



Minimum Evaporating Temp. With:

- 20 K Suction Superheat
 ■ 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

4MAD-22X

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	12.5	15.0	20.0	25.0
16.0	10.95												
20.0	10.30	13.40											
25.0	9.52	12.50	16.25	20.80									
30.0	8.70	11.55	15.15	19.50	24.80	31.00							
35.0	7.87	10.60	14.00	18.15	23.20	29.10	36.10	39.20	44.30	48.80			
40.0	7.04	9.64	12.85	16.80	21.50	27.20	33.80	36.80	41.60	45.90	50.60	60.80	
45.0	6.21	8.66	11.70	15.40	19.90	25.20	31.50	34.40	38.90	43.00	47.40	57.20	68.40
50.0	5.38	7.69	10.55	14.00	18.20	23.20	29.20	31.90	36.20	40.10	44.30	53.60	64.20
55.0	4.57	6.72	9.37	12.60	16.55	21.30	26.80	29.40	33.40	37.10	41.10	49.90	60.00
60.0	3.79	5.78	8.22	11.20	14.85	19.25	24.50	26.80	30.60	34.10	37.80	46.20	55.70
65.0	3.04	4.86	7.09	9.84	13.20	17.25	22.10	24.30	27.90	31.10	34.60	42.40	51.40
70.0	2.32	3.97	5.99	8.48	11.55	15.25	19.70	21.70	25.10	28.10	31.30	38.70	47.10
75.0		3.12	4.92	7.14	9.89	13.25	17.35	19.20	22.30	25.00	28.10	34.90	42.80
80.0			3.89	5.84	8.28	11.30	15.00	16.70	19.50	22.00	24.80	31.10	38.50
85.0			2.90	4.59	6.71	9.38	12.70	14.20	16.70	19.05	21.60	27.30	34.20

Cond °C	Power, kW												
	-25.0	-20.0	-15.0	-10.0	-5.0	0.0	5.0	7.0	10.0	12.5	15.0	20.0	25.0
16.0	4.03												
20.0	4.17	4.49											
25.0	4.33	4.73	5.07	5.33									
30.0	4.45	4.92	5.36	5.73	6.01	6.18							
35.0	4.54	5.09	5.61	6.08	6.49	6.79	6.97	7.00	7.00	6.95			
40.0	4.59	5.21	5.82	6.39	6.91	7.35	7.67	7.77	7.87	7.91	7.91	7.76	
45.0	4.60	5.29	5.98	6.65	7.28	7.85	8.32	8.48	8.67	8.80	8.89	8.93	8.79
50.0	4.58	5.32	6.09	6.86	7.60	8.29	8.90	9.12	9.41	9.62	9.80	10.05	10.10
55.0	4.51	5.31	6.16	7.02	7.86	8.68	9.43	9.70	10.10	10.40	10.65	11.05	11.30
60.0	4.39	5.26	6.17	7.12	8.07	9.00	9.88	10.20	10.70	11.05	11.40	12.00	12.45
65.0	4.23	5.15	6.13	7.16	8.21	9.26	10.25	10.65	11.25	11.70	12.10	12.90	13.55
70.0	4.02	4.98	6.03	7.15	8.29	9.45	10.60	11.05	11.70	12.25	12.75	13.70	14.55
75.0		4.76	5.88	7.07	8.31	9.58	10.85	11.35	12.10	12.70	13.30	14.40	15.45
80.0			5.66	6.93	8.26	9.63	11.00	11.55	12.40	13.10	13.75	15.05	16.25
85.0			5.38	6.72	8.14	9.61	11.10	11.75	12.65	13.40	14.15	15.60	17.00

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	12.5	15.0	20.0	25.0
16.0	14.34												
20.0	14.42	14.66											
25.0	14.52	14.81	15.09	15.33									
30.0	14.62	14.95	15.31	15.64	15.92	16.08							
35.0	14.69	15.07	15.50	15.94	16.33	16.65	16.83	16.86	16.85	16.78			
40.0	14.75	15.17	15.67	16.20	16.72	17.18	17.55	17.65	17.77	17.81	17.79	17.59	
45.0	14.79	15.25	15.81	16.43	17.07	17.68	18.22	18.41	18.64	18.79	18.90	18.95	18.74
50.0	14.79	15.29	15.92	16.63	17.39	18.14	18.85	19.11	19.47	19.73	19.95	20.25	20.33
55.0	14.77	15.30	15.98	16.78	17.66	18.55	19.43	19.76	20.24	20.61	20.95	21.50	21.85
60.0	14.70	15.26	16.01	16.89	17.88	18.91	19.95	20.36	20.96	21.43	21.88	22.68	23.31
65.0	14.59	15.18	15.98	16.95	18.04	19.21	20.42	20.90	21.61	22.19	22.75	23.80	24.69
70.0	14.44	15.05	15.91	16.95	18.15	19.45	20.82	21.37	22.20	22.89	23.56	24.84	26.01
75.0		14.87	15.77	16.89	18.20	19.63	21.15	21.78	22.72	23.51	24.29	25.81	27.24
80.0			15.57	16.77	18.17	19.74	21.41	22.11	23.16	24.05	24.94	26.69	28.39
85.0			15.31	16.58	18.08	19.77	21.59	22.36	23.52	24.51	25.50	27.49	29.45

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	12.5	15.0	20.0	25.0
16.0	68.40												
20.0	66.90	85.10											
25.0	64.70	83.00	105.50	132.00									
30.0	62.10	80.60	103.00	129.50	161.00	197.50							
35.0	59.20	77.80	100.00	126.50	158.00	194.00	236.00	254.00	283.00	308.00			
40.0	56.00	74.60	97.00	123.50	154.50	190.50	232.00	250.00	279.00	304.00	331.00	391.00	
45.0	52.50	71.10	93.40	120.00	150.50	186.50	228.00	245.00	274.00	300.00	327.00	386.00	451.00
50.0	48.60	67.30	89.50	115.50	146.50	182.00	223.00	241.00	269.00	295.00	322.00	380.00	446.00
55.0	44.40	63.10	85.20	111.00	141.50	177.00	217.00	235.00	264.00	289.00	316.00	375.00	440.00
60.0	39.80	58.50	80.40	106.00	136.50	171.50	212.00	229.00	258.00	283.00	310.00	368.00	433.00
65.0	34.80	53.50	75.20	100.50	130.50	165.00	205.00	223.00	251.00	276.00	303.00	361.00	426.00
70.0	29.30	48.00	69.50	94.70	124.00	158.50	198.00	215.00	244.00	269.00	295.00	354.00	419.00
75.0		42.00	63.30	88.00	117.00	151.00	190.50	208.00	236.00	261.00	287.00	346.00	411.00
80.0			56.40	80.70	109.50	143.00	182.00	199.50	227.00	252.00	279.00	338.00	404.00
85.0			48.70	72.70	101.00	134.00	173.00	190.50	218.00	244.00	271.00	330.00	397.00

COMPRESSOR MECHANICAL AND PHYSICAL DATA

Number of cylinders	4
Displacement @ 50 Hz, m ³ /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	68
Sound Power (MT), dBA	79
Sound Power with Sound Shell (MT), dBA	65
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	36.3
Locked Rotor Current, A	175
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

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

MOTOR OPTIONS

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