



Minimum Evaporating Temp. With:

- 20 °C Suction Gas Return
- 0 °C Suction Gas Return
- Maximum Evaporating Temperature

Suction Superheat 10.0K

Liquid Subcooling 0.0K

Evaporating Temperature, °C

50 Hz

4MMD-20X

R450A Dew Point

Cond °C	Cooling Capacity, kW								
	-25.0	-20.0	-15.0	-10.0	-5.0	0.0	5.0	7.0	10.0
16.0	13.80								
20.0	13.15	16.95							
25.0	12.30	16.00	20.50	26.00					
30.0	11.35	14.95	19.35	24.60	30.90	38.10			
35.0	10.40	13.85	18.10	23.20	29.20	36.10	44.20	47.70	53.40
40.0	9.37	12.75	16.80	21.70	27.40	34.10	41.80	45.20	50.60
45.0	8.32	11.55	15.45	20.10	25.50	31.90	39.30	42.50	47.70
50.0	7.25	10.35	14.05	18.45	23.60	29.70	36.70	39.80	44.70
55.0	6.17	9.11	12.60	16.80	21.70	27.40	34.00	37.00	41.70
60.0	5.11	7.87	11.15	15.10	19.70	25.10	31.30	34.10	38.60
65.0	4.08	6.64	9.71	13.35	17.65	22.70	28.60	31.20	35.40
70.0	3.10	5.44	8.26	11.60	15.60	20.30	25.70	28.20	32.10
75.0		4.28	6.83	9.89	13.55	17.85	22.90	25.20	28.90
80.0			5.44	8.18	11.45	15.40	20.00	22.10	25.50
85.0			4.11	6.51	9.42	12.95	17.15	19.05	22.20

Cond °C	Power, kW								
	-25.0	-20.0	-15.0	-10.0	-5.0	0.0	5.0	7.0	10.0
16.0	4.92								
20.0	5.16	5.54							
25.0	5.42	5.91	6.32	6.64					
30.0	5.66	6.25	6.77	7.21	7.56	7.81			
35.0	5.85	6.55	7.19	7.75	8.23	8.61	8.89	8.97	9.06
40.0	6.00	6.80	7.56	8.25	8.86	9.38	9.81	9.95	10.15
45.0	6.09	7.01	7.88	8.69	9.44	10.10	10.70	10.90	11.15
50.0	6.12	7.15	8.15	9.09	9.97	10.80	11.50	11.75	12.15
55.0	6.09	7.23	8.34	9.42	10.45	11.40	12.25	12.60	13.05
60.0	5.97	7.24	8.47	9.67	10.85	11.95	12.95	13.35	13.90
65.0	5.78	7.16	8.52	9.86	11.15	12.40	13.60	14.05	14.70
70.0	5.50	6.99	8.48	9.95	11.40	12.80	14.15	14.65	15.40
75.0		6.74	8.35	9.96	11.55	13.10	14.60	15.20	16.05
80.0			8.12	9.86	11.60	13.30	14.95	15.60	16.55
85.0			7.78	9.66	11.55	13.40	15.20	15.95	17.00

50 Hz

4MMD-20X

R450A Dew Point

Cond °C	Current at 400 V, A								
	-25.0	-20.0	-15.0	-10.0	-5.0	0.0	5.0	7.0	10.0
16.0	15.01								
20.0	15.20	15.57							
25.0	15.42	15.87	16.33	16.74					
30.0	15.61	16.15	16.72	17.26	17.72	18.07			
35.0	15.77	16.41	17.08	17.75	18.37	18.88	19.24	19.33	19.41
40.0	15.89	16.62	17.42	18.22	18.99	19.67	20.23	20.40	20.60
45.0	15.97	16.80	17.71	18.65	19.58	20.44	21.19	21.44	21.78
50.0	16.01	16.94	17.97	19.05	20.13	21.17	22.12	22.46	22.92
55.0	15.98	17.02	18.17	19.40	20.64	21.86	23.01	23.44	24.04
60.0	15.90	17.05	18.32	19.69	21.10	22.51	23.86	24.38	25.11
65.0	15.76	17.01	18.42	19.94	21.52	23.11	24.67	25.27	26.14
70.0	15.54	16.90	18.45	20.12	21.87	23.65	25.42	26.11	27.12
75.0		16.73	18.41	20.23	22.15	24.13	26.11	26.90	28.05
80.0			18.29	20.27	22.37	24.55	26.74	27.62	28.92
85.0			18.09	20.23	22.51	24.89	27.30	28.27	29.71

Cond °C	Suction Mass Flow, g/s								
	-25.0	-20.0	-15.0	-10.0	-5.0	0.0	5.0	7.0	10.0
16.0	86.40								
20.0	85.40	107.50							
25.0	83.50	106.00	133.00	165.00					
30.0	81.10	104.00	131.50	164.00	201.00	243.00			
35.0	78.20	101.50	129.50	162.00	199.00	241.00	288.00	309.00	341.00
40.0	74.60	98.60	127.00	159.50	196.50	239.00	286.00	306.00	339.00
45.0	70.30	94.90	123.50	156.00	193.50	236.00	283.00	304.00	336.00
50.0	65.40	90.50	119.50	152.50	190.00	232.00	280.00	300.00	333.00
55.0	59.90	85.50	114.50	148.00	185.50	228.00	276.00	296.00	329.00
60.0	53.60	79.70	109.50	142.50	180.50	223.00	271.00	291.00	324.00
65.0	46.70	73.10	103.00	136.50	174.50	217.00	265.00	286.00	319.00
70.0	39.10	65.80	96.00	130.00	168.00	210.00	259.00	279.00	312.00
75.0		57.60	88.00	122.00	160.00	203.00	251.00	272.00	305.00
80.0			78.90	113.00	151.50	194.50	243.00	264.00	298.00
85.0			68.90	103.00	141.50	185.00	234.00	256.00	290.00

COMPRESSOR MECHANICAL AND PHYSICAL DATA

Number of cylinders	4
Displacement @ 50 Hz, m³/h	78.2
Bore/Stroke, mm	71.5/56.0
Length/Width, mm	657/501
Height, mm	452
Net Weight, kg	188
Suction, inch	2 1/8
Discharge, inch	1 1/8
Oil Quantity, l	3.3
Oil type (original charge)	POE RL32-3MAF
Oil type (approved oils)	POE RL32-3MAF, POE MOBIL EAL Arctic 22 CC
Base mounting (hole dia), mm	381 x 305 (18)
Sound Pressure @ 1m (MT), dBA	69
Sound Power (MT), dBA	80
Sound Power with Sound Shell (MT), dBA	66
Sound Conditions (MT, Temperatures: Evap./Cond./Suction at freq./speed)	-10 / 45 / 20 °C at 50 Hz
High Side PS gauge, bar	32.5
Low Side PS gauge, bar	22.5
Digital Modulation	50-100%
Refrigerant's GWP	605
Refrigerant's classification	A1

COMPRESSOR ELECTRICAL DATA (380-420 V / 3~ / 50 Hz)

Maximum Operating Current, A	39
Locked Rotor Current, A	175
Default Enclosure Class	IP 54 (IEC 34)

ACCESSORIES INCLUDED

Mounting Parts	Spring
CoreSense Protection (-P)	Motor protection
Oil Pressure Switch (-P)	OPS2 Sensor
Copeland Compressor Electronic (-N)	Oil pressure, motor and discharge line temperature protection; advanced diagnostics features and power measurement

ACCESSORIES OPTIONAL

Check Valve	For unloaded start operation
Mounting Parts	Rubber
Adapter Kit	For Parallel Operation
Digital Driver	EC3-D23
Oil Pressure Switch	OPS2 Electronic Switch
Digital Modulation	50-100 %
Additional Cooling	70 W Vertical Air Flow Fan
Crankcase Heater	100 W Internal
Sound Attenuation	Sound Shell
Copeland Compressor Electronic module	Modbus extension module

MOTOR OPTIONS

Motor Code	Power Supply	Nominal Voltage, V	Start Connection	DOL Connection	Amps Factor
AWM	380-420 V / 3~ / 50 Hz	400	YY/Y	Y	1.00
EWL	220-240 V / 3~ / 50 Hz	230	Y/DELTA	DELTA	1.73
EWL	380-420 V / 3~ / 50 Hz	400		Y	1.00
EWM	380-420 V / 3~ / 50 Hz	400	Y/DELTA	DELTA	1.00
AWR	220-240 V / 3~ / 50 Hz	230	YY/Y	Y	1.73
AWY	500-550 V / 3~ / 50 Hz	525	YY/Y	Y	0.76
EWK	220-240 V / 3~ / 60 Hz	230	Y/DELTA	DELTA	2.10
EWK	380-420 V / 3~ / 60 Hz	380		Y	1.20
EWD	440-480 V / 3~ / 60 Hz	460	Y/DELTA	DELTA	1.00
AWC	208-230 V / 3~ / 60 Hz	230	YY/Y	Y	2.19
AWX	380 V / 3~ / 60 Hz	380	YY/Y	Y	1.20
AWD	440-480 V / 3~ / 60 Hz	460	YY/Y	Y	1.00