



# TOTAL COOLING PACKAGE

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## SCROLL CONDENSING UNIT

Energy efficient  
ECO design compliant

Corrosion resistant  
Blue fin condenser coil

Multi refrigerant

Fan speed controller

Adjustable HP / LP switch



Low noise levels

Wide application range

Copeland scroll compressor

External mains isolator

Liquid line drier and sight glass

KD Scroll condensing units are ideally suited to convenience stores, forecourts and cold room applications, particularly for outdoor installation in noise sensitive locations.

### R404A - Medium temperature -20 to +10 °C

Model	Capacity (watts) - Evap Temp °C						
	10	5	0	-5	-10	-15	-20
1PAL015M1	4893	4200	3550	3000	2495	2015	1650
1PAL020M1	6800	5800	4950	4150	3450	2815	2260
1PAL020M3	6800	5800	4950	4150	3450	2815	2260
1PAL025M1	7900	6800	5850	4950	4150	3450	2820
1PAL025M3	7900	6800	5850	4950	4150	3450	2820
1PAL030M1	9600	8250	7100	6000	5000	4150	3400
1PAL030M3	9600	8250	7100	6000	5000	4150	3400
1PAL036M1	11300	9750	8350	7000	5900	4900	4000
1PAL036M3	11300	9750	8350	7000	5900	4900	4000
1PAL040M3	12640	10850	9350	7960	6660	5550	4560
2PAL050M3	15900	13650	11800	10050	8400	7000	5750
2PAL075M3	20900	17950	15300	13100	11100	9210	7580
2PAL090M3	27100	23700	20300	17400	14750	12250	10100
2PAL100M3	31400	27400	23800	20100	17000	14050	11500

### R407F - Medium temperature -15 to +5 °C

1PAL015M1	-	3680	3120	2630	2210	1840	-
1PAL020M1	-	5800	4580	4050	3350	2740	-
1PAL020M3	-	5800	4580	4050	3350	2740	-
1PAL025M1	-	6650	5650	4700	3900	3150	-
1PAL025M3	-	6650	5650	4700	3900	3150	-
1PAL030M1	-	8450	7150	5950	4900	3950	-
1PAL030M3	-	8450	7150	5950	4900	3950	-
1PAL036M1	-	9600	8050	6700	5550	4550	-
1PAL036M3	-	9600	8050	6700	5550	4550	-
1PAL040M3	-	10700	9000	7550	6250	5100	-
2PAL050M3	-	14000	11950	10050	8350	6900	-
2PAL075M3	-	18400	15600	13150	10900	8800	-
2PAL090M3	-	26100	22400	18800	15550	12350	-
2PAL100M3	-	28500	24400	20400	16850	13500	-

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## SCROLL CONDENSING UNIT

### R449A - Medium temperature -20 to +10 °C

Model	Capacity (watts) - Evap Temp °C						
	10	5	0	-5	-10	-15	-20
1PAL015M1	5110	4220	3510	2910	2430	2010	1630
1PAL020M1	6930	5910	4940	4110	3370	2720	2140
1PAL020M3	6930	5910	4940	4110	3370	2720	2140
1PAL025M1	7750	6620	5590	4660	3840	3130	2500
1PAL025M3	7750	6620	5590	4660	3840	3130	2500
1PAL030M1	9950	8520	7210	6020	4980	4050	3240
1PAL030M3	9950	8520	7210	6020	4980	4050	3240
1PAL036M1	11700	9990	8430	7020	5800	4720	3780
1PAL036M3	11700	9990	8430	7020	5800	4720	3780
1PAL040M3	12650	10850	9180	7710	6410	5260	4260
2PAL050M3	16700	14150	12050	10100	8390	6860	5430
2PAL075M3	21700	18650	15800	13330	11110	9060	7180
2PAL090M3	28300	24500	20800	17600	14600	11850	9340
2PAL100M3	33400	28800	24500	20600	17100	13900	11000

### R134A - Medium temperature -15 to +10 °C

1PAL015M1	3500	2950	2465	2035	1660	1335	-
1PAL020M1	4850	4050	3350	2720	2185	1740	-
1PAL020M3	4850	4050	3350	2720	2185	1740	-
1PAL025M1	5500	4600	3800	3100	2500	1985	-
1PAL025M3	5500	4600	3800	3100	2500	1985	-
1PAL030M1	6900	5800	4800	3900	3150	2505	-
1PAL030M3	6900	5800	4800	3900	3150	2505	-
1PAL036M1	8050	6750	5550	4550	3650	2900	-
1PAL036M3	8050	6750	5550	4550	3650	2900	-
1PAL040M3	9250	7750	6450	5250	4250	3350	-
2PAL050M3	11450	9550	7950	6500	5250	4150	-
2PAL075M3	14900	12700	10650	8850	7250	5850	-
2PAL090M3	19650	16600	13800	11350	9210	7380	-
2PAL100M3	22500	19000	15800	13000	10550	8450	-

### R404A - Low temperature -20 to -40 °C

Model	Capacity (watts) - Evap Temp °C				
	-20	-25	-30	-35	-40
1PAL030L3	3350	2740	2220	1770	1380
1PAL035L3	4050	3350	2735	2200	1730
1PAL040L3	4800	3900	3150	2500	1940
2PAL050L3	5900	4850	3900	3100	2375
2PAL060L3	6800	5650	4600	3700	2900
2PAL075L3	8400	6950	5650	4550	3500

### R449A - Low temperature -20 to -40 °C

Model	Capacity (watts) - Evap Temp °C				
	-20	-25	-30	-35	-40
1PAL030L3	3350	2720	2180	1710	1320
1PAL035L3	4090	3340	2700	2140	1660
1PAL040L3	4800	3890	3110	2440	1860
2PAL050L3	5860	4760	3810	3000	2320
2PAL060L3	6820	5560	4470	3520	2670
2PAL075L3	8560	6980	5620	4450	3460

### R407F - Low temperature -20 to -40 °C

1PAL030L3	3150	2580	2040	1585	1280
1PAL035L3	3950	3200	2540	1980	1595
1PAL040L3	4620	3720	2930	2290	1850
2PAL050L3	5550	4330	3510	2790	2300
2PAL060L3	6600	5350	4250	3400	2765
2PAL075L3	8270	6720	5360	4250	3480

## SCROLL CONDENSING UNIT

### Electrical data

Model	Compressor model	Current		Power supply voltage
		LRA	FLA	
1PAL015M1	ZS11KAE-PFJ	35	7.7	230.1.50
1PAL020M1	ZB15KQE-PFJ	58	11.9	230.1.50
1PAL020M3	ZB15KQE-TFD	26	4.5	400.3.50
1PAL025M1	ZB19KQE-PFJ	61	13.1	230.1.50
1PAL025M3	ZB19KQE-TFD	32	4.5	400.3.50
1PAL030M1	ZB21KQE-PFJ	82	13.8	230.1.50
1PAL030M3	ZB21KQE-TFD	40	6.6	400.3.50
1PAL036M1	ZB26KQE-PFJ	97	16.0	230.1.50
1PAL036M3	ZB26KQE-TFD	46	5.8	400.3.50
1PAL040M3	ZB29KQE-TFD	50	7.1	400.3.50
2PAL050M3	ZB38KQE-TFD	65.5	9.0	400.3.50
2PAL075M3	ZB48KQE-TFD	101	12.2	400.3.50
2PAL090M3	ZB66KQE-TFD	111	17.5	400.3.50
2PAL100M3	ZB76KQE-TFD	118	17.9	400.3.50
1PAL030L3	ZF09KQE-TFD	40	4.6	400.3.50
1PAL035L3	ZF11KQE-TFD	46	5.7	400.3.50
1PAL040L3	ZF13KQE-TFD	51.5	7.1	400.3.50
2PAL050L3	ZF15KQE-TFD	64	8.6	400.3.50
2PAL060L3	ZF18KQE-TFD	74	8.9	400.3.50
2PAL075L3	ZF24KQ E-TFD	102	11.9	400.3.50

### Dimensional data

Model	Dimensions (mm)			Weight (kg)	Connections (inch)*		Receiver Volume (l)	No of fans & wattage	Noise level dB (a)
	Width	Depth	Height		Suct	Liq			
1PAL015M1	951	373	811	72	5/8	3/8	2.3	1 x 110	32
1PAL020M1	1000	400	815	91	5/8	3/8	2.8	1 x 110	32
1PAL020M3	1000	400	815	91	5/8	3/8	2.8	1 x 110	32
1PAL025M1	1000	400	815	91	5/8	3/8	2.8	1 x 110	32
1PAL025M3	1000	400	815	91	5/8	3/8	2.8	1 x 110	32
1PAL030M1	1000	400	865	97	5/8	3/8	2.8	1 x 120	39
1PAL030M3	1000	400	865	97	5/8	3/8	2.8	1 x 120	39
1PAL036M1	1000	400	865	100	3/4	3/8	4.1	1 x 120	39
1PAL036M3	1000	400	865	100	3/4	3/8	4.1	1 x 120	39
1PAL040M3	1000	400	865	104	3/4	3/8	4.1	1 x 120	39
2PAL050M3	1000	400	1164	122	7/8	1/2	7.3	2 x 110	40
2PAL075M3	1285	425	1169	173	7/8	5/8	7.8	2 x 110	40
2PAL090M3	1323	458	1364	230	1.1/8	5/8	12.0	2 x 120	40
2PAL100M3	1635	505	1364	252	1.1/8	5/8	12.0	2 x 120	40
1PAL030L3	1000	400	865	95	3/4	3/8	4.1	1 x 120	39
1PAL035L3	1000	400	865	97	3/4	3/8	4.1	1 x 120	39
1PAL040L3	1000	400	865	108	7/8	3/8	4.1	1 x 120	39
2PAL050L3	1000	400	1164	122	7/8	1/2	7.3	2 x 110	40
2PAL060L3	1000	400	1164	124	7/8	1/2	7.3	2 x 110	40
2PAL075L3	1285	425	1164	230	1.1/8	7/8	7.8	2 x 110	40

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# SCROLL CONDENSING UNIT

## VERTICAL DISCHARGE



Energy efficient  
ECO design compliant

Corrosion resistant  
Blue fin condenser coil

Multi refrigerant

Fan speed controller

Adjustable HP / LP switch

Low noise levels

Wide application range

Copeland scroll compressor

External mains isolator

Liquid line drier and sight glass

Medium temperature (See refrigerants below)

Model	Refrigerant	Capacity (watts) - Evap Temp °C						
		10	5	0	-5	-10	-15	-20
PAUP050M3	R404A	15900	13650	11800	10050	8400	7000	5750
PAUP050M3	R407F	-	14000	11950	10050	8350	6900	-
PAUP050M3	R449A	16700	14150	12050	10100	8390	6860	5430
PAUP050M3	R134A	11450	9550	7950	6500	5250	4150	-

Low temperature -20 to -40 °C

Model	Refrigerant	Capacity (watts) - Evap Temp °C				
		-20	-25	-30	-35	-40
PAUP050L3	R404A	5900	4850	3900	3100	2375
PAUP060L3	R404A	6800	5650	4600	3700	2900
PAUP050L3	R407F	5500	4330	3510	2790	2390
PAUP060L3	R407F	6600	5350	4250	3400	2765
PAUP050L3	R449A	5860	4760	3810	3000	2320
PAUP060L3	R449A	6820	5560	4470	3520	2670

Electrical data

Model	Compressor model	Current		Power supply voltage
		LRA	FLA	
PAUP050M3	ZB38KQE-TFD	65.5	9.0	400.3.50
PAUP050L3	ZF15KQE-TFD	64	8.6	400.3.50
PAUP060L3	ZF18KQE-TFD	74	8.9	400.3.50



Dimensional data

Model	Dimensions (mm)			Weight (kg)	Connections (inch)*		Receiver Volume (l)	No of fans & wattage	Noise level dB (a)
	Width	Depth	Height		Suct	Liq			
PAUP050M3	1265	559	787	133	7/8	1/2	7.3	2 x 110	40
PAUP050L3	1265	559	787	133	7/8	1/2	7.3	2 x 110	40
PAUP060L3	1265	559	787	133	7/8	1/2	7.3	2 x 110	40

**MORE INFORMATION:**  
**0121 666 4700**

## RECIPROCATING CONDENSING UNIT

High efficiency internally grooved copper tube

Corrosion resistant Blue fin condenser coil

Multi refrigerant

Fan speed controller

Adjustable HP / LP switch



Low noise levels

Wide application range

Oil separator included on LT models

Service valves for easier installation

Liquid receiver with fusible plug

KD Hermetic condensing units are ideally suited for commercial applications, cellar cooling, petrol forecourts and freezer rooms.

### R404A/R452A - Low temperature -20 to -45 °C

Model	Capacity (watts) - Evap Temp °C					
	-20	-25	-30	-35	-40	-45
PAD016L1	1888	1528	1207	931	688	491
1PAD018L1	2406	1876	1401	1007	675	403
1PAD018L3	2406	1876	1401	1007	675	403
1PAD023L1	3494	2811	2197	1640	1182	793
1PAD023L3	3494	2811	2197	1640	1182	793
1PAD035L3	4433	3472	2644	1923	1370	936
1PAD050L3	6291	4972	3893	2911	2120	1502
2PAD075L3	9712	7694	6032	4558	3227	2166
2PAD100L3	13411	10815	8479	6431	4643	3202

### R404A/R452A - Medium temperature -20 to +5 °C

Model	Capacity (watts) - Evap Temp °C					
	5	0	-5	-10	-15	-20
PAD005M1	1471	1271	1040	859	701	564
PAD008M1	2002	1691	1442	1191	987	805
PAD010M1	2486	2127	1767	1475	1215	983
PAD012M1	3736	3159	2689	2218	1827	1473



**MANUFACTURING COMMERCIAL REFRIGERATION EQUIPMENT  
SINCE 1967**

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# RECIPROCATING CONDENSING UNIT



## Electrical data

Model	Compressor model*	Current		Power supply voltage
		LRA	FLA	
PAD005M1	MLY90RA	18.4	3.85	230.1.50
PAD008M1	MPT14RA	23.5	5.74	230.1.50
PAD010M1	MX18TB	23.4	5.58	230.1.50
PAD012M1	MS26TB-T	34.6	7.71	230.1.50
PAD016L1	MS34TB-T	40	8.85	230.1.50
1PAD018L1	NTZ048-5	37	11.00	230.1.50
1PAD018L3	NTZ048-4	16	4.80	400.3.50
1PAD023L1	NTZ068-5	53	17.00	230.1.50
1PAD023L3	NTZ068-4	25	8.40	400.3.50
1PAD035L3	NTZ096-4	32	10.10	400.3.50
1PAD050L3	NTZ136-4	51	14.30	400.3.50
2PAD075L3	NTZ215-4	74	22.30	400.3.50
2PAD100L3	NTZ271-4	96	27.00	400.3.50

## Dimensions data

Model	Dimensions (mm)			Weight (kg)	Connections (inch)*		Receiver Volume (l)	No of fans & wattage	Noise level dB (a)
	Width	Depth	Height		Suct	Liq			
PAD005M1	791	343	655	55	3/8	3/8	1.9	1 x 16	33
PAD008M1	791	343	655	55	1/2	3/8	1.9	1 x 16	33
PAD010M1	831	343	655	56	1/2	3/8	2.3	1 x 25	33
PAD012M1	881	373	705	68	5/8	3/8	2.3	1 x 40	33
PAD016L1	881	373	705	68	1/2	3/8	2.3	1 x 40	33
1PAD018L1	1000	400	815	89	5/8	3/8	2.8	1 x 110	38
1PAD018L3	1000	400	815	89	5/8	3/8	2.8	1 x 110	38
1PAD023L1	1000	400	815	94	5/8	3/8	2.8	1 x 110	40
1PAD023L3	1000	400	815	94	5/8	3/8	2.8	1 x 110	40
1PAD035L3	1233	450	857	127	7/8	3/8	4.1	1 x 120	44
1PAD050L3	1233	450	857	157	7/8	1/2	4.1	1 x 120	45
2PAD075L3	1382	540	1164	220	1.1/8	5/8	7.8	2 x 110	46
2PAD100L3	1732	540	1364	270	1.1/8	5/8	12.0	2 x 120	46

**MORE INFORMATION:**

[sales@thermofrostcryo.co.uk](mailto:sales@thermofrostcryo.co.uk)

## GOLIATH - SEMI HERMETIC

Impingement oil separator

Multi refrigerant

Liquid receiver with refrigerant specific relief valve

Large volume suction accumulator

Fully wired electrical box



Liquid line drier and sight glass

Blue fin protected condenser coil

Fan speed control for head pressure control

HP/LP Pressure Switch  
External pressure gauges

Acoustically lined compressor compartment

The KD GOLIATH is the largest capacity reduced noise housed semi-hermetic condensing unit manufactured by KD, designed for large cold stores and freezer rooms.

### R404A / MT -30°C to +5°C

Model	Capacity Watts - Evap Temp°C								
	10	5	0	-5	-10	-15	-20	-25	-30
PA125SMG3	-	35,600	30,000	25,400	21,000	17,300	14,100	11,200	8,630
PA150SMG3	-	44,400	37,800	31,600	26,300	21,600	17,500	13,900	10,800
PA200SMG3	-	49,800	42,600	36,000	29,700	24,400	19,800	15,600	12,100
PA250SMG3	-	60,600	51,600	43,000	35,800	29,400	23,600	18,800	14,600
PA300SMG3	-	69,300	59,400	49,600	41,500	34,100	27,500	21,800	16,700
SPA400SMG3	-	103,000	88,300	74,800	61,800	50,900	41,100	32,200	24,700

### R449A / MT -30°C to +5°C

PA125SMG3	42,100	36,200	30,300	25,400	20,800	16,900	13,500	10,400	7,880
PA150SMG3	52,600	44,900	37,900	31,400	25,800	20,900	16,600	12,900	9,780
PA200SMG3	59,200	50,800	43,000	35,900	29,300	23,700	18,800	14,500	11,000
PA250SMG3	72,000	61,300	51,700	42,700	35,000	28,300	22,500	17,400	13,200
PA300SMG3	90,800	77,000	65,400	54,300	44,900	36,600	29,200	22,700	17,200
SPA400SMG3	123,000	104,000	87,800	72,600	59,800	48,400	38,400	29,600	22,200

### R134a / MT -30°C to +5°C

PA125SMG3	29,600	24,800	20,500	16,700	13,400	10,500	8,020	5,960	4,240
PA150SMG3	36,500	30,400	25,200	20,500	16,400	12,900	9,860	7,350	5,260
PA200SMG3	41,800	34,800	28,800	23,400	18,800	14,700	11,200	8,290	5,870
PA250SMG3	49,900	41,500	34,300	27,900	22,200	17,500	13,400	9,930	7,100
PA300SMG3	58,600	49,000	40,700	33,200	26,600	20,900	15,900	11,700	8,080
SPA400SMG3	85,400	71,500	59,200	48,200	38,500	29,900	22,700	16,800	12,000

### R407F / MT -30°C to +5°C

PA125SMG3	43,200	37,300	31,400	26,400	21,600	17,600	14,000	10,900	8,110
PA150SMG3	54,600	46,400	39,300	32,800	26,800	21,700	17,300	13,400	10,100
PA200SMG3	62,200	52,800	44,900	37,600	30,800	25,600	19,900	15,400	11,600
PA250SMG3	74,000	63,300	53,500	44,400	36,500	29,500	23,400	18,000	13,500
PA300SMG3	95,200	80,900	68,700	57,500	47,100	38,100	30,300	23,300	17,400
SPA400SMG3	127,000	108,000	90,500	75,400	61,400	49,600	39,200	30,000	22,400

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## GOLIATH - INVERTER DRIVE

### R449A / MT -30°C to +5°C - 25 to 50Hz

Model	Capacity Watts							
	5	0	-5	-10	-15	-20	-25	-30
PA125SMG3I	36,200	30,300	25,400	20,800	16,900	13,500	10,400	7,880
PA150SMG3I	44,900	37,900	31,400	25,800	20,900	16,600	12,900	9,780
PA200SMG3I	50,800	43,000	35,900	29,300	23,700	18,800	14,500	11,000
PA250SMG3I	61,300	51,700	42,700	35,000	28,300	22,500	17,400	13,200
PA300SMG3I	77,000	65,400	54,300	44,900	36,600	29,200	22,700	17,200
SPA400SMG3I	104,000	87,800	72,600	59,800	48,400	38,400	29,600	22,200
SPA500SMG3I	TBC	TBC	TBC	TBC	TBC	TBC	TBC	TBC

### R407F / MT -30°C to +5°C - 25 to 50Hz

PA125SMG3I	37,300	31,400	26,400	21,600	17,600	14,000	10,900	8,110
PA150SMG3I	46,400	39,300	32,800	26,800	21,700	17,300	13,400	10,100
PA200SMG3I	52,800	44,900	37,600	30,800	25,600	19,900	15,400	11,600
PA250SMG3I	63,300	53,500	44,400	36,500	29,500	23,440	18,000	13,500
PA300SMG3I	80,900	68,700	57,500	47,100	38,100	30,300	23300	17400
SPA400SMG3I	108,000	90,500	75,400	61,400	49,600	39,200	30,000	22,400
SPA500SMG3I	131,000	111,000	93,400	76,600	62,100	49,200	-	-

### R134a / MT -30°C to +5°C - 25 to 50Hz

PA125SMG3I	24,800	20,500	16,700	13,400	10,500	8,020	5,960	4,240
PA150SMG3I	30,400	25,200	20,500	16,400	12,900	9,860	7,350	5,260
PA200SMG3I	34,800	28,800	23,400	18,800	14,700	11,200	8,290	5,870
PA250SMG3I	41,500	34,300	27,900	22,200	17,500	13,400	9,930	7,100
PA300SMG3I	53,200	43,700	35,600	28,400	22,000	16,700	12300	8750
SPA400SMG3I	71,500	59,200	48,200	38,500	29,900	22,700	16,800	12,000
SPA500SMG3I	90,400	74,500	61,000	49,200	38,900	30,300	23,000	13,800

### Physical data for Goliath Semi hermetic / Inverter Drive

Model	Dimensions (mm)			Connections		Receiver	Suct	Comp
	Width	Depth	Height	Suct	Liq	(L)	Accum (L)	Model
PA125SMG3I	1640	760	1600	1.3/8"	3/4"	17	11	HGX44e/475-4S
PA150SMG3I	1640	830	1761	1.5/8"	3/4"	17	11	HGX44e/565-4S
PA200SMG3I	1840	905	1811	1.5/8"	7/8"	17	11	HGX44e/665-4s
PA250SMG3I	2326	905	1763	1.5/8"	7/8"	20	11	HGX44e/770-4S
PA300SMG3I	2326	905	1912	2.1/8"	7/8"	24.5	19	HGX56e/995-4S
SPA400SMG3I	1950	1850	2035	2.1/8"	7/8"	30	19	HGX66e/1340-4S
SPA500SMG3I	1950	1850	2084	2.1/8"	1.1/8"	60	19	HGX7/1860-4s

### Electrical data for Goliath Semi hermetic / Inverter drive

Model	Current		Power
	LRA	MCC	Supply (PWS)
PA125SMG3I	87	23	400.3.50
PA150SMG3I	101	26	400.3.50
PA200SMG3I	101	30	400.3.50
PA250SMG3I	101	35	400.3.50
PA300SMG3I	149	46.4	400.3.50
SPA400SMG3I	196	65.3	400.3.50
SPA500SMG3I	291	104	400.3.50

The LRA shown is a nominal rating for the standard compressor, actual LRA will be lower by virtue of the inverter drive.

**MORE INFORMATION:  
0121 666 4700**

# TSS EVAPORATOR

Factory fitted with electric defrost

White powder coated aluminium casing

High efficiency internally grooved copper tube

PVC Terminal box (IP66)

Low profile, blow through coil



The new KD TSS Low profile commercial cooler is a compact space saving blow through coil designed for small chillers and freezers and convenience stores. Cooling capacity from 1.1 to 5.0 kW (SC2 Conditions)

## Model Range

Model	Capacity 8K TD R407F	Capacity 8K TD R449A	Air volume m3/hr	Air throw m	Number of fans	Motor input watts/hr	Refrigeration connections Inlet	Refrigeration connections Outlet	Surface area m2	Internal volume dm3	Unit Weight Kg
TSS010M1	1,136	1,129	548	5.5	1	47	1/2	1/2	4.2	1.2	13
TSS015M1	1,917	1,907	1,170	6.0	2	94	1/2	5/8	6.8	1.8	18
TSS020M1	2,403	2,393	1,096	6.0	2	94	1/2	5/8	8.5	2.1	21
TSS030M1	2,960	2,949	1,755	6.5	3	141	1/2	5/8	10.3	2.5	29
TSS040M1	3,698	3,686	1,644	6.5	3	141	1/2	3/4	12.7	3	32
TSS045M1	4,014	4,001	2,340	7.5	4	188	1/2	3/4	13.7	3.3	39
TSS050M1	5,003	4,990	2,192	7.5	4	188	1/2	7/8	16.9	3.9	41

Capacity at SC2 conditions (EN 328)

## Duty correction factors

Room temp°C	-30	-25	-20	-15	-10	-5	0	5
TD: 4K	0.20	0.23	0.26	0.28	0.30	0.33	0.35	0.36
TD: 6K	0.39	0.44	0.50	0.55	0.60	0.64	0.69	0.71
TD: 8K	0.55	0.63	0.71	0.79	0.93	0.93	1.00	1.04
TD: 10K	-	-	0.97	1.01	1.11	1.20	1.29	1.35

## Refrigerants correction factors

R404A = 1.00
R134A = 0.93

## Drain connection size

1" MPT external, 3/4" FPT internal
------------------------------------

## Electrical data

Common data	Unit	010M1	015M1	020M1	030M1	040M1	045M1	050M1
Fans	N x Ømm	1 x 250	2 x 250	2 x 250	3 x 250	3 x 250	4 x 250	4 x 250
Total input	Watts	47	94	94	141	141	188	188
230v-1Ph-50Hz	Amps	0.32	0.64	0.64	0.96	0.96	1.28	1.28
Electric defrost	Watts	970	1,560	1,560	2,150	2,150	2,740	2,740

## Overall dimensions (mm)

Model	Length	Depth	Height
TSS010M1	625	453	301
TSS015M1	945	453	301
TSS020M1	945	453	301
TSS030M1	1,265	453	301
TSS040M1	1,265	453	301
TSS045M1	1,585	453	301
TSS050M1	1,585	453	301

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# TDM EVAPORATOR



Factory fitted electric defrost

High efficiency internally grooved copper tube coils

Powder coated aluminium casing

IP66 PVC Terminal box

The KD TDM is a low profile air cooler, with 6 mm fin spacing making it suitable for both chiller and freezer room applications.

## Model range

Model	Capacity 8K TD Watts	Air volume m3/hr	Approx air throw m	No fans	Motor heat input watts/hr	Refrig. connections		Surface area m2	Internal volume dm3	Unit Weight Kg
						Inlet	Outlet			
TDM1	1396	1320	7.0	2	94	1/2	5/8	4.7	1.2	16
TDM2	1982	1140	7.0	2	94	1/2	5/8	7.0	1.6	18
TDM3	3040	1740	7.5	3	141	1/2	5/8	10.5	2.4	25
TDM4	3389	1920	7.5	3	141	1/2	3/4	11.9	2.7	26
TDM5	4050	2220	8.0	4	188	1/2	3/4	13.6	3.1	30
TDM6	4592	2580	8.0	4	188	1/2	7/8	15.9	3.6	32

Capacities are based on a room temperature of 0°C, refrigerant R449A. Externally equalised expansion valves should be used on all models. TDM coolers have a white casing finish and come with factory fitted electric defrost as standard. Fan motors are 230v/1ph/50/60Hz. Air throw measured at distance at which velocity is 0.25 m/s.

## Duty correction factors

Room temp °C	-30	-25	-20	-15	-10	-5	0	5
T.D. 4K	0.21	0.23	0.26	0.28	0.31	0.33	0.35	0.36
T.D. 6K	0.40	0.45	0.50	0.55	0.60	0.65	0.69	0.71
T.D. 8K	0.56	0.64	0.72	0.80	0.87	0.94	1.00	1.03
T.D. 10K	-	-	-	1.02	1.12	1.21	1.30	1.34

## Refrigerant correction factors

R404A = 1.00 | R134a = 0.95 | R407F = 1.00

## Drain connection size

1" MPT external, 3/4" FPT internal

## Electrical data

Common data	Unit	TDM1	TDM2	TDM3	TDM4	TDM5	TDM6
Fans	N x 0 mm	2 x 250	2 x 250	3 x 250	3 x 250	4 x 250	4 x 250
Total fan consumption	W	94	94	141	141	188	188
230v-1ph-50Hz	A	0.64	0.64	0.96	0.96	1.28	1.28
Electric defrost fitted	W	1,520	1,520	2,130	2,390	2,690	3,090

## Dimensional data

Model	Overall dimensions			Fixing dimensions	
	Length (mm)	Width (mm)	Height (mm)	Length (mm)	Width (mm)
TDM1	838	256	351	654	305
TDM2	838	256	351	654	305
TDM3	1138	256	351	954	305
TDM4	1258	256	351	1074	305
TDM5	1408	256	351	1224	305
TDM6	1608	256	351	1424	305

## MORE INFORMATION:

[sales@thermofrostcryo.co.uk](mailto:sales@thermofrostcryo.co.uk)

# CSD 35 EVAPORATOR

Pre fitted expansion valve on all models

Increased air throw with fitted air straightener

Low noise Ziehl-Abegg fan motor

Capacity range: 3.0 to 19.0 kw (EN 328)

High efficiency inner grooved copper tube (DIA 3/8")

Powder painted aluminium case

PVC Terminal Box (IP66)

Electric defrost

Double drain pan



The CSD 35 Evaporator is a cubic commercial cooler, with 6 mm fin spacing, suitable for freezer and chiller applications

## Model Range

Model	Capacity 8K TD Watts	Air volume m3/hr	Air throw m	* Air throw m	Number of fans	Motor input watts/hr	Refrigerant connections Inlet	Refrigerant connections Outlet	Surface area m2	Internal volume dm3	Unit Weight Kg
CSD35-020M	2,895	2,400	23	11	1	140	1/2	7/8	9.7	2.46	23
CSD35-030M	4,494	2,160	21	10	1	140	1/2	7/8	14.5	3.70	26
CSD35-040M	6,016	4,860	25	12	2	280	5/8	7/8	19.4	4.56	38
CSD35-050M	7,641	4,620	24	12	2	280	5/8	1.1/8	24.2	5.71	41
CSD35-075M	9,247	4,380	23	11	2	280	5/8	1.3/8	29.1	6.85	44
CSD35-100M	14,037	6,540	25	12	3	420	7/8	1.3/8	43.6	10.00	63
CSD35-120M	15,612	9,240	26	13	4	560	7/8	1.5/8	48.5	10.96	76
CSD35-150M	18,842	8,700	27	13	4	560	7/8	1.5/8	58.2	13.15	81

Capacity at SC2 conditions (EN 328), R449A.

\* Without air straightener

## Duty correction factors

Room temp°C	-30	-25	-20	-15	-10	-5	0	5
T.D.5K	0.34	0.37	0.41	0.44	0.47	0.50	0.52	0.53
T.D.6K	0.44	0.49	0.53	0.58	0.61	0.65	0.69	0.70
T.D.8K	0.63	0.70	0.77	0.83	0.89	0.95	1.00	1.02
T.D.10K	-	-	-	1.08	1.15	1.23	1.30	1.34

## Electrical data

Common data	Unit	020M	030M	040M	050M	075M	100M	120M	150M
Fans	N x Ømm	1 x 350	1 x 350	2 x 350	2 x 350	2 x 350	3 x 350	4 x 350	4 x 350
Total input	Watts	140	140	280	280	280	420	560	560
230v-1Ph-50Hz	Amps	0.64	0.64	1.28	1.28	1.28	1.92	2.56	2.56
Electric defrost	Watts	1,950	3,250	3,480	5,800	5,800	8,350	10,900	10,900
Defrost supply	Voltage	230v-1Ph	230v-1Ph	230v-1Ph	400v-3Ph	400v-3Ph	400v-3Ph	400v-3Ph	400v-3Ph

## Overall dimensions (mm)

Model	Length	Depth	Height
CSD35-020M	885	333	507
CSD35-030M	885	333	507
CSD35-040M	1435	333	507
CSD35-050M	1435	333	507
CSD35-075M	1435	333	507
CSD35-100M	1985	333	507
CSD35-120M	2535	333	507
CSD35-150M	2535	333	507

## Refrigerants correction factors

R404A = 1.00 | R134a = 0.95 | R407F = 1.00

## Drain connection size

1" MPT external, 3/4" FPT internal

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# CSD 45 EVAPORATOR

Pre fitted expansion valve on all models

Increased air throw with air straightener

Low noise Ziehl-Abegg fan motor

Electric defrost

Double drain pan



Capacity range 23.5 to 47.6 kw (SC2 Conditions)

High efficiency inner grooved copper tube (DIA 1/2")

Powder coated galvanised steel casing

PVC Terminal Box (IP66)

The CSD 45 Evaporator is a cubic cooler for heavy applications in chillers or freezers, with a 6 mm fin spacing.

## Model Range

Model	Capacity	Capacity	Air throw	Number of fans	Motor input	Refrigeration connections		Surface area	Internal volume	Unit Weight
	8K TD R407F	8K TD R449A				Inlet	Outlet			
CSD 45-170M3	23,552	23,524	35	2	1,080	7/8	1.5/8	74.5	24.2	137
CSD 45-190M3	26,913	26,883	39	3	1,620	7/8	1.5/8	83.9	26.5	175
CSD 45-260M3	35,592	35,560	38	3	1,620	7/8	1.5/8	111.8	35.4	192
CSD 45-270M3	36,074	36,041	41	4	2,160	7/8	2.1/8	111.8	34.9	219
CSD 45-340M3	47,653	47,619	40	4	2,160	7/8	2.1/8	149.1	46.5	242

Capacity at SC2 conditions (EN 328)

## Duty correction factors

Room temp°C	-30	-25	-20	-15	-10	-5	0	5
T.D.5K	0.26	0.26	0.29	0.30	0.32	0.33	0.34	0.35
T.D.6K	0.51	0.54	0.57	0.6	0.63	0.66	0.68	0.69
T.D.8K	0.73	0.79	0.84	0.88	0.92	0.96	1.00	1.01
T.D.10K	-	-	1.09	1.15	1.21	1.26	1.31	1.33

## Refrigerants correction factors

R404A = 1.00 | R134A = 0.95 | R407F = 1.00

## Drain connection size

1" MPT external, 3/4" FPT internal

## Electrical data

Common data	Unit	170M3	190M3	260M3	270M3	340M3
Fans	N x Ømm	2 x 450	3 x 450	3 x 450	4 x 450	4 x 450
Total input	Watts	1,080	1,620	1,620	2,160	2,160
400v-3Ph-50Hz	Amps	0.92	1.38	1.38	1.84	1.84
Electric defrost	Watts	11,720	16,700	16,940	21,920	22,160

## Overall dimensions (mm)

Model	Length	Depth	Height
CSD 45-170M3	1760	519	684
CSD 45-190M3	2440	519	684
CSD 45-260M3	2440	519	684
CSD 45-270M3	3120	519	684
CSD 45-340M3	3120	519	684

## Fixing dimensions (mm)

End	Middle	Depth
1411	-	621
2091	1391	621
2091	1391	621
2771	1386	621
2771	1386	621

**MORE INFORMATION:**  
0121 666 4700

# CELLAR STAR

Outdoor unit equipped with a rotary compressor

Includes microchannel condenser & liquid receiver

Provided with refrigerant charge & service valves

R410A Sporlan expansion valve and contactor

Indoor unit comes with hinged side panels



Acoustically lined compressor compartment for noise reduction

Dixell electronic controller with off cycle defrost

LP Safety switch

HP Switch

Long lasting white powder coated finish

The new KD Cellar Star is a high performance cooling system designed to control cellar temperature to maintain beer and wine in optimum condition.

## Performance data - R410A

Indoor / Outdoor	Cooling capacity (watts) Ambient 32°C							Above Ground	Below Ground
	Room Temperature °C								
	4°C	6°C	8°C	10°C	12.7°C	14°C	16°C	m <sup>3</sup>	
SC040/PAP015M1	2,906	3,099	3,325	3,462	3,836	3,931	4,084	45	55
SC045/PAP020M1	3,819	4,083	4,344	4,503	4,940	5,056	5,242	57	90
SC050/PAP025M1	4,390	4,737	5,074	5,203	5,749	5,975	6,116	70	120
SC070/PAP028M1	5,888	6,247	6,754	6,911	7,592	7,875	8,047	120	155

## Technical data

Model	Nominal Kw	Airflow m <sup>3</sup> /hr indoor	Airflow m <sup>3</sup> /hr outdoor	Pipework		Max pipe run	
				Liquid	Suction	Length	Rise
SC040/PAP015M1	3,836	3,439	1,800	1/4"	1/2"	25	5
SC045/PAP020M1	4,940	3,310	2,400	1/4"	1/2"	25	8
SC050/PAP025M1	5,749	3,310	2,520	1/4"	5/8"	25	8
SC070/PAP028M1	7,592	3,648	2,460	3/8"	5/8"	25	8

## Electrical data

Model	Power Supply	FLA Amps	LRA Amps	Interconnecting cable	Fuse Rating
SC040/PAP015M1	230/1/50	6.8	24	5 Core	16
SC045/PAP020M1	230/1/50	8.2	36	5 Core	20
SC050/PAP025M1	230/1/50	9.7	39	5 Core	25
SC070/PAP028M1	230/1/50	10.9	62	5 Core	25

## System charge

Outdoor Model	Pre-charge Kg	Max pipe run (m)	Additional charge g/m
PAP015M1	1.0	25	N/A
PAP020M1	1.0	13	22
PAP025M1	1.5	25	N/A
PAP028M1	1.5	8	52

The maximum pipe run must include the rise, it is not additional to the length. Air throw of SC cooler is 11m with 0.25m/s terminal air velocity.

## Physical

Model	Width (mm)	Depth (mm)	Height (mm)	Weight (Kg)
SC040	840	327	590	26
SC045	840	327	590	28
SC050	840	327	590	28
SC070	1040	327	590	41
PAP015M1	702	342	612	48
PAP020M1	860	342	706	55
PAP025M1	860	342	810	59
PAP028M1	860	342	810	67

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