



SCM CUBO2 Smart Condensing Units User Guide

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SCM CUBO2 Smart Condensing Units



Product Information

The CUBO2 Smart Condensing Units is a range of CO transcritical condensing units that use inverter technology with the Carel Hecu smart control strategy to give lower energy consumption than traditional HFC solutions. With a GWP of 1, R744 systems provide a long-term environmentally friendly solution. The compact condensing unit comes factory pre-set making it easy to install and maintain. The product is available in two configurations: Medium Temperature and Low Temperature. The Medium Temperature model is available in four variants: UMTT 030 MTDX, UMTT 045 MTDX, UMTT 067 MTDX, and UMTT 100 MTDX. The Low-Temperature model is available in three variants: UMTT 030 BTDX, UMTT 045 BTDX, and UMTT 067 BTDX.

Standard Configuration

The standard configuration of the Medium Temperature model is 80 Bar (Liquid Line) / 80 Bar (Suction). The standard configuration of the Low-Temperature model is not specified.

Specifications

Model	P a r t N o.	-15Qo (W)	-10Qo (W)	-5Qo (W)	0 Q o (W)	5 Q o (W)	PeI (W)	*COP	**MEP S	V/Ph/Hz	Conn ectio ns	M E T A	P m ax W
UMTT 030 M TDX	48 00 00	2181	2548	–	29 39	33 62	1419	1.54	1.76	230 / 1+N+PE / 50	K65 Gas Liqui d	M R A A	33 00
UMTT 045 M TDX	48 00 01	3293	3847	–	44 37	50 77	2142	1.54	1.76	230 / 1+N+PE / 50	K65 Gas Liqui d	M R A A	46 50
UMTT 067 M TDX	48 00 02	4722	–	–	55 02	63 59	3090	1.53 / 1.73	1.97 / 2.23	230 / 1+N+PE / 50 / 400 / 3+N+ PE / 50	K65 Gas Liqui d	M R A A	66 30
UMTT 100 M TDX	48 00 03	7047	–	–	82 11	94 91	4612	1.53 / 1.73	1.97 / 2.25	400 / 3+N+PE / 50	–	–	–
UMTT 030 B TDX	48 00 50	3343	3904	–	–	–	2147 / 2149 / 2153	1.56 / 1.70 / 1.81	2.3	230 / 1+N+PE / 50	K65 MRA	–	12 70 0
UMTT 045 B TDX	48 00 51	5049 / 5331 / 5700	3242 / 3250 / 3242	–	–	–	–	1.56 / 1.64 / 1.76	2.3	230 / 1+N+PE / 50	K65 Gas Liqui d	M R A A	73 60
UMTT 067 B TDX	48 00 52	6599 / 7268 / 7797	4902 / 4994 / 5097	1.35 / 1.46 / 1.53	–	–	–	2.24	400 / 3 +N+P E / 50	230 / 1+N+PE / 50	K65 Gas Liqui d	M R A A	10 62 0

Features

- Inverter modulation from 25 to 100% (1500 → 6000 rpm)

Dimensions and Weight

The Medium Temperature model has dimensions of 1150 x 620 x 805 mm and weighs 150 kg. The Low-Temperature model has dimensions of 1545 x 620 x 805 mm and weighs 176 kg.

Sound Pressure

The Medium Temperature model has a sound pressure of dB(A) 38 (@ 10m field). The Low-Temperature model has a sound pressure of dB(A) 41 (@ 10m field).

Usage Instructions

The CUBO2 Smart Condensing Units are designed for use in refrigeration systems. The product comes factory pre-set making it easy to install and maintain. Follow the instructions provided in the product manual for installation and maintenance. The product is available in two configurations: Medium Temperature and Low Temperature. Choose the appropriate configuration based on your refrigeration system requirements. Refer to the product specifications for details on each model and choose the appropriate model based on your specific requirements.

CUBO2 Smart Condensing Units

SCM has developed a range of CO₂ transcritical condensing units that use inverter technology with the Carel Hecu smart control strategy to give lower energy consumption than traditional HFC solutions. This compact condensing unit comes factory pre-set making it easy to install and maintain. With a GWP of 1, R744 systems provide a long-term environmentally friendly solution.



Standard Configuration

- Toshiba DC Brushless Rotary Compressor with Inverter Modulation 25%-100%
- EC Fans
- K65 Connections
- 120 Bar (High-Pressure side) / 80 Bar (Liquid Line) / 80 Bar (Suction)

Model	Part No.	Performan ce at amb. +32°C	Tev (°C)					Connections K65		MRA A	P ma x W
			-15	-10	-5	0	5	Gas	Liqui d		
UMTT 030 M TDX	480000	Qo (W)	2181	2548	2939	3362	3826	3/8"	3/8"	11.6	3300
		Pel (W)	1419	1444	1456	1452	1430				
		*COP	1.54	1.76	2.02	2.32	2.68				
		**MEPS	1.76								
		V / Ph / Hz	230 / 1+N+PE / 50								

Model	Part No.	Performan ce at amb. +32°C	Tev (°C)					Connections K65		MRA A	P ma x W
			-15	-10	-5	0	5	Gas	Liqui d		
UMTT 045 M TDX	480001	Qo (W)	3293	3847	4437	5077	5778	3/8"	3/8"	16.1	4650
		Pel (W)	2142	2180	2198	2192	2159				
		*COP	1.54	1.76	2.02	2.32	2.68				
		**MEPS	1.76								
		V / Ph / Hz	230 / 1+N+PE / 50								

Model	Part No.	Performance at amb. +32°C	Tev (°C)					Connections K65		MRA A	P max W
			-15	-10	-5	0	5	Gas	Liquid		
UMTT 067 M TDX	480002	Qo (W)	4722	5502	6359	7280	8251	3/8"	3/8"	23.1	6630
		Pel (W)	3090	3174	3234	3272	3285				
		*COP	1.53	1.73	1.97	2.23	2.51				
		**MEPS	3.44								
		V / Ph / Hz	230 / 1+N+PE / 50								

Model	Part No.	Performance at t amb +32 °C	Tev (°C)			Connections K65		MRA A	P max W
			-30	-25	-20	Gas	Liquid		
UMTT 045 BTDX	480051	Qo [W]	5049	533 1	5700	3/8"	3/8"	22.9	7360
		Pel (W)	3242	325 0	3242				
		*COP	1.56	1.64	1.76				
		**MEPS	2.3						
		V/Ph/Hz	230 / 1+N+PE / 50						

Model	Part No.	Performance at t amb +32 °C	Tev (°C)			Connections K65		MRA A	P max W
			-30	-25	-20	Gas	Liquid		
UMTT 067 BTDX	480052	Qo [W]	6599	7268	7797	3/8"	3/8"	20.4	10620
		PeI (W)	4902	4994	5097				
		*COP	1.35	1.46	1.53				
		**MEPS	2.24						
		V/Ph/Hz	400 / 3+N+PE / 50						

All model's Inverter modulation from 25 to 100% (1500 → 6000 rpm)



		CO	# Fa		Air Volu		Dimensions	
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Model Fin 4.5m m	Code	2 Bar	ns 230v	Capacity Wa tts 8DT1	me m3/h r	Air Thro w M	H	W	D	Weigh t Kg.
F27HC254 F27 HC364 F27HC 494 F27HC714 F27HC1074 F2 7HC1424	10200050	85	1	1510	900	10.5	41 5	678	33 0	12
	10200051	85	1	1870	900	10.5	41 5	104 8	33 0	13
	10200052	85	2	3060	1800	12.5	41 5	104 8	33 0	19
	10200053	85	2	3480	1800	12.5	41 5	8	33 0	21
	10200054	85	3	5600	2700	14	41 5	141 8	33 0	28
	10200055	85	4	7100	3600	15.5	41 5	8 178 8	33 0	36
							41 5	8	33 0	
Model Fin 6.0m m	Code	CO 2 Bar	# Fa ns 230v	Capacity Wa tts 8DT1	Air Volu me m3/h r	Air Thro w M	Dimensions			Weigh t Kg.
							H	W	D	
F27HC286 F27 HC386 F27HC 556 F27HC856 F27HC1106	10200061	85	1	1610	950	11	41 5	678	33 0	12 18 20 27 34
	10200062	85	2	2600	1900	13	41 5	104 8	33 0	
	10200063	85	2	3100	1900	13	41 5	104 8	33 0	
	10200064	85	3	4880	2850	14	41 5	141 8	33 0	
	10200065	85	4	6300	3800	16	41 5	178 8	33 0	
							41 5	8	33 0	
Model Fin 7.0m m	Code	CO 2 Bar	# Fa ns 230v	Capacity Wa tts 8DT1	Air Volu me m3/h r	Air Thro w M	Dimensions			Weigh t Kg.
							H	W	D	

F30HC5116 F30HC5126 F30HC5216 F30HC5226 F30HC5316	10200090	85	1	2190	1500	17	415	760	451	22 24 38 42 54
	10200091	85	1	2630	1400	15	415	760	451	
	10200092	85	2	4410	3000	20	415	1210	451	
	10200093	85	2	5500	2800	18	415	1210	451	
	10200094	85	3	6400	4500	23	415	1660	451	
							415	0	451	
Model Fin 7.0mm	Code	CO2 Bar	# Fans	Capacity Watts 8DT1	Air Volume m3/hr	Air Throw M	Dimensions			Weight Kg.
							H	W	D	
F30HC6117 F30HC6127 F30HC6217 F30HC6227 F30HC6317 F30HC6327	10200100	85	1	1960	1550	18	415	760	451	21 23 37 41 53 58
	10200101	85	1	2460	1450	16	415	760	451	
	10200102	85	2	3950	3100	21	415	1210	451	
	10200103	85	2	5100	2900	19	415	1210	451	
	10200104	85	3	5800	4650	24	415	1660	451	
	10200105	85	3	7600	4350	22	415	1660	451	
							415	0	451	
							415	0	451	



Model Fin 4.5m m	Code	CO 2 Bar	# Fa ns	Capacity Wat ts 8DT1	Air Volu me m3/h r	Air Thro w M	Dimensions			Weig ht Kg.
							H	W	D	

F31HC1154 F31HC1164 F31HC1254 F31HC1264	10200110	85	1	2840	1650	17	415	760	451	23
	10200111	85	1	3220	1500	15	415	760	451	25
	10200112	85	2	5800	3300	20	415	1210	451	39
	10200113	85	2	7000	3000	18	415	1210	451	44
							415	0	451	
Model Fin 6.0m	Code	CO2 Bar	# Fans	Capacity Watts 8DT1	Air Volume m3/hr	Air Through M	Dimensions			Weight Kg.
							H	W	D	
F31HC2156 F31HC2166 F31HC2256 F31HC2266 F31HC2356	10200120	85	1	2150	1800	19	415	760	451	22
	10200121	85	1	2720	1650	16	415	760	451	24
	10200122	85	2	4340	3600	22	415	1210	451	38
	10200123	85	2	5700	3300	19	415	1210	451	42
	10200124	85	3	6400	5400	25	415	1660	451	54
Model Fin 7.0m	Code	CO2 Bar	# Fans	Capacity Watts 8DT1	Air Volume m3/hr	Air Through M	Dimensions			Weight Kg.
							H	W	D	
F31HC3157 F31HC3167 F31HC3257 F31HC3267 F31HC3357	10200130	85	1	2150	1800	20	415	760	451	21
	10200131	85	1	2720	1650	17	415	760	451	23
	10200132	85	2	4340	3600	23	415	1210	451	37
	10200133	85	2	5700	3300	20	415	1210	451	41
	10200134	85	3	6400	5400	26	415	1660	451	53



Model Fin 4.5mm	Code	CO 2 Bar	# Fa ns 230v	Capacity Wa tts 8DT1	Air Volu me m3/h r	Air Thro w M	Dimensions			Weig ht Kg.
							H	W	D	
SMA21145	10200030	85	1	2070	1200	10	29 2	792 1	68 3	20
SMA21245	10200031	85	1	2490	1100	9	29 2	792	68 3	22
SMA21345	10200032	85	1	2830	1400	9	29 2	113 7	68 3	25
SMA21445	10200033	85	1	3180	1300	9	29 2	113 7	68 3	28
SMA22145	10200034	85	2	4170	2400	12	29 2	134 7	68 3	32
SMA22245	10200035	85	2	5000	2200	11	29 2	134 7	68 3	36
SMA23145	10200036	85	3	6300	3600	13	29 2	190 2	68 3	44
SMA23245	10200037	85	3	7600	3300	12	29 2	190 2	68 3	50

Model Fin 7.0mm	Code	CO 2 Bar	# Fans 230v	Capacity Watts 8DT1	Air Volume m3/hr	Air Throw M	Dimensions			Weight Kg.
							H	W	D	
SMA31170	10200040	85	1	1560	1300	11	292	7921	683	19
SMA31270	10200041	85	1	2050	1200	10	292	7921	683	20
SMA31370	10200042	85	1	2160	1450	10	292	1137	683	25
SMA31470	10200043	85	1	2680	1400	9	292	1137	683	28
SMA32170	10200044	85	2	3120	2600	13	292	1347	683	30
SMA32270	10200045	85	2	4130	2400	12	292	1347	683	33
SMA33170	10200046	85	3	4780	3900	14	292	1902	683	42
SMA33270	10200047	85	3	6200	3600	13	292	1902	683	46
SMA34170	10200048	85	4	6400	5200	15	292	2457	683	54



Model Fin 3 .0mm	Code	CO2 Bar	# Fans 230v	Capacity Watts 8DT1	Air Volume m3/hr	Air Throat M	Dimensions			Weight Kg.
							H	W	D	
FHA4032	10200001	85	1	1550	650	8	260	740	555	13
FHA6032	10200002	85	2	2510	1100	9	260	920	555	19
FHA8032	10200003	85	2	3060	1300	9	260	1170	555	24
FHA12032	10200004	85	3	4730	1950	10	260	1640	555	34
FHA16032	10200005	85	4	6200	2600	11	260	2010	555	44

Model Fin 4 .5mm	Code	CO2 Bar	# Fans 230v	Capacity Watts 8DT1	Air Volume m3/hr	Air Throat M	Dimensions			Weight Kg.
							H	W	D	
FHA2750	10200011	85	1	1390	720	9	260	740	555	12
FHA4150	10200012	85	2	2270	1200	10	260	920	555	18
FHA5350	10200013	85	2	2820	1440	10	260	1170	555	22
FHA7950	10200014	85	3	4300	2160	11	260	1640	555	32
FHA10650	10200015	85	4	5700	2880	12	260	2010	555	42

Model Fin 7 .0mm	Code	CO2 Bar	# Fans 230v	Capacity Watts 8DT1	Air Volume m3/hr	Air Throat M	Dimensions			Weight Kg.
							H	W	D	
FHA2880	10200022	85	2	1740	1340	11	260	920	555	17
FHA3580	10200023	85	2	2180	1500	11	260	1170	555	21
FHA5280	10200024	85	3	3260	2250	12	260	1640	555	30
FHA7080	10200025	85	4	4390	3000	13	260	2010	555	40



Model Fin 3.0mm	Code	C O 2 Bar	# Fans 2 30v	Capacity	Watts	Air Volume m ³ /hr	Air Thro w M	Capacity Watts		Air Volume m ³ /hr	Air Thro w M	Dimensions FHD			Weight FHD Kg.
				H Speed	8 DT1			L Speed	8 DT1			H	W	D	
FHD7113	10200160	85	1	1100	3060	1800	2 x 11	870	2670	1400	2 x 9	263	888	886	23
FHD7123	10200161	85	1	1100	3790	1800	2 x 11	870	3290	1400	2 x 9	263	888	886	24
FHD7213	10200162	85	2	1100	6200	3600	2 x 12	870	5400	2800	2 x 9	263	1443	1443	26
FHD7223	10200163	85	2	1100	7800	3600	2 x 12	870	6800	2800	2 x 9	263	1443	1443	42

Model Fin 4.5mm	Code	C O 2 Bar	# Fans 2 30v	Capacity W atts		Air Volume m ³ /hr	Air Thro w M	Capacity Watts		Air Volume m ³ /hr	Air Thro w M	Dimensions FHD			Weight FHD Kg.
				H Speed	8 DT1			L Speed	8 DT1			H	W	D	
FHD8114 FHD8124 FHD8214 FHD8224	10200170	85	1	1100	1520	1900	2 x 11	870	2240	1500	2 x 9	263	888	886	21
	10200170	85	1	1100	3490	1900	2 x 11	870	3080	1500	2 x 10	263	888	886	22
	10200170	85	2	1100	5100	3800	2 x 13	870	4490	2900	2 x 9	263	1443	886	35
	10200170	85	2	1100	7200	3500	2 x 12	870	6300	3500	7.5	263	1443	886	38
	10200170	85	2	1100	7200	3500	2 x 12	870	6300	3500	2 x 10	263	1443	886	38

Model Fin 7.0mm	Code	C O 2 Bar	# Fans 2 30v	Capa city	Watts	Air V olum e m 3/hr	Air Thro w M	Capacity Watts		Air V olum e m3 /hr	Air Thro w M	Dimensions FHD			Weigh t FHD Kg.
				H Spee d	8 D T1			L Spe ed	8 DT 1			H	W	D	
FHD9117	10200180	85	1	1100	1770	2000	2 x 19	870	1590	1600	2 x 10	263	888	886	19
FHD9127	12022181	85	1	1100	2740	2000	2 x 21	870	2440	1600	2 x 11	263	888	886	21
FHD9217	13844182	85	2	1100	3550	4000	2 x 14	870	3180	3100	2 x 11	263	1443	886	32
FHD9227	15666183	85	2	1100	5600	4000	2 x 14	870	4900	3100	2 x 11	263	1443	886	35



- Dimension: mm 1545 x 620 x 805
- Weight: kg 176
- Sound Pressure: dB(A) 41 (@ 10m field)
- PED: 1

Key Features

New super-efficient TURBOCOIL 2 Heat Exchanger – high-efficiency small-diameter copper tubes with tubulated aluminum fins. The suction pressure gauge connection allows checking of suction pressure and correct performance of the unit cooler.

- Reduced dehumidification
- Reduced frost formation
- Increased air throw
- Greatly reduced internal volume
- Low noise levels
- Low energy consumption
- Very compact overall dimensions

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Carel Hecu – Real capacity modulation for CO₂ condensing units

Manufactured by Carel, the Hecu controller provides control for commercial condensing units ensuring a highly efficient system. It has now evolved to work with CO₂. By using DC inverter compressors, the Carel Hecu system can offer real modulation of cooling capacity to achieve low energy consumption at part loads. The high performance attainable with CO₂ means the system complies with the Ecodesign directive on energy performance. Hecu has real-time communication with the evaporator controllers, allowing the implementation of advanced system optimization, with dynamic set points and extremely stable control to ensure perfect food preservation and reduce food waste. Hecu also incorporates an oil recovery mode ensuring the compressor operates effectively and reliably. The CUBO₂ Smart units by SCM Frigo include all the controls and valves necessary to control the condensing unit in subcritical and transcritical operations. It is recommended that the cold room or cabinet should be connected to a Carel controller to fully benefit from the integrated and optimized control system. This would comprise of:

- Coldroom – UltraCella + EVD module + E2V expansion valve or FastLine control panel + E2V expansion valve

- Cabinet – MPX PRO + EV + related probes and cables

If required the CUBO₂ Smart can operate with a 3rd party controller fitted to the cabinet or cold room.



Cold Room Package

Ultracella is a wall-mounted cold room controller that, when combined with additional modules, controls the functions of the cold room including the E2V expansion device. When networked to other cold room/cabinet controllers and the CUBO₂ Smart, the system provides a fully integrated control solution with features such as smooth lines and floating suction pressure (the latter provides further energy savings). In addition, the EVD Module is required for all installations and controls the expansion valve(s), and includes an internal transformer. As an option, we offer a power module to provide electrical overload protection for the cold room.

P/N	Description	Qty	Notes	Full P/N	Part No
WB000**0 F0 MX30 M25HO0	Cold room controller 230 Vac power supply, 6 relays, 0...10 V analog output, 3 NTC/PT1000 inputs, NTC/0...10 V input, 4...20 mA/0...5 Vrat input, 3 multifunction digital inputs, RTC, screw terminals. Purpose:Cold room controller.	1	** = DW → LED display double row, white LEDs	WB000DW0F0	58963
WM00EU*000	Ultra EVD expansion valve module , 230 Vac power supply, with Ultracella. Purpose:Driver for EEV on evaporator	1	* = N → blind, UltraCella combined modular mounting → EEV commissioning by UltraCella	WM00EUN000	58964

WM00P00 0NN	Ultracella Power Module	1	Power Module Main Switch	WM00P00 0NN	58959
E2VxxZyy 13	E2Vxx Smart Z with integrated orifice, without sight glass, with bipolar stator hermetic IP69K, with cable 0,3 mt and superseal connector IP67. Purpose: EEV on evaporator.	1	xx = 03 → orifice size 3 yy = WF → fitting 1/2"-1/2" ODF	E2V03ZW F13	58966
			xx = 05 → orifice size 5 yy = WF → fitting 1/2"-1/2" ODF	E2V05ZW F13	58968
			xx = 09 → orifice size 9 yy = WF → fitting 1/2"-1/2" ODF	E2V09ZW F13	58970
			xx = 11 → orifice size 11 yy = WF → fitting 1/2"-1/2" ODF	E2V11ZW F13	58972
			xx = 14 → orifice size 14 yy = WF → fitting 1/2"-1/2" ODF	E2V14ZW F13	58974
			xx = 18 → orifice size 18 yy = WF → fitting 1/2"-1/2" ODF	E2V18ZW F13	58976
			xx = 24 → orifice size 24 yy = SM → fitting 16mm(5/8")- 16mm(5/8") ODF	E2V24ZS M13	58979
E2VCABS *10	Bipolar valve cable shielded with superseal connector IP67. To connect expansion valve to EEV driver.	1	* = 3 → cable 3 mt	E2VCABS 310	58980
			* = 6 → cable 6 mt	E2VCABS 610	58955
			* = 9 → cable 9 mt	E2VCABS 910	58981
SPKT00G 1S0	Pressure transducers "S" series steel: 1/4" SAE female fitting with deflector, 7/16" -20 UNF, PACKARD connector (single package), 0 to 5 Vdc ratiometric pressure transducers, 0 to 60 barg (0 to 870 psig). Purpose: Pressure transducer for superheat control (to MPXPRO)	1		SPKT00G 1S0	58991

P/N	Description	Qty	Notes	Full P/N	Part No
SPKC00**10	IP67 cable with co- moulded PA CKARD connector for SPKT*. To connect transducer to EVD/ NPX pro driver.	1	** = 53 → cable 5 mt	SPKC005310	5459
			** = A3 → cable 12 mt	SPKC00A310	58984
NTC0**HF01	NTC sensor IP 67 , fast reading , strap-on. Purpose: Temperature sensor on evaporator outlet pipe for EEV control.(to EVD module)	1	** = 60 → cable 6,0 mt	NTC060HF00	5672
NTC0**HP00	NTC sensor IP 67 , -50T105 °C (on air). Purpose: Sensor for air and defrost temperature.	2	** = 60 → cable 6,0 mt	NTC060HP00	5594

An alternative option to the UltraCella controller is to use our Fastline cold room control panel to save on-site wiring time. The panel incorporates the Carel MPXPRO for accurate EEV control, display, and MCBs for individual evaporator fans, defrost heaters, cold room lights, and drain heater protection, with LED indicators for panel life and defrost. The panel cuts installation time significantly and provides the ultimate ready-to-go solution.

Fastline Control Panel

Code	Description
58814	1PH Glass re-enforced plastic Fastline control panel
58814P	1PH Polymer enclosure Fastline control panel
58815	3PH Glass re-enforced plastic Fastline control panel
58815P	3PH Polymer enclosure Fastline control panel
58816	Twin evaporator Fastline control panel

Code	Description
58992	Carel Hecu User Terminal PGD Evolution
5440	Carel S900CONN003 Tele cable 6m

WB000DW0F0 Cold Room Controller



WM00EU*000 Ultra EVD Expansion Module



E2Vxx2YY13 Expansion Valve



SPKT00G1S0 Pressure Transducer



Cabinet Package

MPXpro is a DIN rail-mounted cabinet controller that, when combined with additional modules, controls the functions of the cabinet including the E2V expansion device. When networked to other cabinet/cold room controllers and the CUBO₂ Smart, the system provides a fully integrated control solution with features such as smooth lines temperature control and floating suction pressure (the latter providing further energy savings). MPXpro includes the EVD Module which controls the expansion valve(s). As an option, we offer a power module to provide electrical overload protection for the cold room.

P/N	Description	Qty	Notes	Full P/N	Code
MX30M25HO0	MPXPRO step3 with vertical out, silk-screened connectors, Master 5 relays, 115 to 230 Vac power supply, EXV driver, ultracap. Purpose: Cabinet control with integrated driver for EEV.	1		MX30M25HO0	5906
IR00UGC300	User terminal (green LEDs, Keypad, Buzzer, Commissioning port, IR)	1		IR00UGC300	5907
			xx = 03 → orifice size 3 yy = WF → fitting 1/2"-1/2" ODF	E2V03ZW F13	58966
			xx = 03 → orifice size 3 yy = SF → fitting 12mm-12mm	E2V03ZSF 13	58967
			xx = 05 → orifice size 5 yy = WF → fitting 1/2"-1/2" ODF	E2V05ZW F13	58968
			x = 05 → orifice size 5 yy = SF → fitting 12mm-12mm	E2V05ZSF 13	58969

E2VxxZyy 13	E2Vxx Smart Z with integrated orifice, without sight glass, with bipolar stator hermetic IP69K, with cable 0,3mt and superseal connector IP67. Purpose:EEV on evaporator.	1	xx = 09 → orifice size 9 yy = WF → fitting 1/2"-1/2" ODF	E2V09ZW F13	589 70
			xx = 09 → orifice size 9 yy = SF → fitting 12mm-12mm	E2V09ZSF 13	589 71
			xx = 11 → orifice size 11 yy = WF → fitting 1/2"-1/2" ODF	E2V11ZW F13	589 72
			xx = 11 → orifice size 11 yy = SF → fitting 12mm-12mm	E2V11ZSF 13	589 73
			xx = 14 → orifice size 14 yy = WF → fitting 1/2"-1/2" ODF	E2V14ZW F13	589 74
			xx = 14 → orifice size 14 yy = SF → fitting 12mm-12mm	E2V14ZSF 13	589 75
			xx = 18 → orifice size 18 yy = WF → fitting 1/2"-1/2" ODF	E2V18ZW F13	589 76
			xx = 18 → orifice size 18 yy = SF → fitting 12mm-12mm	E2V18ZSF 13	589 77
			xx = 24 → orifice size 24 yy = SF → fitting 12mm-12mm	E2V24ZSF 13	589 78
			xx = 24 → orifice size 24 yy = SM → fitting 16mm(5/8")- 16mm(5/8") ODF	E2V24ZS M13	589 79
E2VCABS *10	Bipolar valve cable shielded with superseal connector IP67	1	* = 9 → cable 9 mt	E2VCABS 910	589 81

SPKT00G 1S0	Pressure transducers "S" series steel: 1/4" SAE female fitting with deflector, 7/16" -20 UNF, PACKARD connector (single package), 0 to 5 Vdc ratiometric pressure transducers, 0 to 60 barg (0 to 870 psig). Purpose: Pressure transducer for superheat control (to MPXPRO)	1		SPKT00G 1S0	589 91
SPKC00** 10	IP67, cable with co-moulded PACKARD connector for SPKT*	1	** = 53 → cable 5 mt	SPKC0053 10	545 9
			** = A3 → cable 12 mt	SPKC00A 310	589 84
NTC0**HF 01	NTC sensor IP67, fast reading, strap-on, -50T105 °C. Purpose: Temperature sensor on evaporator outlet pipe for EEV control. (to MPXPRO)	1	** = 60 → cable 6,0 mt	NTC060H F00	567 2
NTC0**HP 00	NTC sensor IP67, -50T105 °C (on air). Purpose: Temperature sensor for air and defrost control. (to MPXPRO)	2	** = 60 → cable 6,0 mt	NTC060H P00	559 4

Bacharach Refrigerant Leak Detection

Human safety is a common reason for refrigerant leak detection in cold rooms and walk-in freezers. This is because refrigerant leaks can create a risk of asphyxiation in an enclosed space. Bacharach has a number of solutions for refrigeration systems using HFC refrigerants and those using natural refrigerants such as CO₂, assisting in compliance with regulations including ASHRAE 15 and EN378. The MGS-150 Gas Detector can meet almost any gas detection need with multiple sensor options for real-time monitoring of refrigerants, oxygen, and combustible and toxic gases. It includes user-selectable current or volt analog outputs, allowing connectivity to most BMS, SCADA, or central control systems. Status LEDs and a buzzer are integrated for local alarm while an onboard relay with a user-adjustable set-point can connect to external visual/audible alarms. A variety of enclosure options, including an economical IP41 housing and a dust/water-tight IP66 housing, allow the MGS-150 transmitters to be placed in the toughest environments. Special remote sensor configurations are available for applications where mounting in vent pipes, ductwork, or other tight spaces is required. In situations where the total charge volume of R744 is more than the limit of 0.1kg for every cubic meter of enclosed space (cold room/plant room size) a leak detection system is required. We can provide a charge calculator to assist in this calculation



K65 Copper Tube

Code	Description
58992	Carel Hecu User Terminal PGD Evolution
5440	Carel S900CONN003 Tele cable 6m

K65 Copper Tube

Code	Description	PS	Metres
181900	1/2" x 0.6mm x 6m	80 Bar	6
181910	3/8" x 0.65mm x 5m	120 bar	5

Insulation

Code	Description
6963	Armatflex 3/8 x 3/4 Wall Class O 2 Metre
6964	Armatflex 1/2 x 3/4 Wall Class O 2 Metre

K65 Copper Fittings

Code	Description	PS
182000	K65 3/8" 90Deg Long Radius Elbow CxC	120 bar
182001	K65 1/2" 90Deg Long Radius Elbow CxC	120 bar
182020	K65 3/8" Coupling with Stop	120 bar
182021	K65 1/2" Coupling with Stop	120 bar
182007	K65 3/8" Equal Tee	120 bar
182008	K65 1/2" Equal Tee	120 bar
138410	K65 1/2" P-Trap	120 bar
138408	K65 3/8" P-Trap	120 bar
182115	K65 1/2" x 3/8" Reducing Coupler	120 bar

Klo-Shure Clamps

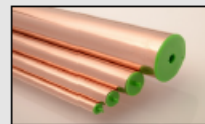
Part No	Description
150030	Klo-shure Clamp Assembly 3/8 - 3/4 wall
150031	Klo-shure Clamp Assembly 1/2 - 3/4 wall

Brazing Rod

Code	Description
6837	JM Sil-Fos (5%) Rod 2.5mm x 600mm

CO₂ Refrigerant

Code	Description	Rental Period
H642746	7kg Dual Port	1 Month



K65 Copper Tube



K65 Copper Fittings



K65 P Trap



Klo Shure Clamps



CO₂ Refrigerant

Oil

Code	Description
71200	PAG VG 100

Condensing Unit Cage

Code	Description
4521	Cond Unit Cage H1120mm x W1120mm x D640mm

Condensing Unit Brackets

Code	Description
B6382	Aspen Xtra B-Quick Bracket up to 220kg

Tools

Code	Description
45925	Yellow Jacket Titan CO ₂ Manifold gauge with (3) black and (1) yellow hose
600667	Gas Arc 100 Bar Nitrogen Regulator
6313	ITE Charging scales 150kg
93265	Yellow Jacket 4CFM dual voltage Vac pump
21922	CO ₂ Charging Line

Cable

Code	Description
110622	18 AWG Foil Screened data cable 600V rated

Anti Vibration Pads

Code	Description
1496	500 (L) x 50 (W) x 15 (H)
1495	1200 (L) x 75 (W) x 15 (H)

PPE

Code	Description
A120	Gloves
140893	Safety Glasses
633815	Ear Defenders SNR 2db

Leak Detection

Code	Description
6300-2091	MGS-150 IP66 Stand-alone CO ₂ sensor
6300-1091	MGS-150 IP41, Stand-alone CO ₂ sensor



PAG VG 100



CO₂ Charging Line



Yellow Jacket Titan CO₂ Manifold gauge



ITE Charging scales 150kg



Foil Screened Data Cable



MGS150 Bacharach leak detection



Armatflex Insulation

Documents / Resources



[SCM CUBO2 Smart Condensing Units \[pdf\] User Guide](#)

CUBO2 Smart Condensing Units, CUBO2, Smart Condensing Units, Condensing Units