



Minimum Evaporating Temp. With:

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

Suction Return Temperature 20.0°C

Liquid Subcooling 0.0K

Evaporating Temperature, °C

50 Hz

4MA-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
10.0	12.55	15.90	20.10	25.30									
15.0	11.90	15.15	19.20	24.20	30.10								
20.0	11.20	14.35	18.25	23.00	28.70	35.40							
25.0	10.50	13.50	17.25	21.80	27.20	33.70	41.20						
30.0	9.75	12.65	16.20	20.60	25.70	31.90	39.00	42.20	47.30	52.00			
35.0	8.99	11.75	15.15	19.30	24.20	30.00	36.80	39.90	44.70	49.10	53.80		
40.0	8.22	10.85	14.10	18.00	22.60	28.10	34.60	37.40	42.00	46.20	50.60		
45.0	7.45	9.95	13.00	16.65	21.10	26.20	32.30	35.00	39.30	43.20	47.40		
50.0	6.67	9.03	11.90	15.35	19.45	24.30	30.00	32.50	36.60	40.20	44.10		
55.0		8.11	10.80	14.00	17.80	22.30	27.60	30.00	33.80	37.20	40.80		
60.0		7.20	9.68	12.65	16.20	20.40	25.30	27.40	31.00	34.10	37.50		
65.0			8.58	11.30	14.55	18.40	22.90	24.90	28.10	31.00	34.20		
70.0			7.48	9.97	12.90	16.40	20.50	22.40	25.30	28.00	30.80		
75.0				8.64	11.30	14.45	18.15	19.80	22.50	24.90	27.50		
80.0				7.32	9.69	12.50	15.80	17.30	19.65	21.80	24.10		
85.0					8.09	10.55	13.45	14.75	16.85	18.80	20.80		

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
10.0	3.78	3.93	3.98	3.91									
15.0	3.99	4.23	4.38	4.42	4.32								
20.0	4.17	4.49	4.74	4.90	4.93	4.82							
25.0	4.33	4.73	5.07	5.33	5.49	5.52	5.40						
30.0	4.45	4.92	5.36	5.73	6.01	6.18	6.21	6.18	6.08	5.94			
35.0	4.54	5.09	5.61	6.08	6.49	6.79	6.97	7.00	7.00	6.95	6.86		
40.0	4.59	5.21	5.82	6.39	6.91	7.35	7.67	7.77	7.87	7.91	7.91		
45.0	4.60	5.29	5.98	6.65	7.28	7.85	8.32	8.48	8.67	8.80	8.89		
50.0	4.58	5.32	6.09	6.86	7.60	8.29	8.90	9.12	9.41	9.62	9.80		
55.0		5.31	6.16	7.02	7.86	8.68	9.43	9.70	10.10	10.40	10.65		
60.0		5.26	6.17	7.12	8.07	9.00	9.88	10.20	10.70	11.05	11.40		
65.0			6.13	7.16	8.21	9.26	10.25	10.65	11.25	11.70	12.10		
70.0			6.03	7.15	8.29	9.45	10.60	11.05	11.70	12.25	12.75		
75.0				7.07	8.31	9.58	10.85	11.35	12.10	12.70	13.30		
80.0				6.93	8.26	9.63	11.00	11.55	12.40	13.10	13.75		
85.0					8.14	9.61	11.10	11.75	12.65	13.40	14.15		

50 Hz

4MA-22X

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	12.5	15.0	20.0	25.0
10.0	14.21	14.34	14.38	14.29									
15.0	14.32	14.50	14.63	14.65	14.53								
20.0	14.42	14.66	14.87	15.00	15.01	14.86							
25.0	14.52	14.81	15.09	15.33	15.47	15.48	15.30						
30.0	14.62	14.95	15.31	15.64	15.92	16.08	16.08	16.03	15.89	15.71			
35.0	14.69	15.07	15.50	15.94	16.33	16.65	16.83	16.86	16.85	16.78	16.65		
40.0	14.75	15.17	15.67	16.20	16.72	17.18	17.55	17.65	17.77	17.81	17.79		
45.0	14.79	15.25	15.81	16.43	17.07	17.68	18.22	18.41	18.64	18.79	18.90		
50.0	14.79	15.29	15.92	16.63	17.39	18.14	18.85	19.11	19.47	19.73	19.95		
55.0		15.30	15.98	16.78	17.66	18.55	19.43	19.76	20.24	20.61	20.95		
60.0		15.26	16.01	16.89	17.88	18.91	19.95	20.36	20.96	21.43	21.88		
65.0			15.98	16.95	18.04	19.21	20.42	20.90	21.61	22.19	22.75		
70.0			15.91	16.95	18.15	19.45	20.82	21.37	22.20	22.89	23.56		
75.0				16.89	18.20	19.63	21.15	21.78	22.72	23.51	24.29		
80.0				16.77	18.17	19.74	21.41	22.11	23.16	24.05	24.94		
85.0					18.08	19.77	21.59	22.36	23.52	24.51	25.50		

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
10.0	63.70	80.90	102.50	129.00									
15.0	62.50	79.80	101.50	128.00	160.00								
20.0	61.10	78.40	100.00	126.50	158.50	196.50							
25.0	59.40	76.80	98.30	124.50	156.50	194.50	239.00						
30.0	57.60	74.90	96.30	122.50	154.00	192.00	237.00	257.00	289.00	319.00			
35.0	55.40	72.70	94.10	120.00	151.50	189.00	233.00	253.00	286.00	315.00	347.00		
40.0	53.10	70.30	91.50	117.50	148.50	185.50	230.00	249.00	281.00	311.00	342.00		
45.0	50.50	67.70	88.70	114.50	145.00	182.00	226.00	245.00	277.00	306.00	337.00		
50.0	47.60	64.70	85.60	111.00	141.50	177.50	221.00	240.00	272.00	301.00	332.00		
55.0		61.50	82.10	107.00	137.00	173.00	216.00	235.00	266.00	295.00	326.00		
60.0		58.00	78.30	103.00	132.50	168.00	210.00	229.00	260.00	288.00	319.00		
65.0			74.20	98.30	127.50	162.50	204.00	223.00	253.00	281.00	312.00		
70.0			69.60	93.30	122.00	156.00	197.00	216.00	246.00	274.00	304.00		
75.0				87.70	115.50	149.50	189.50	208.00	238.00	265.00	295.00		
80.0				81.60	109.00	142.00	181.50	200.00	229.00	257.00	286.00		
85.0					101.50	134.00	173.50	191.00	221.00	248.00	278.00		

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	177
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
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
Mounting Parts	Spring
CoreSense Protection (-P)	Motor protection
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
Capacity Control	Capacity Steps 50%
Check Valve	For unloaded start operation
Mounting Parts	Rubber
Additional Cooling	70 W Vertical Air Flow Fan
Crankcase Heater	100 W Internal
Sound Attenuation	Sound Shell
Oil Pressure Switch	OPS2 Electronic Switch
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	YYY	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	YYY	Y	1.73
AWY	500-550 V / 3~ / 50 Hz	525	YYY	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	YYY	Y	2.19
AWX	380 V / 3~ / 60 Hz	380	YYY	Y	1.20
AWD	440-480 V / 3~ / 60 Hz	460	YYY	Y	1.00