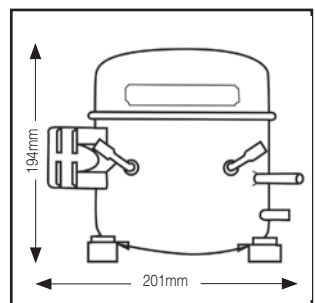
## L'Unite Compressors R22 A/C

Model	Disp(cc)	Supply		List Price
<b>L'UNITE COMPRESSORS R22 A/C</b>				
AE5465E	12.05	1PH	CSR	321.11
AE5465E	12.05	1PH	PSC	296.72
AE5470E	13.25	1PH	CSR	333.31
AE5470E	13.25	1PH	PSC	306.90
AJ5510F	18.6	1PH	CSR	414.61
AJ5510F	18.6	1PH	PSC	390.22
AJ5512E	21.75	1PH	CSR	418.68
AJ5512E	21.75	1PH	PSC	273.28
AJ5513E	24.2	1PH	CSR	428.82
AJ5513E	24.2	1PH	PSC	404.45
AJ5515E	25.95	1PH	CSR	447.12
AJ5515E	25.95	1PH	PSC	424.78
TAJ5515E	25.95	3PH	TRI	481.68
AJ5518E	32.7	1PH	CSR	475.57
AJ5518E	32.7	1PH	PSC	449.14
TAJ5519E	34.45	3PH	TRI	510.13
AJ5519E	34.45	1PH	CSR	499.96
AJ5519E	34.45	1PH	PSC	475.57
TAH5522E	39.95	3PH	TRI	699.13
AH5522F	39.95	1PH	CSR	668.64
FH5522F	40.8	1PH	CSR	668.64
FH5522F	40.8	1PH	PSC	638.16
TFH5524E	43.9	3PH	TRI	699.13
AH5524E	43.9	1PH	CSR	701.16
FH5524F	43.9	1PH	PSC	672.72
FH5524F	43.9	1PH	TRI	699.13
TAH5527E	49.1	3PH	TRI	715.39
AH5527E	49.1	1PH	CSR	711.33
AH5527E	49.1	1PH	PSC	678.81
TAH5531E	56.65	3PH	TRI	723.52
AH5531E	56.65	1PH	CSR	733.68
AH5531E	56.65	1PH	PSC	701.16
FH5538F	67.5	1PH	CSR	760.11
FH5538F	67.5	1PH	PSC	719.46
TFH5538F	67.5	3PH	TRI	719.46
FH5542F	74.15	1PH	CSR	800.75
FH5542F	74.15	1PH	PSC	762.15
TFH5542F	74.15	3PH	TRI	731.66
TAH5540E	74.25	3PH	TRI	760.11
AH5540E	74.25	1PH	CSR	839.37
TAG5546E	90.2	3PH	TRI	800.75
TAG5553E	100.70	3PH	TRI	983.66
TAG5561E	112.50	3PH	TRI	1012.12
TAG5568E	124.40	3PH	TRI	1107.65
TAG5573E	134.80	3PH	TRI	1205.20

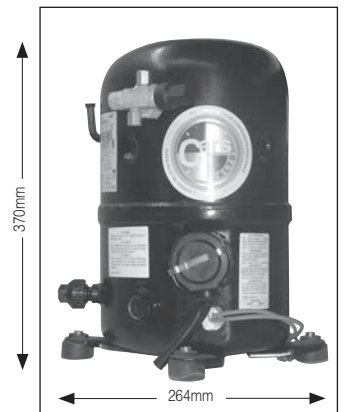
AJ, CAJ, TAJ



AE, CAE, AEZ



AH, FH



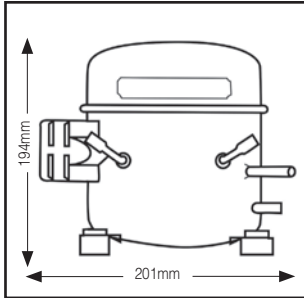
**NOTE: All CAJ/ TAJ/ FH/ TFH /TAG models are available in TUBE/TUBE or TUBE/VALVE connections. Please specify at time of order.**

# compressors

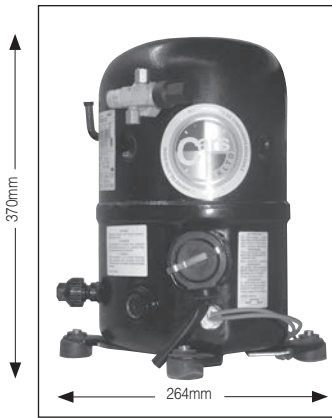
L'Unite Compressors  
R22 HBP



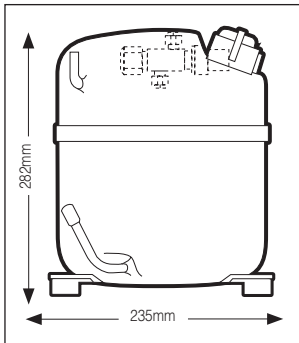
AE, CAE, AEZ



AH, FH



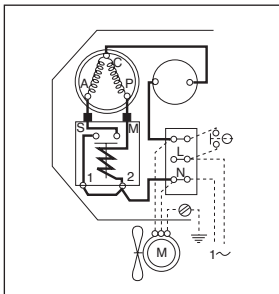
AJ, CAJ, TAJ



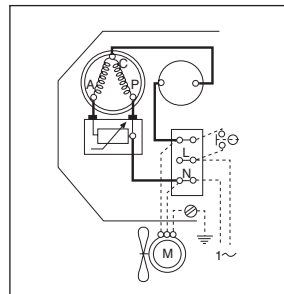
Model	Nom/H.P.	Disp(cc)	Supply	List Price
<b>L'UNITE COMPRESSORS R22 HBP</b>				
AEZ4425E	1/4	4.5	1PH CSIR	197.14
AEZ4430E	1/4	5.7	1PH CSIR	215.43
AEZ3440E	1/3	7.55	1PH RSIR	241.86
AEZ4440E	1/3	7.55	1PH CSIR	252.02
AEZ9440T	1/3	7.55	1PH CSR	294.69
AE3450E	3/7	9.4	1PH RSIR	274.36
CAE4450E	3/7	9.4	1PH CSIR	288.59
CAE9405T	1/2	9.4	1PH CSR	335.34
CAE9460T	1/2	11.3	1PH CSR	341.44
CAJ9480T	5/8	15.2	1PH CSR	565.29
CAJ9510T	3/4	18.30	1PH CSR	575.73
TAJ9510T	3/4	18.3	3PH TRI	572.12
CAJ9513T	1	24.2	1PH CSR	578.73
TAJ9513T	1	24.2	3PH TRI	573.60
CAJ4517E	1.1/4	25.95	1PH CSR	625.50
TAJ4517T	1.1/4	25.95	3PH TRI	623.30
TAJ4519T	1.1/2	34.45	3PH TRI	642.34
FH4522F	1.3/4	40.8	1PH CSR	715.39
TFH4522F	1.3/4	40.8	3PH TRI	751.98
FH4524F	2	43.9	1PH CSR	796.68
TFH4524F	2	43.9	3PH TRI	735.72
FH4531F	2.1/2	56.65	1PH CSR	861.72
TFH4531F	2.1/2	58.1	3PH TRI	774.34
TFH4540T	3	74.25	3PH TRI	802.78
TAG4546T	4	90.2	3PH TRI	1018.21
TAG4553T	4.1/2	100.7	3PH TRI	1060.90
TAG4561T	5	112.50	3PH TRI	1144.22
TAG4568T	6	124.4	3PH TRI	1199.09
TAG4573T	6.1/4	134.8	3PH TRI	1276.33

**NOTE: All CAJ/ TAJ/ FH/ TFH /TAG models are available in TUBE/TUBE or TUBE/VALVE connections. Please specify at time of order.**

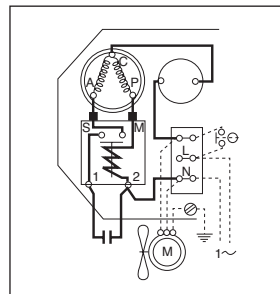
RSIR



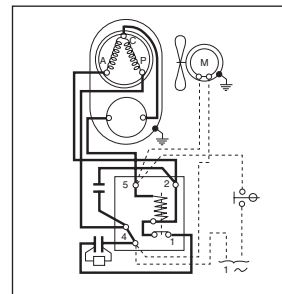
PTCSIR



CSIR



CSR



# compressors



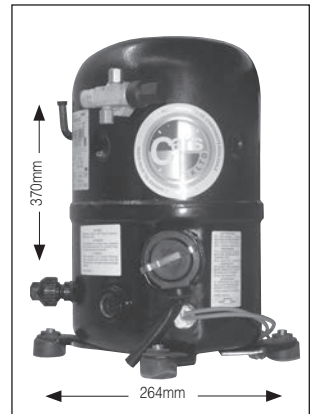
L'Unite Compressors  
R404/507 LBP

L'Unite Compressors  
R404/507 HBP

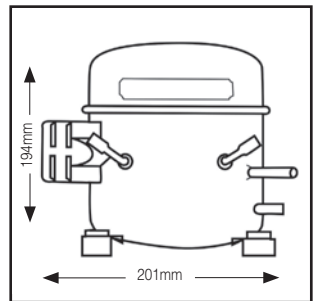
Model	Nom/H.P.	Disp(cc)	Supply	List Price
<b>L'UNITE COMPRESSORS R404/507 LBP</b>				
AE1417Z	1/2	11.3	1PH RSIR	262.55
CAE2417Z / AE2420Z	1/2	11.3	1PH CSR	292.02
AE1420Z	3/8	12.54	1PH RSIR	276.05
CAE2420Z	3/8	12.54	1PH CSIR	292.66
CAE2424Z / AE2425Z	1/2	15.0	1PH CSR	357.30
CAJ2428Z	1/2	15.2	1PH CSIR	402.18
TAJ2428Z	1/2	15.2	3PH TRI	544.67
CAJ2432Z	5/8	18.3	1PH CSR	477.94
CAJ2446Z	3/4	26.15	1PH CSR	536.56
TAJ2446Z	3/4	26.15	3PH TRI	609.72
CAJ2464Z	1.1/2	34.45	1PH CSR	553.56
TAJ2464Z	1.1/2	34.65	3PH TRI	632.74
FH2480Z	2	53.2	1PH CSR	865.48
TFH2480Z	2	53.2	3PH TRI	833.08
FH2511Z	2.1/2	74.3	1PH CSR	981.18
TFH2511Z	2.1/2	74.3	3PH TRI	859.30
TAG2516Z	4	112.5	3PH TRI	1351.44
TAG2522Z	5	134.8	3PH TRI	1468.68

Model	Nom/H.P.	Disp(cc)	Supply	List Price
<b>L'UNITE COMPRESSORS R404/507 HBP</b>				
AEZ4425Z	1/5	4.50	1PH CSIR	193.08
AEZ4430Z	1/4	5.70	1PH CSIR	223.56
AEZ3440Z	1/3	7.55	1PH RSIR	249.97
AEZ4440Z	1/3	7.55	1PH CSIR	249.30
AEZ9440Z	1/3	7.55	1PH CSR	306.89
AE3450Z	3/7	9.40	1PH RSIR	282.49
CAE4450Z	3/7	9.40	1PH CSIR	296.72
CAE9450Z	3/7	9.40	1PH CSR	251.30
CAE9460Z / AE4460Z	1/2	11.30	1PH CSR	340.16
CAE9470Z / AE4470Z	1/2	13.3	1PH CSR	347.72
CAJ9480Z	5/8	15.20	1PH CSR	552.74
TAJ9480Z	5/8	15.20	3PH TRI	562.29
CAJ9510Z	1	18.30	1PH CSR	580.52
CAJ9513Z	1.1/8	24.20	1PH CSR	610.14
TAJ9513Z	1.1/8	24.20	3PH TRI	589.04
CAJ4517Z	1.1/4	25.95	1PH CSR	628.20
TAJ4517Z	1.1/4	25.95	3PH TRI	610.12
CAJ4519Z	1.1/2	34.45	1PH CSR	668.16
TAJ4519Z	1.1/2	34.45	3PH TRI	648.70
FH4522Z	1.3/4	40.80	1PH CSR	814.56
TFH4522Z	1.3/4	40.80	3PH TRI	747.92
FH4524Z	2	43.90	1PH CSR	845.42
TFH4524Z	2	43.90	3PH TRI	862.38
FH4531Z	2.1/2	58.10	1PH CSR	900.96
FH4540Z	3	74.25	1PH CSR	936.44
TFH4540Z	3	74.25	3PH CSR	842.34

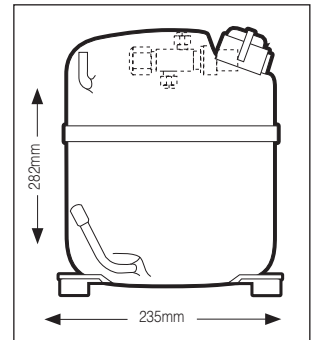
AH, FH



AE, CAE, AEZ



AJ, CAJ, TAJ



**NOTE: All CAJ/ TAJ/ FH/ TFH/ TAG models are available in TUBE/TUBE or TUBE/VALVE connections. Please specify at time of order.**

Continued...

# compressors

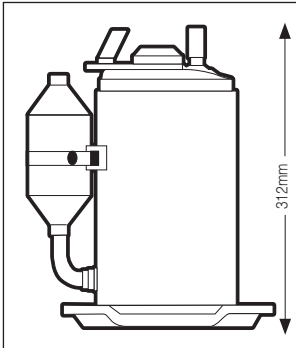


L'Unite Compressors  
R404/507 HBP

L'Unite Compressors R502  
HBP

L'Unite Rotary Compressors  
R22 + R407C + R134A

L'UNITE ROTARY  
COMPRESSOR



Models ending in W,  
now superceed both  
models ending in  
E(R22) and C(R407).

Model	Nom/H.P.	Disp(cc)	Supply	List Price
<b>L'UNITE COMPRESSORS R404/507 HBP (continued)</b>				
TAG4546Z	4	90.20	3PH	1101.52
TAG4553Z	4.1/2	100.70	3PH	1228.02
TAG4561Z	5	112.50	3PH	1359.14
TAG4568Z	6	124.40	3PH	1428.58
TAG4573Z	6.1/4	134.80	3PH	1513.42

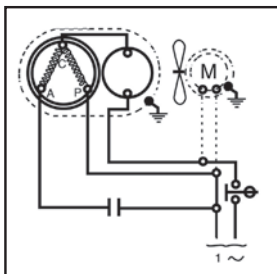
<b>L'UNITE COMPRESSORS R502 HBP</b>				
CAE9450T	3/7	9.4	1PH	345.51
CAE9460T	1/3	11.3	1PH	351.60
CAE4470L	1/3	13.25	1PH	357.70
CAJ9480T	5/8	15.2	1PH	583.28
TAJ9480T	5/8	15.2	3PH	583.28
CAJ9510T	1	18.30	1PH	630.04
TAJ9510T	1	18.30	3PH	621.91
TAJ9513T	1.1/8	24.2	3PH	490.90
TAJ4517T	1.1/4	25.95	3PH	674.75
TAJ4519T	1.1/2	34.45	3PH	717.42

<b>L'UNITE ROTARY COMPRESSORS R22/R407C (A/C + HEAT PUMP)</b>				
RK5480W	11.4	PSC	1PH	466.28
RK5490W	12.9	PSC	1PH	468.38
RK5510W	14.6	PSC	1PH	405.81
RK5512W	16.3	PSC	1PH	452.62
RK5513W	18.1	PSC	1PH	483.87
RK5515W	21.4	PSC	1PH	507.28
RK5518W	24.4	PSC	1PH	538.50

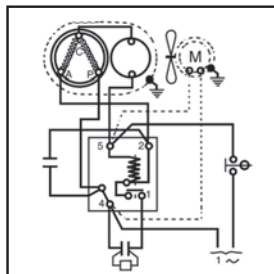
<b>L'UNITE ROTARY COMPRESSORS R134A (A/C + HEAT PUMP)</b>				
RK5450Y	11.4	PSC	1PH	394.09
TRK5450Y	11.4	TRI	3PH	479.95
RK5480Y	18.1	PSC	1PH	407.78
TRK5480Y	18.1	TRI	3PH	421.20
TRK5512Y	24.4	TRI	3PH	393.30

## ALL L'UNITE SPARES AVAILABLE

PSC



CSR



**NOTE: All CAJ/ TAJ/ FH/ TFH/ TAG models are available in TUBE/TUBE or TUBE/VALVE connections. Please specify at time of order.**





# compressors



Danfoss Compressors

Compressor Model	(HP)	Motor Type	Displ. (cc)	Expan. Device	CECOMAF		FLC (Amps)	LRA (Amps)	Cooling Type	Height (mm)	List Price
					Capacity	Input					
<b>R22/R502 LBP</b>											
SC10CX	3/8	CSIR	10.30	C/V	325	300	2.00	11.70	F	209	399.30
SC12CX	1/2	CSIR	12.90	C/V	415	380	2.50	15.90	F	209	458.70
SC15CMX	2/3	CSIR	15.30	C/V	510	470	3.05	19.00	F	219	475.20
SC18CMX	2/3	CSR	17.70	C/V	585	510	2.35	20.00	F	219	534.60
SC15BMX	1/2	CSIR	15.30	C/V	510	470	3.05	15.90	F	209	491.70
SC18BMX	1/2	CSR	17.70	C/V	585	510	2.35	16.50	F	209	554.40
SC10/10CX	2x3/8	CSIR	2x10.30	C/V	650	600	4.00	11.70	F	249	889.35
SC10/12CX	2x1/2	CSIR	2x12.90	C/V	830	760	5.00	15.90	F	249	915.75
<b>R404A LBP</b>											
TL4CLX	1/5	CSIR	3.86	C/V	142	140	1.08	5.70	F	173	264.00
FR6CLX	2/7	CSIR	6.23	C/V	243	242	1.46	8.20	F	196	303.60
FR8.5CLX	1/3	CSIR	7.95	C/V	290	315	1.99	10.00	F	196	235.62
SC10CLX	2/5	CSIR	10.30	C/V	340	340	2.15	12.60	F	209	270.96
SC12CLX	1/2	CSIR	12.90	C/V	475	435	2.72	14.80	F	209	292.44
SC15CLX	2/3	CSIR	15.30	C/V	585	510	3.09	18.60	F	219	304.62
SC18CLX	2/3	CSR	17.70	C/V	690	605	3.41	18.60	F	219	356.78
SC21CLX	3/4	CSR	20.95	C/V	813	702	3.71	23.40	F	219	390.44
SC10/10CLX	2x2/5	CSIR	2x10.30	C/V	682	679	4.29	12.60	F	249	879.43
SC12/12CLX	2x1/2	CSIR	2x12.90	C/V	950	862	5.44	14.80	F	249	905.85
SC15/15CLX	2x2/3	CSIR	2x15.30	C/V	1169	1023	6.19	18.60	F	259	971.85
SC18/18CLX	2x2/3	CSR	2x17.70	C/V	1383	1205	6.81	18.60	F	259	1039.50
SC21/21CLX	2x3/4	CSR	2x20.95	C/V	1626	1404	7.42	23.40	F	259	1148.40
<b>R22/R502 HBP</b>											
SC10DX	1/2	CSIR	10.30	C/V	1295	545	3.10	15.90	F	209	417.45
SC12DX	2/3	CSIR	12.90	C/V	1615	660	3.80	19.50	F	209	470.25
SC15DX	3/4	CSR	15.30	C/V	1975	715	3.45	18.20	F	209	605.55
SC10/10DX	2x1/2	CSIR	2x10.30	C/V	2590	1090	6.20	15.90	F	249	938.85
SC12/12DX	2x2/3	CSIR	2x12.90	C/V	3230	1320	7.60	19.50	F	249	991.65
SC15/15DX	2x3/4	CSR	2x15.30	C/V	3950	1430	6.90	18.30	F	249	1069.1
<b>R404A HBP</b>											
TL4DLX	1/4	CSIR	3.86	C/V	527	256	1.54	7.50	F	173	283.80
FR6DLX	2/5	CSIR	6.23	C/V	840	456	2.51	10.00	F	196	369.60
SC10DLX	1/2	CSIR	10.29	C/V	1426	561	3.29	14.80	F	209	317.40
SC12DLX	2/3	CSIR	12.87	C/V	1856	747	4.23	18.60	F	219	319.76
SC15DLX	3/4	CSR	15.28	C/V	2049	820	4.09	21.80	F	219	350.84
SC10/10DLX	1/2	CSIR	2x10.29	C/V	2847	1122	6.59	14.80	F	209	846.45
SC12/12DLX	2/3	CSIR	2x12.87	C/V	3711	1493	8.46	18.60	F	219	1047.75
SC15/15DLX	3/4	CSR	2x15.28	C/V	4099	1639	8.18	21.80	F	219	1064.25
SC12MLX	2/3	CSR	12.87	C/V	1856	747	4.23	23.40	F	219	256.06
SC15MLX	3/4	CSR	15.28	C/V	2049	820	4.09	23.50	F	219	370.26
SC18MLX	3/4	CSR	18.0	C/V	2847	1122	5.89	23.4	F	219	380.34

# compressors

Danfoss Compressors



CECOMAF Testing Conditions (°C)			
	LBP	HBP	A/C
Evap.	-25.0	5.0	7.2
Cond.	55.0	55.0	54.4
Suction	32.0	32.0	35.0
Liquid	55.0	55.0	46.1

Compressor Model	(HP)	Motor Type	Displ. (cc)	Expn. Device	CECOMAF		FLC (Amps)	LRA (Amps)	Cooling Type	Height (mm)	List Price
					Capacity	Input					
<b>R134a L/MBP</b>											
PL50FK	1/12	RSIR	2.50	C	40	60	0.50	6.00	S	137	142.96
TL2.5FK	1/12	RSIR	2.61	C	32	54	0.44	7.00	S	163	212.85
TL3FK	1/10	RSIR	3.13	C	42	65	0.50	7.50	S	163	216.15
TL4FK	1/8	RSIR	3.86	C	60	81	0.55	7.50	S	163	219.45
TL4FX	1/8	CSIR	3.86	C/V	60	81	0.55	4.80	S	163	242.55
TL5FK	1/7	RSIR	5.08	C	82	101	0.81	8.60	S	173	232.65
TL5FX	1/7	CSIR	5.08	C/V	82	101	0.81	5.90	S	173	254.10
TLS5FK	1/6	RSIR	5.08	C	98	112	1.01	8.70	S	173	237.60
TLS6FK	1/6	RSIR	5.70	C	104	119	0.86	8.60	S	173	247.50
NL6FK	1/6	RSIR	6.10	C	110	118	0.86	9.60	S	190	259.05
NL6FX	1/6	CSIR	6.10	C/V	110	118	0.86	5.00	S	190	275.55
TLS7FK	1/5	RSIR	6.49	C	120	136	0.96	9.70	S	173	205.05
NL7FK	1/5	RSIR	7.30	C	136	146	1.02	10.40	S	190	270.60
NL7FX	1/5	CSIR	7.30	C/V	136	146	1.02	5.90	S	190	288.75
NL9FK	1/4	RSIR	8.35	C	155	167	1.08	10.90	S	190	278.85
NL9FX	1/4	CSIR	8.35	C/V	155	167	1.08	5.90	S	190	298.65
NLE9FK	1/4	RSIR	8.35	C	154	150	1.09	10.70	S	197	305.25
NL11FK	1/3	RSIR	11.15	C	200	212	1.54	13.60	F	203	326.70
NL11FX	1/3	CSIR	11.15	C/V	200	212	1.54	10.40	F	203	195.22
SC15FK	2/5	RSIR	15.30	C	230	275	1.93	17.20	F	209	252.44
SC15FX	2/5	CSIR	15.30	C/V	230	275	1.93	12.60	F	209	252.44
SC18FX	1/2	CSIR	17.70	C/V	280	313	2.29	14.80	F	209	289.46
SC21FX	2/3	CSIR	20.95	C/V	335	382	2.77	18.60	F	219	396.00
<b>R134a L/M/HBP</b>											
TL3GX	1/8	CSIR	3.13	C/V	211	133	0.88	4.90	S	163	237.40
TL4GK	1/7	RSIR	3.86	C	280	154	1.04	9.10	S	173	161.56
TL4GX	1/7	CSIR	3.86	C/V	280	154	1.04	5.80	S	173	161.56
TL5GK	1/5	RSIR	5.08	C	341	205	1.28	9.70	F	173	168.30
TL5GX	1/5	CSIR	5.08	C/V	341	205	1.28	5.70	F	173	168.30
FR6GK	1/5	RSIR	6.24	C	452	241	1.33	10.50	F	196	183.72
FR6GX	1/5	CSIR	6.24	C/V	452	241	1.33	7.50	F	196	183.72
FR7.5GK	1/4	RSIR	6.93	C	505	272	1.52	11.40	F	196	181.58
FR7.5GX	1/4	CSIR	6.93	C/V	505	272	1.52	8.10	F	196	181.58
FR8.5GK	1/3	RSIR	7.95	C	592	321	1.78	12.80	F	196	187.92
FR8.5GX	1/3	CSIR	7.95	C/V	592	321	1.78	8.20	F	196	187.92
FR10GK	1/3	RSIR	9.05	C	638	362	2.16	15.00	F	196	205.32
FR10GX	1/3	CSIR	9.05	C/V	638	362	2.16	10.00	F	196	205.32
FR11GK	1/3	RSIR	11.15	C	628	400	2.26	15.00	F	196	204.74
FR11GX	1/3	CSIR	11.15	C/V	628	400	2.26	10.00	F	196	204.74
SC12GK	2/5	RSIR	12.90	C	960	493	2.65	17.20	F	209	272.64
SC12GX	2/5	CSIR	12.90	C/V	960	493	2.65	12.60	F	209	272.64
SC15GX	1/2	CSIR	15.30	C/V	1113	595	3.08	14.80	F	209	269.28
SC18GX	2/3	CSIR	17.70	C/V	1337	695	3.71	18.60	F	219	309.66
SC21GX	3/4	CSR	20.95	C/V	1561	789	3.87	21.80	F	219	383.72
SC12/12GX	2x2/5	CSIR	2x12.90	C/V	1920	986	5.30	12.60	F	249	805.20
SC15/15GX	2x1/2	CSIR	2x15.30	C/V	2226	1191	6.16	14.80	F	259	841.50
SC18/18GX	2x2/3	CSIR	2x17.70	C/V	2674	1390	7.42	18.60	F	259	867.90
SC21/21GX	2x3/4	CSR	2x20.95	C/V	3120	1581	7.74	21.80	F	259	1027.95

# compressors



Danfoss R290  
Compressors

Compressor Model	(HP)	Displ. (cc)	Cooling	Height	List Price
<b>DANCROSS R290 LOW BACK PRESSURE COMPRESSORS</b>					
TL5CNX	N/A	5.08	F	173	214.26
SC10CNX	N/A	10.29	F	209	298.14
SC12CNX	N/A	12.87	F	209	307.98
SC15CNX	N/A	15.28	F	209	366.88
SC18CNX	N/A	17.69	F	209	366.88
SC21CNX	N/A	20.95	F	219	398.86

## C.A.R.S (UK) LTD.

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Longbridge Hayes Rd,  
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lunch and refreshments*

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## info@carsrefrigeration.co.uk

# compressors

Hitachi Horizontal Scroll  
Compressors  
R404A

## HITACHI Inspire the Next

Model	Disp(cc)	Supply	Cooling Capacity (watts) -25°C EVAP	List Price
<b>HITACHI COMPRESSORS R404A</b>				
ES4084	8.4	1PH	540	382.60
ES6013	12.5	1PH	830	390.75
ES7516	15.9	1PH	1060	673.20
ES1120	20.1	1PH	1450	730.00
ZS4084	8.4	1PH	540	382.60
ZS5011	11.1	1PH	780	390.33
ZS6013	12.5	1PH	830	390.75
ZS7516	15.9	1PH	1060	673.20
ZS1120	20.1	1PH	1450	730.00
DS1836	35.7	1PH	2530	790.14
DS1529	29.1	1PH	2070	750.00
DS1834	34.0	1PH	2400	770.12
DS2244	44.0	1PH	3105	890.70
FL200DL	40.0	3PH	3510	990.00
FL300DL	56.0	3PH	4910	1318.00
FL400DL	72.0	3PH	6350	1386.00
FL500DL	90.0	3PH	7970	1584.00

### "World First" Horizontal Scroll Compressor for Refrigerant

Ideal for cold storage from fruits & vegetables to frozen foods. Low profile space saving design for supermarket freezer cases.

- High Performance
- Compact Size
- High Reliability
- Low Sound & Low Vibration
- Wide Operation Range

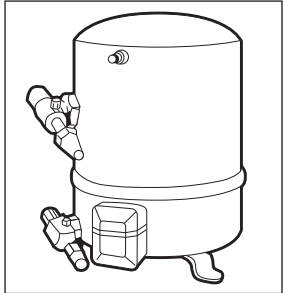
HFC Refrigerant  
**R404A**

# compressors



**Maneurop Compressors  
R134A/R404A/  
R507/R407C**

Model	APP HP	DISP (cc)	Supply	Shell	List Price
<b>MANUEROP COMPRESSORS R134A/R404A/R507/R407C LOW/MEDIUM/HIGH BACK PRESSURE</b>					
MTZ18/JA5	1.1/2	30	1PH	S/GLASS	785.38
MTZ18/JA4	1.1/2	30	3PH	S/GLASS	785.38
MTZ22/JC5	1.3/4	38	1PH	S/GLASS	807.84
MTZ22/JC4	1.3/4	38	3PH	S/GLASS	757.34
MTZ28/JE5	2.1/4	48	1PH	S/GLASS	827.46
MTZ28/JE4	2.1/4	48	3PH	S/GLASS	765.76
MTZ32/JF5	2.3/4	54	1PH	S/GLASS	1232.50
MTZ32/JF4	2.3/4	54	3PH	S/GLASS	1232.50
MTZ36/JG5	3	61	1PH	S/GLASS	969.40
MTZ36/JG4	3	61	3PH	S/GLASS	855.50
MTZ40/JH4	3.1/2	68	3PH	S/GLASS	944.32
MTZ44/HJ4	3.3/4	76	3PH	S/GLASS	1110.00
MTZ50/HJ4	4	86	3PH	S/GLASS	1380.06
MTZ50HJ5	4	86	3PH	S/GLASS	1924.00
MTZ56/HL4	4.1/2	96	3PH	S/GLASS	1464.20
MTZ64/HM4	5	108	3PH	S/GLASS	1316.24
MTZ72/HN4	6	121	3PH	S/GLASS	1490.00
MTZ80/HP4	6.1/2	136	3PH	S/GLASS	1767.14
MTZ100/HS4	8.1/2	171	3PH	S/GLASS	2869.12
MTZ125/JA4	10	215	3PH	S/GLASS	2875.10
MTZ144/HV4	11.1/2	242	3PH	S/GLASS	3100.00
MTZ160/HW4	13	272	3PH	S/GLASS	3141.60



**COMPRESSORS**  
Maneurop Compressors are supplied with anti-vibration mountings.



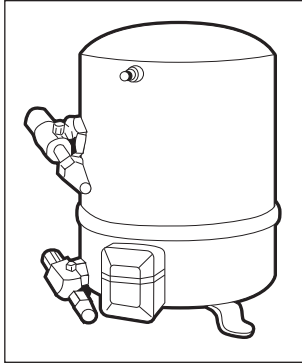
**DON'T FORGET!**  
Maneurop are supplied without electrics or Rotorlock valves. See pages 29 & 30

# compressors



Maneurop Compressors  
R22/R502/R12

Maneurop Scroll Compressors  
R404A/R507/R134a/R22



## COMPRESSORS

Maneurop Compressors are supplied with anti-vibration mountings.



## DON'T FORGET!

Maneurop are supplied without electrics or Rotorlock valves. See pages 23/4



Model	APP HP	DISP (cc)	Supply	Shell	List Price
<b>MANEUROP COMPRESSORS R22/R502/R12 LOW/MEDIUM/HIGH BACK PRESSURE</b>					
MT18/JA5	1.1/2	30	1PH	S/GLASS	785.38
MT18/JA4	1.1/2	30	3PH	S/GLASS	785.38
MT22/JC5	1.3/4	38	1PH	S/GLASS	807.84
MT22/JC4	1.3/4	38	3PH	S/GLASS	757.34
MT28/JE5	2.1/4	48	1PH	S/GLASS	827.46
MT28/JE4	2.1/4	48	3PH	S/GLASS	765.76
MT32/JF5	2.3/4	54	1PH	S/GLASS	1232.50
MT32/JF4	2.3/4	54	3PH	S/GLASS	1232.50
MT36/JG5	3	61	1PH	S/GLASS	969.40
MT36/JG4	3	61	3PH	S/GLASS	855.50
MT40/JH4	3.1/2	68	3PH	S/GLASS	944.32
MT44/HJ4	3.3/4	76	3PH	S/GLASS	1110.00
MT50/HJ4	4	86	3PH	S/GLASS	1380.06
MT50HJ5	4	86	3PH	S/GLASS	1924.00
MT56/HL4	4.1/2	96	3PH	S/GLASS	1464.20
MT64/HM4	5	108	3PH	S/GLASS	1316.24
MT72/HN4	6	121	3PH	S/GLASS	1490.00
MT80/HP4	6.1/2	136	3PH	S/GLASS	1767.14
MT100/HS4	8.1/2	171	3PH	S/GLASS	2869.12
MT125/JA4	10	215	3PH	S/GLASS	2875.10
MT144/HV4	11.1/2	242	3PH	S/GLASS	3100.00
MT160/HW4	13	272	3PH	S/GLASS	3141.60

Model	APP HP	Capacity		Supply	Shell	List Price
		Watts	BTU/HR			
<b>MANEUROP SCROLL 404A/507/R134a/R22 MEDIUM/HIGH BACK PRESSURE (-1) -23°C to +10°C EVAP</b>						
MLZ015T5LPG	2	3,800	12,969	1PH	S/GLASS	1797.40
MLZ015T4LPG	2	3,800	12,969	3PH	S/GLASS	1850.60
MLZ019T5LPG	2.5	4,800	16,382	1PH	S/GLASS	1858.20
MLZ019T4LPG	2.5	4,800	16,382	3PH	S/GLASS	1911.40
MLZ021T5LPG	3	5,100	17,406	1PH	S/GLASS	1884.80
MLZ021T4LPG	3	5,100	17,406	3PH	S/GLASS	1947.50
MLZ026T5LPG	3.5	6,400	21,843	1PH	S/GLASS	2181.20
MLZ026T4LPG	3.5	6,400	21,843	3PH	S/GLASS	2249.60
MLZ030T5LPG	5	7,700	26,280	1PH	S/GLASS	2479.50
MLZ030T4LPG	4	7,700	26,280	3PH	S/GLASS	2479.50
MLZ038T5LPG	5	9,200	31,399	1PH	S/GLASS	2737.90
MLZ038T4LPG	5	9,200	31,399	3PH	S/GLASS	2737.90
MLZ045T5LPG	6	11,100	37,884	1PH	S/GLASS	3043.80
MLZ045T4LPG	6	11,100	37,884	3PH	S/GLASS	3043.80
MLZ048T4LPG	6.5	12,100	41,297	3PH	S/GLASS	3311.70
MLZ058T4LPG	7.5	14,400	49,147	3PH	S/GLASS	4320.60
MLZ066T4LPG	9	16,500	56,314	3PH	S/GLASS	4788.00
MLZ076T4LPG	10	19,000	64,846	3PH	S/GLASS	5259.20

# compressors



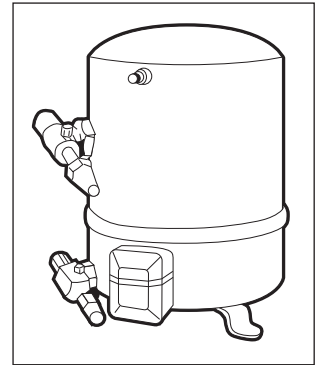
Maneurop Compressors  
R502/R404A/R507A

Maneurop  
Accessories

Model	APP HP	DISP (cc)	Supply	Shell	List Price
<b>MANEUROP COMPRESSORS R502 LBP</b>					
LT22/5SR/NT48	1.3/4	48	1PH	S/GLASS	1430.55
LT22/4SR/NT48	1.3/4	48	3PH	S/GLASS	925.64
LT28/5SR/NT68	2.1/4	68	1PH	S/GLASS	1207.30
LT28/4SR/NT68	2.1/4	68	3PH	S/GLASS	1123.20
LT40/4SR/NT96	3.1/2	96	3PH	S/GLASS	1559.58
LT44/4SR/NT108	3.3/4	108	3PH	S/GLASS	1699.26
LT50/4SR/NT136	4	136	3PH	S/GLASS	2268.12
LT88/4SR/NT215	7	215	3PH	S/GLASS	3777.76
LT100/4SR/NT271	8.1/2	272	3PH	S/GLASS	4058.82

<b>MANEUROP COMPRESSORS R404A/R507/R134A/R4070 LBP</b>					
L TZ22/5SR/NTZ48	1.3/4	48	1PH	S/GLASS	1374.74
L TZ22/4SR/NTZ48	1.3/4	48	3PH	S/GLASS	925.64
L TZ28/5SR/NTZ68	2.1/4	68	1PH	S/GLASS	1374.74
L TZ28/4SR/NTZ68	2.1/4	68	3PH	S/GLASS	1374.74
L TZ40/4SR/NTZ96	3.1/2	96	3PH	S/GLASS	1559.58
L TZ44/4SR/NTZ108	3.3/4	108	3PH	S/GLASS	1699.26
L TZ50/4SR/NTZ136	4	136	3PH	S/GLASS	2268.12
L TZ88/4SR/NTZ215	7	215	3PH	S/GLASS	3777.76
L TZ100/4SR/NTZ271	8.1/2	272	3PH	S/GLASS	4058.82

<b>MANEUROP ACCESSORIES</b>		
MAS321	1PH ELECTRICS KIT MT18/5 - MT28/5	94.90
MAS633	1PH ELECTRICS KIT MT32/5 - MT36/5	94.90
MAS642	1PH PREWIRED BOX MT18/5 - MT22/5 - MT28/5	366.20
MAS643	1PH PRE WIRED BOX MT32/5	366.20
MAS710	3PH KIT - FIXED RESISTANCE 5.6OHM OPTIONAL MT32-MT80	1268.94
MAS720	3PH KIT - FIXED RESISTANCE 2.2OHM OPTIONAL MT100-MT160	1382.74
MAS650	RELAY 3AR3J4A4 - PSC/CSR ELECTRICS	108.96
MAS666	10 <sup>UF</sup> CAPACITOR - PSC/CSR ELECTRICS	20.56
MAS668	15 <sup>UF</sup> CAPACITOR - PSC/CSR ELECTRICS	20.87
MAS 670	20 <sup>UF</sup> CAPACITOR - PSC/CSR ELECTRICS	24.71
MAS 672	25 <sup>UF</sup> CAPACITOR - PSC/CSR ELECTRICS	45.59
MAS674	30 <sup>UF</sup> CAPACITOR - PSC/CSR ELECTRICS	53.17
MAS676	100 <sup>UF</sup> CAPACITOR - PSC/CSR ELECTRICS	47.30
MAS678	135 <sup>UF</sup> CAPACITOR - PSC/CSR ELECTRICS	49.08
MAS587	30W PTC 200-600V HEATER ALL MOD, EXEPT 8CYL	35.84
MAS595	HEAT TRANSFER PASTE	6.37
MAS590	2 x 100 W 240V HEATER 8 CYL MODELS	263.00



**COMPRESSORS**  
Maneurop Compressors are supplied with anti-vibration mountings.

## compressors

Maneurop  
Accessories

# Maneurop®

Code	Description	Suitable for	List Price
<b>ROTORLOCK VALVES</b>			
MAS490	VO1 3/8 ODS X 1" DISCH VLV	MT18, MT22, MT28	43.48
MAS500	V06 1/2 ODS X 1" SUCT VLV	MT18, MT22, MT28	46.84
MAS505	V09 5/8 ODS X 1.1/4 SUCT VLV	MT32, MT36, MT40, LT22, LT28	46.84
MAS510	V04 3/4 ODS X 1.1/4 DISCH VLV	MT44 TO MT 80 & LT40 TO LT100	71.65
MAS515	V07 7/8 ODS X 1.3/4 SUCT VLV	MT44 TO MT80, LT40, LT44	84.87
MAS520	V05 7/8 ODS X 1.1/4 SUCT VLV	MT100,MT125,MT160,MS115, ETC	73.40
MAS525	V02 1.1/8 ODS X 1.3/4 SUCT VLV	MT80 TO MT160, MS115 TO 185	108.50
MAS528	V10 1.3/8 ODS X 1.3/4 SUCT VLV	MT8TO MT160,LT50 TO LT100	184.71
MAS518	V08 1.3/8 ODS X 2.1/4 SUCT VLV	MS155,MS125	158.03
MAS513	V03 1.5/8 ODS X 2.1/4 SUCT VLV	MS175,MS185	146.93
MAS540	C01 3/8 ODS X 1" DISCH CONN	MT18 TO MT28	32.36
MAS545	CO6 1/2 ODS X 1" SUCT CONN	MT18 TO MT 28	34.77
MAS550	C06 1/2 ODS X 1.1/4 SUCT CONN	MT32 TO MT40, LT22, LT28	45.59
MAS555	C09 5/8 ODS X 1.1/4 SUCT CONN	MT32 TO MT40, LT22, LT28	36.90
MAS560	C04 3/4 ODS X 1.1/4 DISCH CONN	MT44 TO MT160, LT40 TO LT100	37.89
MAS570	C07 7/8 ODS X 1.3/4 SUCT CONN	MT44 TO MT72, LT40, LT44	47.30
MAS575	C02 1.1/8 ODS X 1.3/4 SUCT CONN	MT160 TO MT180, LT50 TO LT100	52.56
<b>MANEUROP OIL</b>			
MAS600	MANEUROP WHITE OIL 2LTR	MANEUROP RECIP R22/12/502	50.81
MAS601	MANEUROP WHITE OIL 5LTR	MANEUROP RECIP R22/12/502	97.65
MAS602	MANEUROP ESTER OIL 2LTR	MANEUROP RECIP R134/404/507	143.32
MAS603	MANEUROP ESTER OIL 1LTR	MANEUROP RECIP R134/404/507	80.67
MAS605	MANEUROP ESTER OIL 1LTR	MANEUROP SCROLL R134A	83.80
MAS606	MANEUROP ESTER OIL 2LTR	MANEUROP SCROLL R134A	148.52
<b>AUCOUSTIC SILENCING COVERS</b>			
HUT001	KCS1 FOR 12 dBA REDUCTION	MT18-MT40	192.37
HUT002	KCS2 FOR 16.7 REDUCTION	MT44-MT80	234.43
HUT003	KCS4 18.6 dBA REDUCTION	MT100-MT160	306.49

**FREE NEXT DAY DELIVERY**  
on orders over **£100.00 nett\*** (UK Mainland)



# compressors



## Maneurop Performer Scroll Compressors

### Tandem Models

### Tandem Hermetic Compressors

Model	Approx H.P.	M3/h	Capacity (Watts)		Shell	Conns	List Price
			Watts	BTU/H			
<b>R407C/R404A/R507/R134a MEDIUM/HIGH BACK PRESSURE (3) -5°C to +15°C Evap</b>							
SZ084-4V	8.2	20	18,800	64,200	S/G + Bal	BRAZED*	3428.83
SZ090-4V	8.7	21	19,900	67,900	S/G + Bal	BRAZED*	3626.52
SZ100-4V	9.2	22	21,100	71,700	S/G + Bal	BRAZED*	2400.00
SZ110-4V	10.4	25	24,000	81,900	S/G + Bal	BRAZED*	4129.85
SZ115-4R	11.4	27	26,300	89,800	S/G + Bal	ROTALOCK	4411.21
SZ120-4V	12.0	29	27,900	95,200	S/G + Bal	BRAZED*	4311.92
SZ125-4R	12.0	29	28,000	95,500	S/G + Bal	ROTALOCK	4606.78
SZ160-4RA	15.5	38	36,000	124,900	S/G + Bal	ROTALOCK	5260.23
SZ161-4VA	15.5	38	36,000	124,900	S/G + Bal	BRAZED*	5260.23
SZ175-4R	17.0	41	39,200	133,800	S/G + Bal	ROTALOCK	5587.66
SZ185-4R	18.3	43	42,100	143,700	S/G + Bal	ROTALOCK	5287.98

All models are three phase.

Model	Approx H.P.	M3/h	Capacity (Watts)		Shell	Conns	List Price
			Watts	BTU/H			
<b>R407C/R404A/R507/R134a MEDIUM BACK PRESSURE (3) -5°C to +15°C Evap</b>							
SZ170-4	16.3	40	37,100	126,700	S/G + Bal	BRAZED	7601.57
SZ180-4	17.2	42	39,200	133,800	S/G + Bal	BRAZED	7994.08
SZ200-4	18.3	44	41,500	141,600	S/G + Bal	BRAZED	8487.88
SZ220-4	20.8	50	47,300	161,400	S/G + Bal	BRAZED	9015.47
SZ230-4	22.8	54	51,800	176,800	S/G + Bal	BRAZED	9629.58
SZ242-4	24.1	58	55,000	187,700	S/G + Bal	BRAZED	9414.65
SZ250-4	24.0	58	55,000	187,700	S/G + Bal	BRAZED	10056.90
SZ285-4	27.9	67	63,500	216,900	S/G + Bal	BRAZED	10581.26
SZ290-4	28.3	68	64,400	219,700	S/G + Bal	BRAZED	10666.40
SZ310-4	30.3	73	69,000	235,500	S/G + Bal	BRAZED	11253.42
SZ320-4-A	31.7	75	72,200	246,500	S/G + Bal	BRAZED	11283.68
SZ322-4	32.1	75	73,000	249,000	S/G + Bal	BRAZED	11283.68
SZ350-4	33.9	81	77,200	263,400	S/G + Bal	BRAZED	11772.55
SZ370-4	36.5	87	83,000	283,200	S/G + Bal	BRAZED	12485.48

All models are three phase.

Model	Approx H.P.	CC	Capacity (Watts)		Supply	Shell Type	List Price
			Watts	BTU/H			
<b>R134a/R404A/R507/R407c - LOW/MEDIUM/HIGH BACK PRESSURE (1) -30°C to +15°C Evap</b>							
MTZ200.T4SA	2 x 8 1/2	2 x 171	44,222	150,928	3PH	S/GLASS	8206.64
MTZ250.T4SA	2 x 10	2 x 215	58,424	199,399	3PH	S/GLASS	8663.41
MTZ288.T4SA	2 x 11 1/2	2 x 242	65,868	224,805	3PH	S/GLASS	9485.60
MTZ320.T4SA	2 x 13	2 x 272	74,772	255,194	3PH	S/GLASS	9698.76

<b>R134a/R404A/R507/R407c - LOW BACK PRESSURE (2) -40°C to -20°C Evap</b>							
LTZ176.T4SA	2 x 7	2 x 215	14,280	48,737	3PH	S/GLASS	11373.58
LTZ200.T4SA	2 x 8 1/2	2 x 272	18,000	61,433	3PH	S/GLASS	12302.35

### Performer Scroll Compressors



Capacity at cond +50°C.

3) - M/HBP Evap +5°C. R407c.

\* Note - Braze to Rotolock connection adaptor kits available

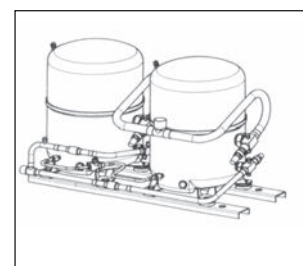
### Tandem Models

Twin compressor versions.



Triple and quadruple on request.

### Tandem Hermetic Compressors



(1) Capacity R407c at +7.2°C evap, +54.4°C condensing.

(2) Capacity R404A at -30°C evap, +40°C condensing.

# compressors



## Copeland Scroll Compressors

### Scroll Compressors

The scroll compressor range comprises the air conditioning ZR models, the medium/low temperature ZB & ZS models & the low temperature ZF models.

The three digit suffix in the model nomenclature designates the compressor bill of materials, from this the refrigerant tube connection can be established.

'522' models have brazing stub tubes '551' have rotalock threaded spuds. Mineral oil compressors up to model ZR72 use Copeland 'White Oil', above this Suniso 3GS is used; both are compatible. All Ester oil compressors use Mobil EAL Artic 22cc, designates a special Copeland formula oil.

The following accessories are optional: crankcase heater, rotalock valves, hard mount kit & acoustic jacket; additionally, the ZF models are able to use kits for liquid/vapour injection.

Air Conditioning - Mineral Oil (R22)				
Model	Motor HP	Swept Vol (m3/hr)	Power Supply	List Price
ZR18K*-PFJ-522	1.50	4.30	1ph	866.80
ZR22K*-PFJ-522	2.00	5.42	1ph	1240.00
ZR22K*-TFD-522	2.00	5.42	3ph	986.91
ZR28K*-PFJ-522	2.25	6.75	1ph	1340.00
ZR28K*-TFD-522	2.25	6.75	3ph	1307.70
ZR34K*-PFJ-522	2.50	8.01	1ph	1390.00
ZR34K*-TFD-522	2.50	8.01	3ph	1092.92
ZR40K*-PFJ-522	3.25	9.18	1ph	1456.00
ZR40K*-TFD-522	3.35	9.18	3ph	1400.30
ZR48K*-TFD-522	4.00	11.70	3ph	1696.46
ZR61K*-TFD-522	5.00	14.40	3ph	1951.46
ZR72K*-TFD-522	6.00	17.00	3ph	2110.00
ZR81K*-TFD-522	6.75	19.20	3ph	2465.76
ZR90K*-TWD-551	7.50	20.90	3ph	2437.85
ZR11M*-TWD-551	9.00	24.90	3ph	3038.48
ZR12M*-TWD-551	10.00	29.00	3ph	3316.42
ZR16M*-TWD-551	13.00	35.60	3ph	4786.46
ZR19M*-TWD-551	15.00	42.10	3ph	5336.82

Air Conditioning - Ester Oil (R22, R407C & R134a)				
Model	Motor HP	Swept Vol (m3/hr)	Power Supply	List Price
ZR18K*E-PFJ-522	1.50	4.30	1ph	866.80
ZR22K*E-PFJ-522	2.00	5.42	1ph	1240.00
ZR22K*E-TFD-522	2.00	5.42	3ph	986.91
ZR28K*E-PFJ-522	2.25	6.75	1ph	1340.00
-	-	-	-	-
ZR34K*E-PFJ-522	2.50	8.01	1ph	1390.00
ZR34K*E-TFD-522	2.50	8.01	3ph	1092.92
-	-	-	-	-
ZR40K*E-TFD-522	3.35	9.18	3ph	1400.30
ZR48K*E-TFD-522	4.00	11.70	3ph	1696.46
ZR61K*E-TFD-522	5.00	14.40	3ph	1951.46
ZR72K*E-TFD-522	6.00	17.00	3ph	2110.00
ZR81K*E-TFD-522	6.75	19.20	3ph	2465.76
ZR90K*E-TWD-551	7.50	20.90	3ph	2507.19
ZR11M*E-TWD-551	9.00	24.90	3ph	3038.49
ZR12M*E-TWD-551	10.00	29.00	3ph	3318.77
ZR16M*E-TWD-551	13.00	35.60	3ph	4786.46
ZR19M*E-TWD-551	15.00	42.10	3ph	5336.82

Refrigeration - Ester Oil				
Model	Motor HP	Swept Vol (m3/hr)	Power Supply	List Price
ZB15K*E-TFD-551	2.00	5.30	3ph	1123.53
ZB19K*E-PFJ-551	2.50	6.80	1ph	1509.68
ZB19K*E-TFD-551	2.50	6.80	3ph	1509.68
ZS21K*E-TFD-551	3.00	8.10	3ph	1382.63
ZB21K*E-PFJ-551	3.00	8.10	1ph	1552.58
ZB21K*E-TFD-551	3.00	8.10	3ph	1603.06
ZS26K*E-TFD-551	3.50	10.00	3ph	1594.61
ZB26K*E-PFJ-551	3.50	10.00	1ph	1777.52
ZB26K*E-TFD-551	3.50	10.00	3ph	1850.44
ZS30K*E-TFD-551	4.00	11.80	3ph	1759.49
ZB30K*E-TFD-551	4.00	11.80	3ph	2135.74
ZS38K*E-TFD-551	5.00	14.50	3ph	1867.84
ZB38K*E-TFD-551	5.00	14.50	3ph	2392.62
ZS45K*E-TFD-551	6.00	17.20	3ph	2077.48
ZB45K*E-TFD-551	6.00	17.20	3ph	2567.40
ZS56K*E-TWD-551	7.50	21.80	3ph	3191.59
ZB56K*E-TWD-551	7.50	21.80	3ph	3410.60
ZS75K*E-TWD-551	10.00	28.90	3ph	3808.71
ZB75K*E-TWD-551	10.00	28.90	3ph	4124.32
ZS92K*E-TWD-551	13.00	35.60	3ph	4227.97
ZB92K*E-TWD-551	13.00	35.60	3ph	4581.28
ZS11M*E-TWD-551	15.00	42.10	3ph	4454.09
ZB11M*E-TWD-551	15.00	42.10	3ph	4823.89

Refrigeration - Ester Oil (Low Temperature)				
Model	Motor HP	Swept Vol (m3/hr)	Power Supply	List Price
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
ZF09K*E-TFD-551	3.00	8.10	3ph	1665.28
-	-	-	-	-
-	-	-	-	-
ZF11K*E-TFD-551	3.50	10.00	3ph	1510.00
-	-	-	-	-
-	-	-	-	-
ZF13K*E-TFD-551	4.00	11.80	3ph	1790.00
-	-	-	-	-
ZF15K*E-TFD-551	5.00	14.50	3ph	2690.52
-	-	-	-	-
ZF18K*E-TFD-551	6.00	17.20	3ph	2398.19
-	-	-	-	-
ZF24K*E-TFD-551	7.50	21.80	3ph	3963.46
-	-	-	-	-
ZF33K*E-TFD-551	10.00	28.90	3ph	4126.67
-	-	-	-	-
ZF40K*E-TFD-551	13.00	35.60	3ph	4571.85
-	-	-	-	-
ZF48K*E-TFD-551	15.00	42.10	3ph	5112.12
-	-	-	-	-

# semi hermetic compressors



## Copeland Semi Hermetic Compressors

### Semi-Hermetic Compressors

A range of air-cooled accessible-hermetic compressors up to 5hp, that are suitable for a broad range of temperature applications.

All models designated 'X' in the motor code are supplied with a charge of ester oil (Mobil EAL Arctic 22cc - suffix 'cc' designates a special Copeland formula oil). Other models which omit the 'X' designation indicate a mineral oil charge and should therefore only be topped-up with Suniso 3GS.

Standard features include suction & discharge shut-off valves, oil charge, oil sight glass, mounting springs & holding charge. Mineral oil compressors incorporate splasher-type lubrication, ester oil models have an internal oil pump to enhance durability. In spite of this no oil pressure switch is required on these air-cooled models (except DLH). Additional accessories include crankcase heater & head cooling fan. Note that all single phase versions include the electric kit.

The three letter suffix in the nomenclature indicates the electrical code, comprising:

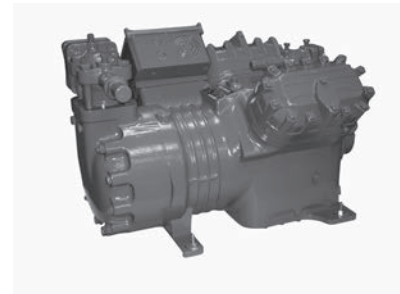
CAS - 220V/1ph/50Hz

CAG - 220-230V/1ph/50Hz

CAZ - 220-240V/1ph/50Hz

EWL - 380-420V/3ph/50Hz direct on-line start

EWM - 380-420V/3ph/50Hz star-delta start (unloaded start kit recommended)



Model	Swept Vol (m3/hr)	Refrigerant	Power Supply	List Price
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MINERAL & ESTER OIL VERSIONS				
Model	Swept Vol (m3/hr)	Refrigerant	Power Supply	List Price
DHM-5X-CAG	3.97	R22/404A/407C/134a	1ph	1394.41
DHM-5X-EWL	3.97	R22/404A/407C/134a	3ph	1213.04
DHM-7X-EWL	3.97	R22/404A	3ph	1253.09
DHJ-7X-CAG	5.13	R22/404A/407C/134a	1ph	1481.55
DHJ-7X-EWL	5.13	R22/404A/407C/134a	3ph	1248.37
DHJ-10X-CAG	5.13	R22/404A	1ph	1523.97
DHJ-10X-EWL	5.13	R22/404A	3ph	1300.19
DHSJ-10X-CAG	6.33	R22/404A/407C/134a	1ph	1526.31
DHSJ-10X-EWL	6.33	R22/404A/407C/134a	3ph	1293.12
DHSJ-15X-CAZ	6.33	R22/404A	1ph	1547.51
DHSJ-15X-EWL	6.33	R22/404A	3ph	1316.68
DHL-15X-CAS	7.38	R22/404A/407C/134a	1ph	1547.51
DHL-15X-EWL	7.38	R22/404A/407C/134a	3ph	1311.96
DHSL-15X-CAS	9.10	R134a	1ph	1547.51
DHSL-15X-EWL	9.10	R134a	3ph	1316.68
DLE-20X-EWL	9.86	R22/404A/407C/134a	3ph	1519.25
DLF-20X-EWL	12.90	R22/404A/407C/134a	3ph	1940.86
DLF-30X-EWL	12.90	R22/404A	3ph	2035.08
DLJ-20X-EWL	14.50	R22/404A/407C/134a	3ph	1940.86
DLJ-30X-EWL	14.50	R22/404A	3ph	2035.08
DLL-30X-EWL	18.30	R22/404A/407C/134a	3ph	2035.08
DLL-40X-EWL	18.30	R22/404A	3ph	2011.53
DLSG-40X-EWL	22.50	R22/404A/407C/134a	3ph	1940.86
DLHA-50X-EWM	26.60	R22/404A/407C/134a	3ph	3047.90
D2SA-45X-EWL	22.40	R404A/22	3ph	2793.52
D2SC-55X-EWL	26.80	R404A/22	3ph	3771.02
D2SK-65X-EWL	31.20	R404A/22	3ph	3961.81

# semi hermetic compressors

Frascold Semi-Hermetic Compressors



Compressor Models	Approx H.P	Capacity in W		(R404A) -40°C	List Price 1 Phase	List Price 3 Phase
		0°C EVAP	-20°C EVAP			
<b>CAPACITY BASED R404A, 40°C CONDENSING</b>						
A 0.5-4Y	0.5	3150	1390	400	1578.06	1418.28
A 0.5-5Y	0.5	-	1700	500	1578.06	1418.28
A 0.7-5Y	0.7	3800	1700	500	1501.22	1424.15
A 0.7-6Y	0.7	-	1870	550	1501.22	1424.15
A 1-6Y	1	4290	1900	550	1583.46	1443.34
A 1-7Y	1	-	2370	690	1583.16	1270.66
A 1.5-7Y	1.5	5500	2410	700	1611.30	1298.50
B 1.5-9Y	1.5	6980	3100	920	1630.46	1437.74
B 2-10Y	2	7970	3540	-	1738.36	1447.29
D 2-11Y	2	8780	3900	1170	1971.60	1636.38
D 2-13Y	2	-	4720	1470	-	1658.84
D 3-13Y	3	10630	4720	-	-	1750.32
D 2-15Y	2	-	5310	1840	1792.82	1684.09
D 3-15Y	3	11690	5270	1700	-	1777.75
D 4-16Y	4	12900	5920	-	-	1674.48
D 3-18Y	3	-	6330	2200	-	1767.14
D 4-18Y	4	14020	6430	-	-	2055.70
F 4-19Y	4	15610	7190	2520	-	POA
F 5-19Y	5	15770	7160	-	-	POA
Q 4-21Y	4	-	7046	2050	-	2516.42
Q 5-21Y	5	16630	7090	-	-	2779.72
F 4-24Y	4	-	8880	3180	-	POA
Q 5-25Y	5	-	9260	3390	-	2851.10
Q 7-25Y	7	20240	9430	-	-	3379.64
Q 5-28Y	5	-	10540	9430	-	3018.29
Q 7-28Y	7	23020	10170	-	-	3149.06
Q 5-33Y	5	-	11610	4020	-	3205.61
S 7-33Y	7	26560	11810	-	-	POA
S 7-39Y	7	-	14430	5160	-	POA
S 10-39Y	10	31310	14370	-	-	POA
S 10-51Y	10	-	18740	6500	-	POA
S 15-51Y	15	40460	18280	-	-	POA
S 15-56Y	15	-	20980	7030	-	4511.54
S 20-56Y	20	46480	21120	-	-	4622.86
V 20-59Y	20	47960	21610	-	-	6292.82
V 15-71Y	15	-	20980	8720	-	6292.82
V 25-71Y	25	56820	25550	-	-	6552.59
V 20-84Y	20	-	31070	11190	-	6552.59
V 30-84Y	30	67960	30970	-	-	6808.82
Z 25-106Y	25	-	38570	13010	-	8484.07
Z 35-106Y	35	86830	38500	-	-	8742.09
Z 30-126Y	30	-	46320	15750	-	8795.10
Z 40-126Y	40	100810	45640	-	-	9183.88
W 40-142Y	40	118530	53310	-	-	12548.53
Z 40-154Y	40	-	56970	19470	-	10099.26
Z 50-154Y	50	123850	55950	-	-	10330.76
W 40-168Y	40	-	64650	21920	-	12548.53
W 50-168Y	50	140500	63390	-	-	12804.77
W 50-187Y	50	-	71810	24180	-	12804.77
W 60-187Y	60	156500	70180	-	-	13320.77
W 60-206Y	60	-	79540	26820	-	13320.77
W 70-206Y	70	173200	77910	-	-	14096.55
W 80-240Y	80	200900	90430	-	-	15542.08

**ALL  
FRASCOLD  
SPARES  
AVAILABLE**

Model	Description	Compressor series	List price
<b>ACCESSORIES FOR SEMI HERMETIC COMPRESSORS</b>			
CCASE50	Oil crankcase heater - 50w	A-B-C-D	112.40
CCASE70	Oil crankcase heater - 70w	F-Q-S	112.40
CCASE150	Oil crankcase heater - 150w	V-Z-W	112.40
SZ-FLI	Electronic liquid injection	S	896.87
SZ-FLI/2	Electronic liquid injection	V	896.87
SZ-FLI/3	Electronic liquid injection	Z-W	928.20
SZ-CC3/0	Capacity control - 50% (one step)	Q	309.96
SZ-CC1/0	Capacity control - 50% (one step)	S	319.85
SZ-CC2/0	Capacity control - 50% (one step)	V	341.28
SZ-CC2/0	Capacity control - 33% (one step)	Z	341.28
SZ-CC2/1	Capacity control - 33-66% (two steps)	Z	677.61
SZ-CC2/0	Capacity control - 25% (one step)	W	341.28
SZ-CC2/1	Capacity control - 25-50% (one step)	W	677.61
SZ-US3	Start unloader (without check valve)	Q	309.96
SZ-US1	Start unloader (without check valve)	F-S	319.85
SZ-US2	Start unloader (without check valve)	V-Z-W	341.28
SZ-FM1	Head cooling fan motor - 250mm	A-B-C-D-F	329.73
SZ-FM9	Head cooling fan motor - 250mm	Q	329.73
SZ-FM2	Head cooling fan motor - 300mm	S-V	341.28
SZ-FM3	Head cooling fan motor - 300mm	Z	341.28
SZ-FM4	Head cooling fan motor - 300mm	W	341.28
T00EC50MTD	Discharge temperature sensor	Q-S	136.85
T00SK170400	Adapter for AC&R oil level regulator	W	79.14
T00SK170200	Flange/valve 5/8" kit for oil equalization	all models	136.85
T00SK170300	Flange/valve 1 1/8" kit for oil equalization	all models	136.85
T00SK300210	Two-stage subcooler (R404A-R507A)	S 5 26-16Y	1007.33
T00SK300220	Two-stage subcooler (R404A-R507A)	S 7 27-19Y	1007.33
T00SK300230	Two-stage subcooler (R404A-R507A)	V 10 42-29 Y	1007.33
T00SK310125	Two-stage subcooler (R404A-R507A)	Z 15 60-30 Y	1007.33
T00SK310130	Two-stage subcooler (R404A-R507A)	Z 20 72-36 Y	1195.28
T00SK310130	Two-stage subcooler (R404A-R507A)	Z 25 84-42 Y	1195.28
T00SK310130	Two-stage subcooler (R404A-R507A)	Z 30 102-51 Y	1195.28
T00EC1610	Delta P Oil diff press switch		397.40
<b>ELECTRICS</b>			
FRASIPHELEC	Single phase electrics kit	A-B-D	275.33
	Electric motor with special voltage	all models	+5%
<b>SERVICE VALVES</b>			
FRASSUCTION 1	Suction Valve	A-B-C-D	99.86
FRASSUCTION 2	Suction Valve	F-Q	245.20
FRASSUCTION 3	Suction Valve	S-V	363.12
FRASSUCTION 4	Suction Valve	Z-W	611.20
FRASDISCHARGE 1	Discharge Valve	A-B-C-D	99.86
FRASDISCHARGE 2	Discharge Valve	F-Q-S-V	245.20
FRASDISCHARGE 3	Discharge Valve	Z-W	363.12

**ALL  
FRASCOLD  
SPARES  
AVAILABLE**

# semi hermetic compressors

## Semi Hermetic Compressors



### Semi Hermetic Compressors

All fitted with "Multiconus" cylinder heads, discharge and suction valves.



Capacities at +45°C condensing on R404A.

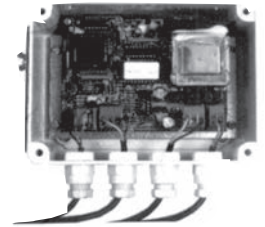
NOTE: Compressors should not be selected based on horsepower. Larger compressors (to 150hp) subject to quotation.

Model	Approx H.P.	Capacity (Watts)			Supply	List Price
		0°C	-20°C	-40°C		
<b>R404A/R407c/R134a - MEDIUM/LOW BACK PRESSURE (3) -45°C to +10°C Evaporating</b>						
K40CC	0.4	1,980	877	260	1PH	1391.14
K50CS	0.5	-	1,204	372	1PH	1391.14
K75CC	0.75	2,795	1,204	-	1PH	1411.10
K75CS	0.75	-	1,566	491	1PH	1400.85
K100CC	1.0	3,610	1,566	-	1PH	1421.97
K100CC	1.0	3,610	1,566	-	3PH	1228.77
K100CS	1.0	-	2,058	695	1PH	1410.53
K100CS	1.0	-	2,058	695	3PH	1232.06
K150CC	1.5	4,600	2,058	-	1PH	1435.57
K150CC	1.5	4,600	2,058	-	3PH	1353.92
K150CS	1.5	-	2,313	744	1PH	1426.08
K150CS	1.5	-	2,313	744	3PH	1247.59
K180CC	1.8	5,190	2,313	-	1PH	1443.64
K180CC	1.8	5,190	2,313	-	3PH	1261.56
K180CS	1.8	-	2,729	877	3PH	1257.26
K200CC	2.0	5,800	2,729	-	3PH	1361.07
K200CS	2.0	-	3,018	1,002	3PH	1299.62
K230CS	2.3	-	2,980	967	3PH	1377.57
K235CC	2.3	6,600	2,980	-	3PH	1443.70
H220CC	2.2	6,870	3,018	-	3PH	1377.68
H250CC	2.5	7,750	3,413	-	3PH	1381.38
K250CC	2.5	-	3,367	1,002	3PH	1655.04
H250CS	2.5	-	3,845	1,260	3PH	1437.06
K280CC	2.8	8,570	3,367	-	3PH	1715.61
H280CC	2.8	8,870	3,845	-	3PH	1437.06
K300CS	3.0	-	4,470	1,537	3PH	1724.88
K300SB	3.0	-	-	1,897	3PH	1724.88
K400CC	4.0	-	5,385	1,970	3PH	2436.93
K400CS	4.0	-	7,930	2,970	3PH	2436.93
K470CC	4.7	-	6,460	-	3PH	2542.15
K470CS	4.7	-	7,900	-	3PH	2533.94
K500CC	5.0	17,690	7,900	-	3PH	2678.74
K500CS	5.0	-	9,050	3,210	3PH	2689.16
K740CC	7.5	20,155	9,050	-	3PH	2848.27
K750CC	7.5	26,100	10,838	4,000	3PH	3339.16
K750CS	7.5	-	13,000	4,800	3PH	3339.16
K1000CC	10.0	30,467	13,055	-	3PH	3446.77
K1000CS	10.0	-	17,850	6,000	3PH	3797.04
K1500CC	15.0	39,480	17,650	-	3PH	3784.84
KP1500CS	15.0	-	20,385	6,852	3PH	4628.72
K1500CS	15.0	-	19,925	6,685	3PH	5985.65
KP2000CC	20.0	45,086	20,282	-	3PH	4657.43
K2000CC	20.0	44,580	19,910	-	3PH	5995.41
K2500CC	25.0	56,310	25,400	-	3PH	6209.90
K2500CB	25.0	-	29,155	10,000	3PH	6259.22
K3000CC	30.0	65,550	29,300	-	3PH	6561.86
K3000CS	30.0	-	35,810	13,175	3PH	8323.64
K3000CB	30.0	-	41,860	15,400	3PH	8323.64

All other models: price on application.



Code	Description	Suitability	List Price
<b>CRANKCASE HEATERS</b>			
DCS100	230V HEATER (2EC1010) 60 WATT	H1 BODIES	98.92
DCS105	230V HEATER (2EG2020) 100 WATT	H2,H3,H4 BODIES	98.92
DCS110	230V HEATER (2EG1090) 200 WATT	H5,H6,H7 BODIES	98.92
<b>DISCHARGE TEMPERATURE CONTROL FOR LOW TEMP. R22</b>			
DCS125	DTC KIT (1LCN004)	H2,H3 BODIES	757.07
DCS130	DTC KIT (1LCN006)	H4 BODIES	757.07
DCS135	DTC KIT (1LCN005)	H5 BODIES	757.07
DCS140	DTC KIT (1LCN015)	H6 BODIES	757.07
DCS145	DTC KIT (1LCN007)	H7 BODIES	224.45
<b>BODY COOLING FAN</b>			
DCS155	COOLING FAN 1PH (1ACS730)	H1 BODIES	270.10
DCS160	COOLING FAN 1PH (1ACS735)	H2,H3 BODIES	334.81
DCS165	COOLING FAN 3PH (1ACS740)	H4 BODIES	334.81
DCS170	COOLING FAN 9PH (1ACS745)	H5 BODIES	334.81
DCS175	COOLING FAN 3PH (1ACS750)	H6 BODIES	337.53
DCS180	COOLING FAN 3PH (1ACS755)	H7 BODIES	608.71
<b>CAPACITY CONTROL KIT</b>			
DCS200	CAPACITY CONTROL KIT (1LCP011)	H4,H5 (EXCEPT BELOW)	608.71
DCS205	CAPACITY CONTROL KIT (1LCP012)	H5 (1500CS,2000CC)	608.71
DCS210	CAPACITY CONTROL KIT (1LCP008)	H6,H7 BODIES	608.71
<b>UNLOADED START KIT</b>			
DCS220	BYPASS VALVE KIT (2CM1010)	H3 BODIES	608.71
DCS225	BYPASS VALVE KIT (2CM1020)	H4 BODIES	608.71
DCS230	BYPASS VALVE KIT (2CM1030)	H5 BODIES	692.42
DCS235	BYPASS VLAVE KIT (2CM1040)	H3 (3000CS,3000CB)	692.42



**FREE NEXT DAY DELIVERY**  
 on orders over **£100.00 nett\*** (UK Mainland)

## Semi-Hermetic Reciprocating Compressors



### Standard range.

75 models (48 Tandem versions) • 4 - 240 m<sup>3</sup>/hr • 0.5 - 80HP  
116 ASERCOM certifications - More than any other manufacturer



### ECOinside range

15 models • 20 - 154 m<sup>3</sup>/h • 4 - 40HP  
Optimised for R134a - optimised for HFO1234ze



### SK2 range - Sub Critical CO<sub>2</sub>

12 models • 2.6 - 34 m<sup>3</sup>/hr • 1 - 20HP  
55bar - condensing temperature up to 15°C

### TK range - Trans Critical CO<sub>2</sub>

12 models • 7.9 - 25.3 m<sup>3</sup>/hr • 8 - 30HP  
140bar - refrigeration or heat pump - water cooled heads



### AXH range - ATEX zone

76 models • 4 - 240 m<sup>3</sup>/hr • 0.5 - 80HP  
Hydrocarbon applications - reliable lubrication

### VS range

9 models • 5 - 33 m<sup>3</sup>/hr • 1.5 - 7.5HP  
Integrated inverter drive - also Tandem version available



## Twin Screw Compressors



### CX range

*Semi Hermetic with built in oil separator*

50 models • 199 - 912 m<sup>3</sup>/hr • 50 - 300HP. High efficiency - lower noise - high oil separation  
Dedicated range for Air cooled or Water cooled applications

### CXIT range

*Semi Hermetic with integrated inverter*

4 models • 316 - 468 m<sup>3</sup>/hr • 110 - 160HP. Innovative inverter cooling system  
Compact dimensions - high seasonal efficiency



### A-TS range

*Open Drive*

16 models • 120 - 360 m<sup>3</sup>/h • 24 - 180HP  
Range for LT and MT - suitable for R717 and R404A

### R-TS and NRH/L range

*Semi Hermetic for remote oil separator*

16 models • 120 - 360 m<sup>3</sup>/h • 30 - 120HP  
Range for LT and MT - designed for installation in racks



## Air-cooled Condensing Units



### LA BLU/SA

31 models for indoor and outdoor applications • 0.5 to 30HP range • LT and MT applications • High ambient and a wide range of dressing options • Inverter driven solutions available • Low noise compressors and condenser fans





# condensing units

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**Aspera 42**

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**Maneurop 44-45**

**Ultra Condensing Units 50**

# condensing units

Condensing Units  
R134A M/HBP

Condensing Units R22  
M/HBP

Condensing Units  
R404A L/MBP

**cubigel**  
compressors



Model	Nom/H.P.	Disp(cc)	Capacity (watts)		List Price
			0°C EVAP	-15°C EVAP	
<b>CUBIGEL CONDENSING UNITS R134A MEDIUM/HIGH BACK PRESSURE -25°C to +10°C Evap</b>					
CGL45PB2	1/6	4.55	346	184	319.96
CGL60PB2	1/5	5.7	435	232	326.87
CGL80PB2	1/4	7.6	532	285	348.32
CGL80TB3	1/4	7.6	532	285	379.93
CGL90PB2	1/4	8.8	647	342	348.44
CGL90TB3	1/4	8.8	647	342	383.87
CGP12PB2	3/8	12.0	851	449	379.90
CGP12TB3	3/8	12.0	851	449	413.69
CGP14TB3	1/2	14.0	941	499	501.81
CGX18TB3	5/8	18.0	1229	653	636.63
CGX21TB3	2/3	22.0	1438	778	664.33
CGS26TB3	3/4	26.0	1845	991	726.46
CGS30TB3	7/8	30.0	2199	1136	778.72
CGS34TB3	1.0	34.0	2381	1285	830.67

<b>CUBIGEL CONDENSING UNITS R22 M/HBP MEDIUM/HIGH BACK PRESSURE -25°C to +10°C Evap</b>					
CL45TN3	1/5	4.5	512	281	374.43
CL57TN3	1/4	5.7	622	341	379.08
CL76TN3	3/8	7.6	825	470	452.13
CL88TN3	3/8	8.8	977	545	468.32
CP12TN3	1/2	12.0	1331	710	582.60
CS18TN3	3/4	18.1	1885	1062	688.26
CS22TN3	7/8	21.8	2257	1257	754.29
CS26TN3	1.0	26.0	2572	1533	791.18

<b>CUBIGEL CONDENSING UNITS R404A L/MBP MEDIUM/HIGH BACK PRESSURE -40°C to -10°C Evap</b>					
CML60FB3	1/6	5.5	-	380	395.51
CML80FB3	1/5	7.6	-	500	402.22
CML90FB3	1/3	9.0	-	592	464.95
CMP12FB3	3/8	12.0	-	815	523.88
CMP14FB3	1/2	14.0	-	852	556.03
CMX18FB3	5/8	18.0	-	1121	698.17
CMX21FB3	2/3	21.0	-	1370	730.38
CMS26FB3	3/4	26.0	-	1921	736.27
CMS30FB3	7/8	30.0	-	2054	765.71
CMS34FB3	1.0	34.0	-	2370	787.81

Models ending with '3' are complete with liquid receiver.

# condensing units



**CUBIGEL R404A**  
Compressor  
Medium to High  
Back pressure

**Weatherproof Housings**

Model	Nom/H.P.	Disp(cc)	Capacity (Watts)		List Price
			0°C EVAP	-15°C EVAP	
<b>CUBIGEL CONDENSING UNITS R404A - MEDIUM/HIGH BACK PRESSURE -25°C to +10°C Evap</b>					
CML40TB3	1/6	4.0	501	300	441.09
CML45TB3	1/5	4.5	539	328	441.69
CML60TB3	14	5.7	673	409	482.85
CML80TB3	3/8	7.6	933	567	495.68
CML90TB3	3/8	8.8	1062	646	509.97
CMP12TB3	1/2	12.0	1492	899	603.95
CMP14TB3	5/8	14.0	1614	973	647.88
CMX18TB3	3/4	18.0	1928	1176	794.19
CMX21TB3	7/8	21.0	2326	1356	796.54
CMX21TB3L	7/8	21.0	2326	1356	733.03
CMS26TB3	1	26.0	3023	1855	956.56
CMS26TB3L	1	26.0	3023	1855	773.36
CMS34TB3*	1.5/8	34.0	3985	2424	960.98

Capacity at 32°C Amb

\*CMS34TB3 -15°C to +10°C Evap

CMX21TB3L and CMS26TB3L are fitted with Low Profile Condensor  
(Limited to 32°C Ambient)

Model	List Price
<b>WEATHERPROOF HOUSINGS</b>	
CARS001	150.00

CARS (UK) will build and dress any condensing unit to your specification.  
Please telephone with your requirements



# condensing units

Embraco Condensing Units  
R404\507\407\134\22

**embraco**  
POWER IN. CHANGE ON.



Unit Model	Motor (HP)	Motor Type	Receiver Vol (litres)	Expan. Device	Compressor		Service Valves	
					RLA (A)	LRA (A)	Suction (*)	Liquid (*)
<b>R134a M/HBP</b>								
UNB6144Z	1/5	CSIR	0.5	C/V	1.57	7.50	3/8"	1/4"
UNE6170Z	1/4	CSIR	1.0	C/V	1.93	9.70	3/8"	1/4"
UNE6187Z	3/8	CSIR	1.0	C/V	3.00	13.80	3/8"	1/4"
UNEK6210Z	3/8	CSIR	1.5	C/V	2.86	20.00	3/8"	3/8"
UNEK6212Z	3/8	CSR	1.5	C/V	3.53	22.50	3/8"	3/8"
UNEK6214Z	1/2	CSIR	1.5	C/V	4.75	21.20	3/8"	3/8"
UNJ6220Z	3/4	CSIR	2.3	C/V	5.71	35.00	1/2"	3/8"
UNJ6226Z	1	CSR	2.3	C/V	5.95	31.00	5/8"	3/8"
UNT6213Z	1/2	CSIR	1.0	C/V	3.84	20.00	3/8"	1/4"
UNT6215Z	1/2	CSIR	1.2	C/V	4.50	21.00	1/2"	3/8"
<b>R404A LBP</b>								
UNE2125GK	1/3	CSIR	1.0	C/V	2.51	13.80	3/8"	1/4"
UNE2134GK	1/2	CSIR	1.0	C/V	2.59	16.40	3/8"	1/4"
UNJ2192GK	1	CSR	2.3	C/V	3.95	26.00	1/2"	3/8"
UNJ2192GS	1	3ph	2.3	C/V	1.89	13.00	1/2"	3/8"
UNJ2212GK	1-1/4	CSR	2.3	C/V	5.28	36.00	1/2"	3/8"
UNJ2212GS	1-1/4	3ph	2.3	C/V	1.96	13.00	1/2"	3/8"
UNT2155GK	5/8	CSR	1.2	C/V	2.03	20.00	3/8"	1/4"
UNT2168GK	3/4	CSR	1.2	C/V	2.53	18.00	3/8"	1/4"
UNT2178GK	3/4	CSR	1.2	C/V	3.16	21.00	1/2"	3/8"
<b>R22 M/HBP</b>								
UNB6144E	1/5	CSIR	0.5	C/V	1.98	15.30	3/8"	1/4"
UNB6152E	1/4	CSIR	0.5	C/V	2.14	15.30	3/8"	1/4"
UNB6165E	1/4	CSIR	1.0	C/V	2.69	13.80	3/8"	1/4"
UNE6181E	1/3	CSIR	1.0	C/V	2.61	16.50	3/8"	1/4"
UNE6210E	1/2	CSIR	1.0	C/V	3.03	13.80	3/8"	1/4"
UNE9213E	5/8	CSR	1.2	C/V	3.10	16.00	3/8"	1/4"
UNJ7228F	1	CSR	2.3	C/V	7.18	39.20	5/8"	3/8"
UNJ7240F	1-1/2	CSR	4.0	C/V	9.80	50.00	5/8"	1/2"
UNJ9232E	1	CSR	4.0	C/V	6.72	33.70	5/8"	1/2"
UNT6217E	3/4	CSR	2.3	C/V	3.38	18.00	1/2"	3/8"
UNT6220E	3/4	CSR	2.3	C/V	3.80	20.00	1/2"	3/8"
<b>R404A M/HBP</b>								
UNB6144GK	1/5	CSIR	0.5	C/V	2.06	15.30	3/8"	1/4"
UNB6152GK	1/5	CSIR	0.5	C/V	2.34	15.30	3/8"	1/4"
UNB6165GK	1/4	CSIR	1.0	C/V	2.89	15.80	3/8"	1/4"
UNE6181GK	1/3	CSIR	1.0	C/V	2.81	16.50	3/8"	1/4"
UNE6210GK	1/2	CSIR	1.0	C/V	3.27	13.80	3/8"	1/4"
UNE9213GK	1/2	CSR	1.2	C/V	3.50	14.10	3/8"	1/4"
UNT6222GK	3/4	CSR	1.5	C/V	6.0	33.7	1/2"	3/8"
UNT6224GK	3/4	CSR	1.5	C/V	7.4	36.0	1/2"	3/8"
UNT6226GK	3/4	CSR	1.5	C/V	8.47	43.0	1/2"	3/8"
UNJ9226GK	1	CSR	2.3	C/V	5.81	27.50	5/8"	3/8"
UNJ9232GK	1-1/4	CSR	2.3	C/V	7.69	33.70	5/8"	1/2"
UNJ9232GS	1-1/4	3ph	2.3	C/V	2.90	13.00	5/8"	1/2"
UNJ9238GK	1-1/2	CSR	2.3	C/V	9.57	43.00	5/8"	1/2"
UNJ9238GS	1-1/2	3ph	2.3	C/V	4.02	22.00	5/8"	1/2"
UNT6217GK	3/4	CSR	2.3	C/V	5.41	22.00	1/2"	3/8"
UNT6220GK	3/4	CSR	2.3	C/V	5.11	26.50	1/2"	3/8"

# condensing units

Embraco Condensing Units  
R404/507/407/134/22

Unit Model	Performance (Watts)									List Price
	EVAP	EVAP	EVAP	EVAP	EVAP	EVAP	EVAP	EVAP	EVAP	
<b>R134a M/HBP</b>	<b>-25°C</b>	<b>-20°C</b>	<b>-15°C</b>	<b>-10°C</b>	<b>-5°C</b>	<b>0°C</b>	<b>5°C</b>	<b>10°C</b>	<b>15°C</b>	
UNB6144Z	167	215	269	330	403	479	560	651	750	410.95
UNE6170Z	216	279	355	440	535	640	753	872	1000	399.94
UNE6187Z	285	378	488	613	750	899	1052	1221	1470	422.72
UNEK6210Z			518	631	793	960	1200			502.40
UNEK6212Z			558	705	767	1101	1353			531.00
UNEK6214Z			648	824	1032	1275	1375			516.54
UNJ6220Z	587	773	994	1256	1529	1843	2154	2488	2843	794.40
UNJ6226Z	814	1081	1372	1686	2035	2419	2814	3244	3721	876.36
UNT6213Z	378	503	651	817	994	1180	1381	1601	1843	516.54
UNT6215Z	407	555	719	923	1128	1338	1570	1808	2047	641.68
<b>R404A LBP</b>	<b>-40°C</b>	<b>-35°C</b>	<b>-30°C</b>	<b>-25°C</b>	<b>-20°C</b>	<b>-15°C</b>	<b>-10°C</b>	<b>-5°C</b>	<b>0°C</b>	
UNE2125GK-2	94	155	231	316	419	537	655	-	-	477.40
UNE2134GK	149	234	337	456	593	733	884	-	-	484.86
UNJ2192GK	453	612	795	1000	1233	1488	1767	-	-	797.40
UNJ2192GS	453	612	795	1000	1233	1488	1767	-	-	797.40
UNJ2212GK	616	886	1163	1479	1826	2198	2605	-	-	790.00
UNJ2212GS	616	886	1163	1479	1826	2198	2605	-	-	792.86
UNT2155GK	237	340	462	600	765	942	1123	-	-	655.11
UNT2168GK	333	453	595	763	940	1142	1372	-	-	670.32
UNT2178GK	437	586	753	947	1165	1410	1693	-	-	670.32
<b>R22 M/HBP</b>	<b>-25°C</b>	<b>-20°C</b>	<b>-15°C</b>	<b>-10°C</b>	<b>-5°C</b>	<b>0°C</b>	<b>5°C</b>	<b>10°C</b>	<b>15°C</b>	
UNB6144E	169	210	259	313	372	435	506	593	674	410.95
UNB6152E	198	250	308	372	442	517	605	698	802	422.75
UNB6165E	244	302	372	451	541	634	733	837	953	422.75
UNE6181E	273	351	442	547	663	784	909	1041	1186	405.17
UNE6210E	320	413	519	651	791	942	1093	1262	1442	410.28
UNE9213E	407	523	663	829	1000	1198	1390	1605	1826	443.70
UNJ7228F	837	1035	1337	1674	2058	2442	2837	3256	3674	716.40
UNJ7240F	1837	2093	2442	2907	3465	4070	4733	5407	6163	865.34
UNJ9232E	1395	1605	1901	2279	2680	3140	3628	4163	4709	811.44
UNT6217E	465	616	791	1012	1244	1488	1744	2017	2291	654.28
UNT6220E	535	721	942	1221	1500	1788	2093	2407	2721	716.40
<b>R404A M/HBP</b>	<b>-25°C</b>	<b>-20°C</b>	<b>-15°C</b>	<b>-10°C</b>	<b>-5°C</b>	<b>0°C</b>	<b>5°C</b>	<b>10°C</b>	<b>15°C</b>	
UNB6144GK	178	228	283	341	402	467	537	610	687	388.60
UNB6152GK	210	271	336	405	478	556	638	726	816	398.40
UNB6165GK	294	364	443	533	631	740	855	986	1124	401.12
UNE6181GK	315	406	505	613	730	856	990	1133	1285	405.17
UNE6210GK	401	470	557	663	786	928	1087	1265	1462	410.28
UNE9213GK	466	626	785	945	1106	1267	1430	1756	1995	443.70
UNT6222GK		980	1240	1548	1910	2310	2774			716.40
UNT6224GK		1109	1430	1798	2214	2568	3010			716.40
UNT6226GK		1298	1695	2010	2462	2986	3500			716.40
UNJ9226GK	869	1206	1523	1822	2094	2364	2616	2831	3037	766.86
UNJ9232GK	1058	1467	1855	2219	2550	2879	3186	3448	3698	811.44
UNJ9232GS	1058	1467	1855	2219	2550	2879	3186	3448	3698	811.44
UNJ9238GK	1310	1817	2297	2748	3157	3565	3983	4269	4579	865.34
UNJ9238GS	1310	1817	2297	2748	3157	3565	3983	4269	4579	865.34
UNT6217GK	514	719	931	1144	1365	1591	1822	2058	2299	654.28
UNT6220GK	610	856	1106	1363	1626	1894	2170	2450	2736	716.40

## condensing units

# Maneurop®

Maneurop Condensing  
Units R404\507\407\134\22

Drier & Sight Glass Kits

### Twin Fan Units - LGZ

Complete units fitted with crankcase heating. Maneurop compressors, liquid receiver and service valves, dual pressure (Man HP) control, terminal box and fully wired.



LGZ evaporating range:  
-20°C to -40°C.

(2) Capacity R404A at 32°C  
ambient

Model	Approx H.P.	Capacity (Watts)		Supply (50hz)		Receiver Litre	Drier & S/G Kit Size*	List Price
		R404A 0°C	-35°C	Comp.	Fan			
<b>R404A/R507 - LOW BACK PRESSURE (2) -40°C to -20°C Evap</b>								
LGZ22-5C3MS10	1.3/4	2,081	1,035	240.1	240.1	3.1	3	2821.48
LGZ22-5C3MS14	1.3/4	2,081	1,035	240.1	240.1	6.0	3	2836.12
LGZ22-4C3MS10	1.3/4	2,081	1,035	415.3	240.1	3.1	3	2399.30
LGZ28-5D3MS10	2.1/4	3,076	1,589	240.1	240.1	3.1	3	2681.04
LGZ28-5D3MS14	2.1/4	3,076	1,589	240.1	240.1	6.0	3	2696.08
LGZ28-4D3MS10	2.1/4	3,076	1,589	415.3	240.1	3.1	3	2596.94
LGZ28-4D3TS10	2.1/4	3,076	1,589	415.3	415.3	6.0	3	2608.14
LGZ40-4F3MS14	3.1/2	4,286	2,261	415.3	240.1	6	4	3772.82
LGZ40-4F3TS14	3.1/2	4,286	2,261	415.3	415.3	6	4	3772.82
LGZ44-4G3MS14	3.3/4	5,057	2,428	415.3	240.1	7.5	4	3912.50
LGZ44-4G3TS14	3.3/4	5,057	2,428	415.3	415.3	7.5	4	3912.50
LGZ50-4H3MS14	4	6,522	3,296	415.3	240.1	7.5	4	4481.46
LGZ50-4H3TS14	4	6,522	3,296	415.3	415.3	7.5	8	4481.46
LGZ88-4K3MS14	7	10,139	4,943	415.3	240.1	10.0	8	5991.00
LGZ88-4K3TS14	7	10,139	4,943	415.3	415.3	10.0	8	5991.00
LGZ100-4K3MS14	8.1/2	12,085	5,806	415.3	240.1	10.0	8	6893.90
LGZ100-4K3TS14	8.1/2	12,085	5,806	415.3	415.3	10.0	8	6893.90

Code	Description	List Price
<b>DRIER AND SIGHTGLASS (S/G) KITS</b>		
DSG001	Size 1 - Drier & S/G Kit - 3/8" Connections (163 Drier)	38.04
DSG003	Size 3 - Drier & S/G Kit - 3/8" Connections (083 Drier)	31.62
DSG004	Size 4 - Drier & S/G Kit - 1/2" Connections (084 Drier)	37.16
DSG008	Size 8 - Drier & S/G Kit - 1/2" Connections (164 Drier)	44.72
DSG009	Size 9 - Drier & S/G Kit - 5/8" Connections (165 Drier)	53.96

For liquid line application on Maneurop condensing units. Drier and sightglass are close coupled, swivel connectors(supplied) allow flare connections to be converted to solder.

S14 Specification

- enlarged receiver (MGZ18, 22, 28; LGZ22, 28 models)
- provision to fit a pressure relief valve to the receiver (all models)
- flexible hose replaces copper pipe for pressure switch connections (all models)

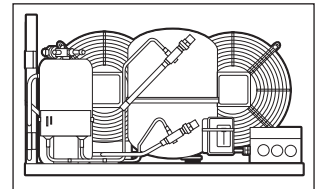
# condensing units



Maneurop Condensing Units R134A/R404A/R507/R407C M/HBP

OPTYMA Twin Fan Scroll Condensing Units R404A/R507/R134a/R22

Model	Approx H.P.	Capacity (Watts)		Supply (50hz)		Receiver Litre	Drier & S/G Kit Size*	List Price
		R404A 0°C	-15°C	Comp.	Fan			
<b>MANEUROP CONDENSING UNITS R134A/R404A/R507/R407C/M/HBP</b>								
MGZ16.5A3M	1 1/2	-	1386	1PH	1PH	3.1	3	1085.08
MGZ16.4A3M	1 1/2	-	1386	1PH	1PH	3.1	3	1085.08
MGZ18.5B3M	1 1/2	3038	1581	1PH	1PH	3.1	3	1085.08
MGZ18.4B3M	1 1/2	3038	1581	3PH	1PH	6.0	3	1085.08
MGZ22.5B3M	1 3/4	3766	2256	1PH	1PH	3.1	3	1531.73
MGZ22.4B3M	1 3/4	3766	2256	3PH	1PH	3.1	3	1487.91
MGZ28.5C3M	2 1/4	-	2623	1PH	1PH	3.1	3	1815.97
MGZ28.4C3M	2 1/4	-	2623	3PH	1PH	6.0	3	1781.27
MGZ32.5D3M	2 3/4	5624	3171	1PH	1PH	6.0	4	1991.58
MGZ32.4D3T	2 3/4	5624	3171	3PH	3PH	6.0	4	1933.69
MGZ32.4D3M	2 3/4	5624	3171	1PH	1PH	6.0	4	1942.50
MGZ36.5D3M	3	6610	3812	3PH	1PH	6.0	4	2172.98
MGZ36.4D3T	3	6610	3812	3PH	3PH	6.0	4	2002.34
MGZ36.4D3M	3	6610	3812	1PH	1PH	6.0	4	2115.07
MGZ40.4E3T	3 1/2	6885	4046	3PH	3PH	6.0	4	2360.20
MGZ40.4E3M	3 1/2	6885	4046	3PH	1PH	6.0	4	2371.76
MGZ50.4G3T	4	9335	5225	3PH	3PH	7.5	4	2736.52
MGZ50.4G3M	4	9335	5225	3PH	1PH	7.5	4	2765.45
MGZ64.4H3T	5	11978	6886	3PH	3PH	10.0	4	3280.70
MGZ64.4H3M	5	11978	6886	3PH	1PH	10.0	4	3313.49
MGZ80.4J3T	6 1/2	15184	8860	3PH	3PH	10.0	8	3948.43
MGZ80.4J3M	6 1/2	15184	8860	3PH	1PH	10.0	8	3989.08
MGZ100.4L3T	8 1/2	18957	10548	3PH	3PH	10.0	8	4907.57
MGZ100.4L3M	8 1/2	18957	10548	3PH	1PH	10.0	8	4957.73
MGZ125.4M3T	10	22807	13257	3PH	3PH	14.0	9	6190.90
MGZ125.4M3M	10	22807	13257	3PH	1PH	14.0	9	6250.74
MGZ144.4M3T	11 1/2	25716	15108	3PH	3PH	14.0	9	6534.37
MGZ144.4M3M	11 1/2	25716	15108	3PH	1PH	14.0	9	6600.01
MGM160.4N3T	13	-	16320	3PH	3PH	14.0	9	7267.71
MGZ160.4N3M	13	-	16320	3PH	1PH	14.0	9	7341.09



## OPTYMA Twin Fan Scroll Condensing Units

Model	Comp Model	Capacity (Watts)		Supply		Receiver Litre	Drier & S/G Kit Size*	List Price
		0°C	-10°C	Comp.	Fan			
<b>R404A/R507/R134s/R22 MEDIUM/HIGH BACK PRESSURE (2) -20°C to +10°C EVAP</b>								
MGUD034MLA02G	MLZ015	5,060	3,671	230.1	230.1	6	4	2468.00
MGUD034MLA02E	MLZ015	5,060	3,671	415.3	230.1	6	4	2312.00
MGUD043MLA02G	MLZ019	5,679	4,212	230.1	230.1	6	4	2658.00
MGUD043MLA02E	MLZ019	5,679	4,212	415.3	230.1	6	4	2344.00
MGUD057MLA02G	MLZ026	7,531	5,656	230.1	230.1	8	4	3120.00
MGUD057MLA02E	MLZ026	7,531	5,656	415.3	230.1	8	4	2976.00
MGUD068MLA02G	MLZ030	9,729	7,153	230.1	230.1	8	4	3642.00
MGUD068MLA02E	MLZ030	9,729	7,153	400.3	230.1	8	4	3742.00
MGUD080MLA02E	MLZ038	11,583	8,532	400.3	230.1	10	4	4224.00
MGUD107MLA02E	MLZ048	15,147	11,163	400.3	230.1	10	8	5664.00
MGUD148MLA02E	MLZ066	19,576	14,617	400.3	230.1	14	9	7004.00
MGUD162MLA02E	MLZ076	25,548	18,258	400.3	230.1	14	9	7414.00



# condensing units

L'Unite Condensing  
Units R404/R507 LBP



L'Unite Condensing  
Units R134A HBP

Model	APP H.P.	Disp(cc)	Capacity at - 25°C EVAP (Watts)	Supply	List Price
<b>L' UNITE CONDENSING UNITS R404/R507 LBP</b>					
AE1417ZB	1/2	11.3	406	1PH	471.70
CAE2417ZBR	1/2	11.3	406	1PH	531.22
CAE2420ZBR	1/2	12.54	497	1PH	556.67
CAE2424ZBR	1/2	15.0	641	1PH	614.54
CAJ2428ZBR	1/2	15.2	625	1PH	683.66
TAJ2428ZBR	1/2	15.2	625	3PH	771.28
CAJ2432ZBR	5/8	18.3	743	1PH	777.98
CAJ2446ZBR	3/4	26.15	969	1PH	896.47
TAJ2446ZBR	3/4	26.15	969	3PH	876.35
CAJ2464ZBR	1.1/2	34.45	1387	1PH	1008.24
TAJ2464ZBR	1.1/2	34.45	1387	3PH	1008.24
TFH2480ZBR	2	53.2	2086	3PH	1265.26
TFH2511ZBR	2.1/4	74.25	2685	3PH	1712.46
FH2480ZBR	2	53.2	2086	1PH	1548.00
FH2511ZBR	1.1/4	74.25	2685	1PH	1893.40

Model	APP H.P.	Disp(cc)	Capacity at 0°C EVAP (Watts)	Supply	List Price
<b>L'UNITE CONDENSING UNITS R134A HBP</b>					
AZ4412YH	1/7	3.6	249	1PH	335.34
AZ3414YH	1/6	4.0	286	1PH	353.23
AZ4414YH	1/6	4.0	286	1PH	364.40
AZ3419YH	1/5	5.6	404	1PH	362.16
AZ4419YH	1/5	5.6	404	1PH	380.05
AEZ3425YH	1/5	7.55	508	1PH	388.99
AEZ4425YHR	1/5	7.55	508	1PH	431.46
AEZ3430YH	1/4	8.85	624	1PH	431.46
AEZ4430YHR	1/4	8.85	624	1PH	467.24
AE3440YHH	1/3	12.05	797	1PH	478.42
CAE4440YHR	1/3	12.05	797	1PH	527.60
CAJ4452YHR	3/8	15.2	1070	3PH	693.03
CAJ4461YHR	1/2	18.3	1200	1PH	782.74
TAJ4461YHR	1/2	18.3	1200	3PH	786.93
CAJ4492YHR	3/4	25.95	1800	1PH	898.70
TAJ4492YHR	3/4	25.95	1800	3PH	885.30
CAJ4511YHR	1.0	32.7	2220	1PH	974.54
TAJ4511YHR	1.0	32.7	2220	3PH	970.25
FH4518YHR	1 1/2	53.2	3580	1PH	1289.12
TFH4518YHR	1 1/2	53.2	3580	3PH	1524.67
FH4525YHR	2.0	74.25	4310	1PH	1719.17
TFH4525YHR	2.0	74.25	4310	3PH	1676.69
TAG4528YHR	2 1/2	90.2	5231	3PH	2226.65
TAG4534YHR	2 3/4	100.7	6170	3PH	2363.02
TAG4537YHR	3 1/4	112.5	6925	3PH	2523.99
TAG4543YHR	3.1/2	124.4	7560	3PH	2568.70

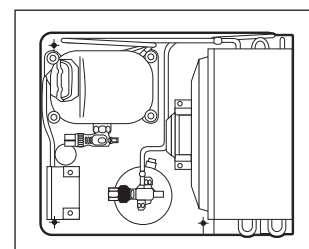


# condensing units



L'Unite Condensing  
Units R404A HBP

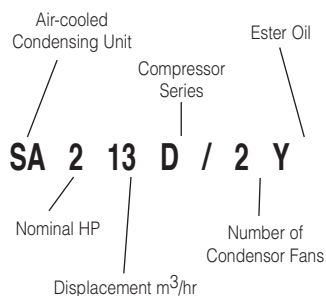
Model	APP H.P.	Disp(cc)	Capacity at 0°C EVAP (Watts)	Supply	List
<b>L'UNITE CONDENSING UNITS R404A HBP</b>					
AEZ4425ZHR	1/5	4.5	522	1PH	415.82
AEZ4430ZHR	1/4	5.7	675	1PH	456.42
AEZ3440ZHR	1/3	7.55	925	1PH	487.36
AEZ4440ZHR	1/3	7.55	925	1PH	534.30
AEZ9440ZMHR	1/3	7.55	925	1PH	567.84
AE3450ZHR	3/7	9.4	1160	1PH	529.83
CAE4450ZHR	3/7	9.4	1160	1PH	570.07
CAE9450MHR	3/7	9.4	1160	1PH	658.76
CAE9460MHR	1/2	11.3	1311	1PH	658.76
CAJ9480MHR	5/8	15.2	1910	1PH	1002.16
TAJ9480MHR	5/8	15.2	1910	3PH	842.81
CAJ9510MHR	3/4	18.3	2260	1PH	899.44
TAJ9510MHR	3/4	18.3	2260	3PH	894.24
CAJ9513MHR	1	24.2	2740	1PH	955.12
TAJ9513MHR	1	24.2	2740	3PH	970.25
CAJ4517ZHR	1.1/4	25.95	3490	1PH	1055.86
TAJ4517ZHR	1.1/4	25.95	3490	3PH	1008.86
CAJ4519ZHR	1.1/2	34.40	4380	1PH	1094.94
TAJ4519ZHR	1.1/2	34.40	4380	3PH	1043.58
FH4522ZHR	1.4/5	40.8	5675	1PH	1661.04
TFH4522ZHR	1.4/5	40.8	5675	3PH	2166.32
FH4524ZHR	2	43.9	4980	1PH	1687.87
TFH4524ZHR	2	43.9	4980	3PH	1564.92
FH4531ZHR	2.1/2	56.45	7150	1PH	2268.70
TFH4531ZHR	2.1/2	56.45	7150	3PH	2228.88
FH4540ZHR	3	74.25	8630	3PH	2254.42
TFH4540ZHR	3	74.25	8630	3PH	2439.02
TAG4546ZHR	4	90.2	10300	3PH	2640.23
TAG4553ZHR	4.1/2	100.7	11600	3PH	2848.14
TAG4561ZHR	5	112.5	13400	3PH	3167.83
TAG4568ZHR	6	124.4	15200	3PH	3800.51
TAG4573ZHR	6.1/2	130.0	14600	3PH	3592.60



Please refer to pages 171 - 174 for complete L'unite specification

# condensing units

## Frascold Condensing Units



Cars UK will build any unit to your individual specification. Please telephone with your requirements.

Condensing units which have a V or Z compressor are fitted with an oil differential safety control as standard.

**Please specify refrigerant at time of order.**

Model	APP HP	DUTY @ 0 EV, R404A	DUTY @ -25 EV, R404A	List Price Single Phase 230V-1ph-50hz	List Price Three Phase 400V-3ph-50hz
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CONDENSING UNITS FOR R22, R134a, R404A AND R407C					
SA 0.5-4A	1/2	2530	1070	1869.37	1621.83
SA 0.5-5A	1/2	-	1280	1869.37	1621.83
SA 0.7-5A	3/4	3330	1370	2352.33	2166.52
SA 0.7-6A	3/4	-	1380	2352.36	2166.52
SA 1-6A	1	3640	1500	2362.97	2177.12
SA 1-7A	1	-	1820	2362.97	2177.12
SA 1.5-7A	11/2	4930	1970	2702.26	2516.42
SA 1.5-9B	11/2	5480	2250	2408.91	2223.07
SA 2-10B	2	6900	2750	2732.30	2546.46
SA 2-11D	2	7550	2970	2979.70	2793.86
SA 2-11D/2	2	8160	3150	3288.95	3103.11
SA 2-13D	2	-	3520	2979.70	2793.86
SA 2-13D/2	2	9470	3760	3341.96	3156.13
SA 3-13D	3	8550	3480		2880.45
SA 3-13D/2	3	9420	3710		3156.12
SA 2-15D	2	-	3920	2979.70	2793.86
SA 3-15D	3	9320	3820		2880.45
SA 3-18D	3	-	4470		2892.82
SA 3-18D/2	3	-	4890		3129.62
SA 4-16D/2	4	11350	4700		3355.81
SA 4-18D/2	4	12640	5060		4327.75
LB-Q420-07-2M	4	-	5470		4327.75
LB-Q521-07-2J	5	15679	5882		4935.64
LB-Q424-07-2M	4	-	6349		4375.46
LB-Q524-07-2M	5	15139	6307		4667.04
LB-Q528-07-2M	5	-	7540		4668.04
LB-Q728-07-2J	7	19921	8184		5227.22
LB-Q533-07-2M	5	-	8721		4682.94
LB-Q733-07-2J	7	22680	9426		5359.76
LB-Q536-07-2J	5	-	5656		5406.41
LB-Q736-07-2J	7	-	11147		5435.75
LB-S842-37-2J	8	29729	11797		5967.66
LB-S1242-37-2J	12	-	14415		6739.91
LB-S1052-37-2J	10	36241	14488		6086.06
LB-S1552-37-2J	15	-	15561		6957.26
LB-S1556-37-2J	15	-	16857		7035.02
LB-S2056-37-2J	20	40298	17288		7264.75

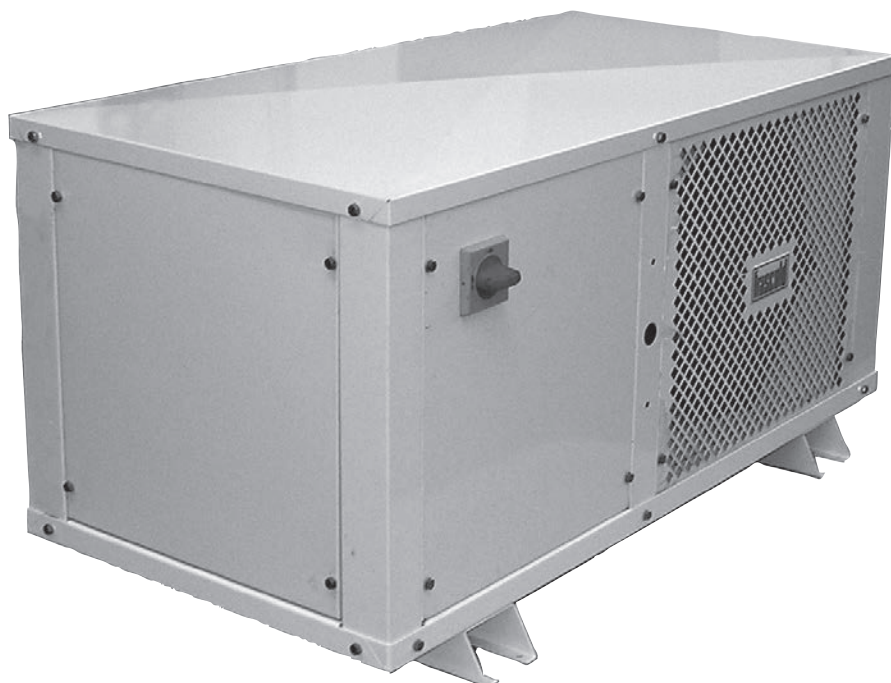
Duties Based on 32°C Ambient

# sacs condensing units



## Frascold Sacs Condensing Units

Model	APP HP	DUTY @ 0 EV, R404a (w)	DUTY @ -10 EV, R404a (w)	DUTY @ -25 EV, R404a (w)	DUTY @ 0EV R134a (w)	DUTY @ -10 EV, R134a (w)	DUTY @ -25 EV R134a (w)	List Price
<b>FRASCOLD SACS QUIET HOUSED &amp; DRESSED CONDENSING UNITS</b>								
SACS0.54AY	1.2	3010	2210	1220	1970	1310	n/a	3504.85
SACS0.55AY	1/2	n/a	n/a	1460	2430	1630	n/a	3504.85
SACS0.75AY	3/8	3440	2580	1460	2430	1630	n/a	3516.16
SACS0.76AY	3/8	n/a	2770	1580	2640	1790	n/a	3596.74
SACS16AY	1	4440	3170	1730	2850	1900	n/a	3974.23
SACS17AY	1	n/a	3270	1920	3300	2260	n/a	3692.88
SACS1.57AY	1 1/2	5460	3940	2150	3640	2430	n/a	4060.47
SACS1.59BY	1 1/2	4990	3890	2370	4080	2830	n/a	3822.95
SACS211DY	2	8300	6100	3410	5770	3880	n/a	4474.72
SACS213DY	2	n/a	6470	3840	6410	4370	n/a	4421.00
SACS313DY	3	10040	7370	4120	6860	4580	n/a	4606.21
SACS416DY	4	12320	9080	5160	8420	5590	n/a	6466.78
SACS318DY	3	n/a	7790	4870	8450	5860	n/a	4555.31
SACS519QY	5	15420	11310	6460	10480	7050	n/a	7265.59
SACS425QY	4	n/a	n/a	7060	11680	8020	n/a	5462.98
SACS728QY	7	20410	15160	8560	14400	9610	n/a	7626.11
SACS533QY	5	n/a	n/a	9100	15780	10930	n/a	7334.86
SACS739SY	7	n/a	18990	11600	19070	13240	n/a	8057.32
SACS1051SY	10	n/a	n/a	14110	22950	16140	n/a	8374.02



## ultra condensing units

# YOU DECIDE WE PROVIDE

### Ultra Condensing Units

See How The Unit Is Performing Without Any Tools Or Gauges!

Ultra Units are available for any refrigerants, high, medium and low temperature ranges. Available in 230v single phase & (400v 3 phase) up to a nominal 6HP. The range can be matched to any evaporator.

The Ultra unit is a weatherproof unit that can be ground, flat roof or wall mounted. Its slim design makes it ideal for situations where space is limited and removable panels allow for easy service access. The unit houses a choice of compressors and condenser coil with fan. Liquid receiver, filter drier, sight glass HP/LP safety switch and control box with main isolator.

### FOR HIGH, MEDIUM & LOW TEMPERATURE APPLICATIONS A RANGE OF HIGH PERFORMANCE CONDENSING UNITS

- Choice of sizes
- Fully dressed for standard refrigeration purposes
- Choice of optional extras to suit every application
- Energy efficient for lower running costs
- Any refrigerant desired
- Easily matched to cars/kobol evaporators
- Quality components
- Split front panel design for ease of maintenance
- Acoustic kit as standard

### Condensing Unit Features as standard;

- System Isolator
- Compressor with suction and discharge service shut off valves
- Crankcase heater
- Compressor contactor with over-current protection
- Condenser fan
- Liquid Receiver
- Liquid line Filter Drier, Sight Glass
- HP safety switch
- LP safety switch (Auto Reset)
- Inbuilt gauges HP & LP (External)
- Fan speed controller

### Options (supplied separately)

Wall mounting brackets  
Security Cage  
Oil separator and oil return facility  
Anything else you require!

### CARS – ULTRA-CONDENSING UNITS

Ultra condensing units are easy to configure, assemble and maintain. They are fully covered with electrostatic powder painted galvanized sheet for environment protection. They are compatible with hermetic or scroll compressors. Bended coils made of copper tubes and aluminium fins are used in our units. Units include axial fans, sight glass, sound insulation, dryer, solenoid valve and dual pressure switch. Different designs can be made and additional accessories can be assembled upon request.

### Any specification available

You tell us what is required (specifications) we will select or you can tell us!

**You decide which make of Compressor, Refrigerant, 1 phase or 3 phase fans and anything else you require**

Model	Description	Air Flow Rate m <sup>3</sup> /h	Quantity of fans	Diameter	No. of Poles	Total Surface m <sup>2</sup>	Internal Volume dm <sup>3</sup>	Connections		Dimensions		
								inlet mm	outlet mm	A mm L	B mm H	C mm D
<b>KARBOX</b>												
KARBOX - 1	up to 1HP	2443	1	350	1	7.2	0.5	12	9	890	500	380
KARBOX - 2	up to 2HP	3692	1	400	4	14.16	2.04	16	12	960	380	550
KARBOX - 3	up to 3 HP	4933	1	450	4	17.33	2.45	16	12	1060	430	550
KARBOX - 4	up to 4 HP	5226	1	450	4	26.28	3.67	19	16	1060	430	810
KARBOX - 5	up to 5 HP	7767	2	400	4	38.91	4.89	22	19	1060	430	1150
KARBOX - 6	up to 6 HP	7767	2	400	4	38.91	4.89	22	19	1060	430	1150

# compressor/receiver groups for remote condensers



Frascold Compressor/Receiver

CR compressor/receiver group are essentially composed of semi-hermetic compressor, liquid receiver with safety valve, service valves, base frame and, where foreseen, Electronic Delta P oil diff pressure switch (Dual press, discharge check valve, standard head cooling fan on low temp applications).

Model	Compressor Model	dm <sup>3</sup> Receiver	CAPACITY ON R404A 32°C AMBIENT (Watts)			List Price
			EVAP @ -25°C	EVAP @ 0°C	EVAP @ -5°C	
<b>FRASCOLD COMPRESSOR/RECEIVER GROUP FOR REMOTE CONDENSER</b>						
CR2 11 D-Y	D2 11-Y	8.0	2710	6750	8200	2139.73
CR2 13 D-Y	D2 13-Y	8.0	3330	8000	-	2139.73
CR3 13 D-Y	D3 13-Y	8.0	3180	7940	9620	2222.64
CR4 16 D-Y	D4 16-Y	8.0	4160	10210	12340	2580.73
CR3 18 D-Y	D3 18-Y	8.0	4690	-	-	2252.63
CR5 19 F-Y	F5 19-Y	19.0	4820	11810	14240	3312.79
CR4 24 F-Y	F4 24-Y	12.0	5960	14240	-	3171.67
CR5 25 Q-Y	Q5 25-Y	12.0	5970	14700	17810	3316.32
CR5 33 Q-Y	Q5 33-Y	19.0	8380	-	-	3612.67
CR7 33 Q-Y	Q7 33-Y	24.0	8470	19780	23870	3826.12
CR7 39 S-Y	S7 39-Y	19.0	10530	23900	-	3990.17
CR10 39 S-Y	S10 39-Y	24.0	10400	24050	28800	4124.23
CR10 51 S-Y	S10 51-Y	24.0	13580	-	-	4394.12
CR15 51 S-Y	S15 51-Y	24.0	13070	30920	37160	4503.49
CR20 56 S-Y	S20 56-Y	24.0	15160	35530	42760	4962.13
CR15 71 V-Y	V15 71-Y	30.0	18540	-	-	6988.97
CR20 84 V-Y	V20 84-Y	30.0	20920	49410	-	7216.52
CR30 84 V-Y	V30 84-Y	60.0	20940	51690	62660	7585.20
CR25 106 Z-Y	Z25 106-Y	60.0	26600	66040	-	9066.96
CR35 106 Z-Y	Z35 106-Y	60.0	26650	65460	79560	9331.56
CR30 126 Z-Y	Z30 126-Y	60.0	30860	75390	-	9340.38
CR40 126 Z-Y	Z40 126-Y	60.0	30560	76480	93040	9717.88
CR40 154 Z-Y	Z40 154-Y	60.0	41110	94670	-	11270.20

#### OPTIONS AVAILABLE:

- Crankcase HTR
- Capacity Control
- Unloaded Start
- HP LP Switch - Standard
- Oil Separator - Standard

Larger sizes available upon request

CARS UK will be pleased to make any size receiver set and will adapt to any specific requirement






# CARS

REFRIGERATION & A/C COMPONENTS WHOLESALER

Free Next Day  
Delivery on orders  
over £100 net

Sameday and  
timed deliveries  
available

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# **monoblocks + packaged refrigeration systems**

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**quick index**

**CARS - Packaged Systems 54**

**Kobol - Monoblocks 55**

# packaged systems



## CARS packaged systems

CARS complete packaged systems are housed, dressed and wired to save time on site. Fitted as standard with: Drier/ Sightglass/ Expansion Valve/ Solenoid Valve/ + Controller\*  
 \* Except Freezer (LT) Version which is supplied with separate controller (inc in price)

### OPTIONS INCLUDE:

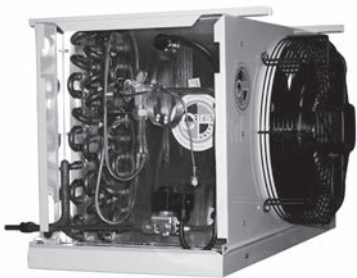
- Fan Speed Controller
- Oil Separator,
- Crankcase Heater
- Acoustically Lined Housing

Model	Max CU/CAP	Voltage	Refrig.	List Price
<b>CARS PACKAGING SYSTEMS - CELLAR 10°C</b>				
HT42	42m <sup>3</sup>	240V/PH	R404A	2686.00
HT82	82m <sup>3</sup>	240V/PH	R404A	2992.00
HT113	113m <sup>3</sup>	240V/PH	R404A	4446.00
HT150	150m <sup>3</sup>	240V/PH	R404A	4734.00

<b>CARS PACKAGING SYSTEMS - CHILLER 1-4°C</b>				
MT36	36m <sup>3</sup>	240V/PH	R404A	2686.00
MT57	57m <sup>3</sup>	240V/PH	R404A	2992.00
MT92	92m <sup>3</sup>	240V/PH	R404A	4446.00
MT105	105m <sup>3</sup>	240V/PH	R404A	4734.00

<b>CARS PACKAGING SYSTEMS - FREEZER -18°C</b>				
LT8	8m <sup>3</sup>	240V/PH	R404A	2686.00
LT20	20m <sup>3</sup>	240V/PH	R404A	2992.00
LT32	32m <sup>3</sup>	240V/PH	R404A	4446.00
LT57	57m <sup>3</sup>	240V/PH	R404A	4734.00

<b>CARS PACKAGING SYSTEMS - OPTIONS LIST</b>		
Fan Speed Controller	Fitted & Wired	200.00
Oil Separator HTR & Return	Fitted	280.00
Acoustic Lining	Fitted	100.00
C/Case HTR	Fitted & Wired	120.00



CARS will be pleased to select and build any unit to any specification





# monoblocks and packaged refrigeration systems

## Monoblocks



Model	Type	Duty @ 0Deg Room (watts)	Duty @ -20Deg Room (watts)	Approx room size (cu/mtr)	List Price
<b>KOBOL MONOBLOCKS AND PACKAGED REFRIGERATION SYSTEMS</b>					
M112A	Straddle/Wall	1170	N/A	9	2400.00
M142A	Straddle/Wall	1500	N/A	13	2916.62
M213A	Straddle/Wall	2300	N/A	22	2914.63
M280A	Straddle/Wall	2750	N/A	30	2744.38
M370A	Straddle/Wall	3500	N/A	44	4230.57
M415A	Straddle/Wall	3600	N/A	37	3862.60
M086B	Straddle/Wall	N/A	970	6	2913.82
M121B	Straddle/Wall	N/A	1652	9	2800.00
M170B	Straddle/Wall	N/A	1700	15	4795.34
M220B	Straddle/Wall	N/A	2300	28	4460.31
M265B	Straddle/Wall	N/A	2550	31	4492.94
T095A	Ceiling System	1003	N/A	6	2112.57
T150A	Ceiling System	1265	N/A	7.5	2505.44
T215A	Ceiling System	1860	N/A	15	3469.28
T255A	Ceiling System	2400	N/A	19	3598.43
T450A	Ceiling System	3700	N/A	38	4411.37
T060B	Ceiling System	N/A	876	3	2756.94
T120B	Ceiling System	N/A	1255	5.5	3212.35
T170B	Ceiling System	N/A	1750	11	4153.08
T250B	Ceiling System	N/A	2300	16	5131.87
S112A	Split	970	N/A	7	2475.54
S142A	Split	1350	N/A	10	2763.74
S213A	Split	2000	N/A	17	3390.44
S280A	Split	2500	N/A	26	3832.25
S370A	Split	3200	N/A	37	4564.99
S415A	Split	3500	N/A	44	4714.53
S086B	Split	N/A	960	5	3068.25
S121B	Split	N/A	1750	9	3372.76
S170B	Split	N/A	1800	15	4257.76
S220B	Split	N/A	2200	22	4902.13
S265B	Split	N/A	2500	31	5038.07

Straddle/ Wall System



Ceiling System



Spilt System





# CARS

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# evaporators

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**quick index**

**Kobol - Evaporators 58-61**

# evaporators

## Kobol Ceiling Mounted Panel Coolers



### Ceiling Mounted Panel Coolers

**MR Range: 655 to 3765 Watts at 0°C room at 8°C CTD**

**MC Range: 487 to 2981 Watts at -18°C room at 7°C CTD**

This compact panel cooler is suitable for all refrigerants for operation at room temperatures ranging from +12°C to -22°C, The MR series has 4.2mm fin spacing whereas the MC series has 7mm spacing. Casing is manufactured from white enamelled, galvanised steel and easily removable to gain access to internal parts. All fans are 250mm 1ph axial flow with galvanised steel guards. MR series is available with and without electric defrost heaters whereas the MC series coolers are fitted with defrost heaters as standard.

The evaporator capacities shown in the tables above are based on R404A. For R134a multiply the values by the correction factors shown below

MR Range	R134a
6	0.90
12	0.91
21	0.91
28	0.93
35	0.89

MC Range	R134a
4	0.82
11	0.86
17	0.84
23	0.85
30	0.84

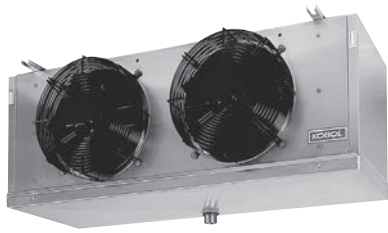
MR Range (4.2mm Fin Spacing)		MR6	MR12	MR21	MR28	MR35
Capacity (R404) Watts	6°CCTD	608	1229	1811	2471	2973
(Rated conditions at	7°CCTD	709	1434	2113	2883	3469
-5°C evaporating)	8°CCTD	811	1639	2415	3295	3964
	9°CCTD	912	1844	2717	3707	4460
Air Volume	m3/hr	440	880	1320	1760	2200
Air Throw*	m	3.5	4.5	5.5	6.5	8
Fans (250 mm) **	No.	1	2	3	4	5
Motor consumption	Watts.	56	112	168	224	280
230v-1ph-50hz Total	Amps	0.35	0.7	1.05	1.4	1.75
Defrost Heater (E) 230V	Watts	283	509	735	961	1186
Dimensions (mm)	Width	520	825	1130	1435	1740
	Height	195	195	195	195	195
	Depth	480	480	480	480	480
Refrigerant Connections	Inlet	1/2"	1/2"	1/2"	1/2"	1/2"
	Outlet	1/2"	1/2"	5/8"	5/8"	5/8"
Surface Area	m2	3.51	7.02	10.53	10.04	17.55
Drain Connection	Gas	3/4"	3/4"	3/4"	3/4"	3/4"
Dry Weight	kg	7	12	16	21	26
(E)	kg	8	13	19	24	30
<b>List Price £</b>						
High temp models 12°C to 2°C		413.26	514.28	764.13	970.78	1189.30
Low temp models 2°C to -10°C (E)		453.42	593.14	811.70	988.62	1263.64

MR Range (7mm Fin Spacing)		MC4E	MC11E	MC17E	MC23E	MC30E
Capacity (R404) Watts	6°CCTD	432	938	1378	1705	2316
(Rated conditions at	7°CCTD	504	1094	1608	1990	2702
-25°C evaporating)	8°CCTD	576	1250	1838	2276	3088
	9°CCTD	648	1407	2067	2558	3475
Air Volume	m3/hr	455	910	2086	2854	3630
Air Throw*	m	4.5	5.5	6.5	7.5	8.5
Fans (250 mm) **	No.	1	2	3	4	5
Motor consumption	Watts.	56	112	168	224	280
230v-1ph-50hz Total	Amps	0.35	0.7	1.05	1.4	1.75
Defrost Heater (E) 230V	Watts	574	1025	1476	1931	2382
Dimensions (mm)	Width	520	825	1130	1435	1740
	Height	195	195	195	195	195
	Depth	480	480	480	480	480
Refrigerant Connections	Inlet	1/2"	1/2"	1/2"	1/2"	1/2"
	Outlet	1/2"	1/2"	5/8"	5/8"	5/8"
Surface Area	m2	3.51	7.02	10.53	10.04	17.55
Drain Connection	Gas	3/4"	3/4"	3/4"	3/4"	3/4"
Dry Weight	kg	8	13	19	24	30
<b>List Price £</b>						
Low temp models -5°C to -22°C		532.22	674.90	915.77	1190.81	1370.69

\* Air throw for unobstructed flow from the cooler

\*\* Enclosed frame, insulation class B, impedance protected

\*\*\* Use an externally equalised expansion valve.



# evaporators



## Kobol Ceiling Mounted Cubic Unit Coolers

### Ceiling Mounted Cubic Unit Coolers

**CR Range: 1.2 to 16.8 kW at 0°C room at 8°C CTD    CC Range: 0.54 to 10.48 kW at -18°C room at 7°C CTD**

Ceiling mounted commercial unit coolers suitable for all refrigerants and operation at room temperatures ranging from +12°C to -25°C. The casing is manufactured from white enamelled, galvanised steel and is easily removable to gain internal access. All fans are 230mm 1ph 50Hz external rotor axial flow, insulation class B, IP44 thermally protected. CR series are available with and without electric defrost heaters whereas the CC series coolers are fitted with defrost heaters as standard.

CR Range (4.5mm Fin Spacing)		***	***	***											
Models		CR9	CR12	CR18	CR25	CR32	CR39	CR44	CR52	CR67	CR79	CR96	CR119	CR125	CR148
Capacity (R404A) Watts 6°CCTD		0.90	1.04	1.48	2.18	2.66	3.03	3.43	4.00	5.19	6.25	7.61	9.91	10.29	12.65
(Rated conditions at 7°CCTD		1.05	1.21	1.72	2.54	3.11	3.53	4.00	4.66	6.06	7.30	8.88	11.57	12.01	14.76
-5°C evaporating)	8°CCTD	1.20	1.38	1.97	2.90	3.55	4.04	4.57	5.33	6.93	8.34	10.15	13.22	13.72	16.87
	9°CCTD	1.35	1.56	2.21	3.26	3.99	4.54	5.14	5.99	7.79	9.38	11.42	14.87	15.44	18.98
Air Volume	m3/hr	800	650	1600	1500	2200	2825	3500	2870	5250	5650	5200	8475	8400	7800
Air Throw*	m	8	7	9	15	10	20	17	16	18	24	22	27	27	25
Surface Area	m2	5.63	8.45	8.45	13.83	16.89	18.03	18.43	24.13	27.65	36.06	54.09	54.09	49.70	81.07
Dry Weight	kg	9	11	14	18	22	24	28	36	40	45	55	65	84	81
(E)	kg	9.5	11.5	15	19	23	25.5	29.5	38	42	47	57	67	89	83
<b>List Price £</b>															
Natural Defrost models		575.33	582.76	706.14	822.10	896.45	1054.02	1168.50	1327.56	1580.30	1843.98	2192.52	2447.02	POA	2884.10
Electric Defrost models (-E)		712.10	868.18	868.18	982.66	1143.23	1254.70	1354.33	1531.26	1818.16	1928.16	2522.56	3251.54	POA	3297.39

CC Range (7mm Fin Spacing) with electric defrost heaters fitted		***	***	-											
Models		CC5	CC9	-	CC15	CC19	CC27	CC33	CC41	CC50	CC56	CC75	CC85	-	CC114
Capacity (R404A) Watts 6°CCTD		0.49	0.73	-	1.13	1.57	2.24	2.58	3.27	3.85	4.52	5.96	6.73	-	8.98
(Rated conditions at 7°CCTD		0.57	0.85	-	1.52	1.83	2.61	3.01	3.82	4.49	5.27	6.95	7.85	-	10.48
-25°C evaporating)	8°CCTD	0.66	0.97	-	1.74	2.09	2.99	3.44	4.36	5.13	6.03	7.94	8.97	-	11.97
	9°CCTD	0.74	1.09	-	1.96	2.36	3.36	3.88	4.91	5.77	6.78	8.93	10.09	-	13.47
Air Volume	m3/hr	800	650	-	1800	2400	2800	3670	3200	5490	5600	5360	8540	-	8050
Air Throw*	m	9	8	-	19	16	22	19	17	20	25	23	28	-	26
Surface Area	m2	2.95	5.88	-	6.46	8.88	12.64	12.92	19.39	19.39	25.20	37.92	37.92	-	81.07
Dry Weight	kg	8	10	-	15	19	23	27	31	38	42	51	62	-	75
<b>List Price £</b>															
Electric Defrost models (-E)		740.35	771.57	-	1000.51	1019.84	1275.54	1363.20	1511.92	1830.06	1910.34	2203.21	2851.39	-	3242.38

\*\*\* Use internally equalised expansion valve on these models

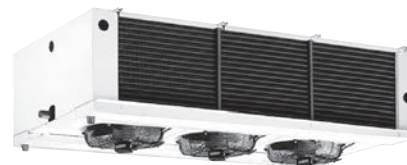
Common Data															
Fans **	No.	1x250	1x250	2x250	1x315	3x250	1x350	2x315	2x315	3x315	2x350	2x350	2x350	2x450	3x350
Motor consumption Total Watts		56	56	112	110	168	145	220	220	330	290	290	435	960	435
230v-1ph-50Hz	Total Amps	0.35	0.35	0.70	0.50	1.05	0.58	1.00	1.00	1.50	1.16	1.16	1.74	4.6	1.74
Defrost Heater (E) 230V	Watts	903	1083	1532	1803	2145	3017	3162	3162	4521	5525	5525	7982	7795	7982
Dimensions (mm)	Width	575	575	905	695	1235	905	1145	1145	1595	1565	1565	2225	1845	2225
	Height	375	375	375	440	375	565	440	440	410	565	565	565	490	565
	Depth	410	410	410	450	410	490	450	450	450	490	490	490	530	490
Refrigerant Connections	Inlet	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	5/8"	5/8"	5/8"	5/8"
	Outlet	1/2"	1/2"	1/2"	5/8"	5/8"	5/8"	5/8"	7/8"	7/8"	7/8"	1.1/8"	1.1/8"	1.1/8"	1.1/8"
Drain Connection	Gas	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	1.1/4"	1.1/4"	1.1/4"	1.1/4"	1.1/4"	1.1/4"

\* Air throw for unobstructed flow from the cooler

The evaporator capacities shown in the tables above are based on R404A. For R134a multiply the values by the correction factors shown below.

CR Range	9	12	18	25	32	39	44	52	67	79	96	119	125	148
R134a	0.90	0.91	0.91	0.93	0.93	0.89	0.89	0.91	0.89	0.92	0.91	0.92	0.92	0.91
CC Range	5	9	-	15	19	27	33	41	50	56	75	85	-	114
R134a	0.82	0.86	-	0.84	0.85	0.84	0.85	0.84	0.86	0.85	0.85	0.86	-	0.86

# evaporators



## Kobol Ceiling Mounted Dual Discharge Unit Coolers

### Ceiling Mounted Dual Discharge Unit Coolers

**XR Range: 2.6 to 15.1kW at 0°C room at 8°C CTD**  
**XC Range: 1.55 to 8.67 kW at -18°C room at 7°C CTD**



A wide range of ceiling mounted commercial unit cooler suitable for all refrigerants operation at room temperatures ranging from +12°C to -25°C.

The casing is manufactured from white enamelled, galvanised steel and is easily removable to gain internal access. All fans are 230mm 1ph 50hz external rotor axial flow, insulation class B, IP44 thermally protected. All XR series is available with and without electric defrost heaters whereas the XC series coolers are all fitted with defrost heaters as standard.

Models	XR Range (3.5mm Fin Spacing) 1390 RPM						XR Range (3.5mm Fin Spacing) 1050 RPM					
	Medium Temperature Coolers for coldrooms/preparation rooms operating between 10°C and 2°C (optional electric defrost)											
	XR20	XR41	XR71	XR87	XR115	XR137	XR30	XR41	XR71	XR87	XR115	XR137
Capacity (R404A) Watts 6°CCTD	1.95	3.92	5.80	7.59	9.44	11.32	1.64	3.30	4.82	6.38	7.77	9.68
(Rated Conditions at 7°CCTD)	2.27	4.57	6.76	8.85	11.02	13.21	1.91	3.85	5.62	7.45	9.07	11.29
0°C EVAP)	2.59	5.22	7.73	10.12	12.59	15.10	2.18	4.40	6.43	8.51	10.36	12.90
9°CCTD	2.92	5.87	8.70	11.38	14.16	16.98	2.46	4.95	7.23	9.58	11.66	14.51
Air Volume m3/hr	1450	2900	4350	5800	7250	8700	1100	2200	3300	4400	5500	6600
Air Throw* (Each side) m	7	8	9	10	12	14	5	6	7	8	9	11
Surface Area m2	13.83	27.65	41.45	55.31	69.14	88.96	13.83	27.65	41.45	55.31	69.14	88.96
Dry Weight kg	22	37	48	71	80	98	22	37	48	71	80	98
(E)	23	38.5	50	73.5	83	101	23	38.5	50	73.5	83	101
<b>List Price £</b>												
Natural Defrost models	1042.14	1529.76	2059.01	2707.19	3333.06	3918.80	1042.14	1529.76	2059.01	2707.19	3333.06	3918.80
Electric Defrost models (-E)	1168.50	1670.99	2232.95	2901.94	3557.55	4186.40	1168.50	1670.99	2232.95	2901.94	3557.55	4186.40

Models	XC Range (6mm Fin Spacing) 1390 RPM						XC Range (6mm Fin Spacing) 1050 RPM					
	Low Temperature Coolers for coldrooms operating between 2°C and -21°C. Electric electric defrost heaters fitted as standard.											
	XC17	XC35	XC49	XC71	XC87	XC107	XC17	XC35	XC49	XC71	XC87	XC107
Capacity (R404A) Watts 6°CCTD	1.33	2.70	3.87	5.15	6.50	7.44	1.12	2.27	3.25	4.31	5.40	6.35
(Rated Conditions at 7°CCTD)	1.55	3.16	4.52	6.01	7.59	8.67	1.30	2.65	3.79	5.03	6.31	7.41
-25°C EVAP)	1.78	3.61	5.16	6.87	8.67	9.91	1.49	3.02	4.33	5.75	7.21	8.47
9°CCTD	2.00	4.06	5.81	7.72	9.76	11.15	1.67	3.40	4.88	6.47	8.11	9.53
Air Volume m3/hr	1500	3000	4500	6000	7500	9000	1130	2260	3390	4520	5650	6780
Air Throw* (Each side) m	8	9	10	11	13	15	6	7	8	9	10	12
Surface Area m2	8.06	16.12	24.18	32.26	40.33	51.89	8.06	16.12	24.18	32.26	40.33	51.89
Dry Weight kg	21	35	45	67	75	92	21	35	45	67	75	92
(E)	22	36.5	47	69.5	78	95	22	36.5	47	69.5	78	95
<b>List Price £</b>												
Electric Defrost models	1174.45	1669.51	2227.00	2915.32	3434.16	4021.38	1174.45	1669.51	2227.00	2915.32	3434.16	4021.38

Use an externally equalised expansion valve on all models.

Common Data													
Fans **	No.	1x300	2x300	3x300	4x300	5x300	6x300	1x300	2x300	3x300	4x300	5x300	6x300
Motor consumption Total Watts		76	152	228	304	380	456	76	152	228	304	380	456
230v-1ph-50Hz	Total Amps	0.34	0.68	1.02	1.36	1.70	2.04	0.34	0.68	1.02	1.36	1.70	2.04
Defrost Heater (E) 230V	Watts	1107	1954	2800	3646	4492	5324	1107	1954	2800	3646	4492	5324
Dimensions (mm)	Width	768	1218	1668	2118	2568	2920	768	1218	1668	2118	2568	2920
	Height	310	310	310	310	310	310	310	310	310	310	310	310
	Depth	832	832	832	832	832	832	832	832	832	832	832	832
Refrigerant Connections	Inlet	1/2"	1/2"	1/2"	5/8"	-5/8"	-5/8"	1/2"	1/2"	1/2"	5/8"	5/8"	5/8"
	Outlet	5/8"	7/8"	7/8"	1.1/8"	1.1/8"	1.3/8"	5/8"	7/8"	7/8"	1.1/8"	1.1/8"	1.1/8"
Drain Connection	Gas	3/4"	3/4"	3/4"	1 1/4"	1 1/4"	1 1/4"	3/4"	3/4"	1.1/4"	1.1/4"	1.1/4"	1.1/4"

\* Air throw for unobstructed flow from the cooler

\*\*The fan speed for the XR and XC ranges are selectable by plugging the fans into a choice of terminals in the cooler terminal box.

The evaporator capacities shown in the tables above are based on R404A. For R134a multiply the values by the correction factors shown below.

XR Range		20	41	71	87	115	137
R134a	High Speed	0.91	0.91	0.93	0.94	0.92	0.94
XC Range		17	35	49	71	87	107
R134a	High Speed	0.84	0.85	0.84	0.86	0.86	0.88

XR Range		20	41	71	87	115	137
	Low Speed	0.90	0.90	0.94	0.93	0.93	0.94
XC Range		17	35	49	71	87	107
	Low Speed	0.86	0.86	0.83	0.85	0.85	0.84



# evaporators



**Kobol Ceiling Mounted Industrial Unit Coolers**

## Ceiling Mounted Industrial Unit Coolers

**ECR Range: 17 to 83 kW at 0°C room at 8°C CTD    ECC Range: 10.5 to 48.1 kW at -18°C at 7°C CTD**

A wide range of ceiling mounted industrial unit coolers suitable for all refrigerants and operation at room temperatures ranging from +12°C to -25°C. The casing is manufactured from white enamelled, galvanised steel and is easily removable to gain internal access. All fans are 415v 3ph 50Hz external rotor axial flow, insulation class B, IP44 thermally protected. All ECR series is available with and without electric defrost heaters whereas the ECC series coolers are all fitted with defrost heaters as standard.

<b>ECR Range (4.5mm Fin Spacing)</b>		Medium temperature coolers for coldroom temperatures between 10°C to 2°C (Optional defrost heaters)								
Models		ECR163	ECR183	ECR246		ECR290	ECR354	ECR468	ECR572	ECR753
Capacity (R404A) Watts	6°CCTD	12.80	14.15	19.32		23.62	27.67	37.18	45.95	62.20
(Rated Conditions at	7°CCTD	14.93	16.51	22.54		27.55	32.28	43.38	53.61	72.57
-5°C EVAP)	8°CCTD	17.06	18.86	25.75		31.49	36.89	49.58	61.27	82.94
	9°CCTD	19.19	21.22	28.97		35.42	41.50	55.70	68.93	93.31
Air Volume	m <sup>3</sup> /hr	11400	18000	17400	-	27000	35200	31000	52500	51000
Air Throw* Each side	m	25	40	38	-	40	36	32	60	58
Surface Area	m <sup>2</sup>	89.10	86.57	129.84	-	129.84	179.02	267.03	285.66	428.49
Dry Weight	kg	121	146	167	-	199	268	310	406	473
(E)	kg	124	149	151	-	203	273	315	411	478
<b>List Price £</b>										
Natural Defrost Models		3887.73	3968.72	4543.53		5706.18	7028.23	8501.81	10644.03	12248.45
Electric Defrost Models (E)		3908.63	4480.83	5042.55		6678.21	8075.93	9207.24	12185.75	14098.26

Use an externally equalised expansion valve on all models.

<b>ECC Range (7mm Fin Spacing)</b>		Low temperature coolers for coldroom temperatures between -5°C to -25°C (Defrost heaters fitted as standard)									
Models		ECC121	ECC130	ECC182	ECC231	ECC268	-	-	ECC357	ECC402	ECC570
Capacity (R404A) Watts	6°CCTD	9.01	10.44	13.16	18.16	21.78			27.36	27.78	41.23
(Rated Conditions at	7°CCTD	10.52	12.18	15.36	21.71	25.41			31.92	32.41	48.10
-25°C EVAP)	8°CCTD	12.02	13.91	17.55	24.81	29.05			36.48	37.04	54.97
	9°CCTD	13.52	15.65	19.75	27.91	32.68			41.04	41.67	61.84
Air Volume	m <sup>3</sup> /hr	11700	18600	17700	21700	2700	-	-	32500	53000	52000
Air Throw* Each side	m	27	42	40	43	36	-	-	34	63	61
Surface Area	m <sup>2</sup>	59.64	57.96	87.08	119.47	130.68	-	-	179.16	191.61	287.40
Dry Weight	kg	113	138	155	197	229	-	-	291	386	443
<b>List Price £</b>											
Electric Defrost Models (E)		3600.32	4193.41	4533.08	5860.12	7058.72	-	-	8559.27	12002.87	13494.71

Use an externally equalised expansion valve on all models.

<b>Common Data</b>											
Fans **	No.	2x450	2x500	2x500	2x630	3x500	3x500	3x630	3x630	3x630	3x630
Motor consumption	Total Watts	1280	1720	1720	1440	2580	2580	2160	2160	6900	6900
415v-3ph-50Hz	Total Amps	2.40	3.50	3.50	2.80	5.30	5.30	4.20	4.20	11.60	11.60
Defrost Heater (E) 230V	Watts	6525	9548	9548	11215	14057	14057	16292	16292	25208	25208
Dimensions (mm)	Width	2040	2440	2440	2840	3440	3440	4040	4040	4640	4640
	Height	730	840	840	950	840	840	950	950	1280	1280
	Depth	500	525	525	525	525	525	580	580	580	580
Refrigerant Connections	Inlet	5/8"	5/8"	5/8"	7/8"	7/8"	7/8"	7/8"	1.1/8"	1.1/8"	1/2"
	Outlet	1.3/8"	1.3/8"	1.3/8"	1.3/8"	1.5/8"	1.5/8"	1.5/8"	1.5/8"	2.1/8"	7/8"
Drain Connection	Gas	1.1/4"	1.1/4"	1.1/4"	1.1/4"	1.1/4"	1.1/4"	3/4"	1.1/4"	1.1/4"	1.1/4"

\* Air throw for unobstructed flow from the cooler

The evaporator capacities shown in the tables above are based on R404A. For R134a multiply the values by the correction factors shown below.

ECR Range	163	183	246	290	354	468	572	753
R134a	0.856	0.844	0.871	0.931	0.852	0.893	0.904	0.94
ECC Range	121	130	182	231	268	357	402	570
R134a	0.84	0.86	0.85	0.85	0.85	0.86	0.90	0.85



# CARS

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# condensers & receivers



## quick index

Kobol Condensers **64-68**

Liquid Receivers **68**

# condensers

## CHN Condensers



### CHN Condensers

The range includes models with capacities from 12.6kW up to 274.2kW. All models in the range can be mounted either for vertical air flow/horizontal coil block or vertical coil block/horizontal air flow. All models offer the choice of either horizontal or vertical mounting legs which must be ordered separately. The CHN range has a coil block constructed from 3/8" copper tubes and corrugated aluminium fins. The CHN case work is manufactured from galvanised steel finished with epoxy-polyester paint to give a corrosion resistant finish.

The range incorporates 2 fan diameters:-	Fan dia.	1ph	3ph
	450mm	4 pole	
	630mm	-	4 pole
	630mm	-	6 pole
	630mm	-	8 pole
	630mm	-	12 pole

### Selection Procedure

**Step 1:** Determine the total heat of rejection for the system by multiplying the evaporator capacity at design conditions by the appropriate factor from either the Open Compressor or the Semi-Hermetic Compressor chart.

Evap Temp. °C	Condensing Temp °C						
	30	35	40	45	50	55	60
-40	-	-	-	-	-	-	-
-35	1.36	1.41	1.44	-	-	-	-
-30	1.31	1.36	1.4	1.44	-	-	-
-25	1.27	1.32	1.36	1.41	1.45	-	-
-20	1.24	1.28	1.31	1.35	1.39	1.44	-
-15	1.2	1.24	1.27	1.31	1.35	1.39	1.44
-10	1.18	1.21	1.24	1.27	1.31	1.35	1.4
-5	1.15	1.18	1.21	1.24	1.27	1.31	1.36
0	1.13	1.15	1.18	1.21	1.24	1.27	1.31
5	1.1	1.13	1.15	1.18	1.21	1.24	1.28
10	1.08	1.11	1.13	1.15	1.17	1.21	1.24

Evap Temp. °C	Condensing Temp °C						
	30	35	40	45	50	55	60
-40	1.64	1.69	1.76	1.86	2.03	-	-
-35	1.56	1.61	1.64	1.73	1.83	-	-
-30	1.48	1.53	1.57	1.62	1.69	-	-
-25	1.42	1.46	1.5	1.54	1.6	1.68	-
-20	1.37	1.4	1.44	1.48	1.53	1.60	-
-15	1.32	1.35	1.38	1.43	1.48	1.53	1.6
-10	1.28	1.31	1.34	1.37	1.42	1.46	1.5
-5	1.23	1.26	1.29	1.33	1.37	1.41	1.5
0	1.2	1.22	1.25	1.28	1.32	1.36	1.4
5	1.16	1.19	1.21	1.24	1.28	1.31	1.3
10	1.13	1.15	1.18	1.21	1.23	1.26	1.3

**Step 2:** Select a factor based on the temperature difference between the ambient temperature and the design condensing temperature. Temperature Difference Factors.

TD,K	8	9	10	11	12	13	14	15	16	17	18
Factor:	0.53	0.6	0.67	0.73	0.8	0.87	0.93	1	1.07	1.13	1.2

**Step 3:** Select a factor based on the system refrigerant type.

	R22	R134a	R404A	R407A	R407C	R507
Factor:	1	0.97	1.04	0.86	0.9	1.04

**Step 4:** Select the appropriate factor for the design ambient temperature

Amb. Temp	10	15	20	25	30	35	40	45
Factor:	0.951	0.967	0.983	1	1.017	1.034	1.052	1.1

Continued...

# condensers



CHN Condensers

**Step 5:** Select the factor for the altitude.

Altitude Factors

Altitude m:	0	500	1000	1500	2000	2500
Factor:	1	1.02	1.08	1.12	1.18	1.25

**Step 6:** Select the factor for the noise level correction.

Distance factors

Distance m:	5	6	8	10	12	16	32	64	128
db Correction:	6	4.5	2	0	-1.5	-4	-10	-16	-22

**Selection Example:**

Evaporator Capacity 55kW  
 Evaporating Temperature -10°C  
 Condensing Temp 40°C  
 Compressor Type: Semi-Hermetic  
 Ambient Temp: 30°C  
 Temperature Difference: (Cond-Amb) 10°K  
 Altitude: 1000m  
 Refrigerant: R404A  
 Noise Limit at 16m: 53 db (A)

**Calculation Process:**

(Evap Capacity x THR factor) multiplied by (Refrigerant factor x Ambient factor x Altitude Factor)  
 Temperature Difference Factor  
 $(55 \text{ kW} \times 1.34)^* (1.04 \times 1.017 \times 1.08)$   
 0.67 =125kW required capacity  
 Select a condenser from the capacity tables in the following pages  
 Select model CHN-407P (127.6kW)  
 Correct the noise level value  
 The published data shows 56db (A)  
 Subtract 4db shown in the Distance factor chart for 16m therefore this condenser will be rated at 5db (A) at 16m

Model	103L	104L	203L	109L	111L	112L	212L	215L	-	-	216L	-	311L	-	406P
<b>CHN - Air Cooled Condensers 4 Pole - 450/630mm Fans</b>															
Capacity (KW)15K (R22)	15.70	18.84	28.26	31.30	37.70	46.70	61.80	75.60	-	-	92.90	-	111.80	-	123.60
Fans* No.	1	1	2	1	1	1	2	2	-	-	2	-	3	-	4
Diameter mm	450	450	450	630	630	630	630	630	-	-	630	-	630	-	630
Total Watts	480	480	960	1400	1400	1400	2800	2800	-	-	2800	-	4200	-	5600
Total Amps	2.3	2.3	4.6	2.5	2.5	2.5	5	5	-	-	5	-	7.5	-	10
Air Flow m3/hr	5100	4700	10800	13300	12700	11650	26600	25400	-	-	23300	-	37800	-	53200
Sound Level* db(A)	52	52	55	60	60	60	62	62	-	-	62	-	64	-	65
Internal Volume dm3	6.4	9.6	9	9.5	12	18	18	23	-	-	34	-	34	-	36
Total Surface Area m2	32.2	48.2	48.2	46.7	62.4	93.5	93.4	124.8	-	-	187	-	182.9	-	186.8
Dry Weight** kg	35	45	60	70	75	83	130	140	-	-	155	-	205	-	260
<b>List Price</b>	1339.61	1721.77	2270.69	1800.41	1919.14	2211.31	3128.14	3353.78	-	-	3908.28	-	4493.88	-	6282.41

Fans\* 450mm - 22/240v 1ph 50hz. 630mm - 380/415v 3ph 50hz

Model	-	-	-	107L	205L	110L	210L	213L	-	-	214L	307L	309L	-	-
<b>CHN - Air Cooled Condensers 6 Pole - 630mm Fans</b>															
Capacity (KW)15K (R22)	-	-	-	27.60	32.40	37.50	54.60	63.80	-	-	74.70	80.90	94.30	-	-
Fans 630mm No.	-	-	-	1	2	1	2	2	-	-	2	3	3	-	-
380v-3ph-50hz Total Watts	-	-	-	720	1440	720	1440	1440	-	-	1440	2160	2160	-	-
Total Amps	-	-	-	1.55	3.1	1.55	3.1	3.1	-	-	3.1	4.65	4.65	-	-
Air Flow m3/hr	-	-	-	10400	9700	8400	20800	19400	-	-	16800	31050	28800	-	-
Sound Level* db(A)	-	-	-	51	51	51	53	53	-	-	53	55	55	-	-
Internal Volume dm3	-	-	-	9.5	12	18	18	23	-	-	34	26	34	-	-
Total Surface Area m2	-	-	-	46.7	62.4	93.5	93.4	124.8	-	-	187	137	182.9	-	-
Dry Weight** kg	-	-	-	70	75	83	130	140	-	-	155	190	205	-	-
<b>List Price</b>	-	-	-	1322.63	1992.79	2208.93	3035.51	3351.40	-	-	3869.21	4177.98	4515.27	-	-

# condensers

## CHN Condensers



Model - - - 105L 106L 108L 208L 209L - - 211L 305L - 306L -

CHN - Air Cooled Condensers 8 Pole - 630mm Fans															
Capacity (KW)15K (R22)	-	-	-	23.10	26.20	29.20	45.70	51.70	-	-	58.40	66.80	-	76.90	-
Fans 630mm No.	-	-	-	1	1	1	2	2	-	-	2	3	-	3	-
380v-3ph-50hz Total Watts	-	-	-	350	350	350	700	700	-	-	700	1050	-	1050	-
Total Amps	-	-	-	0.85	0.85	0.85	1.7	1.7	-	-	1.7	2.55	-	2.55	-
Air Flow m3/hr	-	-	-	7500	6850	6000	15000	13700	-	-	12000	21900	-	20550	-
Sound Level* db(A)	-	-	-	42	42	42	44	44	-	-	44	46	-	46	-
Internal Volume dm3	-	-	-	9.5	12	18	18	23	-	-	34	26	-	24	-
Total Surface Area m2	-	-	-	46.7	62.4	93.5	93.4	124.8	-	-	187	137	-	182.9	-
Dry Weight** kg	-	-	-	70	75	83	130	140	-	-	155	190	-	205	-
<b>List Price</b>	-	-	-	1805.13	1921.53	2213.69	3135.26	3360.90	-	-	3878.71	4177.98	-	4515.27	-

Model - 100L 101L 102L 113L - 210L 202L 204L 206L 207L 300L 301L - 302L

CHN - Air Cooled Condensers 12 Pole - 630mm Fans															
Capacity (KW)15K (R22)	-	12.60	13.60	15.60	17.20	-	25.10	27.00	31.00	34.20	36.50	37.20	40.00	-	45.80
Fans 630mm No.	-	1	1	1	1	-	2	2	2	2	2	3	3	-	3
380v-3ph-50hz Total Watts	-	90	90	190	190	-	180	180	380	380	380	270	270	-	570
Total Amps	-	0.2	0.2	0.5	0.5	-	0.4	0.4	1.0	1.0	1.0	0.6	0.6	-	1.5
Air Flow m3/hr	-	3000	2775	4050	3775	-	6000	5550	8100	7550	6750	8925	8250	-	12000
Sound Level* db(A)	-	28	28	34	34	-	30	30	36	36	36	32	32	-	38
Internal Volume dm3	-	9.5	12	9.5	12	-	18	23	18	23	34	26	34	-	26
Total Surface Area m2	-	46.7	62.4	46.7	62.4	-	93.4	124.8	93.4	124.8	187	137	182.9	-	137
Dry Weight** kg	-	70	75	70	75	-	130	140	130	140	155	190	205	-	190
<b>List Price</b>	-	1805.15	1921.53	1805.15	1921.53	-	3135.26	3360.90	3135.26	3256.40	3878.70	4206.49	4515.27	-	4208.85

L = Fans in line. P = Fans in parallel.

\* Sound pressure levels in db(A) are measured at 10m distance, in free field conditions on a horizontal reflective plane and are give as an indicative value.

\*\* Dry weight is the net weight of the condenser without refrigerant charge.

Model - - 312L 409P - 410P - 611P - - 612P

CHN - Air Cooled Condensers 4 Pole - 450/630mm Fans											
Capacity (KW)15K (R22)	-	-	137.10	151.20	-	185.80	-	223.60	-	-	274.20
Fans* No.	-	-	3	4	-	4	-	6	-	-	6
Diameter mm	-	-	630	630	-	630	-	630	-	-	630
Total Watts	-	-	4200	5600	-	5600	-	8400	-	-	8400
Total Amps	-	-	7.5	10	-	10	-	15	-	-	15
Air Flow m3/hr	-	-	34500	50800	-	46600	-	75600	-	-	69000
Sound Level* db(A)	-	-	64	65	-	65	-	67	-	-	67
Internal Volume dm3	-	-	49	46	-	68	-	68	-	-	98
Total Surface Area m2	-	-	274.3	249.6	-	374	-	365.8	-	-	548.6
Dry Weight** kg	-	-	225	280	-	310	-	410	-	-	450
<b>List Price</b>	-	-	5242.08	6733.70	-	7769.29	-	9308.42	-	-	10719.29

Fans\* 450mm - 22/240v 1ph 50hz. 630mm - 380/415v 3ph 50hz

# condensers



## CHN Condensers

Model	-	-	310L	407P	-	408P	607P	609P	-	-	610P
<b>CHN - Air Cooled Condensers 6 Pole - 630mm Fans (continued)</b>											
Capacity (KW)15K (R22)	-	-	137.10	151.20	-	185.80	-	223.60	-	-	274.20
Fans* No.	-	-	3	4	-	4	-	6	-	-	6
380v-3ph-50hz Total Watts	-	-	2160	2880	-	2880	4320	4320	-	-	4320
Total Amps	-	-	4.65	6.2	-	6.2	9.3	9.3	-	-	9.3
Air Flow m3/hr	-	-	25050	38800	-	33600	62100	57600	-	-	50100
Sound Level* db(A)	-	-	56	56	-	56	58	58	-	-	58
Internal Volume dm3	-	-	49	46	-	68	52	68	-	-	98
Total Surface Area m2	-	-	274.3	249.6	-	374	274	365.8	-	-	548.6
Dry Weight** kg	-	-	225	280	-	310	380	410	-	-	450
<b>List Price</b>	-	-	5261.07	6726.58	-	7762.16	8699.41	9298.92	-	-	10707.41

Model	-	-	308L	404P	-	405P	605P	606P	-	-	608P
<b>CHN - Air Cooled Condensers 8 Pole - 630mm Fans (continued)</b>											
Capacity (KW)15K (R22)	-	-	87.10	103.40	-	116.80	133.60	153.80	-	-	174.20
Fans* No.	-	-	3	4	-	4	6	6	-	-	6
380v-3ph-50hz Total Watts	-	-	1050	1400	-	1400	2100	2100	-	-	2100
Total Amps	-	-	2.55	3.4	-	3.4	5.1	5.1	-	-	36000
Air Flow m3/hr	-	-	18000	27400	-	2400	43800	41100	-	-	36000
Sound Level* db(A)	-	-	46	47	-	47	49	49	-	-	49
Internal Volume dm3	-	-	49	46	-	68	52	68	-	-	98
Total Surface Area m2	-	-	274.3	249.6	-	374	274	365.8	-	-	548.6
Dry Weight** kg	-	-	225	280	-	310	380	410	-	-	450
<b>List Price</b>	-	-	5261.07	6750.33	-	7785.92	8733.62	7712.54	-	-	10681.30

Model	400P	303L	304L	401P	402P	403P	600P	601P	602P	603P	604P
<b>CHN - Air Cooled Condensers 8 Pole - 630mm Fans (continued)</b>											
Capacity (KW)15K (R22)	50.20	50.80	54.60	54.00	68.40	73.00	74.40	80.00	91.60	101.60	109.20
Fans* No.	4	3	3	4	4	4	6	6	6	6	6
380v-3ph-50hz Total Watts	360	570	570	360	760	760	540	540	1140	1140	1140
Total Amps	0.8	1.5	1.5	0.8	2.0	2.0	1.2	1.2	3.0	3.0	3.0
Air Flow m3/hr	12000	11250	10125	11100	15100	13500	17850	16500	22500	22500	20250
Sound Level* db(A)	33	38	38	33	39	35	35	35	41	41	41
Internal Volume dm3	36	34	49	46	46	68	52	68	52	68	98
Total Surface Area m2	186.8	182.9	274.3	249.6	250	374	274	365.8	365.8	365.8	548.6
Dry Weight** kg	260	205	225	280	280	310	380	410	410	410	450
<b>List Price</b>	6028.26	4515.27	5261.08	6446.30	6446.30	7467.65	8282.33	9332.17	8733.62	9332.18	10740.68

L = Fans in line. P = Fans in parallel.

\* Sound pressure levels in db(A) are measured at 10m distance, in free field conditions on a horizontal reflective plane and are give as an indicative value.

\*\* Dry weight is the net weight of the condenser without refrigerant charge.

# condensers & receivers



Drain Fittings & Water Pipes

Condensers

Liquid Receivers



Model	Description	List Price
<b>DRAIN FITTINGS AND WATER PIPE</b>		
180MVA	3/4 BSP x 22mm Compression 90°C Elbow	19.70
203MXG	1 1/4" Brass Socket FxF	20.46
180MVB	1" BSP x 22mm Compression 90°C Elbow	30.65
203HTW	1 1/4" x 1" Reducer	17.04
JCTB090	22mm Coper Water Pipe 3MTR	35.69
Elbow 22mm	22mm Compression Elbow 90°	4.25

Model	Width mm	Depth mm (Excluding fan)	Height mm	App Duty (Watts 10 DT)	List Price
<b>KOBOL - CONDENSORS</b>					
STVF460W	195	45	180	460	82.05
STVF580W	230	85	215	580	125.70
STVF830W	280	110	250	830	142.20
STVF1200W	274	100	260	1200	195.93
STVF1900W	300	130	280	1900	211.96
STVF3400W	500	150	410	3400	289.88

Many more sizes available. Please ask.

Model	Capacity Litres	Height mm	Horizontal / Vertical	List price
<b>FRIGOMECC - LIQUID RECIEVERS</b>				
REC075	0.75	191	VERT	30.24
REC0	1.5	245	VERT	33.50
REC1	2.3	255	VERT	41.56
REC2	3.5	380	VERT	45.98
REC3	5.3	370	VERT	62.82
REC4	6.9	450	VERT	70.70
REC5	10.5	425	VERT	97.60
REC6	19.0	480	VERT	140.52
REC40	40	N/A	HORIZ	364.80
REC60	60	N/A	HORIZ	555.40
REC80	80	N/A	HORIZ	771.36





# heaters

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- Drain Line Heaters Silicone Insulation **71**
- Drain Line Heater Tapes **72**
- Oil Separator Heaters **72**
- Parallel Heating Cable **71**
- Self Limiting Tape **71**
- Straight Rod Heaters **70**

# defrost heater elements

## Straight Rod Heaters



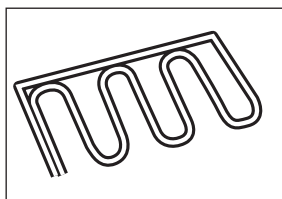
### STRAIGHT ROD HEATERS

Incaloy 800 heaters can be bent to suit most applications, they are resistant to shock vibration and temperature extremes. Stocked and supplied in straight lengths they can easily be formed into almost any shape using bending tools, the minimum bend radius is 32 mm.

Pin terminals:

4 NBA, 2" cold ends 0: 7.9mm incaloy 800/flying leads

Voltage: 240 Vac other voltages/wattages/lengths available



Model	Description	Watts	List Price
<b>STRAIGHT ROD HEATERS</b>			
ST-460W-160	18" LONG	160W	18.30
ST-600W-160	24" LONG	160W	17.14
ST-500W-610	24" LONG	320W	18.66
ST1000W-610	24" LONG	1000W	27.03
ST160W-315	36" LONG	160W	19.58
ST-500W-915	36" LONG	500W	19.58
ST1000W-915	36" LONG	1000W	20.40
ST1500W-915	36" LONG	1500W	33.12
ST-500W-1220	48" LONG	500W	19.94
ST-750W-1220	48" LONG	750W	21.68
ST1000W-1200	48" LONG	1000W	21.68
ST1000W-1220	48" LONG	1500W	37.31
ST2000W-1220	48" LONG	2000W	37.31
ST-750W-1524	60" LONG	750W	20.72
ST1000W-1524	60" LONG	1000W	39.97
ST1500W-1524	60" LONG	1500W	39.97
ST2000W-1524	60" LONG	2000W	39.97
ST-500W-1830	72" LONG	500W	22.88
ST-750W-1830	72" LONG	750W	27.12
ST1000W-1830	72" LONG	1000W	19.64
ST1500W-1830	72" LONG	1500W	47.59
ST2000W-1830	72" LONG	2000W	47.72
ST1000W-2160	85" LONG	1000W	26.88
ST-500W-2440	96" LONG	500W	56.91
ST-750W-2440	96" LONG	750W	26.94
ST1000W-2440	96" LONG	1000W	56.91
ST1500W-2400	96" LONG	1500W	31.32
ST2000W-2400	96" LONG	2000W	31.32
ST1000W-2794	110" LONG	1000W	33.40
ST-750W-3060	120" LONG	750W	75.94
ST1000W-3050	120" LONG	1000W	30.64
ST1500W-3050	120" LONG	1500W	39.52
ST2000W-3050	120" LONG	2000W	75.94
ST1500W-3660	144" LONG	1500W	35.02
ST2000W-3660	144" LONG	2000W	29.46
ST2500W-3660	144" LONG	2500W	91.17
ST3000W-3660	144" LONG	3000W	91.17
ST1000W-4070	160" LONG	1000W	48.66
ST1000W-4570	180" LONG	1000W	54.74
ST1000W-5090	200" LONG	1000W	60.78
ST2000W-4590	180" LONG	2000W	52.02
ST2000W-5090	200" LONG	2000W	57.74

Provide Sketch c/w Dimensions, we will be pleased to Bend any Heater. Bending charge is £5.00.



## drain line heaters



Drain Line Heaters  
Silicone Insulation

Crankcase Heaters

Parallel Heating Cable

Self Limiting Tape

### FLEXDRAIN

Model	Heating Length	List Price
<b>DRAIN LINE HEATERS SILICONE INSULATION</b>		
CSC2K	1 M	40.82
CSC2K	1.3 M	42.12
CSC2K	1.5 M	43.12
CSC2K	2 M	45.55
CSC2K	3 M	50.70
CSC2K	4 M	55.65
CSC2K	5 M	60.40
CSC2K	6 M	65.07

Drain line heaters silicone insulation with integrated thermostat including 1m cold tail. Output either 40 or 50 W/min 230 V.



### FLEXBELT

Model	Description	List Price
<b>CRANKCASE HEATERS FLEXBELT FCH</b>		
FCH-10	35 W – 230 V, MIN. Ø = 120 MM, MAX. Ø = 175 MM	40.08
FCH-20	40 W – 230 V, MIN. Ø = 140 MM, MAX. Ø = 175 MM	40.08
FCH-30	45 W – 230 V, MIN. Ø = 150 MM, MAX. Ø = 280 MM	68.98
FCH-40	55 W – 230 V, MIN. Ø = 180 MM, MAX. Ø = 280 MM	68.98
FCH-50	65 W – 230 V, MIN. Ø = 220 MM, MAX. Ø = 320 MM	68.98
FCH-60	75 W – 230 V, MIN. Ø = 245 MM, MAX. Ø = 370 MM	68.98



### FLEXTRACE

Model	Model	Description	List Price
<b>PARALLEL HEATING CABLE - FLEXTRACE FTS0</b>			
FLEXTRAC®	FTS0	FTS0 parallel heating cable, Silicon elastomer insulation, Available in 25, 40 or 50 W/m – 230 V	5.12/mtr
FLEXTRAC®	FTS0/T	FTS0 with tinned copper braid	7.85/mtr
FLEXKIT®	FT/KIT0-1	Terminating kit for 1 cable FLEXTRACE® FTS0 or FTS0/T	2.82each
FLEXKIT®	FT/KIT0-5	Terminating kit for 5 cables FLEXTRACE® FTS0 or FTS0/T	7.50pack



<b>SELF LIMITING TAPE FLEXTRACE FSG FREEZE PROTECTION</b>			
FLEXTRACE®	FSG 10	10 W/m at 10°C	7.80/mtr
FLEXTRACE®	FSG 15	15 W/m at 10°C	7.80/mtr
FLEXTRACE®	FSG 25	21 W/m at 10°C	9.75/mtr
FLEXTRACE®	FSG 30	30 W/m at 10°C	9.00/mtr
FLEXKIT®	FS/KIT	Terminating kit for 1 cable FLEXTRACE® FSG	7.80 each
FLEXKIT®	FS/KIT5	Terminating kit for 5 cables FLEXTRACE® FSG	27.28pack



## defrost heater elements heater tapes

Drain Heater Tapes

Oil Separator Heaters



Model	Description	Volts (AC)	Total Watts	List Price
<b>FIXED LENGTH HEATING TAPES FOR DRAINS</b>				
HEAT001	1 METER	240	40	27.76
HEAT002	2 METERS	240	80	28.76
HEAT003	3 METERS	240	120	30.54
HEAT004	4 METERS	240	160	32.02
HEAT005	5 METERS	240	200	38.18
HEAT006	6 METERS	240	240	38.86

Internal or external.

Model	Description	List Price
<b>OIL SEPARATOR HEATERS</b>		
OILSEPHEAT4	4" 25w Clamp Type	105.94
OILSEPHEAT6	6"50w Clamp Type	145.96
S9111R1	4"80w Clamp Type	116.00
S9112R2	6"80w Clamp Type	156.00



PLEASE TELEPHONE FOR ANY SPECIFIC HEATER REQUIREMENTS, WE WILL BE PLEASED TO HELP. MANY MORE HEATERS AVAILABLE FROM STOCK.



# electrical accessories

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## quick index

SWA - Crimps 158

SWA - Electrical Accessories 74,158

SWA Krimp-It Electrical  
Accessories & Cable Ties 159

# electrical accessories

Electrical Accessories

Isolators

Enclosures

Contractors & Overloads



All the right connections!®

Code	Type	Rating (A)	List Price
ISOL20A6	6 POLE, ENCLOSURE IP56	20	59.68
ISOL20A8	8 POLE, ENCLOSURE IP56	20	64.39
ISOL32A8	8 POLE, ENCLOSURE IP55	32	120.48
ISOL20A3	3 POLE +1 AUXILLIARY, IP54	20	45.11
ISOL40A6	6 POLE + 1 AUXILLIARY, IP65	40	130.46
ISOL20A4	4 POLE, IP55	20	24.00

Model	Type	Rating (A)	Suitability	List Price
CI 4-5	MINI CONTACTOR	6A (AC3)	UP TO 1/2 HP 1ph	31.60
CI 4-9	MINI CONTACTOR	9A (AC3)	UP TO 1HP 1ph	33.99
CE15SNC3K	CONTACTOR	12A (AC3)		39.43
CE15DN3K	CONTACTOR	16A (AC3)		39.70
CE15EN3K	CONTACTOR	23A (AC3)		54.79
C316FNA3M	OVERLOAD RELAY	4.5-6.5A	3ph	41.36
C316FNA3P	OVERLOAD RELAY	7.5-11.0A	3ph	41.33
C316FNA3Q	OVERLOAD RELAY	10.0-14.0A	3ph	41.33
C316FNA3R	OVERLOAD RELAY	13.0-19.0A	3ph	47.04
C316KNA3A	OVERLOAD RELAY	18.0-25A	3ph	48.67
FINDER	RELAY	30A	FOR ELIWELL EWBOX	8.00

## ENCLOSURES

ENCLOSURES (Plastic)  
for contactors IP65



Model	Size (L x W x H) mm	List Price
<b>MODEL SIZE</b>		
ENC001	150 x 110 x 70	12.74
ENC002	190 x 140 x 70	12.38
ENC003	300 x 220 x 120	41.79
ENC004	380 x 300 x 120	58.41
ENC005	100 x 100 x 120	7.84
ENC006	120 x 80 x 120	7.84
ENC007	150 x 110 x 140	11.23
ENC008	190 x 140 x 140	19.17
ENC009	240 x 190 x 160	29.10
ENC0010	300 x 220 x 180	49.41
ENC0011	240 x 190 x 90	23.03
ENC0012	380 x 300 x 180	66.37

Dependant on manufacturer. Sizes may differ slightly





# thermostatic expansion valves

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**quick index**

Danfoss - Orifice Assembly with Filter **76**

Danfoss - T2/TE2 Expansion Valves **76**

# thermostatic expansion valves



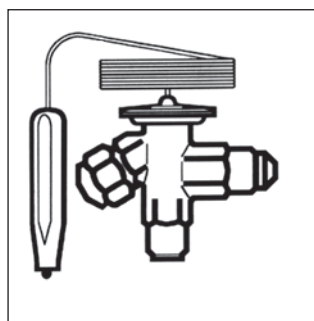
## T2/TE2 Expansion Valves

### Orifice Assembly with Filter

#### Flare/Flare Connections

Versions with MOP will shut-off liquid injection into the coil when the MOP temperature is reached & therefore limit any further increase in evaporating temperature.

Connection sizes are 3/8" male inlet, 1/2" flare outlet & 1/4" flare external equalisation (where applicable)



Model	Refrigerant	MOP (°C)	Range (°C)	Equ.	List Price
<b>T2/TE2 EXPANSION VALVES</b>					
TX2A	R22	-	-40/10	Int.	88.76
TX2B	R22	0	-40/-5	Int.	88.76
TX2E	R22	-10	-40/-15	Int.	88.76
TX2D	R22	-	-60/-25	Int.	113.26
TX2E	R22	-20	-60/-25	Int.	113.26
TEX2A	R22	-	-40/10	Ext.	139.14
TEX2B	R22	15	-40/10	Ext.	147.00
TEX2C	R22	0	-40/-5	Ext.	139.14
TEX2D	R22	-10	-40/-15	Ext.	139.14
TEX2E	R22	-	-60/-25	Ext.	172.42
TEX2F	R22	-20	-60/-25	Ext.	172.42
TZ2	R407C	-	-40/10	Int.	104.00
TEZ2	R407C	-	-40/10	Ext.	111.00
TN2A	R134a	-	-40/10	Int.	71.52
TN2B	R134a	15	-40/10	Int.	116.48
TN2C	R134a	-10	-40/-15	Ext.	88.76
TEN2A	R134a	-	-40/10	Ext.	92.56
TEN2B	R134a	15	-40/10	Ext.	177.96
TEN2C	R134a	-10	-40/-15	Ext.	139.14
TS2A	R404A	-	-40/10	Int.	66.80
TS2B	R404A	15	-40/10	Int.	88.76
TS2C	R404A	0	-40/5	Int.	88.76
TS2D	R404A	-10	-40/-10	Int.	88.76
TS2E	R404A	-	-60/-25	Int.	88.76
TS2F	R404A	-20	-60/-25	Int.	88.76
TES2A	R404A	-	-40/10	Ext.	107.98
TES2B	R404A	15	-40/10	Ext.	139.14
TES2C	R404A	0	-40/5	Ext.	139.14
TES2D	R404A	-10	-40/-15	Ext.	139.14
TES2E	R404A	-	-60/-25	Ext.	139.14
TES2F	R404A	-20	-60/-25	Ext.	139.14
TF2A	R12	-	-40/10	Int.	88.76
TF2B	R12	-10	-40/15	Int.	88.76
TEF2	R12	-	-40/10	Ext.	139.14
TY2A	R502	-	-40/10	Int.	88.76
TY2B	R502	-10	-40/-15	Int.	88.76
TY2C	R502	-20	-60/-25	Int.	113.26
TEY2A	R502	-	-40/10	Ext.	139.14
TEY2B	R502	0	-40/5	Ext.	139.14
TEY2C	R502	-10	-40/-15	Ext.	139.14
TEY2D	R502	-20	-60/-25	Ext.	172.42

#### Orifice Assembly with Filter

For use with the above series of expansion valves which do not use the solder inlet adaptor.

Model	Nominal duty kW					List Price
	R134a	R12	R22	R502	R404A	
<b>ORIFICE ASSEMBLY WITH FILTER</b>						
00	0.40	-	0.50	-	0.38	25.92
0	0.90	0.70	1.00	0.70	0.70	25.92
1	1.00	2.50	1.00	1.60	9.69	19.96
2	2.60	1.70	3.50	2.10	2.10	22.60
3	4.60	3.50	5.20	3.50	4.20	19.96
4	6.70	5.20	8.00	5.20	6.00	19.96
5	8.60	7.00	10.50	7.00	7.70	25.16
6	10.50	10.50	15.50	10.50	9.10	27.34



# **solenoid valves**

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**quick index**

**Parker - Solenoid Valves 78**

**Parker - Solenoid Valve Coils 78**

# solenoid valves



Castel Solenoid  
Valve Coils

Castel Solenoid  
Valves

Model	Voltage	List Price
<b>CASTEL - SOLENOID VALVE COILS</b>		
JPAR650	240V AC	32.14
JPAR652	110V AC	N/A
JPAR500	24V AC	25.00
JPAR540	12V DC	N/A
JPAR541	24V DC	N/A

Model	Connection	Port (mm)	List Price
<b>CASTEL - SOLENOID VALVES</b>			
JPAR100	1/4 Flare	3	30.78
JPAR110	3/8 Flare	8	36.84
JPAR115	1/2 Flare	10	43.88
JPAR120	5/8 Flare	15	76.00
JPAR130	1/4 Solder Extended	3	30.14
JPAR135	3/8 Solder Extended	8	49.00
JPAR140	1/2 Solder Extended	10	63.94
JPAR145	5/8 Solder Extended	15	98.14
JPAR150	3/4 Solder Extended	18	N/A
JPAR155	7/8 Solder Extended	18	112.18
JPAR160	1.1/8 Solder Extended	18	288.16



Code	Model	Voltage	List Price
<b>CASTEL - SCEM COILS, DIN STYLE COMPLETE WITH PG9 CONNECTOR</b>			
JPAR650	RT14	240 VAC	32.14
JPAR652	RT14	110 VAC	N/A
JPAR654	RT14	24 VAC	N/A
JPAR540	CD21	12 v DC	N/A
JPAR541	CD21	24 v DC	N/A

Code	Part No.	Connection	List Price
<b>DANFOSS/ SAGL NOMIYA - SOLENOID VALVES</b>			
PSAG808	SEV-502BXF	1/4" FL	N/A
PSAG809	SEV-603BXF	3/8" FL	N/A

Code	Part No.	Description	List Price
<b>DANFOSS/ SAGL NOMIYA - SOLENOID VALVES</b>			
PSAG901	NEV-202DXF	1/4 ODS ANGLE BODY	20.52
PSAG902	NEV-603DXF	5/16 ODS ANGLE BODY	N/A
PSAG910	NEV-M0AJ503C1	240 VOLT COIL, LEAD 600M	23.34
PSAG911	NEV-M0AE500C1	12 v DC	23.34
PSAG914	NEV-M0AJ502B1	24 v DC	N/A



SEV prices include 240 volt coil.  
NEV prices for body only





# pressure controls

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# pressure controls

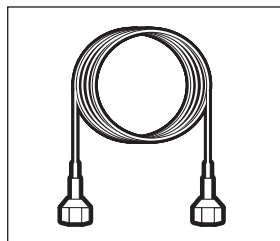
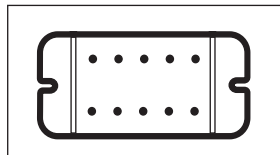
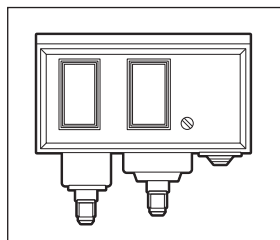
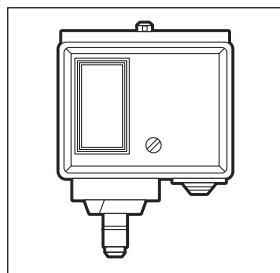


Ranco Single Pressure Controls

Ranco Dual Pressure Controls

Ice Bank Controllers

Pressure Couplers & Accessories



Model	Type	Enclosure	Range psi	Reset	List Price
<b>RANCO SINGLE PRESSURE CONTROLS</b>					
016-H6703	LP	IP44	10INS TO 100	AUTO	48.80
052-H6703	LP	IP66	10INS TO 100	AUTO	57.13
016-H6750	HP	IP44	100 TO 435	AUTO	46.38
052-H6750	HP	IP66	100 TO 435	AUTO	57.13
016-H6751	HP	IP44	100 TO 435	MANUAL	56.90
052-H6751	HP	IP66	100 TO 435	MANUAL	64.36

Model	Type	Enclosure	Differential Range psi	Reset	List Price
<b>RANCO DUAL SIGNAL PRESSURE CONTROLS</b>					
017-H4701	HP	IP44	100 TO 435	AUTO	96.08
	LP	IP44	10INS TO 100	AUTO	
017-H4703	HP	IP44	100 TO 435	MANUAL	63.96
	LP	IP44	10INS TO 100	MANUAL	
017-H4705	HP	IP44	100 TO 435	MANUAL	80.78
	LP	IP44	10INS TO 100	AUTO	

Model	Description	List Price
<b>EDC - ICE BANK CONTROLLERS</b>		
ICL2000	IceBank Control	96.92
L56H2001	IceBank Sensor	12.40

Model	Description	List Price
<b>ACCESSORIES</b>		
R31696-1	MOUNTING PLATE ANGLED	3.04
R48129-3	MOUNTING PLATE FLAT	3.04
3200115-1	CONTROL KNOB	2.23
PHIAL1	PHIAL GUARD	10.74

Model	Description	List Price
<b>PRESSURE COUPLERS</b>		
600-1000CA	1000MM WITH DEPRESSOR	5.54
600-1500CA	1500MM WITH DEPRESSOR	7.14
600-1500CC	1500MM WITHOUT DEPRESSOR	7.00
600-1000CC	1000MM WITHOUT DEPRESSOR	5.04

# pressure controls oil differential

**SAGInoMIYA**

Standard  
Pressure Controls

TUV  
Pressure Controls

Oil & Differential  
Pressure Controls

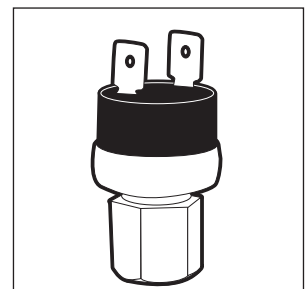
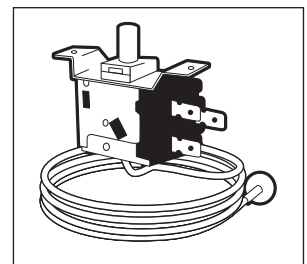
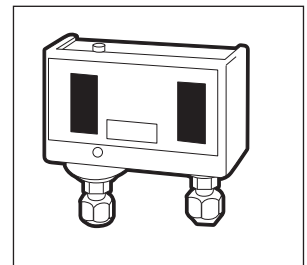
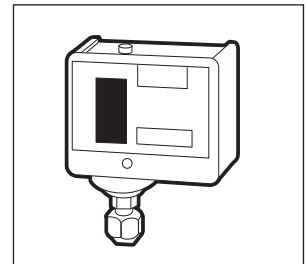
OEM Pressure  
Switches Fixed

Code	Type	Range PSI	Reset	List Price
<b>STANDARD PRESSURE CONTROLS</b>				
MSAG153	STANDARD LP	20"V-85	AUTO	37.12
MSAG155	STANDARD HP	71-426	AUTO	38.75
MSAG156	HP CUTOUT	113-426	AUTO, FD	34.13
MSAG170	FAN	71-426	AUTO	39.70
MSAG201	LP	20"V-85	MNL	41.77
MSAG202	LP	71-426	MNL	41.77
MSAG203	HP	113-426	MNL	37.06
MSAG220	STANDARD LP/HP	20"V-85, 113-426	AUTO, AUTO	63.19
MSAG221	LP/HP, DS	20"v-85, 113-426	AUTO, AUTO	71.95
MSAG225	STANDARD LP/HP	20"V-85, 113-426	AUTO, MNL	65.20
MSAG226	LP/HP, DS	20"V-85, 13-426	AUTO, MNL	74.07
MSAG227	LP/HP, DS	20"V-85, 113-426	MNL,MNL	74.58

<b>TUV PRESSURE CONTROLS</b>				
MSAG235	HP	113-426	AUTO	64.69
MSAG236	HP	113-426	MNL	66.21
MSAG237	HP	113-426	INTMNL	75.54
MSAG238	LP/HP	20"V-85, 113-426	AUTO/AUTO	90.92
MSAG239	LP/HP	20"V-85, 113-426	AUTO/MNL	92.42
MSAG240	LP/HP	20"V-85, 113-426	AUTO/INTM	112.48

Code	Type	Time Delay (secs)	Reset	List Price
<b>OIL AND DIFFERENTIAL PRESSURE CONTROLS</b>				
MSAG248	OIL	PRE-SETTABLE 45,60,90,120	MNL	158.46
MSAG260	OIL	45	MNL	157.21
MSAG261	OIL	90	MNL	206.90
MSAG262	OIL	110	MNL	157.21
MSAG266	DIFF	0	AUTO	114.42

Code	Type	Range PSI	Reset	Connection	List Price
<b>OEM PRESSURE SWITCHES FIXED</b>					
MSAG090	LP	OFF15PSI	MNL	SOLDER	40.62
MSAG100	LP	OFF28PSI	AUTO	SOLDER	26.30
MSAG006	LP	OFF10PSI	AUTO	1.4 FLARE	17.66
MSAG102	LP	OFF10PSI	AUTO	SOLDER	26.30
MSAG110	HP/FAN	OFF355PSI	AUTO	SOLDER	28.31
MSAG111	HP/FAN	OFF355PSI	AUTO	1/4 F.FLARE	29.94
MSAG112	HP/FAN	OFF300PSI	AUTO	SOLDER	28.31
MSAG120	HP	OFF355PSI	MNL	SOLDER	31.24
MSAG084	HP	OFF377PSI	MNL	1/4 F.FLARE	21.72
MSAG085	HP	OFF406PSI	MNL	1/4 F.FLARE	21.72
MSAG135	TERMINAL COVER				3.40
MSAG130	DIAL PLATE FOR FTB				3.68
MSAG010	LP	OFF7PSI	AUTO	1/4 SOLDER	18.41
MSAG011	LP	OFF7PSI	AUTO	1/4 F.FLARE	18.79
MSAG020	LP	OFF28PSI	AUTO	1/4 SOLDER	18.41
MSAG021	LP	OFF28PSI	AUTO	1/4 F.FLARE	18.79
MSAG040	FAN	OFF185PSI	AUTO	1/4 SOLDER	16.13
MSAG041	FAN	OFF185PSI	AUTO	1/4 F.FLARE	25.32
MSAG056	HP	OFF406PS	AUTO	1/4 SOLDER	17.94
MSAG053	HP	OFF261PSI	AUTO	1/4 F.FLARE	17.94
MSAG057	HP	OFF406 PSI	AUTO	1/4 F.FLARE	17.94
MSAG059	HP	OFF609PSI	AUTO	1/4 F.FLARE	30.05
MSAG001	TERMINAL COVER (BOOT)				1.16

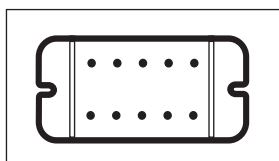


# commercial thermostats

Ranco 016 & 052  
Thermostats

Accessories

Prodigy Ambient  
+30 to -30 Thermostat



Model	Enclosure	Lowest Event	Range °C	Diff °C	Max Bulb Temp °C	Sensing Element	List Price
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### RANCO 016 & 052 THERMOSTATS

016-H6902	IP44	-10	-5 TO +25	1.5 FIXED	65	AIR COIL	54.90
052-H6902	IP66						
016-H6950	IP44	-40	-35 TO -7	1.7/12 ADJUSTABLE	65	COILED	35.20
052-H6950	IP66						47.10
016-H6951	IP44	-22	-18 TO +13				46.24
052-H6951	IP66						
016-H6954	IP44	-10	-5 TO +25	1.7/12 ADJUSTABLE	65	AMBIENT	53.40
052-H6954	IP66						52.64
016-H6980	IP44	-22	-18 TO +13				
052-H6980	IP66						
016-H6981	IP44	-10	-5 TO +25	4/25 ADJUSTABLE	65	AMBIENT	54.30
052-H6981	IP66						
016-H6930	IP44	-40	-34 TO +32				

Model	Description	List Price
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### ACCESSORIES

31696-1	MOUNTING PLATE ANGLED	3.04
48129-3	MOUNTING PLATE FLAT	3.14
3200115-1	CONTROL KNOB	2.23
PHIAL1	PHIAL GUARD	10.74

Model	Range	Diff °C	Sensing Element	List Price
-------	-------	---------	-----------------	------------

### PRODIGY AMBIENT THERMOSTAT

312235	-30 to +30	Fixed 1.5	Twin Bulb	12.00
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# thermostat domestic



## Atea Thermostats

## Ranco Varifax Replacement Thermostats

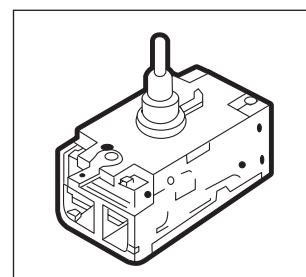
## Multifunction Time Clocks / Relays

Code	Description	List Price
<b>ATEA THERMOSTATS</b>		
A131000	FRIDGE FREEZER (WITH KIT)	11.48
A011001	REFRIGERATOR (WITH KIT)	8.46
A132000	FRIDGE FREEZER LONG CAP	13.03
A041000	FREEZER WITH SIGNAL	10.06
A030045	ICE MAKER THICKNESS STAT (PHILLIPS ETC)	12.66
A010046	ICE MAKER BIN STAT LONG CAP (PHILLIPS ETC)	13.98
A010045	ICE MAKER BIN STAT SHORT CAP (PHILLIPS ETC)	12.40



<b>RANCO VARIFIX REPLACEMENT THERMOSTATS</b>		
VL1	COMPRESSOR REFRIGERATOR	9.58
VL2	ELECTRIC ABSORPTION REFRIGERATOR	18.54
VL3	FREEZER & ICE CREAM CABINET	15.31
VL4	REFRIGERATOR - BUTTON DEFROST	15.31
VL5	FREEZER WITH STANDARD SIGNAL	13.12
VL6	FREEZER WITH REVERSE SIGNAL	16.73
VL7	BOTTLE OR BEVERAGE COOLER	15.14
VL8	WINDOW AIR CONDITIONER	22.08
VL9	TWO-TEMP REFRIGERATOR	10.26
VX0	LARDER REFRIGERATOR	13.46
VTD9	TWO-TEMP REFRIGERATOR ASSISTED DEFROST	23.24
VT93	TWO-TEMP REFRIGERATOR 3M CAPILLARY	20.16
RAN29	TWO TEMP REFRIGERATOR WITH SOLENOID	23.40
RAN59	VX0 LONG CAPILLARY	25.24
K59	VT9 No KIT	10.88

<b>MULTIFUNCTION TIMECLOCKS / RELAYS</b>		
82.11. TIMER	Multifunction Time Relay 12-240V AC/DC 1-10 Sec / 1-10 Min / 1-10 Hours / 1-10 Days Din Rail Mount	44.78



VC1 = K50-P1110	Compressor Refrigerator
VA2 = K50-P1174	Absorbtion Refrigerator
VF3 = K50-P1117	Freezer
VP4 = K60-P1013	Refrigerator Push-button Defrost
VS5 = K54-P1102	Freezer Standard Signal
VR6 = K54-P3100	Freezer Reverse Signal
VB7 = K50-P1118	Bottle Cooler
VW8 = K55-L5010	Window Air Conditioner
VT9 = K59-L1102	Two Temperature Refrigerator
VTD9 = K61-L2505	Two Temperature Refrigerator: SPDT





# CARS

REFRIGERATION & A/C COMPONENTS WHOLESALE



Tel: 0800 328 6283

# FGAS

CERTIFICATION

## 2 DAY FULL F-GAS COURSE AT OUR PREMISES

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# time clocks & defrost timers

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**quick index**

**Grasslin Time Clocks 86**

**Ranco/Bigatti Defrost Controls 86**

## time clocks & defrost timers

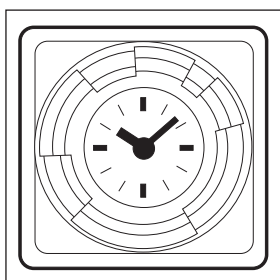
### Flash Clocks



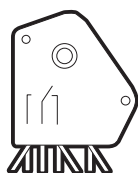
### Grasslin Time Clocks

### Ranco Defrost Controls

### Bigatti Time Clocks



T24 Timers have a capillary  
T25 Timers do not



Code	Model	Defrost/Day	Fan Delay	Termination	List Price
<b>FLASH TIME CLOCKS</b>					
FLSH100	3-11721-100	1-12	0 mins	TIME	97.88
FLSH110	3-11722-100	1-12	3-15 mins	TIME	123.03

Code	Model	Type	Min	Running Reserve	Style	List Price
FLSH190	16009	24 HOUR	20MIN	-	SLIMLINE	52.07
FLSH200	16022	24 HOUR	20 MIN	-	PLUG IN	63.90
FLSH210	16021	24 HOUR	20 MIN	72HRS	PLUG IN	73.41
FLSH220	16722	7 DAY	2 HOURS	-	PLUG IN	63.63
FLSH230	16721	7 DAY	2 HOURS	72 HRS	PLUG IN	88.37
FLSH400	14001	24 HOUR	15 MIN	-	BACK MOUNT SPST	46.77
FLSH420	03053	24 HOUR	15 MIN	-	SLIMLINE SPDT	31.27

Code	Model	Description	List Price
FLSH900	3-95555-000	FLUSH MOUNTING KIT FOR FRIGOFLASH MODELS	2.45
FLSH910	3-95558-000	DIN RAIL MOUNTING KIT FOR FRIGOFLASH MODELS	4.33
FLSH930	3-95585-000	BASE MOUNTING KIT FOR COMPACT SLIMLINE	3.92
FLSH940	3-95583-000	FLUSH MOUNTING KIT FOR COMPACT SLIMLINE	4.30

## Grasslin

Model	Description	List Price
<b>GRASSLIN TIMERS</b>		
MIL72EISTUZH	24HR - PANEL MT/ SURFACE MT/ UNI	52.86
FM1STU	24HR (NO ENCLOSURE)	41.14



## BIGATTI®

<b>RANCO DEFROST TIMER</b>		
DFS-S2240-500	WITHOUT FAN DELAY	94.66
DFS-S2240-50F	WITH FAN DELAY (BIGATTI) SB3.82	80.13

<b>RANCO DEFROST CONTROLS</b>		
T24L0102A	DEFROST TIMER 4X30MIN	48.00
T24L6002A	DEFROST TIMER 2X30MIN 4MIN FAN DELAY	63.74
T24L6006A	DEFROST TIMER 2X30MIN 4MIN FAN DELAY (AMBIENT)	64.20
T24L6007A	DEFROST TIMER 4X20MIN 3MIN FAN DELAY	69.09
T25L5006A	DEFROST TIMER 4X15MIN 3MIN FAN DELAY	46.23
T25L5003A	DEFROST TIMER 2X30MIN 4MIN FAN DELAY	46.23
T24L6003A	DEFROST TIMER 4X20MIN 3MIN FAN DELAY	63.11

<b>PARAGON TIMERS (FROST FREE)</b>		
FP22	UNI DEFROST TIMER (ADJUSTABLE)	71.50
FP15	PARAGON UNI DEFROST TIMER 115V	26.90
FP16	PARAGON UNI DEFROST TIMER 240V	22.74





# controls

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# temperature controls

## Temperature Controls

### Commercial Thermostats



Type - NS



Type - LS



Type - WS

### Digital Thermostats



### Oem Thermostats



Type ATB

Defrost Timer Stat  
Type SFB



### Bimetallic Stats

For defrost termination, fan delay, limit switch etc



### Room Thermostats



Type LRS

Code	Part No.	Range (c)	DIFF (c)	Capillary	List Price
<b>COMMERCIAL THERMOSTATS</b>					
NSAG100	TNS-C100X Q2	-25/0	4/15	2m	75.60
NSAG101	TNS-C114X Q2	-15/15	4/15	2m	75.60
NSAG102	TNS-C134X Q2	0/35	4/15	2m	75.60
NSAG109	TNS-C1034XC Q2	-20/35	4/20	2m	75.60
NSAG117	CNS-C114XM2	-15/15	MNL	2m	72.69
NSAG118	CNS-C114X Q2	-15/15	3	2m	83.23
NSAG132	ALS-C1020X L1	-40/20	2.5	1m	62.40
NSAG134	ALS-C1050X L1	-10/50	2.5	1m	62.40
NSAG138	BLS-C1020X L2	-20/20	1.5	2m	62.40
NSAG250	LWS-C1030 AG	-35/30	2/7	2m	103.34

Code	Part No.	Range (c)	Type	Sensor	List Price
<b>DIGITAL THERMOSTATS</b>					
PSAG166	ELE-RD11-010	-50/30	Single Stage	Included	484.00
PSAG167	ELE-RD13-010	-50/30	Single Stage, Hi/Lo Alarm	Included	560.00
PSAG168	ELE-RD12-010	-50/30	Two Stage	Included	528.00

For wall or panel mounting. 240V supply. Sensor extendable to 100m.

Code	Part No.	Range (c)	Application	List Price
<b>OEM THERMOSTATS</b>				
PSAG201	ATB-A101	-16/-2	Refrig	19.20
PSAG202	ATB - A102	-27/-8	Refrig	19.20
PSAG203	ATB - A103	-24/-16	Freezer	19.20
PSAG204	ATB - A103	-24/-16	Freezer	19.20
PSAG205	ATB - A105	-3/+11	Bev Cooler	19.20
PSAG210	ATB - A301	40/80	Heater	32.02
PSAG214	ATB - X318	-9/19	Defrost term/Fan DLY	32.02
PSAG353	WTB - X636	13/32	AC Stat Heat/Cool	56.11
PSAG392	SFB - X343	Initiate 0°C.	Defrost Timer	62.93
PSAG300	Knob*	Knob for ATB (Black)		1.26
PSAG302	Plate 1 *	Scale Plate 1 for ATB-A101/3		1.26
PSAG303	Plate 2 *	Scale Plate 2 for ATB-A102/4/5		1.26
MSAG135	HTP-PP01 *	Terminal cover for all TB		2.98

Code	Part No.	Range (c)	Mount	List Price
<b>BIMETALLIC STATS</b>				
PSAG445	12-1670I10	Close -3, Open +10	3/8 Pipe	29.08
PSAG446	12-167F10	Open -3, Close +10	3/8 Pipe	29.08
PSAG447	04PM-1007B10	SPDT -1/+10	3/8, 1/2 Pipe	45.10
PSAG448	04PM-1008B10	SPDT -8/+10	3/8, 1/2 Pipe	45.10
PSAG460	12-1679F43	Open 33, Close 43	3/8 Pipe	22.30
PSAG450	23-215235	Open 80, MNL	Base	15.62
PSAG449	Clip*	5/8, 3/4 Pipe Clip for 04-		1.34

Code	Part No.	Type	Range	List Price
<b>ELECTRONIC STEP THERMOSTATS</b>				
PSAG099	SSE-704N10	1 Step Stat Only	0/40C	176.26
PSAG100	DSE-7020A32	2 Step Stat Only	-20/20C	229.34
PSAG102	DSE-7040K21	2 Step Stat Only	0/40C	229.34
PSAG127	FSE-7020A21	4 Step Stat Only	-20/20C	293.33
PSAG126	FSE-7040K21	4 Step Stat Only	0/40C	293.33
PSAG125	FSE-7060A32	4 Step Stat Only	20/60C	293.33
PSAG130	SEK12H*	Sensor STD	-20/20C	26.65
PSAG135	SEK14H*	Sensor STD	0/40C	26.65
PSAG136	SEK14P*	Sensor AIR	0/40C	24.05
PSAG137	SEK14/R001*	Sensor ROOM	0/40C	106.68
PSAG147	SEK14K001*	Sensor DUCT	0/40C	321.32
PSAG139	SEK12A*	Sensor LIQIM	-20/20C	213.75
PSAG140	SEK14A*	Sensor LIQIM	0/40C	213.75
PSAG142	SEK16H	SENSOR STD	20/60C	26.65

Code	Part No.	Description	List Price
<b>ACCESSORIES FOR MOUNTING TEMPERATURE BULBS AND SENSORS</b>			
PSAG145	TEK-OON	Immersion Pocket - 60mm Pocket Length	22.37
PSAG1456	TEK-OON-003	Immersion Pocket - 110mm Pocket Length	26.65
PSAG159	TEK-Block	Mounting Block for Bulbs and Sensors	1.55
MAS595		Heat Sink Compound (Heat Transfer Paste)	9.93

Code	Model	Ref.	Load (Amp)	Type	List Price
<b>FAN SPEED CONTROL</b>					
PSAG010	RGE-ZIN4-5	R22/404A/407c	1ph, 4	Cut off or Min.Speed	198.70
PSAG020	RGE-ZIN2-5	R134a	1ph, 4	Cut off or Min.Speed	190.22
PSAG025	RGE-ZIP4-5	R22/404A/407c	1ph, 6	Cut off or Min.Speed	275.10
PSAG045	RGE-ZIQ4-5	R22/404A/407c	1ph, 8	Cut off or Min.Speed	305.68
PSAG040	RGE-ZIQ2-5	R134a	1ph, 8	Cut off or Min.Speed	305.68
PSAG066	RGE-XR4-7	R22/404A/407c	3ph, 5	Cut off or Min.Speed	792.41
PSAG067	RGE-XR2-7	R134a	3ph, 5	Cut off or Min.Speed	792.41

Please check that your motor is suitable for speed control. R22 models also suitable for R404a/R507 and R407c.

Code	Part No.	Type	Suitability	List Price
<b>FLOW SWITCH</b>				
QSAG160	FQS-U30G	Paddle	1" to 6" Pipe Dia	238.28

Code	Part No.	Range (%RH)	DIFF (%RH)	Type	List Price
<b>HUMIDISTATS</b>					
QSAG420	VHS-C1090	10-90	4	Room	101.11
QSAG422	AHS-C1090	30-90	4	Room	101.11
PSAG191	WLE-RD12-010	39-90	3 min	Remote	504.07

WLE is digital electronic version.

Code	Part No.	Type	Range	List Price
<b>CHART RECORDER</b>				
QSAG401	AKM-4014LH2X	Recorder	-40/14	996.49
QSAG405	AKM-0054LH2X	Recorder	0/54	996.49
QSAG410	BKM-4014X*	Paper (1 Year)	-40/14	125.20
QSAG412	BKM-0054X*	Paper (1 Year)	0/54	125.20

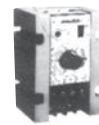
Code	Part No.	Type	Range	Output	Supply	List Price
<b>CHART RECORDER</b>						
QSAG688	YSK-AC10B-005	LP	-0.05 TO 1 MPa	1-5 VDC	10 to 28 VDC	111.27
QSAG689	YSK-AC30B-005	HP	0 to 3 MPa	1-5 VDC	10 to 28 VDC	111.27
QSAG686	YSK-AA10B-006	LP	0 to 10kg/cm2	1-5 VDC	10 to 28 VDC	111.27
QSAG687	YSK-AA35B-106	HP	0 to 35kg/cm2	1-5 VDC	10 to 28 VDC	111.27

**Controls**

**Chart Recorders**

**Fan Speed Controls**

**Electronic Step Thermostats**  
 With adjustable step differential.  
 Sensors extendable up to 50M.  
 Standard voltage 240V AC others on request.



Type - DSE



Type - FSE

**Accessories for Mounting Temperature Bulbs & Sensors**

All insert holders and immersion pockets have 1/2 mpt connection.

**Fan Speed Control**

For single and three phase

Pressure sensing.  
 To IP54.



**Flow Switch**

Type FQS



**Humidistats**

Type AHS



**Chart recorder**

Battery powered.  
 High and low alarm contacts.  
 Paper for 12 months.



**Pressure Sensors (Transducers)**

1/4" Flare connections.



# electronic controllers



## Electronic Refrigeration Controllers - LED

### Digital Thermostats - LED

### Digital Thermostats - LED 2 Stage & Neutral Zone

#### Electronic Refrigeration Controllers - LED



Type ID

32 x 74mm format  
Copy Card programming  
All prices exclude sensors.



Type IS

#### Digital Thermostats - LED 2 Stage & Neutral Zone



Type IC

Copy Card programming  
Prices exclude sensors.

Code	Model	Defrost	Fan Delay	Compressor Relay	Power Supply	Sensors	List Price	
<b>ELECTRONIC REFRIGERATION CONTROLLERS - LED</b>								
PELX600	ID961	Off Cycle	-	16A	12V	Use 1*	56.00	
PELX605	ID961	Off Cycle	-	16A	230V	Use 1*	66.66	
PELX610	ID961+	Off Cycle	-	16A	12V	Use 1*	67.25	
PELX615	ID961+	Off Cycle	-	16A	230V	Use 1*	67.32	
PELX620	ID970	Time/Time	-	16A	12V	Use 1*	101.05	
PELX625	ID970	Time/Time	-	16A	230V	Use 1*	105.85	
PELX630	ID970+	Time/Time	-	16A	12V	Use 1*	110.68	
PELX635	ID970+	Time/Time	-	16A	230V	Use 1*	115.48	
PELX640	ID971	Time/Temp	-	16A	12V	Use 2*	104.26	
PELX645	ID971	Time/Temp	-	16A	230V	Use 2*	109.06	
PELX650	ID971+	Time/Temp	-	16A	12V	Use 2*	110.68	
PELX655	ID971+	Time/Temp	-	16A	230V	Use 2*	84.94	
PELX660	ID974	Time/Temp	Yes	8A	12V	Use 2*	69.50	
PELX665	ID974	Time/Temp	Yes	8A	230V	Use 2*	83.77	
PELX670	ID974+	Time/Temp	Yes	8A	12V	Use 2*	84.94	
PELX675	ID974+	Time/Temp	Yes	8A	230V	Use 2*	77.40	
PELX680	ID975+	Time/Temp	Yes	8A	12V	Use 2*	97.19	
PELX800	IS974+	Time/Temp	Yes	16A (in Ewem)	From Ewem	Use 2*	64.80	
PELX805	IS974+	Time/Temp	Yes	16A (in Ewem)	From Ewem	Use 2*	66.61	
PELX803	Ewem 233	Mains Slave Module for IS972						53.01
PELX808	Ewem 243	Mains Slave Module for IS974 - Has alarm relay						57.29
PELX810	Cable*	1 Metre Cable for Ewem Interconnection						6.73
PELX811	Cable*	1.5 Metre Cable for Ewem Interconnection						8.88
PELX812	Cable*	3 Metre Cable for Ewem Interconnection						14.81

\*All models can use NTC or PTC sensors (see page 81) by programming the appropriate parameter.  
Compressor relay ratings are resistive.

Code	Model	Max Range 0°C	Diff (C)	Relay	Supply	Sensor	List Price
<b>DIGITAL THERMOSTATS - LED</b>							
PELX750	IC901	-50/99*	1 to 30	8A	12V	Use 1*	51.32
PELX755	IC901	-50/99*	1 to 30	8A	230V	Use 1*	64.55
PELX760	IC901	-50/99*	1 to 30	16A	12V	Use 1*	62.12
PELX765	IC901	-50/99*	1 to 30	16A	230V	Use 1*	65.77
PELX770	IC902	-50/150*	0.1 to 30	8A	12V	Use 1*	67.34

\*All models can use NTC sensors (or PTC by programming the appropriate parameter). Range may be limited according to sensor selected.

Relay ratings are resistive. 32x74mm format. IP65 fascia.

Code	Model	Max Range 0°C	Diff (C)	Relay	Supply	Sensor	List Price
<b>DIGITAL THERMOSTATS - LED 2 STAGE &amp; NEUTRAL ZONE</b>							
PELX775	IC915	-50/150*	0.1 to 30	8A	12V	Use 1*	60.58
PELX776	IC915	-50/150*	0.1 to 30	8A	230V	Use 1*	67.32

IC915 are either 2 stage or Neutral Zone (selectable by parameter). 32x74mm format. IP65 fascia.

\*All models can use NTC sensors (or PTC by programming the appropriate parameter). Range may be limited according to sensor selected.

Relay ratings are resistive

#### IMPORTANT NOTE

Eliwell EWPC series 32 x 74mm format controls have been replaced by the ID and IS series, as have the EWPX and EWDC. However we may have some remaining stocks for use as service replacement - please contact us to check

## Digital Thermostats - LED -Larger Formats

Code	Model	Max Range (C)	Diff (C)	Supply	Sensor (length)	List Price
------	-------	---------------	----------	--------	-----------------	------------

DIGITAL THERMOSTATS - LED - LARGER FORMATS						
PELE172	EWPC800	-50/150	0 to 50	230V AC	USE PTC	101.50
PELE176	EWPC800	-9.9/99.9	0 to 5	230V AC	USE PTC	101.50
PELE178	EWPC800	-80/600	0 to 50	230V AC	USE PT100	121.04
PELE550	EWTR910	-99/600	0 to 50	230V AC	USE NI or PT100	138.59
PELE555	EWTR914	-99.9/600.0	0 to 50	230V AC	USE NI or PT100	152.42

\*Range with standard sensor -20 to +80C. PELE158 has alarm relay.

Code	Model	Max Range (C)	Diff (C)	Supply	Sensor (length)	List Price
------	-------	---------------	----------	--------	-----------------	------------

DIGITAL STEP THERMOSTATS - LED - LARGER FORMATS						
PELE580	EWTR930/R (HC)	-99/600	0/50	230V AC	USE NI or PT100	193.30
PELE585	EWTR934/R (HC)	-99.9/600.0	0/5	230V AC	USE NI or PT100	206.65
PELE570	EWTR920/R (TS)	-99/600	0/50	230V AC	USE NI or PT100	193.30
PELE575	EWTR910	-99/600	0/50	230V AC	USE NI or PT100	206.65

\*Range with standard sensor -20 to +80C. Heat/Cool (HC) and Two Step (TS) models.

Code	Model	Max Range	Supply	Sensor (length)	List Price
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DIGITAL THERMOMETER - LED					
PELE120	EWTM101	-55/99C*	12V AC/DC	Included (1.5m PTC)	62.70
PELE128	EWTM201	-55/99C	230V AC	USE PTC	72.03
PELE130	EW Meter	-55/160C	230V AC	USE NI100	112.65
PELE135	EW Meter	-80/600C	230V AC	USE PT100	112.65
PELE139	EW Meter	0/999C	230V AC	USE TYPE K	119.16
PELE440	EWTM052	-40/99C	230V AC	USE NTC - 230	46.17
PELE445	EWTM053	-40.0/99.9C	230V AC	USE NTC - 230	47.87

\*Range with standard sensor -20 to +80C.

Code	Model	Description	List Price
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MULTI - POINT SENSING UNIT			
PELE226	EWPS15	Multi Point Sensing unit for 5 PTC Sensors	58.50

Code	Model	Max Range	Supply	Sensor (length)	List Price
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DIGITAL THERMOMETER - LCD					
PELE110	EWTL300	-20/70C*	Built in	Included (1.5m)	27.58

Uses 1.5V Battery. For panel mounting.

Code	Model	Max Range (HRS)	RES	Supply	Type	List Price
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DIGITAL THERMOMETER - LCD						
PELE915	EWTS950	Upto 99	S/M/HR	-12V AC/DC	Count up or down	121.65

Code	Model	Defrosts Per Day	Fan Delay (Mins)	Supply	Termination	Sensor	List Price
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ELECTRONIC DEFROST CONTROL								
PELE200	EWTS72	1 to 12	1 to 8	12VAC	TEMP.	Included	88.16	
PELE190	EWTS70	1 to 6	0	12VAC	TEMP.	None	55.58	
PELE197	EWDR975	Defrost Control for Dual Circuit Systems						63.90
PELE193	EWDR976D1	Modular Defrost Control for 1 Evaporator						58.88
PELE194	EWDR976D4	Modular Defrost Control for 4 Evaporators						77.96

Code	Model	Range	Defrost	Diff	Supply	Sensor	List Price
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WALL MOUNTED CONTROLS - LED							
PELE608	WM901	-40/50C	-	-12/12C	230V	USE NTC -230	89.80
PELE609	WM961	-40/50C	Off Cycle	1/12C	230V	USE NTC -230	93.19

Range with PELX325 sensor is -20/50C. For -40 use PELX330 sensor. WM901 has same function as EWPC901 thermostat. WM961 has same functions as EWPC961 refrigeration controller.

## Controls

### Digital Thermostats - LED -Larger Formats



EWPC 800



EWTR910/914

### Digital Step Thermostats - LED-Larger Formats



EWTR

### Digital Thermometer - LED



EWTM



EW METER

### Multi-Point Sensing Unit

Allows 5 sensors to be connected to one thermometer.

### Digital Thermometer - LCD



### Digital Timer - LED



### Electronic Defrost Control



### Wall Mounted Controls - LED



## Temperature Probes

## Humidistats

### Din Rail Mounted Controls



### Temperature Sensors (probes)



### Digital Humidistats - LED



### Humidity Sensors



Code	Model	Max Range (C)	Diff (C)	Supply	Sensor (length)	List Price
<b>DIN RAIL MOUNTED CONTROLS</b>						
PELE169	EWDR902	-50/99	1 to 10	230V AC	Included (1.5m)	107.67
PELE598	EWDR905	-50/99	1 to 50	230V AC	Included (1.5m)	132.35

All use PTC probes. EWDR902 is single step, EWDR905 is heat/cool.

Code	Model	Max Range (HRS)	RES	Supply	Type	List Price
<b>DIGITAL TIMERS AND DEFROST</b>						
PELE920	EWDR400	Upto 99	S/M/HR	230V AC	Count up or down	135.93
PELE195	EWDR72	1.1/2 to 12	1 to 10	230V AC	Defrost	83.92

EWDR400 is a digital timer. EWDR72 has same function as EWTS72.

Code	Model	Max Range (C)	Defrost Type	Fan Delay (Mins)	Supply	List Price
<b>DIGITAL TIMERS AND DEFROST</b>						
PELE039	EWDR974	-55/50	Time/Temp	0 to 99	230V AC	151.30

Code	Model	Type	Range 0°C	Lead Length (M)	List Price
<b>TEMPERATURE SENSORS (Probes)</b>					
PELE300	SN100000	Ni100 Standard - SSC	-20/+80	3.0	19.77
PELE302	SN106000	Ni100 Waterproof - SSC	-50/+150	3.0	21.02
PELE305	SN200000	PT100 Standard - SSC	0/+350	3.0	33.33
PELE306	SN207000	PT100 Wallbox	-40/+120	0.0	56.98
PELE308	SN203005	PT100 - Stab-Plastic Handle - SSC	-40/+200	3.0	60.91
PELE318	SN603008	PTC - Stab-Plastic Handle - SSC	-50/+150	3.0	37.55
PELE320	SN7POA1500	PTC - Waterproof-IP67 - SSC	-30/+80	1.5	5.18
PELE325	SN7POA3000	PTC - Waterproof-IP67 - SSC	-30/+80	3.0	9.36
PELE330	S6.S	PTC - Waterproof-IP67 - SSC	-50/+110	1.5	10.19
PELE338	S6.SH	PTC - Heating Applications - SSC	Max150	1.5	10.39
PELE328	SN630150	PTC - Air (Exposed Sensor)	-30/+80	1.5	9.81
PELE329	SN607000	PTC - Wallbox	-40/+120	0.0	34.39
PELE331	SN660300	PTC - Pipe Mounting	-30/+80	3.0	10.19
PELE319	SN7SOA1503	PTC - Screened-SSC	-50/+150	1.5	12.08
PELE315	SN8POA1500	NTC - Standard-SSC	-20/+80	1.5	7.86
PELE345	SN8PCL1500	NTC - Insulated for 230V*-SSC	-30/+80	1.5	7.71
PELE340	SN8SAA1500	NTC - Insulated for 230V*-SSC	-50/+110	1.5	10.19
CON490		Probe Extension Cable		100.0	47.11
CON491		Probe Extension Cable		25.0	14.85

SSC=Stainless Steel Cap, PC= Plastic Cap \*Insulated for use with 230 volt models WM901, WM961 and discontinued EWDB/EWDA/EWDC.

Notes: Insulated probes are not necessary with new ID, IC & IS series 230 volt controllers.

Avoid power cables and other sources of interference, particularly when extending probe cables.

Code	Model	Type	Max Range % RH	Diff % RH	Supply	Sensor	List Price
<b>DIGITAL HUMIDISTATS - LED</b>							
PELE090	EWHM101	Meter	20/90	-	12V AC/DC	USE EWHS280	82.73
PELX780	IC912/R	SPDT	0/99	0.1 to 30	12V AC/DC	USE EWHS	112.78
PELX284	EW910	SPDT	0/99	0.1 to 10	230V AC	USE EWHS	155.25
PELX281	IEWHR931	Dead Band	0/99.9	0.1 to 30	230V AC	USE EWHS	227.83
PELX782	IC912/R	Dead Band*	0/99.9	0.1 to 30	12V AC/DC	USE EWHS	135.66

Code	Model	Type	Range	Suitability	List Price
<b>HUMIDITY SENSORS</b>					
PELE980	EWHS310	Sensor	5/98	EWZN280, PRINTWELL214	463.03
PELE975	EWHS280	Sensor	15/90	All Instruments	180.39

Code	Part No.	Output	Input	Suitability	List Price
<b>TRANSFORMERS</b>					
PELE210	TF111111	12 VAC	220 - 240 VAC	For 1 Instrument*	9.38
PELE211	TF111126	12 VAC	220 - 240 VAC	Up to 5 Instruments	18.30
PELE209	TF111113	12 VAC	110 VAC	For 1 Instrument	14.22
PELE212	TF111115	12 VAC	24 VAC	For 1 Instrument	9.38
PELE310	TF111138	12 VAC	220 - 240 VAC	For EWXP	11.90

Other input voltages also available. \* Can power 2 EWTM101.

Code	Model	Type	Suitability	List Price
<b>ENCLOSURES</b>				
PELE216	EW Box	Wall Box	1 Instrument (74 x 32 Series)	32.54
PELE215	EW Box	Wall Box	2 Instruments (74 x 32 Series)	32.54
PELE221	EW Box	Wall Box	1 Instrument (74 x 32 Series) + 2 Switches	32.54
PELE223	EW Box	Wall Box	2 Instruments (74 x 32 Series) + 2 Switches	32.54
PELE225	IN111111	Switch	Fit Wall Boxes	3.14
PELE227	Blank	Switch Blank	Fit Wall Boxes	2.03
PELE217	INOXBOX72	Wall Box	1 Instrument (72 x 72 Series) + 1 Switch	40.72
PELE205	PR00000	Rear Cover	Fits Latest 74 x 32 Instruments	1.53
PELE206	GU000000	Gasket	Fits Latest 74 x 32 Instruments	0.70

Code	Model	Main Functions	Sensors	List Price
<b>DATA RECORDER</b>				
PELE405	EWLP120	Records from 2 Inputs printout and alarm outputs	PTC Instrument* PT100 4 - 20mA	937.61

Can measure temperature, humidity or pressure.

Code	Model	Main Functions	Input Sensor	Supply	List Price
<b>DATA RECORDER</b>					
PELE436	Printwell	Records from 2 Individually	PTC, NTC, PT100*, 4-20mA, AC TC J or K	90 - 240V	1158.88

\* PT100 is 2 wire only.

Code	Model	Description	List Price
<b>DATA LOGGER</b>			
PELE441	DLT-1	Data Logger for -35 to +80°C	160.16
PELE442	DLB	Data Transfer Kit with Software	213.10

Code	Model	Type	Range (Bar)	Supply	List Price
<b>DIGITAL PRESSURE METERS</b>					
PELE651	EWPM102	L.P.	-0.5/+7	12V AC/DC	84.68
PELE656	EWPM102	H.P.	0/30	12V AC/DC	84.68

Code	Model	Type	Range (Bar)	Diff (Bar)	Supply	List Price
<b>DIGITAL PRESSURESTATS</b>						
PELE772	IC912/P	HP/LP	-0.5/30	0.1/30	12V AC/DC	67.32
PELE778	IC915/P	Neutral Zone*	-0.5/30	0.1/30	12V AC/DC	67.32
PELE671	EWPR931	Neutral Zone	-0.5/7	0.1/5	Mains	206.99
PELE676	EWPR931	Neutral Zone	0/30	0.1/5	Mains	206.99

\*Neutral zone can also be programmed as 2 step.

Code	Model	Type	Range (Bar)	Output	Supply	List Price
<b>PRESSURE SENSORS (TRANSDUCERS)</b>						
PELE691	EWPA007	LP	-0.5/7	4-20MA	Loop	148.66
PELE696	EWPA030	HP	0/30	4-20MA	Loop	148.66

## Transformers

## Data Recorders

## Pressure Controls

### Transformers



### Wall Mounting Boxes and Accessories



Dimensions:

EW Box w110 x h180 x d100mm

INOX Box w 120 x h160 x d120mm

### Data Recorder



### Data Recorder

with printout. IP30



Panel Mount

### Data Logger



### Digital Pressure Meters



### Digital Pressurestats

Including neutral zone models.



For 4-20 MA input.

### Pressure Sensors (Transducers)

1/4" connections.



# control panels & monitoring systems

## Control Panels



### Control Panels



IP65 Panels with big 25mm LED display

CONP513



### Electronic Control Panels

EWTB Wall Panel



EWPC1000



Code	Application Rating	Max Comp	Supply Comp	Supply Fan	Defrost	List Price
<b>CONTROL PANELS</b>						
CONP500	Coldroom - Off Cycle	10A	1PH	1PH	Off Cycle	240.05
CONP510	Coldroom - Electric Defrost	10A	1PH	1PH	Electric	260.30
CONP513	Coldroom - c/w MCB	10A	1PH	1PH	Electric	267.40
CONP520	Coldroom - Off Cycle	8A/Phase	3PH	1PH	Off Cycle	421.70
CONP530	Coldroom - Electric Defros	8A/Phase	3PH	1PH	Electric	471.04
CONP532	As CONP530 but Pump down	8A/Phase	3PH	1PH	Electric	471.04

Code	Model	Main Functions	Supply	Mounting	List Price
<b>ELECTRONIC CONTROL PANELS</b>					
PELE180	EWPC1000	Thermostat, Defrost, Alarm, Fans	230V AC	In Panel	287.56
PELE185	EWTB1000	Thermostat, Defrost, Alarm, Fans	230V AC	Wall	372.35
PELE187	EWFC1000	Quick Chill and Hold (Sensors extra)	230V AC	In Panel	362.93

All single phase. Sensors included unless otherwise stated.

Code	Model	Description	List Price
<b>ELECTRONIC CONTROL PANELS</b>			
TEVS020	TELEVIS 150C	Software Package (PC) including EWTV420	2400.08
TEVS021	TELEVIS 200L	Software Package including EWTV420	11125.62
TEVS022	TELEVIS 200C	Modem Version of Software	11125.62
TEVS055	COMPACT 60	Automatic Monitoring Unit	1716.48
TEVS091	3500	Automatic Monitoring Unit - TELEVIS Station	10677.00
TEVS076	3700	Automatic Monitoring Unit - TELEVIS Station + Touch Screen	11504.69

CONTROL PANELS CAN BE MADE TO ANY SPECIFIC REQUIRMENTS. **PLEASE ASK.**

Code	Application Rating	Max Comp	Supply Comp	Supply Fan	Defrost	List Price
<b>CONTROL PANELS</b>						
CONP110	Coldroom - Off Cycle	14A	1PH	1PH	Off Cycle	704.00
CONP115	Coldroom - Off Cycle	10A/PH	3PH	1PH	Off Cycle	770.00
CONP120	Coldroom - Off Cycle	22A/PH	3PH	1PH	Off Cycle	846.00
CONP150	Coldroom - Electric Defrost	14A	1PH	1PH	Electric	874.00
CONP160	Coldroom - Electric Defrost	10A/PH	3PH	1PH	Electric	924.00
CONP170	Coldroom - Electric Defrost	22A/PH	3PH	1PH	Electric	1102.00
CONP175	Coldroom - 2 Evaporators	22A/PH	3PH	1PH	Electric	1242.00
CONP195	Coldroom - Electric Defrost, Part Wind Start	60A/PH	3PH	3PH	Electric	2928.00
CONP210	Coldroom - Off Cycle - Compact	10A	1 or 3PH	1PH	Off Cycle	510.00
CONP215	Coldroom - Off Cycle - Compact	16A	1 or 3PH	1PH	Off Cycle	532.00
CONP220	Coldroom - Electric - Compact	10A	1 or 3PH	1PH	Electric	534.00
CONP225	Coldroom - Electric - Compact	16A	1 or 3PH	1PH	Electric	534.00
CONP230	Coldroom - "Universal" Off Cycle or Electrical Defrost	20A/PH	1 or 3PH	1PH	OC or EL	682.00
CONP232	Evaporator Version Of CONP230	-	-	1PH	OC or EL	620.00

Standard panels: metal enclosure to IP54. Compact panels: plastic enclosure to IP64. Universal panel: plastic to IP56.



# electronic control panels & monitoring systems

Step / Pack Controls

Dixell Wing Series  
Universal Controls

Code	Model	Application	List Price
<b>STEP/PACK CONTROLLER</b>			
PELE756	EWCM840/S	For upto 4 Compressors (Pressure)	533.86
PELE757	EWCM860/S	For upto 6 Compressors (Pressure)	574.23
PELE758	EWCM890/S	For upto 9 Compressors (Pressure)	623.58
PELE759	EWCM900/S	For upto 11 Compressors (Pressure)	695.36
PELE766	EWCM809/NH3	Ammonia Model for upto 9 Comps (Temp)	659.47
PELE747	EWCM412	For upto 4 Compressors (Pressure or Temperature) + FSC	222.31
PELE745	EWCM415	For upto 4 Compressors (Pressure or Temperature)	213.75

FSC=Has output for EWFm Fan Speed Control module. If controlling on temperature, use NTC sensors.

Code	Model	Function	Sensor	Supply	List Price
<b>UNIVERSAL - R</b>					
DIXL042	Universal - R Version 4	Temperature & Defrost Control With Alarm Buzzer and Relay. Compatible with PTC & NTC.	2 PTC included	12VAC/DC 240VAC/ UNIVERSAL	117.82

Universal Service Replacement Refrigeration Controller.

Code	Model	Application	Supply	List Price
<b>WING SERIES</b>				
DIXL1605	XW10L	Thermostat	230VAC	128.16
DIXL1608	XW20L	Off Cycle Defrost	230VAC	146.38
DIXL1610	XW40L	Time/Temp Defrost	230VAC	160.62
DIXL1615	XW60L	Time/Temp Defrost + Fan Delay	230VAC	160.76

Compressor relay 20A, lights 16A, all other relays 8A. Vertical format and split versions (controller and remote slave) also available.

All models use PTC sensors (or NTC by programming)

Code	Model	Main Functions	Sensors	List Price
<b>HACCP CONTROLLERS</b>				
DIXL800	XR760C	Thermostat, Defrost, fans, Alarm Buzzer	Use 3 NTC	125.10
DIXL805	XR775C	Thermostat, Defrost, fans, Alarm Relay & Buzzer	Use 3 NTC	140.49
DIXL802	i Print*	Hand Held Download Device for XR760C	-	142.56

**Hazard Analysis Critical Control Point** controllers store last 20 alarms. On recall, display shows the type of alarm (high/low etc.) together with the dates they occurred, the start and end times and the critical temperatures that were reached. 3rd (display) probe is optional. Normally display is from 1st (thermostat) probe. 32 x 74mm format. 12V supply

**Optional:** XR760C data can be sent to most printers with an IRDA port (use DIXL802)  
XR775C can be connected to a monitoring system

Code	Model	Descriptions	List Price
<b>MONITORING SYSTEM</b>			
DIXL850	XJ500	Automatic Monitoring Unit - 2MB for Smaller Sites	1119.16
DIXL855	XJ500	Automatic Monitoring Unit - 10MB for Larger Sites	1458.00



## Step/Pack Controller

High versatile compressor and fan controllers

Pressure models need pressure transducer



## Electronic Chiller Control

Multifunction controllers for chillers and heat pumps.



## Universal - R

Standard 32 x 74mm. IP65.



## Wing Series

Compact self contained version.



## HACCP Controllers



Stand alone monitoring of up to 20 alarms. Dual display shows both time & temperature.

## Monitoring System



# electronic controls

## Refrigeration Controllers

### Thermometers



### Electronic Refrigeration Controllers - Prime Series

Standard 32 x 74mm. IP65.



2m Sensors included  
Displays to 0.1°C.

### Digital Refrigeration Thermostats

Standard 32 x 74mm. IP65.



### Two Step Thermostats

Standard 32 x 74mm. IP65.



Can also be used as heat/cool.

### Thermostats

Standard 32 x 74mm.



### Compact Thermometers

31 x 64mm with min/max recording. IP65.



### Compact Controllers



31 x 64mm. IP54.

Code	Model	Defrost Type	Alarm Type	Range C	Fan Delay	Compressor Relay	Supply	List Price
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ELECTRONIC REFRIGERATION CONTROLLERS - PRIME SERIES									
DIXL777	XR20C	Off Cycle	-	-50 to 150	-	20A	12V AC/DC	94.56	
DIXL780	XR20C	-9.9/99.9	-	-50 to 150	-	20A	230V AC	103.74	
DIXL782	XR30C	-80/600	-	-50 to 150	-	20A	12V AC/DC	95.48	
DIXL783	XR30C	-99/600	Relay	-50 to 150	-	20A	230V AC	110.60	
DIXL784	XR40C	Time/Time or Temp	-	-50 to 150	-	20A	12V AC/DC	110.48	
DIXL785	XR40C	Time/Time or Temp	-	-50 to 150	-	20A	230V AC	133.42	
DIXL787	XR60C	Time/Time	-	-50 to 150	YES	8A	12V AC/DC	123.08	
DIXL788	XR60C	Time/Time	-	-50 to 150	YES	8A	230V AC	138.78	
DIXL045	XR162C	Time/Time	12V Output	-50 to 150	YES	IN XR30SL	VIA XR30SL	79.10	
DIXL050	XR172C	Time/Time	Buzzer + Relay	-50 to 150	YES	IN XR30SL	VIA XR40SL	104.25	
DIXL055	XR30SL Slave Unit for XR162C						16A	230V AC	51.39
DIXL060	XR40SL Slave Unit for XR172C						16A	230V AC	61.04
DIXL065	CAB/OS1*1 M Connector Cable for Slave Units							4.70	
DIXL070	CAB/OS2*2 MConnector Cable for Slave Units							9.09	

Supplied sensors are PTC, except XR60C which are NTC. Maximum range with standard probes -30 to +80°C.

Extended range probes available. Compressor relay ratings quoted are resistive.

Code	Model	Range C	Display to C	Alarm Type	Sensor	Supply	List Price
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DIGITAL REFRIGERATION THERMOSTATS							
DIXL773	XR10C	-50 to 150	0.1	Visual	Included	12V AC/DC	63.44
DIXL775	XR10C	-50 to 150	0.1	Visual	Included	230V AC	69.77
DIXL180	XR110C	-55 to 150	1 (0.1)*	-	Use PTC or NTC	12V AC/DC	88.61
DIXL190	XR111C	-55 to 150	1 (0.1)*	Buz + Relay	Use PTC or NTC	12V AC/DC	102.63
DIXL200	XR110C	-70 to 999	1	-	Multiple	12V AC/DC	94.80

\*Decimal point switchable. If set to 0.1C resolution, range limited to +99.9°C. Four digit versions also available. XT110C has SPDT relay.

XR10C supplied with PTC sensor, standard range -30 to +80°C. Multiple; Choose PTC, NTC, PT100 or Thermocouple as required (not included).

Code	Model	Range C	Resolution C	Alarm Type	Sensor	Supply	List Price
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TWO STEP THERMOSTATS							
DIXL300	XT120C	-55 to 150	1 (0.1)*	-	Use PTC or NTC	12V AC/DC	100.66
DIXL310	XT121C	-55 to 150	1 (0.1)*	Buz + Relay	Use PTC or NTC	12V AC/DC	112.44
DIXL330	XT120C	-70 to 999	1 (0.1)*	-	Multiple	12V AC/DC	106.73

\*Decimal point switchable. (If set to 0.1C resolution, range limited to +99.9°C). Four digit versions also available. XT120C has SPDT relay.

Multiple; Choose PTC, NTC, PT100 or Thermocouple as required (not included).

Code	Model	Range C	Resolution C	Sensor	Supply	List Price
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THERMOMETERS						
DIXL400	XR100C	-50 to 50	0.1	Included (PTC)	12V AC/DC	64.27
DIXL420	XT100C	-55 to 140	1	Use PTC	12V AC/DC	63.57
DIXL417	XA100C	-70 to 999	1 (0.1)	Multiple	12V AC/DC	89.44

Range with standard probe -20 to +50°C. Use PTC - S6.S for lower temperatures.

Code	Model	Range C	Resolution C	Sensor	Supply	List Price
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COMPACT THERMOMETERS						
DIXL430	XT11S	-30 to 80°C	0.1	Included (NTC)	12V AC/DC	48.24
DIXL440	XT11S	-30 to 80°C	0.1	Included (NTC)	230V AC	68.34
DIXL445	XT11S	-30 to 80°C	1	Included (NTC)	230V AC	68.34
DIXL452	Adapter Mount for 32 x 74mm Cutout*					1.46

Code	Model	Defrost Type	Alarm	Range	Sensor	Supply 1-4	List Price
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COMPACT CONTROLLERS							
DIXL005	XR10S	-	12V Output	-50 to 150	Included	12V AC/DC	71.65
DIXL007	XR10S	Off Cycle	12V Output	-50 to 150	Included	12V AC/DC	72.34

Range with 2m PTC supplied as standard -30 to +80°C. Extended range probes available. Also works with NTC probes.

D IXL005 suitable for heating or cooling. DIXL007 for refrigeration only.

# electric controllers

Code	Model	Main Functions	Sensors	List Price
<b>MULTI-FUNCTION REFRIGERATION CONTROLLERS</b>				
DIXL076	XR160C	Thermostat, Defrost Alarm Buzzer, Fan SC	Use 3 PTC	114.43
DIXL081	XR170C	Thermostat, Defrost Alarm Buzzer & Relay, Fan SC	Use 3 PTC	120.86
DIXL083	XR170C	Thermostat, Twin Evap Defrost, Fans	Use 3 PTC	112.67
DIXL085	XR530C	Thermostat, Off-Cycle Defrost, Alarm Buzzer + Relay, RTC	Use 1 PTC	143.24
DIXL090	XR570C	Thermostat, Defrost, Fan Delay, Alarm Buzzer + Relay, RTC	Use 2 PTC	171.04
DIXL095	XR670C	Thermostat, Defrost, Alarm Buzzer + Relay, Fan SC, RTC	Use 3 PTC	178.46
DIXL100	XR572C	Thermostat, Defrost, Fan Delay, Alarm Buzzer & 12V Output RTC	Use 2 PTC	145.53
DIXL060	XR40SL	Slave Unit for XR572C - 230V AC Mains Supply		51.39
DIXL065	CAB/0S1*	1M Connector cable for Slave Units		4.70
DIXL070	CAB/0S2*	2M Connector cable for Slave Units		9.09
DIXL1520	XW-REP	Digital Repeater Display for above (not Twin Evap)		42.62
DIXL123	XRPW500	0,5kw Fan Speed Module for XR360C, XR370C, XR670C, XR672C		49.46

FAN SC=fan speed control, cond or evap. Wwith optional fan module). RTC=real time clock.

Code	Model	Defrost Type	Alarm Type	Range C	Fan Delay	Supply	List Price
<b>ELECTRONIC REFRIGERATION CONTROLLERS</b>							
DIXL125	XR130D	Off Cycle	Buzzer + Relay	-55 to 50	-	230V AC	125.96
DIXL130	XR160D	Time/Temp	Buz + 12V Output	-55 to 50	Yes	230V AC	148.60
DIXL135	XR170D	Time/Temp	Buzzer + Relay	-55 to 50	Yes	230V AC	153.50

Other voltages available. Range -20 to +50°C with standard probe. Use PTC - S6.S for lower temps.

Code	Model	Range	Resolution	Alarm Type	Sensor	Supply	List Price
<b>ELECTRONIC REFRIGERATION CONTROLLERS</b>							
DIXL340	XT130C	-55 to 150	1 (0.1)*	-	Use PTC	12V AC/DC	93.10
DIXL350	XT131C	-55 to 150	1 (0.1)*	Buz + Relay	Use PTC	12V AC/DC	115.12
DIXL342	XT130C	-70 to 999	1 (0.1)	-	-	12V AC/DC	106.73
DIXL352	XT131C	-70 to 999	1 (0.1)	Buz + Relay	-	12V AC/DC	118.53

\*Decimal point switchable. If set to 0.1°C resolution, range limited to +99°C. Four digit versions also available.

## STEP CONTROLLERS

Code	Model	No. of Steps	Input	Alarm	Supply	List Price
<b>FOR PANEL MOUNT: 32 x 74mm XC440; 48 x 96mm SC86</b>						
DIXL500	XC440C	4	Use PTC Temperature Probe	Buz + Relay	12V AC/DC	184.45
DIXL510	XC440C	4	For 4 to 20mA	Buz + Relay	12V AC/DC	184.45

## FOR DIN RAIL MOUNTING

DIXL505	XC440D	4	Use PTC Temperature Probe	Buz + Relay	230V AC	199.08
DIXL515	XC440D	4	For 4 to 20mA	Buz + Relay	230V AC	199.08
DIXL545	XC460D	6	Use PTC Temperature Probe	Buz + 12 Output	230V AC	204.10
DIXL555	XC460D	6	For 4 to 20mA	Buz + 12 Output	230V AC	204.10

For transformers and sensors please see previous page.

Code	Model	Applications	List Price
<b>STEP/PACK CONTROLLER</b>			
DIXL575	XC706M	Up to 6 Stages - Compressors - Pressure or Temp*	489.03
DIXL580	XC807M	Up to 7 Stages - Comps/Fans - Pressure or Temp*	517.99
DIXL585	XC811M	Up to 11 Stages - Comps/Fans - Pressure or Temp*	594.01

\*Pressure or temperature selectable by parameter. Proportional Band or Neutral Zone Control. For temperature use NTC probe (DIXL965).

Code	Model	Type	Range °C	Lead Length (M)	List Price
<b>TEMPERATURE SENSORS (PROBES)</b>					
DIXL950	S	PTC - Waterproof - IP67 - SSC	-30/+80	2.0	7.98
DIXL956	S6.S	PTC - Waterproof - IP67 - SSC	-50/+110	2.0	10.08
DIXL957	S6SH	PTC - Heating Applications - SSC	Max +150	2.0	11.64
DIXL960	N6F2	NTC - IP67 - For 12V XT11S - PC	-30/+80	1.5	7.74
DIXL965	N6F2	NTC - IP67 - Insulated for 230V* - PC	-30/+80	1.5	7.81
DIXL967	NS6S	NTC - Waterproof - IP67 - SSC	-40/+110	2.0	8.91
DIXL970	NG6	NTC - Waterproof - IP67 - PC	-40/+105	1.5	5.55
DIXL980	PT310	PT100 - 2 x Wires - SSC	-70/+500	2.0	76.61
DIXL981	PT6	PT100 - 3 x Wires - SSC	-30/+80	2.0	37.69
DIXL309	SPC101A	PTC - Stab - Stainless Handle - SSC	-55/+150	3.0	96.01
DIXL490	Probe extension Cable			100.0	114.40
DIXL491	Probe extension Cable			25.0	14.59

SSC=Stainless Steel Cap, PC= Plastic Cap. \*Insulated for use with 230 volt models XT11S. Notes: Avoid power cables and other sources of interference when extending probe cables. the range of an instrument/sensor combination will be limited by whichever has the lesser capabilities.

Multiple: Where an instrument is described as accepting Multiple sensors this means PT100, PTC, NTC and thermocouples type J, K or S.

## Refrigeration Controllers

## Pack Controllers



## Multi-Function Refrigeration Controllers



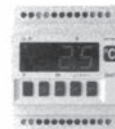
Standard 32 x 74mm.  
IP65. -50 to 50°C



Resolution 0.1°C  
12V AC/DC supply

## Electronic Refrigeration Controllers

For Din rail. Sensors included.



## Dead Band Thermostats

Standard 32 x 74mm.  
Neutral zone. IP65.



## Step Controllers

Standard 32 x 74mm.



## Step/Pack Controller

With Hot Key programming



## Temperature Sensors (Probes)



# electronic controllers

## Digital Humidistats

### Digital Humidistats

Standard 32 x 74mm. IP65.



### Digital Humidity or Pressure Meter

Standard 32 x 74mm. IP65.



### Humidity Sensor

IP65 Housing.



### Speed Control

Din Rail Mount.



### Electronic Control Panel

Single Phase. Sensors included.



### Milk Tank Controllers

Standard 32 x 74mm.

Panel mount Sensor included.



### Pressure Transducers



### Transformers



Code	Model	Type	Range %RH	Alarm Type	Sensor	Supply	List Price
<b>DIGITAL HUMIDISTATS</b>							
DIXL700	XH110C	1 Stage	0/100	-	Use XH20P	12V AC/DC	107.45
DIXL720	XH120C	2 Stage	0/100	-	Use XH20P	12V AC/DC	137.44
DIXL701	XT110C	1 Stage	0/100	Visual	Use XH20P	12V AC/DC	96.36
DIXL721	XT120C	2 Stage	0/100	Visual	Use XH20P	12V AC/DC	106.73

XT model's input type is selectable by parameter, 4-20mA, 0 - 10v or 0 -1v.

DIXL720 and DIXL721 can also be used as dead band. Models with audible and remote alarm outputs also available.

Code	Model	Type	Range %RH	Alarm Type	Sensor	Supply	List Price
<b>DIGITAL HUMIDITY OR PRESSURE METER</b>							
DIXL711	XA100C	Display	0/100	-	XH20P	12V AC/DC	84.44

Input selectable by parameter, 4 - 20mA, 0 - 10v or 0 -1v.

Display value and icon selectable by parameter, %RH, Bar or PSI so can also be used for pressure range according to transducer.

<b>HUMIDITY SENSOR</b>							
DIXL940	XA20P	Sensor	0/100		All Instruments		159.71

2 wire, 4 - 20 mA output.

Code	Model	Control Type	Load	Input	List Price
<b>SPEED CONTROL</b>					
DIXL820	XV105D	Condenser	1PH 2.5 AMP	Use NTC Probe	77.21

All single phase. Sensors included unless otherwise stated.

Code	Model	Main Functions	Supply	Mounting	List Price
<b>ELECTRONIC CONTROL PANEL</b>					
DIXL140	RC75	Thermostat, Defrost, Fans Visual and Remote Alarm	Mains	Wall	269.17

<b>MILK TANK CONTROLLERS</b>					
DIXL152	XR80C	Compressor & Agitator Control + Alarm Buzzer	12V AC/DC	Panel	99.10

Code	Model	Range	Type	Supply	List Price
<b>PRESSURE TRANSDUCERS</b>					
DIXL560	PP07	-0.5 to 7 Bar	4 to 20mA Output, 1/4" Flare	From Instrument	148.66
DIXL570	PP30	0 to 30 Bar	4 to 20mA Output, 1/4" Flare	From Instrument	148.66

Code	Model	Output	Input	Suitability	List Price
<b>TRANSFORMERS</b>					
DIXL900	TF3	12V AC, 3VA	230V AC	For 1 Instrument	9.38
DIXL902	TF3	12V AC, 3VA	110V AC	For 1 Instrument	9.38
DIXL904	TF3	12V AC, 3VA	24V AC	For 1 Instrument	9.38
DIXL908	TF5	12V AC, 5VA	230V AC	For 2 Instruments	15.42
DIXL910	TF5	12V AC, 5VA	110V AC	For 2 Instruments	15.42
DIXL912	TF5	12V AC, 5VA	24V AC	For 2 Instruments	15.42



# copper & brass fittings



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# copper fittings

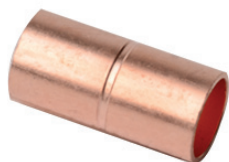


Copper Fittings -  
Couplings

Couplings -  
Reducing

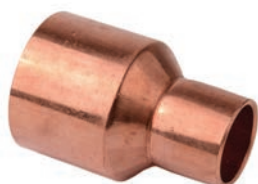
## COPPER FITTINGS - COUPLINGS

Solder to Solder. Style: WC400



Part No	Size	Box QTY	List Price Each
<b>COPPER FITTINGS - COUPLINGS</b>			
W1003	1/4	100	0.82
W1009	3/8	50	0.58
W1017	1/2	50	0.26
W1022	5/8	100	0.38
W1028	3/4	25	0.54
W1034	7/8	50	0.38
W1047	1.1/8	25	0.78
W1055	1.3/8	25	1.32
W1063	1.5/8	10	3.46
W1072	2.1/8	1	6.68
W1082	2.5/8	1	17.42
W1092	3.1/8	1	18.74
W10100	3.5/8	1	30.66
W10107	4.1/8	1	36.18

## FITTING REDUCERS



Part No	Size	Box QTY	List Price Each
<b>COUPLINGS REDUCING</b>			
W1005	1/4 x 1/8	50	2.56
W1011	3/8 x 1/4	50	1.40
W1019	1/2 x 3/8	50	0.76
W1021	1/2 x 1/4	50	0.88
W1023	5/8 x 1/2	50	0.88
W1025	5/8 x 3/8	50	0.88
W1027	5/8 x 1/4	100	0.88
W1029	3/4 x 5/8	100	3.58
W1030	3/4 x 1/2	100	2.04
W1031	3/4 x 3/8	100	2.04
W1035	7/8 x 3/4	100	0.64
W1036	7/8 x 5/8	50	0.64
W1037	7/8 x 1/2	50	1.28
W1038	7/8 x 3/8	50	1.40
W1049	1.1/8 x 7/8	25	1.98
W1050	1.1/8 x 3/4	25	3.88
W1051	1.1/8 x 5/8	25	2.76
W1052	1.1/8 x 1/2	25	2.62
W1056	1.3/8 x 1.1/8	10	3.56
W1058	1.3/8 x 7/8	10	1.70
W1060	1.3/8 x 5/8	10	3.78
W1064	1.5/8 x 1.3/8	10	2.84
W1065	1.5/8 x 1.1/8	10	2.84
W1067	1.5/8 x 7/8	10	2.84
W1069	1.5/8 x 5/8	10	6.04
W1073	2.1/8 x 1.5/8	1	8.26
W1074	2.1/8 x 1.3/8	1	9.02
W1075	2.1/8 x 1.1/8	1	9.36
W1077	2.1/8 x 7/8	1	9.34
W1079	2.1/8 x 5/8	1	9.28

# copper fittings



Couplings  
Reducing

Unions

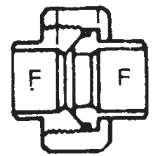
Fitting Reducers

Part No	Size	Box QTY	List Price Each
<b>COUPLINGS REDUCING Continued</b>			
W1083	2.5/8 x 2.1/8	1	21.40
W1084	2.5/8 x 1.5/8	1	23.90
W1085	2.5/8 x 1.3/8	1	21.64
W1086	2.5/8 x 1.1/8	1	21.64
W1093	3.1/8 x 2.5/8	1	21.64
W1094	3.1/8 x 2.1/8	1	27.23
W1095	3.1/8 x 1.5/8	1	21.64
W10101	3.5/8 x 3.1/8	1	30.12

<b>UNIONS</b>			
W8801	3/8	25	8.98
W8002	1/2	25	8.98
W8003	5/8	25	8.98
W8004	7/8	10	8.98
W8005	1.1/8	10	12.46

<b>FITTINGS REDUCERS</b>			
W1306	3/8 x 1/4	50	0.64
W1312	1/2 x 3/8	50	1.20
W1314	1/2 x 1/4	50	0.54
W1315	5/8 x 1/2	50	0.48
W1317	5/8 x 3/8	50	0.92
W1320	3/4 x 5/8	100	2.40
W1321	3/4 x 1/2	100	2.18
W1322	3/4 x 3/8	100	2.18
W1325	7/8 x 3/4	100	1.62
W1326	7/8 x 5/8	50	0.70
W1327	7/8 x 1/2	50	0.70
W1337	1.1/8 x 7/8	25	2.24
W1338	1.1/8 x 3/4	25	2.40
W1339	1.1/8 x 5/8	25	2.54
W1340	1.1/8 x 1/2	20	1.08
W1343	1.3/8 x 1.1/8	10	1.86
W1345	1.3/8 x 7/8	10	1.86
W1347	1.3/8 x 5/8	10	4.08
W1350	1.5/8 x 1.3/8	10	2.36
W1351	1.5/8 x 1.1/8	10	2.36
W1353	1.5/8 x 7/8	10	4.62
W1355	1.5/8 x 5/8	10	5.20
W1358	2.1/8 x 1.5/8	1	7.68
W1359	2.1/8 x 1.3/8	1	8.72
W1360	2.1/8 x 1.1/8	1	9.78
W1362	2.1/8 x 7/8	1	9.78
W1364	2.1/8 x 5/8	1	9.78
W1367	2.5/8 x 2.1/8	1	13.84
W1368	2.5/8 x 1.5/8	1	24.80
W1369	2.5/8 x 1.3/8	1	18.21
W1370	2.5/8 x 1.1/8	1	25.37
W1376	3.1/8 x 2.5/8	1	25.48

**UNIONS**  
Solder to Solder. Style: WC407



**FITTING REDUCERS**



# copper fittings



Fittings Reducers

Adaptors

Elbows



Part No	Size	Box QTY	List Price Each
---------	------	---------	-----------------

FITTINGS REDUCERS Contined			
W1377	3.1/8 x 2.1/8	1	26.32
W1378	3.1/8 x 1.5/8	1	26.32
W1379	3.1/8 x 1.3/8	1	32.90
W1381	3.5/8 x 3.1/8	1	32.90
W1382	3.5/8 x 2.5/8	1	32.90
W1383	3.5/8 x 2.1/8	1	32.90
W1386	4.1/8 x 3.5/8	1	50.82
W1387	4.1/8 x 3.1/8	1	50.82

### ADAPTORS - WC401

W1115	3/8 x 1/4	50	5.60
W1125	1/2 x 3/8	50	3.50
W1131	5/8 x 1/2	100	1.04
W1146	7/8 x 3/4	50	2.04
W1163	1.1/8 x 1.0	25	4.76
W1171	1.3/8 x 1.1/4	20	6.92
W1172	1.3/8 x 1.0	10	7.21
W1179	1.5/8 x 1.1/2	10	8.32
W1180	1.5/8 x 1.1/4	10	8.32
W1187	2.1/8 x 2.0	1	14.09
W1188	2.1/8 x 1.1/2	1	14.09



### ADAPTORS - WC402

W1215	3/8 x 1.4	50	3.58
W1225	1/2 x 3/8	50	3.62
W1231	5/8 x 1/2	50	1.70
W1233	5/8 x 1/4	50	1.70
W1238	3/4 x 3/4	50	2.34
W1246	7/8 x 3/4	25	2.36
W1263	1.1/8 x 1.0	25	5.06
W1279	1.5/8 x 1.1/2	10	12.87
W1287	2.1/8 x 2.0	1	17.73



### ELBOWS 90 SHORT RADIUS

W2003	1/4	50	1.16
W2009	3/8	50	1.52
W2017	1/2	50	1.52
W2022	5/8	100	1.52
W2028	3/4	50	1.48
W2034	7/8	50	1.48
W2047	1.1/8	25	2.76
W2084	1.3/8	25	3.88
W2085	1.5/8	10	6.04
W2086	2.1/8	10	12.28
W2087	2.5/8	5	23.46
W2088	3.1/8	2	31.11
W2089	3.5/8	2	77.41
W2011	3/8 x 1/4	50	4.22



# copper fittings



## Elbows

Part No	Size	Box QTY	List Price Each
<b>ELBOWS 90 SHORT RADIUS Continued</b>			
W2019	1/2 x 3/8	50	N/A
W2023	5/8 x 1/2	50	N/A
W2025	5/8 x 3/8	50	N/A
W2029	3/4 x 5/8	50	N/A
W2030	3/4 x 1/2	50	N/A
W2035	7/8 x 3/4	50	N/A
W2036	7/8 x 5/8	50	3.00
W2037	7/8 x 1/2	50	3.00
W2049	1.1/8 x 7/8	25	5.82
W2050	1.1/8 x 3/4	25	5.82
W2077	1.5/8 x 1.3/8	5	20.07
W2078	2.1/8 x 1.5/8	5	25.45



<b>ELBOW 90 LONG RADIUS</b>			
W2715	1/4	50	2.68
W2716	3/8	50	1.80
W2717	1/2	50	2.86
W2722	5/8	50	2.54
W2728	3/4	50	2.76
W2734	7/8	25	3.50
W2747	1.1/8	10	4.94
W2055	1.3/8	10	8.12
W2063	1.5/8	5	10.94
W2072	2.1/8	5	27.98
W2082	2.5/8	5	N/A
W2092	3.1/8	2	N/A
W2093	3.5/8	1	N/A
W2095	4.1/8	1	N/A

<b>ELBOW 90 SHORT RADIUS MxF</b>			
W2305	1/4	50	N/A
W2312	3/8	50	N/A
W2321	1/2	50	1.86
W2326	5/8	50	1.70
W2330	3/4	25	N/A
W2334	7/8	25	1.41
W2344	1.1/8	25	3.47
W2384	1.3/8	25	5.22
W2385	1.5/8	10	7.14
W2386	2.1/8	10	16.59
W2387	2.5/8	5	27.74
W2388	3.1/8	2	41.13
W2389	3.5/8	1	184.52

<b>ELBOW 90 LONG RADIUS MxF</b>			
W2817	1/2	50	5.48
W2822	5/8	50	N/A
W2828	3/4	25	4.48
W2834	7/8	25	7.04
W2847	1.1/8	10	3.86



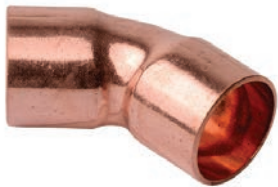
# copper fittings



Elbows

Tube Caps

Return Bends



Part No	Size	Box QTY	List Price Each
<b>ELBOW 90 LONG RADIUS Continued MxF</b>			
W2350	1.3/8	10	10.98
W2355	1.5/8	5	11.95
W2359	2.1/8	5	23.52
W2363	2.5/8	5	41.13
W2368	3.1/8	2	61.36

Part No	Size	Box QTY	List Price Each
<b>ELBOW 45 LONG RADIUS</b>			
W3012	3/8	50	3.12
W3021	1/2	50	2.28
W3026	5/8	50	1.10
W3030	3/4	50	2.30
W3034	7/8	25	1.66
W3044	1.1/8	25	5.56
W3050	1.3/8	10	5.46
W3055	1.5/8	10	6.56
W3059	2.1/8	10	10.43
W3063	2.5/8	5	21.48
W3067	3.1/8	2	31.90
W3070	3.5/8	2	54.52
W3073	4.1/8	2	67.12

Part No	Size	Box QTY	List Price Each
<b>TUBE CAPS WC415</b>			
W7002	1/4	50	0.20
W7004	3/8	50	0.80
W7006	1/2	50	1.34
W7007	5/8	100	0.40
W7008	3/4	50	0.84
W7009	7/8	50	1.09
W7011	1.1/8	50	1.54
W7012	1.3/8	25	1.88
W7013	1.5/8	25	2.84
W7014	2.1/8	1	5.84
W7015	2.5/8	1	16.38
W7016	3.1/8	1	22.45
W7017	3.5/8	1	72.40
W7018	4.1/8	1	105.12

Part No	Size	Box QTY	List Price Each
<b>RETURN BENDS WE512</b>			
W6020	3/8	25	1.60
W6035	1/2	50	2.40
W6032	1/2	50	2.04
W6056	5/8	25	4.46
W6051	5/8	25	4.40
W6074	3/4	10	7.84
W6073	3/4	10	7.84
W6092	7/8	10	4.26
W60110	1.1/8	5	16.38
W60121	1.3/8	5	26.95
W60131	1.5/8	1	33.91
W60140	2.1/8	1	87.88

# copper fittings

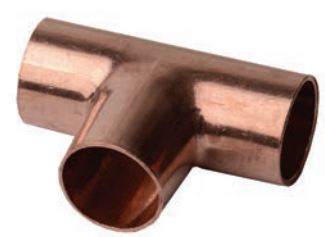


Part No	Size	Box QTY	List Price Each
<b>SUCTION LINE P TRAPS</b>			
KCFT945	5/8	10	7.38
KCFT946	3/4	10	29.98
KCFT947	7/8	5	19.94
KCFT948	1.1/8	3	12.20
KCFT949	1.3/8	4	61.56
KCFT950	1.5/8	1	29.34
KCFT951	2.1/8	1	59.78

<b>PIPE SADDLES</b>			
PS-2	1/8	100	0.08
PS-4	1/4	100	0.20
PS-6	3/8	100	0.30
PS-8	1/2	100	0.37
PS-10	5/8	100	0.36
PS-12	3/4	100	0.20
PS-14	7/8	100	0.28
PS-18	1.1/8	100	0.48
PS-22	1.3/8	100	0.71
PS-26	1.5/8	100	0.78
PS-34	2.1/8	100	0.91
PS-42	2.5/8	100	1.31
PS-46	1/4 x 3/8	100	0.20
PS-48	1/4 x 1/2	100	0.20
PS-410	1/4 x 5.8	100	0.20
PS-68	3/8 x 1/2	100	0.20
PS-610	3/8 x 5/8	100	0.28
PS-612	3/8 x 3/4	100	0.28
PS-1012	5/8 x 3/4	100	0.33

<b>EQUAL TEES</b>			
W40300	1/8	50	3.84
W40302	3/16	50	3.84
W40306	1/4	100	3.84
W40313	5/16	50	3.84
W4000	3/8	50	3.30
W4001	1/2	50	2.84
W4006	5/8	50	0.44
W4017	3/4	25	4.28
W4031	7/8	25	1.02
W4048	1.1/8	10	2.98
W4068	1.3/8	5	14.58
W4084	1.5/8	5	14.58
W40102	2.1/8	5	20.12
W40123	2.5/8	2	38.64
W40152	3.1/8	2	59.71
W40190	3.5/8	1	145.10
W40200	4.1/8	1	127.74

- P Traps
- Pipe Saddles
- Equal Tees



# copper fittings

## Reducing Tees



Last size is the branch size

Part No	Size	Box QTY	List Price Each
<b>REDUCING TEES</b>			
W40368	1/4 x 3/8 x 3/8	50	5.54
W4016	3/8 x 3/8 x 5/8	50	4.72
W4005	3/8 x 3/8 x 1/2	50	7.64
W40324	3/8 x 3/8 x 1/4	50	7.58
W4015	1/2 x 1/2 x 5/8	50	4.62
W4002	1/2 x 1/2 x 3/8	50	5.78
W4003	1/2 x 3/8 x 1/2	50	7.62
W4004	1/2 x 3/8 x 3/8	50	7.38
W4067	5/8 x 5/8 x 1.1/8	10	7.38
W4047	5/8 x 5/8 x 7/8	25	3.12
W4029	5/8 x 5/8 x 3/4	25	8.24
W4007	5/8 x 5/8 x 1/2	50	2.69
W4014	5/8 x 5/8 x 1/4	50	5.78
W4009	5/8 x 1/2 x 5/8	50	5.78
W4010	5/8 x 1/2 x 1/2	50	5.78
W40367	5/8 x 3/8 x 1/2	50	5.92
W4046	3/4 x 3/4 x 7/8	25	4.54
W4018	3/4 x 3/4 x 5/8	25	6.92
W4019	3/4 x 3/4 x 1/2	25	8.04
W4023	3/4 x 5/8 x 1/2	25	2.59
W4032	7/8 x 7/8 x 3/4	25	2.59
W4033	7/8 x 7/8 x 5/8	25	2.59
W4034	7/8 x 7/8 x 1/2	25	2.60
W4043	7/8 x 5/8 x 5/8	25	2.79
W4049	1.1/8 x 1.1/8 x 7/8	5	3.14
W4050	1.1/8 x 1.1/8 x 3/4	10	7.33
W4051	1.1/8 x 1.1/8 x 5/8	10	4.70
W4052	1.1/8 x 1.1/8 x 1/2	10	7.33
W4069	1.1/8 x 1.3/8 x 1.1/8	5	16.25
W4056	1.1/8 x 7/8 x 7/8	10	8.65
W4058	1.1/8 x 7/8 x 5/8	10	3.93
W40235	1.1/8 x 3/4 x 3/4	10	8.13
W40100	1.3/8 x 1.3/8 x 1.5/8	5	21.57
W4073	1.3/8 x 1.1/8 x 1.3/8	5	8.02
W4070	1.3/8 x 1.3/8 x 7/8	5	6.97
W4071	1.3/8 x 1.3/8 x 5/8	5	10.63
W4074	1.3/8 x 1.1/8 x 1.1/8	5	13.76
W4076	1.3/8 x 1.1/8 x 5/8	5	9.69
W4080	1.3/8 x 7/8 x 7/8	5	15.28
W4086	1.5/8 x 1.5/8 x 1.1/8	5	11.68
W4085	1.5/8 x 1.5/8 x 1.3/8	5	12.72
W4088	1.5/8 x 1.5/8 x 5/8	5	12.11
W40105	2.1/8 x 2.1/8 x 1.1/8	5	26.79
W40106	2.1/8 x 2.1/8 x 7/8	5	16.39
W40151	3.1/8 x 3.1/8 x 2.5/8	2	57.35
W40155	3.1/8 x 2.5/8 x 1.3/8	2	93.48

# brass fittings



## Connectors

Part No	Size	List Price Each
<b>FEMALE CONNECTORS</b>		
U3-4A	1/4FL x 1/8FPT	1.54
U3-4B	1/4FL x 1/4FPT	1.84
U3-4C	1/4FL x 3/8FPT	3.68
UR3-46	1/4FFL x 3/8FL	1.66
UR3-48	1/4FFL x 1/2FL	3.56
UR3-64	3/8FFL x 1/4FL	5.54
UR3-68	3/8FFL x 1/2FL	4.14
UR3-84	1/2FFL x 1/4FL	4.66
UR3-86	1/2FFL x 3/8FL	3.00
UR3-810	1/2FFL x 5/8FL	5.84
UR3-106	3/8FFL x 5/8FL	4.80
UR3-108	5/8FFL x 1/2FL	4.32
UR3-1012	5/8FFL x 3/4FL	7.84



<b>CONNECTORS</b>		
U4-4	1/4FFL	2.16
U4-6	3/8FFL	3.94
U4-8	1/2FFL	4.12
U4-10	5/8FFL	7.08
U4-12	3/4FFL	13.28
US4-4	1/4FFL SWIVEL	2.64
US4-6	3/8FFL SWIVEL	2.94
US4-8	1/2FFL SWIVEL	4.82
US4-10	5/8FFL SWIVEL	4.46



<b>FEMALE CONNECTORS FLARE TO SOLDER</b>		
US3-44	1/4FL x 1/4ODS	1.52
US3-66	3/8FL x 3/8ODS	3.42
US3-1010	5/8FL x 5/8ODS	4.18
US3-1212	3/4FL x 3/4ODS	3.44

<b>ELBOWS HALF UNION</b>		
E1-4A	1/4FL x 1/8MPT	1.50
E1-4B	1/4FL x 1/4MPT	1.62
E1-6B	3/8FL x 1/4MPT	2.10
E1-8C	1/2FL x 3/8MPT	3.06
E1-10C	5/8FL x 3/8MPT	5.14
E1-10E	5/8FL x 3/4MPT	12.84
E2-8	1/2FL UNION	2.70
ER2-86	1/2 x 3/8FL	5.56



<b>TEES (LAST SIZE IS BRANCH)</b>		
T3-4A	1/4FL x 1/8MPT x 1/4FL	5.14
T1-4A	1/4FL x 1/4FL x 1/8MPT	2.18
T1-4B	1/4FL x 1/4FL x 1/4MPT	3.18
T2-4	1/4FL	4.54
T2-6	3/8FL	2.84
T2-8	1/2FL	3.74
TR2-68	3/8FL x 3/8FL x 1/2FL	7.48
TR2-810	1/2FL x 1/2FL x 5/8FL	9.80



# brass fittings



Flare Nuts

Unions

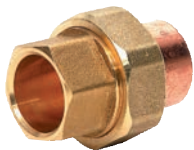


Part No	Size	List Price Each
<b>FLARE</b>		
N4-4	LONG 1/4	0.92
N4-6	LONG 3/8	1.66
N4-8	LONG 1/2	2.21
N4-10	LONG 5/8	3.90
N4-12	LONG 3/4	6.70
NR4-64	LONG 3/8 x 1/4 RED	3.76
NR4-86	LONG 1/2 x 3/8 RED	3.76
NR4-1210	LONG 3/4 x 5/8 RED	6.22
NS4-3	SHORT 3/16	1.04
NS4-4	SHORT 1/4	0.84
NS4-5	SHORT 5/16	0.96
NS4-6	SHORT 3/8	1.46
NS4-8	SHORT 1/2	1.92
NS4-10	SHORT 5/8	2.40
NS4-12	SHORT 3/4	6.95
NS4-14	SHORT 7/8	7.88
NRS4-64	SHRT 3/8 x 1/4 RED	7.76
NRS4-86	SHRT 1/2 x 3/8 RED	2.68
NRS4-108	SHRT 5/8 x 1/2 RED	2.54
NRS4-1210	SHRT 3/4 x 5/8 RED	6.07

<b>FLARE TO SOLDER</b>		
KRCY2	1/4"	5.48
KRCY3	3/8"	6.74
KRCY4	1/2"	6.56
KRCY5	5/8"	9.16

<b>FLARE TO SOLDER SWIVEL CONNECTORS</b>		
U1-4A	1/4FL x 1/8MPT	1.02
U1-4B	1/4FL x 1/4MPT	1.62
U1-4C	1/4FL x 3/8MPT	1.46
U1-6A	3/8FL x 1/8MPT	1.40
U1-6C	3/8FL x 3/8MPT	1.72
U1-8B	1/2FL x 1/4MPT	1.86
U1-8D	1/2FL x 1/2MPT	2.30
U1-8E	1/2FL x 3/4MPT	8.32
U1-10C	5/8FL x 3/8MPT	3.30
U1-10D	5/8FL x 1/2MPT	2.68
U1-10E	5/8FL x 3/4MPT	3.42
U1-12D	3/4FL x 1/2MPT	4.56
U1-12E	3/4FL x 3/4MPT	3.82

<b>UNIONS</b>		
U2-4	1/4FL	1.28
U2-6	3/8FL	3.18
U2-8	1/2FL	3.50
U2-10	5/8FL	4.98
U2-12	3/4FL	5.66
UR2-64	3/8 x 1/4FL	1.96
UR2-65	3/8 x 5/16FL	1.96



# brass & copper fittings



Model

List Price Each

UNIONS Continued		
UR2-84	1/2 x 1/4FL	2.34
UR2-86	1/2 x 3/8FL	2.54
UR2-108	5/8 x 1/2FL	8.86
UR2-1210	3/4 x 5/8FL	4.82

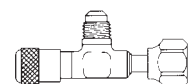
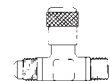
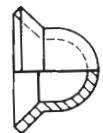
FLARE PLUGS		
P2-4	PLUG 1/4FL	0.54
P2-6	PLUG 3/8FL	1.20
P2-8	PLUG 1/2FL	1.10
P2-10	PLUG 5/8FL	2.12
P2-12	PLUG 3/4FL	5.70
N5-4	CAP NUT 1/4FL	1.72
N5-6	CAP NUT 3/8FL	0.44
N5-8	CAP NUT 1/2FL	0.84
N5-10	CAP NUT 5/8FL	1.16
N5-12	CAP NUT 3/4FL	4.14
P3.A	PLUG 1/8MPT	0.64
P3.B	PLUG 1/4MPT	0.98
P3.C	PLUG 3/8MPT	2.42

FLARE BONNET + GASKETS		
B1-3	BONNET 3/16FL	0.82
B1-4	BONNET 1/4FL	0.18
B1-6	BONNET 3/8FL	1.88
B1-8	BONNET 1/2FL	0.44
B1-10	BONNET 5/8FL	0.32
B1-12	BONNET 3/4FL	0.84
B2-4	GASKET 1/4FL	0.40
B2-6	GASKET 3/8FL	0.72
B2-8	GASKET 1/2FL	0.76
B2-10	GASKET 5/8FL	0.14
B2-12	GASKET 3/4FL	0.54

Part No.	Run	Connections Run	Branch	List Price
<b>CONNECTIONS</b>				
VTR-24	ACCESS	1/8" MPT/1/4" ODS	ACCESS	6.67
VTS-46	1/4" ODS	1/4" ODS	ACCESS	5.44
VST-44SW	ACCESS	1/4" F. Swivel	1/4" FL	10.28
VST-4	ACCESS	1/4" FL	1/4" F. Swivel	12.02

Code	Description	Length (mm)	List Price
<b>GAR - VIBRATION ELIMINATORS</b>			
JTAG102	1/4IN ODS	230	23.68
JTAG103	3/8IN ODS	230	25.22
JTAG104	1/2IN ODS	230	30.30
JTAG105	5/8IN ODS	255	31.64
JTAG106	3/4IN ODS	255	38.44
JTAG108	7/8IN ODS	290	44.92
JTAG109	1.1/8IN ODS	330	58.20
JTAG110	1.3/8IN ODS	375	107.48
JTAG111	1.5/8IN ODS	430	143.22
JTAG112	2.1/8IN ODS	510	178.40

- Unions
- Flare Plugs
- Flare Bonnet + Gaskets
- Connections Flare
- Vibration Eliminators



# copper tube



Mueller Copper Tube (soft in coils)

Mueller Copper Tube (Half Hard)

Capillary Tube



Discounts Available on Bulk Tube Orders



Code	Description	Length	List Price
<b>COPPER TUBE (SOFT, IN COILS) 15MTR</b>			
JCTB100	3/16 X 0.030IN	30M	45.46
JCTB101	1/4 X 0.030IN	15M	30.52
JCTB102	5/16 X 0.032IN	15M	53.82
JCTB103	3/8 X 0.032IN	15M	53.82
JCTB104	1/2 X 0.030IN	15M	58.28
JCTB105	5/8 X 0.035IN	15M	102.64
JCTB106	3/4 X 0.035IN	15M	123.72
JCTB107	7/8 X 0.045IN	15M	134.00

Code	Description	Length	List Price
<b>COPPER TUBE (HALF HARD)</b>			
JCTB118	3/8	3M	10.62
JCTB120	1/2	3M	16.38
JCTB122	5/8	3M	20.80
JCTB124	3/4	3M	32.64
JCTB126	7/8	3M	42.06
JCTB128	1.1/8	3M	54.78
JCTB130	1.3/8	3M	68.28
JCTB132	1.5/8	3M	106.36

Code	Description	Length	List Price
<b>CAPILLARY TUBE</b>			
CAPILLARY0	0.031	30 Mtr	32.50
CAPILLARY1	0.036	30 Mtr	32.50
CAPILLARY3	0.042	30 Mtr	37.72
CAPILLARY4	0.047	30 Mtr	34.82
CAPILLARY5	0.052	30 Mtr	41.06
CAPILLARY6	0.064	30 Mtr	54.88
CAPILLARY069	0.069	30 Mtr	50.58

Code	Description	List Price
<b>CAPILLARY CUTTERS</b>		
CTP1	Refco Capillary Cutters	19.94

(Larger sizes P.O.A)

Code	Description	Length	List Price
<b>TECNOSYSTEMI - PRE INSULATED TWIN COPPER TUBE HEAVY DUTY</b>			
11110038	3/8 x 1/4	20 Mtr	229.50
11110012	1/4 x 1/2	20 Mtr	253.76
11110058	1/4 x 5/8	20 Mtr	335.50
11110065	3/8 x 3/4	20 Mtr	306.15
11110058	3/8 x 5/8	20 Mtr	336.56
11128000	Heavy Duty Instation Tape (white)	15 Mtr	32.44





# aluminium pipe and rod



## Aluminium Pipe & Rod

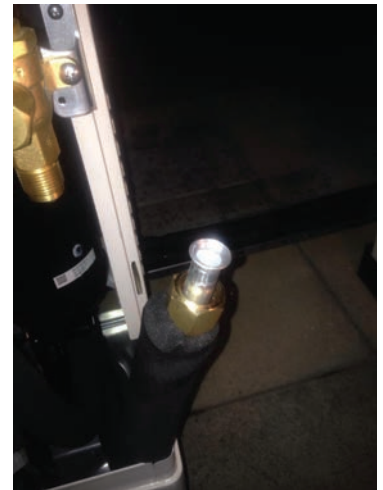
Code	Description	Length	List Price
<b>ALUMINIUM TUBE (IN COILS) 50MTR</b>			
RA1	1/4	50Mtr	65.80
RA2	3/8	50Mtr	110.60
RA3	1/2	50Mtr	151.20
RA4	5/8	50Mtr	211.40
RA5	3/4	50Mtr	265.30
RA6	Brazing Rod for Aluminium To Aluminium + Aluminium to Copper	50Cm	12.08



## WHY NOW, WHY ALUMINIUM?

### Why Aluminium is the best alternative material for HVAC & R

- Stable and low price compared to using copper.
- Provides excellent metal properties with the advancement of technologies.
- Has excellent formability characteristics that make it highly suitable for use in HVAC & R.
- Improves system weight significantly in HVAC & R applications.
- Improves energy consumption & efficiency since thermal conductivity ratio is lower, hence heat gain & loss is lower.
- Pure Aluminium lasts longer than other metals when used in an appropriate way. Moreover, Aluminium can be recycled & viewed as a resource preservation.



### Characteristics & Advantages over Copper



#### Flaring

- Requires less strength to flare
- Higher wall thickness (G18) provides better tensile strength
- Uses the same set of tools to flare copper

#### Brazing

- No argon gas, wire spool, gloves, shield or electricity required
- Special brazing rods allow up to 45-50 joints per rod (50cm rod)
- Fast, easy & secured joints in 15 seconds
- No turning of torches or rounding up gaps
- 4 times faster than brazing copper
- No additional flux is required
- Uses the same torch and mapp gas
- Substantial saving on gas, time and brazing rod due to lower melting point of aluminium
- Joints are stronger than main material
- No need for nitrogen purging for oxidation

#### Bending

- Requires less strength to bend
- Light weight & offers better flexibility than copper
- Does not kink as easily compared to copper
- Uses the same set of bending tools as copper

#### Corrosion

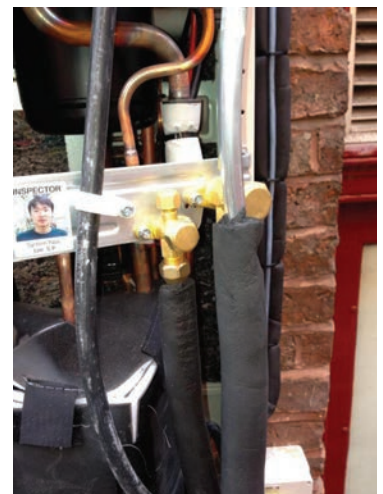
- 48 hour salt water test before shipment
- Corrosion rate is a lot less than copper
- Oxidisation rate is also lower, making pipes clean and bright when exposed

#### Swaging or Expanding

- 30% expansion from original OD
- Using the same set of swaging tools as copper

#### Thermal Conductivity

- Lower than copper by almost 50% which means less rate of condensation



# basic air conditioning starter kits



## Air Conditioning Installation Kit



**Note! Kit contents may vary from picture.**

**The inserts included in the kit are only as a guide, the correct size is dependent on the copper tube gauge to be used by the end user.**

Part Number	Description	Quantity	List Price per kit
<b>Air Conditioning Installation Kit 1 6.35mm-19mm</b>			
K2	Steel Case dual layer	1	
MZ	Heavy duty assembly tool without jaws	1	
MB8EVP	8mm Assembly jaw 50 series	2	
MB10EVP	10mm Assembly jaw 50 series	2	
MB12EVP	12mm Assembly jaw 50 series	2	
MB16EVP	16mm Assembly jaw 50 series	2	
MB19EVP	19mm Assembly jaw 50 series	2	
6.35NKMS50	6.35mm (1/4") Tube connector	6	
9.53NKMS50	9.53mm (2") Tube connector	6	
12.7NKMS50	12.7mm (1/2") Tube connector	6	
16NKMS50	16mm (5") Tube connector	6	
19NKMS50	19mm (3/4") Tube connector	6	
6.35-VHMS07	Insert(22swg)	12	
9.53-VHMS07	Insert(22swg)	12	
12.7-VHMS07	Insert(22swg)	12	
16-VHMS10	Insert(19swg)	12	
19-VHMS10	Insert(19swg)	12	
TUBE-CUTTER	Tube cutter Ø3mm-Ø35mm	1	
TUBE-DEBURRER	Tube Deburrer	1	
LOKPREPLT15ML	Lokprep LT 15ml	2	
SV	Abrasive mat x 3 per pack	1	
SL	Abrasive paper	1	POA

Part Number	Description	Quantity	List Price per kit
<b>Air Conditioning Installation Kit 2 6.35mm-22mm</b>			
K2	Steel Case dual layer	1	
MZ-V	Double offset heavy duty assembly tool without jaws	1	
MB8EVP	8mm Assembly jaw 50 series	2	
MB10EVP	10mm Assembly jaw 50 series	2	
MB12EVP	12mm Assembly jaw 50 series	2	
MB16EVP	16mm Assembly jaw 50 series	2	
MB19EVP	19mm Assembly jaw 50 series	2	
MB22EVP	22mm Assembly jaw 50 series	2	
6.35NKMS50	6.35mm (1/4") Tube connector	6	
9.53NKMS50	9.53mm (2") Tube connector	6	
12.7NKMS50	12.7mm (1/2") Tube connector	6	
16NKMS50	16mm (5") Tube connector	6	
19NKMS50	19mm (3/4") Tube connector	6	
22NKMS50	22mm (G") Tube connector	6	
6.35-VHMS07	Insert(22swg)	12	
9.53-VHMS08	Insert(21swg)	12	
12.7-VHMS08	Insert(21swg)	12	
16-VHMS09	Insert(20swg)	12	
19-VHMS10	Insert(19swg)	12	
22-VHMS10	Insert(19swg)	12	
TUBE-CUTTER	Tube cutter Ø3mm-Ø35mm	1	
TUBE-DEBURRER	Tube Deburrer	1	
LOKPREPLT15ML	Lokprep LT 15ml	2	
SV	Abrasive mat x 3 per pack	1	
SL	Abrasive paper	1	POA



# brackets, mounts & housing

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## quick index

**Anti Vibration Mounts 114**

**Condensing Unit Brackets 114**

**Condensing Unit Guards 114**

**Condensing Unit Housing 114**

# brackets, mounts & housing

Condensing Unit  
Brackets

Condensing Unit  
Housing

Condensing Unit  
Guards

Anti Vibration  
Mounts

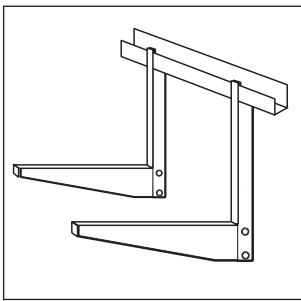
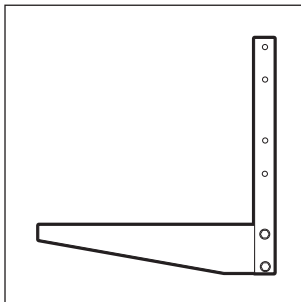


Model	Sizes	To Suit (Guide only)	List Price
<b>TECNOSYSTEMI - CONDENSING UNIT GUARDS</b>			
LARGE GUARD	1000w x 1400h x 600d	Twin Fan Air Conditioners	794.21
MED GUARD	1100w x 1100h x 600d	7Kw Air Conditioners 1 Fan	590.00
SMALL GUARD	1000w x 700h x 450d	2-5Kw Air Conditioners 1 Fan	494.85

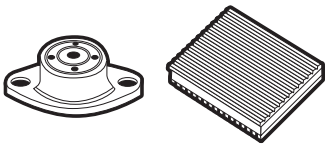
Model	Sizes	To Suit (Guide only)	List Price
<b>CARS - CONDENSING UNIT HOUSING</b>			
CARS001	555w x 465h x 615d	Hermetic Units to 34CC Single Fan	150.00
CARS002	725w x 550h x 810d	Semi Hermetic Condensing Units up to 3HP (Single Fan)	220.00
USH007	1110w x 630h x 780d	Frascold twin fan up to 4HP	834.92
USH010	1430w x 780h x 1040d	Frascold twin fan up to 10HP	1710.00
USH011	1630w x 960h x 1040d	Frascold twin fan up to 20HP	1903.35

Model	Description	Weight	List Price
<b>ANTI VIBRATION MOUNTS</b>			
BRAK801	ND1B MOUNT	25 TO 45 LBS	22.54
BRAK802	ND1G MOUNT	45 TO 120 LBS	22.54
BRAK803	ND2B MOUNT	120 TO 170 LBS	24.99
BRAK804	ND2G MOUNT	170 TO 380 LBS	24.99
BRAK902	CNP9 3" X 3" PAD	450 LBS MAX	3.20

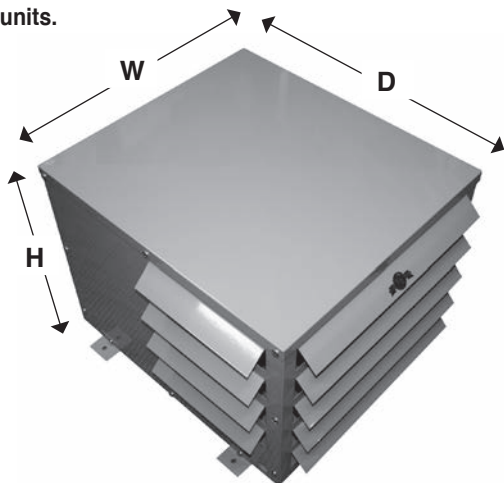
Model	Description	List Price
<b>TECNOSYSTEMI - CONDENSING UNIT BRACKETS</b>		
11100081	Universal Brackets 140kg Max Load	30.84
11100013	Universal Brackets 160kg Max Load	34.80
11100088	Electric Hoist to Suit	575.04



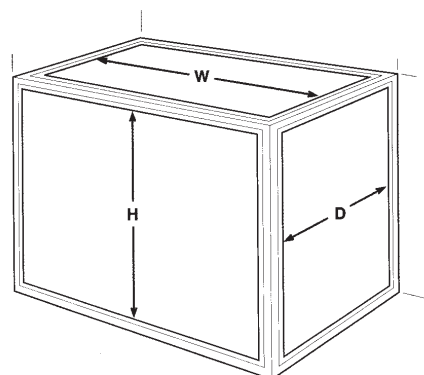
## ANTI-VIBRATION MOUNTS



For condensing units.



Condensing Unit  
Housing



Condensing Unit  
Guards



# installation accessories

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## quick index

**Basket Tray 120**

**Cable & Flex 120**

**Cable Tray 120**

**Fasteners 117**

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**Nylon Rods & Clamps 116**

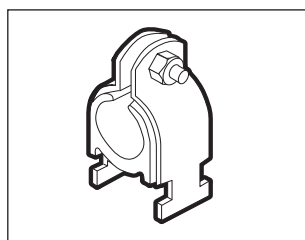
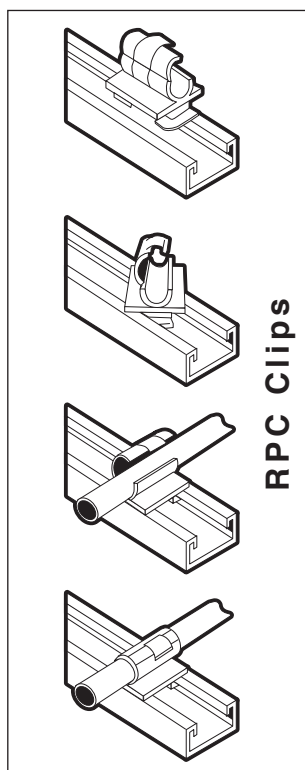
**Screws, Nuts & Washers 118**

# nylon rods & clamps

Installation  
Accessories



List Price



NYLON RODS ETC			
ROD M10	M10 ROD X 1M	-	10.86
FULL NUT M10	M10 FULL NUT	-	0.44
WASH 10MM	M10 WASHER	-	0.33
NUT M10	M10 WASHERFACED NUT	-	0.55
D NUT M10	M10 DOMED NUT	-	0.63
ROD M12	M12 ROD X 1M	-	10.72
FULL NUT M12	M12 FULL NUT	-	0.68
WASH 12MM	M12 WASHER	-	0.33
NUT 12MM	M12 WASHERFACED NUT	-	0.77
D NUT M12	M12 DOMED NUT	-	0.96
ROD M16	M16 ROD X 1M	-	19.94
FULL NUT	M16 FULL NUT	-	0.74
WASH 16MM	M16 WASHER	-	0.33
NUT 16MM	M16 WASHERFACED NUT	-	1.04

RPC CLIPS AND CHANNEL			
CHAN003	3 METRES	Aluminium Hydrosorb Channel	20.32
RPC 3/8	3/8	each	1.36
RPC 1/2	1/2	each	1.36
RPC 5/8	5/8	each	1.50
RPC 3/4	3/4	each	1.50
RPC 7/8	7/8	each	3.42
RPC 1 1/8	1.1/8	each	3.42
RPC 1 3/8	1.3/8	each	3.84
RPC 1 5/8	1.5/8	each	4.28

VIBRACLAMP		List Price Ea.
BVT025	1/4	2.84
BVT037	3/8	1.20
BVT050	1/2	1.38
BVT062	5/8	1.96
BVT075	3/4	1.66
BVT087	7/8	1.92
BVT112	1.1/8	2.40
BVT137	1.3/8	2.84
BVT162	1.5/8	3.12
BVT212	2.1/8	5.20
BVT262	2.5/8	6.04
BVT312	3.1/8	17.30
BVT362	3.5/8	24.96
BVT412	4 1/8	35.21

## Mounting Channel

## Cantilever Arms

## Channel Accessories

### MOUNTING CHANNEL

Code	Length	Dimensions	List Price
<b>ALUMINIUM PLAIN CHANNEL</b>			
CHAN003	3m	22 x 41mm	20.32 each

<b>PRE-GALVANISED SLOTTED CHANNEL</b>			
UNISTRUT 321	3m	21 x 41mm	14.04 each
UNISTRUT 3	3m	41 x 41mm	17.86 each
UNISTRUT 6	6m	41 x 41mm	35.72 each

<b>CHANNEL CAPPING</b>			
CHANCAP 21	21 x 41mm Black PVC End Cap		0.30 each
CHANCAP 41	41 x 41mm Black PVC End Cap		0.28 each

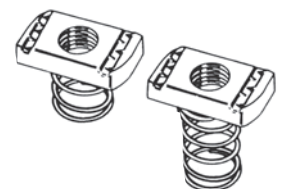
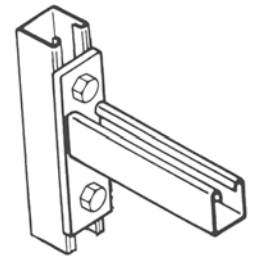
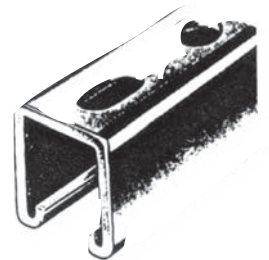
Code	Length	List Price
<b>CANTILEVER ARMS</b>		
CANT 150	150	4.90 each
CANT 300	300	6.39 each
CANT 450	450	7.75 each
CANT 650	600	9.25 each
CANT 750	750	15.04 each
CANT 900	900	18.28 each

### CHANNEL ACCESSORIES

Code	Diameter	List Price
<b>3 METRE LENGTH THREADED ROD (STEEL)</b>		
M6 ROD	6mm	2.24
M8 ROD	8mm	2.70
M10 ROD	10mm	3.48
M12 ROD	12mm	4.80

<b>SPRING LOADED CHANNEL NUTS (SHORT)</b>		
ZEB 56	6mm	0.36
ZEB 58	8mm	0.36
ZEB 510	10mm	0.36

<b>SPRING LOADED CHANNEL NUTS (LONG)</b>		
ZEBL 6	6mm	0.40
BRAK064	8mm	0.40
BRAK066	10mm	0.40



# screws, nuts & washers

## CHANNEL ACCESSORIES



Code	Type	Size	List Price
<b>SET SCREWS</b>			
97349	HEX	M 6 x 25 mm	0.40
97489	HEX	M 8 x 25	0.40
97691	HEX	M 10 x 20	0.40
97632	HEX	M 10 x 30	0.40
97756	HEX	M 12 x 30	0.12
97772	HEX	M 12 x 40	0.12
97799	HEX	M 12 x 50	0.12



<b>HEXIGON NUTS</b>			
4359	HEX 6	6mm	0.06
4375	HEX 8	8mm	0.06
4391	HEX 10	10mm	0.06
4448	HEX 12	12mm	0.08



<b>FLAT WASHERS</b>			
7447	W 6	6mm	0.02
7463	W 8	8mm	0.02
7471	W 10	10mm	0.02
7480	W 12	12mm	0.02



<b>SPLIT WASHERS</b>			
3646	S 6	6mm	0.02
3662	S 8	8mm	0.02
3670	S 10	10mm	0.02
3689	S 12	12mm	0.02



<b>PENNY WASHERS / REPAIR WASHERS</b>			
8826	P 25 6	6mm x 25mm	0.04
8966	P 25 8	8mm x 25mm	0.04
8842	P 32 8	8mm x 30mm	0.04
9040	P 25 10	10mm x 25mm	0.04
8869	P 32 10	10mm X 30mm	0.04



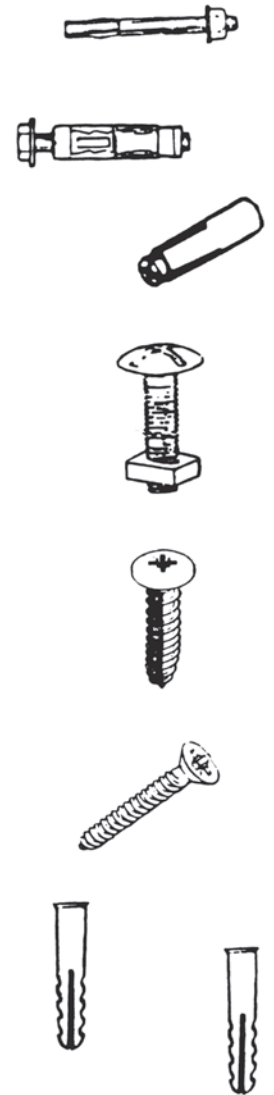
Code	Size	Style	List Price
<b>ANCHOR FIXINGS</b>			
420093	M 8-10	Thread Projecting	2.04
420107	M 10-10		2.72
420336	M 8 -10	Loose Bolt Type	1.99
420360	M 10 -10		2.70
838411	W A -8	Wedge Anchor	0.48
838420	W A -10		0.55

Code	Style	List Price
<b>ROOFING NUTS AND BOLTS</b> Plated Roofing Nuts & Bolts (Pack of 100)		
RN612	M 6 x 12	6.67
RN620	M 6 x 20	6.67
RN640	M 6 x 40	6.67

Code	Description	List Price
<b>SELF TAPPING SCREWS</b> Pozi-Drive Pan Head Self Tapping Screws (Pack of 100)		
87920	10mm x No 8	1.91
87939	12mm x No 8	2.59

Code	Length	List Price
<b>WOOD SCREWS</b> Pozi-Drive Counter Sunk Head Wood Screws (Pack of 100)		
40827	1" x N <sup>o</sup> 6	2.25
40860	1" x N <sup>o</sup> 8	2.59
40878	1-1/4" x N <sup>o</sup> 8	2.72
40886	1-1/2" x N <sup>o</sup> 8	2.79
40908	2" x N <sup>o</sup> 10	3.97
41050	2-1/2" x N <sup>o</sup> 10	5.05

Code	Style	List Price
<b>RAWL PLUGS</b> (Pack of 100)		
RAWL R	Red	2.72
RAWL B	Brown	2.72

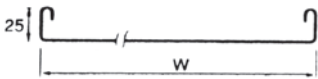
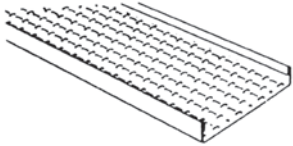


# trays

## Cable Tray

## Basket Tray

## Cable and Flex



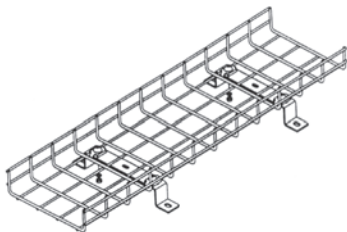
### CABLE TRAY Pre-galvanised cable-tray.

Code	Size	List Price
<b>3 METRE LENGTH - MED DUTY</b>		
CT50MMLD	50 mm wide	15.46
CT75MMLD	75 mm wide	18.20
CT100MMLD	100 mm wide	22.10
CT150MMLD	150 mm wide	29.62

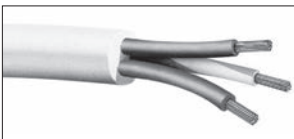
Code	List Price
<b>COUPLING KITS - MED</b>	
COUP25	Coupling Kit for Tray 2.45

### BASKET TRAY

Code	Size	List Price
<b>55MM BASKET TRAY - 3M LENGTH</b>		
BT50MM	50 mm wide	15.46
BT100MM	100 mm	22.10
BT150MM	150 mm	29.62
BT200MM	200 mm	34.18
BT300MM	300 mm	38.90
BT400MM	400 mm	42.74
BT500MM	500 mm	48.60
BT600MM	600 mm	54.10



For Cable Ties see page 159



Code	Cable Type	No. of Cores	Core Size	Qty	List Price
<b>CABLE AND FLEX</b>					
FLEX 1.5	FLEX (Black)	3	1.5	1 Mtr	1.36
FLEX 2.5	FLEX (Black)	3	2.5	1 Mtr	2.18
FLEX 525	FLEX (Black)	5	2.5	1 Mtr	4.02
SY2.5	SY	3	2.5	1 Mtr	3.59
SY525	SY	5	2.5	1 Mtr	5.10
SY715	SY	7	1.5	1 Mtr	4.70



# filter dryers/ oil separators

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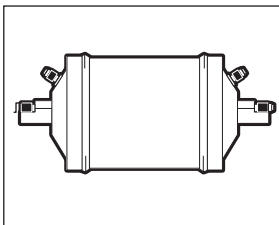
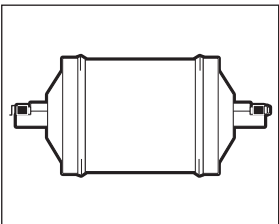
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# filter dryers

GAR/Valcon Liquid  
Line Dryers

VALCON Suction  
Line Dryers



Model	Connection	List Price
<b>GAR/VALCON LIQUID LINE DRIERS</b>		
TD-032	1/4 FLARE	12.26
TD-032S	1/4 SOLDER	12.26
TD-033	3/8 FLARE	12.26
TD-033S	3/8 SOLDER	17.50
TD-052	1/4 FLARE	14.88
TD-052S	1/4 SOLDER	14.88
TD-053	3/8 FLARE	14.88
TD-053S	3/8 SOLDER	14.88
TD-082	1/4 FLARE	15.18
TD-082S	1/4 SOLDER	15.18
TD-083	3/8 FLARE	17.68
TD-083S	3/8 SOLDER	17.68
TD-084	1/2 FLARE	17.26
TD-084S	1/2 SOLDER	17.26
TD-162	1/4 FLARE	24.10
TD-162S	1/4 SOLDER	24.10
TD-163	3/8 FLARE	24.10
TD-163S	3/8 SOLDER	24.10
TD-164	1/2 FLARE	24.82
TD-164S	1/2 SOLDER	24.82
TD-165	5/8 FLARE	27.34
TD-165S	5/8 SOLDER	27.34
TD-303	3/8 FLARE	38.22
TD-303S	3/8 SOLDER	38.22
TD-304	1/2 FLARE	35.84
TD-304S	1/2 SOLDER	36.92
TD-305	5/8 FLARE	44.84
TD-305S	5/8 SOLDER	44.84
TD-307S	7/8 SOLDER	53.42
TD-413S	3/8 SOLDER	41.48
TD-414	1/2 FLARE	41.48
TD-414S	1/2 SOLDER	55.22
TD-415S	5/8 SOLDER	55.22
TD-417S	7/8 SOLDER	55.22
TD-757S	7/8 SOLDER	73.72
TD-759S	1.1/8 SOLDER	73.72

<b>VALCON Suction Line Driers</b>		
TS-083	3/8 FLARE	POA
TS-083S	3/8 SOLDER	POA
TS-164	1/2 FLARE	POA
TS-164S	1/2 SOLDER	POA
TS-165	5/8 FLARE	POA
TS-165S	5/8 SOLDER	POA
TS-166S	3/4 SOLDER	POA
TS-305	5/8 FLARE	POA
TS-305S	5/8 SOLDER	POA

# filter dryers



Model Connection List Price

### VALCON SUCTION LINE DRIERS Continued

TS-306S	3/4 SOLDER	POA
TS-307S	7/8 SOLDER	POA
TS-419S	1.1/8 SOLDER	POA
TS-4811S	1.3/8 SOLDER	POA
TS-4813S	1.5/8 SOLDER	POA

### GAR/VALCON BI-DIRECTIONAL DRIERS

TBF-082	1/4 FLARE	POA
TBF-082S	1/4 SOLDER	POA
TBF-083	3/8 FLARE	POA
TBF-083S	3/8 SOLDER	POA
TBF-084	1/2 FLARE	POA
TBF-084S	1/2 SOLDER	POA
TBF-163	3/8 FLARE	POA
TBF-163S	3/8 SOLDER	POA
TBF-164	1/2 FLARE	POA
TBF-164S	1/2 SOLDER	POA
TBF-165	5/8 FLARE	POA
TBF-165S	5/8 SOLDER	POA

### GAR/VALCON MOISTURE INDICATORS (SIGHT GLASSES)

IHL2MM	1/4 MALE X MALE	12.80
IHL3MM	3/8 MALE X MALE	13.54
IHL4MM	1/2 MALE X MALE	19.56
IHL5MM	5/8 MALE X MALE	19.90
IHL2SS	1/4 SOLDER	12.32
IHL3SS	3/8 SOLDER	22.62
IHL4SS	1/2 SOLDER	16.38
IHL5SS	5/8 SOLDER	25.28
IHL7SS	7/8 SOLDER	47.24
IHL9S	1 1/8 SOLDER	134.78
IHL11S	1 3/8 SOLDER	POA
IHL13S	1 5/8 SOLDER	POA
IHL17S	2 1/8 SOLDER	POA
IHL21S	2 5/8 SOLDER	POA
IHL2MF	1/4 MALE X FEMALE	14.86
IHL3MF	3/8 MALE X FEMALE	13.94
IHL4MF	1/2 MALE X FEMALE	19.90
IHL5MF	5/8 MALE X FEMALE	26.62

### REFIL PENCIL DRIERS

FD15G316	3/16 X CAP 15 GRAM	2.66
FD15G14	1/4 X CAP 15 GRAM	2.73
FD20G14	1/4 CAP X 20 GRAM	2.85
FD25G14	1/4 CAP X 25 GRAM	3.09
FD15G14X14	1/4 X 1/4 15 GRAM	2.78
FD20G14X14	1/4 X 1/4 X 20 GRAM	2.90

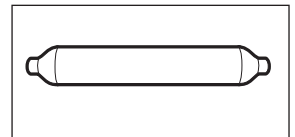
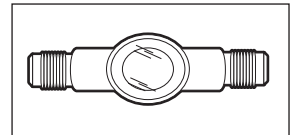
Valcon Suction Line Driers

GAR/Valcon Bi-Directional Driers

GAR/Valcon Moisture Indicators

Refil Pencil Driers

The TBF series drier is used for heat pumps or reverse cycle applications. It is solid core and compatible with all HCFC's, HFC's and corresponding lubricants.



# replacement core filter dryers

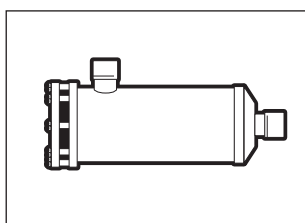


**TDS Replaceable  
Core Dryer**

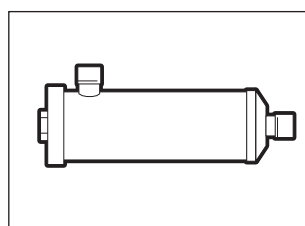
**TDQA Quick Cap  
Replaceable Core Dryer**

**TD100 Replaceable  
Core Dryer**

The TDS Series is the conventional one or multi Replaceable Core Dryer incorporating a unique screw together core holder.



The TDQA Series has the same function as the TDS Series, but incorporates a unique one bolt flange design allowing a quick change of cores.



The TD100 Series is a one or multiple replacement core dryer solder model with a steel flange cover

Model	Connection	No. of Cores	List Price
<b>TDS REPLACEABLE CORE DRYER</b>			
TDS 485	5/8	1	138.44
TDS 487	7/8	1	161.32
TDS 489	1.1/8	1	166.36
TDS 4811	1.3/8	1	166.36
TDS 4813	1.5/8	1	166.36
TDS 4817	2.1/8	1	166.36
TDS 967	7/8	2	201.66
TDS 969	1.1/8	2	201.66
TDS 9611	1.3/8	2	201.66
TDS 9613	1.5/8	2	201.66
TDS 9617	2.1/8	2	201.66
TDS 1449	1.1/8	3	218.30
TDS 14411	1.3/8	3	218.30
TDS 14413	1.5/8	3	218.30
TDS 14417	2.1/8	3	218.30
TDS 19211	1.3/8	4	245.20
TDS 19213	1.5/8	4	245.20
TDS 19217	2.1/8	4	245.20

Model	Connection	No. of Cores	List Price
<b>TDQA QUICK CAP REPLACEABLE CORE DRIVER</b>			
TDQA 485	5/8	1	332.72
TDQA 487	7/8	1	332.72
TDQA 489	1.1/8	1	332.72
TDQA 4811	1.3/8	1	332.72
TDQA 4813	1.1/5	1	332.72
TDQA 4817	2.1/8	1	332.72
TDQA 967	7/8	2	403.32
TDQA 969	1.1/8	2	403.32
TDQA 9611	1.3/8	2	403.32
TDQA 9613	1.5/8	2	403.32
TDQA 9617	2.1/8	2	403.32
TDQA 1449	1.1/8	3	436.60
TDQA 14411	1.3/8	3	436.60
TDQA 14413	1.5/8	3	436.60
TDQA 14417	2.1/8	3	490.40
TDQA 19211	1.3/8	4	490.40
TDQA 19213	1.5/8	4	490.40
TDQA 19217	2.1/8	4	490.40

Model	Connection	No. of Cores	List Price
<b>TD100 REPLACEABLE CORE DRYER</b>			
TD10017SV	2.1/8	1	379.42
TD10021SV	2.5/8	1	459.49
TD10025SV	3.1/8	1	501.36
TD30017SV	2.1/8	3	493.89
TD30021SV	2.5/8	3	634.86
TD30025SV	3.1/8	3	649.41
TD40017SV	2.1/8	4	604.00
TD40021SV	2.5/8	4	690.46
TD40025SV	3.1/8	4	725.40

# oil separators & accumulators



Model Connection List Price

## OIL SEPARATORS

W55824	1/2	161.32
W55855	5/8	171.42
W55877	7/8	172.08
W55889	1.1/8	216.78
W559011	1.3/8	236.20
W559213	1.5/8	248.40
F58889	1.1/8	292.20
F589011	1.3/8	333.56
F589213	1.5/8	437.58
F579417	2.1/8	448.54

## ACCUMULATORS

AS384	1/2 8" LENGTH	36.06
AS3125	5/8 12" LENGTH	43.40
AS3126	3/4 12" LENGTH	48.21
AS596	3/4 9" LENGTH	73.09
AS597	7/8 9" LENGTH	75.92
AS5126	3/4 12" LENGTH	81.30
AS5127	7/8 12" LENGTH	82.25
AS5137	7/8 13" LENGTH	82.98
AS5139	1.1/8 13" LENGTH	82.98
AS5179	1.1/8 17" LENGTH	89.08
AS51711	1.3/8 17" LENGTH	107.02
AS61411	1.3/8 14" LENGTH	135.30
AS62013	1.5/8 20" LENGTH	159.06

## Y TYPE CHECK VALVES

390540	1/4	34.40
390541	3/8	34.40
390542	1/2	35.49
390543	5/8	42.83
390544	7/8	52.48
390545	1.1/8	93.53
390546	1.3/8	111.21
390547	1.5/8	117.87

## BALL VALVES

BV3	3/8 6.5" LENGTH	29.58
BV4	1/2 6.5" LENGTH	30.92
BV5	5/8 6.5" LENGTH	40.88
BV7	7/8 7.5" LENGTH	67.84
BV9	1.1/8 9.0" LENGTH	81.10
BV11	1.3/8 10.0" LENGTH	158.38
BV13	1.5/8 11.0" LENGTH	174.14
BV15	2.1/8 12.0" LENGTH	206.64
BV17	2.5/8 12.5" LENGTH	TBA
BV19	3.1/8 13.7" LENGTH	TBA

Oil Separators

Accumulators

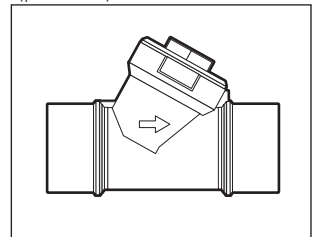
Y-Type Check Valves

Ball Valves

The W&F Series are compatible with HCFC's & HFC's and corresponding lubricants, the W Series is sealed, the F Series is flanged for easy cleaning.

The AS Series Accumulators feature solid copper connections for easy installations in Suction Line applications.

Integral Mounting Hub (1/4" to 7/8") can be 'snapped' into heavy duty mounting flange (provided)





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# insulation



## quick index

**Insul Accessories 129**

**Insul Sheet class 0 Self Adh 129**

**Insul Sheet class 0 128**

**Insul Tube class 0 9mm Wall 128**

**Insul Tube class 0 13mm Wall 128**

**Insul Tube class 0 15mtr Coils 128**

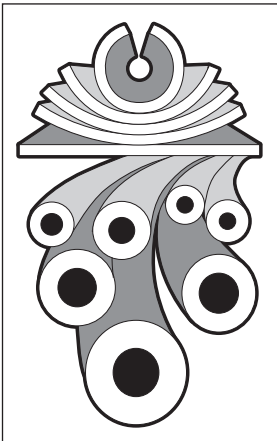
# insulation

Insul Tube class 0  
9mm Wall

Insul Tube class 0  
13mm Wall

Insul Tube class 0  
15mtr Coils

Insul Sheet Class 0



Code	Size	Wall	List Price
<b>INSUL TUBE CLASS 0 9MM WALL (2MTR LENGTHS)</b>			
IT-69	1/4	9MM	1.76
IT-109	3/8	9MM	1.48
IT-129	1/2	9MM	1.60
IT-159	5/8	9MM	2.16
IT-209	3/4	9MM	2.70
IT-229	7/8	9MM	2.76
IT-289	1.1/8	9MM	2.84
IT-359	1.3/8	9MM	3.12
IT-429	1.5/8	9MM	POA
IT-549	2.1/8	9MM	POA

Code	Size	Wall	List Price
<b>INSUL TUBE CLASS 0 13MM WALL (2MTR LENGTHS)</b>			
IT-613	1/4	13MM	2.12
IT-1013	3/8	13MM	1.42
IT-1213	1/2	13MM	2.28
IT-1513	5/8	13MM	2.76
IT-2013	3/4	13MM	2.92
IT-2213	7/8	13MM	3.50
IT-2813	1.1/8	13MM	4.12
IT-3513	1.3/8	13MM	5.10
IT-4213	1.5/8	13MM	5.40
IT-5413	2.1/8	13MM	8.50
IT-6713	2.5/8	13MM	POA
IT-8013	3.1/8	13MM	POA

Code	Size	Wall	List Price
<b>INSUL TUBE 15MTR COILS CLASS 0 9MM WALL</b>			
INSUL 15MTR 1/4	1/4	9MM	10.10
INSUL 15MTR 3/8	3/8	9MM	10.70
INSUL 15MTR 1/2	1/2	9MM	8.54
INSUL 15MTR 5/8	5/8	9MM	10.92
INSUL 15MTR 3/4	3/4	9MM	8.54

Many more size & coil lengths available upon request, 19, 25, 32mm wall also available.

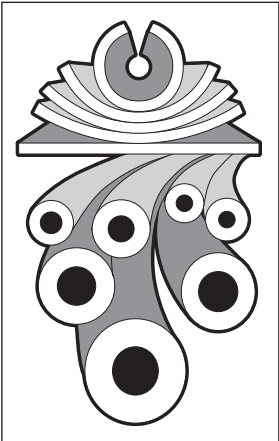
Code	Thickness	Size	List Price
<b>INSUL SHEET CLASS 0</b>			
FS-60	1/4	2M	20.60
FS-90	3/8	2M	21.12
FS-130	1/2	2M	22.04
FS-160	5/8	2M	26.40
FS-190	3/4	2M	27.20
FS-250	1	2M	28.65
FS-320	1 1/4	2M	32.10



Insul Sheet Class 0  
Self Adh

Insul  
Accessories

Code	Thickness	Size	List Price
<b>INSUL SHEET CLASS 0 SELF ADH</b>			
FS-60SA	1/4	1M SELF ADH	43.21
FS-90SA	3/8	1M SELF ADH	48.35
FS-130SA	1/2	1M SELF ADH	52.59
FS-190SA	3/4	1M SELF ADH	65.67
FS-250SA	1	1M SELF ADH	91.66
<b>INSUL ACCESSORIES ETC.</b>			
INSULTAPE15M	FOAM TAPE 10M CLASS 0		16.00
ADHESIVE	1/2L INSUL NON FLAMMABLE ADHESIVE		12.66
INSUL PAINT	HBI 1 LITRE HB INSUL PAINT		23.82
INSUL PAINT	WB 1 LITRE WB INSUL PAINT		24.01
INSUL PAINT	HB5 5 LITRE HB INSUL PAINT		91.58
INSUL PAINT	WB5 5 LITRE WB INSUL PAINT		93.29



MANY MORE SIZES & LENGTHS AVAILABLE. **PLEASE ASK.**  
DISCOUNTS ARE AVAILABLE ON BOX QUANTITIES.



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Please note: It is a legal requirement that we can only sell refrigerant to a company that holds an FGAS qualification. We must have a copy of your certificate in order to supply you with refrigerant gas. If you wish for us to supply you with refrigerant at any time please send us a copy in advance.



# plastic trunking

---



**quick index**

Tecnosystemi Plastic Trunking **132-133**

# plastic trunking

Tecnosystemi  
Trunking



Tecnosystemi  
group



Model	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	List Price
<b>TECNOSYSTEMI - CEILING/WALL CORNER CAP</b>						
TA60	110	60	56	67	125	5.22
TA72	114	62	68	79	125	6.24
TA100	121	83	78	104	125	10.68



<b>TECNOSYSTEMI - ELBOW (HORIZONTAL/FLAT)</b>						
CP60	66	55	101	N/A	N/A	6.24
CP72	78	68	118	N/A	N/A	9.14
CP100	104	77	152	N/A	N/A	13.60



<b>TECNOSYSTEMI - ELBOW (VERTICAL)</b>						
CA60	66	55	84	N/A	N/A	4.18
CA72	78	68	98	N/A	N/A	7.88
CA100	104	77	113	N/A	N/A	15.06



<b>TECNOSYSTEMI - END SOCKET (OUTLET TERMINAL)</b>						
TS60	66	55	75	30	60	3.74
TS72	78	68	90	35	67	4.12
TS100	104	77	110	35	67	7.26



<b>TECNOSYSTEMI - FLEXIBLE COUPLING</b>						
MF60	60	52	520	420	N/A	6.10
MF72	72	64	520	420	N/A	11.00
MF100	98	73	520	420	N/A	11.22



<b>TECNOSYSTEMI - OUTLET COVER/CLOSING PLUG</b>						
TC60	65	54	64	N/A	N/A	4.56
TC72	76	66	76	N/A	N/A	5.26
TC100	102	77	105	N/A	N/A	7.18



<b>TECNOSYSTEMI - SOCKET (COUPLER)</b>						
MG60	66	55	50	N/A	N/A	3.64
MG72	78	68	50	N/A	N/A	5.40
MG100	104	77	50	N/A	N/A	6.80

# plastic trunking



## Tecnosystemi Plastic Trunking

Model	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	List Price
<b>TECNOSYSTEMI - STRAIGHT DUCT</b>						
T60	60	52	51	47	N/A	21.40
T72	72	64	60	59	N/A	14.90
T100	98	73	86	68	N/A	23.40
<b>TECNOSYSTEMI - T-JOINT</b>						
DT60	66	55	75	30	60	12.46
DT72	78	68	200	152	40	16.80
DT100	104	77	200	152	42	18.04
<b>TECNOSYSTEMI - UNIVERSAL ELBOW (HORIZONTAL/FLAT)</b>						
CPS60	66	55	110	N/A	N/A	12.08
CPS72	78	68	130	N/A	N/A	14.24
<b>TECNOSYSTEMI - UNIVERSAL ELBOW (VERTICAL)</b>						
CAS60	55	66	104	N/A	N/A	11.14
CAS72	78	68	130	N/A	N/A	12.98
<b>TECNOSYSTEMI - WALL CAP (ROSSETTE)</b>						
RM60	64	56	105	97	N/A	3.26
RM72	78	68	120	112	N/A	3.42
RM100	104	77	167	143	N/A	3.84
<b>TECNOSYSTEMI - WALL FITTING TERMINAL</b>						
TM60	66	55	165	96	68	4.98
TM72	78	68	185	96	68	11.56
TM100	104	77	220	137	92	12.76





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# **fans & blades**

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## **quick index**

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# fan motors

Remco Fan Motors



Model	Wattage	Rotation	Shaft	Mountings	List Price
<b>REMCO FAN MOTORS</b>					
33-2-7A1	7	ACW	PLAIN 0.25	2 STUDS NDE	90.10
33-2-18AV	18	ACW	PLAIN 0.25	2 STUDS NDE	POA
33-2-18CV	18	CW	PLAIN 0.25	2 STUDS NDE	POA
33-2-33RF	33	REV	HUBLESS	3 STUDS NDE	121.70
33-2-35A	35	ACW	PLAIN 0.31	3 STUDS NDE	POA
33-4-5AF	5	ACW	HUBLESS	3 STUDS NDE	POA
33-4-5CF	5	CW	HUBLESS	3 STUDS NDE	POA
33-4-7AFBKT18	7	ACW	HUBLESS	3 STUDS NDE	28.56
33-4-7CF	7	CW	HUBLESS	3 STUDS NDE	28.56
33-4-9AF	9	ACW	HUBLESS	3 STUDS NDE	POA
33-4-9CF	9	CW	HUBLESS	3 STUDS NDE	POA
33-4-12AF	12	ACW	HUBLESS	3 STUDS NDE	POA
33-4-12CF	12	CW	HUBLESS	3 STUDS NDE	POA
33-4-15AF	15	ACW	HUBLESS	3 STUDS NDE	POA
33-4-15CF	15	CW	HUBLESS	3 STUDS NDE	POA
33-4-15A1	15	ACW	PLAIN 0.31	2 STUDS NDE	67.20
33-4-18AF	18	ACW	HUBLESS	3 STUDS NDE	POA
33-4-18CF	18	CW	HUBLESS	3 STUDS NDE	POA
33-4-18A	18	ACW	PLAIN 0.31	3 SD.DE + 3 T/H.NDE	54.92
33-4-18C	18	CW	PLAIN 0.31	3 SD.DE + 3 T/H.NDE	54.92
33-4-25A3	25	ACW	PLAIN 0.31	3 SD.DE + 3 T/H.NDE	POA
33-4-25AF	25	ACW	HUBLESS	3 STUDS NDE	POA
33-4-25/2AFB	25	ACW	HUBLESS	3 STUDS NDE	POA
35-2-35A	35	ACW	PLAIN 0.31	3 STUDS NDE	POA
35-2-75AB	75	ACW	PLAIN 0.31	8 TH DE/NDE	POA
35-4-70AL	70	ACW	PLAIN 12mm	4 LUGS	147.42
48-4-85CM	85	CW	PLAIN 10mm	4 PADS	POA
48-4-90AG	90	ACW	PLAIN 0.50	3 TH NDE	POA
48-4-90AR	90	ACW	PLAIN 0.50	3 LUGS + 3 PADS	178.22
48-4-125A	125	ACW	PLAIN 0.50	RES BASE 67mm SCH	178.22
48-4-125-3P	125	ACW	PLAIN 0.50	RES BASE 67mm SCH	178.22
60-4-180RB1PR	180	REV	PLAIN 0.63	RES BASE 89mm SCH	376.68
48-4-180RB3PR	180	REV	PLAIN 0.63	RES BASE 89mm SCH	POA
60-4-250RB1PR	250	REV	PLAIN 0.63	RES BASE 89mm SCH	282.00
48-4-250RB3PR	250	REV	PLAIN 0.63	RES BASE 89mm SCH	282.00
55-4-250RB1PR	250	REV	PLAIN 0.63	RES BASE 89mm SCH	POA
55-4-550RB3PH	550	REV	PLAIN 0.63	RES BASE 89mm SCH	POA
60-4-180RB1PR	180	REV	PLAIN 0.63	RES BASE 89mm SCH	POA
60-4-250RB1PR	250	REV	PLAIN 0.63	RES BASE 89mm SCH	POA
60-4-550RB1PR	550	REV	PLAIN 0.63	RES BASE 89mm SCH	POA
63-4-200AB	200	ACW	PLAIN 12mm	RIGED FOOT	231.60
63-4-200-3PB	200	REV	PLAIN 12mm	RIGID FOOT	231.60

NDE - Non Drive End.

# fan blades



Remco Fan Blades

Model	Watts input	Current mA	Dimensions mm	Speed RPM	Airflow m3/h	List Price
<b>REMCO COMPACT AXIAL FANS</b>						
A12A234	19	100	120x120x25	2570	78	28.20
GA123824	22	130	120x120x38	2300	97	15.14
FA175 FISH EYE	45	300	150x150x55	2550	191	78.52



Model	Watts input	Current A	Size Ø	Speed RPM	Capacitor mfd	Airflow m3/h	List Price
<b>REMCO BACKWARD CURVED FANS</b>							
BCF-2-133-41	36	0.25	133	2780	-	150	123.13
BCF-2-175-42	53	0.33	175	2350	-	300	146.72
BCF-2-190-44	58	0.26	190	2500	2	500	159.63
BCF-2-220-44	85	0.38	220	2600	3	700	160.55
BCF-2-225-38	105	0.46	225	2650	3	800	169.21
BCF-2-250-56	155	0.70	250	2600	5	1200	240.49

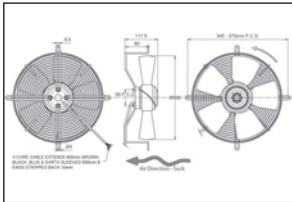


Model	Shaft Hub	Size mm	Pitch	List Price
<b>REMCO FAN BLADES</b>				
EL-4-140-32(CW)	1/4"	140	32°	16.00
EL-5-228-31(CCW)	5/16"	228	31°	22.56
EL-5-254-12(CCW)	5/16"	254	12°	24.26
EL-5-254-20(CCW)	5/16"	254	28°	24.26
EL-5-254-32(CCW)	5/16"	254	32°	24.26
VER-4-254-20(CW)	5/16"	254	20°	33.30
VER-4-254-30(CCW)	5/16"	254	30°	33.30
VER-4-254-32(CCW)	5/16"	254	32°	33.30
VER-3-305-20(CCW)	5/16"	305	20°	67.84
VER-4-305-20(CCW)	1/2"	305	20°	67.84
VER-4-305-28(CCW)	1/2"	305	28°	67.84
VER-4-305-32(CCW)	1/2"	305	32°	67.84
VER-4-355-24(CCW)	1/2"	335	24°	67.84
VER-4-380-20(CCW)	5/8"	380	20°	69.54
VER-4-380-24(CCW)	5/8"	380	24°	69.54
VER-4-380-30(CCW)	5/8"	380	30°	69.54
VER-4-380-32(CCW)	5/8"	380	32°	69.54
VER-4-380-40(CCW)	5/8"	380	40°	69.54
VER-4-460-24(CCW)	5/8"	460	24°	108.33
VER-4-510-18(CCW)	5/8"	510	18°	112.83
VER-4-510-32(CWF)	5/8"	510	32°	112.83
VER-4-510-26(CCW)	5/8"	510	35°	112.83
VER-4-560-16(CCW)	5/8"	560	16°	140.56
VER-4-560-32(CCW)	5/8"	560	32°	140.56

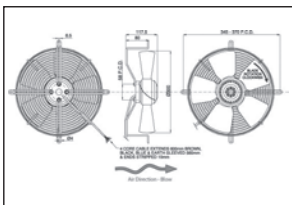


# fan motors

## External Rotor Motors



**SUCKER**



**BLOWER**

Model	Blade Size	List Price
<b>BASKET GUARD SUCKER 1PH</b>		
FMI 250SUCK1PH	250MM	93.32
FMI 300SUCK1PH	300MM	86.20
FMI 315SUCK1PH	315MM	94.28
FMI 350SUCK1PH	350MM	107.54
FMI 400SUCK1PH	400MM	121.12
FMI 450SUCK1PH	450MM	143.36
FMI 500SUCK1PH	500MM	177.86
FMI 550SUCK1PH	550MM	208.18
FMI 630SUCK1PH	630MM	308.68

Model	Blade Size	List Price
<b>BASKET GUARD BLOW 1PH</b>		
FMI 250BLOW1PH	250MM	93.32
FMI 300BLOW1PH	300MM	86.20
FMI 315BLOW1PH	315MM	94.28
FMI 350BLOW1PH	350MM	107.54
FMI 400BLOW1PH	400MM	121.12
FMI 450BLOW1PH	450MM	143.36
FMI 500BLOW1PH	500MM	177.86
FMI 550BLOW1PH	550MM	208.18
FMI 630BLOW1PH	630MM	308.68

Model	Blade Size	List Price
<b>BASKET GUARD SUCKER 3PH</b>		
FMI 250SUCK3PH	250MM	93.32
FMI 300SUCK3PH	300MM	86.20
FMI 315SUCK3PH	315MM	94.28
FMI 350SUCK3PH	350MM	107.54
FMI 400SUCK3PH	400MM	121.12
FMI 450SUCK3PH	450MM	143.36
FMI 500SUCK3PH	500MM	177.86
FMI 550SUCK3PH	550MM	208.18
FMI 630SUCK3PH	630MM	308.68

Model	Blade Size	List Price
<b>BASKET GUARD BLOW 3PH</b>		
FMI 250BLOW3PH	250MM	93.32
FMI 300BLOW3PH	300MM	86.20
FMI 315BLOW3PH	315MM	94.28
FMI 350BLOW3PH	350MM	107.54
FMI 400BLOW3PH	400MM	121.12
FMI 450BLOW3PH	450MM	143.36
FMI 500BLOW3PH	500MM	177.86
FMI 550BLOW3PH	550MM	208.18
FMI 630BLOW3PH	630MM	308.68



External Rotor Motor  
Flat Guard Mount

Centrifugal Fans

Axial Square  
Frame Fans

Model	Diameter	Air Volume	List Price
<b>EXTERNAL ROTOR BACKWARD CURVED CENTRIFUGAL FAN - 2 POLE MOTOR</b>			
2RRE15.195/35R 106-18	195mm	600m <sup>3</sup> /h	111.51
2RRE25.220/45R T11-01	220mm	810m <sup>3</sup> /h	132.79
2RRE45.250/56R H06-17	250mm	1520m <sup>3</sup> /h	210.88

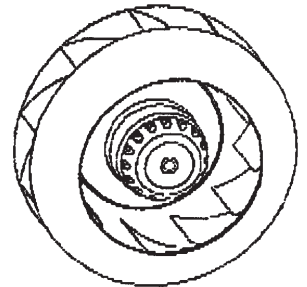
<b>4 POLE MOTOR</b>			
4RRE35.250/63R L03-17	250mm	940m <sup>3</sup> /h	194.54
4RRE45.280/63R L10-02	280mm	1130m <sup>3</sup> /h	229.59
4RRE45.315/101R T11-05	315mm	1735m <sup>3</sup> /h	246.39

Model	For Reference	External Dia.	Internal Dia.	List Price
<b>INLET RING FOR BACKWARD CURVED CENTRIFUGAL FAN</b>				
P16043	2RRE15.195/35R	206mm	128mm	9.52
P16133	2RRE25.220/45R	206mm	150mm	13.33
P16114	2RRE45.250/56R	255mm	165mm	22.08
P16009	4RRE35.250/63R	229mm	175mm	13.93
P16009	4RRE45.280/63R	229mm	175mm	12.51
P16151	4RRE45.315/101R	380mm	198mm	41.33

Model	Size	Voltage	Air Volume	List Price
<b>SQUARE FRAME AXIAL FANS</b>				
DO6 A04 HWB	60 x 60mm	12 VDC	39m <sup>3</sup> /h	10.66
FA 803824 HSW	80 x 80mm	240VAC	40m <sup>3</sup> /h	27.66
A09 A23 HTS	92 x 92mm	240VAC	43m <sup>3</sup> /h	24.35
FA 123824 HSW	120 x 120mm	240VAC	150m <sup>3</sup> /h	15.14
A12 B12 HTS	120 x 120mm	115VAC	175m <sup>3</sup> /h	14.22
A13 B23 HTS	127 x 127mm	240VAC	195m <sup>3</sup> /h	32.40
A17 C23 HWB	172 x 150mm	240VAV	298m <sup>3</sup> /h	78.52

Other sizes, Voltages and bearing type available on request.

References displayed are all single phase - Airflow from Fan towards guard.  
ALSO AVAILABLE ON REQUEST IN 3-PHASE AND REVERSE AIRFLOW



THOUSANDS OF FAN MOTORS,  
BLADES & BRACKETS  
AVAILABLE FROM STOCK.  
**PLEASE ASK!**

# fan motors



Air Curtains

Fan Motors,  
Brackets & Blades



Model	Description	Dimensions	Air Capacity m3h	List Price
<b>TECNOSYSTEMI - AIR CURTAINS</b>				
1230005	Ambient	1422w x 245h x 180d	1163	1253.25
12300056	Ambient	2032w x 245h x 180d	1658	1525.14
12300055R2	Warm Air	1422w x 245h x 180d	1658	1525.14
12300056R2	Warm Air	2032w x 245h x 180d	1658	2068.92

## FAN BLADES - ALUMINIUM SUCKERS



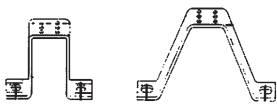
## FAN BLADES- PLASTIC SUCKERS



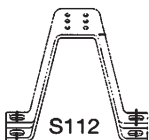
## FAN BLADES - ALUMINIUM BLOWERS



## FAN BRACKETS



S56, S75, S88      S89, S143



Code	Pitch	Diameter	List Price
<b>FAN BLADES- ALUMINIUM SUCKERS</b>			
FAN017	26	154mm	3.50
FAN026	26	170mm	3.70
FAN037	26	200mm	5.24
FAN047	26	230mm	4.14
FAN057	26	250mm	4.38
FAN065	20	300mm	5.70
FAN075	20	350mm	16.70

<b>FAN BLADES PLASTIC SUCKERS</b>			
FAN205	26	170mm	1.72
FAN215	26	200mm	3.34
FAN217	26	230mm	2.28
FAN220	26	250mm	2.56

<b>FAN BLADES ALUMINIUM BLOWERS</b>			
FAN100	31	6 inch	4.98
FAN110	31	7 inch	3.70
FAN120	31	8 inch	3.94
FAN130	31	9 inch	4.14
FAN140	31	10 inch	2.98
FAN150	22	300 mm	5.26

Code	Height mm	List Price
<b>FAN BRACKETS</b>		
FMB015	56	1.52
FMB025	75	1.32
FMB034	88	1.46
FMB035	89	2.48
FMB045	112	2.50
FMB055	143	2.70

# fan motors



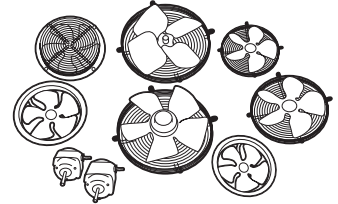
Ring Mounted Motor Assembly

Fan Motors

Condensor Fan Motors

Code	Output Watts	Blade Dia.	Pitch	List Price
<b>RING MOUNTED MOTOR ASSEMBLY - SUCKERS</b>				
FMR010	5W	150mm	26°	25.32
FMR015	5W	170mm	26°	23.30
FMR020	7W	200mm	26°	29.48
FMR030	11W	250mm	26°	28.48
FMR040	16W	250mm	31°	30.30

Code	Output Watts	Blade Dia.	Pitch	List Price
<b>RING MOUNTED MOTOR ASSEMBLY - BLOWERS</b>				
FMR100	5W	150mm	26°	26.80
FMR105	5W	170mm	26°	23.30
FMR120	7W	200mm	31°	28.18
FMR125	11W	250mm	26°	28.24
FMR135	16W	250mm	31°	30.06



## Universal

Code	Output Nom. Watts	List Price
<b>UNIVERSAL FIXING FAN MOTORS</b>		
EBM010	5	13.74
EBM020	7	15.98
EBM030	10	15.98
EBM040	16	17.80
EBM050	25	26.08
EBM060	34	27.76

### UNIVERSAL FIXING FAN MOTORS

1300 rpm 230v Rotation anticlockwise viewed from blade Universal mounting

### FAN MOTORS



1300 rpm 240V 1 ph. Rotation anti-clockwise viewed from blade

## SPECIAL FAN MOTORS

Code	Output Nom. Watts	List Price
CE7115V	7 WATT 115 VOLT	59.90
EM-2-18AF	18 WATT 2 POLE	81.48
EM-4-35AF	35 WATT D SHAFT	83.92



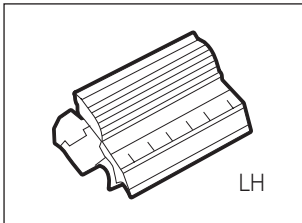
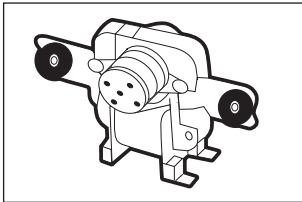
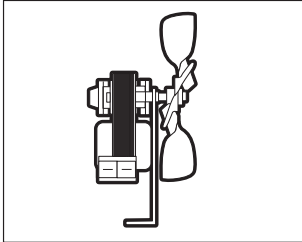
# fan motors

## Open Frame Motors

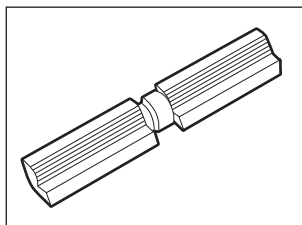
## Frost Free Fan Motors

## Airwheel Cross Flow Tangential Fans

## Airwheel Cross Flow Tangential Fans (Dual)



Left Hand MTR



Dual Impellar



Right Hand

Left Hand

Model	Impeller Length mm	Watts	List Price
<b>OPEN FRAME MOTORS (Skeletal)</b>			
FMX010	96	15	23.82
FMX040	110	15	24.48
FMX050	130	15	32.86
FMX080	154	20	35.46
FMX100	170	30	40.54

<b>FROST FREE FAN MOTORS</b>			List Price
MTR172	FROST FREE FAN MTR OCEAN/BEJAM ETC		59.08
MTR 171	FROST FREE FAN MTR UNIVERSAL		73.36
MTR 176	FROST FREE FAN MTR SPLINED SHAFT		59.08

Model	Impeller Length mm	Watts	List Price
<b>AIRWHEEL CROSSFLOW TANGENTIAL FANS</b>			
FMC410	90	20	21.72
FMC430	120	20	21.90
FMC450	180	20	35.74
FMC480	240	30	25.60
FMC500	270	30	28.28
FMC530	300	30	29.50
FMC560	360	30	56.80
FMC590	420	30	65.30

Please specify left or right handed motor.

<b>AIRWHEEL CROSSFLOW TANGENTIAL FANS (DUAL)</b>			
FMC630	120 x 2	30	57.86
FMC650	180 x 2	30	68.16
FMC670	240 x 2	30	76.34
FMC690	270 x 2	30	78.96
FMC730	300 x 2	35	POA
FMC750	420 x 2	35	POA

All Blade Diameters listed above are 60mm.

Model	Impeller Length mm		List Price
<b>AIRWHEEL CROSSFLOW TANGENTIAL FANS 40mm BLADE DIAMETER</b>			
FMC715	189 x 189	Slimline	117.24
FMC725	266	Slimline	POA

Many other Blade Lengths & Diameters available. Please ask!





# condensate pumps

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# condensate pumps

Little Giant Condensate Pumps & Accessories

# LittleGIANT®

## CONDENSATE PUMPS

Ideal for collecting and removing waste water from air conditioning, refrigeration and heating applications. Also suitable for removing excess water from ice makers, beverage machines, water coolers and drinking fountains. All models are acid resistant making them ideal for high efficiency equipment.

### VERTICAL SUMP PUMPS

Heavy duty air cooled motor      Leak free and rustproof tank  
Low voltage safety switch      Balanced impeller

Model	Horsepower	Operating	Discharge	Weight	PSI	Maximum	Maximum	Cable	Dimensions (HxLxW)	List Price
Number		Flow				Flow	Shut-off	Length	inches and (cm)	
VCC20S	1/30	75	0.38 9.7mm	2.3kg	6.9	66GPH 300LPH	14.0ft 4.3m	6.0ft 1.8m	5.1 x 12.0 x 5.0 (13.0 x 30.5 x 12.7)	168.83
VCMA20S	1/30	75	0.38 9.7mm	2.4kg	6.9	66GPH 300LPH	14.0ft 4.3m	6.0ft 1.8m	7.0 x 11.0 x 5.0 (17.8 x 27.8 x 12.7)	168.83
VCL24	1/18	148	0.38 9.7mm	3.6kg	9.4	212GPH 950LPH	19.0ft 5.8m	6.0ft 1.8m	10.5 x 12.0 x 6.0 (26.7 x 30.5 x 15.2)	223.50
VCL45	1/6	250	0.38 9.7mm	6.5kg	16.7	367GPH 1620LPH	34.0ft 10.4m	3.0ft 0.9m	10.5 x 12.0 x 6.0 (26.7 x 30.5 x 15.2)	679.15

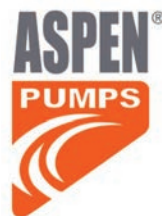
### MINI PUMPS

- High efficiency water filter
- High water alarm
- Quiet operation
- 3 component design: pump, control unit, reservoir

Model	Weight	Max	Maximum	Suction	Dimensions (HxLxW)	Dimensions (HxLxW)	Dimensions (HxLxW)	List Price
Number	Wattage	Flow	Shut-off	Lift	Control Unit	Collection Reservoir	Pump	
EC400	0.4kg	14Ltr/Mr	12 Mtr	3.3ft 1.0m	45 x 110 x 35 mm	37 x 80 x 35mm	1.2 x 1.9 x 0.7	206.99



# condensate trunking systems



- Mini Lime System
- Aspen Condensate Pumps
- Accessories

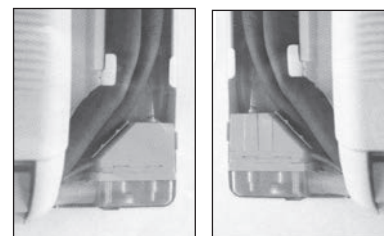
## Aspen Mini Lime System

A highly attractive option. Not only do they offer an appealing slim-line appearance, but they also completely reversible, quick and easy to install.

There are three different types of Mini Lime Systems available to suit both simple and complex installations, therefore allowing greater flexibility.

The Mini Lime System comprise of all components required: mini lime pump, elbow, conduit (800mm), conduit sleeve (slimline system only) and ceiling plate all in one slim-line box.

The Mini Lime Systems are designed to be installed next to the evaporator unit of an air conditioning system. By connecting the drain hose to the reservoir of the pump unit, condensate water can be pumped to a height of 8 metres. As the pump is held securely in the elbow in a horizontal position, this ensures that the pump operates reliably.



Model	Max Litres/hr	Max Head (m)	List Price
<b>ASPEN</b>			
STANDARD	6.25	12.00	148.00
UNIVERSAL	6.25	12.00	190.48
HIGH LIFT TANK	6.25	12.00	156.00
MK4	6.25	12.00	193.72
HIFLOW 1 LTR*	288	4.0	95.14
HIFLOW 2 LTR*	288	4.0	95.14
Mini Lime	14	8.00	156.76

\*(LTR Designates Tank Capacity)

<b>ACCESSORIES</b>		
PUMP HEAD TUBE	- ALL MODELS (except Hi Flow)	12.50



# condensate pumps



## Sauermann Condensate Pumps

### Tank Pumps

### Mini Pumps

### Dairy Cabinet Pumps



#### Sauermann Delta Pack

The Sauermann Delta Pack comprises of a complete kit for installation on wall mounted air conditioning units.

The SI1082 piston pump manufactured by Sauermann undergoes rigorous testing to ensure it meets with the high standards expected of Sauermann products. The pump sound level is as low as 21.5 dBA – the quietest piston pump available on the market.

The Delta Pack is designed with ease of installation in mind. The pump mounts directly onto the wall using the reversible anti-vibration mounting bracket, has a plug-in power cord and the corner piece, designed to take 3/8" & 5/8" pipework, acts as a cover making the pump easily accessible for maintenance.

Correct condensate calculations are essential when installing piston pumps. The Delta Pack is available with the option of an 8, 10 or 20 Ltr/Hr piston pump allowing the installer a greater flexibility.



Model	Max Ltrs/hr	Max Head m	List Price
<b>SAUERMANN - CONDENSATE PUMPS</b>			
DeltaPack	8	6	159.90
PE5100	6	12	150.00
SI2750	10	6	111.90

Model	Description	Flow Rate	Discharge Head	Sound Level at 1M (dBA)	Dimensions L x W x H	List Price
<b>TANK PUMPS</b>						
SI1805	1/2 Ltr Tank Pump	500 Ltr/Hr	5.4m	47	195 x 130 x 122	100.98
SI1820	2 Ltr Tank Pump	500 Ltr/Hr	5.4m	47	195 x 130 x 170	99.12
SI1822	3.8 Ltr Tank Pump	1100 Ltr/Hr	11m	66	305 x 152 x 257	175.02
EE1650	1/2 Ltr Tank Pump	30 Ltr/Hr	30m	52	160 x 85 x 88	191.86

The Sauermann range includes tank pumps to fit any application and all are complete with high level alarm and non-return valve for complete peace of mind.

Model	Description	Flow Rate	Discharge Head	Outlet Connection	Dimensions L x W x H	Sound Level at 1M (dBA)	List Price
<b>MINI PUMPS</b>							
DP1082	1 Piece pump complete with Trunking	8 Ltr/Hr	6m	-	66 x 44 x 77	21.5	159.90
SI1082	1 Piece pump (Delta Pack Pump)	8 Ltr/Hr	6m	-	66 x 44 x 77	21.5	129.75
SI3080	2 Piece Mini Pump	8 Ltr/Hr	6m	1m	66 x 44 x 59	20.2	133.79
SI3100	2 Piece Mini Pump	10 Ltr/Hr	6m	2m	66 x 44 x 59	25.1	133.79
SI3200	2 Piece Mini Pump	20 Ltr/Hr	6m	2m	66 x 44 x 59	32.4	187.65
SI2750	2 Piece Mini Pump	10 Ltr/Hr	6m	2m	61 x 38 x 76	32	111.90
SI1730	2 Piece Mini Pump	30 Ltr/Hr	10m	2.5m	74 x 52 x 95	42	187.65

The Sauermann Range of Mini Pumps are one of the quietest and reliable on the market. The complete range offers a solution for any installation.

<b>DAIRY CABINET PUMPS</b>							
SI1931	6.5 Ltr Under Counter Dairy Cabinet Pump	700 Ltr/Hr	24.6m		600 x 240 x 80	63	550.00

The new Sauermann Dairy Cabinet Pump offers a low profile, high spec product for use with refrigeration display cabinets.

# condensate removal



Condensate Trays

Plastic Drain

Condensate Hose

Condensate Accessories

Model	Description	List Price
<b>CONDENSATE TRAYS</b>		
ES-8-2	Evaporative Condensate Tray 1.8Ltr c/w Htrs & Thermostat	108.30
ES-16-2	Evaporative Condensate Tray 2.6Ltr c/w Htrs & Thermostat	133.44

Model	Description	List Price
<b>TECNOSYSTEMI - DRAIN PLASTIC</b>		
11126324	Rigid Drain 2 Mtr Length	5.26
11126310	45 Deg Elbow	2.04
11126311	90 Deg Elbow	2.56
11126312	T-Piece	2.40
11126313	Straight Coupler	2.04
11126315	125gram PVC Glue	11.42
11132059	Plastic pipe cutters for rigid and flexi drain	15.02
11126317	Pipe Clip for drain	0.32

Model	Description	Length	List Price
<b>CONDENSATE HOSE</b>			
PUMP305	1/4" CLEAR HOSE	30M roll	10.40
PUMP315	3/8" CLEAR HOSE	30M roll	10.78
PUMP400	1/4" BRAIDED HOSE	30M roll	13.28
PUMP450	3/8" BRAIDED HOSE	30M roll	30.22

Model	Max Ltrs/hr	QTY	List Price
<b>ACCESSORIES</b>			
ACC00106	50cm Blond Rubber	1	6.89
ACC00204	6mm Straight & 6mm Elbow Connectors	5 each	15.75
ACC00205	Seal Sealing Fittings	6	30.00
ACC00209	15mm x 15mm Flexible Connector	1	3.62
ACC00425	1" Condensate Inlet Adaptor	3	10.50
ACC00430	1" Condensate Inlet Adaptor	3	12.37
ACC00440	1" Condensate Inlet Adaptor	2	8.50
ACC00705	5m extension cable for SI3080/SI3100/SI3200	1	23.00
ACC00805	Check Valves for 6mm hose	5	26.75

Sauer mann offer a range of connectors and accessories designed to aid engineers on an installation.



# condensate drain cleaners

## Condensate / Drain Chemical Cleaners



Drain Treatment	Description	List Price
<b>CONDENSATE HOSE</b>		
DrainKleen	5LTR Acid Based Drain Unblocker	69.38
Quick Treat	Biodegradable Condensate Pan Treatment Tablet	84.84
StayClean	Condensate Tray Bacterial Control Tablets (pk 20)	5.40
GalloGun CGI	Cleans Drain Lines with a swoosh	88.36
GGC6	Gallo Gun Cartridges (pk 6)	30.20



### FLUSHING SET

Complete set for drain flushing, which allows to remove sludge and residue, by pressure injecting the flushing fluid inside the system using a cylinder and a nitrogen professional reducer with pressure between 0,5 - 0,7 MPa.

#### Properties:

- Total removal of sludge and residue
- Does not leave any residue
- Very easy to use
- Economic
- Practical and fast to use



Code	Model	Description	List Price
<b>FLUSHING SET</b>			
13005007001	A/CF-P	Flushing set	240.46





# **chemical accessories + sealants**

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# qwik check & qwik shot

QwikCheck

QwikShot

Acid Test & Removal



## Acid test & removal

The development of acid in refrigeration and air conditioning systems can severely shorten the life of the compressor and the refrigerant. Modern synthetic lubricants, when exposed to moisture, can cause serious corrosion. Where compressor burnouts occur, the oil becomes extremely acidic. If all the oil is not identified and removed, the increased acid levels will attack the new compressor and cause another motor burnout. Test for acid with the compact QwikCheck. It is fast, accurate and inexpensive. NO MESSY OIL SAMPLES. Treat any acid with QwikShot. QwikShot's unique patented design carries unwanted acid in to the filter drier where both the acid and the QwikShot are removed without leaving any residue. Use QwikShot to treat one large system or several smaller systems.

QwikInjector - A simple tool, QwikInjector can be used to inject QwikShot directly into the operating system. Acid is a killer in refrigeration systems. Other treatments may neutralise the acid but leave behind salt residues. These can, in some cases be just as corrosive as acids. Only QwikCheck and QwikShot can guarantee a safe acid free system.

### QwikCheck (Rapid acid test)

#### Key Benefits

- Highly effective test for acid - in just 5 seconds
- Works for all refrigerants and oils
- Safe for all systems
- A colour change indicates a pass or fail

### QwikShot (Acid removal)

#### Key Benefits

- Leaves no residue or contamination
- Superior to acid neutralization
- Works with all refrigerants, oils and filter dryers
- Convenient packaging eliminates wastage of product

Model	QwikCheck	QwikShot
Application	Acid	Acid removal refrigerant circuit
Soils	N/A	Acid
Dilution (Water:Product)	NO	NO
Contact Period	5 seconds	As necessary
Rinse/Flush Required	N/A	NO
Special Features	Throwaway design. No oil samples	1 package treats up to a 12 ton system
List Price	£10.74	£107.68



# chemical accessories & sealant

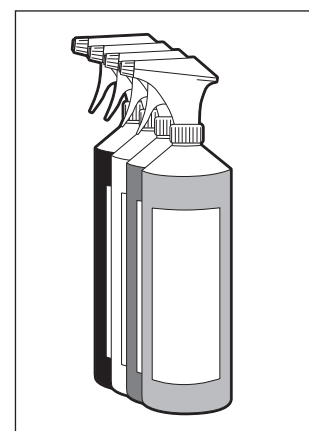


Coil Cleaners

Leak Spray

Silicone/PTFE & Foams

Model	Description	List Price
<b>COIL CLEANERS</b>		
HYDRO-COIL	EVAPORATOR CLEAN 5 LTR	60.88
HYDRO-FOAM	CONDENSOR CLEAN 5 LTR	74.44
HYDROX	DESCALER WITH COLOUR INDICATOR 5 LTR	74.47
HYDRO-KLEEN	NON ACID CONDENSOR CLEANER 5 LTR	48.67
CONDENCIDE	COIL CLEANER + DISINFECTANT 5 LTR	68.14
ENVIRO-COIL	"GREEN" COIL CLEANER 5 LTR	71.34
SUPER H.D	ELECTROSTATIC FILTER CLEANER 5 LTR	62.78
HB30	ICE MACHINE CLEANER 5 LTR	66.94
DRAIN KLEEN	CONDENSATE DRAIN CLEANER 5 LTR	66.94
PRO-TECT	CORROSION PROTECTOR 1 LTR	80.57
PRO-TECT5L	CORROSION PROTECTOR 5 LTR	200.49
ANTI GLOW	UV ADDITIVE CLEANER + REMOVER 1 LTR	65.91
SP21	DESCALING GEL 5 LTR	38.29
SP22	METAL SAFE DESCALER 5 LTR	74.07
LPSPRAY	ALL PLASTIC SPRAYER	123.47
GASCONTROL	400ml LEAK SPRAY	8.40
L11575	HEAT SEAL STICK	20.07
L11511	BLOCK-IT PASTE	17.00
DP2	SUPER POXEE KIT	11.89
DL1	LIQUID LEAK DETECTOR	4.65
ATK4	ACID TEST KIT	28.83
TT1	ACID/HUMIDITY TEST	226.05
ATM/ATS	ACID TEST KITS MIN/SYN	8.54
PTFE	PTFE TAPE	0.96
SILICON-CL	SILICON TUBE CLEAR FOOD SAFE	6.80
SILICON-WH	SILICON TUBE WHITE FOOD SAFE	6.80
SIL-SKEL	SILICON SKELETON GUN	12.92
97600	EPOXY PUTTY	6.53
EV COIL	COIL CLEANER 300G	21.57
ICE MAX	ICE MACHINE CLEANER 300G	12.67
FP21	POLYURETHANE FOAM 300ML	10.80
WD405L	WD40 5LTR C/W APPLICATOR	56.58
WD40400ML	WD40 400ML AEROSOL	10.80



**FREE NEXT DAY DELIVERY**

on orders over **£100.00 nett\*** (UK Mainland)

## tools and accessories



### Cleaners

### Detergents and Chemical Accessories

#### PSP6

##### Professional spray pump

6 lt high density polyethylene tank with UV stabilizer. Incorporated funnel. Big nylon pump with steel rod, handle with lance support.

Upper liquid output. 1,20 mt PVC hose. New brass lance with bendable rod and adjustable nozzle. Viton pumping valve. Brass safety valve and breather with coloured pressure levels.

Adjustable strap. Under EEC norms.

Code	Model	Description	List Price
<b>PSP6</b>			
13005013	PSP6	Sprinkling pump	91.16



#### COIL CLEANER

##### Universal detergent

Concentrated degreasing detergent for the cleaning of filters, finned air condensers, convectors, etc. Perfect for the maintenance and cleaning of the various components of air conditioning and refrigeration systems. Product for professional use.

Code	Model	Description	Capacity lt	List Price
<b>COIL CLEANER</b>				
13005015	ACC	Universal detergent	5	44.87



#### EFC

##### Detergent for evaporators and unit heaters

EFC is supplied ready for use in handy aerosol. It optimizes the performance of the air-conditioning systems by keeping the maximum efficiency in the heat exchanger.

EFC rapidly crumbles dirt, even when it is heavy, emulsifies it. Remove it simply by rinsing.

EFC sticks perfectly even to vertical surfaces and by increasing the time of contact, it gives a thorough cleaning.

Code	Model	Description	Capacity ml	List Price
<b>EFC</b>				
13005018	EFC	Foaming detergent for evaporator and unit heater	650	23.58



#### CLEAN-AIR

##### Sanitizer for air conditioning systems

Professional use item, it removes bad smells from air conditioning systems and rapidly and safely sanitizes them. Doesn't cover odours but eliminates them.

Code	Model	Description	Capacity ml	List Price
<b>CLEAN-AIR</b>				
13005014	Clean-Air	Sanitizer	400	14.56





# service consumables



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**Brazing Rods and Flux 154**

**MAPP & Propane Cylinders 154**

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# service consumables

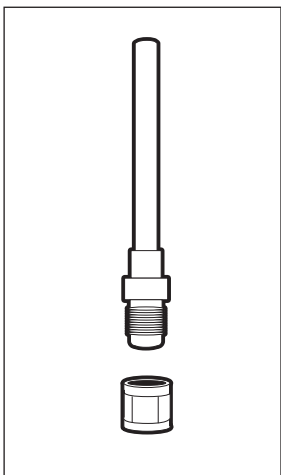
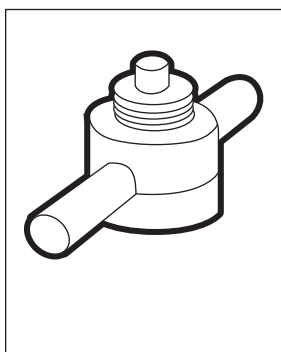
# watsco

Service Items Line Taps

Access Valves

MAPP & Propane  
Cylinders

Brazing Rods and Flux



Code Description List Price

SERVICE ITEMS LINE TAPS		
LT4G	1/4 Tube	6.90
LT5G	5/16 Tube	6.94
LT6G	3/8 Tube	8.20
LT8G	1/2 Tube	7.88
CV1G	Control Valve for Above	9.02
BTV 1	1/4-5/16-3/8 Tube O.D.	4.76
BTV 2	1/2-5/8 Tube O.D.	6.77
BTV 3	3/4-3/8 Tube O.D.	9.87

ACCESS VALVES STRAIGHT SOLDER W/TUBE EXT.		
AV X 2	1/4 SAE X 1/8 ODS	3.59
AV X 3	1/4 SAE X 3/16 ODS	3.87
AV X 4	1/4 SAE X 1/4 ODS	1.86
AV X 5	1/4 SAE X 5/16 ODS	5.14
AV X 6	1/4 SAE X 3/8 ODS	5.39
AV X 6MM	1/4 SAE X 6MM	9.71

MAPP GAS etc.		
TLR328	MAPP GAS CYL	16.84
R35664	PROPANE CYLINDER	12.24
R35741	OXYGEN CYL ROTHENBERGER	57.76
R35510	MULTIGAS PROPANE/BUTANE	14.58
R35570	MULTIGAS ACETYLENE/LPG	14.58
01146A	OXYGEN CYL TURBOSET90	29.50

Code Description Price Per Stick

BRAZING RODS + FLUX		
SS1630	1.5MM SILVER SOLDER	POA
SS1665 (2.4)	2.4MM SILVER SOLDER	POA
SS1665 (3.0)	3.0MM SILVER SOLDER	POA
SS1805	1.5MM COPPER TO COPPER	0.58
SS1805 (2.4)	2.4MM COPPER TO COPPER	0.70
SS1805 (3.0)	3.0MM COPPER TO COPPER	1.94
FL1802	500 G FLUX LIQUID	21.51
FL1802N	100 G FLUX POWDER	15.06
SS1665XFC	1 5mm FLUX COATED SILVER SOLDER 34%	9.66
PHOSON	1LB PACK OF SPECIALIST BRAZING RODS 3MM	25.58



# refrigerant & oils

---



## quick index

Suniso Oils 156

Vacuum Pump Oils 156

# refrigerant & oils

Suniso Oils

Vacuum Pump Oils



PRICES AVAILABLE ON REQUEST

Code	Description	Size	List Price
<b>SUNISO OILS</b>			
MOBIL32	ESTER	1 GALLON	136.00
MOBIL46	ESTER	1 GALLON	197.60
MOBIL68	ESTER	1 GALLON	203.48
MOBIL120	ESTER	1 GALLON	155.26
<b>VACUUM PUMP OILS</b>			
VAC 1	MINERAL	1 LITRE	18.16
VAC 5	MINERAL	5 LITRE	84.30
500P	ESTER	1 LITRE	35.51



# electrical accessories

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SWA Krimp-It Electrical Accessories  
& Cable Ties 159

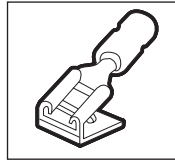
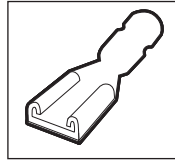
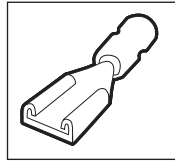
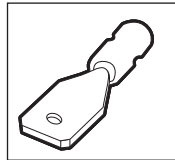
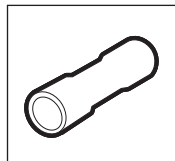
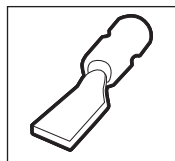
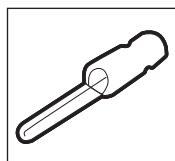
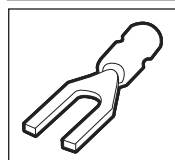
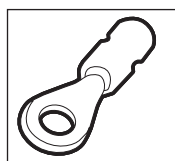
# electrical accessories

SWA Electrical  
Accessories

Crimps



All the right connections!®



Model Price/100	Description	List
--------------------	-------------	------

RED TO SUIT 0.5MM-1.5MM WIRE		
RR43	4MM RINGS	6.40
RR53	5MM RINGS	7.74
RR64	6MM RINGS	8.98
RF43	4MM FORKS	9.94
RP10	10MM PINS	6.56
RB11	BLADE	6.90
RBC4	BUTT CONNECTOR	8.76
RF66608UR	FEMALE SPADE	8.30
RM63UR	MALE SPADE	7.14
RF66FUR	INSULATED SPADE	8.84
RS37N	3MM FORKS	5.36
RPB63UR	PIGGY BACKS	11.58

BLUE TO SUIT 1.5MM-2.5MM WIRE		
BR43	4MM RING	7.46
BR53	5MM RING	7.48
BR64	6MM RING	10.10
BS37	FORKS 3.7MM	5.36
BS43	FORKS 4.3MM	4.66
BP10	PINS	4.90
BB9	BLADE	7.58
BBC45	BUTT CONNECTOR	10.50
BR66UR	FEM SPADE	11.92
BM63UR	MALE SPADE	7.08
BF66UR	INSULATED SPADE	13.12
BPB63UR	PIGGY BACK	13.80

YELLOW TO SUIT 4.0MM-6MM WIRE		
YR53	5.3MM RING	14.84
YR64	6.4MM RING	15.34
YU508	8MM RING	19.58
YB10	PINS	10.77
YF66UR	FEMALE SPADE	8.50
YM63UR	MALE SPADE	9.40

All crimps are sold per 100

RPI - CH	RATCHET TYPE PLIERS PROFESSIONAL	60.58
STRIPPERS	WIRE STRIPPERS	24.09

ELECTRICAL ACCESSORIES		
5A FUSE	PK10	2.36
10A FUSE	PK10	2.36
13A FUSE	PK10	2.36
5A STRIP	5A STRIP CONNECTOR	1.54
10A STRIP	10A STRIP CONNECTOR	1.68
15A STRIP	15A STRIP CONNECTOR	1.74
30A STRIP	30A STRIP CONNECTOR	2.26
Plug Top	3 Pin 13A Plug	1.04



# electrical accessories

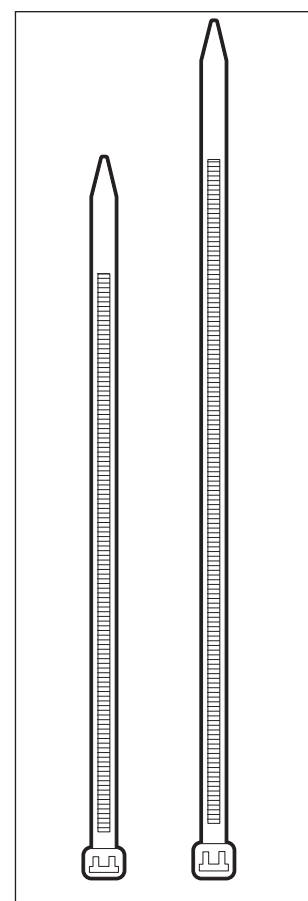


All the right connections!®

Krimp-It Electrical  
Accessories

Cable Ties

Model	Description	List Price	
<b>JUNCTION BOXES</b>			
20AJUNC	20A JUNCTION BOXES	5.23	
30AJUNC	30A JUNCTION BOXES	6.67	
<b>INSULATION TAPE</b>			
TAPE BLACK	33 MTRS BLACK INSULATION TAPE	1.78	
TAPE BLUE	33 MTRS BLUE INSULATION TAPE	1.78	
TAPE RED	33 MTRS RED INSULATION TAPE	1.78	
TAPE WHITE	33 MTRS WHITE INSULATION TAPE	1.78	
TAPE YELLOW	33 MTRS YELLOW + GREEN INSULATION TAPE	1.78	
<b>MAINS TESTERS</b>			
NT1878	MAINS TESTER SCREWDRIVER LARGE & SMALL	10.78	
VS1969	VOLT STICK	25.77	
<b>CABLE TIES</b>			
CT75/2.5	75MM X 2.5MM	Price PER 100	6.88
CT140/3.6	140MM X 3.6MM	Price PER 100	3.00
CT160/4.8	160MM X 4.8MM	Price PER 100	3.50
CT200/4.8	200MM X 4.8MM	Price PER 100	3.46
CT250/4.8	250MM X 4.8MM	Price PER 100	5.68
CT300/4.8	300MM X 4.8MM	Price PER 100	5.28
CT370/4.8	370MM X 4.8MM	Price PER 100	6.32
CT200/7.8	200MM X 7.8MM	Price PER 100	7.99
CT240/7.8	240MM X 7.8MM	Price PER 100	10.38
CT300/7.8	300MM X 7.8MM	Price PER 100	13.22
CT 370/7.8	370MM X 7.8MM	Price PER 100	12.54





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At CARS we pride ourselves in supporting our customers not only with great service and delivery but with essential training too.

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Guilds**

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to avoid disappointment

Our FGAS course is great value at £525.00 per person (+£60 certification fee). On site at our premises in Stoke-on-Trent, the training fee includes all course materials, lunch and refreshments throughout the day and is designed for busy and experienced engineers to brush up on their knowledge and keep up to date with current practice.

Please note: It is a legal requirement that we can only sell refrigerant to a company that holds an FGAS qualification. We must have a copy of your certificate in order to supply you with refrigerant gas. If you wish for us to supply you with refrigerant at any time please send us a copy in advance.



# ice machines

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**quick index**

Whirlpool Ice Machines **162**



SENSING THE DIFFERENCE

## WHIRLPOOL ICE MACHINES

K20 20KG  
DAY - **£495.00**  
**Net trade price**

K40 40KG  
DAY - **£595.00**  
**Net trade price**



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# ice machine spares & safety equipment

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[quick index](#)

Phillips/Ignis/Whirlpool Ice Machine Spares [164-165](#)

## ice machine spares

Phillips/Ignis/Whirlpool  
Ice Machine Spares

# Phillips/ Ignis Whirlpool Spares



SENSING THE DIFFERENCE

Part No.	Description	List Price	
		K20	K40
C02A	REF PIPE COVER	17.03	
C02B	REF PIPE COVER	22.35	
C020C	REAR CONTROL PANEL	9.79	9.79
C03	CABINET TOP	175.10	175.10
C03B	CANINET TOP LUG	3.68	3.68
C04	ICE CONVEYOR		19.04
C06D	FRONT PANEL (IGNIS)	52.94	52.94
C06W	FRONT PANEL (WHIRLPOOL)	52.94	52.94
C06F	TRIM STRIP (IGNIS)	21.57	
C06G	TRIM STRIP (IGNIS)		21.57
C06X	TRIM STRIP (WHIRLPOOL)	21.57	
C06Y	TRIM STRIP (WHIRLPOOL)		21.57
C070D	MAIN DOOR	262.81	262.81
C08D	DOOR HANDLE (IGNIS)	46.50	46.50
C08W	DOOR HANDLE (WHIRLPOOL)	23.12	23.12
C09D	DOOR GASKET KIT	16.18	25.26
C10B	ICE RETAINING FLAP	27.19	13.60
C10E	ICE FLAP LUG	2.45	2.45
C15A	HINGE RUNNER	5.63	5.63
C15B	HINGE TRIM FRAME	3.95	3.95
C15L	HINGE (LHS)	27.41	27.41
C15R	HINGE (RHS)	27.41	27.41
C16	FOOT	7.89	9.32
C17	CABINET SIDE GRILLE	14.96	
C17A	FRONT VENT GRILLE		252.15
04125998215	CUTTING GRID	68.32	68.32
C32	EVAPORATOR FLAP	9.06	9.06
48123103	EVAPORATOR ASSEMBLY - R134A*	294.88	
48123103	EVAPORATOR ASSEMBLY - R134A*		294.88
C34A	PIPE TO SPRAY BAR	7.04	7.04
481953248002	SPRAY BAR	10.74	10.74
48795	PUMP MOTOR	67.14	67.14
C44A	PUMP TANK COVER	5.03	5.03
C447	PUMP MOTOR BASE	1.77	1.77
C45	WATER INLET TUBE	12.65	4.48
04128	WATER INLET VALVE	13.80	
04128	WATER INLET VALVE		13.80
C51	TANK BUNG	6.74	6.74
C52	BIN DRAIN COVER	3.88	3.88
TRANS	TRANSFORMER	48.10	48.10
A010046	BIN THERMOSTAT	13.98	13.98
A030045	EVAPORATOR THERMOSTAT	12.66	12.66
481927	EVAPORATOR THERMOSTAT NEW	15.38	15.38
A01-0219	BIN THERMOSTAT NEW	26.52	26.52

# ice machine spares



SENSING THE DIFFERENCE

## Phillips/ Ignis Whirlpool Spares

Part No.	Description	List Price	
		K20	K40
DRAINTUBE	3-WAY DRAIN TUBE	16.00	16.00
C110	MICRO-SWITCH		23.14
110A	MICRO-SWITCH ARM		7.18
C110B	MICRO-SWITCH MOUNTING		6.42
112	GREEN ON/OFF SWITCH	16.38	16.38
481927618121	BLUE CLEAN SWITCH	14.30	14.30
C132	WATER TANK	46.09	46.09
C64A	CONDENSER - R134A	144.49	
C64MA	CONDENSER - R134A		144.49
C66	BRASS 3 WAY CONNECTOR	20.12	20.12
FILTER ICE M	MOLECULAR FILTER	6.26	6.26
041310	HOT GAS VALVE KIT INC COIL	65.66	65.66
FUSE 1	FUSE - 250MA	1.77	1.77
FUSE 2	FUSE - 250MA (PACK 10)	14.69	14.69
FUSE 3	FUSE - 630MA		14.42
FUSE 4	FUSE HOLDER	12.24	12.24
FUSEHK40	FUSE HOLDER	25.83	

Phillips/Ignis/Whirlpool  
Ice Machine Spares

Safety Equipment

Ice Machines

Fire Extinguisher

Dry Diamond Core Cutters

	Part No.	Size	List Price
<b>SAFETY EQUIPMENT</b>			
Protective Goggles (Grade 1 Impact) conforming to the requirements of EN166 and BS2092/1	8.8898		2.51
Clear Eyeshields with side vents (EN166.1F)	8.8901		2.82
Pack of 10 Comfort Masks	8.8899		9.09
Heavy Duty Leather Riggers Gloves	6.4990	Pair	1.76
Foam Knee Pads with adjustable straps	8.8897	Pair	9.00
Latex Gloves. Made from natural rubber latex minimising the risk of Type 1V allergies. Lightly powered for easy application	8.9065	Box 100	6.53



<b>FIRE EXTINGUISHER</b>			
Fully approved to conform to the new BS-EN3 Standard and rated 8A:34BCE, with a 6 year warranty	13.0225	1 kilo	31.60

Ratings relate to:

'A' - for wood, pulp, textiles, rubber and paper

'B' - for liquids, grease, solvents, wax and oil

'C' - for gaseous fires where no risk of explosion exists

'E' - for electrical fires and home domestic equipment

<b>DDI - ARMEC DRY DIAMOND CUTTING SET C/W CASE</b>			
CDD5PIECE - 42mm / 62mm / 65mm / 117mm & 127mm			358.76





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available

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# technical

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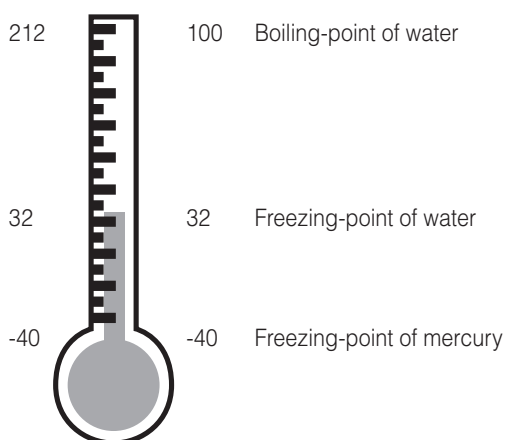
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## TEMPERATURE

$$^{\circ}\text{C IN } ^{\circ}\text{F} = ^{\circ}\text{C} \times 108 + 32 = ^{\circ}\text{F}$$

$$^{\circ}\text{F IN } ^{\circ}\text{C} = (^{\circ}\text{F} - 32) : 1,8 = ^{\circ}\text{C}$$



### TEMPERATURE

<b>C</b>	100	95	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	4	0	-10	-20	-30	-40	-50	-60	-273
<b>F</b>	212	203	194	185	176	167	158	149	140	131	122	113	104	95	86	77	68	59	50	39	32	14	-4	-22	-40	-58	-76	-460

### TEMPERATURE

<b>°F</b>	212	200	190	180	170	160	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60	-112	-460
<b>°C</b>	100	93	88	82	77	71	66	60	54	49	43	38	32	27	21	16	10	4	0	-7	-12	-18	-23	-29	-34	-40	-46	-51	-80	-273

to / from	bar	mbar	Pa	kPa	psi
<b>PRESSURE</b>					
1 bar	1	1000	100 000	100	14,5
1mbar	0,001	1	100	0,1	0,0145
1Pa	0,00001	0,01	1	0,001	0,000145
1kPa	0,01	10	1000	1	0,145
1psi	0,069	69	6900	6,9	1
1Torr	0,00133	1,3	133,3	0,1333	0,0193

DaA	WATT	Kcal/h	BTU/h
<b>POWER</b>			
WATT	1	0,860	3,4
Kcal/h	1,163	1	3,95
BTU/h	0,293	0,25	1



	l/s	l/min	CFM	m3/h
<b>PUMPING SPEED UNITS</b>				
l/s	1	60	2.12	3.60
l/min	0.0167	1	0.0353	0.06
CFM	0.472	28.32	1	1.70
m3/h	0.278	16.67	0.589	1

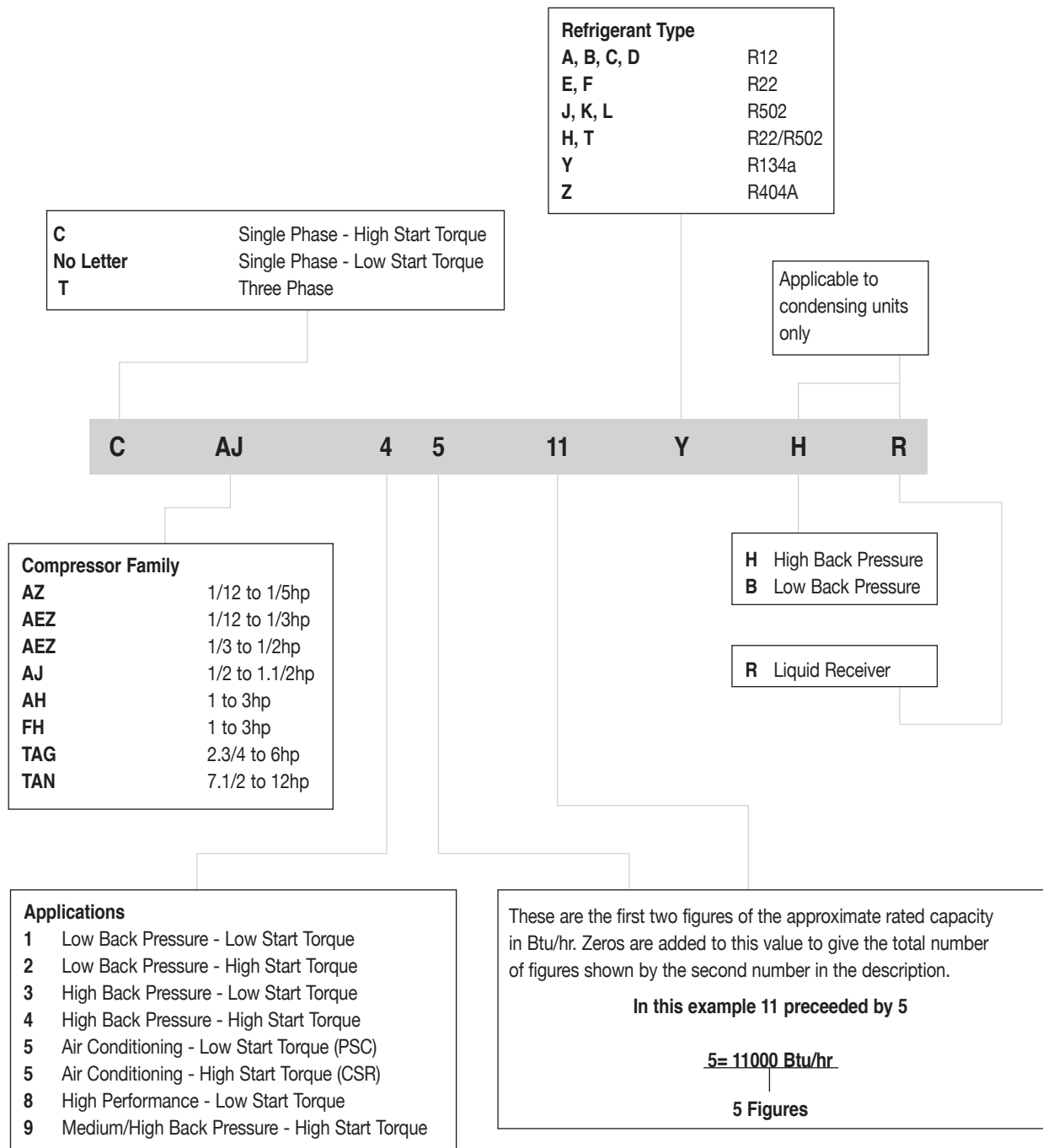
Thread UNF	US Specification SAE	o.d. (max. size - mm)	core dia. (min. size - mm)	pitch number per inch	pitch mm
<b>COMMON THREADS</b>					
7/16" -20UNF	1/4" SAE	11,079	9,738	20	1,270
1/2" -20UNF	5/16" SAE	12,667	11,328	20	1,270
5/8" -18UNF	3/8" SAE	15,839	14,348	18	1,411
3/4" -16UNF	1/2" SAE	19,012	17,330	16	1,588
7/8" -14UNF	- SAE	22,184	20,262	14	1,814
7/8" -14UNF	5/8" SAE	22,184	20,262	14	1,814
1" -14UNF	3/4" SAE	25,357	23,437	14	1,814
1 1/16" -14UNF	- SAE	26,947	25,024	14	1,814
1 1/8" -12UNF	- SAE	28,529	26,284	12	2,117
1 1/4" -12UNF	7/8" SAE	31,704	29,459	12	2,117
1 3/8" -12UNF	- SAE	34,877	32,634	12	2,117
1 1/2" -12UNF	1" SAE	38,052	35,809	12	2,117

# temperature conversion chart

°C	↔	°F	°C	↔	°F	°C	↔	°F	°C	↔	°F
-45,6	-50	-58,0	-6,1	21	69,8	32,8	91	195,8	71,7	161	321,8
-45,0	-49	-56,2	-5,6	22	71,6	33,3	92	197,6	72,2	162	323,6
-44,4	-48	-54,4	-5,0	23	73,4	33,9	93	199,4	72,8	163	325,4
-43,9	-47	-52,6	-4,4	24	75,2	34,4	94	201,2	73,3	164	327,2
-43,3	-46	-50,8	-3,9	25	77,0	35,0	95	203,0	73,9	165	329,0
-42,8	-45	-49,0	-3,3	26	78,8	35,6	96	204,8	74,4	166	330,8
-42,2	-44	-47,2	-2,8	27	80,6	36,1	97	206,6	75,0	167	332,6
-41,7	-43	-45,4	-2,2	28	82,4	36,7	98	208,4	75,6	168	334,4
-41,1	-42	-43,6	-1,7	29	84,2	37,2	99	210,2	76,1	169	336,2
-40,6	-41	-41,8	-1,1	30	86,0	37,8	100	212,0	76,7	170	338,0
-40,0	-40	-40,0	-0,6	31	87,8	38,3	101	213,8	77,2	171	339,8
-39,4	-39	-38,2	0	32	89,6	38,9	102	215,6	77,8	172	341,6
-38,9	-38	-36,4	0,6	33	91,4	39,4	103	217,4	78,3	173	343,4
-38,3	-37	-34,6	1,1	34	93,2	40,0	104	219,2	78,9	174	345,2
-37,8	-36	-32,8	1,7	35	95,0	40,6	105	221,0	79,4	175	347,0
-37,2	-35	-31,0	2,2	36	96,8	41,1	106	222,8	80,0	176	348,8
-36,7	-34	-29,2	2,8	37	98,6	41,7	107	224,6	80,6	177	350,6
-36,1	-33	-27,4	3,3	38	100,4	42,2	108	226,4	81,1	178	352,4
-35,6	-32	-25,6	3,9	39	102,2	42,8	109	228,2	81,7	179	354,2
-35,0	-31	-23,8	4,4	40	104,0	43,3	110	230,0	82,2	180	356,0
-34,4	-30	-22,0	5,0	41	105,8	43,9	111	231,8	82,8	181	357,8
-33,9	-29	-20,2	5,6	42	107,6	44,4	112	233,6	83,3	182	359,6
-33,3	-28	-18,4	6,1	43	109,4	45,0	113	235,4	83,9	183	361,4
-32,8	-27	-16,6	6,7	44	111,2	45,6	114	237,2	84,4	184	363,2
-32,2	-26	-14,8	7,2	45	113,0	46,1	115	239,0	85,0	185	365,0
-31,7	-25	-13,0	7,8	46	114,8	46,7	116	240,8	85,6	186	366,8
-31,1	-24	-11,2	8,3	47	116,6	47,2	117	242,6	86,1	187	368,6
-30,6	-23	-9,4	8,9	48	118,4	47,8	118	244,4	86,7	188	370,4
-30,0	-22	-7,6	9,4	49	120,2	48,3	119	246,2	87,2	189	372,2
-29,4	-21	-5,8	10,0	50	122,0	48,9	120	248,0	87,8	190	374,0
-28,9	-20	-4,0	10,6	51	123,8	49,4	121	249,8	88,3	191	375,8
-28,3	-19	-2,2	11,1	52	125,6	50,0	122	251,6	88,9	192	377,6
-27,8	-18	-0,4	11,7	53	127,4	50,6	123	253,4	89,4	193	379,4
-27,2	-17	1,4	12,2	54	129,2	51,1	124	255,2	90,0	194	381,2
-26,7	-16	3,2	12,8	55	131,0	51,7	125	257,0	90,6	195	383,0
-26,1	-15	5,0	13,3	56	132,8	52,2	126	258,8	91,1	196	384,8
-25,6	-14	6,8	13,9	57	134,6	52,8	127	260,6	91,7	197	386,6
-25,0	-13	8,6	14,4	58	136,4	53,3	128	262,4	92,2	198	388,4
-24,4	-12	10,4	15,0	59	138,2	53,9	129	264,2	92,8	199	390,2
-23,9	-11	12,2	15,6	60	140,0	54,4	130	266,0	93,3	200	392,0
-23,3	-10	14,0	16,1	61	141,8	55,0	131	267,8	93,9	201	393,8
-22,8	-9	15,8	16,7	62	143,6	55,6	132	269,6	94,4	202	395,6
-22,2	-8	17,6	17,2	63	145,4	56,1	133	271,4	95,0	203	397,4
-21,7	-7	19,4	17,8	64	147,2	56,7	134	273,2	95,6	204	399,2
-21,1	-6	21,2	18,3	65	149,0	57,2	135	275,0	96,1	205	401,0
-20,6	-5	23,0	18,9	66	150,8	57,8	136	276,8	96,7	206	402,8
-20,0	-4	24,8	19,4	67	152,6	58,3	137	278,6	97,2	207	404,6
-19,4	-3	26,6	20,0	68	156,2	58,9	138	280,4	97,8	208	406,4
-18,9	-2	28,4	20,6	69	152,2	59,4	139	282,2	98,3	209	408,2
-18,3	-1	30,2	21,1	70	158,0	60,0	140	284,0	98,9	210	410,0
-17,8	0	32,0	21,7	71	159,8	60,6	141	285,8	99,4	211	411,8
-17,2	1	33,8	22,2	72	161,6	61,1	142	287,6	100,0	212	413,6
-16,7	2	35,6	22,8	73	163,4	61,7	143	289,4	100,6	213	415,4
-16,1	3	37,4	23,3	74	165,2	62,2	144	291,2	101,1	214	417,2
-15,6	4	39,2	23,9	75	167,0	62,8	145	293,0	101,7	215	419,0
-15,0	5	41,0	24,4	76	168,8	63,3	146	294,8	102,2	216	420,8
-14,4	6	42,8	25,0	77	170,6	63,9	147	296,6	102,8	217	422,6
-13,9	7	44,6	25,6	78	172,4	64,4	148	298,4	103,3	218	424,4
-13,3	8	46,4	26,1	79	174,2	65,0	149	300,2	103,9	219	426,2
-12,8	9	48,2	26,7	80	176,0	65,6	150	302,0	104,4	220	428,0
-12,2	10	50,0	27,2	81	177,8	66,1	151	303,8	105,0	221	429,8
-11,7	11	51,8	27,8	82	179,6	66,7	152	305,6	105,6	222	431,6
-11,1	12	53,6	28,3	83	181,4	67,2	153	307,4	106,1	223	433,4
-10,6	13	55,4	28,9	84	183,2	67,8	154	309,2	106,7	224	435,2
-10,0	14	57,2	29,4	85	185,0	68,3	155	311,0	107,2	225	437,0
-9,4	15	59,0	30,0	86	186,8	68,9	156	312,8	107,8	226	438,8
-8,9	16	60,8	30,6	87	188,6	69,4	157	314,6	108,3	227	440,6
-8,3	17	62,6	31,1	88	190,4	70,0	158	316,4	108,9	228	442,4
-7,8	18	64,4	31,7	89	192,2	70,6	159	318,2	109,4	229	444,2
-7,2	19	66,2	32,2	90	194,0	71,1	160	320,0	110,0	230	446,0
-6,7	20	68,0									

## Nomenclature

This diagram explains the significance of the numbers and letters that make up the nomenclature of L'Unite products.





R134a LBP												
Condensing Unit Models	Compressor		Noise Level dB(A)	Condenser Fan Data					Receiver Volume Litres	Refrigerant Connections		Nett Weight Kg
	Motor HP	Disp'l cc/rev		Diameter mm	Volts		Watts Each	Total Air Flow m3/hr		Suction	Liquid	
					No	Phase						
AZ1335YB	1/8	4.00	50	170	1	230/1	5	115	-	1/4"	1/4"	11.5
AZ1348YB	1/6	5.60	51	170	1	230/1	5	115	-	1/4"	1/4"	12.0
AEZ1365YB	1/5	8.90	51	170	1	230/1	5	100	-	1/4"	1/4"	17.0
AEZ1380YB	1/4	9.40	51	170	1	230/1	5	100	-	3/8"	1/4"	16.0
AEZ2380YBR	1/4	9.40	58	202	1	230/1	5	370	0.75	3/8"	1/4"	17.5
AE1410YB	1/3	12.05	58	202	1	230/1	5	340	-	3/8"	1/4"	18.5
AE1412YB	3/8	14.15	58	202	1	230/1	5	340	-	3/8"	1/4"	18.5

R134a HBP												
Condensing Unit Models	Compressor		Noise Level dB(A)	Condenser Fan Data					Receiver Volume Litres	Refrigerant Connections		Nett Weight Kg
	Motor HP	Disp'l cc/rev		Diameter mm	Volts		Watts Each	Total Air Flow m3/hr		Suction	Liquid	
					No	Phase						
AZ1335YH	1/8	3.60	50	170	1	230/1	5	100	-	1/4"	1/4"	12.0
AZ3414YH	1/8	4.00	65	202	1	230/1	5	370	-	3/8"	1/4"	12.2
AZ4414YH	1/6	4.00	65	202	1	230/1	5	370	-	3/8"	1/4"	12.4
AZ3419YH	1/5	5.60	58	202	1	230/1	5	340	-	3/8"	1/4"	14.5
AZ4419YH	1/5	5.60	58	202	1	230/1	5	340	-	3/8"	1/4"	14.5
AEZ3425YH	1/5	7.55	58	202	1	230/1	5	340	-	3/8"	1/4"	17.0
AEZ4425YHR	1/5	7.55	58	202	1	230/1	5	340	0.75	3/8"	1/4"	18.0
AEZ3430YH	1/4	8.85	59	202	1	230/1	5	410	-	3/8"	1/4"	18.5
AEZ3430YHR	1/4	8.85	59	202	1	230/1	5	410	0.75	3/8"	1/4"	19.0
AE3440YH	1/3	12.05	61	202	1	230/1	5	410	-	3/8"	1/4"	19.0
CAE4440YHR	1/3	12.05	65	202	1	230/1	5	410	0.75	3/8"	1/4"	20.0
AE3440YHH	1/3	12.05	65	250	1	230/1	22	800	-	3/8"	1/4"	25.0
CAE4440YHHR	1/3	12.05	65	250	1	230/1	22	800	1.5	3/8"	1/4"	26.0
CAJ4452YHR	3/8	15.20	67	250	1	230/1	22	980	1.5	1/2"	1/4"	34.0
CAJ4461YHR	1/2	18.30	67	250	1	230/1	22	980	1.5	1/2"	1/4"	34.0
TAJ4461YHR	1/2	18.30	67	250	1	230/1	22	980	1.5	1/2"	1/4"	34.0
CAJ4476YHR	5/8	21.75	69	300	1	230/1	22	1130	2.35	1/2"	3/8"	38.0
CAJ4492YHR	3/4	25.95	67	300	1	230/1	22	980	2.35	1/2"	3/8"	38.0
TAJ4492YHR	3/4	25.95	67	300	1	230/1	22	980	2.35	5/8"	3/8"	38.0
CAJ4511YHR	1	32.70	68	300	1	230/1	22	980	2.35	5/8"	3/8"	38.0
TAJ4511YHR	1	32.70	68	300	1	230/1	22	980	2.35	5/8"	3/8"	38.0
FH4518YHR	1.1/2	53.20	75	356	1	230/1	120	2250	2.35	5/8"	3/8"	58.0
TFH4518YHR	1.1/2	53.20	75	356	1	230/1	90	2250	2.35	5/8"	3/8"	57.0
FH4525YHR	2	74.25	77	356	1	230/1	120	2250	3.9	5/8"	3/8"	62.0
TFH4525YHR	2	74.25	77	356	1	230/1	90	2250	3.9	5/8"	3/8"	58.0
TAG4528YHR	2.1/2	90.20	80	406	1	230/1	120	3540	6	7/8"	3/8"	89.0
TAG4534YHR	2.3/4	100.70	78	356	2	230/1	90	4800	6	7/8"	3/8"	107.0
TAG4537YHR	3.1/4	112.50	78	356	2	230/1	90	4800	6	7/8"	3/8"	108.0
TAG4543YHR	3.1/2	124.40	79	356	2	230/1	90	4800	6	7/8"	3/8"	116.0



R404A LBP												
Condensing Unit Models	Compressor		Noise Level dB(A)	Condenser Fan Data					Receiver Volume Litres	Refrigerant Connections		Nett Weight Kg
	Motor HP	Disp'l cc/rev		Diameter mm	no	Volts Phase	Watts Each	Total Air Flow m3/hr		Suction	Liquid	
AE1417B	1/2	11.30	59	202	1	230/1	5	340	-	3/8"	1/4"	20.0
CAE2417ZBR	1/2	11.30	59	202	1	230/1	5	340	0.75	3/8"	1/4"	25.0
CAE2420ZBR	1/2	12.54	60	205	1	230/1	5	505	0.75	3/8"	1/4"	21.0
CAE2424ZBR	1/2	15.00	65	250	1	230/1	22	980	1.5	3/8"	1/4"	29.0
CAJ2428ZBR	1/2	15.20	66	250	1	230/1	22	980	1.5	3/8"	1/4"	29.0
TAJ2428ZBR	1/2	15.20	66	250	1	230/1	22	980	1.5	3/8"	1/4"	29.0
CAJ2432ZBR	5/8	18.30	68	250	1	230/1	22	800	1.5	1.2"	1/4"	35.0
CAJ2446ZBR	3/4	26.15	72	300	1	230/1	22	1130	2.35	1.2"	3/8"	39.0
TAJ2446ZBR	3/4	26.15	72	300	1	230/1	22	1130	2.35	1.2"	3/8"	39.0
CAJ2464ZBR	1.1/2	34.45	71	300	1	230/1	22	980	2.35	5/8"	3/8"	40.0
TAJ2464ZBR	1.1/2	34.45	71	300	1	230/1	22	980	2.35	5/8"	3/8"	40.0
TFH2480ZBR	2	53.20	76	356	1	230/1	120	2500	3.9	5/8"	3/8"	61.0
TFH2511ZBR	2.1/2	74.25	76	356	1	230/1	120	2700	3.9	5/8"	3/8"	62.0

R404A HBP												
Condensing Unit Models	Compressor		Noise Level dB(A)	Condenser Fan Data					Receiver Volume Litres	Refrigerant Connections		Nett Weight Kg
	Motor HP	Disp'l cc/rev		Diameter mm	no	Volts Phase	Watts Each	Total Air Flow m3/hr		Suction	Liquid	
AEZ4425ZHR	1/5	4.50	58	202	1	230/1	5	340	0.75	3/8"	1/4"	18.0
AEZ4430ZHR	1/4	5.70	59	202	1	230/1	5	410	0.75	3/8"	1/4"	19.0
AEZ4440ZHR	1/3	7.55	65	250	1	230/1	22	800	1.5	3/8"	1/4"	26.0
AEZ9440ZMHR	1/3	7.55	60	250	1	230/1	22	800	1.5	3/8"	1/4"	26.0
AE3450ZH	3/7	9.40	66	250	1	230/1	22	800	-	3/8"	1/4"	26.0
CAE4450ZHR	3/7	9.40	67	250	1	230/1	22	980	1.5	3/8"	1/4"	27.0
CAE9450ZMHR	3/7	9.40	66	250	1	230/1	22	980	1.5	3/8"	1/4"	27.0
CAE9460ZMHR	1/2	11.30	66	250	1	230/1	22	980	1.5	3/8"	1/4"	28.0
CAE9470ZMHR	5/8	13.30	69	300	1	230/1	22	1130	2.35	3/8"	1/4"	33.0
CAJ9480ZMHR	5/8	15.20	69	300	1	230/1	22	1130	2.35	1/2"	3/8"	38.0
TAJ9480ZMHR	5/8	15.20	69	300	1	230/1	22	1130	2.35	1/2"	3/8"	37.0
CAJ9510ZMHR	1	18.30	68	300	1	230/1	22	980	2.35	5/8"	3/8"	40.0
TAJ9510ZMHR	1	18.30	68	300	1	230/1	22	980	2.35	5/8"	3/8"	38.0
CAJ9513MHR	1.1/8	24.20	68	300	1	230/1	22	980	2.35	5/8"	3/8"	43.0
TAJ9513MHR	1.1/8	24.20	68	300	1	230/1	22	980	2.35	5/8"	3/8"	41.0
CAJ4517ZHR	1.1/4	25.95	75	356	1	230/1	120	2200	2.35	5/8"	3/8"	50.0
TAJ4517MHR	1.1/8	25.95	75	356	1	230/1	90	2200	2.35	5/8"	3/8"	47.0
CAJ4519ZHR	1.1/2	34.95	75	356	1	230/1	120	2250	2.35	5/8"	3/8"	49.0
TAJ4519ZHR	1.1/2	34.95	75	356	1	230/1	90	2250	2.35	5/8"	3/8"	46.0
FH4522ZHR	1.3/4	39.95	75	356	1	230/1	120	2250	3.9	5/8"	3/8"	59.0
TFH4522ZHR	1.3/4	39.95	75	356	1	230/1	90	2250	3.9	5/8"	3/8"	58.0
FH4524HR	2	43.50	76	356	1	230/1	120	2480	3.9	5/8"	3/8"	61.0
TFH4524ZHR	2	43.50	76	356	1	230/1	90	2480	3.9	5/8"	3/8"	58.0
FH4531ZHR	2.1/2	56.65	77	356	2	230.1	120	4800	6	7/8v	1/2"	100.0
TFH4531ZHR	2.1/2	56.65	77	356	2	230/1	90	4800	6	7/8"	1/2"	96.0
TFH4540ZHR	3	74.25	81	356	2	230/1	90	4800	6	7/8"	1/2"	100.0
TAG4546ZHR	4	90.20	84	406	2	380/3	120	7000	6	7/8"	5/8"	115.0
TAG4553ZHR	4.1/2	100.70	84	406	2	380/3	120	7000	6	7/8"	5/8"	115.0
TAG4561ZHR	5	112.50	84	406	2	380/3	120	6600	9.5	1.1/8"	5/8"	122.0
TAG4568ZHR	6	124.50	84	406	2	380/3	120	6000	9.5	1.1/8"	5/8"	129.0
TAG4573HR	6.1/2	134.80	83	406	2	380/3	120	6000	9.5	1.1/8"	5/8"	127.0

# technical



**L'UNITE  
HERMETIQUE**

**L'Unite Hermetique Condensing  
Units Technical**

R22 HBP												
Condensing Unit Models	Compressor		Noise Level dB(A)	Condenser Fan Data					Receiver Volume Litres	Refrigerant Connections		Nett Weight Kg
	Motor HP	Disp'l cc/rev		Diameter mm	no	Volts Phase	Watts Each	Total Air Flow m3/hr		Suction	Liquid	
AEZ4425EHR	1/5	4.50	58	202	1	230/1	5	340	0.75	3/8"	1/4"	18.0
AEZ4430EHR	1/3	5.70	64	202	1	230/1	5	410	0.75	3/8"	1/4"	19.0
AEZ3440EH	1/3	7.55	64	250	1	230/1	22	800	-	3/8"	1/4"	25.0
AEZ4440EHR	1/3	7.55	64	250	1	230/1	22	800	1.5	3/8"	1/4"	26.0
AEZ9440TMHR	1/3	7.55	65	250	1	230/1	22	800	1.5	3/8"	1/4"	26.0
AE3450	3/7	9.40	65	250	1	230/1	22	800	-	3/8"	1/4"	26.0
CAE4450EHR	3/7	9.40	65	250	1	230/1	22	800	1.5	3/8"	1/4"	27.0
CAE9450TMHR	1/2	9.50	65	250	1	230/1	22	800	1.5	3/8"	1/4"	27.0
CAE9460TMHR	1/2	11.30	67	250	1	230/1	22	980	1.5	3/8"	1/4"	28.0
CAJ9480TMHR	5/8	15.20	70	300	1	230/1	22	1130	2.35	1/2"	3/8"	38.0
TAJ9480TMHR	5/8	15.20	70	300	1	230/1	22	1130	2.35	1/2"	3/8"	37.0
CAJ9510TMHR	3/4	18.30	68	300	1	230/1	22	980	2.35	5/8"	3/8"	40.0
TAJ9510TMHR	3/4	18.30	68	300	1	230/1	22	980	2.35	5/8"	3/8"	38.0
CAJ9513TMHR	1	24.30	68	300	1	230/1	22	980	2.35	5/8"	3/8"	43.0
TAJ9513TMHR	1	24.20	68	300	1	230/1	22	980	2.35	5/8"	3/8"	41.0
CAJ4517EHR	1.1/4	25.95	75	356	1	230/1	120	2200	2.35	5/8"	3/8"	50.0
TAJ4517THR	1.1/4	25.95	75	356	1	230/1	90	2200	2.35	5/8"	3/8"	47.0
TAJ4519THR	1.1/2	34.45	75	356	1	230/1	90	2250	2.35	5/8"	3/8"	46.0
FH4522EHR	1.3/4	39.95	75	356	1	230/1	120	2250	3.9	5/8"	3/8"	59.0
TFH4522EHR	1.3/4	39.95	75	356	1	230/1	90	2250	3.9	5/8"	3/8"	58.0
FH4524THR	2	43.50	77	356	1	230/1	120	2250	3.9	5/8"	3/8"	61.0
TFH4524FHR	2	43.50	77	356	1	230/1	90	2250	3.9	5/8"	3/8"	58.0
FH4531FHR	2.1/2	56.65	76	356	2	230/1	120	4800	6	7/8"	3/8"	100.0
TFH4531FHR	2.1/2	56.65	76	356	2	230/1	90	4800	6	7/8"	3/8"	96.0
TFH4540FHR	3	74.25	79	356	2	230/1	90	4800	6	7/8"	3/8"	100.0
TAG4546THR	4	90.20	82	406	2	380/3	120	7000	6	7/8"	3/8"	115.0
TAG4553THR	4.1/2	100.70	81	406	2	380/3	120	7000	6	7/8"	3/8"	115.0
TAG4561THR	5	112.50	81	406	2	380/3	120	6600	9.5	1.1/8"	1/2"	122.0
TAG4568THR	6	124.50	82	406	2	230/1	120	6000	9.5	1.1/8"	1/2"	129.0
TAG4573THR	6.1/4	134.80	82	406	2	230/1	120	6000	9.5	1.1/8"	1/2"	127.0



Model	Power hp	Max. ambient temp °C	Refrigerating Capacity W x 0.86 = kcal/h W x 3.412 = BTU/h Evaporating Temperature °C										Input W   A	Motor Cycle	Dimensions W x L x H mm	Suction - Inch	Liquid - Inch	Weight - Kg	Design	Code - Fan Motor Set	T= Tropicalized
			HMBP																		
			R134A Hz	-25	-20	-15	-10	-5	0	5	7.2	10									
<b>R134a CONDENSING UNITS</b>																					
220 - 240V 50Hz - 1																					
CGD30MB-N	1/10	43	70	92	119	152	190	234	283	306	338	168	1.08	CSIR	252x300x200	¼	¼	9.0	4A	411.66	T
CGD36MB-N	1/10	43	90	115	146	184	229	280	338	366	403	195	1.24	CSIR	252x300x200	¼	1/1	9.0	4A	411.666	T
CGD40MB-N	1/8	43	96	123	156	196	242	295	354	382	420	214	1.32	CSIR	252x300x200	¼	¼	10.0	4A	411.666	T
CGL45PB-N	1/6	43	108	142	183	231	285	346	413	445	487	237	1.43	RSIR	325x425x210	3/8	¼	14.0	3A	410.351	T
CGL45TB-N	1/6	43	108	142	183	231	285	346	413	445	487	237	1.43	CSIR	325x425x210	3/8	¼	14.0	3B	410.351	T
CGL60PB-N	1/5	43	130	177	231	293	360	435	516	554	604	270	1.67	RSIR	325x425x235	3/8	¼	17.0	3A	410.362	T
CGL60TB-N	1/5	43	130	177	231	293	360	435	516	554	604	270	1.67	CSIR	325x425x235	3/8	¼	17.0	3B	410.362	T
CGL80PB-N	1/5	43	166	221	285	358	440	531	632	679	741	342	2.02	RSIR	345x425x235	3/8	¼	17.0	3A	410.373	T
CGL80TB-N	1/5	43	166	221	285	358	440	531	632	679	741	342	2.02	CSIR	345x425x235	3/8	¼	17.0	3B	410.362	T
CGL90PB-N	¼	43	203	265	341	430	532	647	775	836	916	385	2.29	RSIR	340x425x245	3/8	¼	18.0	3A	410.362	T
CGL90TB-N	¼	43	203	265	341	430	532	647	775	836	916	385	2.29	CSIR	340x425x245	3/8	¼	18.0	3B	410.362	T
CGP12PB-N	3/8	43	251	342	448	568	702	851	1013	1089	1190	602	3.59	RSIR	350x425x270	3/8	¼	20.0	3A	410.406	T
CGP12TB-N	3/8	43	251	342	448	568	702	851	1013	1089	1190	602	3.59	CSIR	350x425x270	3/8	¼	20.0	3B	410.406	T
CGP14PB-N	3/8	43	291	386	499	629	776	941	1123	1209	1323	665	4.02	RSIR	350x425x270	3/8	¼	22.0	3A	410.406	T
CGP14TB-N	3/8	43	291	386	499	629	776	941	1123	1209	1323	665	4.02	CSIR	350x425x270	3/8	¼	22.0	3B	410.406	T
CGX18TB-N	½	43	383	506	653	822	1014	1229	1467	1579	1728	845	5.10	CSIR	361x510x297	3/8	3/8	26.0	2D	410.432	T
CGX21TB-N	5/8	43	459	606	778	974	1194	1438	1706	1832	1999	1001	5.84	CSIR	450x480x312	3/8	3/8	29.0	1D	410.454	T
CGX23TB-N	5/8	43	492	695	907	1128	1597	1845	2170	2320	2517	1120	6.85	CSIR	450x480x312	3/8	3/8	31.0	1D	410.454	T
CG526TB-N	¾	43	524	747	990	1254	1539	1844	2170	2320	2517	1120	6.85	CSIR	425x525x355	5/8	3/8	36.0	1A	410.465	T
CG530TB-N	7/8	43	609	854	1135	1453	1807	2298	2625	2824	3088	1170	6.35	CSR	425x545x350	5/8	3/8	39.0	1A	410.465	T
CG534TB-N	1	43	686	972	1284	1623	1988	2380	2798	2990	3242	1352	6.95	CSR	425x545x350	5/8	3/8	39.0	1A	417.874	T
CG534TB-N	1	43	774	869	1073	1388	1812	2347	2992	3310	3746	1354	6.89	CSR	480x650x330	5/8	3/8	42.0	5B	410.454	T
<b>R404A CONDENSING UNITS</b>																					
220 - 240V 50Hz - 1																					
CML40TB-N	1/6	43	198	246	300	360	427	500	580	617	666	348	2.03	CSIR	625x425x235	3/8	¼	15.0	3B	410.362	T
CML45TB-N	1/5	43	215	268	328	393	463	539	620	658	707	385	2.19	CSIR	325x425x235	3/8	¼	15.0	3B	410.362	T
CML60TB-N	¼	43	266	334	409	490	578	672	773	819	880	477	2.77	CSIR	330x425x245	3/8	¼	22.0	3B	410.362	T
CML80TB-N	3/8	43	408	479	567	672	794	932	1088	1162	1261	570	3.27	CSIR	355x450x270x	3/8	¼	24.0	3C	410.406	T
CML90TB-N	3/8	43	420	528	646	774	912	1061	1220	1294	1390	700	3.98	CSIR	355x425x270	3/8	3/8	24.0	3D	410.406	T
CMP12TB-N	½	43	581	732	899	1081	1278	1491	1720	1825	1964	860	4.05	CSR	425x480x350	3/8	3/8	30.0	1D	410.476	T
CMP14TB-N	½	43	612	786	972	1173	1387	1614	1854	1965	2109	1000	4.86	CSR	425x500x350	3/8	3/8	30	1D	410.476	T
CMX16TB-N	5/8	43	730	945	1164	1387	1613	1844	2078	2182	2316	1163	5.77	CSR	430x495x350	3/8	3/8	30.0	1D	410.476	T
CMX16TB-M	5/8	38	730	941	1160	1387	1621	1863	2112	2224	2369	1197	5.94	CSR	450x480x340	3/8	3/8	30.0	1D	410.476	
CMX18TB-M	7/8	38	789	995	1206	1424	1648	1877	2113	2218	2354	1370	6.98	CSR	430x500x350	3/8	3/8	33.0	1D	410.476	
CMX21TB-N	1	43	847	1045	1270	1518	1795	2098	2427	2588	2778	1380	6.85	CSR	455x500x440	3/8	3/8	36.0	1D	410.480	T
CM526TB-N2F	1 3/8	43	1166	1491	1835	2198	2580	2982	3402	3593	3841	1738	8.73	CSR	480x650x330	5/8	3/8	40.0	5B	417.185	T
CMS26TB-N	1 3/8	43	1182	1507	1854	2222	2611	3021	3453	3650	3906	1772	8.97	CSR	455x515x440	5/8	3/8	44.0	1A	410.491	T

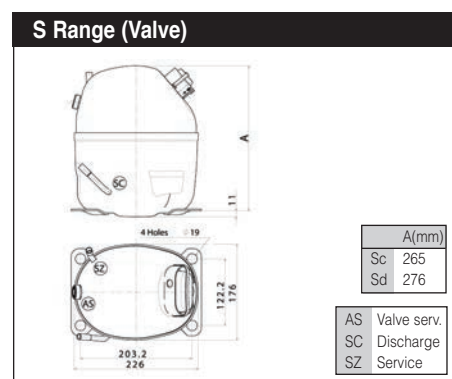
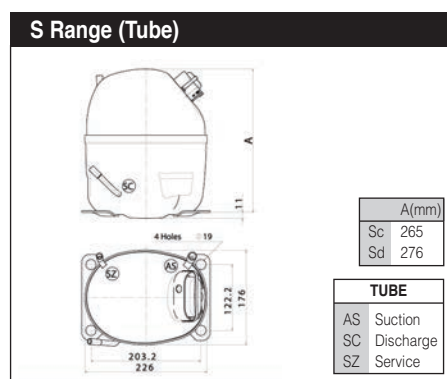
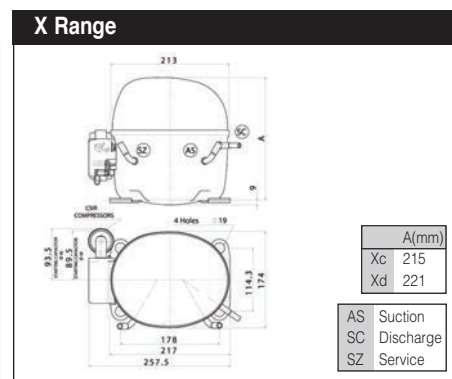
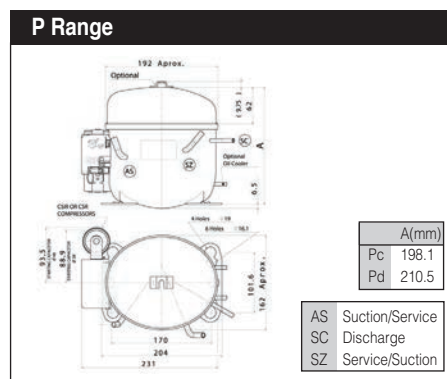
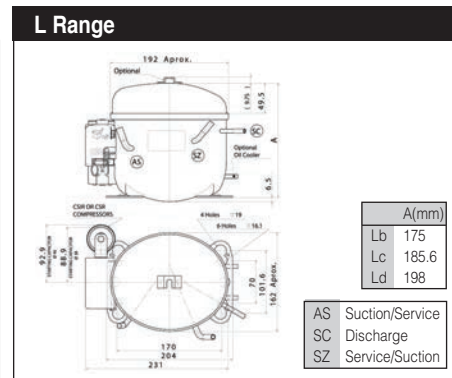
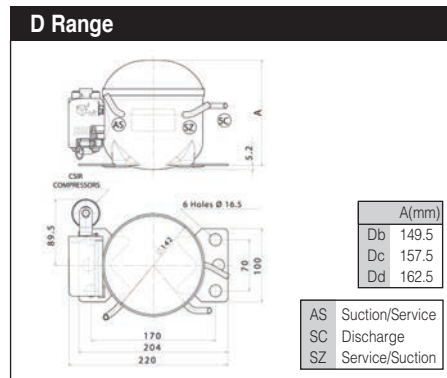
# technical



**R404A Condensing Unit  
Technical**

**R22 Condensing Unit  
Technical**

Model	Power hp	Max. ambient temp °C	Refrigerating Capacity W x 0.86 = kcal/h W x 3.412 = BTU/h Evaporating Temperature °C								Input		Motor Cycle	Dimensions W x L x H mm	Suction - Inch	Liquid - Inch	Weight - Kg	Design	Code - Fan Motor Set	T = Tropicalized	
			-25	-20	-15	-10	-5	0	5	7.2	10	W									A
<b>HBP</b>																					
R404A Hz											R404A 50Hz										
<b>R404A CONDENSING UNITS</b>																					
220 - 240V 50Hz - 1																					
CMS34TB-M2F	1 5/8	38	-	-	2237	2733	3222	3704	4179	4350	4647	2520	12.65	CSR	480x650x330	5/8	3/8	41.0	5B	417.196	T
CMS34TB-M	1 5/8	38	-	-	2424	2960	3480	3984	4472	4690	4944	2424	12.06	CSR	455x515x440	5/8	3/8	44.0	1A	410.491	
<b>LBP</b>																					
R404A Hz											R404A 50Hz										
<b>R404A CONDENSING UNITS</b>																					
400/440V 50/60Hz - 3																					
CMS34F3-N	1	43	626	881	1155	1449	1553	1762	2095	2447	1220	2.70	PHASE	425x545x350	5/8	3/8	44.0	1A	410.491	T	
220 - 240V 50Hz - 1																					
CML45FB-N	1/6	43	95	127	164	207	223	255	310	369	226	1.58	CSIR	325x425x220	3/8	1/4	14.0	3B	410.351	T	
CML60FB-N	1/5	43	122	162	208	261	280	319	383	453	270	1.77	CSIR	325x425x220	3/8	1/4	16.0	3B	410.351	T	
CML80FB-N	1/4	43	168	221	277	338	360	404	473	547	345	2.21	CSIR	325x425x220	3/8	1/4	17.0	3B	410.351	T	
CML90FB-N	1/3	43	195	248	315	394	424	486	591	709	358	2.24	CSIR	330x425x245	3/8	1/4	19.0	3B	410.362	T	
CMLY80LA-N	1/4	43	195	248	315	394	424	486	591	710	340	1.93	CSIR	330x425x245	3/8	1/4	20	3B	410.362	T	
CMLY90LA-N	1/3	43	264	288	357	448	480	545	660	780	382	1.96	CSIR	330x425x245	3/8	1/4	21	3B	410.362	T	
CMP12FB-N	3/8	43	250	335	433	540	570	655	780	930	475	2.88	CSIR	330x425x245	3/8	1/4	22.0	3B	410.362	T	
CMP14FB-N	1/2	43	263	362	470	588	630	715	852	998	572	3.38	CSIR	330x425x245	3/8	1/4	22.0	3B	410.362	T	
CMP14FB-N	3/8	43	310	405	510	600	620	715	840	980	455	2.20	CSR	355x450x270	3/8	1/4	23	3C	410.406	T	
CMX16FB-N	1/2	43	312	441	569	697	740	824	950	1105	635	3.97	CSIR	350x425x270	3/8	3/8	26	2D	410.406	T	
CMPT14LA-N	1/2	43	380	500	640	730	750	820	945	1095	537	2.61	CSR	355x425x270	3/8	1/4	24	3D	410.406	T	
CMX18FB-N	5/8	43	348	478	620	774	830	941	1121	1312	718	3.60	CSR	350x510x275	3/8	3/8	28.0	2D	410.406	T	
CNX21FB-N	3/4	43	544	692	849	1014	1072	1188	1370	1560	807	4.08	CSR	361x510x303	3/8	3/8	30.0	2D	413.582	T	
CMX23FB-M	7/8	38	667	820	983	1158	1220	1344	1541	1750	820	4.40	CSR	361x510x303	3/8	3/8	30.0	2D	413.582		
CM526FB-N	7/8	43	368	697	1002	1312	1417	1618	1920	2217	890	4.72	CSR	425x525x355	1/2	3/8	39.0	1A	410.465	T	
220V 50Hz - 1																					
CM530FB-N	7/8	43	617	875	1147	1435	1536	1736	2053	2384	1130	5.60	CSR	425x545x350	5/8	3/8	39.0	1A	410.465	T	
CMS34FB-N	1	43	825	992	1230	1539	1660	1919	2370	2891	1220	6.68	CSR	425x545x350	5/8	3/8	40.0	1A	410.465	T	
<b>HMBP</b>																					
R22 Hz											R22 50Hz										
<b>R22 CONDENSING UNITS</b>																					
220 - 240V 50Hz - 1																					
CL40TN-M	1/6	38	163	207	260	323	395	476	566	609	666	295	1.79	CSIR	327x425x235	3/8	1/4	21.0	3B	410.362	
CL45TN-M	1/5	38	170	221	280	348	425	511	606	651	710	324	1.91	CSIR	327x425x235	3/8	1/4	21.0	3B	410.362	
CL57TN-M	1/4	38	204	267	341	424	517	621	735	788	858	392	2.24	CSIR	330x425x245	3/8	1/4	22.0	3B	410.362	
CL76TN-M	3/8	38	325	388	469	569	688	825	980	1054	1154	520	3.11	CSIR	338x425x270	3/8	1/4	23.0	3B	410.406	
CL88TN-M	3/8	38	347	437	545	670	814	976	1156	1241	1355	618	3.70	CSIR	355x425x270	3/8	3/8	24.0	3D	410.406	
CP12TN-M	1/2	38	422	553	710	891	1098	1330	1588	1709	1870	712	3.37	CSR	360x513x30	3/8	3/8	27.0	2D	410.513	
CS22TN-M	7/8	38	691	964	1256	1569	1903	2257	2631	2802	3025	1220	6.30	CSR	425x545x350	5/8	3/8	44.0	1A	410.465	
CS26TN-M	1	38	933	1223	1532	1860	2206	2571	2955	3130	3357	1660	8.60	CSR	432x530x352	5/8	3/8	44.0	1A	410.465	



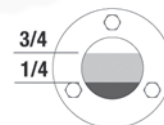


figure 1

## 1. Preliminary checks and operations

After compressor receipt and before its installation, execute some easy operations in order to verify its integrity and fitness for assembly in the refrigerating circuit.

### 1.1 Checks and testings

- at compressor receipt, verify that its packing has not been damaged during transport
- remove compressor packing
- verify that the compressor is not damaged

N.B. In case damages or tamperings are found, send immediately a written communication.

- verify that accessories supplied as compressor equipment are complete
- put the compressor on a horizontal surface and verify that the lubricant level is between 1/4 and 3/4 of the sight glass (see figure 1)
- verify that the electrical characteristics on the compressor name plate are in accordance with the electrical net values.

### 1.2 Compressor lifting

Compressors are equipped with suitable hooking point; for their lifting use a rope with suitable dimension and hook grasping:

- lifting plate fixed in compressor head: compressors series A, B, C, D, F
  - eyebolt placed between heads and terminal box: compressors series Q, S, V, Z
  - slot placed between heads and terminal box: compressors series W
- During lifting, keep the compressor still to avoid oscillations.

## 2. Compressor installation

### 2.1 Compressor fixing to frame

It is important that the compressor is fixed to a frame perfectly horizontal that, besides to guarantee a working without anomalous stresses, is indispensable for the perfect lubrication of parts in motion. The use of the supplied vibration absorbers avoid that the compressor vibrations during the work, the stop and the start are transmitted to the frame on which the compressor is assembled.

- prepare the compressor installation seat, respecting the necessary technical spaced as indicated on drawings included in the catalogues and installation manual
- through the four vibration absorbers supplied as equipment, fix the compressor on installation seat, applying the correct tightening torque, as below

#### Vibration absorbers - bolt tightening torque

bolt dimension	M8	M10
tightening torque	Nm 20	40

### 2.2 Refrigerating connections

**WARNING:** Connections have to be executed only by skilled and authorized operator. Before removing any compressor bolt or valve, discharge the holding charge by opening slowly the suction valve plug.

The compressor refrigerating connections realization require suction and discharge valve brazing operations. The refrigeration system's reliability will be reduced if foreign particles are allowed into the circuit. While atmospheric air and humidity (infiltrated inevitably during assembly) can be removed through vacuum, the removal of the deoxidizer and oxide residual, which develops during brazing, is an operation neither simple nor cheap. The impurity dimensions are so small to bypass partly the action of filters installed in liquid lines; during refrigerating circuit assembly, it is advisable to use all possible precautions in order to avoid impurity introduction. Besides to elementary precautions to take during pipe cutting, it is necessary to avoid an excessive use of deoxidizers and, when possible, to put dry nitrogen or other inert gas in the piping during its brazing; to avoid to offer valve internal parts at a dangerous overheating, it is suggested to disassemble the valve or only the coupling (by removing the gaskets) and wrap it in a wet cloth.

- open slowly the compressor suction valve plug and let off the nitrogen holding charge
- close carefully the plug
- disassemble the valves (or the coupling) from compressor
- remove the gaskets
- effect the brazing of the valves of the discharge and suction pipes of the refrigerating circuit, taking the necessary precautions to avoid both internal part overheating and foreign product introduction
- replace the gaskets previously removed, with those supplied as spares placed inside the terminal box
- re-assemble the valves (or the coupling), applying the following tightening torque

#### Valves - bolt tightening torque

bolt dimensions	M8	M10	M12	M16
tightening torque	Nm 36	52	100	120

Before proceeding to installation operations, it is suggested to arrange the compressor for safety and check devices connection, like pressure switches and manometers, or for oil charge fulfilment interventions. The compressor body is equipped with different female threaded connections with closing plug; the removal of some plugs and their replacement with Schrader service valves or niple, will put at operator's disposal the necessary pressure connections for various safety and check devices.

**WARNING:** Do not connect any safety and check device to the connections placed on suction and discharge valves, because they are closed off when the valve is completely open (interception in retroclosing).

For the choice and assembly of secondary equipments and/or accessories like pressure switches, thermostats, manometers, oil separators, etc. it is suggested to look up the installation manual at paragraph "7".

### 2.3 Electrical connections

Electrical connections have to be executed in accordance with the electrical schemes enclosed to the present manual and in observance of installation place safety regulations. For the right compressor connection, look at the electrical scheme placed in the inside of terminal box cover or the electrical scheme shown on installation manual.

**WARNING:** Electrical connections have to be executed only by skilled operator.

- remove the terminal box cover
- unscrew the nuts and place the staple bars following the indications

**WARNING:** The incorrect electrical connections may cause short circuit or counter phase connections and therefore the motor burn-out.

- put in the terminal box holes some suitable PG cable-presses to assure the box's original protection grade
- connect the feeding net to the terminal box, using suitable insulated electrical cable and eyelet cable terminals fitted to terminals
- apply to nuts the following tightening torque

#### Terminal box - nut tightening torque

bolt dimensions	M4	M6	M8
tightening torque	Nm 1.8	10	15 (screw)

- after removing its cover, connect the protection device to check and protection circuit, following the electrical scheme

**WARNING:** Do not feed directly terminals A and B connected to PTC thermistors.

- reassemble the protection device cover and the one of the terminal box

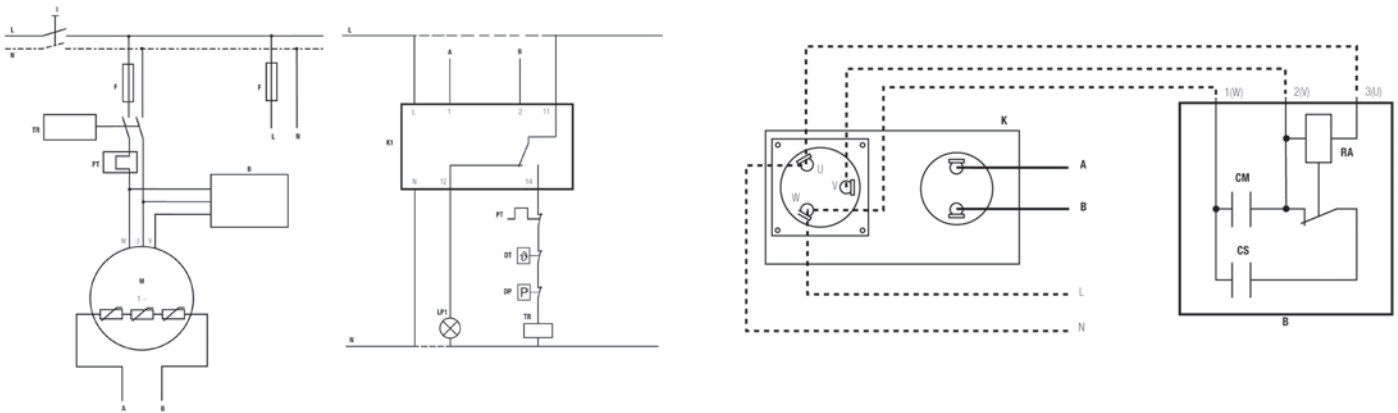
N.B. If the compressor is equipped with oil crankcase heater, this has to be connected so that it can be feed manually at least 2 hours before starting after a long period of inactivity and, during the normal working, only with not running compressor.

### 2.4 Contactor, overload protector, fuse and cable selection

The suitable remote control switch, overload protector, fuse and cable selection has to satisfy what requested from EN60204 regulation (Electrical equipments for industrial machines - General requirements), with reference to MRA maximum operating current values reported on the compressor name plate and maximum input power.

N.B. The compressor nominal power is not equivalent to the maximum input power of its electrical motor.

## 1 ph D.O.L. Wiring Diagram



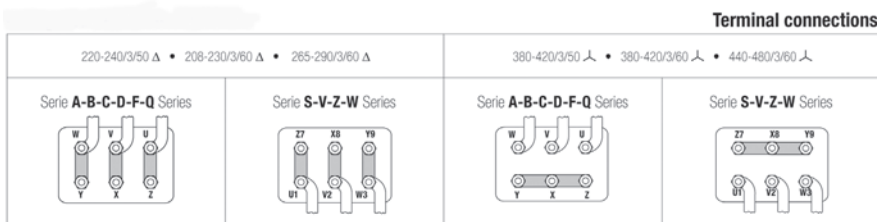
### KEY

- |     |                          |     |                                 |
|-----|--------------------------|-----|---------------------------------|
| A-B | thermistor terminals     | B   | capacitors box                  |
| CS  | start capacitor          | CM  | run capacitor                   |
| DP  | pressure switch          | DT  | temperature switch              |
| F   | main switch              | K   | terminal board                  |
| K1  | KRIWAN electronic module | LP1 | thermistor warning lamp         |
| L   | phase of electrical net  | N   | neutro neutral                  |
| PT  | overload protector       | RA  | relay di avviamento start relay |
| TR  | main contactor *         |     |                                 |

**WARNING:** Do not feed directly terminals A - B of the thermistors

\*Contactor power  $\geq$  maximum input power

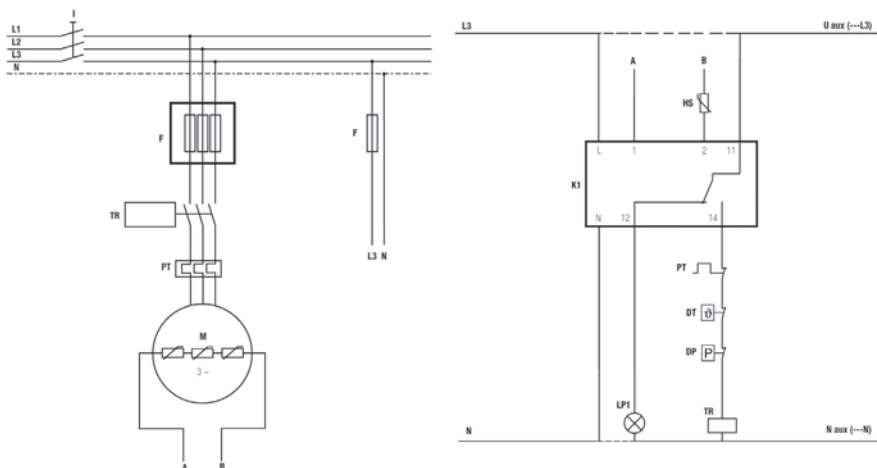
## 3 ph D.O.L. Wiring Diagram



**WARNING:** Do not feed directly terminals A - B of the thermistors

\* Contactor power  $\geq$  maximum input power

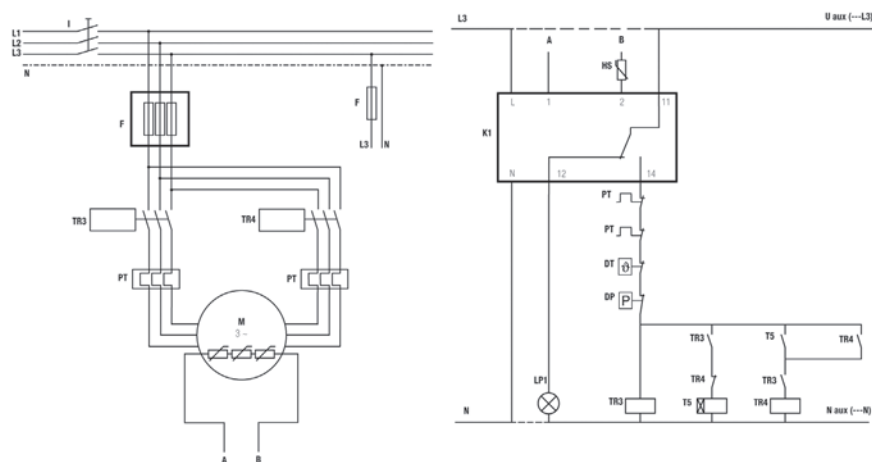
\*\* Fuses capacity (aM type) =  $1.1 \div 1.3 \times$  MRA (see name plate on the compressor)



### KEY

- |     |                                  |
|-----|----------------------------------|
| A-B | thermistor terminals             |
| DP  | pressure switch                  |
| DT  | temperature switch               |
| F   | fuse **                          |
| HS  | max discharge temperature sensor |
| I   | main switch                      |
| K   | terminal board                   |
| K1  | KRIWAN electronic module         |
| LP1 | thermistor warning lamp          |
| L1  | phase of electrical net          |
| L2  | phase of electrical net          |
| L3  | phase of electrical net          |
| N   | neutral                          |
| PT  | overload protector               |
| TR  | main contactor *                 |

## 3 ph PWS Wiring Diagram



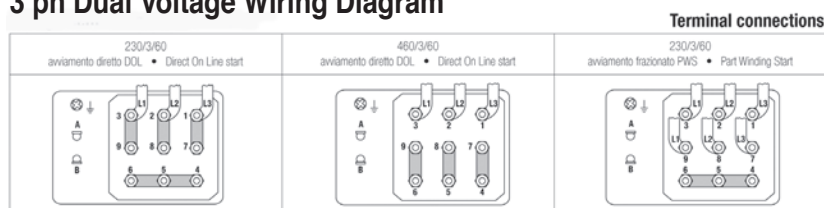
**WARNING:** Do not feed directly terminals A - B of the thermistors

- \* Contactor power  $\geq 0.65 \times$  maximum input power
- \*\* Fuses capacity (aM type) =  $1.1 \div 1.3 \times$  MRA (see name plate on the compressor)

### KEY

- A-B thermistor terminals
- DP pressure switch
- DT temperature switch
- F fuse \*\*
- HS max discharge temperature sensor
- I main switch
- K terminal board
- K1 KRIWAN electronic module
- LP1 thermistor warning lamp
- L1 phase of electrical net
- L2 phase of electrical net
- L3 phase of electrical net
- N neutral
- PT overload protector
- TR3 starting contactor 50%
- TR4 starting contactor 100%
- T5 sec timer relay 0.5-1 sec.

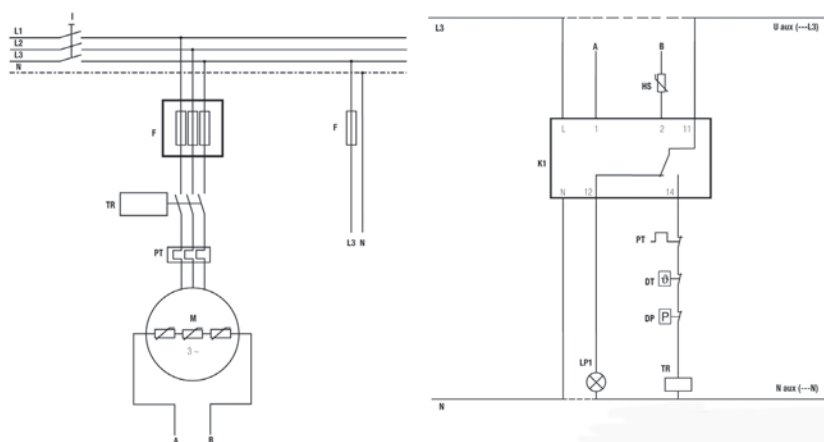
## 3 ph Dual Voltage Wiring Diagram



**WARNING:** Do not feed directly terminals A - B of the thermistors

- \* Contactor power  $\geq$  maximum input power
- \*\* Fuses capacity (aM type) =  $1.1 \div 1.3 \times$  MRA (see name plate on the compressor)

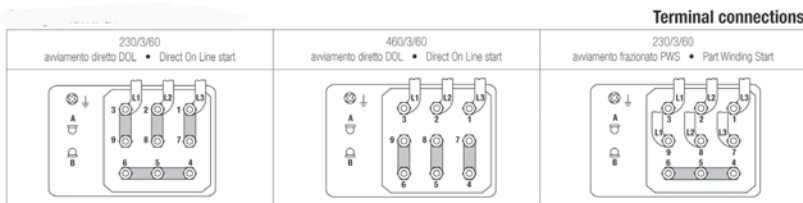
### Wiring diagram for DOL start



### KEY

- A-B thermistor terminals
- DP pressure switch
- DT temperature switch
- F fuse \*\*
- HS max discharge temperature sensor
- I main switch
- K terminal board
- K1 KRIWAN electronic module
- LP1 thermistor warning lamp
- L1 phase of electrical net
- L2 phase of electrical net
- L3 phase of electrical net
- N neutral
- PT overload protector
- TR main contactor \*

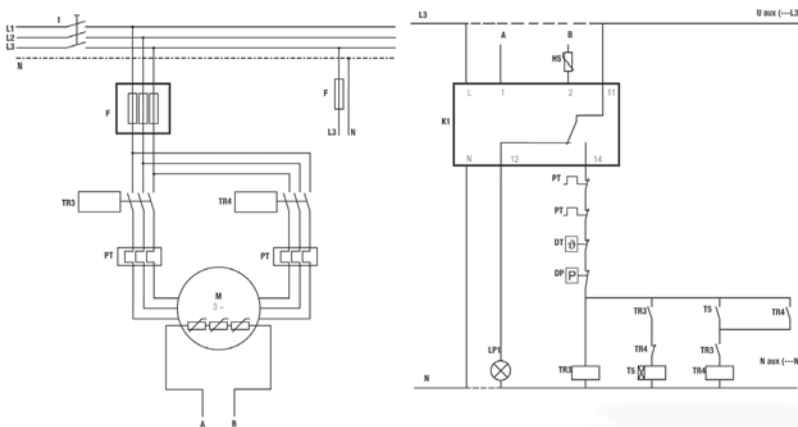
## 3 ph Dual Voltage Wiring Diagram



**WARNING:** Do not feed directly terminals A - B of the thermistors

- \* Contactor power  $\geq 0.65 \times$  maximum input power
- \*\* Fuses capacity (aM type) =  $1.1 \div 1.3 \times$  MRA (see name plate on the compressor)

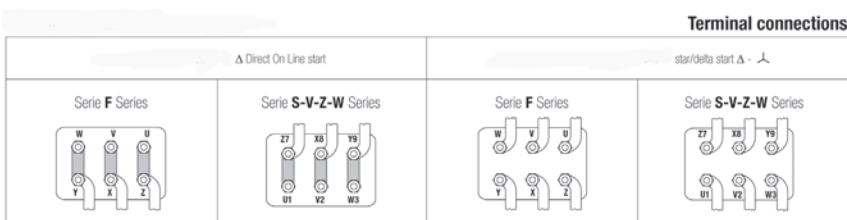
### Wiring diagram for Part Winding Start



#### KEY

- A-B thermistor terminals
- DP pressure switch
- DT temperature switch
- F fuse \*\*
- HS max discharge temperature sensor
- I main switch
- K terminal board
- K1 KRIWAN electronic module
- LP1 thermistor warning lamp
- L1 phase of electrical net
- L2 phase of electrical net
- L3 phase of electrical net
- N neutral
- PT overload protector
- TR3 starting contactor 50%
- TR4 starting contactor 100%
- T5 sec timer relay 0.5-1 sec.

## 3 ph Wiring Diagram



**WARNING:** Do not feed directly terminals A - B of the thermistors

- \* Contactor power  $\geq 0.56$  maximum input power
- \*\* Fuses capacity (aM type) =  $1.1 \div 1.3 \times$  MRA (see name plate on the compressor)

#### KEY

- A-B thermistor terminals
- DP pressure switch
- DT temperature switch
- F fuse \*\*
- HS max discharge temperature sensor
- I main switch
- K terminal board
- K1 KRIWAN electronic module
- LP1 thermistor warning lamp
- L1 phase of electrical net
- L2 phase of electrical net
- L3 phase of electrical net
- N neutral
- PT overload protector
- TR main contactor \*
- TR1 start contactor
- TR2 start contactor
- T5 time delay relay (0.8÷1 sec.)

# technical



Monoblock

Wall System

Ceiling System

Split

## Applications

This range consists of 31 models of MONOBLOCK designed for commercial cold storage applications for refrigeration at high to medium temperatures with capacities of between 1120 and 4150 W or freezing at low temperatures available with capacities of between 860 and 2650 W. There are four different versions: WALL SYSTEMS (M), available as standard wall or straddle wall versions, CEILING SYSTEM (T) and SPLIT SYSTEMS (S). The new MONO-BLOCK models have been designed to meet the refrigeration requirements of all kinds of establishment (Food stores, Catering businesses, Warehouses, etc) with small-to medium-sized cold-storage modules.

The MONOBLOCK consists of a factory-set, preloaded condensing unit and evaporator which are easy to mount separately into a vent made on one of the panels of the cold-storage unit, split system supplied adjusted and loaded of gas, meaning that the only thing left to do is connect the system to the mains electricity supply with the subsequent saving on installation costs.

## Technical Characteristics

### Compressor

Hermetic, with internal super intensity protection. Air-cooled.

### Condenser unit and evaporator

Made of copper tubing and corrugated aluminium fins

The quincunx layout of the copper tubing with self-separating fins, the perfect fit of the two parts and the use of corrugated fins allow for high levels of efficiency.

Fan-assisted refrigeration with axial fan motor

### Electric system

Consists of an integrated board which includes main switch, indicator light, digital thermometer, electronic thermometer and on B models, end -of-defrost electronic thermostat. The system also integrates other control elements: contractors and timers.

### Body

Made of epoxy-polyester painted, galvanised-steel sheeting polymerised, backed and cured at 180C made for a rustproof finish.

Room Temperature											
R-404a	+10°C		+5°C		0°C		-5°C		Compressor		
Model	WATT	m³	WATT	m³	WATT	m³	WATT	m³	voltage	Kw	Amp
<b>STRADDLE WALL/WALL SYSTEM - AMBIENT TEMPERATURE +35 - A</b>											
M122A	1630	14	1360	11	1170	8.8	990	7.5	230v/50Hz	0.65	2.80
M142A	2050	18	1704	15	1500	13	1320	11	230V/50Hz	0.75	3.60
M213A	3200	37	2650	27	2300	22	1870	17	230V/50Hz	0.98	4.70
M280A	3710	44	3085	36	2750	30	2480	26	230V/50Hz	1.16	5.60
M370A	4730	63	3930	54	3500	44	3000	35	230v/50Hz	1.30	5.90
M415A	4880	64	4050	57	3600	46	3100	37	230v/50Hz	1.20	5.70

- Options:
- 60Hz
  - Wall kit supplement

Room Temperature											
R-404a	-15°C		-20°C		-25°C		Compressor				
Model	WATT	m³	WATT	m³	WATT	m³	voltage	Kw	Amp		
<b>STRADDLE WALL/WALL SYSTEM - AMBIENT TEMPERATURE +35 - B</b>											
M086B	1120	8	970	6	830	4.2	230v/50Hz	0.86	4		
M121B	1900	12	1652	8.70	1400	6	230v/50Hz	1.20	6.40		
M170B	1960	19	1700	15	1450	10	230v/50Hz	2.24	11.50		
M220B	2650	38	2300	28	1950	20	230v/50Hz	1.90	8.70		
M265B	2950	41	255	31	2170	22	230v/50Hz	1.90	8.70		

Room Temperature											
R-404a	+10°C		+5°C		0°C		-5°C		Compressor		
Model	WATT	m³	WATT	m³	WATT	m³	WATT	m³	voltage	Kw	Amp
<b>CEILING SYSTEM - AMBIENT TEMPERATURE +35 - A</b>											
T095A	1370	8.3	1170	6.50	1003	5.50	842	4	230v/50Hz	0.44	2.70
T150A	1730	13	1480	9.90	1265	7.30	1063	5	230v/50Hz	0.68	3.20
T215A	2545	23	2176	18	1860	15	1563	11	230v/50Hz	0.90	4.50
T255A	3285	31	2800	24	2400	19	2016	16	230v/50Hz	1.08	5
T450A	4961	80	4286	48	3700	38	3100	29	230v/50Hz	1.36	6

- Options:
- 60Hz





- Options:  
 • 60Hz  
 • 10m.  
 distance  
 supplement

Room Temperature									
R-404a	-15°C		-20°C		-25°C		Compressor		
Model	WATT	m <sup>3</sup>	WATT	m <sup>3</sup>	WATT	m <sup>3</sup>	voltage	Kw	Amp
<b>CEILING SYSTEM - AMBIENT TEMPERATURE +35 - B</b>									
T060B	1080	5	876	2.80	680	1.50	230v/50Hz	0.56	3.50
T120B	1498	8.20	1255	5.50	974	3.20	230v/50Hz	1.04	5.80
T170B	2160	17	1750	11	1360	6.50	230v/50Hz	1.90	8.80
T250B	2790	25.20	2300	15.80	1810	10.20	230v/50Hz	1.70	7.40

Room Temperature											
R-404a	+10°C		+5°C		0°C		-5°C		Compressor		
Model	WATT	m <sup>3</sup>	WATT	m <sup>3</sup>	WATT	m <sup>3</sup>	WATT	m <sup>3</sup>	voltage	Kw	Amp
<b>SPLIT - AMBIENT TEMPERATURE +35 - A</b>											
S112A	1350	11	1100	8.6	970	7	850	5.50	230v/50Hz	0.51	2.30
S142A	1850	14	1540	12	1350	10	1200	8	230v/50Hz	0.75	3.50
S213A	2740	27	2290	21	2000	17	1760	13	230v/50Hz	0.93	4.70
S280A	3420	35	2850	31	2500	26	2200	21	230v/50Hz	1.20	6.20
S370A	4390	53	3650	45	3200	37	2850	30	230v/50Hz	1.38	6.30
S415A	4800	61	3970	52	3500	44	3100	35	230v/50Hz	1.34	6.30

Room Temperature											
R-404a	-15°C		-20°C		-25°C		Compressor				
Model	WATT	m <sup>3</sup>	WATT	m <sup>3</sup>	WATT	m <sup>3</sup>	voltage	Kw	Amp		
<b>SPLIT - AMBIENT TEMPERATURE +35 - B</b>											
S086B	1110	7	960	4.60	800	3.50	230v/50Hz	0.85	4		
S121B	2020	12	1750	8.70	1500	6	230v/50Hz	1.23	6.50		
S170B	2100	19	1800	15	1560	10	230v/50Hz	1.74	9.80		
S220B	2560	31	2200	22	1890	17	230v/50Hz	1.52	7.20		
S265B	2890	41	2500	31	2150	22	230v/50Hz	1.52	7.20		

HOLE DIMENSION					
		Wall System		Straddle-Wall System	
Model		A	B	C	D
<b>STRADDLE WALL/WALL SYSTEM</b>					
M112A	M086B	400	360	270	280
M142A		400	360	270	280
M213A	N121B	670	340	345	355
M280A	M170B	670	340	345	355
M370A	M220B	780	420	655	365
M415A	M265B	780	420	655	365

HOLE DIMENSION			
Model		A	B
<b>CEILING SYSTEM</b>			
M112A	M086B	400	360
M142A		400	360
M213A	N121B	670	340
M280A	M170B	670	340
M370A	M220B	780	420

HOLE DIMENSION			
Model		A	B
<b>SPLIT</b>			
S112A	S086B	346	368
S142A		653	368
S213A	S121B	653/958	638
S280A	S170B	658	638
S370A	S220B	958/1263	748
S415A	S265B	1263/1568	748

PIPE CONNECTION  
 Standard 5m distance  
 10m distance supplement

# technical

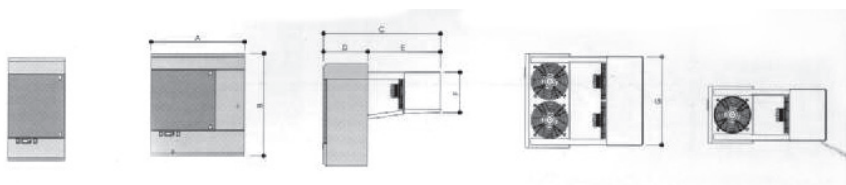


Straddle Wall/Wall System

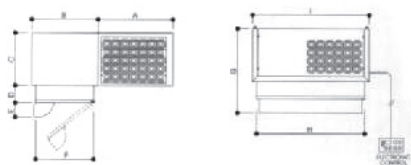
Ceiling System

Split

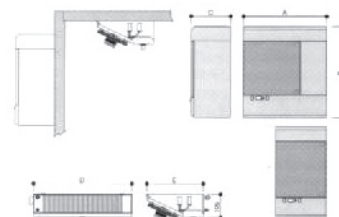
DIMENSIONS (mm)										WEIGHT
Model		A	B	C	D	E	F	G	COLD ROOM	Kg
<b>STRADDLE WALL/WALL SYSTEM</b>										
M112A	M086B	418	750	861	326	535	297	380	80/100/120	40
M142A		418	750	861	326	535	297	380	80/100/120	42
M213A	M121B	688	750	861	326	535	297	650	80/100/120	75
M280A	M170B	688	750	861	326	535	297	650	80/100/120	77
M370A	M220B	798	890	1002	326	635	373	760	80/100/120	95
M415A	M265B	798	890	1002	326	635	373	760	80/100/120	93



DIMENSIONS (mm)										WEIGHT	
Model		A	B	C	D	E	F	G	H	I	Kg
<b>CEILING SYSTEM</b>											
T095A	T060B	429	423	345	122	15	370	482	377	435	58
T150A	T120B	429	467	345	122	15	415	482	567	625	78
T215A		429	467	345	122	15	415	482	567	625	104
T255A	T170B	529	467	370	122	100	415	592	767	825	116
T450A	T250B	529	467	422	122	100	415	644	767	825	132



DIMENSIONS (mm)						WEIGHT		
Model		A	B	C	D	E	Kg	
<b>SPLIT SYSTEM</b>								
S112A	S086B	418	750	326	550/850	480	26+13	26+13
S142A		418	750	326	850	480	28+12	
S213A	S121B	688	750	326	850/1150	480	50+12	50+19
S280A	S170B	688	750	326	1150/1450	480	52+16	52+19
S370A	S220B	798	890	326	1150/1750	480	62+16	62+24
S415A	S265B	798	890	326	1450/1750	480	60+21	60+30



# comparisons

## Compressor Comparisons

### Commercial Range

Embraco Aspera	Refrigerent	Application	Start	Cubigel/ACC	Danfoss	Lunite Hermetique	Embraco Brazil
NB1112Z	R134a	LBP	LST	GL50AA	TL5F		EM60HNP
NB2116Z	R134a	LBP	HST	GL89AA	NLE8F	-	
NB2118Z	R134a	LBP	HST	GL90AA	NLE9F	AEZ2380Y	EGAS90HLR
NE1121Z	R134a	LBP	LST	GL99AA	FR11G	AEZ1410Y	EGAS100HLR
NE2121Z	R134a	LBP	HST	GP12FB	FR11G	AEZ2410Y	FFU130HAX / FFI12HAK
NE2130Z	R134a	LBP	HST	GP14FB	-	CAE2412Y	
T2134Z	R134a	LBP	HST	GP16FB	-	CAE2414Y	
T2140Z	R134a	LBP	HST	GC18FB / GX21FB	SC18F	-	
BP5125H	R134a	HBP	LST	GD30AA	-	-	
BP5132H	R134a	HBP	LST	GL40PB	-	-	
BP6125H	R134a	HBP	HST	GL30TB	TL4G / TL5G	THB4413Y / THB4415Y	EM65HHR
BP6132H	R134a	HBP	HST	-	TL5G	AZ4419Y / THB4419YFZ	EM65HHR
NB5144Z	R134a	HBP	LST	GL60PB	NL6.1MF	-	
NB6144Z	R134a	HBP	HST	GL60TB	NL6.1MF	THB4422Y	
NE5160Z	R134a	HBP	LST	GL80PB	FR7.5G / NL7.3MF	-	
NE6160Z / EMT6170Z	R134a	HBP	HST	GL80TB	FR7.5G / NL7.3MF	AEZ4425Y	
NE5170Z	R134a	HBP	LST	GL80TB	NL8.4MF	-	EGAS90HLR
NE6170Z	R134a	HBP	HST	GL90TB	FR10G / NL8.4MF	AEZ4430Y	EGAS100HLR
NE5187Z	R134a	HBP	LST	GP12PB	FR11G / NL10MF	-	FFU13HAX / FFI12HAK
NE6187Z	R134a	HBP	HST	GP12TB	FR11G / NL10MF	-	FFU13HAX / FFI12HAK
NE6210Z	R134a	HBP	HST	GP14TB	SC12G / NL11MF	CAE4440Y	
NEK6212Z	R134a	HBP	HST	GP14TB	SC12G / NL11MF	CAE4440Y	
NEK6214Z	R134a	HBP	HST	GP16TB	SC18G	CAJ4461Y	
T6213Z	R134a	HBP	HST	GP16TB	SC18G	CAJ4461Y	
T6215Z	R134a	HBP	HST	GR18TB / GX18TB	SC18G	CAJ4461Y	
T6217Z	R134a	HBP	HST	GX21TB	SC21G	CAJ4476Y	
NJ6220Z	R134a	HBP	HST	GS26TB	GS26MFX	CAJ4492Y	
NJ6220ZX	R134a	HBP	HST	-	-	TAJ4492Y	
NJ6226Z	R134a	HBP	HST	GS34TB	GS34MFX	CAJ4511Y	
NJ6226ZX	R134a	HBP	HST	-	-	TAJ4511Y	
NB6144E	R22	HBP	HST	L45TN		AEZ4425E	
NB6152E	R22	HBP	HST	L45TN		-	
NB6165E	R22	HBP	HST	L57TN		AEZ4430E	
NE6181W	R22	HBP	HST	L76TN		AEZ4440E	
NE6210E	R22	HBP	HST	L88TN		CAE4450E	
NE9213E	R22	HBP	HST	P12TN		CAE9460T	
T6217E	R22	HBP	HST			CAJ9480T	
T6220E	R22	HBP	HST			CAJ9510T	
NJ9226E	R22	HBP	HST	S22TN		CAJ9513T	
NJ9226E	R22	HBP	HST	S22TN		-	
NJ9226P	R22	HBP	HST			-	
NJ9232E	R22	HBP	HST	S26TN		CAJ4517T	
NJ9232E	R22	HBP	HST	S26TN		-	
NJ9232P	R22	HBP	HST			-	
NJ9238E	R22	HBP	HST	S34TN		CAJ4519T	

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# comparisons

## Compressor Comparisons

### Commercial Range continued

Embraco Aspera	Refrigerent	Application	Start	Cubigel/ACC	Danfoss	Lunite Hermetique
NE2125GK	R404A	LBP	HST	ML80FB	FR8.5CL	AEZ2415Z
NE2134GK	R404A	LBP	HST		SC10CL	CAE2417Z / CAE2420Z
NEK2125GK	R404A	LBP	HST	ML80FB	FR8.5CL	AEZ2415Z
NEK2134GK	R404A	LBP	HST	ML90FB	SC10CL	CAE2417Z / CAE2420Z
NEK2150GK	R404A	LBP	HST	MP12FB	SC12CL	CAE2420Z
NEK2168GK	R404A	LBP	HST	MX16FB / MP16FB	SC15CL	
T2155GK	R404A	LBP	HST	MX16FB / MP16FB	SC15CL	
T2168GK	R404A	LBP	HST	MK16FB / MX16FB	SC15CL	CAJ2428Z
T2178GK	R404A	LBP	HST	MR22FB / MX21FB	SC18CL	CAJ2432Z
T2180GJ	R404A	LBP	HST	MR22FB / MX21FB	SC21CL	CAJ2440Z
T2180GK	R404A	LBP	HST	MR22FB / MX21FB	SC21CL	CAJ2440Z
NJ2192GK	R404A	LBP	HST	MS26FB	GS26CLX	CAJ2446Z
NT2192GK	R404A	LBP	HST	MR22FB / MX21FB	SC21CL	CAJ2440Z
NT2212GK	R404A	LBP	HST	MS26FB	GS26CLX	CAJ2446Z
NJ2192GS	R404A	LBP	HST	-	-	TAJ2446Z
NJ2212GK	R404A	LBP	HST	MS34FB	GS34CLX	CAJ2464Z
NJ2212GS	R404A	LBP	HST	-	-	TAJ2464Z
NB6144GK	R404A	MBP	HST	ML45TB	-	AEZ4425Z
NB6152GK	R404A	MBP	HST	ML45TB	FR6DL	-
NB6165GK	R404A	MBP	HST	ML60TB	FR6DL	AEZ4430Z
NE6181GK	R404A	MBP	HST	ML80TB	NL7MLX / MF	AEZ4440Z
NE6210GK	R404A	MBP	HST	ML90TB	FR10DL	CAE4450Z
NE9213GK	R404A	MBP	HST	MP12TB / RB	SC10MLX / SC12MLX	CAE9460Z
NEK6210GK	R404A	MBP	HST	ML90TB	FR10DL	CAE4450Z
NEK6213GK	R404A	MBP	HST	MP12TB	SC10MLX / SC12MLX	CAE9460Z
T6217GK	R404A	MBP	HST	MP14TB	SC15MLX / DLX	CAE9470Z
T6220GK	R404A	MBP	HST	MX16TB	SC15MLX / DLX	CAJ9480Z
T6222GK	R404A	MBP	HST	MR18TB / MX18TB	SC18MLX / DLX	CAJ9510Z
NJ9226GK	R404A	MBP	HST	MR22TB / MX21TB	GS21MLX	CAJ9513Z
NT6224GK	R404A	MBP	HST	MR22TB / MX21TB	GS21MLX	CAJ9513Z
NT6226GK	R404A	MBP	HST	MR22TB / MX21TB	GS21MLX	CAJ9513Z
NJ9226GS	R404A	MBP	HST	-	-	TAJ9513Z
NJ9232GK	R404A	MBP	HST	MS26TB	GLS26MLX	CAJ4517Z
NJ9232GS	R404A	MBP	HST	MS26T3	-	TAJ4517Z
NJ9238GK	R404A	MBP	HST	MS34TB	GLS34MLX	CAJ4519Z
NJ9238GS	R404A	MBP	HST	MS34T3	-	TAJ4519Z

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# comparisons

## Compressor Comparisons

Aspera	HP	Refrigerant	Embraco Alternative	ACC	Danfoss	Lunite Hermetique
BPM1084Z	1/8	R134a	EMT36HLP	GL40AA / GVY40AA	TLES4F	THB1340Y / AZ1339Y
BPM1111Z	1/6	R134a	EMT43HLP	GL45AA / GL50AA / GVY44AA	TLES5F	THB1350Y / AZ1348Y
EM45HNR	1/8	R134a	EM40HNP	-	-	-
EMT22HLP	1/10	R134a	EM30HNP	GVY35AA	TLES3F	THB1335Y / AZ1335Y
EMT36HLP	1/8	R134a	EM40HNP	GL40AA / GVY40AA	TLES4F	THB1340Y / AZ1339Y
EMT49HLP	1/6	R134a	EM60HNP	GVY57AA / GL60 AA	TLES6F	THB1360Y / AZ1355Y
NB1116Z	1/5	R134a	EMT60HLP / EM65HHR	GVY66AA / GL75AA	NLE7F / NLE8F	AEZ1370Y
NB1118Z	1/4	R134a	EGAS90HLR	GQY90AA / GL90AA	NLE9F	AEZ1380Y
NBT1114Z	1/6	R134a	EMT49HLP	GVY57AA / GL60AA	TLES6F	THB1360Y / AZ1355Y
NE1121Z	1/3	R134a	FFU130HAX / FF112HAK	GL99AA	FR11G	AE1410Y
EMT26CLP	1/10	R600a	-	HVY57AA	TLES5K	THB1330M
EMT40CLP	1/8	R600a	-	HVY75AA	TLES8K	-
EMT46CLP	1/6	R600a	-	HQY80AA	TLES9K	-
NBM1114Y	1/6	R600a	EMT56CLP	HQY99AA	NLE10K	-
NBM1116Y	1/5	R600a	EMY70CLP	HQY12AA	NLE11K	-
NBM1118Y	1/4	R600a	-	-	-	-

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# general overview

## Terms and Conditions of sale

### 1 DEFINITIONS -

"Buyer" means the person whose order for goods is accepted by the Seller;

"Conditions" means the standard conditions of sale set out herein and (unless the context otherwise requires) includes any special conditions agreed in writing between the Buyer and the Seller.

"Seller" means C.A.R.S (UK) LTD of registered office address Units 11c & 11d Longbridge Hayes Road, Queensway Industrial Estate Stoke on Trent ST6 4DS registered in England as a company under registration number 3075016.

"Contract" means the contract on these terms and conditions for the sale by the Seller to the Buyer of the Goods.

"Manufacturer" means the original Supplier of the Goods to the Seller.

"Goods" means all or any of the goods which from time to time the Seller offers for sale and which form the subject matter of the Contract (including without limitation the Refrigerants).

"Refrigerants" which may include C02 as are used in the Goods from time to time.

"Restricted products" means the Goods or components which may include Refrigerants offered for sale by the Seller, these may be subject to regulatory controls on their sale, use handling or storage to the Buyer.

"Unit" means the aggregate of chassis assembly and parts which when assembled will form a Unit of Goods.

"Special order" means the goods supplied by the Seller to the Buyer at the Buyers request that are not ordinarily held in stock by the Seller in its ordinary course of business.

### 2 FORMATION OF CONTRACT

The contract of sale of goods from the Seller to the Buyer shall be concluded by the issue of an invoice or delivery note by the Seller and acceptance of the delivery of goods by the Buyer, any representative of the Buyer shall be deemed to have authority to contract in such items.

### 3 PAYMENT TERMS

The Seller's payment terms are; full payment is due in cleared funds without any deduction (30) days net monthly from date of Invoice for approved credit customers i.e. the Buyer, otherwise cash or approved payment before release of goods to the Buyer is required.

3.2 Time for payment is of the essence of the Contract. If the Buyer fails to pay the Seller all outstanding sums in full by the due date of payment, then the Seller may (without prejudice to any other rights) action the following;

3.3 Suspend further deliveries of goods to the Buyer until the payment has been made and/or

3.4 Cancel the Contract in question

3.5 If the Buyer has an amount overdue to the Seller for the purchase of Goods, the Seller may require at any time payment for all goods supplied immediately and interest may be applied as

allowed by the Late payment of Commercial debts (Interest Act 1998) which is chargeable from the date of invoice and the Seller may recover the goods as set out under Title and Risk below.

3.6 The Seller may pass the overdue balance to a third party for collection of monies due if they feel the balance is or will become difficult to recover.

3.7 We require payment to the above terms. Payment must be made on time, in full, and without any deduction, set off or counterclaim. In the event that an account is outstanding, we will refer the matter to our debt collection agents, Daniels Silverman Limited, which will incur costs of 15% + vat. Any costs incurred to collect the debt will be added to the debt, plus VAT at the prevailing rate. You agree that you will be legally liable to pay us that surcharge, and that payment of the same can be enforced against you in court. You also agree to pay interest at the relevant reference rate provided for under the Late Payment of Commercial Debts (Interest) Act 1998 and subsequent amendments, which interest is payable both after and before any judgment of the court and continues to accrue."

#### **4 TITLE AND RISK**

Ownership of the goods remains with the Seller and will not pass to the Buyer until one of the following events occurs:

4.1 The Seller has received the full balance against the Goods and no other amounts are owed to the Seller in respect of all Goods supplied by the Seller.

4.2 Where the Goods are attached to or incorporated in other goods, or have been altered by the Buyer then ownership of the Goods shall not be passed to the Buyer by virtue of the attachment incorporation or alteration if the goods remain identifiable and when attached or incorporated in other goods can be detached or removed from the item.

4.3 If the Buyer sells the goods, the Seller may by written demand at its discretion, require the Buyer to assign to the Seller the Buyers rights to recover the price from (its) Buyer.

4.4 The Seller until such time as title in the Goods passes to the Buyer (and provided the goods are still in existence and have not been resold) the Seller shall be entitled at any time to require the Buyer to deliver up the Goods to the Seller. If the Buyer fails to do so, the Seller is entitled forthwith to enter upon any premises of the Buyer or any third party where the Goods are stored and repossess the Goods.

#### **5 GUARANTEE AND WARRANTY**

The guarantee period will be 12 months from the date of invoice for the Goods in question where the Manufacturers and/or other recommended installation and maintenance procedures have been correctly followed. The Seller warrants that any goods sold by the Seller are not satisfactory quality or do not comply with their specification within one year from the date of invoice the Buyer will be reimbursed by way of a credit note in respect of any replacement ordered provided always that;

5.1 Where a part of a Unit is found to be defective/faulty, the warranty applies to that part only and not the entire Unit.

5.2 During such period the Seller shall remedy any defects in the goods arising out of defective materials and/or workmanship provided that the Buyer on discovering a defect shall give immediate notice verbally and in writing of such defects to the Seller. Immediately after giving such notice, the Buyer must return the defective Goods (or any part thereof) to the Seller at the Buyer's risk and Expense.

5.3 The Seller shall repair or replace the goods within a reasonable period or at the option of the

# general overview

## Terms and Conditions of sale

Seller the invoiced price of such goods shall be refunded by way of a credit note to the Buyer thereby discharging the Seller from any further liability for any consequential or other damages except that after repair or replacement the goods shall be guaranteed for the remainder of the original warranty period only.

5.4 The Seller shall not be liable if the defects result from misapplication, misuse or other fault of the Buyer in relation to the storage, handling, application or use of such goods (without prejudice to any term implied by law).

5.5 The Seller reserves the right to make site visits in order to inspect installations of Goods supplied in the case of a warranty claim.

5.6 All Goods returned under warranty must have gas or liquid connections sealed to prevent ingress of any foreign body or moisture.

5.7 The Seller shall endeavour to supply products suitable for the Buyers requirements but shall not be under any liability for failure of a product where no, incomplete or incorrect technical or other information as to its application or usage has been supplied.

5.8 If the goods are covered by a supplier's or manufacturers guarantee the terms of such guarantee shall be deemed to be accepted by the Buyer in substitution for the foregoing guarantee. The Buyer shall be responsible for ascertaining which guarantee provisions apply.

5.9 These warranties and guarantees shall not apply if the Purchaser is in breach of these terms and conditions including the obligation to make payment.

## 6 WARRANTY CONTINUED

6 Nothing in these conditions limits the Company's liability for personal injury or death arising from the negligence of the Seller, its representatives or employees.

6.1 The Seller shall not be responsible for any labour or further expenditure incurred by the Buyer in replacing items under warranty when relating to faulty or defective Goods supplied.

6.2 The Seller will not accept any warranty liability where the Goods fail to meet the specifications if that failure results from the use of the Goods in conjunction or in combination with other products not sold by the Seller.

6.3 No warranty shall apply in respect of Goods which have not been paid for in full.

6.4 The Seller reserves the right to scrap Goods which have been refused warranty where the Buyer has been notified in writing within (14) days from the date of the letter.

6.5 In the circumstances where the Buyer makes a claim under Sellers warranty procedure, if the Goods are not defective or do not qualify for the warranty the Buyer shall be liable to pay the Seller such amount as represents the costs incurred by the Seller in dealing with the Buyers claim within 30 days of receipt of the Seller request for such payment.

6.6 The Seller cannot and does not guarantee or warrant that any Refrigerant supplied is suitable for any use or process for which the Buyer intends to use it.

6.7 Removal of the warranty number or serial number label from a compressor automatically invalidates the warranty. Removal of serial numbers and manufacturers data plates may also invalidate warranty.

6.8 It is the Buyers responsibility to return unwanted or unsatisfactory goods; the Seller will offer a collection service at cost to the Buyer. The Sellers will not accept responsibility of carriage charges of returned goods.

6.9 Payment of goods are payable by the due date of invoice as agreed in the credit terms unless otherwise agreed by the seller. The seller will reimburse the buyer if goods returned under warranty are faulty/defective by way of credit note to their account.

Please ensure all warranty returns are accompanied by a warranty goods return form.



## 7 RETURNED GOODS

If the Buyer wishes to return non-defective unused goods supplied by the Seller back to the Seller, the Seller may at its discretion accept such goods and credit the Buyer with the price paid by the Buyer for the goods less a restocking charge provided that the goods are returned in a new condition suitable for resale.

## 8 CANCELLATION

The Buyer is not permitted to cancel this contract except if the Seller commits a material breach of its obligations under the contract or with the written consent of the Seller.

## 9 DELIVERY

The place and date of delivery shall be agreed between the Seller and the Buyer.

In the case of damage in transit, notice of damage or breakage must be sent in writing by the Buyer to the Seller within three days of receipt of the Goods followed up with a written claim setting out full details of the damage within Seven days of receipt of the Goods. Goods must be signed for as damaged on delivery by the Buyer to make a claim.

The Sellers will apply a standard carriage charge of £9.25 plus VAT on orders under £100 net.

If the Buyer requires a delivery which is not standard, such as timed or weekend deliveries further Charges as set out by the courier will apply.

The Seller shall have the right to dispatch any portion of the Goods covered by the Contract and to invoice the Buyer for such portion as dispatched on these terms and condition of sale unless agreed otherwise in writing.

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 terms 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.

## 10 INSOLVENCY

If the Buyer a company has a petition presented for its winding up or passes a resolution for voluntary winding-up (other than for the purpose of a bona fide amalgamation or reconstruction);

10.1 Or enters into a voluntary arrangement with its creditors;

10.2 Or becomes subject to an administration order;

10.3 Or has a receiver appointed of all or any of its assets;

Or being an individual or firm;

10.4 becomes bankrupt or insolvent; or

10.5 enters into a voluntary agreement with creditor

Then the Seller shall be entitled to treat the contract as being at an end or suspend any further deliveries under the contract. If the goods have been delivered but not paid for, the price shall become due immediately regardless of any previous arrangement to the contrary.

## 11 SUITABILITY OF GOODS

It is entirely the responsibility of the Buyer to ensure that the kind/class of goods purchased are suitable for its purpose. The Seller shall not be liable for any loss or damage however arising from any advice statements or representations of the Seller, its employees or agents.

# general overview

## Terms and Conditions of sale

### **12 COMPLIANCE WITH INSTRUCTIONS AND SAFETY**

The Buyer must ensure all Goods are installed, maintained and used strictly in accordance with appropriate instructions and recommendations by the Seller and/or the Manufacturer both for the safety of users and third parties.

### **13 FORCE MAJEURE**

The performance of the contract is subject to variation or cancellation by the Seller of loss or damage resulting from the failure to supply any of the goods owing to any circumstances beyond the Sellers control such as;

Any Act of God, war, strikes, governmental regulations or orders, national emergencies, lockouts, fire, flood, drought, tempest, or any other cause (whether or not of a like nature) or owing to inability by the Seller to produce materials or articles required for the performance of the Contract and the Seller shall not be held responsible for any inability to deliver or delay in delivery caused by any such contingency.

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