



Thermostatic Expansion Valves

Alco

TI Series with Interchangeable Orifice Assembly

TI Series Valves with interchangeable orifices provide the capability of changing capacity with only the change of an orifice.

Features

- Stainless steel metering pin in orifice
- External superheat adjustment
- Refrigerants: R22, R134a, R404A, R507
- Stainless steel power element
- Safe Working Pressure: 3100 kPa
- Replaceable inlet strainer assembly

Valve Body (Less Orifice)

Flare Inlet and Outlet



Cat. No.	Model No.	Part No.	Refrigerant	Evaporating Temperature Range °C	MOP (valve closed)	Connections			Capillary Length mm
						Inlet	Outlet	Equaliser	
2707180	TI-HW	802420	R22	-45 to +20	N/A	3/8" MF	1/2" MF	Internal	1500
2707194	TI-MW	802445	R134a						
2707196	TI-SW	802459	R404A	-45 to -3	0°C				
2707200	TI-SW75	802469	R507						
2707181	TIE-HW	802421	R22	-45 to +20	N/A			External 1/4" MF	
2707195	TIE-MW	802446	R134a						
2707197	TIE-SW	802460	R404A	-45 to -3	0°C				
2707201	TIE-SW75	802470	R507						

Flare Inlet and Solder Outlet

Cat. No.	Model No.	Part No.	Refrigerant	Evaporating Temperature Range °C	MOP (Valve closed)	Connections			Capillary Length mm		
						Inlet	Outlet	Equaliser			
2707190	TIS-HW	802424	R22	-45 to +20	N/A	3/8" MF	1/2" OD	Internal	1500		
2707192	TIS-MW	802449	R134a								
2707198	TIS-SW	802463	R404A R507								
2707191	TISE-HW	802425	R22	-45 to +20	N/A			3/8" MF		1/2" OD	External 1/4" MF
2707193	TISE-MW	802450	R134a								
2707199	TISE-SW	802464	R404A								
2707202	TISE-SW75	802472	R507	-45 to -3	0°C						

Connection Adaptor

Cat. No.	Model No.	Part No.	Description
2707203	TIA-038	802503	3/8 FF to 3/8 ODF Adaptor

Orifice Assembly (including Strainer)

Cat. No.	Model No.	Part No.	Nominal Capacity: kW*					
			R22		R134a		R404A/R507	
			M/T	L/T	M/T	L/T	M/T	L/T
2707189	0X	800532	0.5	0.3	0.3	0.2	0.4	0.3
2707182	0	800533	1.3	0.9	0.8	0.5	0.9	0.6
2707183	1	800534	3.3	2.2	1.8	1.2	2.2	1.5
2707184	2	800535	5.4	3.7	2.9	1.9	3.7	2.5
2707185	3	800536	8.7	5.9	4.7	3.1	5.8	4.0
2707186	4	800537	14.3	9.7	7.9	5.2	9.5	6.5
2707187	5	800538	17.4	11.8	9.6	6.3	11.6	8.0
2707188	6	800539	20.0	13.6	11.1	7.3	13.4	9.2

Nominal Capacities based on:

MT: -4°C evaporating temperature, 46°C condensing temperature, 1K liquid sub-cooling, 200kPa pressure drop across distributor and line components.

LT: -23.3°C evaporating temperature, 42°C condensing temperature, 1K liquid sub-cooling, 200kPa pressure drop across distributor and line components.



Thermostatic Expansion Valves

Alco BA Series

BA Series Thermostatic Expansion Valves feature a balanced port construction which provides stable and accurate superheat control over a wide range of operating conditions. Compared to conventional T.X. valves, under varying system conditions with wide pressure drops, the balanced port BA valve improves superheat control, system operation and valve stability.

Features

- Balanced port design improving operating and stability under low load conditions
- BAES have a removable strainer that can be cleaned without removing the valve from the line
- Bi-Flow capability
- BAE have straight through connection
- Maximum working pressure 3100 kPa
- Hermetic leak free construction
- External superheat adjustment
- BAES have angle connection
- Stainless steel power assembly
- Interchangeable with conventional T.X. valves

R22 Balanced Port TX Valve



Cat. No.	Model No.	Part No.	Refrigerant	BiFlow	Connections			Capillary Length mm
					Inlet	Outlet	Equaliser	
2707214	BAE 1 HCA	063200	R22	Y	3/8" ODF	1/2" ODF	External 1/4" ODF	760
2707215	BAE 1 1/2 HCA	061954						
2707217	BAE 2 HCA	061955						
2707216	BAE 2 1/2 HCA	061956						
2707218	BAE 3 HCA	065892			1/2" ODF	5/8" ODF		1500
2707219	BAE 4 HCA	061957						
2707220	BAE 5 HCA	061964						
2707221	BAE 6 HCA	062736						

Model No.	Nominal Capacity: kW		
	AC	MT	LT
BAE 1 HCA	4.4	4.3	3.4
BAE 1 1/2 HCA	6.8	6.7	5.1
BAE 2 HCA	9.1	8.9	7.1
BAE 2 1/2 HCA	11.5	11.3	8.7
BAE 3 HCA	13.9	13.6	10.5
BAE 4 HCA	18.0	17.7	13.6
BAE 5 HCA	22.8	22.4	17.2
BAE 6 HCA	28.3	27.8	21.4

Nominal Capacities based on:

AC: 7°C evaporating temperature, 46°C condensing temperature, 1K liquid sub-cooling, 200kPa pressure drop across distributor and line components.

MT: -4°C evaporating temperature, 46°C condensing temperature, 1K liquid sub-cooling, 200kPa pressure drop across distributor and line components.

LT: -23.3°C evaporating temperature, 42°C condensing temperature, 1K liquid sub-cooling, 200kPa pressure drop across distributor and line components.

Alco C Series

The C Series is a balanced ported valve designed for high efficiency R410A Air Conditioning and heat pump applications. C valves operate over widely varying operating conditions.

Features

- Balanced port design improving operating and stability under low load conditions
- External superheat adjustment
- Screens on ODF inlet connections
- Maximum working pressure 4826 kPa



Cat. No.	Model No.	Part No.	Refrigerant	BiFlow	Nominal Capacity: kW	Connections			Capillary
					AC	Inlet	Outlet	Equaliser	Length: mm
2707265	CB18CE	093021	R410A	Y	6.3	3/8" ODF	1/2" ODF	External 1/4" ODF	1500
2707266	CB24CE	093022			8.4				
	NB36CE	095022			12.6				
	NB48CE	095028			16.8				
	NB60EF	095034			21.0	1/2" ODF	5/8" ODF		
	NB72EF	095040			25.2				
	NB84FG	095046			29.4				

Nominal Capacities based on:

AC: 7°C evaporating temperature, 46°C condensing temperature, 1K liquid sub-cooling, 200kPa pressure drop across distributor and line components.



Thermostatic Expansion Valves

Alco

R134a Balanced Port TX Valve

Cat. No.	Model No.	Part No.	Refrigerant	Connections			Capillary Length: mm
				Inlet	Outlet	Equaliser	
2707259	BAES 1/2 MC	064244	R134a	3/8" ODF	1/2" ODF	External 1/4" ODF	760
2707260	BAES 3/4 MC	064245					
2707261	BAES 1 MC	064246					
2707262	BAES 1 1/2 MC	064247					
2707263	BAES 2 MC	064248					
2707264	BAES 3 MC	064250					

R404A Balanced Port TX Valve

Cat. No.	Model No.	Part No.	Refrigerant	Connections			Capillary Length mm
				Inlet	Outlet	Equaliser	
2707241	BAES 1/4 SC	064137	R404A R507	3/8" ODF	1/2" ODF	External 1/4" MF	760
2707242	BAES 1/2 SC	064138					
2707243	BAES 1 SC	064139					
2707244	BAES 1 1/4 SC	064140					
2707245	BAES 1 1/2 SC	064141					
2707246	BAES 2 SC	064142					
2707247	BAES 2 1/2 SC	064280					
2707248	BAES 3 SC	064281					
2707249	BAES 4 SC	064460					

R404A Balanced Port TX Valve

Cat. No.	Model No.	Part No.	Refrigerant	Connections			Capillary Length mm
				Inlet	Outlet	Equaliser	
2707250	BAES 1/4 SZ	064295	R404A R507	3/8" ODF	1/2" ODF	External 1/4" MF	760
2707251	BAES 1/2 SZ	064144					
2707252	BAES 1 SZ	064145					
2707253	BAES 1 1/4 SZ	064146					
2707254	BAES 1 1/2 SZ	064273					
2707255	BAES 2 SZ	064537					
2707256	BAES 2 1/2 SZ	064434					
2707257	BAES 3 SZ	064538					
2707258	BAES 4 SZ	064780					

Model No.	Nominal Capacity: R404A kW
	MT
BAES 1/4 SC	1.65
BAES 1/2 SC	3.15
BAES 1 SC	4.90
BAES 1 1/4 SC	6.55
BAES 1 1/2 SC	8.20
BAES 2 SC	10.0
BAES 2 1/2 SC	12.9
BAES 3 SC	16.3
BAES 4 SC	20.3

Model No.	Nominal Capacity: R404A kW
	LT
BAES 1/4 SZ	1.18
BAES 1/2 SZ	2.26
BAES 1 SZ	3.52
BAES 1 1/4 SZ	4.72
BAES 1 1/2 SZ	5.94
BAES 2 SZ	7.18
BAES 2 1/2 SZ	9.26
BAES 3 SZ	11.76
BAES 4 SZ	14.66

Model No.	Nominal Capacity: R134a kW
	MT
BAES 1/2 MC	1.55
BAES 3/4 MC	4.3
BAES 1 MC	4.6
BAES 1 1/2 MC	5.27
BAES 2 MC	7.77
BAES 3 MC	6.99

Nominal Capacities based on:

MT: -4°C evaporating temperature, 46°C condensing temperature, 1K liquid sub-cooling, 200kPa pressure drop across distributor and line components.

LT: -23.3°C evaporating temperature, 42°C condensing temperature, 1K liquid sub-cooling, 200kPa pressure drop across distributor and line components.



Thermostatic Expansion Valves

Alco

HF Series

HF Series Thermostatic Expansion Valves feature a balanced port construction which provides stable and accurate superheat control over a wide range of operating conditions. Compared to conventional T.X. valves, under varying system conditions with wide pressure drops, the balanced port HF valve improves superheat control, system operation and valve stability.

Features

- Balanced port design improving operating and stability under low load conditions
- External superheat adjustment
- The HFESC series has a removable 100 mesh strainer that can be cleaned and/or replaced without removing the valve from the line
- Interchangeable with conventional T.X. valves
- Maximum working pressure 3100kPa



Cat. No.	Model No.	Part No.	Refrigerant	BiFlow	Connections			Capillary Length mm		
					Inlet	Outlet	Equaliser			
2707204	HFES 8 HCA	056819	R22	Y	5/8"	7/8"	External 1 1/4" ODF	1500		
2707205	HFES 10 HCA	056820								
2707206	HFES 12 HCA	065762			7/8"	1 1/8"				
2707207	HFES 15 HCA	056825								
2707208	HFES 20 HCA	058490			3/8"	1 1/2"				
2707209	HFES 4 MC	057897	R134a	N						
2707210	HFES 6 MC	057903		5/8"	7/8"					
2707211	HFES 11 MC	058681		7/8"	1 1/8"					
2707212	HFES 14 MC	064000			1 3/8"					
2707222	HFESC 5 SC	058220	R404A R507		3/8"	1/2"				
2707223	HFESC 10 SC	064219			5/8"	7/8"				
2707224	HFESC 13 SC	065356			7/8"	1 1/8"				

Model No.	Nominal Capacity: R22 kW	
	AC	MT
HFES 8 HCA	33.4	34.7
HFES 10 HCA	41.9	44.0
HFES 12 HCA	48.6	51.3
HFES 15 HCA	62.0	65.2
HFES 20 HCA	81.7	85.9

Model No.	Nominal Capacity: R134A kW
	MT
HFES 4 MC	18.7
HFES 6 MC	26.1
HFES 11 MC	49.0
HFES 14 MC	64.5

Model No.	Nominal Capacity: R404A kW	
	AC	MT
HFESC 5 SC	27.4	24.8
HFESC 10 SC	51.5	46.6
HFESC 13 SC	67.8	61.4

Nominal Capacities based on:

AC: 7°C evaporating temperature, 46°C condensing temperature, 1K liquid sub-cooling, 200kPa pressure drop across distributor and line components.

MT: -4°C evaporating temperature, 46°C condensing temperature, 1K liquid sub-cooling, 200kPa pressure drop across distributor and line components.



Thermostatic Expansion Valves

Alco

TRAE Series

TRAE+ Series Thermostatic Expansion Valves are designed for large capacity refrigeration, air conditioning applications.

Features

- Solid copper solder straight through connections
- External superheat adjustment
- Stainless steel power element
- Maximum working pressure 3100kPa
- Balanced port design improving operating and stability under low load conditions



Cat. No.	Model No.	Part No.	Refrigerant	BiFlow	Connections			Capillary Length mm
					Inlet: ODF	Outlet: ODF	Equaliser	
2707165	TRAE+ 10 HC	062718	R22	N	5/8"	7/8"	External 1/4" MF	1500
2707166	TRAE+ 15 HC	062721			7/8"	3000		
2707167	TRAE+ 20 HC	062724						
2707168	TRAE+ 30 HC	062727						
2707169	TRAE+ 40 HC	062733			1 1/8"			1 3/8"
2707170	TRAE+ 13 MC	063549	R134a		5/8"		7/8"	
2707171	TRAE+ 12 SC	064196	R404A R507		7/8"		1 1/8"	External 1/4" ODF
2707172	TRAE+ 14 SC	064407			1 1/8"		1 3/8"	
2707173	TRAE+ 20 SC	063927						
2707174	TRAE+ 30 SC	064435						
2707175	TRAE 35 SC	064217						

Model No.	Nominal Capacity: R22 kW	
	AC	MT
TRAE+ 10 HC	52.7	56.8
TRAE+ 15 HC	76.6	82.7
TRAE+ 20 HC	85.5	92.3
TRAE+ 30 HC	129.6	139.9
TRAE+ 40 HC	178.2	192.4

Model No.	Nominal Capacity: R134A kW	
	MT	
TRAE+ 13 MC	60.69	

Model No.	Nominal Capacity: R404A kW	
	AC	MT
TRAE+ 12 SC	57.8	46.6
TRAE+ 14 SC	64.4	50.8
TRAE+ 20 SC	97.8	79
TRAE+ 30 SC	134.4	110
TRAE 35 SC	181.5	150

Nominal Capacities based on:

AC: 7°C evaporating temperature, 46°C condensing temperature, 1K liquid sub-cooling, 200kPa pressure drop across distributor and line components.

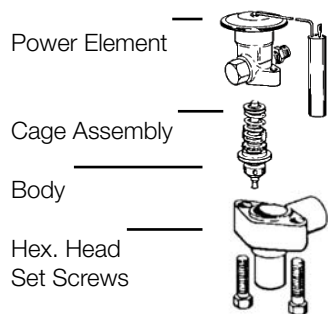
MT: -4°C evaporating temperature, 46°C condensing temperature, 1K liquid sub-cooling, 200kPa pressure drop across distributor and line components.



Thermostatic Expansion Valves

Alco

T Series – Component Schedule - Model TCLE and TJLE



Features

- Angle Type
- Externally Equalised
- Single Ported for Normal Load Conditions
- Solder Connections

Refrig.	Valve Series	Power Element		Cage Assembly		Body - Angle Type		Set Screws (2)	
		Cat. No.	Model No.	Cat. No.	Model No.	Cat. No.	Model No.	Cat. No.	Model No.
R134a	TCLE1/4MC	2707136	XB1019-MW1B	2707110	X22440-B1B	2707147	C501-5 3/8" x 5/8" ODF	2707159	PS286-5
	TCLE3/4MC			2707111	X22440-B2B				
	TCLE11/2MC			2707112	X22440-B3B				
	TCLE21/2MC			2707113	X22440-B4B				
	TCLE31/2MC			2707114	X22440-B5B	2707148	C501-7 1/2" x 5/8" ODF		
	TCLE51/2MC			2707115	X22440-B6B				
	TCLE71/2MC			2707116	X22440-B7B			2707149	A576 5/8" x 7/8" ODF (7/8" x 1 1/8" ODM)
	TCLE9MC			2707117	X22440-B8B				
R22	TCLE1/2HC	2707129	XB1019-HC1B	2707110	X22440-B1B	2707147	C501-5 3/8" x 5/8" ODF	2707159	PS286-5
	TCLE1HC			2707111	X22440-B2B				
	TCLE2HC			2707112	X22440-B3B				
	TCLE3HC			2707113	X22440-B4B				
	TCLE5HC			2707114	X22440-B5B	2707148	C501-7 1/2" x 5/8" ODF		
	TCLE71/2HC			2707115	X22440-B6B				
	TCLE10HC			2707116	X22440-B7B			2707149	A576 5/8" x 7/8" ODF (7/8" x 1 1/8" ODM)
	TCLE12HC			2707117	X22440-B8B				
R404A R507	TCLE1/4SC	2707142	XB1019-SC1B	2707110	X22440-B1B	2707147	C501-5 3/8" x 5/8" ODF	2707159	PS286-5
	TCLE1/2SC			2707111	X22440-B2B				
	TCLE1SC			2707112	X22440-B3B				
	TCLE2SC			2707113	X22440-B4B				
	TCLE3SC			2707114	X22440-B5B	2707148	C501-7 1/2" x 5/8" ODF		
	TCLE5SC			2707115	X22440-B6B				
	TCLE61/2SC			2707116	X22440-B7B			2707149	A576 5/8" x 7/8" ODF (7/8" x 1 1/8" ODM)
	TCLE8SC			2707117	X22440-B8B				
R134a	TJLE9MC	2707136	XB1019-MC1B	2707118	XC724-B4B	2707152	B504 5/8" x 7/8" ODF (7/8" x 1 1/8" ODM)	2707160	PS514-5
	TJLE11MC			2707119	XC724-B5B				
R22	TJLE11HC	2707129	XB1019-HC1B	2707118	XC724-B4B				
	TJLE14HC			2707119	XC724-B5B				
R404A R507	TJLE7SC	2707142	XB1019-SC1B	2707118	XC724-B4B				
	TJLE9SC			2707119	XC724-B5B				

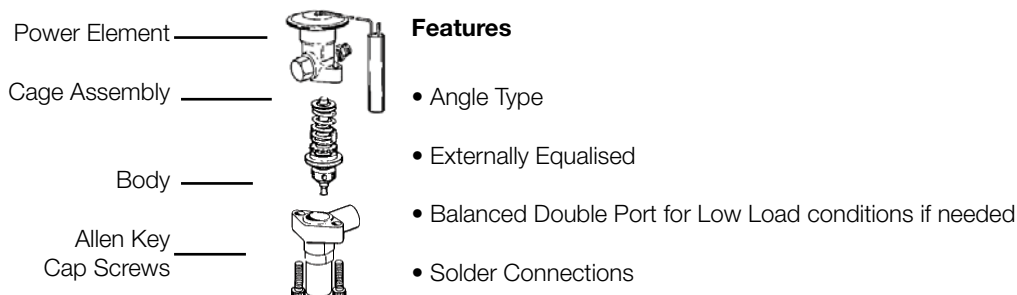
Power elements listed are 'C' charge: Range -30 to 10°C, with 1.5m long capillary. Power elements with 'Z' charge: Range -45 to -10°C and 'W' charge: MOP are also available.



Thermostatic Expansion Valves

Alco

T Series - Component Schedule - Model TJRE, TER, TIR, THR



Refrig.	Valve Series	Power Element		Cage Assembly		Body - Angle Type		Cap Screws (2)	
		Cat. No.	Model No.	Cat. No.	Model No.	Cat. No.	Model No.	Cat. No.	Model No.
R134a	TJRE 11MC	2707136	XB1019-MW1B	2700216	X11873-B4B	2707146	10331 7/8" x 7/8" ODF (1 1/8" x 1 1/8" ODM)	2707161	PS259
	TJRE 13MC			2707106	X11873-B5B				
R22	TJRE 14HC	2707129	XB1019-HC1B	2700216	X11873-B4B				
	TJRE 18HC			2707106	X11873-B5B				
R404A R507	TJRE 9SC	2707142	XB1019-SC1B	2700216	X11873-B4B				
	TJRE 11SC			2707106	X11873-B5B				
R134a	TER 16MC	2707139	XC726-MC2B	2707120	X9117-B6B	2707153	9153 7/8" x 7/8" ODF (1 1/8" x 1 1/8" ODM)	2707161	PS259
	TER 19MC			2707109	X9117-B7B				
	TER 25MC			2707121	X9117-B8B				
	TER 31MC			2707122	X9117-B9B				
R22	TER 22HC	2707140	XC726-HC2B	2707120	X9117-B6B				
	TER 26HC			2707109	X9117-B7B				
	TER 35HC			2707121	X9117-B8B				
	TER 45HC			2707122	X9117-B9B				
R404A R507	TER 14SC	2707107	XC726-SC2B	2707120	X9117-B6B				
	TER 16SC			2707109	X9117-B7B				
	TER 22SC			2707121	X9117-B8B				
	TER 28SC			2707122	X9117-B9B				
R134a	TIR 45MC	2707139	XC726-MC2B	2707123	X9166-B10B	2707155	9151 7/8" x 7/8" ODF (1 1/8" x 1 1/8" ODM)	102225	PS370
R22	TIR 55HC	2707140	XC726-HC2B						
R404A R507	TIR 39SC	2707107	XC726-SC2B						
R134a	THR 55MC	2707139	XC726-MC2B	2707124	X9144-B11B	2707156	9149 1 1/8" x 1 1/8" ODM	102225	PS370
	THR 68MC			2707125	X9144-B13B				
R22	THR 75HC	2707140	XC726-HC2B	2707124	X9144-B11B				
	THR 100HC			2707125	X9144-B13B				
R404A R507	THR 50SC	2707107	XC726-SC2B	2707124	X9144-B11B				
	THR 60SC			2707125	X9144-B13B				

Power elements listed are 'C' charge: Range -30 to 10°C with 1.5m capillary for TJRE and 3m capillary for TER, TIR, THR.
Power elements with 'Z' charge: Range -45 to -10°C and 'W' charge: MOP. are also available.



Thermostatic Expansion Valves

Alco

Power Elements

Power Elements include gaskets and bulb clamps

TCLE, TJLE, TJRE Series



Cat. No.	Model No.	Part No.	Refrigerant	Equalizer Type	Capillary Length: m	Temp Range: °C	MOP: psi
2707129	XB1019HC1B	053416	R22	1/4" MF	1.5	-30 to +10	None
2707132	XB1019HCA1B*	056039				-30 to +10	
2707137	XB1019HW651B	089445				-45 to -1	65
2707128	XB1019HC2B	054390			3	-30 to +10	None
2707126	XB1019QL1B	058120	R124		1.5		
2707136	XB1019MW1B	057878				-30 to +20	
2707141	XB1019MZ1B	061946	R134a			-45 to -12	
2707108	XB1019MC2B	059548			3	-30 to +10	
2707133	XB1019NW1002B	803483	R407C/R22		-45 to + 14		
2707142	XB1019SC1B	059189			R404A R507	1.5	
2707144	XB1019SZ1B	062140	-45 to -12				
2707134	XB1019SW401B	059130	-45 to -18			40	
2707143	XB1019SC2B	059547	3			-30 to +10	None

*Suitable for heat pump and air conditioning applications

TER, TIR, THR Series

Cat. No.	Model No.	Part No.	Refrigerant	Equalizer Type	Capillary Length: m	Temp Range: °C	MOP: psi
2707140	XC726HC2B	802933	R22	1/4" MF	3	-30 to +10	None
2707139	XC726MC2B	803384	R134a			-45 to + 14	
2707138	XC726NW1002B	803485	R407C/R22			-30 to +10	
2707107	XC726SC2B	803451	R404A R507			-45 to -12	
2707127	XC726SZ2B	063974					

TLE Series

Cat. No.	Model No.	Part No.	Refrigerant	Equalizer Type	Capillary Length: m	Temp Range: °C	MOP: psi
2707135	XB1033HCA-1B	049760	R22	Internal	1.5	-30 to +10	None

Rapid Response

Cat. No.	Model No.	Part No.	Refrigerant	Equalizer Type	Capillary Length: m	Temp Range: °C	MOP: psi
2707131	X8019FWS1B	031654	R134a	1/4" MF	1.5	-23 to +10	None

Accessories

Cat. No.	Model No.	Part No.	Description
2707157	X13455/1	027579	Gasket Kit
2707162	XA-1728-4	020955	Bulb Strap Kit

Notes:

R-12 and R-134a are interchangeable refrigerant charges.

R-507, R-502 and R-404A are interchangeable refrigerant charges.

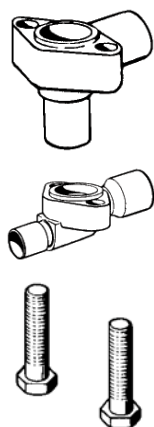
R-22 and R-407C are interchangeable refrigerant charges.



Thermostatic Expansion Valves

Alco

T Series - Bodies and Screws



Valve Style	Body					Screws: 2 required		
	Cat. No.	Model No.	Part No.	Connections		Cat. No.	Model No.	Part No.
				Inlet	Outlet			
TCLE	2707147	C501-5	803232	3/8" ODF	5/8" ODF	2707159	PS286-5	021057
	2707148	C501-7	803234	1/2" ODF				
	2707149	A576	027764	5/8" ODF Or 7/8" ODM	7/8" ODF Or 1 1/8" ODM	2707158	PS168-5	026629
	2707150	9761-4	803350	1/2" ODF	5/8" ODF	2707159	PS286-5	021057
	2707151	X6346-17	803330	5/8" ODF	7/8" ODF			
TJLE	2707152	B504	044984	5/8" ODF Or 7/8" ODM	7/8" ODF Or 1 1/8" ODM	2707160	PS514-5	026639
TJRE	2707146	10331	803338	5/8" ODF Or 1 1/8" ODM		2707161	PS259	020829
	TER	2707145	10332	803324				
2707153		9153	803244					
TIR	2707154	9152	803244					
	2707155	9151	803286					
THR	2707156	9149	803284	1 1/8" ODM	1 1/8" ODM	102225	PS370	021064

Nominal Capacities

Valve Style	Cat. No.	Model No.	Part No.	Nominal Capacity: kW							
				R22			R134a			R404A/R507	
				A/C	M/T	L/T	A/C	M/T	L/T	M/T	L/T
TCLE	2707110	X22440-B1B	037035	1.8	2.0	1.3	1.4	1.4	1.0	1.2	0.9
	2707111	X22440-B2B	037037	3.6	3.8	2.6	2.6	2.8	1.9	2.4	1.7
	2707112	X22440-B3B	037039	7.6	8.1	5.5	5.5	5.8	3.9	5.3	3.7
	2707113	X22440-B4B	037041	16.7	17.8	12.1	12.3	12.8	8.7	11.5	8.1
	2707114	X22440 B5B	037043	21.5	22.8	15.5	15.7	16.4	11.1	14.8	10.5
	2707115	X22440 B6B	037045	29.4	31.2	21.2	21.4	22.4	15.2	20.2	14.3
	2707116	X22440-B7B	037047	39.7	42.2	28.7	29.1	30.4	20.6	27.3	19.3
	2707117	X22440-B8B	037049	46.2	49.1	33.3	33.8	35.3	24.0	31.8	22.5
TJLE	2707118	XC724-B4B	093343	38.6	41.7	33.8	27.7	29.1	20.9	26.9	21.7
	2707119	XC724-B5B	038699	49.2	53.2	43.1	36.7	38.1	26.6	34.3	27.7
TJRE	2700216	X11873-B4B	088837	56.0	59.6	40.5	40.9	42.7	29.0	37.6	26.7
	2707106	X11873-B5B	089058	71.5	76.0	51.6	51.8	54.1	36.7	48.0	34.0
TER	2707120	X9117-B6B	077896	87.9	93.5	63.5	64.5	67.4	45.7	59.2	42.0
	2707109	X9117-B7B	078117	100.5	106.9	72.5	73.6	76.9	52.2	67.7	48.0
	2707121	X9117-B8B	071155	138.2	146.9	99.8	101.7	106.3	72.2	93.1	66.0
	2707122	X9117-B9B	029429	168.1	178.8	121.4	122.6	128.1	87.0	112.8	80.0
TIR	2707123	X9166-B10B	070738	215.5	229.1	155.6	158.0	165.2	112.1	144.8	102.6
THR	2707124	X9144-B11B	020846	244.5	260.0	176.5	179.0	187.0	126.9	163.6	113.9
	2707125	X9144-B13B	021067	291.8	310.3	210.7	214.4	224.0	152.0	196.5	139.3

Nominal Capacities based on:

AC: 7°C evaporating temperature, 46°C condensing temperature, 1K liquid sub-cooling, 200kPa pressure drop across distributor and line components.

MT: -4°C evaporating temperature, 46°C condensing temperature, 1K liquid sub-cooling, 200kPa pressure drop across distributor and line components.

LT: -23.3°C evaporating temperature, 42°C condensing temperature, 1K liquid sub-cooling, 200kPa pressure drop across distributor and line components.

ENGINEERING
TOMORROW

Danfoss

Refrigeration & Air Conditioning

Thermostatic Expansion Valves **TE 5, 12, 20 & 55** for high **quality, reliability** and **lifetime**

The TE 5, 12, 20 & 55 thermostatic expansion valves parts programme has proven its value since it was first introduced in 1964. You can mix and match parts for optimal performance and minimum stock. TE 5, 12, 20 & 55 thermostatic expansion valve family is universal and adaptable and comes with:

- Exceptional quality & reliability
- Wide capacity range
- Extended refrigerant range
- New industry pricing level



**Flexible
Upgrade**

with backward
compatible valve
technology

www.danfoss.com.au



Thermostatic Expansion Valves

Danfoss

Type T2, TE2 - Valve Body (Less Orifice)

Flare Inlet and Outlet



Cat. No.	Model No.	Part No.	Refrig.	Evap. Temp. Range °C	Range Code	MOP	Connections			Capillary Length mm			
							Inlet	Outlet	Equaliser				
2701119	TX2	068Z3206	R22	-40 to +10	N	N	3/8" MF	1/2" MF	Internal	1500			
2701118	TN2	068Z3346	R134a										
2701120	TS2	068Z3400	R404A R507						External 1/4"				
2701122	TEX2	068Z3209	R22										
2701121	TEN2	068Z3348	R134a										
2701123	TES2	068Z3403	R404A R507	-60 to -25	B	Y			External 1/4"				
2706627		068Z3404											
2706623	TS2	068Z3408		-40 to -15	NL				Internal				
2706624	TES2	068Z3409		-40 to -15	NL				External 1/4"				

Flare Inlet and Solder Outlet

Cat. No.	Model No.	Part No.	Refrig.	Evap. Temp. Range °C	Range Code	MOP	Connections			Capillary Length mm
							Inlet	Outlet	Equaliser	
2701132	TX2	068Z3281	R22	-40 to +10	N	N	3/8" MF	1/2" OD	Internal	1500
2701133	TN2	068Z3383	R134a							
2701134	TS2	068Z3414	R404A R507							
2701135	TEX2	068Z3284	R22							
2701136	TEN2	068Z3385	R134a							
2701137	TES2	068Z3415	R404A R507	-60 to -25	B	Y			Internal	
2706625	TS2	068Z3420							External 1/4"	
2706626	TES2	068Z3430		-40 to -15	NL				External 1/4"	

Orifice Assembly (Including Strainer)

Cat. No.	Part No.	Orifice No.	Danfoss TX Valve Nominal Capacities*					
			R22		R134a		R404A	
			M/T	L/T	M/T	L/T	M/T	L/T
2701124	068-2002	0X	0.62	0.56	0.44	0.38	0.39	0.35
2701125	068-2003	00	1.29	1.13	0.81	0.66	0.83	0.70
2701126	068-2010	01	2.90	2.09	1.57	1.03	1.88	1.30
2701127	068-2015	02	4.31	2.94	2.23	1.43	2.80	1.85
2701128	068-2006	03	7.67	5.27	3.99	2.55	4.90	3.30
2701129	068-2007	04	11.40	7.76	5.87	3.73	7.30	4.90
2701130	068-2008	05	14.50	9.84	7.45	4.75	9.30	6.20
2701131	068-2009	06	17.60	11.96	9.09	5.80	11.30	7.60

Nominal Capacities based on:

MT: -4°C evaporating temperature, 46°C condensing temperature, 1K liquid sub-cooling.

LT: -23.3°C evaporating temperature, 42°C condensing temperature, 1K liquid sub-cooling.

Thermostatic Expansion Valves



Danfoss

Type TUA, TUAЕ - Valve Body Solder Inlet and Outlet



Cat. No.	Model No.	Part No.	Refrig.	Evap. Temp. Range °C	Range Code	MOP	Connections			Capillary Length mm
							Inlet	Outlet	Equaliser	
2706619	TUA	068U2235	R22	-40 to +10	N	N	3/8" OD	1/2" OD	Internal	1500
2706178		068U2205	R134a							
2706176		068U2285	R404A R507							
2706620	TUAЕ	068U2237	R22	-40 to -5	NM	Y	3/8" OD	1/2" OD	External 1/4"	
2706177		068U2207	R134a							
2706175		068U2287	R404A R507							
2706621		068U2303								

Orifice Assembly (Including Strainer)

Cat. No.	Orifice No.	Part No.	Danfoss TX Valve Nominal Capacities*					
			R22		R134a		R404A	
			M/T	L/T	M/T	L/T	M/T	L/T
2706179	0	068U1030	0.58	0.37	0.37	0.17	0.40	0.25
2706180	1	068U1031	0.85	0.54	0.54	0.21	0.6	0.37
2706181	2	068U1032	1.0	0.61	0.61	0.32	0.7	0.41
2706182	3	068U1033	1.3	0.82	0.82	0.48	0.93	0.56
2706183	4	068U1034	2.2	1.3	1.4	0.77	1.6	0.9
2706184	5	068U1035	3.0	1.8	1.8	1.0	2.1	1.2
2706185	6	068U1036	4.6	2.8	2.8	1.6	3.3	1.9
2706186	7	068U1037	6.1	3.7	3.7	2.1	4.4	2.5
2706187	8	068U1038	8.9	5.4	5.5	3.1	6.4	3.7
2706188	9	068U1039	12.1	7.3	7.5	4.4	8.7	4.9

Nominal Capacities based on:

MT: -4°C evaporating temperature, 46°C condensing temperature, 1K liquid sub-cooling.

LT: -23.3°C evaporating temperature, 42°C condensing temperature, 1K liquid sub-cooling.



Thermostatic Expansion Valves

Danfoss

Type TGE - Fixed Orifice TX Valve

R22



Cat. No.	Model No.	Part No.	Refrig.	Evap. Temp. Range °C	Nominal Capacity kW at 4.4°C	MOP	Connections: ODF			Capillary Length mm
							Inlet	Outlet	Equaliser	
	TGEX3	067N2150	R22	-40 to +10	10	N	3/8"	5/8"	External 1/4"	1500
	TGEX3	067N2151			10		1/2"	7/8"		
2706610	TGEX4	067N2152			14			7/8"		
2706611	TGEX6	067N2153			20			5/8"		
2706612	TGEX6	067N2154			20		5/8"	7/8"		
2707235	TGEX6	067N2155			20					
2706613	TGEX7.5	067N2156			27					
2706614	TGEX11	067N2157			38					
	TGEX11	067N2158			38		1 1/8"			
2706615	TGEX12	067N2159			43		7/8"			

Nominal Capacities based on:

4.4°C evaporating temperature, 37°C liquid entering temperature, 38°C condensing temperature and 4K opening superheat

R407C

Cat. No.	Model No.	Part No.	Refrig.	Evap. Temp. Range °C	Nominal Capacity kW at 4.4°C	MOP	Connections: ODF			Capillary Length mm
							Inlet	Outlet	Equaliser	
2706616	TGEZ7	067N4156	R407C	-40 to +10	25	N	5/8"	7/8"	External 1/4"	1500
2706617	TGEZ10	067N4157			36					
2706618	TGEZ12	067N4159			42					

Nominal Capacities based on:

4.4°C evaporating temperature, 37°C liquid entering temperature, 38°C condensing temperature and 4K opening superheat

Thermostatic Expansion Valves



Danfoss

Type TE5 - TE55 With Interchangeable Orifice Assembly



Cat. No.	Model No.	Part No.	Refrigerant	Evaporating Temp. Range °C	Range Code	MOP	Equaliser	Cap. Length
2706609	TEX5	067B3250	R22	-40 to +10	N	N	External 1/4"	3m
2706602	TEN5	067B3297	R134a					
2706605	TES5	067B3342	R404A R507					
2706606	TEX12	067B3210	R22					
2706600	TEN12	067B3232	R134a					
2706603	TES12	067B3347	R404A R507					
2706607	TEX20	067B3274	R22					
2706601	TEN20	067B3292	R134a					
2706604	TES20	067B3352	R404A R507					
2706608	TEX55	067G3205	R22					
	TEN55	067G3222	R134a					
	TES55	067G3302	R404A R507					

Orifice Assembly

Cat. No.	Model No.	Part No.	Valve Type
	0.5	067B2788	TE5
2706581	1	067B2789	
2706582	2	067B2790	
2706583	3	067B2791	
2706584	4	067B2792	TE12
2706585	5	067B2708	
2706586	6	067B2709	
2706587	7	067B2710	
2706588	8	067B2771	TE20
2706589	9	067B2773	
2707236	10	067G2701	TE55
2707237	11	067G2704	
2707238	12	067G2707	
2707239	13	067G2710	



Model No.	R22		R134a		R404A	
	M/T	L/T	M/T	L/T	M/T	L/T
0.5	9.7	6.7	6	3.9	7	4.8
1	17.9	12.4	11	7.1	12.9	8.8
2	25	17.4	15.4	10	17.9	12.3
3	31.5	21.8	19.5	12.7	22.6	15.4
4	43.1	29.4	26.5	17.1	30.9	20.8
5	50.3	34.5	32.6	21.5	40.3	26.2
6	66.5	44.5	42.8	27.8	50.5	31.9
7	81.5	55.5	54.6	36.2	60.1	38.2
8	115	78.1	67.3	43.6	70.9	46.1
9	128	84	76.8	49.0	78.6	49.6
10	145	92.9	91.6	56.5	98.2	60.3
11	157	101	100	62.2	106	65.3
12	170	108	109	67.1	114	69.6
13	204	130	133	82.0	136	82.6

Valve Body

Flare Angleway		Solder Angle		Solder Straight		Solder Flanges		Connections		Valve Type
Cat. No.	Part No.	Cat. No.	Part No.	Cat. No.	Part No.	Cat. No.	Part No.	Inlet	Outlet	
2706595	067B4013	2706592	067B4009	2706590	067B4007			1/2"	5/8"	TE5
		2706593	067B4010	2706591	067B4008			1/2"	7/8"	
		2706594	067B4011		067B4032			5/8"	7/8"	
			067B4034		067B4033			7/8"	1 1/8"	
							067B4025	5/8"	7/8"	TE12
							067B4026	7/8"	1"	
		2706598	067B4023	2706596	067B4021			7/8"	1 1/8"	TE20
		2704495	067G4004		067G4003			1 1/8"	1 3/8"	TE55



Thermostatic Expansion Valves

Sporlan SBF Series - Balanced Port with Replaceable Strainer

Sporlan type SBF TX valves are small brass bar body valves with extended ODF solder connections and balanced port construction. SBF have replaceable thermostatic elements. The SBF TX valve has a 100 mesh removable strainer that can be cleaned and/or replaced while the valve is still soldered to the system tubing. The balanced port construction makes these valves ideal for small capacity refrigeration applications which operate over widely varying conditions.

Applications

- Supermarket Cases
- Self-contained Cases
- Walk-in Coolers/Freezers
- Ice Machines
- Salad Bars
- Transport Refrigeration

Features and Benefits

- Balanced port design
- Removable power element
- Removable inlet strainer 100 mesh
- Field adjustable superheat
- 1/4" ODF external equalizer
- Multiple charges available
- Weight: 0.45 kg



						Connections: inches		
Code	Model No	Part No	Refrigerant	Nominal Capacity: kW	Element Size No:	Inlet	Outlet	Equalizer Type
2704564	SBFJE-AAA-C	108817P	R134a	0.44 thru 0.70	43	3/8 ODF	1/2 ODF	1/4
2704565	SBFJE-AA-C	108958P	R134a	0.88 thru 1.17				
2704561	SBFJE-A-C	108549P	R134a	1.76 thru 3.52				
2704562	SBFJE-B-C	108551P	R134a	4.40 thru 6.15				
2704563	SBFJE-C-C	108552P	R134a	7.03 thru 10.6				
2704572	SBFSE-AAA-Z	108822P	R404A	0.44 thru 0.70				
2704581	SBFSE-AA-Z	108979P	R404A	0.88 thru 1.17				
2704582	SBFSE-AA-Z	109002P	R404A	0.88 thru 1.17				
2704568	SBFSE-AA-C	108621P	R404A	0.88 thru 1.17				
2704567	SBFSE-A-Z	108618P	R404A	1.76 thru 3.52				
2704566	SBFSE-A-C	108617P	R404A	1.76 thru 3.52				
2704569	SBFSE-B-C	108624P	R404A	4.40 thru 7.03				
2704570	SBFSE-B-Z	108625P	R404A	4.40 thru 7.03				
2704580	SBFSE-C-Z	108928P	R404A	7.91 thru 10.6				
2704571	SBFSE-C-C	108628P	R404A	7.91 thru 10.6				

Charge Code: C = Commercial Refrigeration +10C to -25C
Z = Low Temp Refrigeration -25C to -40C



Thermostatic Expansion Valves

Sporlan O Series - Balanced Port with Permanent Strainer

Sporlan type O TX valves have a brass bar body, externally adjustable superheat and ODF solder connections. The thermostatic element is replaceable, and the inlet connection has a permanent 12 mesh strainer. This valve type features a balanced port construction, and it is designed for both air conditioning and refrigeration applications. A synthetic seating surface provides tight shut-off during system off periods.

Applications

- Air Conditioning
- Process Chillers
- Commercial Refrigeration

Features and Benefits

- Balanced port design
- Removable power element
- Field adjustable superheat
- 1/4" sweat external equalizer



					Connections: inches			
Code	Model No	Part No	Refrigerant	Nominal Capacity: kW	Element Size No:	Inlet	Outlet	Equalizer Type
2704594	OJE-12-C	125519P	R134a	42.2	83	7/8	1 3/8	1/4
2704592	OJE-16-C	124209P	R134a	56.3	83	1 1/8	1 1/8	
2704595	OJE-16-CP60	125527P	R134a	56.3	83		1 1/8	
2704593	OJE-23-CP60	124647P	R134a	80.9	33		1 1/8	
2704604	OSE-6-Z	125394P	R404A	21.1	83	7/8	1 1/8	
2704599	OSE-9-Z	124216P	R404A	31.6	83		1 1/8	
2704596	OSE-9-C	124213P	R404A	31.6	83		1 1/8	
2704600	OSE-12-Z	124217P	R404A	42.2	83		1 1/8	
2704597	OSE-12-C	124214P	R404A	42.2	83		1 1/8	
2704601	OSE-21-Z	124218P	R404A	73.8	83	1 1/8	1 3/8	
2704598	OSE-21-C	124215P	R404A	73.8	83		1 3/8	
2704603	OSE-30-C	124819P	R404A	105.5	33		1 3/8	
2704602	OSE-35-Z	124351P	R404A	123.0	33		1 3/8	

Charge Code: C = Commercial Refrigeration +10C to -25C
 ZP = Low Temp Refrigeration -25C to -40C
 CP60 = Airconditioning

Sporlan S Series - with Permanent Strainer

Sporlan type S TX valves feature a brass bar body, externally adjustable superheat and ODF solder connections. The thermostatic element is replaceable, and the inlet connection has a permanent 12 mesh strainer. This valve is designed for both air conditioning and refrigeration applications.



						Connections: inches		
Code	Model No	Part No	Refrigerant	Nominal Capacity: kW	Element Size No:	Inlet	Outlet	Equalizer Type
2704583	SJE-3-C	128917P	R134a	10.5	83	1/2	7/8	1/4
2704584	SJE-5-C	128918P	R134a	17.6		5/8		
2704676	SJE-5-CP60	128927P	R134a	17.6				
2704585	SJE-6-C	128919P	R134a	21.1		1/2		
2704586	SSE-3-C	128934P	R404A	10.5				
2704589	SSE-3-ZP	128953P	R404A	10.5				
2704587	SSE-4-C	128936P	R404A	14.1				
2704590	SSE-4-ZP	128954P	R404A	14.1				
2704588	SSE-6-C	128937P	R404A	21.1		5/8		
2704591	SSE-6-ZP	128955P	R404A	21.1				

Charge Code: C = Commercial Refrigeration +10C to -25C
 ZP = Low Temp Refrigeration -25C to -40C



Thermostatic Expansion Valves

Sporlan EBS Series - Balanced Port with Permanent Strainer

Sporlan type EBS TX valves have a brass bar body having the same physical size as the type S valve except the type EBS features a balanced port construction and extended ODF connections. The thermostatic element is replaceable, and the inlet connection has a permanent 12 mesh strainer. The balanced port construction makes this valve ideally suited for refrigeration and air conditioning applications which operate over widely varying conditions.

Applications

- Air Conditioning
- Commercial Refrigeration

Features and Benefits

- Balanced port design
- Removable power element
- Field adjustable superheat
- 1/4" sweat external equalizer



						Connections: inches		
Code	Model No	Part No	Refrigerant	Nominal Capacity: kW	Element Size No:	Inlet	Outlet	Equalizer Type
2704608	EBSSE-6-C	163708P	R404A	21.1	83	5/8	7/8	1/4
2704615	EBSSE-6-ZP	163575P	R404A					
2704605	EBSSE-7.5-C	163507P	R404A					
2704616	EBSSE-7.5-ZP	163509P	R404A					
2704606	EBSSE-10-C	163877P	R404A	35.2				
2704613	EBSSE-10-ZP	163752P	R404A					
2704607	EBSSE-13-C	163783P	R404A	45.7				
2704614	EBSSE-13-ZP	163749P	R404A					

Charge Code: C = Commercial Refrigeration +10C to -25C
 ZP = Low Temp Refrigeration -25C to -40C

Sporlan Replacement Power Elements

Sporlan replacement power elements are available for all series of valves that have a replacement thermostatic element. Quickly identifiable in the field, simply look at the element number (33, 43, 63, 83) and combine with the charge code to allow for simple and quick ordering.

Code	Element No	Part Number	Refrigerant	Application		
				Air Conditioning	Commercial Refrigeration	Low Temp Refrigeration
2704577	KT33	180051P	R134a	JCP60		
2704576	KT33	180028P	R134a		JC	
2704560	KT33	183384P	R404A		SC	
2704696	KT43	180310P	R134a		JC	
2704697	KT43	180204P	R404A		SC	
2704698	KT43	180318P	R404A			SZ
2704699	KT43	180060P	R404A			SZP
2704559	KT63	180856P	R134a	JCP60		
2704579	KT83	180062P	R404A			SZ
2704575	KT83	181126P	R134a		JC	
2704578	KT83	180053P	R134a	JCP60		
2704573	KT83	183399P	R404A		SC	



The Best Selection For Your Application

Electronic and mechanical controls of highest quality

Emerson Climate Technologies' electronic and mechanical controls offer solutions for the precise and efficient control of commercial refrigeration and air conditioning systems as well heat pumps for all common refrigerants.

We continue to pioneer the control of refrigerant flow with innovative designs, keeping the durability of the components and system performance optimization central to our product development.



Electrical Control Valve CX for CO₂



Pressure Control PS1



Thermo™ Expansion Valve TCLE



Electronic Oil Level Management System OM4/OM5

Alco Controls™

EMERSON
Climate Technologies

EMERSON. CONSIDER IT SOLVED™.



Electronic Expansion Valves

Alco Ex Series

The E.X. range of electronic control valves from Emerson are optimised for control of liquid or gaseous mass flow in refrigeration systems. The stepper motor drive, which produces exact valve opening, is energised directly from the electrical power and therefore operates independent from differential pressure.

Application

The E.X. Series valves can be used in different control tasks, expansion valve for superheat control, suction pressure control for capacity control, liquid injection for desuperheating of compressor, condensing pressure control and hot gas bypass control to compensate excess compressor capacity and to ensure evaporating pressure does not go below a setpoint. The valve must be installed with the motor downward.

Features

- Fully hermetic design
- High linear flow capacity
- Positive shut-off function to eliminate use of additional solenoid valve
- Ceramic slide and port for highly accurate flow and minimal wear
- Compatible with all CFC's, HCFCs, HFCs, mineral and POE lubricants
- Stepper motor driven
- Wide capacity range
- Extremely wide controlling range of 10 to 100%
- Maximum working pressure 3500kPa

Valves



Cat. No.	Model No.	Part No.	Inlet Connection	Outlet Connection	Maximum Nominal Capacity: kW						
					R134a	R22		R404A		R410A	
					M/T	A/C	M/T	M/T	L/T	A/C	M/T
2707232	EX4-U31*	800617	5/8" ODF	5/8" ODF	12	16	17	11	11	18	20
2707233	EX5-U31*	800619	5/8" ODF	7/8" ODF	37	48	51	33	33	56	59
2707274	EX6-I31*	800622	7/8" ODF	1 1/8" ODF	89	115	122	80	80	134	143
2707275	EX7-U31*	800626	1 3/8" ODF	1 3/8" ODF	243	316	336	219	220	369	395
2707272	EX8-U21	800630	1 3/8" ODF	1 3/8" ODF	649	842	897	585	585	985	1053

* Suitable for Bi-flow applications

Superheat Controller kits



Cat. No.	Model No.	Part No.	Description	Suits	Kit Contents
2707276	EC3-X33-KIT	808036	Superheat Controller Kit	EX4 to EX8 Valves	EX3-X33 Controller K03-X33 Terminal Kit ECN-N60 Temperature Sensor PT4-07M Pressure Transducer PT4-M60 Transducer Cable ECT-623 Transformer

Accessories



Cat. No.	Model No.	Part No.	Description
2707273	EXV-M15	804663	Valve Lead 1.5 Metre
2707279	ECD-002	807657	LED Display Unit
2707287	ECC-N10	807860	RJ45 Connection Cable

Nominal Capacities based on:

M/T: 46°C condensing temperature, -4°C evaporating temperature and 1 K liquid subcooling at the inlet of the expansion valve.

L/T: 42°C condensing temperature, -23.3°C evaporating temperature and 1K liquid subcooling at the inlet of the expansion valve.

A/C: 46°C condensing temperature, 7°C evaporating temperature and 1K liquid subcooling at the inlet of the expansion valve.

Typical ordering package for expansion valve application (1 of each):

- Electronic Valve
- Valve Lead
- Superheat Controller Kit

Accessories (required for setting at start-up only):

- LED Display Unit
- RJ45 Connection Cable

As the EX Series of valves have stainless steel connections, Emerson require the use of 45% silver solder and flux during soldering and the valve must be "wet ragged".



Electronic Expansion Valves

Carel

Electronic Expansion Valves stand out for their ability to provide accurate control and for their capacity to quickly reach and maintain the operating stability of refrigeration & air conditioning systems.

Features

- External driver motor
- Laser welded construction
- Positive valve shut-off
- Bi-directional flow (for reverse-cycle applications)
- Precision flow control (lowers energy costs)



Cat. No.	Part No.	Connection Size	Connection Size	Maximum Nominal Capacity: kW						
				R134a	R22		R404A		R410A	
				M/T	A/C	M/T	M/T	L/T	A/C	M/T
2707291	E2V05BSF00	1/2"	1/2"	1.2	1.3	1.4	0.9	1	1.5	1.7
2707292	E2V09BSF00			2	1.9	2.4	1.5	1.7	2.6	2.9
2707299	E2V11BSF00			3.5	3.7	4.2	2.7	3	4.6	5.2
2707293	E2V14BSF00			5	6	6.5	4.3	4.7	7.3	8.2
2707300	E2V18BSF00			7	8	9	6	6.4	10	11
2707294	E2V24BSF00			14	16	18	12	12.8	19.6	22
2707295	E2V30BSM00	5/8"	5/8"	20	24	27	18	18.9	29.5	33
2707296	E2V35BSM00			28	35	37	23	26	40	45
2707301	E3V45SWR10	3/4"	7/8"	47	60	65	42	45.5	71	80
2707302	E3V55SWR10			70	80	95	62	67	105	117
2707303	E3V65SWS10	7/8"	1 1/8"	95	115	130	85	90	140	157
2707304	E4V85BWT00	1 1/8"	1 3/8"	135	165	180	120	125	200	225
2707305	E4V95BWT00			180	230	250	165	170	270	300
2707306	E5VA5AST00	1 3/8"	1 5/8"	450	545	600	400	410	655	740
2707307	E6VB2ASV00	1 5/8"		900	1080	1200	750	800	1300	1450
	E7VC1ASZ00	2 1/8"	2 1/8"	1400	1730	2000	1250	1300	2080	2350

Nominal Capacities based on:

M/T: 46°C condensing temperature, -4°C evaporating temperature and 5k subcooling at the inlet of the expansion valve. 70% nominal capacity.

L/T: 42°C condensing temperature, -23.3°C evaporating temperature and 5k subcooling at the inlet of the expansion valve. 70% nominal capacity.

A/C: 46°C condensing temperature, 7°C evaporating temperature and 1k subcooling at the inlet of the expansion valve. 70% nominal capacity.

THE GAME CHANGING EVD-ice

EVD-ice is a complete system which includes a carel electronic expansion valve, controller and sensors fitted into quality evaporators. This product is revolutionising the industry.



CAREL
eVDice

Electronic Expansion Valves

Carel

The EVD Evolution Series of controllers for electronic valves is the latest step in the development of the famous Carel drivers for superheat control. This instrument adds advanced functions and a new user interface that makes it even easier to use and configure. The TWIN version can independently control two electronic expansion valves, and represents the ideal solution for two circuit units or different control functions (i.e. superheat and hot gas bypass).

The powersolution panels are prewired for a plug and play and fast installation in the field.

Powersolution Panels



Cat. No.	Part No.	Description
2707315	EDVPN01007	EEV Driver Panel Kit Without Ultracap (Kit contains all sensors and cables as well)
2707316	EDVPN01008	EEV Driver Panel Kit With Ultracap (Kit contains all sensors and cables as well)
2707317	EDVPN02008	EEV Twin Driver Panel Kit With Ultracap (Kit contains all sensors and cables as well)

Driver Kits

Cat. No.	Part No.	Description	Kit Contents
2707313	EVD00N3E5K	Driver Kit Carel Valve	E2VCABS600 EVD0000E50 SPKT0013R0 SPKC005310 NTC060HF01
2707314	EVD00N3E2K	Driver Kit Universal Valve	E2VCABS60 EVD0000E20 SPKT0013R0 SPKC005310 NTC060HF01

Note:

The 0-5Vdc ratio-metric pressure transmitter included in the kit can be extended to a maximum distance of 10 meters. For distances up to 30 meters, a 4-20mA transmitter should be used instead.

Drivers



Cat. No.	Part No.	Description	
2707308	EVD0000E50	Expansion Valve Driver EVO	Carel Valves
2707310	EVD0000E20		Universal Valve Types
2707309	EVD0000T50	Twin Expansion Valve Driver EVO	Carel Valves
2707311	EVDIS00EN0	Removable Plug In Display for EVO	

Accessories



Cat. No.	Part No.	Description
2707297	E2VCABS600	Connector Cable 6m Shielded
2707298	EEVMAG000	EEV Manual Driving Tool Set of 3
2707853	NTC030HF03	Temperature Sensor - Clamp On
2707832	SPKT0013R3	Pressure Transducer -100kPa to 930kPa
2707748	SPKC002313	Pressure Transducer Cable IP65
2707734	TX60	Transformer 240V - 24V AC 60VA
2707312	EVD0000UC0	Ultracap module: power fail backup device for EVD Evolution
	E2VMAG0000	EEV Manual Driving Tool for E2V valves

Typical ordering package for expansion valve operation (1 of each):

• Electronic Valve • Valve Driver • Transformer • Connector Cable • Pressure Transducer • Transducer Cable • Temperature Sensor
EVDIS00EN0 removable display is used for commissioning & programming.



Evaporator Pressure Regulators

Sporlan ORIT & SORIT Series – Evaporator Pressure Regulating Valves

Sporlan type EPR valves are designed to provide an accurate and economical means of balancing system capacity and load requirements during low loads and/or while maintaining different evaporator conditions on multi temperature evaporator systems. These valves control evaporator temperature by maintaining evaporator pressure.

Applications

- Commercial Refrigeration

Cat. No.	Part No	Description	Port Size	Connections	MRP (Max Rated Pressure)	Adjustment Range	Coil Required
2704617	901096P	SPORLAN EPR ORIT-6-0/50-5/8 ODF	3/4"	5/8 Solder	450 psi	0 to 50 psig	N/A
2704618	901101P	SPORLAN EPR ORIT-6-30/100-1/2 ODF		1/2 Solder	450 psi	30 to 100 psig	
2704619	901103P	SPORLAN EPR ORIT-6 0/50 7/8 ODF WS		7/8 Solder	450 psi	0 to 50 psig	
2704620	901117P	SPORLAN EPR ORIT-6-0/50-1/2 SAE		1/2 Flare	450 psi	0 to 50 psig	
2704624	901194P	SPORLAN EPR ORIT-6-30/100-1/2 SAE		1/2 Flare	450 psi	30 to 100 psig	
2704621	901131P	SPORLAN EPR ORIT-10-0/50-7/8 ODF WS	1 1/4"	7/8 Solder	450 psi	0 to 50 psig	
2704622	901138P	SPORLAN EPR ORIT-10 0/50 9 (1-1/8) ODF WS		1 1/8 Solder	450 psi	0 to 50 psig	
2704623	901166P	SPORLAN EPR ORIT-10 0/50 11 ODF WS		1 3/8 Solder	450 psi	0 to 50 psig	
2704625	901208P	SPORLAN EPR ORIT-10-30/100-7/8 ODF		7/8 Solder	450 psi	30 to 100 psig	
2704626	901590P	SPORLAN EPR ORIT-12-0/100 1 1/8 ODF	25/32"	1 1/8 Solder	450 psi	0 to 100 psig	
2704627	901611P	SPORLAN EPR SORIT-12-0/100 1 1/8 ODF		1 1/8 Solder	450 psi	0 to 100 psig	MKC1E
2704628	901618P	SPORLAN EPR ORIT-15-0/100-1 3/8ODF LESS	1"	1 3/8 Solder	450 psi	0 to 100 psig	MKC1E
2704629	901625P	SPORLAN EPR SORIT-20-0/100 1 5/8 ODF	1 5/16"	1 5/8 Solder	450 psi	0 to 100 psig	MKC1E

Evaporator Pressure Regulators

Sporlan CDS Series – Electronic Stepper Motor Control Valve for the Suction Line

Whilst traditionally developed as Electronic Evaporator Pressure Regulating Valves, the CDS series of valves can be applied as Heat Reclaim, Head Pressure Control or Liquid Line Differential Valves. The CDS valves are designed to contribute minimal pressure drop to a system via electronically controlled step motors. Precise control, balanced port construction and low power consumption are just some of the many features of this versatile valve.



Cat. No.	Part No	Description	Connections	Cable Length	MRP (Max Rated Pressure)	Supply Voltage	Max Power
2704630	940033P	CDS-9 7/8 ODF 10"-S	7/8 SOLDER	10 ft	700 psi	12VDC	3W
2704631	940034P	CDS-9 1 1/8 ODF 10"-S	1-1/8 SOLDER	10 ft	700 psi	12VDC	3W
2704632	940039P	CDS-17 1 3/8 ODF 10"-S	1-3/8 SOLDER	10 ft	700 psi	12VDC	3W



Evaporator Pressure Regulators

Sporlan 3-Way Heat Reclaim Valves

Sporlan type 3-Way Heat Reclaim valves are designed to divert heat normally rejected at the condenser to an air handler in an area that requires heat. Today more and more applications are utilizing “heat reclaim” as a means of providing a supplementary or even a primary heat source. Heat reclaim can significantly lower energy costs. The energy efficiency of recovered heat will almost always be more efficient than any other purchased heat source.

Applications

- Air Conditioning
- Commercial Refrigeration

Features and Benefits

- Tight synthetic main port seating
- Both vertical and horizontal mounting
- High capacity at minimum pressure drop



Cat. No.	Part No	Description	Port Size	Connections	MRP (Max Rated Pressure)	Coil Required
2704636	377100P	SPORLAN 3-WAY HEAT RECLAIM VALVE 8D7B	3/4"	7/8 Solder	450 psi	MKC1E
2704637	377300P	SPORLAN 3-WAY HEAT RECLAIM VALVE 8D9B		1-1/8 Solder	450 psi	MKC1E
2704638	378000P	SPORLAN 3-WAY HEAT RECLAIM VALVE 12D11B	1 1/4"	1 3/8 Solder	450 psi	MKC1E
2704639	378100P	SPORLAN SPLIT CONDENSER VALVE 12D11B-SC			450 psi	MKC1E
2704640	378300P	SPORLAN 3-WAY HEAT RECLAIM VALVE 12D13B		1 5/8 Solder	450 psi	MKC1E
2704641	378400P	SPORLAN SPLIT CONDENSER VALVE 12D13B-SC			450 psi	MKC1E
2704642	379000P	SPORLAN SPLIT CONDENSER VALVE 16D17B-SC	2"	2 1/8 Solder	450 psi	MKC1E
2704643	379200P	SPORLAN 3-WAY HEAT RECLAIM VALVE 16D17B			450 psi	MKC1E

Cat. No.	Part No	Description	Voltage
2704634	310675P	SPORLAN SOLENOID COIL MKC-2E 24V/50-60C	24V
2704635	310679P	SPORLAN SOLENOID COIL MKC-1E 220-240/50	220-240V
2711334	310681P	SPORLAN SOLENOID COIL MKC-2E 220-240V/50C	220-240V
2704633	310683P	SPORLAN SOLENOID COIL MKC-1E 24V/50-60C	24V

Head Pressure Control Valves



Alco HP Series



Cat. No.	Model No.	Part No.	Connection: ODF	Nominal Capacity: kW (Min Capacity: kW)			
				R134a	R22	R404A R507	R407C
2704493	HP8T5-165	803512	5/8"	43.9 (8.8)	47.5 (9.5)	30.6 (6.1)	45.6 (9.1)

Nominal Capacities based on: 4°C evaporating temperature, 38°C condensing temperature, 1K liquid sub-cooling.

Head Pressure Control Valves



Alco CPHE Series

All CPHE hot gas bypass regulators are modular in design for easy installation and service and CPHE-3 to CPHE-6 valves provide superior partial load performance due to their double seat orifice design. All valves have external equalization.

Component Schedule

Cat. No.	Power Assembly			Cage Assembly			Body				
	Valve Style	Model No.	Part No.	Cat. No.	Model No.	Part No.	Cat. No.	Model No.	Part No.	Connections	
										Inlet	Outlet
2704494	CPHE-1	X7118-4	803202	2707114	X22440-B5B	037043	2707148	C501-7	065861	1/2" ODF	5/8" ODF
	CPHE-2			2707117	X22440-B8B	037049	2707149	A576	027764	5/8" ODF or 7/8" ODM	7/8" ODF or 1 1/8" ODM
	CPHE-3			2707106	X11873-B5B	089058	2707146	10331	029411	5/8" ODF or 1 1/8" ODM	
117064	CPHE-3.5	X7428-2	803203	2707109	X9117-B7B	078117	2707153	9153	027919	7/8" ODF or 1 1/8" ODM	1 1/8" ODM
	CPHE-4			2707122	X9117-B9B	029429					
	CPHE-5			2707123	X9166-B10B	070738					
	CPHE-6			2707125	X9144-B13B	021067	2707156	9149	028030	1 1/8" ODM	1 1/8" ODM



Danfoss KVC Hot Gas Bypass Capacity Regulators



Cat. No.	Model No.	Part No.	Connection: ODF	Nominal Capacity: kW			
				R22	R134a	R404A R507	R407C
2706435	KVC12	034L0143	1/2"	7.6	4.8	6.9	8.4
2706436	KVC15	034L0147	5/8"	14.9	9.4	13.6	16.4
2706437	KVC22	034L0144	7/8"	19.1	12.0	17.4	21.0

Nominal Capacities based on: -10°C evaporating temperature, 25°C condensing temperature, Offset 70kPa

CPCE Capacity Regulators



Cat. No.	Model No.	Part No.	Connection: ODF	Nominal Capacity: kW			
				R22	R134a	R404A R507	R407C
2706434	CPCE12	034N0082	1/2"	17.4	7.9	16.4	19.0

Nominal Capacities based on: -10°C evaporating temperature, 30°C condensing temperature, 4K reduction of suction temperature / suction pressure

Crankcase Pressure Regulators



Alco

PRC Series

PRC Crankcase Pressure Regulators accurately maintain a predetermined maximum outlet pressure.



Cat. No.	Model No.	Part No.	Connection: ODF	Press. Range: kPa	Factory Setting: kPa	Press. Change Per Turn: kPa	Nominal Capacity: kW			
							R134a	R22	R404A R507	R407C
2711096	PRC-11A	SRJY5QALG1	5/8"	50 to 690	200	60	3.0	4.8	4.5	4.5
2711102	PRC-11B	SRJY7QALG1	7/8"			40	7.4	11.9	11.1	11.1
2711103	PRC-21D	SRJY9QALG1	1 1/8"							
2711104	PRC-21E	SRJY11QALG1	1 3/8"							



Danfoss

KVL Series

Specifications

- Refrigerants CFC, HCFC, HFC
- Regulating range 20 to 600 kPa
- Factory setting 200 kPa
- Maximum working pressure 1800 kPa
- Temperature of medium -60°C to 130°C



Cat. No.	Model No.	Part No.	Connection: ODF	Nominal Capacity: kW			
				R22	R134a	R404A R507	R407C
2704823	KVL12	034L0043	1/2"	7.1	5.3	6.3	6.4
2704824	KVL15	034L0049	5/8"				6.5
2704825	KVL22	034L0045	7/8"				
2704826	KVL28	034L0046	1 1/8"	17.8	13.2	15.9	16.4
2704827	KVL35	034L0052	1 3/8"				

Nominal Capacities based on: -10°C suction temperature, 25°C condensing temperature, 20kPa Pressure drop in regulator

Evaporator Pressure Regulators



Alco PRE Series

Cat. No.	Model No.	Part No.	Connection: ODF	Press. Range: kPa	Factory Setting: kPa	Press. Change Per Turn: kPa	Nominal Capacity: kW			
							R134a	R22	R404A R507	R407C
2711105	PRE-11A	ERJY5QALG1	5/8"	50 to 690	200	60	3.0	4.8	4.5	4.5
2711106	PRE-11B	ERJY7QALG1	7/8"			40	7.4	11.9	11.1	11.1
2711107	PRE-21D	ERJY9QALG1	1 1/8"							

Nominal Capacities based on:

4°C evaporating temperature, 38°C condensing temperature & 14kPa pressure drop across valve.



Danfoss KVP Series

Cat. No.	Model No.	Part No.	Connection: ODF	Nominal Capacity: kW			
				R22	R134a	R404A/ R507	R407C
2704816	KVP12	034L0023	1/2"	4.0	2.8	3.6	3.7
2704817	KVP15	034L0029	5/8"				
2704818	KVP22	034L0025	7/8"				
2704819	KVP28	034L0026	1 1/8"	8.6	6.1	7.7	7.9
2704820	KVP35	034L0032	1 3/8"				

Nominal Capacities based on:

-10°C evaporating temperature, 25°C condensing temperature, 20kPa Pressure drop in regulator, 60 kPa offset



Solenoid Valves

Alco

M36 Series

The M36 Series are 3 way solenoid valves, typically used for heat reclaim applications.

Features

- Compact size
- Maximum working pressure 3500kPa
- Pilot connection to suction line required, no minimum pressure drop
- No disassembly necessary for brazing
- Uses standard ASC solenoid coils



Cat. No.	Model No.	Part No.	Connection: ODF	Nominal Capacity: kW		
				R134a	R22	R404A R507
2711309	M36-118	801421	1 1/8"	28.9	35.1	31.3

Note: Valves are supplied less coil (240V coil to suit: Cat. No. 2711311 & J/Box Cat. No. 2711275)

Nominal Capacities based on: 4°C evaporating temperature, 38°C condensing temperature, 15kPa pressure drop between valve inlet & outlet.

200RB Series (Less Coil)

Normally Closed Pilot-Operated – For Liquid and Discharge or Suction Gas Service

Features

- Extended Copper Tails for easy installation
- One coil fits all valve sizes
- Maximum working pressure 3450 kPa
- Low pressure differential required for full opening
- Maximum fluid temperature 121°C



Cat. No.	Part No.	Connection: ODF	Port Size mm	Nominal Liquid Capacity: kW						Opening Diff. Pressure kPa Min.
				R134a		R22		R404A R507		
				Pressure Drop Across Valve: kPa						
				136	272	136	272	136	272	
2711327	200RB4T3T	3/8"	6	15.2	21.5	16.2	22.9	10.7	15.1	Min 14 Max. 2070
2711328	200RB4T4T	1/2"	6	15.2	21.5	16.2	22.9	10.7	15.1	
2711330	200RB7T5T	5/8"	11	42.8	60.6	45.1	63.8	29.8	42.1	

240RA Series (Less Coil and Manual Stem)

Normally Closed Diaphragm Type – For Liquid and Discharge or Suction Gas Service

Features

- Extended Copper Tails for easy installation
- Stainless enclosing tube
- Maximum fluid temperature 121°C
- Reinforced teflon diaphragm with woven fiberglass
- Low pressure differential required for full opening
- Maximum working pressure 3450 kPa



Cat. No.	Part No.	Connection: ODF	Port Size mm	Nominal Liquid Capacity: kW		
				R22	R134a	R404A R507
2711300	240RA-9T7-T	7/8"	15	90	85	59.4
2711302	240RA-16T9-T	1 1/8"	25	172	162.7	113.2
2711303	240RA-16T11-T	1 3/8"				
2711304	240RA-20T13-T	1 5/8"	32	285.6	255.6	188

Solenoid Coils

For 200RB, 240RA, 702RA Valves



Cat. No.	Type	Voltage & Frequency
2711312	ASC3	24VAC 50/60Hz
2711311		240VAC 50/60Hz
2711313		120VAC 50/60Hz
2711310	DS2- N15*	Cable Assy 1.5mt with 24VDC Chopper Plug

Type ASC2 have PG9 plug-in junction box

* Converts 2711312 24VAC Coil to 24VDC applications



Quality Range of Valves and Components



Filter Driers

Liquid and Moisture Indicators



Ball Valves

Solenoid Valves



Check Valves



Shut-Off Valves





Solenoid Valves

Castel

102, 103, 104, 105, 107 and 109 Series

For Fluorinated Refrigerants



Cat. No.	Part No.	Connection	240V Coil Included	Port Diam. mm	Opening Differential Pressure kPa		Fluid Temp. °C	Max Work Press. kPa	Kv** Factor m³/hr					
					Min.	Max. (MOPD)								
Normally Closed – Direct Operated – for Liquid and Hot Gas														
2711226	1020/2A7	1¼" Flare	Y	2.5	0	2100	-35 to 110	4500	0.175					
2711228	1028/2A7	1¼" ODS		2.2					0.15					
Normally Closed – Servo Operated – for Liquid, Suction and Hot Gas														
2711230	1064/3A7	⅜" Flare	Y	7	5	2100	-35 to 110	4500	0.8					
2711235	1068/3A7	⅜" ODS							12.5	2.2				
2711231	1070/4A7	½" Flare		16.5							5.7			
2711262	1078/4A7	½" ODS							27	7				
2711233	1070/5A7	⅝" Flare												
2711263	1078/5A7	⅝" ODS												
2711265	1090/6A7	¾" Flare												
2711268	1098/6A7	¾" ODS												
2711267	1098/7A7	⅞" ODS												
2711277	1099/9A7	1 ⅛" ODS												
2711278	1078/11A7	1 ⅜" ODS												
2711279	1079/13A7	1 ⅝" ODS												
2711280	1079/17A7	2 ⅛" ODS												

A coil junction box is required- Cat. No.2711275 All Castel solenoid valves are supplied with a mounting bracket

1132 Series

For Water, Air, Light Oils and Brine (glycol-water solution)



Cat. No.	Part No.	Connection: FPT	240V Coil Included	Port Diam. mm	Opening Differential Pressure kPa		Fluid Temp. °C	Max. Work Press. kPa	Kv** Factor m³/hr
					Min.	Max. (MOPD)			
Normally Closed – Servo Operated									
2711216	1132/03	3/8"	Y	12	15	1500	-10 to 130	2500	2.1
2711218	1132/04	1/2"		18		1300			2.2
2711220	1132/06	3/4"		24		1000			5.5
2711224	1132/08	1"							6

A coil junction box is required- Cat. No.2711275. All Castel solenoid valves are supplied with a mounting bracket. When the valve is used with oils, the viscosity of the oil must be checked to ensure that the valve will 'Open'. **Kv Factor: Capacity of valve in m³/hr of water at 100 kPa pressure drop across valve.

Solenoid Coils



Cat. No.	Part No.	Power Supply	Suits Model
2711293	SM2/9200/RA7	240V, 50/60HZ	1133
2711294	9149/R01	Junction Box	
2711269	HM2/9100/RA7	240V, 50/60 HZ	1020, 1028, 1034, 1038, 1048, 1050, 1058, 1064, 1068, 1070, 1078, 1079, 1090, 1098, 1099, 1132
2711272	HM2/9100/RA2	24V, 50/60 HZ	
2711271	HM3/9120/RD1	12VDC	
2711273	HM3/9120/R22	24VDC	
2711275	9150/R02	Junction Box	

Solenoid Valves



Danfoss EVR Series

EVR is a direct or servo operated solenoid valve for liquid, suction, and hot gas lines with fluorinated refrigerants. Valves are supplied less coil, which must be ordered separately.



Features

- Wide choice of coils for a.c and d.c
- Designed for media temperatures up to 105°C
- Suitable for all fluorinated refrigerants
- Extended ends for soldering make installation easy

Cat. No.	Model No.	Part No.	Connections		Coil Type	Manual Op.	Opening Differential Pressure With Standard Coil: kPa				Fluid Temp. °C	Max Work. Press. kPa	kv Value: m³/hr
			Size	Type			Min.	Max. (= MOPD) liquid					
								10W a.c.	12W a.c.	20W d.c.			
	EVR2	032F8056	1/4"	MF	a.c.		0.0	25				4520	0.16
		032F1201		ODF									
2704789	EVR3	032F8107		MF									
2704796		032F1206	ODF										
		032F8116	MF										
2706566	EVR6	032F1204	3/8"	ODF		N				18		3500	0.8
2704791		032F8072		MF									
2704798		032F1212		ODF									
		032F8079	1/2"	MF	a.c./d.c.								0.8
2706567		032F1209		ODF									
2704793		032F8095		MF									
2704798	EVR10	032F1217		ODF				21	25				1.9
		032F8098		MF									
2704801		032F1214		ODF									
2704795	EVR15	032F8101	5/8"	MF									2.6
2704802		032F1228		ODF									
		032F8100		MF									
		032F1227				Y							
2704803		032F1225											
2706568		032F1240											
	EVR20	032F1254	7/8"		a.c.					13			
		032F1264											
		032F1274											
		032F1244	1 1/8"		d.c.								
	EVR22	032F3267	1 3/8"										
2706569	EVR25	032F2201	1 1/8"										
		032F2200											
		032F2208											
	EVR32	032F2207	1 3/8"										
		042H1106											
		042H1105											
		042H1104	1 5/8"		a.c/d.c								16.0
		042H1103											
		042H1110											
	EVR40	042H1110	2 1/8"										25.0
		042H1109											
		042H1112											
		042H1111											

- 1) The kv is the waterflow in m³/h at a pressure drop across valve of 100kPa
- 2) MOPD for media in gas form is approx. 100kPa greater
- 3) Min. diff. pressure 7kPa is needed to stay open

Solenoid Valves



Danfoss

Solenoid Coils

Alternating Current - AC



Cat. No.	Part No.	Voltage: v	Frequency: Hz	Watts	Connection	Applications
2704806	018F6707	24	50	10	Terminal Box IP67	EVR2 to 40 (NC) EVR6 to 22 (NO) EVRH4 to 40 EVRC EVRA EVRAT EVR5 / EVRST PKVD EVM (NC)
2706564	018F6711	115				
2704804	018F6702	240				
2706563	018F6704	420				
2706565	018F6730	110	50/60			

Direct Current - DC

Cat. No.	Part No.	Voltage: v	Watts	Connection	Applications
2704808	018F6856	12	20	Terminal Box IP67	EVR 2 to 15 (NC) EVR25 to 40 (NC/NO) EVR6 to 15 (NO) EVRC10 to 15 EVRA3 to 15 (NC) EVRA25 to 40 (NC) EVRAT10 to 15 (NC) EVR5 / EVRST3 to 15 PKVD EVM (NO/NC)
2704807	018F6857	24			
2711151	018F6959	72	28		Compressor Unloading



Refco

Solenoid Valve Operating Magnet

A solenoid valve operating magnet is a must for every tool kit. They are the quickest and easiest way to operate solenoid valves manually. Fits most solenoid valve stems.



Cat. No.	Model No.	Part No.
2711316	SVOM-18	4660507

Water Regulating Valves



Penn

Pressure Actuated Water Regulating Valves



Cat. No.	Part No.	Connection Ins.	Refrig.	Max. Refrig. Pressure	Refrig.Press. Range: kPa	Pressure Element Conn.
2701161	V46AA-9600	3/8" BSP	R12, R134a R22, R502 R404A, R507	2200kPa	480 to 1170	760 mm Length with 1/4" Flare Nut
2701162	V46AB-9600	1/2" BSP				
2701163	V46AC-9600	3/4" BSP				
2701164	V46AD-9600	1" BSP				
2701165	V46AE-9600	1 1/4" BSP				

Cat. No.	Part No.	Connection Ins.	Refrig.	Max. Refrig. Pressure	Refrig.Press. Range: kPa	Pressure Element Conn.
2711335	V246GD1B001C	1" BSP Screw	R410A	4340kPa	1380 to 2760	1/4" MF
2711337	V246GE1B001C	1 1/4" BSP Screw				
2711338	V246GR1B001C	1 1/2" Flange				

Zone Water Valves



Siemens

MVI Series

MVI is a complete valve and actuator assembly ideal for air handling unit applications. Flow of chilled/heating water is controlled by a simple on/off motion.



Cat. No.	Model No.	Description	Connection	Voltage
2711341	MVI 421.15	On/Off control valve with return spring	1/2"	230 VAC
2711343	MVI 421.20		3/4"	

SGS65 Series Actuator

SGS65 Actuator fits a range of Siemens Valves for modulating the flow of chilled/heating water and is ideal for air handling units. Can also be used in place of SSB61 & SSC61 actuators.



Cat. No.	Model No.	Voltage	Signal Voltage	Stroke
2711344	SGS65	24VAC	0-10V	5.5mm

Reversing Valves



Ranco

Reversing Valves - 4 Way

Ranco Reversing Valves are slide-type 4-way valves which operate under full pressure of a Heat Pump system. They are hermetically constructed and operation is controlled by a Solenoid Coil on a single Pilot Valve, which is an integral part of the main valve.



Cat. No.	Part No.	Connections: ODS		R22 Capacity kW		R410A Capacity kW		M.O.P.D. kPa	Min. Operating Pressure kPa	Max Operating Pressure kPa
		Disch.	Suct. & Coils	Min	Max	Min	Max			
2700135	V2-408064-2IL	3/8"	1/2"	2.64	7.03	3.17	7.74	3030	100	4690
2700136	V3-410084-7IL	1/2"	5/8"	3.52	9.85	4.22	10.9			
2700137	V6-412084-1IL		3/4"	3.52	19.34	4.22	23.56			
2700138	V6-414084-1IL									
2700139	V10-414084-2IL		7/8"	15.83	34.82	19.7	41.85			
2700140	V10-414124-2IL	3/4"								
2700141	V10-418144-2IL	7/8"	1 1/8"	15.83	39.39	19.7	47.48			
2700142	V12-4220T4-2IL	1 1/8"	1 3/8"	21.1	49.24	26.38	59.09			

Capacity Valves are based on 7.2 °C evaporating, 5.6 KTD Superheat, 54.4 °C condensing, 5.6K subcooling.

Maximum capacity at 14kPa pressure drop.

Reversing Valve Solenoid Coils

Cat. No.	Part No.	Voltage	Description
2700149	LDK-41	240V 50Hz	Suits New Series 4 V2, V3, V6, V10 and V12 Valves
2700143	LDK-11	24V 50Hz	

Reversing Valve Coils are designed to operate valves at 10% over and 15% under the rated coil voltage at a 27°C ambient temperature, with 0.15 m/s air movement over them.



Emerson

Solenoid Coils

Cat. No.	Type	Voltage & Frequency		Description
2711312	ASC2	24VAC	50/60Hz	Suit old style reversing valves with coil retaining clip
2711311		240VAC		
2711313		120VAC		
2711314	RMF	240VAC		Suit new style reversing valves with coil retaining screw
2711315		24VAC		

Sump Pump Switches



Penn

F59 Series – Weight Operated

Switch to start electric motor on liquid level rise, stop motor on liquid level drop. Cuts in when upper weight is submerged approximately halfway. Cuts out when lower weight is approximately half-exposed. Each switch includes 1m polyethylene cable and two weights.

Electrical Ratings: 1HP at 120/240 VAC, 1/4 HP at 32 VDC.

Cat. No.	Part No.	Contact Action	Mounting	Wiring
2707461	F59A-1	DPST Close on Rise (Reversible)	Fixed Mounting Bracket	Two holes with grommets in case for Drop Cord Wiring
2707462	F59A-2		Universal Mounting Bracket and 600mm strap for mounting on the motor, on the pedestal or on the discharge pipe	
2707463	F59H-1		Fixed Mounting Bracket	Conduit Wiring, 22mm Conduit openings in case
2707464	WGT11A-601R		Replacement Weight Kit	

Liquid Flow Switches

Penn

F61 Series – Low Flow Rate

For use on liquid lines using water, ethylene glycol solutions or other liquids not injurious to the brass and phosphor bronze parts. SPDT contact switch is activated by a low flow rate; however, it has a large flow capacity with minimum pressure drop.

Ambient Temperature: 0°C to 82°C.



Cat. No.	Part No.	Connection	Enclosure	Adjustment Range l/s		Liquid Temp. Range °C	Max. Liquid Press. kPa (psig)	Electrical Rating
				R to Y Closes Flow Increase	R to Y Opens Flow Decrease			
2502098	F61KD-3	1/2" FNPT	General Purpose	Min. 0.038	Min. 0.019	0 to 120	1030 (150)	8 amp 240V AC
2707411	F61KD-4	3/4" FNPT		Max. 0.069	Max. 0.057			

F61 Series – Standard Flow Rate

This flow switch may be used in liquid flow lines carrying water, ethylene glycol or any liquid not harmful to brass or phosphor bronze and not classified as a hazardous fluid. Switch contacts are SPDT.

Note: The control is designed for interlock purposes or 'no flow' protection. Where critical or high value products are to be protected, a separate back-up control should be used. Adjustment Control is factory set at approx. minimum flow rate, field adjustable by means of range screw under cover.



Cat. No.	Part No.	Connection	Enclosure	Max. Liquid Press. kPa (psig)	Max. Liquid Temp. °C	Min. Liquid Temp. °C	Min. Ambient Temp. °C	Electrical Rating
2707442	F61SB-9100	1" MBSP	IP43 Splash Proof	1034 (150)	120	4	-40	8 Amp 240V AC
1320024	F61KB-11	1" MNPT	IP30 General Purpose			-29	-34	
2701143	F61MB-1		IP66 Raintight					
2707459	KIT21A602	3 Piece Set Replacement Stainless Steel Paddle and 6" Paddle						

alre

ALRE

Liquid Flow Switch



Cat. No.	Model No.	Connection	Enclosure	Max Liquid Temp °C	Min Liquid Temp °C	FLA 240VAC
2707441	JSF-IE	1" BSP	IP65	120	-50	8

SIEMENS

Siemens

Liquid Flow Switch



Cat. No.	Model No.	Connection	Enclosure	Max Liquid Temp °C	Min Liquid Temp °C	FLA 240VAC
2707460	QVE1901	1/2" BSP	IP65	110	-20	8



Air Flow Controls

Penn

P32 Series Air Differential Pressure Switch



Cat. No.	Part No.	Switch Action	Range Pa	Sensitivity at Min. Set Point Pa	Set Point	Scale Plate	Bracket Type
2701145	P32AC-2*	SPDT	12 to 1240	10	Adjust.	Yes	U
2705645	P32AF-2*		12 to 1240	6			U

*Supplied with 1/4"compression fitting. 100mm extension tube, 2 mounting screws, 'O' gasket, angle barb fitting installed.

F62 Series Air Flow Switch



Cat. No.	Part No.	Paddle Size mm	Max. Ambient Temp. °C	Max. Air Velocity m/s	Dimensions mm (Including Paddle)
2707421	F62AA-8	54 x 175	40	10	265 High x 100 Wide x 70 Deep
2707456	F62AA-9	79 x 175			



Carel

Differential Pressure Switch Kit



Cat. No.	Part No.	Switch Action	Range Pa	FLA 240VAC	Differential P	Pressure Connection
2707389	DCPD011100*	SPST	20-200	1	Adjustable	1/8" Nipple

*Complete with installation hoses, terminals and nipples



Siemens

Differential Pressure Switch



Cat. No.	Part No.	Switch Action	Range Pa	FLA 240VAC	Differential P	Pressure Connection: mm
2707374	930.8022252	SPST	20-200	1	Adjustable	6



Anti Sweat Controls

Emerson



Features

- Works standalone and can be networked with Emerson E2
- 1 x ACC can control up to 10amps
- Fits in mullion or electrical raceway
- Zero crossing switching - Minimises electrical noise and ensures long life of triac

ACC Series - Kits

Cat. No.	Part No.	Description
2708011	815-6102	ACC Anti-condensate Control Kit



ACC Series - Components

Cat. No.	Part No.	Description
2708009	815-6101	ACC Anti-condensate Control with Temperature Sensor
2708010	814-6115	ACC Anti-condensate Dew Point Sensor



Carel

ACC Anti Sweat Heater Controller

The Carel ACC is an innovative anti-sweat controller designed to control the anti-sweat heaters that prevent the formation of condensation on cold surfaces, such as the glass doors of vertical refrigerated display cabinets.



ACC Series - Din Rail Mount

Cat. No.	Part No.	Description
2707850	ACC0082100	Anti-sweat control 230V 8A

ACC Series - Accessories

Cat. No.	Part No.	Description
2707851	DPWC115000	Wall mount temperature and humidity probe
2707852	NTC060WG00	Glass temperature probe, 6m

Typical Ordering Package

- Anti-sweat control
- Glass temperature probe
- Wall mount temperature and humidity probe



Fan Speed Controls

Emerson

FSM Series - Electronic Fan Speed Control

Cat. No.	Part No.	Pressure Range kPa	Modulating Band kPa	Factory Setting @ Max. Speed kPa	Max. Proof Test kPa	Max. Cont. Current Amps	Supply Voltage
2707377	FSM-42S	1310 to 2480	379	1620	3585	3	230 Vac.



Carel

Single Phase Fan Speed Control

Cat. No.	Part No.	Description
2707382	FCPM00A01K	Fan Speed Control Kit 1 PH 8 AMP

Kit includes (1 of each):

- FCP Control
- Pressure Sensor 0 - 3400kpa
- Connector Cable

Three Phase Fan Speed Board

Cat. No.	Part No.	Description	
	FCR3064020	Fan Speed Board 415V 3Ph IP55	6Amp
	FCR3094040		9Amp
	FCR3124020		12Amp
	FCR3204020		20Amp
	FCR3404020		40Amp

Accessories



Cat. No.	Part No.	Description
2707834	TRADR4W024	Transformer Din rail 240V - 24VAC 4VA
2707744	SPKT0031C3	Pressure Transmitter 0-3000 kPa
2707748	SPKC002313	Pressure Transmitter Cable IP65

Typical ordering package for three phase fan speed control (1 of each):

- IR33E9 controller
- Fan Speed Board
- Transformer
- Pressure Transmitter
- Transmitter Cable



Penn

P215PR Series

The P215PR series are direct mount featuring easy setpoint adjustment using the top screw.

Cat. No.	Model No.	Range kPa	Proportional Band kPa	Max. Overrun Press. kPa	Electrical Rating	Pressure Connection	Operating Ambient Temp. °C
2702969	P215PR-9200	1000 to 2500	450	4000	3A	1/4" FF	-20 to 55

Pressure Controls

Penn

Features

- Ease of wiring and adjustment
- S.P.D.T. contacts standard on all P77 pressure controls
- Stable switching points
- All Model have IP-54 enclosure Case and Cover: Aluminium diecast
- Leakproof bellows
- Ambient Temperature Limits: -50°C to 55°C (70°C Max. 2 hours)
- All dual pressure controls have two alarm circuits for separate low pressure and high pressure cut-out indication (except P78ALA-9351)



P77 Series Single Pressure

Cat. No.	Part No.	Range kPa	Differential kPa	Press. Conn.	Max. Bellows Press.
Low Pressure Controls for Non-Corrosive Refrigerants					
2701147	P77AAA-9300	-50 to 700	50 to 300	1/4" M. Flare	2200 kPa
2707390	P77BCA-9300		Manual Reset		
Low Pressure Controls for Ammonia and Non-Corrosive Refrigerants					
2707391	P77AAA-9700	-50 to 700	50 to 300	1/4" FNPT	1400 kPa
2707392	P77BCA-9700		Manual Reset		
High Pressure Controls for Non-Corrosive Refrigerants					
2701148	P77AAA-9350	300 to 3000	300 to 1200	1/4" M. Flare	3300 kPa
2701150	P77BEA-9350		Manual Reset		
Fan Cycling Control for Air Cooled Condensers for Non-Corrosive Refrigerants					
2701149	P77AAA-9351	350 to 2100	210 to 550	1/4" M. Flare	3000 kPa
High Pressure Controls for Ammonia and Non-Corrosive Refrigerants					
2707393	P77AAA-9750	300 to 3000	300 to 1200	1/4" FNPT	3300 kPa
2707394	P77BEA-9750		Manual Reset		



P78 Series Dual Pressure

Cat. No.	Part No.	Low Pressure		High Pressure		Press. Conn.	Max. Bellows Press. kPa
		Range kPa	Differential kPa	Range kPa	Differential kPa		
Dual Pressure Controls for Non-Corrosive Refrigerants							
2701152	P78LCA-9300	-50 to 700	50 to 300	300 to 3000	300 fixed	1/4" M. Flare	2200 L 3300 H
2701154	P78MCA-9300		Manual Reset		Manual Reset		
2701155	P78PGA-9300						
Dual Pressure Controls for Ammonia and Non-Corrosive Refrigerants							
2707396	P78LCA-9700	-50 to 700	50 to 300	300 to 3000	300 fixed	1/4" FNPT	1400 L 3300 H
2707397	P78MCA-9700						
Dual Fan Cycling Control for Air Cooled Condensers for Non-Corrosive Refrigerants							
2701151	P78ALA-9351	350 to 2100	180 fixed	350 to 2100	180 fixed	1/4" M. Flare	3000 L 3000 H

Accessories



Cat. No.	Part No.	Description
2707955	290-0404	Capillary Adaptor
2707954	290-0404D	Capillary Adaptor with Depressor
2700122	31696-1	Mounting Bracket

Pressure Controls



Ranco

016 & 017 Series

Ranco 'O' Series commercial refrigeration and air conditioning controls are available for low pressure, high pressure and dual pressure applications. All controls have SPDT electrical contacts.

Variations include fixed and adjustable differential, operation on rise and fall of pressure, automatic cycling or manual reset. Accessories include mounting brackets and capillary adaptors.



Cat. No.	Part No.	Description	Adjust. Range kPa	Differential kPa	Pressure Connection
2700114	016-8706	Low Pressure Control	-30 to 700	60 to 400	1/4" Male Flare
2700115	016-8713	Low Pressure Control			910mm Cap. 1/4" Fl. Nut
2700113	016-8705	Low Pressure Control with Manual Reset		60 Fixed	1/4" Male Flare
2700116	016-8750	High Pressure Control	700 to 3000	250 to 800	1/4" Male Flare
2700117	016-8751	High Pressure Control with Manual Reset		320 Fixed	1/4" Male Flare



Cat. No.	Part No.	Description	Low Pressure		High Pressure		Pressure Connection
			Adj. Range kPa	Adj. Diff. kPa	Adj. Range kPa	Fixed Diff. kPa	
2700121	017-8711	Dual Pressure Control	-30 to 700	60 to 400	700 to 3000	345	910mm Cap. Fl. Nut 1/4"
2700118	017-8701	Dual Pressure Control					1/4" Male Flare
2700120	017-8705	Dual Pressure Control with Manual Reset on High Pressure Side					1/4" Male Flare
2700119	017-8703	Dual Pressure Control with Manual Reset on High and Low Pressure Sides		Fixed 60			1/4" Male Flare

Accessories

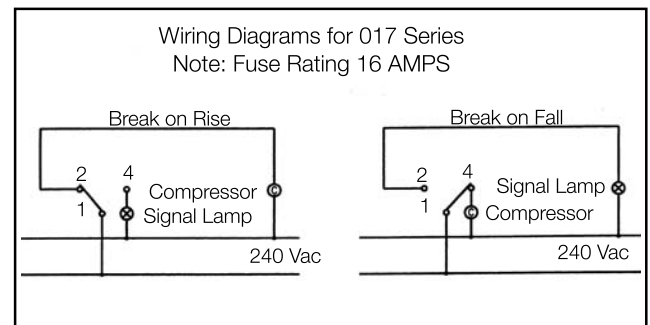
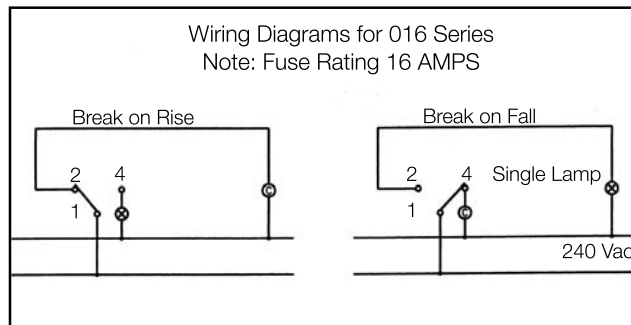


Cat. No.	Part No.	Description
2707955	290-0404	Capillary Adaptor
2707954	290-0404D	Capillary Adaptor with Depressor
2700122	31696-1	Pressure Control Mounting Bracket
2705276	3600253006	Replacement Cover
2705279	3600254004	

Electrical Ratings:

Types: 016 – 240 Vac, 12A FLA, 72A LRA, with SPDT contacts

Types: 017 – 240 Vac, 12A FLA, 72A LRA, with SPDT contacts



Pressure Controls

Emerson

PS1/PS2/PS3 Series

PS1 Series Single Pressure

Cat. No.	Model No.	Part No.	Description	Adjustment Range: kPa	Differential: kPa	Connection
2707957	PS1-A3A	4370700	Low Pressure Control	-50 to 700	-50 to 500	1/4" MF
2707958	PS1-A5A	4350500	High Pressure Control	600 to 3100	200 to 1500	
2707959	PS1-R5A	4350700	High Pressure Control with Manual Reset		Fixed approx 300 under setpoint	

PS2 Series Dual Pressure



Cat. No.	Model No.	Part No.	Description	Low Pressure		High Pressure		Connection
				Adj. Range: kPa	Diff.: kPa	Adj. Range: kPa	Diff.: kPa	
2707961	PS2-M7A	4361300	Dual Pressure Control with Convertible Auto or Manual Reset on High Pressure Side	-5 to 700	-50 to 500	600 to 3100	Convertible adjustable or fixed	1/4" MF
2707960	PS2-B7A	4360200	Dual Pressure Control with Manual Reset on High & Low Pressure Sides		Fixed approx 100 above setpoint		Fixed approx 400 under setpoint	

PS3 Series

The PS3 series is a pressure switch with fixed switch point settings.

The direct compressor mounting Model No. with high pressure bellows and snubber reduces the number of joints.



Cat. No.	Model No.	Part No.	Description	Fixed Setting: kPa		Reset	Connection
				Cut Out	Cut In		
2707962	PS3-W6S	0715831	High Pressure Control	1400	1000	Auto	7/16" 20UNF Female with Schrader

Penn

P100 Series Encapsulated Pressure Switches



Cat. No.	Part No.	Switch Action	Application	Pressure Settings: kPa	
				Opens	Closes
2707417	P100LP-3560-L	Open on Fall	Low Cutout	241	414
2707419	P100HP-4232-S	Open on Rise	High Cutout	2854	2240
2701140	P100AP-201D	Open on Fall	Low Cutout	(69)	220
2707424	P100AA-3D			1034	1551
2707425	P100CP-1D	Open on Rise	High Cutout	2758	2068
2705660	P100HP-4100-L			2827	Manual Reset



Pressure Controls

Danfoss

KP Series Pressure Controls

Single Pressure



Cat. No.	Part No.	Model No.	Description	Reset	Connection
2706496	060-110191	KP1	Low Pressure Control	Auto	1/4"
2706498	060-110566	KP1	Low Pressure Control	Auto	1/4" Capillary
2706497	060-110366	KP1	Low Pressure Control	Manual	1/4"
2706500	060-117191	KP5	High Pressure Control	Auto	1/4"
2706501	060-117391	KP5	High Pressure Control	Manual	1/4"
2706502	060-117466	KPR5	Fan Cycling High Pressure Control	Auto	1/4"

Dual Pressure



Cat. No.	Part No.	Model No.	Description	Reset		Connection
				LP	HP	
2706504	060-124166	KP15	Dual Pressure Control	Auto	Auto	1/4"
2706505	060-124366	KP15	Dual Pressure Control	Auto	Manual	1/4"
2706503	060-119966	KP15	Dual Pressure Control	Auto	Auto	1/4" Capillary
2706506	060-124566	KP15	Dual Pressure Control	Manual	Manual	1/4"
2706499	060-123066	KP15	Dual Pressure Control	Convertible	Convertible	1/4"

Single Pressure-Ammonia

Cat. No.	Part No.	Model No.	Description	Reset	Connection
2707105	060-116066	KP1A	Low Pressure Control	Auto	M10 x 0.75 Capillary
2707318	060-116166	KP1A	Low Pressure Control	Manual	M10 x 0.75 Capillary
2707319	060-2711285	KP5A	High Pressure Control	Auto	M10 x 0.75 Capillary

Accessories

Cat. No.	Part No.	Description
2706637	060-105566	Wall bracket for KP series controls
2706402	060-105666	Angle bracket for KP series controls
2707955	290-0404	Capillary Adaptor
2707954	290-0404D	Capillary Adaptor with Depressor

Replacement Covers

Cat. No.	Part No.	Description
2706481	060-008666	Front Cover for KP Single Pressure Controls
2706482	060-011366	Front Cover for KP Dual Pressure Controls
2706634	060-109766	Top Cover for KP Single Pressure Controls
2706633	060-109866	Top Cover for KP Dual Pressure Controls

KPS Series Pressure Controls



Cat. No.	Model No.	Part No.	Range: kPa	Differential: kPa	Connection
	KPS31	060-311066	0 - 250	10	G 1/4"
	KPS31	060-310966	0 - 250	10	G 3/8" A
	KPS33	060-310466	0 - 350	20	G 1/4"
2707320	KPS33	060-310366	0 - 350	20	G 3/8" A
2707321	KPS35	060-310566	0 - 800	40 - 150	G 1/4"
2707322	KPS35	060-2701757	0 - 800	40 - 150	G 3/8" A
	KPS35	060-310866	0 - 800	40	G 1/4"
2707323	KPS37	060-310666	600 - 1800	85 - 250	G 1/4"
2707324	KPS37	060-310166	600 - 1800	85 - 250	G 3/8" A
2707325	KPS39	060-310766	1000 - 3500	200 - 600	G 1/4"
	KPS39	060-310266	1000 - 3500	200 - 600	G 3/8" A
2707326	KPS43	060-312066	100 - 1000	70 - 280	G 1/4"
2707327	KPS45	060-312166	400 - 4000	220 - 1100	G 1/4"
2707328	KPS47	060-312266	600 - 6000	350 - 1700	G 1/4"



Temperature Controls

Refco

Wide Range Thermostat

Ideal for coolroom installations and other varied controls applications.



Cat. No.	Model No.	Range °C	FLA 240VAC	Bulb and Capacity
2707471	TSC-093	-30 to 30	15	1.5 Metres



Penn

Series A19

Cat. No.	Part No.	Switch Action	Range °C	Differential K	Bulb and Capillary	Range Adjuster	Max. Bulb Temp. °C
----------	----------	---------------	----------	----------------	--------------------	----------------	--------------------

Adjustable Differential

2705669	A19ABC-66	SPDT	0 to 43	2 to 8	9.5mm x 127mm 1.8m Cap.	Knob	60
2705665	A19ABB-7	SPST Open High	10 to 94	3 to 13	7.5mm x 64mm 3m Cap.		116
2705668	A19ABC-5	SPDT	10 to 55	2 to 8	9.5mm x 127mm 2.4m Cap.		77
2701141	A19ABC-41		-35 to 40	1.7 to 6.7	9.5mm x 102mm 2.4m Cap.	Convertible	60
2705670	A19ABC-67				9.5mm x 102mm 6m Cap.		
2705666	A19ABC-26	Open High & Low (Operating and Circulator) SPDT	38 to 121	3 to 13	Well Conn. 1/2" NPT	Convertible	143
2705667	A19ABC-27	Remote Mtd. (Operating and Circulator) SPDT			1/2" NPT 2.4m Cap.		

Fixed Differential

2705642	A19AAF-49	SPDT	-4 to 107	1.9	9.5mm x 76mm 3m Cap.	Screwdriver Slot	135
2705641	A19AAC-13	SPDT	40 to 120	3	9.5mm x 102mm 1.8m Cap.		143

Manual Reset

2705672	A19ACA-28	SPST Open Low	-35 to 40	Manual Reset	9.5mm x 102mm 1.8m Cap.	Screwdriver Slot	60
2705673	A19ACA-31				9.5mm x 102mm 3m Cap.		
2705675	A19ADB-26	SPST Open High	40 to 120		Manual Reset (Locks out High)	9.5mm x 89mm 1.8m Cap.	Knob
2705676	A19ADB-27	SPST Open High		1/2" NPT			
2705674	A19ADB-11	SPST Open High	100 to 290	Manual Reset	7.5mm x 38mm 1.8m Cap.		

For Cooling Towers

2707467	A19ARC-9105	SPDT	5 to 50	2.5 to 11	10.5mm x 110mm 2m Cap. Neoprene Coated	Concealed	100
---------	-------------	------	---------	-----------	--	-----------	-----

Coiled Bulb

2705677	A19BAC-3	SPDT	0 to 43	1.9 Fixed	35mm x 57mm Coiled	Convertible	60
---------	----------	------	---------	-----------	--------------------	-------------	----

Hot Water – Strap On

2707470	A19DAC-9	SPDT	40 to 120	6	Clamp on Strap supplied		143
---------	----------	------	-----------	---	-------------------------	--	-----



Temperature Controls

Penn

A25 Series – Manual Reset Limit Control

Cat. No.	Part No.	Switch Action	Range °C	Range Adj.	Dial Stop °C	Max. Element Temp. °C
2704940	A25CN-4	SPDT	-4 to 101	Knob	Set at 52	150

A28 Series – 2 Stage

Cat. No.	Part No.	Switch Action	Range °C	Differential K	Bulb and Capillary	Range Adjuster	Max. Bulb Temp. °C
----------	----------	---------------	----------	----------------	--------------------	----------------	--------------------

Coiled Bulb – Fixed Differential

2705683	A28AA-74	2 x SPDT	0 to 43	1.9 Ea. Stage 1 to 4 Int. Stage	35mm x 57mm Coiled	Convertible	60
---------	----------	----------	---------	---------------------------------	--------------------	-------------	----

Adjustable Interstage Differential

2705680	A28AA-28	2 x SPDT	0 to 43	1.9 Ea. Stage 1 to 4 Int. Stage	3.6 Averg. Bulb 1.8m Cap.	Screwdriver Slot	60
2705681	A28AA-65		-35 to 40	2.8 Ea. Stage 1 to 4 Int. Stage	9.5mm x 102mm 2.4m Cap.*	Convertible	
2707469	A28AA-70		5 to 32	1.7 Ea. Stage 1 to 4 Int. Stage	9.5mm x 152mm 1.8m Cap.*	Knob	110
2705682	A28AA-71		15 to 60	2.8 Ea. Stage 1 to 4 Int. Stage	9.5mm x 102mm 1.8m Cap.		

*Packing nut assembly available for direct immersion applications (P/N FTG13A-60 OR)

Ranco

Type 016 and 018

Cat. No.	Part No.	Adjust. Range °C	Diff. (High & Low Scale Limits Adj. or Fixed) K	Capillary and Bulb
2700110	016-6950	-35 to -7	1.7 to 12	2m with 9.5mm dia. Coiled Bulb
2700111	016-6951	-18 to 13		
2700112	016-6954	-5 to 25		2m with 14.5mm dia. Cross Ambient Bulb
2705264	016-6980	-18 to 13		
2705265	016-6981	-5 to 25		
2705266	016-6983	10 to 40	4 to 31	2m with 4.5mm dia. Bulb
2700206	016-8900	-18 to 13		
2707970	016-6930	-34 to 32	4 to 25	1.52m with 9.5mm Cross Amb. Bulb
2704890	018-100-080	No Adjustment	Phase Change at 0°C	1.83m with Special Bulb

Accessories

Cat. No.	Part No.	Description
2700123	48129-1	Temperature Control Mounting Bracket
2705276	360025300	Replacement cover to suit 016 series control



Temperature Controls

RANCO

Ranco

Service Thermostats



Cat. No.	Part No.	Application	Cold Out °C	Cold In °C	Warm Out °C	Warm In °C	Defrost Term. °C	Signal Op. °C	Cap. Length mm
2708022	VC 1	Compressor Refrig.	-23	-14.5	-	2	-	-	1200
2705273	VA 2	Electric Absorption Refrigerator	-18	-14.5	-	3.5	-	-	2000
2708023	VF 3	Freezer and Ice Cream Cabinet	-34	-	-16.5	-12	-	-	2000
2708024	VP 4	Push Button Compressor Refrig.	-25	-	-10.4	-4	5.5	-	1200
2708025	VS 5	Freezer with Standard Signal	-34	-	-16.5	-12	-	Cut-In 5 Above Cut-In	2000
2708026	VR 6	Freezer with Reverse Signal	-34	-	-16.5	-12	-	Cut-Out 5 Above Cut-In	2000
2708027	VB 7	Bottle or Beverage Cooler	-3	2	-	12.5	-	-	1200
2701488	4000-08	Window Air Conditioner	15	18	-	34	-	-	1200
2708028	VT 9	Two Temperature Refrigerator	-26	-	-11	-	3.5 Con. Cut-In	-	1200
2708029	VX 0	Refrigerator Forced Draft Coil	-15	-	-5	-		-	1500

Danfoss

Danfoss

Service Thermostats



Cat. No.	Part No.	Kit. No.	Application	Cold		Warm		Defrost Term. °C	Signal Pos. Warm °C	Cap. Length mm
				Cut-Out °C	Cut-In °C	Cut-Out °C	Cut-In °C			
2706519	77B7001	1	Refrigerators	-25	-13.5	-5.5	2	-	-	1300
2706520	77B7002	2	Refrigerators Push Button Defrost	-21	-11	-7.5	0	6	-	1300
2706521	77B7003	3	Refrigerators Automatic Defrost	-27.5	3.5	-11	3.5	-	-	1600
2706522	77B7004	4	Absorption Refrig.	-11	-5	-1	3.5	-	-	1500
2706523	77B7005	5	Ice Cream Cabinets & Freezers without Signal	-32.5	-21	-15	-7.5	-	-	2300
2706524	77B7006	6	Freezers with Active Sig.	-34.5	-24	-17	-10	-	-6	2300
2706525	77B7007	7	Freezers with Passive Sig.	-34.5	-24	-17	-10	-	-6	2300
2706526	77B7008	8	Bottle and Liquid Coolers	-8.5	-1	6	11.5	-	-	2000

Temperature Controls

RANCO



Ranco

Type K59 Thermostat

Constant cut-in control with variable cut-out. Main switch (SPST) closes on rise of temperature.

Cat. No.	Part No.	Email Part No.	Cut-out °C			Constant Cut-in °C	Cap. Length mm
			Cold	Normal	Warm		
151080	K59-P4914	1409448	-30	-23	-16	3.4	1100

Danfoss



Danfoss

Type 77B Thermostats

These thermostats have a constant cut-in temperature for automatic defrost with an SPST switch closing on rising temperature.

Cat. No.	Part No.	Email Part No.	Kelv. Part No.	Cut-out: °C		Constant Cut-in °C
				Cold	Warm	
2706473	77B6138	-	-	-12	-5.2	5
2708016	77B6043	5371269	-	-29.7	-16.4	3.5
2708017	77B6075	PJ1042	KA59882	-28.5	-19	4

RANCO



Ranco

Type A22 Thermostats (A22 – 2217)

Applications

- Harvest control for ice-making machines
- Cycling control for Heat Pumps with manual selection of heating and cooling

Cat. No.	Part No.	Coldest Permissible Cut-out °C	Warmest Permissible Cut-in °C	Range °C	Diff. K	Electrical Rating 240 VAC	Length mm
2708034	A22-2217	15.6	33.3	11.1	2.2	One Side FLA 20, LRA 80 Opp. Side FLA 10, LRA 40	760

A22 - 1129

Ice bin level control on ice-making machines

Cat. No.	Part No.	Range: °C	Differential: K	Capillary Length mm
2705268	A22-1129	1.6 to 10.5	3.4	1200

Type RCR De- Ice Control

Cat. No.	Part No.	Temperature °C		Contacts	Elect. Rating 240 VAC	Capillary Length mm
		Cut-in	Cut-out			
2700134	RCR-4852-2	3.9	-6.1	2-3 Close on Temp. Rise 2-1 Close on Temp. Fall	FLA 20 LRA 80	1220

* Replaces Ranco Model No. K22-L5006

Type C28 Thermostat

Cat. No.	Part No.	Switch Action	Bulb Size mm	Capillary Length mm
2708033	C28-P1316	SPDT	9.5 dia. x 135 long	508



Stokes

Stokes

DR152 Thermostat

Cat. No.	Part No.	Kelvinator Part No.	Temperature Range °C	
			Open	Close
2708030	DR152	KA55041	10	-4

Electronic Controls

Carel

ir33+ Refrigeration Controllers

The ir33+ controllers are now replacing the IR33 controllers for refrigeration.

ir33+ Series – Panel Mount



Cat. No.	Part No.	Type	Temp. Range °C	Power Supply	Relay				RTC HACCP*
					Amps: Res (Ind)				
					Comp.	Fan	Defrost	Aux.	
8001473	IREVM0LN0U	Thermometer	-50 to +90 (standard NTC probe) or 0 to +150 (high range NTC probe)	12 Vac/dc					
8001474	IREVM0EN0U			240 Vac					
2707935	IREVS0LN0U	Thermostat Med Temp		12 - 24 Vac/dc	12 (2)				
2707936	IREVS0EA0U			240 Vac	8 (4)			8 (4)	
2707937	IREVC0LN0U	Thermostat Low Temp		12 - 24 Vac/dc	12 (2)	8 (4)	8 (4)	8 (4)	
2707938	IREVC0LC0U			12 - 24 Vac/dc	12 (2)	8 (4)	8 (4)	8 (4)	Y
2707939	IREVC0HN0U			240 Vac	12 (2)	8 (4)	8 (4)	8 (4)	
2707940	IREVC0HC0U			240 Vac	12 (2)	8 (4)	8 (4)	8 (4)	Y

* RTC = Real Time Clock HACCP = Hazard Analysis and Critical Control Point

smartCella Refrigeration Controllers

smartCella is the new CAREL compact refrigeration controller for use in small cool room applications.

smartCella Series – Wall Mount



Cat. No.	Part No.	Type	Temp. Range °C	Power Supply	Relay				RTC HACCP*
					Amps: Res (Ind)				
					Comp.	Fan	Defrost	Aux.	
2707950	WE00S1EN00	Thermostat Medium Temp	-50 to +90 (standard probe) or 0 to +150 (high range NTC probe)	230Vac	10 (4)				
2707951	WE00C2HN00	Thermostat Low Temp			10 (10)	8 (4)	10 (4)	8 (4)	

* RTC = Real Time Clock HACCP = Hazard Analysis and Critical Control Point

CM Retrofit Kit

Replacement of IR32POLBR0 and S90RDPW controller.



Cat. No.	Part No.	Power supply	Outputs type
2707941	CM00000398	240V	Retrofit Kit consisting of controller, remote display, card and cable

IR33 Platform Refrigeration Controllers

The IR33 Platform for refrigeration is a complete range of products designed especially for the control of stand-alone refrigeration units.



DN33 Series – Din Rail Mount

Cat. No.	Part No.	Type	Temp. Range °C	Power Supply	Relay				RTC HACCP*
					Amps: Res (Ind)				
					Comp.	Fan	Defrost	Aux.	
2707815	DN33S0EN00	Thermostat Med Temp	-50 to +90 (standard NTC probe) or 0 to +150 (high range NTC probe)	240 Vac	10 (4)				
2707816	DN33S0HA00			115 - 230 Vac	10 (4)			8 (4)	
2707817	DN33C0LR00	Thermostat Low Temp		12 - 24 Vac/dc	10 (4)	10 (4)	8 (4)	8 (4)	
2707818	DN33C0HR00			240 Vac	10 (4)	10 (4)	8 (4)	8 (4)	
	DN33C0HB00			240 Vac	10 (4)	10 (4)	8 (4)	8 (4)	Y
2707819	DN33H0HB00			240Vac	10 (4)	10 (4)	8 (4)	4 (2 x 8)	Y

* RTC = Real Time Clock HACCP = Hazard Analysis and Critical Control Point



MasterCella2 Series – Wall Mount

Cat. No.	Part No.	Type	Temp. Range °C	Power Supply	Relay				RTC HACCP*
					Amps: Res (Ind)				
					Comp.	Fan	Defrost	Aux.	
2704937	MD33A5ER00	Thermostat Med Temp	-50 to +90 (standard NTC probe) or 0 to +150 (high range NTC probe)	240 Vac	12 (10)			8 (4) 10 (10)	
2704938	MD33D5EB00	Thermostat Low Temp		240 Vac	12 (10)	8 (4)	10 (4)	8 (4) 10 (10)	Y
2707838	MD33D5FB00			240 Vac	12 (10)	8 (4)	10 (4)	8 (4) 10 (10)	Y

* RTC = Real Time Clock HACCP = Hazard Analysis and Critical Control Point
MD33D5FB00 includes isolator switch

High
Efficiency
Solutions.

CAREL



Get it now!



QuickFinder, the right app for
refrigeration professionals.

UltraCella platform

The innovative solution for your cold rooms

UltraCella is the result of analysis, experience and understanding of current and future market requirements. It is a new generation of controllers based on the latest CAREL technology: this powerful platform can connect more probes and loads than other standard solutions, managing these with optimised and advanced control algorithms, for total cold room control.

With **UltraCella**, special care has been focused on usability in three different stage: installation, configuration and everyday operation. Users and customers with different levels of knowledge can use the unit easily according to their needs. With UltraCella, the user experience is highly satisfying for everyone, thanks to functions that are unique in the segment of cold room controllers.

CAREL Australia PTY LTD
PO BOX 6809, Silverwater Bus. Ctr. N.S.W. 1811 - Unit 37,
11-21 Underwood Rd Homebush N.S.W. 2140
Tel. (+61) 2 8762 9200 - Fax (+61) 2 9764 6933 - sales.au@carel.com

carel.com

Carel

UltraCella Refrigeration Controllers

UltraCellbe easily upgraded for extra functions when required such as EEV. It features 6 relays and a 0-10V output, it can control temperature and humidity and display 2 main variables on the front screen. The USB port provided allows you to copy the controller's configuration and to download the temperature logs from the room (log 1 temperature every 5 minutes for 4 years). A commissioning tool can also be used for quick and easy configuration of the controller. It uses standard NTC (-50 to +90°C), high temp NTC (0 to +150°C) and Pt1000 (-50 to +90°C) for temperature control management.

The EEV module kits contain the box with EEV all prewired, and all sensors and cables required for the superheat control of the circuit.

UltraCella Series - Wall Mount



Cat. No.	Part No.	Description	Power Supply	Relay						RTC HACCP*
				Amps: Res (Ind)						
				Comp.	Fan	Defrost	Light	Aux1	Aux2	
2707944	WB000DG0F0	Double display controller	240Vac	12 (10)	10 (5)	12 (10)	10 (5)	8 (4)	8 (4)	

* RTC = Real Time Clock HACCP = Hazard Analysis and Critical Control Point

Accessories - UltraCella

Cat. No.	Part No.	Description
2707945	WM00ENNIOK	EEV module without ultracap
2707946	WM00EUN00K	EEV module with ultracap
2707949	PGDEWB0FZK	UltraCella service pGD with 3m cable S90CONN001
2707947	WM00P0003N	Power module main switch and 3HP relay
2707948	WM00P000NN	Power module main switch

Accessories - ir33+ and IR33 Platform Refrigeration Controllers

NTC Sensors – Temperature



Cat. No.	Part No.	Type	Temp. Range °C	Specifications	Length: m	Pkt Qty.
2707804	NTC015HP03	Plastic Probe IP67	-50 to +50	10 kΩ @ 25 °C	1.5	1
2707805	NTC015HPAP					10
2707806	NTC030HP03				3	1
2707807	NTC030HPAP					10
2707808	NTC060HP03				6	1
2707809	NTC060HPAP					10
2707732	NTC015WH03	Stainless Steel Probe IP68	-50 to +90		1.5	1
2707722	NTC030WH03				3	
2707723	NTC060WH03				6	
2707831	NTC015HT00	High Temp Plastic Probe IP55	0 to +150	50 kΩ @ 25 °C	1.5	
2707810	NTC030HT00				3	
	NTC060HT00				6	
2707811	NTC060PS00	Product Simulation Probe	-50 to +105	10 kΩ @ 25 °C	6	

Sensor Pockets

Cat. No.	Part No.	Type	Size	Thread
	NTCSOBS003	Brass	8 x 60 mm	1/4" BSP
2707803	NTCSOSS003	Stainless Steel		



Serial Cards

The RS485 serial option is used to connect CAREL compatible controllers to a supervisory system such as PlantWatchPRO and PlantVisorPRO via a standard RS485 serial line.

Cat. No.	Part No.	Description	Suits
2707835	IROPZ48500	RS485 Serial Card	IR33, ir33+
2707828	IROPZSER30		DN33, SmartCella
2707839	IROPZSEM30		MD33

Remote Display and Interfaces

Cat. No.	Part No.	Description	Suits
2707829	IR00XGD000	Remote display	IR33, DN33, MD33
	IROPZDSP00	Remote display interface	IR33
2707828	IROPZSER30		DN33
2707839	IROPZSEM30		MD33
	PSTCON01B0	Connector for remote display	IR33, DN33, MD33
	PSTCON05B0		
2707756	PSTCON0300	Connector for remote display	MD33
	PSTCON1000		

Other Accessories

Cat. No.	Part No.	Description	Suits
2707824	IROPZKEY00	Programming key	IR33, DN33, MD33
2707953	IROPZKEYA0	240V Programming key	
2707827	IRTRRES000	IR Remote control	
2707720	RLY2402HP	Relay 240V coil 2HP 240V switching	
2707726	TRA12VDE00	Transformer 240-12Vac 3VA	
2707844	STRSIR0012	Strobe siren 12 Vac 100Db	
2707716	IRBOX20000	Large mounting box (with precut hole)	IR33, ir33+



“Easy” Series Refrigeration Controllers

Cat. No.	Part No.	Type	Temp. Range °C	Power Supply	Relay				Digital Inputs*	RTC HACCP*
					Amps: Res (Ind)					
					Comp.	Fan	Defrost	Aux.		
8001478	PJEZMNN0E0	Thermometer	-50° to +90	240 Vac						
2707874	PJEZS0H000	Thermostat Med Temp			10 (10)				1	
2707875	PJEZS0G000							8 (4)	1	
	PJEZS002E0			8 (4)						
2707876	PJS1Y0V000	Thermostat Milk Vat		240 Vac	12 (2)	8 (4)*		8 (4)		
2707892	PJEZSNH0E0	Thermostat Med Temp Compact			10 (10)					
2707888	PJEZC00000	Thermostat Low Temp			8 (4)	8 (4)	8 (4)		1	

* Stirrer Relay

Cat. No.	Part No.	Type	Control Model No.	Sensor Model No.
2707860	PJEZS0H0AP	Thermostat Med Temp	10 x PJEZS0H000	10 x NTC015HP00
2707861	PJEZ0IB045		10 x PJS2XOH000	
2707864	PJEZS002E0AP		10 x PJEZS002E00	
2707863	PJEZSNH0E0AP	Thermostat Med Temp Compact	10 x PJEZSNH0E0	20 x NTC015HP00
2707862	PJEZC000AP	Thermostat Low Temp	10 x PJEZC00000	

Accessories – Easy series

NTC Sensors – Temperature



Cat. No.	Part No.	Type	Temp. Range °C	Specifications	Length: m	Pkt Qty.
2707804	NTC015HP03	Plastic Probe IP67	-50 to +50	10 kΩ @ 25 °C	1.5	1
2707805	NTC015HPAP					10
2707806	NTC030HP03				3	1
2707807	NTC030HPAP					10
2707808	NTC060HP03				6	1
2707809	NTC060HPAP					10
2707732	NTC015WH03	Stainless Steel Probe IP68	-50 to +90	10 kΩ @ 25 °C	1.5	1
2707722	NTC030WH03				3	
2707723	NTC060WH03				6	

Other Accessories

Cat. No.	Part No.	Description
2707824	IROPZKEY00	Programming key (batteries)
2707953	IROPZKEYA0	Programming key (240V)
2707835	IROPZ48500	RS485 serial card

MPXPRO Modular Supermarket Case Controllers



Cat. No.	Part No.	Description
2707857	MX30M25H00	Master Control 5 Relays (EEV)
2707858	MX30M21H00	Master Control 5 Relays (No EEV)

Accessories- MPXPRO Series

NTC Sensors - Temperature



Cat. No.	Part No.	Type	Temp. Range °C	Specifications	Length: m	Pkt Qty.
2707804	NTC015HP03	Plastic Probe IP67	-50 to +50	10 kΩ @ 25 °C	1.5	1
2707805	NTC015HPAP					10
2707806	NTC030HP03				3	1
2707807	NTC030HPAP					10
2707808	NTC060HP03				6	1
2707809	NTC060HPAP					10
2707732	NTC015WH03	Stainless Steel Probe IP68	-50 to +90	10 kΩ @ 25 °C	1.5	1
2707722	NTC030WH03				3	
2707723	NTC060WH03				6	
2707811	NTC060PS00	Product Simulation Probe	-50 to +105	10 kΩ @ 25 °C	6	

PTC Sensors - Temperature

Cat. No.	Part No.	Type	Temp. Range °C	Specifications	Length: m
2707765	PTC0150000	Bulb sensor IP65	0 to +150	1kΩ @ 25°C	1.5

Sensors - Pressure Transmitters



Cat. No.	Part No.	Type	Pressure Range
2707840	SPKT0011C3	4-20 mA pressure transmitter	0 to 10 bar
2707745	SPKT0021C3		-0.5 to 7 bar
2707744	SPKT0031C3		0 to 30 bar
2707842	SPKT00B1C3		0 to 45 bar
2707832	SPKT0013R3	0-5V ratiometric pressure transducer	-1 to 9.3 bar
2707833	SPKT0033R3		0 to 34.5 bar
	SPKT0053P0		-1 to 4.2 bar
2707843	SPKT00B6R3		0 to 45 bar

Connection Cables



Cat. No.	Part No.	Description	Length: M
2707748	SPKC002313	Connector for SPKT transmitter, IP65	2
2707749	SPKC005313		5

Other Accessories

Cat. No.	Part No.	Description
	MXOPZKEYA0	Programming key for MPXPRO (240V)
	IRTRMPX000	Remote control for MPXPRO
2707859	IR00UGC300	Remote terminal (green LED, keypad, buzzer, IR)
	IR00XGC300	Display terminal (green LED, buzzer, IR)
	TRADRBE240	Transformer 240/24Vac 20VA Din rail mount with fuse holder
2707855	TRA00BE240	Transformer 240/24Vac 20VA Panel mount with fuse holder

IR33*7 Universal Series

The IR33 Universal Series of controllers is very flexible and can be used in many applications. The controller is selected depending on the number and type of outputs required. 9 preconfigured modes are available to select from or the user can completely reconfigure the use of the outputs. The IR33*7 series is for temperature applications. It is possible to connect NTC, NTC high temp, PTC and Pt1000 sensors to its inputs. The IR33*9 is for any application and can accept any inputs from the following list: NTC, NTC high temp, PTC, Pt1000, Pt100, J/K thermocouple, 0-1V, -0.5-1.3V, 0-10V, 0-5V ratiometric, 0-20mA and 4-20mA.



IR33*7 Universal Series – Panel Mount

Cat. No.	Part No.	Power supply	Outputs type
2707893	IR33V7HR20	230 Vac	1 x SPDT Relay
2707894	IR33V7LR20	12-24 Vac / 12-30 Vdc	1 x SPDT Relay
2707895	IR33W7HR20	230 Vac	2 x SPDT Relays
2707896	IR33W7LR20	12-24 Vac / 12-30 Vdc	2 x SPDT Relays
2707897	IR33Z7HR20	230 Vac	3 x SPDT + 1 x SPST Relays
2707898	IR33Z7HB20*	230 Vac	3 x SPDT + 1 x SPST Relays
2707899	IR33Z7LR20	12-24 Vac / 12-30 Vdc	3 x SPDT + 1 x SPST Relays
2707900	IR33D7LR20	12-24 Vac / 12-30 Vdc	1 x 10Vdc SSR Output
2707901	IR33A7LR20	12-24 Vac / 12-30 Vdc	4 x 10Vdc SSR Outputs
2707902	IR33E7HB20*	230 Vac	1 x SPDT + 1 x SPST Relays + 2 x 10Vdc Outputs
2707903	IR33E7LR20	12-24 Vac / 12-30 Vdc	1 x SPDT + 1 x SPST Relays + 2 x 10Vdc Outputs

* Controller has a built-in Real Time Clock

DN33*7 Universal Series – Din Rail Mount



Cat. No.	Part No.	Power supply	Outputs type
2707904	DN33V7HR20	230 Vac	1 x SPDT Relay
2707905	DN33V7LR20	12-24 Vac / 12-30 Vdc	1 x SPDT Relay
2707906	DN33W7HR20	230 Vac	2 x SPDT Relays
2707907	DN33W7LR20	12-24 Vac / 12-30 Vdc	2 x SPDT Relays
2707908	DN33Z7HR20	230 Vac	4 x SPDT Relays
2707909	DN33Z7HB20*	230 Vac	4 x SPDT Relays
2707910	DN33Z7LR20	12-24 Vac / 12-30 Vdc	4 x SPDT Relays
2707911	DN33A7LR20	12-24 Vac / 12-30 Vdc	4 x 10Vdc SSR Outputs
2707912	DN33E7HR20	230 Vac	2 x SPDT Relays + 2 x 10Vdc Outputs
2707913	DN33E7HB20*	230 Vac	2 x SPDT Relays + 2 x 10Vdc Outputs
2707914	DN33E7LR20	12-24 Vac / 12-30 Vdc	2 x SPDT Relays + 2 x 10Vdc Outputs

* Controller has a built-in Real Time Clock

IR33*9 Universal Series – Panel Mount



Cat. No.	Part No.	Power supply	Outputs type
2707915	IR33V9HR20	230 Vac	1 x SPDT Relay
2707916	IR33V9MR20	24 Vac/dc	1 x SPDT Relay
2707917	IR33W9HR20	230 Vac	2 x SPDT Relays
2707918	IR33W9MR20	24 Vac/dc	2 x SPDT Relays
2707919	IR33Z9HR20	230 Vac	3 x SPDT + 1 x SPST Relays
	IR33Z9HB20*	230 Vac	3 x SPDT + 1 x SPST Relays
2707920	IR33Z9MR20	24 Vac/dc	3 x SPDT + 1 x SPST Relays
	IR33A9MR20	24 Vac/dc	4 x 10Vdc SSR Outputs
2707921	IR33E9HR20	230 Vac	1 x SPDT + 1 x SPST Relays + 2 x 10Vdc Outputs
2707922	IR33E9MR20	24 Vac/dc	1 x SPDT + 1 x SPST Relays + 2 x 10Vdc Outputs

* Controller has a built-in Real Time Clock

DN33*9 Universal Series – Din Rail Mount



Cat. No.	Part No.	Power supply	Outputs type
2707923	DN33V9HR20	230 Vac	1 x SPDT Relay
2707924	DN33V9MR20	24 Vac/dc	1 x SPDT Relay
2707925	DN33W9HR20	230 Vac	2 x SPDT Relays
2707926	DN33W9MR20	24 Vac/dc	2 x SPDT Relays
2707927	DN33Z9HR20	230 Vac	4 x SPDT Relays
	DN33Z9HB20*	230 Vac	4 x SPDT Relays
2707928	DN33Z9MR20	24 Vac/dc	4 x SPDT Relays
	DN33A9MR20	24 Vac/dc	4 x 10Vdc SSR Outputs
2707929	DN33E9HR20	230 Vac	2 x SPDT Relays + 2 x 10Vdc Outputs
	DN33E9HB20*	230 Vac	2 x SPDT Relays + 2 x 10Vdc Outputs
2707930	DN33E9MR20	24 Vac/dc	2 x SPDT Relays + 2 x 10Vdc Outputs

* Controller has a built-in Real Time Clock



Cat. No.	Part No.	Type	Temp. Range °C	Specifications	Length: m	Pkt Qty.
2707804	NTC015HP03	Plastic Probe IP67	-50 to +50	10 kΩ @ 25 °C	1.5	1
2707805	NTC015HPAP					10
2707806	NTC030HP03				3	1
2707807	NTC030HPAP					10
2707808	NTC060HP03				6	1
2707809	NTC060HPAP					10
2707732	NTC015WH03	Stainless Steel Probe IP68	-50 to +90		1.5	1
2707722	NTC030WH03				3	
2707723	NTC060WH03				6	
2707831	NTC015HT00	High Temp Plastic Probe IP55	0 to +150	50 kΩ @ 25 °C	1.5	
2707810	NTC030HT00				3	
	NTC060HT00				6	
2707811	NTC060PS00	Product Simulation Probe	-50 to +105	10 kΩ @ 25 °C	6	

Cat. No.	Part No.	Type	Temp. Range °C	Specifications	Length: m
2707765	PTC0150000	Bulb sensor IP65	-50 to +150	1kΩ @ 25°C	1.5

Cat. No.	Part No.	Type	Temp. Range °C	Specifications	Length: m
2707740	PT100000A1	Inox Steel Sensor	-70 to +250	1kΩ @ 25°C	1.5



Cat. No.	Part No.	Type	Temp. Range °C	Humidity range %RH	Output type
2707730	DPWC111000	Wall mount humidity and temperature sensor	-10 to +60	10 to 90	4 - 20mA + NTC
2707851	DPWC115000				0-10V + NTC
2707733	DPPC110000	Industrial wall mount humidity/ temperature sensor	-20 to +70	10 to 90	2 x 4-20mA
2707736	DPPC210000			0 to 100	
	DPDC110000	Duct mount humidity and temperature sensor		10 to 90	
	DPDC210000			0 to 100	



Cat. No.	Part No.	Type	Pressure Range
2707840	SPKT0011C3	4-20 mA pressure transmitter	0 to 10 bar
2707745	SPKT0021C3		-0.5 to 7 bar
2707744	SPKT0031C3		0 to 30 bar
2707842	SPKT00B1C3		0 to 45 bar



Cat. No.	Part No.	Description	Length: m
2707748	SPKC002313	Connector for SPKT transmitter, IP65	2
2707749	SPKC005313		5

The RS485 serial option is used to connect CAREL compatible controllers to a supervisory network via a standard RS485 serial line. The serial cards are used to connect these controllers to a PlantWatchPRO or a PlantVisorPRO.



Cat. No.	Part No.	Description	Suits
2707835	IROPZ48500	RS485 Serial Card	IR33 Universal
2707828	IROPZSER30		DN33 Universal

Cat. No.	Part No.	Description
	CONVO/10A0	PWM to 0-10 V or 4-20 mA output converter
	CONVONOFF0	10 Vdc to ON / OFF relay converter

Cat. No.	Part No.	Description	Suits
2707952	IRTRUES000	IR Remote control	IR33 / DN33 Universal
2707824	IROPZKEY00	Programming key (batteries)	IR33 Platform
2707953	IROPZKEYA0	Programming key (240V)	IR33 Platform
2707716	IRBOX20000	Large mounting box	IR33 with precut hole
2707720	RLY2402HP	Relay 240V coil 2HP 240V switching	

pRack Controller Series – Controller kits



Cat. No.	Part No.	Size	Display	Dig. Output	An. Output	Dig. Input	An. Input
2707866	PRK100X3D0	XXS	Internal	7	1 + 1 PWM	2	2 + 6*
2707867	PRK100X3DK	XXS	Remote	7	1 + 1 PWM	2	2 + 6*
2750440	PRK300S3F0	Small	Internal	8	4	8	5*
2750441	PRK300S3FK	Small	Remote	8	4	8	5*
2750438	PRK300L3F0	Large	Internal	18	6	14 + 4 (230V)	10*
2750439	PRK300L3FK	Large	Remote	18	6	14 + 4 (230V)	10*

* Can also be used as digital input

Kit includes 1 x controller with rack software, 1 x connector kit and 1 x pGD1 display (if not built-in display).

Accessories - pRack Controller Series

NTC Sensors – Temperature



Cat. No.	Part No.	Type	Temp. Range °C	Specifications	Length: m	Pkt. Qty.
2707804	NTC015HP03	Plastic Probe IP67	-50 to +50	10 kΩ @ 25 °C	1.5	1
2707805	NTC015HPAP					10
2707806	NTC030HP03				3	1
2707807	NTC030HPAP					10
2707808	NTC060HP03				6	1
2707809	NTC060HPAP					10
2707732	NTC015WH03	Stainless Steel Probe IP68	-50 to +90		1.5	1
2707722	NTC030WH03				3	
2707723	NTC060WH03				6	

Sensors - Pressure Transmitters



Cat. No.	Part No.	Type	Pressure Range
2707840	SPKT0011C3	4-20 mA pressure transmitter	0 to 10 bar
2707745	SPKT0021C3		-0.5 to 7 bar
2707744	SPKT0031C3		0 to 30 bar
2707842	SPKT00B1C3		0 to 45 bar
2707832	SPKT0013R3	0-5V ratiometric pressure transducer	-1 to 9.3 bar
2707833	SPKT0033R3		0 to 34.5 bar
	SPKT0053P0		-1 to 4.2 bar
2707843	SPKT00B6R3		0 to 45 bar

Connection Cables



Cat. No.	Part No.	Description	Length: m
2707748	SPKC002313	Connector for SPKT transducer, IP65	2
2707749	SPKC005313		5

Control Pre-configuration

This service is offered by Carel to make rack controllers even easier to install. Complete a simple form and Carel will pre-configure your controller as required. Moreover site specific wiring diagrams are also provided, thus eliminating errors, confusion and frustrations. Set point and alarm values are still set by the installer.

Cat. No.	Part No.	Description
2707751	RTPCNFPRK	Pre-configuration of rack controller

Cold Watch Person Trapped Alarm

The trapped personnel alarm kit is a safety system for cool rooms & freezer rooms. It allows personnel trapped inside the cold room to call for help by pressing an emergency button and thus activating the audible signal-warning light on the control panel outside.

The system consists of:

Control unit: to be installed outside of the cold room; fitted with an audible siren and flashing light to signal alarms.

Backup battery: housed inside the control unit, provides power in the event of blackouts.

Emergency button: to be installed inside the cold room, made up of a mushroom-head pushbutton with light. The LED on the mushroom-head pushbutton is on at all times, so the button can be identified even in the dark.



Cat. No.	Part No.	Description
2707846	CM00006236	Cold Watch Person Trapped Alarm
2707847	KTCWPSENGL	Replacement Push Button Kit

PlantWatchPRO3 remote management system

PlantWatchPRO is a monitoring and alarms management solution for small to medium sized installations. It features a colour touch screen, can manage controllers connected to the serial line and will record variables such as temperature, pressure and status. Alarms sent to the PlantWatchPRO from the individual controllers can be managed according to the needs of the user by sending SMS (with optional GSM modem) or emails and activating relays. Information can be extracted directly from the USB ports or remotely on a computer network or even over the internet. It also features a report function, a scheduling function (for defrosts, lights and automatic reports), the possibility to display graphs and to configure different levels of users.



Cat. No.	Part No.	Description
2707776	PW3P000TP000	PlantWatchPRO Panel Mount for 15 devices max
2707777	PW3W000TSI00	PlantWatchPRO Wall Mount for 30 devices max

Accessories -PlantWatchPRO3



Cat. No.	Part No.	Description
2707779	PW3AGSM000	GSM modem for PlantWatchPRO (to enable SMS function)
2707778	PW3AREL000	I/O board with 2 relays for PWPRO3 panel mount
2704514	8760-1000	Belden 8760, 1 pair, 18 AWG screened cable with drain wire
2707760	IOM0023000	I/O module for RS485 line (does not require a serial card) 230V
	IOM0002400	I/O module for RS485 line (does not require a serial card) 24V

Pre-configuration This service is offered by Carel to make PlantWatchPRO even easier to install. Complete a simple form and Carel will pre-configure your PlantWatchPRO as required.

Cat. No.	Part No.	Description
2750414	-RTPCNFPWP	Pre-configuration of PlantWatchPRO

PlantVisorPRO2

PlantVisorPRO2 is a monitoring and alarms management supervisory system designed for both small and large installations to manage all the field devices connected to the serial line. It features an intuitive, effective and pleasant navigation interface with advanced characteristics and is available as a complete all in one touch screen solution or as a box that can be connected to a monitor, a mouse and a keyboard. Monitoring and energy savings management functions, HACCP reports and graphs, alarms management by scheduling the actions to be performed in case of an alarm or event, local and remote connectivity, performance indicator of your installation, activity scheduling and controls for instruments or groups of instruments define and complete the features of PlantVisorPRO. It also integrates the Layout Editor function for the creation of customized floorplans of the installation directly on the supervisory system.



Cat. No.	Part No.	Description
2707772	PP2STGSXE0	PlantVisorPRO2 Embedded Box version with internal modem
2707775	PP2STGSTEO	PlantVisorPRO2 Embedded Touch version with internal modem

Accessories -PlantVisorPRO



Cat. No.	Part No.	Description
2707773	PCACCESSPK	Mouse, keyboard and 17" LCD monitor for PVPRO Embedded
2704514	8760-1000	Belden 8760, 1 pair, 18 AWG screened cable with drain wire
2707760	IOM0023000	I/O module for RS485 line (does not require a serial card) 230V
	IOM0002400	I/O module for RS485 line (does not require a serial card) 24V
	PVUPS00000	Uninterruptible power supply with surge and battery backup protection

Electronic Controls

Carel

Pre-configuration and Floorplan

This service is offered by Carel to make PlantVisorPRO even easier to install. Complete a simple form and Carel will pre-configure your PlantVisorPRO as required and do your floorplan for an easier navigation of the system and management of the devices. Commissioning is also available at additional cost.

Cat. No.	Part No.	Description
2706999	-RTPCNFPP2	Pre-configuration of PlantVisorPRO
	FLOORPLAN	Floorplan for PlantVisorPRO

Cable specifications

For the connection of the RS485 network, Carel recommends the use of the Belden 8760 cable (1 twisted pair, 18 AWG screened cable with drain wire).

pLoads Energy Management Controller

pLoads is the innovative CAREL controller for intelligent management of energy consumption. The controller can be used to program the on and off times for all the loads connected and also cut off the loads based on thresholds set by the user. The pLoads controller can manage up to 12 power meters in a ModBus network, as well as water or gas meters.



Cat. No.	Part No.	Description
	PLO550X30U000	pLoads compact, built in display

Power Meters and Accessories

Cat. No.	Part No.	Description
	MT100D2100	1 Phase power meter
2707931	MT300W1100	3 Phase power meter (Require terminal display)
2707932	MTOPZD0000	User terminal for 3 phase power meter
2707933	MTOPZT1000	100A Current Transformer
2707934	MTOPZT2000	200A Current Transformer
	MTOPZS1000	10A Solid State Relay DIN Rail Mount



pChrono Lighting and Timed Device Management Controller

pChrono is the innovative CAREL controller for managing supermarket lights as well as other loads that require precise and customised scheduling.

Cat. No.	Part No.	Description
	PCH550S31UB00	pChrono small, built in display



Emerson

EC2 Series - Case Controllers



Cat. No.	Model No.	Part No.	Input
2707963	EC2-371	807689	Pressure
			Temperature
2707964	EC2-391	807691	Temperature
			Temperature

Electronic Controls

CPC

CPC by Emerson is a comprehensive control system, commonly used in supermarkets.

Controls



Cat. No.	Part No.	Description	
2707984	834-0410	Control	RX400
2707985	834-0310		RX300
2707986	834-0100		RX100

Control Accessories

Cat. No.	Part No.	Description
2707987	832-4830	Repeater
2707988	637-4890	E2 RS 485 Card
2707989	637-4880	E2 Digital I/O Card

Cards



Cat. No.	Part No.	Description	Cat. No.	Part No.	Description
2707990	810-3064	Multiflex 88 Card	2707995	810-3013	Multiflex 16 Card
2707991	810-3063	Multiflex 88 AO Card	2707996	810-3199	Multiflex ESR-8 Card
2707992	810-3066	Multiflex 168 Card	2707997	810-3006	8RO Card
2707993	810-3065	Multiflex 168 AO Card	2707998	810-3030	4AO Card
2707994	810-3067	Multiflex 168 DO Card			

Sensors / Probes

Cat. No.	Part No.	Description	
2707974	804283	Green 20ft Sensor	
2707975	501-1125	Pipe Sensor	Blue
2707976	501-1126		Red
2707977	501-1129		Green
2707978	501-1127		Orange
2707979	201-5000	High Temp. Sensor	RMCC
2707980	201-1191		E2
2707981	203-5751	RH Sensor	Wall
2707982	203-5754		Outside
2707983	508-9101	Product Simulator	Black

Transformers

Cat. No.	Part No.	Description	
2707999	640-0080	Transformer	ESR 8
2707289	804421		E2
2708000	640-0048		10 Board

Transducers

Cat. No.	Part No.	Description	
2708006	800-2200	Transducer	Suction
2708007	800-2500		Discharge
2708008	800-2650		CO ²

Case Controllers

Cat. No.	Part No.	Description	
2708001	810-3161	Case Controller with Probes	CC-100
2708002	335-3258	Power Lead	
2708003	335-3263	Valve Lead	
2708004	510-3131	2nd Valve Kit	
2708005	814-3110	Hand Held Terminal	



Electronic Controls

Danfoss Controls

Danfoss supply a wide range of products for electronic control of refrigeration applications.

Case Controllers



Cat. No.	Part No.	Model No.	Description
3413017	080G3263	ERC 211 Kit	Temperature Controller
3413018	080G3265	ERC 213 Kit	Temperature Controller
2707332	084B8523	EKC 202C	Refrigeration Controller
2707333	084B8543	EKC 202C-MS	Refrigeration Controller
2707334	084B4162	EKC 302A	Refrigeration Controller
2707335	084B8528	AK-CC 250A	Refrigeration Controller
2707338	084B4165	AK-CC 350	Refrigeration Controller
2707339	084B8030	AK-CC 550A	Refrigeration Controller
3413024	080Z0125	AK-CC 750	Evaporator Controller



Superheat Controllers

Cat. No.	Part No.	Model No.	Description
2707341	084B7086	EKC 315A	Superheat Controller
2707342	084B7088	EKC 316A	Superheat Controller



Liquid Level Controllers

Cat. No.	Part No.	Model No.	Description
3413025	080G5000	EKE 347	Liquid Level Controller

Capacity Controllers

Cat. No.	Part No.	Model No.	Description
	080G0289	AK-PC 351	Capacity Controller
	080G0281	AK-PC 551	Capacity Controller

Electronic Controls



Danfoss

Temperature Sensors



Cat. No.	Part No.	Model No.	Description	Signal	Temperature Range °C
2707347	084N1007	AK-HS 1000	Product Temperature Sensor	PT1000	-30 to 50
2707348	084N1178	EKS 111	Temperature Sensor	PT1000	-55 to 100
2707349	084B4404	EKS 211	Temperature Sensor	PT5000	-40 to 80
2707350	084N0036	AKS 12	Temperature Sensor	PT1000	-40 to 80
2707351	084N0003	AKS 11	Temperature Sensor	PT1000	-50 to 100
2707352	084N0005	AKS 11	Temperature Sensor	PT1000	-50 to 100
2707353	084N0008	AKS 11	Temperature Sensor	PT1000	-50 to 100
2707354	084N2007	AKS 21 M	Temperature Sensor	PT1000	-70 to 180
2707355	084N2017	AKS 21 W	Temperature Sensor	PT1000	-70 to 180

Pressure Sensors

AKS pressure transmitters are designed for precise and energy optimized control. The robust design makes AKS suitable for a wide range of applications, such as:

- Air conditioning systems and refrigeration plants
- Process control applications
- Laboratory applications



Cat. No.	Part No.	Model No.	Description	Signal	Pressure Range: kPa	Maximum Working Pressure: kPa	Connection
2707357	060G0090	AKS 32R	Pressure Transmitter	10 to 90% Supply Voltage	-100 to 3400	5500	1/4" Flare
2707359	060G1036	AKS 32R	Pressure Transmitter	10 to 90% Supply Voltage	-100 to 1200	3300	
2707360	060G1034		5M Cable With Plug For AKS32R				
2707361	060G2069	AKS 32	Pressure Transmitter	1 to 5 volts	-100 to 1200	3300	
2707362	060G2071	AKS 32	Pressure Transmitter	1 to 5 volts	-100 to 3400	5500	
2707363	060G2049	AKS 33	Pressure Transmitter	4 to 20 mA	-100 to 1200	3300	
2707364	060G2045	AKS 33	Pressure Transmitter	4 to 20 mA	0 to 2500	3300	
2707336	060G2051	AKS 33	Pressure Transmitter	4 to 20 mA	-100 to 3400	5500	3/8" BSP
2707344	060G2104	AKS 33	Pressure Transmitter	4 to 20 mA	-100 to 600	3300	
2707358	060G2105	AKS 33	Pressure Transmitter	4 to 20 mA	-100 to 1200	3300	
2707365	060G2107	AKS 33	Pressure Transmitter	4 to 20 mA	-100 to 3400	5500	1/4" Flare
2707366	060G1323	AKS 3000	Pressure Transmitter	4 to 20 mA	-100 to 1200	3300	
2707367	060G1327	AKS 3000	Pressure Transmitter	4 to 20 mA	0 to 3000	5500	3/8" BSP
2707368	060G1041	AKS 3000	Pressure Transmitter	4 to 20 mA	0 to 2500	4000	
2707369	060G1066	AKS 3000	Pressure Transmitter	4 to 20 mA	0 to 4000	10000	

Electronic Controls

PHASEFALE



Phasefale

TACm Room Controller

Cat. No.	Model No.	Description
2700201	TACMV2	Room Controller with 6m sensor



Joule Temperature Room Controller

Cat. No.	Model No.	Description
2707473	JOULET	Room Controller with 6m Sensor and Ethernet



VatPac Milk Vat Controller

Cat. No.	Model No.	Description
2703170	VATPAC	Milk Vat Controller with 6m Sensor

TA-1 Alarm Thermostat

Cat. No.	Model No.	Description
2707472	TA-1	Alarm Thermostat less Sensor

Control Accessories



Cat. No.	Model No.	Description
2704895	MPROBE/6	6m Temperature Sensor
2700209	TACM/PCB	Defrost Option Kit
2700202	TACm - L240V	Warning Light 240Vac
2700203	TACm - B12V	Warning Buzzer 12Vdc

Humidistats

Penn

W42 Humidistat

The W42AA humidistat controls humidifying or dehumidifying equipment or both. The humidistat is a 3-wire device with single-pole, double-throw, snap-acting contacts. The W42 features a human hair sensing element and has a concealed dial lock screw.

Cat. No.	Part No.	Switch Action	Range % RH	Diff. % RH	Voltage
2701168	W42AA-1	SPDT	10 to 90	4	Line or Low

Electrical Rating: Pilot Duty only - 125 VA at 120/240 V.A.C

Maximum Operating Ambient: 38°C

HVAC Controls

Ranco

Cat. No.	Part No.	Range °C	Diff. K	Cap. Length mm	Shaft Length mm	Switching Sequence					
						Switch 'A'			Switch 'B'		
						Terms	Cut-in °C	Cut-out °C	Terms	Cut-in °C	Cut-out °C
2705269	C17-334	9.4	3.6	915	Varifix	2 & 1	18.3	20.3	4 & 5	17.5	21.1
2700130	C17-177	16.7	2	660	16	2 & 3	19.7	17.8	4 & 5	19.7	21.7

Replacements: C17-334 replaces C17-308, 316, 503, 506. C17-177 replaces C17-140

Type A22 Adaptable RAC Thermostat

Cat. No.	Part No.	Switch Action	Temperature °C			Diff. K	Bulb & Capillary	Application
			Cold Out	Cold In	Warm In			
2700144	A22-2453	SPDT	15	17.8	33.3	2.2 Fixed	9.5mm x 100mm 990mm Cap. Cross Ambient	Air Conditioner

Type C12 Thermostat



Cat. No.	Part No.	Range °C	Diff. K	Contacts	Bulb and Capillary	Electrical Rating 240 VAC
2708032	C12-5010	15.6 to 36.7	1.7 Fixed	Close on Temp .Rise	9.5mm x 230mm 660mm Cap. Liquid Filled	FLA 20 LRA 78

Penn

T26 Series Thermostats

T26 Series with thermometer are universal Model for heating, cooling or heating and cooling and include horizontal mounting faceplate kit. Converts to key adjustment by removing and retaining knob for the key.

Cat. No.	Part No.	Type of Adjustment	Application	Range °C	Differential Approx. K	
					Heating	Cooling
Heating and Cooling – Line or Low Voltage						
2701159	T26S-22	Knob	SPDT	5 to 30	1	1.3

T25 Series

Cat. No.	Part No.	Type of Adjustment	Application	Range °C	Differential Approx. K	
					Heating	Cooling
Two Stage – Line or Low Voltage						
2701157	T25B-9101	Knob	2 x SPDT 2 Stage Heat/Cool, Heat/Cool with dead band and auto changeover	5 to 32	1 per Stage 1 to 3 adjust between stages	
2701158	T25B-9102	Concealed				



HVAC Controls

Honeywell

Honeywell

Non Programmable Thermostats

Xe60 Series Line Voltage Thermostat



Cat. No.	Part No.	Application	Stages	Range °C	Amps		Switches
					Res.	Ind.	
1319745	T4360G1006	Heat (or Cool)	1H	10 - 30	16	3	On-Off
2500334	T6360D1008	Cool (or Heat)	1C		10		
1606691	T6360E1005	Heat Pump	1H/1C		10	3	Heat-Off-Cool

Xe70 Series Line Voltage Fan Coil Thermostat



Cat. No.	Part No.	Application	Stages	Range °C	Amps		Switches
					Res.	Ind.	
2707667	T6375C1003	4 Pipe Fan Coil	1H/1C 2H or 2C	10 - 30	6	4	On-Off Fan: 1-2-3
1606693	T6376B1004	Heat Pump Systems	1H/1C	10 - 30	6	4	Heat-Off-Cool Fan: Auto-Cont

DT90 Series Digital Dual Voltage Thermostat



Cat. No.	Part No.	Application	Stages	Range °C	Amps		Switches
					Res.	Ind.	
1319154	DT90A1008	Heat (or Cool)	1H	5 - 35	8	3	On-Off
2707678	DT90E1012						On-Off Eco

TH5000 FocusPRO™ Series Low Voltage Thermostat



Cat. No.	Part No.	Application	Stages	Range °C
1319157	TH5110D1022/U	Conventional or Heat Pump	1H/1C	Heat: 4.5 - 32 Cool: 10 - 37
2707697	TH5220D1029/U		2H/2C 2H/1C	

Programmable Thermostats

TH6000 FocusPRO™ Series Thermostat



Cat. No.	Part No.	Application	Stages	Range °C
1319158	TH6110D1021/U	Conventional or Heat Pump	1H/1C	Heat: 4.5 - 32 Cool: 10 - 37
2707698	TH6220D1028/U		2H/2C 2H/1C	

TH8000 VisionPRO™ Series Touch-Screen Thermostat



Cat. No.	Part No.	Application	Stages	Range °C
1319159	TH8110U1003/U	Conventional or Heat Pump	1H/1C	Heat: 4.5 - 32 Cool: 10 - 37
2707699	TH8320U1008/U		3H/2C 2H/2C	

TB8000 Commercial VisionPRO™ Series Thermostat



Cat. No.	Part No.	Application	Stages	Range °C
2707700	TB8220U1003/U	Conventional or Heat Pump	3H/2C 2H/2C	Heat: 4.5 - 32 Cool: 10 - 37

Low Voltage to Line Voltage Interface



Cat. No.	Part No.	Description
2707634	R4611G2010	Interface Module

TG Series Lockable Thermostat Guards



Cat. No.	Part No.	Dimensions mm	
		Internal	External
2501763	TG511A1000	130 H x 154 W	165 H x 191 W x 75 D
2501764	TG512A1009	149 H x 213 W	184 H x 284 W x 86 D
2707505	191990A	Replacement Key	

HVAC Controls

Honeywell

Honeywell

Domestic Damper Actuators

Honeywell's range of domestic damper motors is designed to suit most domestic applications for zoned control of heating, air conditioning or ventilation systems.



Cat. No.	Part No.	Voltage Nom. Power	Control	Torque: Nm	Timing: s	Mounting	Features
1609192	M447B1005	240Vac 9.2VA	Drive Open Spring Return	0.34	27 drive / 25 return	Female 8mm shaft	-
2704525	M447C1004			0.50	38 drive / 25 return		Gold colour casing
1609193	M847B1014	24Vac 6VA		0.34	27 drive / 25 return		Silver colour casing
2708080	DM2000F1024	24Vac 5VA	Drive Open Drive Closed	2	24	Male 6x6mm Shaft	RJ12 connection
2708081	DM2000F1240	240Vac 5VA					Flying lead
2708082	DM3000M1024	24Vac 5VA					RJ12 connection
2708083	DM3000M1240	240Vac 5VA					Flying lead

Commercial Damper Actuators

Honeywell's range of commercial Direct Coupled Actuators (DCAs) are manufactured for on/off, floating or modulating control of air dampers, ventilation flaps, louvers, VAV units and mounting to ball valves.

Non Spring Return



Cat. No.	Part No.	Voltage Nom. Power	Control	Torque: Nm	Timing / Features	Damper Area	Suit Shaft Dimensions:
2708116	CN7505A2001	24Vac 6VA	Modulating ½ - 10Vdc Floating 2 Position	5	Runtime 90- 110s 0-10Vdc Feedback Signal	<0.75m2	Round: 8-16mm Square: 6-13mm
2708135	CN7510A2001			10		< 1.5m2	
2708136	CN7220A2007			20		<4m2	Round: 10-27mm Square: 10-18mm
2708137	CN6120A1002	Floating	20	Runtime 110s	< 3m2		
2708139	CN4620A1001		20				
2708140	CN4634A1001		230Vac 7VA	34	Runtime 110s	< 6m2	
2708141	CN7234A2008	24Vac 8VA	Modulating ½ - 10Vdc Floating 2 Position	34	Runtime 95s 0-10Vdc Feedback Signal		

Spring Return



Cat. No.	Part No.	Voltage Nom. Power	Control	Torque: Nm	Timing	Damper Area	Features
2708142	CS8110A1206	24Vac 30VA-Run 8VA-Hold	2 position	10	Drive Open 45s Spring Close 20s	< 1.5m2	2 Aux.Switches
2708143	CS4110A1002	230Vac 45VA-Run 13VA-Hold			-		
2708144	CS7510A2206	24Vac 14VA-Run 5VA-Hold	Modulating 0 2 - 10Vdc & Floating		Drive Open 90s Spring Close 20s	2 Aux. Switches	
2708145	CS4120A1001	230Vac 60VA-Run 13VA-Hold	2 position	20	Drive Open 45s Spring Close 20s	<3m2	-
2708151	CS7520A2205	24Vac 16VA-Run	Modulating 0 2 - 10Vdc & Floating		Drive Open 90s Spring Close 20s		2 Aux. Switches Position feedback signal

HVAC Controls

SIEMENS

Siemens

RAA Series Mechanical Room Thermostat



Cat. No.	Model No.	Description	Voltage	Contacts Amps	Switches	Setpoint Range °C	Diff. K	Applications
2707568	RAA11	Heat or Cool Only	24V or 240V	2A SPDT	Tamperproof	8 to 30	1	Heating or Cooling
1606697	RAA21				Adj. Setpoint			
1606698	RAA31				Off/On			
2707582	RAA41				Off/H/C			

RCC Series Electronic Room Thermostat



Cat. No.	Model No.	Description	Voltage	Contacts Amps	Switches	Setpoint Range °C	Diff. K	Applications
2707574	RCC30	T/Stat Elec. S/ Stage On/Off Switch	230V	0.7	On/Off 3 Speed Fan	8 to 30	0.5 to 4	Heating + Cooling

RDG Series Electronic Room Thermostat



Cat. No.	Model No.	Description	Voltage	Contacts Amps	Switches	Setpoint Range °C	Diff. K	Applications
2707575	RDG100	Digital T/Stat with Fan Control	230V	1	On/Off or 3 Position Outputs	5 to 40	1 to 2	Heating + Cooling
2707601	RDG110	Digital T/Stat with Fan Control			On/Off Output			

Remote Sensors

Cat. No.	Model No.	Description
2708077	QAH11	Remote Sensor suit RCC/RDF/RDY Controller

Electronic Universal Controller



Cat. No.	Model No.	Description	Voltage	Features
2706036	SMT920	Digital Heatpump Controller	24 or 230 Vac	1 to 4 stage compressor control, 365 day clock, fan speed control, after hours timer
2708069	RWD82		24 Vac	2 x Digital output or 1 x 3 position output
2708070	RWD62			2 x Analogue output (0-10V DC)



Cat. No.	Model No.	Description	Range °C
2708065	QAA25/AP	Room Temperature Setpoint Adjuster	5 to 35
2708066	QAA24	Wall mounted temp sensor w/o set point	
2708067	QAM2120.040	Duct mounted temp sensor	-30 to 80

Cat. No.	Model No.	Description	Voltage
2708076	SEM62.2	Transformer with on/off switch and fuse	240 - 24 Vac 40 Va

Domestic Air Damper Actuator



Cat. No.	Model No.	Voltage	Drive Conn: size	Torque Rating	Action
2708079	GSD321.1A	240 Vac	8-15mm Round 6-11mm Square	2Nm	2 Position, Non spring return

Air Damper Actuator



Cat. No.	Model No.	Voltage	Drive Conn: size	Torque Rating	Action
2708071	GDB131.1E	24 Vac	8 to 10mm	5Nm	3 Position, Non spring return
2708072	GDB331.1E	240 Vac			3 Position, Non spring return
2708073	GDB161.1E	24 Vac			Modulating, Non spring return

HVAC Controls



Micro Air MIG-Series



Cat. No.	Model No.	Description	Relay Output	Control Inputs	Analogue Outputs
2707493	MIG-C2	2 Stage Programmable Controller	1 X NO/NC	Resistive 0-10v, 4-20mA, 0-20mA	2 X 0-10V @ 100mA
2707494	MIG-C4	4 Stage Programmable Controller	2 X NO/NC		
2707496	MIG-CT5	4 Stage Programmable Controller with Time Switch	2 X NO/NC & 3 NO		

Cat. No.	Model No.	Description
2707500	MIG-PS	Plain faced sensor
2707498	MIG-RO	Sensor with remote offset
2707499	MIG-DS	Duct Sensor



Eberle Room Thermostats



Cat. No.	Part No.	Appl.	Volt.: v	Range °C	Diff.	Neutral Zone	Switches	LED
2705257	RTRE6747	Cool	24 or 240	5 to 30	0.5K	-	-	-
2705256	RTRE6722	Cool (or Heat)				-	-	-
2705250	KLRE7203	4 Pipe Fan Coil Unit or A/C w/out R/Valve	240			2K	Mains: On-Off Fan: High-Med-Low	-
2705246	KLRE7007		24 or 240			-	Mains: On-Off Fan: Continuous- Automatic Heat-Fan-Cool	-
2705252	KLRE7603		Heat Pump			240	2K	-
2705253	KLRE7611	2K					Mains: On-Off	-
2705245	KLRE52552HP	0.5 to 8.5K					Mains: On-Off Fan: High-Med-Low	On-Off

HVAC Controls



Hanwest

HAN-L62 Series



Cat. No.	Part No.	Description	
2703493	HAN-L62/PCB-132HP/10	Controller Kit	2 Stage - Heat Pump
2707783	HAN-L62/PCB-132EH/10		2 Stage - Cool Only with 2 Stage Element Heat
2707784	HAN-L62/WC		Wall Controller Only

Control Upgrade Kits



Cat. No.	Part No.	Description
2703496	HAN-L5 TO HAN-L62	HAN-L5 to HAN-L62 Upgrade Kit

Zone Relay Boards



Cat. No.	Part No.	Description
2703667	PCB-086	6 Zone Relay Board
2703495	PCB-086E	6 Zone Relay Board with Enclosure

Outdoor Unit Defrost Controllers



Cat. No.	Part No.	Description
2703494	HDC-203	Outdoor Unit Defrost Controller

Remote Sensors



Cat. No.	Part No.	Description		Cable Length: m
2707785	RSP10005	Remote Sensor	Wall Mount	5
2707786	RES-05		Duct Mount	
2707788	RES-10			10

RSP-100 and the RES series remote sensors are also available in 15, 20, 25 & 30m cable lengths.

HVAC Controls



Hanwest

DES-201 Series

The DES-201 controller is designed for single stage air cooled heat pump reverse cycle applications and is available in two versions, with or without zone control.

Features

- 3 speed indoor fan control
- 1 - 12 hour on delay/off delay
- Temperature selection in 1/2 degree increments
- Indoor coil warm up sensor
- Power relay module mounted in an enclosure
- Optional remote sensors can be connected
- Mode selection consisting of: Fan Only - Cool - Heat - Auto



Cat. No.	Part No.	Description	
2707787	DES201S/092HPS-1010E	Controller Kit	Without zone control
2707789	DES201Z/092HPZ-1010E		With 2 zone control

WCS-201 Controls

The WCS-201 series is designed for single stage water cooled application such as heat pump reverse cycle or cool only/element heat systems and is available in 2 versions, with or without zones.

Controls



Cat. No.	Part No.	Description
2707790	WCS-201HS	Wall Control Without Zone Control
2707791	WCS-201HZ	Wall Control With 2 Zone Control

Relay Boards



Cat. No.	Part No.	Description	Type	Relays: A
2707792	PCB-079EH/S-3025	Relay Board	Cool Only / Element Heat	30 and 25
2707793	PCB-079EH/S-3010	Relay Board	Cool Only / Element Heat	30 and 10
2707794	PCB-079EH/S-1025	Relay Board	Cool Only / Element Heat	10 and 25
2707795	PCB-079EH/S-1010	Relay Board	Cool Only / Element Heat	10 and 10
2707796	PCB-079HP/S-3010	Relay Board	Heat Pump Reverse Cycle	30 and 10
2707797	PCB-079HP/S-1010	Relay Board	Heat Pump Reverse Cycle	10 and 10

Interface Cables

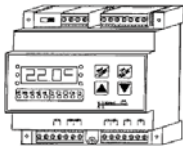


Cat. No.	Part No.	Description	Length: m
2707798	IC-5/8	Interface Cable	5
2707799	IC-10/8	Interface Cable	10

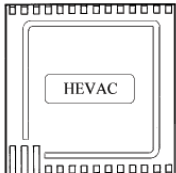
HVAC Controls



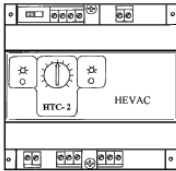
Hevac Digital Series



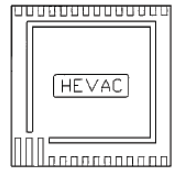
HE-DIGITAL



SRT



HTC-2



Cat. No.	Part No.	Relays	Outputs	Operating Voltage	Temperature Range °C	Time Clock
2708054	HE-DIGITAL	Five On/Off 2 Amp. (res) 240 Vac	Two Analog 0-10 Vdc Heat - Cool	24 Vac or 240 Vac	8 to 33 in 0-1 increments	—
2708055	HE-DIGITAL-TC					2 Channel, 365 Day & Optimiser

Sensors

Cat. No.	Part No.	Description	
2705689	HE-SRT-D	Room Sensor	Non Adjustable
2708056	HE-SRT-DSP		Adjustable Setpoint
2708057	HE-SRTA-D	Averaging Room Sensor	Non Adjustable
2708058	HE-SRTA-DSP		Adjustable Setpoint

HTC Series

Analog Temperature Controllers

Cat. No.	Part No.	Stages	Relay Outputs	Operating Voltage	Temperature Range °C
2702000	HE-HTC-2	1 Heat / 1 Cool	10 Amp. (res) 240 Vac	24 Vac or 240 Vac	16 to 28
2702001	HE-HTC-4	2 Heat / 2 Cool			
2708053	*HE-HTC-3	1 Heat/1 Cool			
2708052	*HE-HTC-5	2 Heat/2 Cool			

Sensors

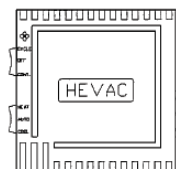
Cat. No.	Part No.	Description	
2702002	HE-SRT-H	Room Sensor	Non Adjustable
2702003	HE-SRT-HSP		Adjustable
2708062	HE-SRTHSPSW		Adjustable with On/Off Switch
2702006	HE-SRTA-H	Averaging Room Sensor	Non Adjustable
2708063	HE-SDT-H	Duct Sensor	
2708064	HE-SPA	Remote Setpoint Adjuster	

*Have Digital temperature display and fan delay

Surface Mount Enclosure

Cat. No.	Part No.	Description
2708059	LP-HTC-ENCL	Suits Digital and HTC Series Controllers

RTC3 Series Electronic Room Thermostats



RTC3

Cat. No.	Part No.	Outputs	Operating Voltage	Switches		Temperature Range °C
				Fan	Mode	
2702004	HE-RTC3-C	1 Heat/1 Cool with Dead	24 Vac or 240 Vac	Cycle/Off/Cont	Heat/Auto/ Cool	16 to 28
2702005	HE-RTC3-V			On/Off/Vent		

HVAC Controls



Regulator TC5044 Control

The TC5044 is a compact pre-programmed stand alone universal controller for the control of temperature, humidity, pressure, flow, CO & CO2 and can replace most other stand alone controllers.



Cat. No.	Part No.	Description
2705810	TC5044	Universal Controller

ET46 Control

The ET46 temperature controller is a direct replacement for the ET45 and is much smaller in size. The controller is housed in a 4 DIN module 70 x 88 x 62 mm enclosure. It comes with its own DIN rail mount or can be mounted on a standard 35mm DIN mounting rail. It has a number of new unique features including a universal power supply which enables the controller to operate on 240 or 24 Vac/dc. The power supply will operate over the range of 18 – 265V AC/DC.



Cat. No.	Part No.	Description
2706212	ET46	Temperature Controller

Remote Sensors - Concealed Adjustment



Cat. No.	Part No.	Description	Temperature Range °C
2705816	TR2100W	Concealed Setpoint Room Sensor	
2707781	TR2104W	Concealed Setpoint Room Sensor	18 to 28

Remote Sensors - Exposed Adjustment



Cat. No.	Part No.	Description	Temperature Range °C
2705817	TR2114W	Exposed Setpoint Room Sensor	18 to 28
2707782	TR2113W	Exposed Setpoint Room Sensor	20 to 25

Smart Sensors

The TR3800 series smart sensors are slim, attractive wall-mounted temperature sensors with excellent temperature sensing due to a tiny fan that draws air in from the bottom of the housing over the sensor and discharges through the top. The fan is located at the top of the housing and draws air through an inlet plenum. The sensor is located at the bottom of the housing in the inlet plenum. The fan also draws air from the electronics section to remove heat. To average the temperature readings in a large zone, up to 4 Smart sensors can be connected to the TC5044 universal controller.

The TR3840 smart sensor has a 2 x 16 character LCD display and four pushbuttons. These are located behind a door with a viewing aperture for the display. The pushbuttons are Raise and Lower for setpoint adjustment, Select pushbutton to enable functions and a System On/Off pushbutton to turn the Air Conditioning System on and off when function Menu 25 or 26 is enabled.



Cat. No.	Part No.	Description	Temperature Range °C
2705813	TR3840	Smart Sensor	10 to 40



HVAC Controls

Tekelek

Evaporative Cooler Parts

200 Series



Cat. No.	Part No.	Model No.	Description
2708155	16-1201	TEK285	Variable Speed Wall Switch
2708156	502-0005-00-S	TEK287	2 Speed Wall Switch
2708157	502-0029-00-S	TEK297	Speed Control Box 240V 9A

400 Series

Cat. No.	Part No.	Model No.	Description
2708158	502-0030-00	TEK400WL	Low Voltage Wiring Loom 20m
2708159	502-0014-00-S	TEK467	Low Voltage Speed Control Box 240V 9A
2708160	16-1253	TEK485	Wall Control Manual Type

600 Series

Cat. No.	Part No.	Model No.	Description
2708161	502-0026-00S	TEK632	Series 600 Cooler Control

Oil Pressure Protection Controls



Emerson

Differential Pressure Control

Cat. No.	Part No.	Differential Pressure kPa			Max. Operating Press. kPa	Max. Test Pressure kPa	Pressure Connection
		Adjustable Cut-out	Factory Setting	Fixed Cut-in Above Cut-out			
2707885	FD113-ZU	30 - 450	70	20 Over Off	80 - 1200	-10 & 2300	1/4" Flare M



Danfoss

Type MP55 Differential Pressure Controls

Cat. No.	Type	Part No.	Time Delay Sec	Range LP Side kPa	Differential kPa	Switch Diff. kPa	Pressure Connection
For Fluorinated Refrigerants							
2706515	MP55	060B017166	60	-100 - 1200	30 - 450	20	1¼" Flare M
2706516	MP55	060B017260	90				
For Ammonia (R717) and Fluorinated Refrigerants							
2707880	MP55A	060B017560	60	-100 - 1200	30 - 450	20	6.5/10mm Weld Nipple
2707881	MP55A	060B017666	90				



Johnson

P28 Series

Cat. No.	Part No.	Time Delay Sec	Heater Circuit Volts	Type of Reset	Range* kPa	Refrig.	Pressure Connection
2701144	P28AA-41	90	120/240 AC	Manual	55 - 483	Non-Corrosive	900mm Cap. with 1/4" Fl. Nut
2705661	P28AA-42	60					
2705662	P28AA-43	120					
2707887	P28AA-44	45					
2705663	P28AN-22	90				Ammonia	1/4" FNPT

P45 Series

For Copeland Application

Cat. No.	Part No.	Time Delay Seconds	Heater Circuit Volts AC	Type of Reset	Factory Setting*		Refrig.	Pressure Connection
					kPa	(psig)		
2707886	P45NCA-12	120	120/240	Manual	62	(9)	Non-Corrosive	900mm Cap. with Fl. Nut 1/4"



DWM Copeland

The monitoring of the force feed lubrication system with an oil pressure control is compulsory for Discus and S – Series compressors.

Cat. No.	Part No.	Description	Suits Model
2707883	3164918	OPS2 Oil Pressure Switch	All Copeland Semi-Hermetic Compressors with Oil Pumps
2707884	3168329	OPS2 Oil Pressure Switch and Sensor Kit	