



Minimum Evaporating Temp. With:

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

Suction Superheat 10.0K

Liquid Subcooling 0.0K

Evaporating Temperature, °C

50 Hz

4MAD-22X 100% Loaded

R134a

Cond °C	Cooling Capacity, kW											
	-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	17.85	22.40	28.00									
15.0	17.00	21.40	26.90	33.40								
20.0	16.05	20.40	25.60	32.00	39.50							
25.0	15.05	19.25	24.30	30.50	37.70	46.20	50.00					
30.0	14.00	18.05	23.00	28.80	35.80	44.00	47.70	53.50	58.80			
35.0	12.90	16.80	21.50	27.20	33.90	41.70	45.20	50.80	55.90	61.40		
40.0	11.80	15.55	20.00	25.40	31.80	39.30	42.60	48.00	52.90	58.10	69.70	82.90
45.0	10.65	14.20	18.50	23.60	29.70	36.80	40.00	45.10	49.80	54.80	65.80	78.40
50.0	9.53	12.90	16.90	21.70	27.50	34.20	37.20	42.10	46.50	51.30	61.80	73.90
55.0	8.39	11.55	15.30	19.80	25.20	31.60	34.40	39.00	43.20	47.70	57.70	69.20
60.0		10.20	13.70	17.90	22.90	28.90	31.50	35.90	39.80	44.10	53.50	64.40
65.0			12.05	15.95	20.60	26.10	28.60	32.70	36.30	40.30	49.20	59.50
70.0			10.45	13.95	18.20	23.30	25.60	29.40	32.80	36.50	44.90	54.50
75.0				12.00	15.85	20.50	22.60	26.10	29.20	32.70	40.40	49.50
80.0				10.00	13.45	17.65	19.60	22.70	25.60	28.80	35.90	44.30

Cond °C	Power, kW											
	-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	4.39	4.48	4.40									
15.0	4.75	4.95	5.01	4.88								
20.0	5.07	5.39	5.57	5.60	5.42							
25.0	5.35	5.77	6.09	6.26	6.25	6.02	5.86					
30.0	5.58	6.12	6.55	6.87	7.01	6.97	6.88	6.69	6.45			
35.0	5.77	6.41	6.97	7.42	7.72	7.85	7.84	7.76	7.63	7.43		
40.0	5.91	6.65	7.33	7.92	8.38	8.68	8.74	8.78	8.74	8.65	8.26	7.57
45.0	6.01	6.85	7.64	8.36	8.97	9.44	9.57	9.72	9.79	9.80	9.63	9.17
50.0	6.06	6.99	7.89	8.74	9.50	10.15	10.35	10.60	10.75	10.90	10.90	10.70
55.0	6.06	7.08	8.09	9.07	9.97	10.75	11.05	11.40	11.65	11.90	12.15	12.15
60.0		7.11	8.23	9.33	10.40	11.35	11.65	12.15	12.50	12.80	13.30	13.55
65.0			8.32	9.54	10.70	11.80	12.25	12.80	13.25	13.70	14.35	14.85
70.0			8.34	9.68	11.00	12.25	12.75	13.40	13.95	14.45	15.35	16.05
75.0				9.75	11.20	12.60	13.15	13.95	14.55	15.15	16.25	17.15
80.0				9.77	11.35	12.90	13.50	14.40	15.10	15.80	17.10	18.20

50 Hz

4MAD-22X 100% Loaded

R134a

Cond °C	Current at 400 V, A											
	-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	14.57	14.70	14.69									
15.0	14.85	15.05	15.14	15.06								
20.0	15.12	15.41	15.60	15.65	15.49							
25.0	15.37	15.75	16.06	16.24	16.24	16.01	15.84					
30.0	15.61	16.08	16.50	16.82	16.98	16.93	16.85	16.63	16.37			
35.0	15.80	16.37	16.91	17.37	17.70	17.85	17.85	17.76	17.61	17.38		
40.0	15.95	16.63	17.29	17.90	18.41	18.75	18.83	18.88	18.85	18.74	18.29	17.46
45.0	16.05	16.83	17.63	18.40	19.08	19.62	19.79	19.97	20.06	20.08	19.90	19.37
50.0	16.09	16.98	17.92	18.84	19.70	20.45	20.71	21.03	21.24	21.39	21.48	21.25
55.0	16.05	17.06	18.14	19.23	20.28	21.24	21.58	22.05	22.39	22.67	23.04	23.11
60.0		17.06	18.29	19.55	20.79	21.96	22.40	23.02	23.48	23.90	24.55	24.93
65.0			18.36	19.79	21.23	22.63	23.16	23.92	24.52	25.07	26.02	26.71
70.0			18.33	19.95	21.59	23.21	23.84	24.76	25.49	26.18	27.42	28.43
75.0				20.01	21.86	23.71	24.44	25.52	26.38	27.21	28.76	30.09
80.0				19.97	22.03	24.12	24.95	26.18	27.19	28.16	30.01	31.67

Cond °C	Suction Mass Flow, g/s											
	-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	98.80	121.50	149.50									
15.0	97.80	121.00	149.00	182.00								
20.0	96.30	120.00	148.00	181.00	220.00							
25.0	94.30	118.00	146.50	180.00	219.00	263.00	283.00					
30.0	92.00	116.00	144.50	178.00	217.00	261.00	281.00	312.00	340.00			
35.0	89.20	113.50	142.00	175.50	214.00	259.00	278.00	310.00	337.00	367.00		
40.0	85.90	110.50	139.00	172.50	211.00	256.00	275.00	306.00	334.00	364.00	428.00	500.00
45.0	82.20	107.00	135.50	169.00	208.00	252.00	271.00	303.00	330.00	360.00	424.00	496.00
50.0	78.10	103.00	131.50	165.00	203.00	247.00	267.00	298.00	326.00	355.00	419.00	491.00
55.0	73.50	98.20	127.00	160.00	198.00	242.00	261.00	292.00	320.00	349.00	414.00	485.00
60.0		93.00	121.50	154.50	192.50	236.00	255.00	286.00	314.00	343.00	407.00	479.00
65.0			115.50	148.00	185.50	229.00	248.00	279.00	306.00	335.00	400.00	472.00
70.0			109.00	141.00	178.00	221.00	240.00	271.00	298.00	327.00	391.00	464.00
75.0				133.00	169.50	212.00	231.00	262.00	289.00	318.00	382.00	455.00
80.0				124.00	160.50	203.00	222.00	252.00	279.00	308.00	373.00	446.00

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	1430
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