



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

4MFD-13X

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	10.70								
20.0	10.15	13.20							
25.0	9.42	12.40	16.10	20.70					
30.0	8.68	11.50	15.10	19.40	24.60	30.60			
35.0	7.92	10.65	14.00	18.15	23.10	28.80	35.50	38.50	43.20
40.0	7.16	9.74	12.95	16.85	21.50	27.00	33.30	36.10	40.70
45.0	6.40	8.84	11.85	15.50	19.90	25.10	31.10	33.80	38.10
50.0	5.65	7.93	10.75	14.20	18.30	23.20	28.90	31.40	35.40
55.0	4.91	7.04	9.67	12.85	16.70	21.20	26.60	29.00	32.80
60.0	4.20	6.17	8.59	11.55	15.10	19.30	24.30	26.50	30.10
65.0	3.53	5.32	7.52	10.20	13.45	17.35	22.00	24.10	27.40
70.0	2.90	4.50	6.48	8.91	11.85	15.45	19.70	21.60	24.70
75.0		3.73	5.48	7.64	10.30	13.50	17.35	19.10	22.00
80.0			4.52	6.40	8.73	11.60	15.05	16.65	19.25
85.0			3.61	5.21	7.21	9.71	12.80	14.20	16.55

Cond °C	Power, kW								
	-25.0	-20.0	-15.0	-10.0	-5.0	0.0	5.0	7.0	10.0
16.0	3.81								
20.0	3.96	4.31							
25.0	4.14	4.57	4.94	5.25					
30.0	4.29	4.79	5.26	5.67	6.01	6.25			
35.0	4.41	4.99	5.55	6.06	6.51	6.88	7.16	7.24	7.32
40.0	4.51	5.17	5.80	6.41	6.97	7.46	7.87	8.01	8.18
45.0	4.59	5.31	6.02	6.72	7.38	7.99	8.53	8.73	8.99
50.0	4.64	5.42	6.20	6.99	7.75	8.47	9.14	9.39	9.73
55.0	4.66	5.49	6.35	7.21	8.07	8.90	9.69	9.99	10.40
60.0	4.65	5.53	6.45	7.40	8.34	9.28	10.20	10.55	11.05
65.0	4.62	5.54	6.52	7.54	8.57	9.60	10.60	11.00	11.60
70.0	4.55	5.52	6.55	7.63	8.74	9.87	11.00	11.45	12.10
75.0		5.45	6.54	7.68	8.87	10.10	11.30	11.80	12.50
80.0			6.48	7.68	8.94	10.25	11.55	12.10	12.90
85.0			6.38	7.64	8.96	10.35	11.75	12.35	13.20

50 Hz

4MFD-13X

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	9.11								
20.0	9.26	9.64							
25.0	9.43	9.91	10.35	10.72					
30.0	9.59	10.16	10.72	11.23	11.66	11.97			
35.0	9.73	10.39	11.06	11.71	12.29	12.79	13.16	13.26	13.36
40.0	9.85	10.59	11.37	12.14	12.89	13.56	14.13	14.32	14.56
45.0	9.95	10.76	11.64	12.54	13.43	14.28	15.04	15.32	15.69
50.0	10.02	10.90	11.87	12.89	13.92	14.93	15.89	16.25	16.76
55.0	10.05	11.00	12.06	13.19	14.36	15.53	16.67	17.11	17.75
60.0	10.06	11.07	12.21	13.44	14.74	16.07	17.39	17.90	18.66
65.0	10.02	11.08	12.30	13.64	15.06	16.53	18.03	18.62	19.50
70.0	9.94	11.05	12.34	13.77	15.31	16.93	18.59	19.26	20.25
75.0		10.97	12.32	13.84	15.50	17.25	19.07	19.81	20.92
80.0			12.24	13.84	15.61	17.49	19.47	20.27	21.50
85.0			12.09	13.77	15.64	17.65	19.78	20.65	21.98

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	66.90								
20.0	65.70	83.80							
25.0	64.00	82.20	104.50	131.00					
30.0	61.90	80.20	102.50	129.00	160.00	195.00			
35.0	59.60	78.00	100.50	126.50	157.00	192.00	232.00	249.00	276.00
40.0	57.00	75.40	97.70	124.00	154.00	189.00	228.00	245.00	272.00
45.0	54.10	72.60	94.70	121.00	151.00	185.50	224.00	241.00	268.00
50.0	51.00	69.50	91.50	117.50	147.00	181.50	220.00	237.00	264.00
55.0	47.70	66.10	87.90	113.50	143.00	177.00	215.00	232.00	259.00
60.0	44.10	62.40	84.00	109.00	138.50	172.00	210.00	227.00	253.00
65.0	40.40	58.50	79.80	104.50	133.50	166.50	204.00	221.00	247.00
70.0	36.60	54.40	75.30	99.60	127.50	160.00	197.50	214.00	240.00
75.0		50.20	70.50	94.20	121.50	153.50	190.50	207.00	233.00
80.0			65.50	88.50	115.50	146.50	183.00	199.00	225.00
85.0			60.50	82.60	108.50	139.00	175.00	190.50	217.00

### **COMPRESSOR MECHANICAL AND PHYSICAL DATA**

Number of cylinders	4
Displacement @ 50 Hz, m³/h	61.7
Bore/Stroke, mm	63.5/56.0
Length/Width, mm	638/501
Height, mm	452
Net Weight, kg	183
Suction, inch	1 5/8
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	67
Sound Power (MT), dBA	78
Sound Power with Sound Shell (MT), dBA	64
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	30.8
Locked Rotor Current, A	105
Default Enclosure Class	IP 54 (IEC 34)

### **ACCESSORIES INCLUDED**

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

### **ACCESSORIES OPTIONAL**

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

### **MOTOR OPTIONS**

<b>Motor Code</b>	<b>Power Supply</b>	<b>Nominal Voltage, V</b>	<b>Start Connection</b>	<b>DOL Connection</b>	<b>Amps Factor</b>
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