


Minimum evaporating temp. with:

——— 25°C Suction Gas Return

- - - 10K Suction Superheat

Suction Superheat 10.0K

Evaporating Temperature °C

Liquid subcooling 0.0K

Cond °C	Capacity kW								
	-20	-15	-10	-5	0	5	7	10	12.5
27	2.85	3.56	4.40	5.38	6.52	7.83	8.41	9.34	10.15
30	2.74	3.45	4.27	5.23	6.34	7.62	8.18	9.08	9.89
35	2.57	3.28	4.08	5.00	6.07	7.29	7.83	8.69	9.45
40	2.38	3.09	3.88	4.78	5.80	6.97	7.49	8.31	9.04
45		2.88	3.66	4.54	5.53	6.65	7.14	7.93	8.63
50			3.39	4.26	5.22	6.30	6.78	7.53	8.20
55			3.06	3.92	4.86	5.91	6.37	7.09	7.74
60				3.50	4.43	5.45	5.89	6.59	7.21
65					3.90	4.91	5.34	6.01	6.62
	Power Input kW								
	-20	-15	-10	-5	0	5	7	10	12.5
27	1.21	1.21	1.20	1.18	1.16	1.14	1.13	1.11	1.09
30	1.30	1.29	1.29	1.27	1.26	1.23	1.22	1.21	1.19
35	1.45	1.45	1.44	1.43	1.41	1.39	1.38	1.36	1.35
40	1.61	1.61	1.60	1.59	1.58	1.56	1.55	1.53	1.51
45		1.80	1.79	1.78	1.76	1.74	1.73	1.71	1.69
50			2.01	2.00	1.98	1.95	1.94	1.92	1.90
55			2.27	2.26	2.23	2.20	2.19	2.17	2.15
60				2.57	2.54	2.50	2.49	2.46	2.44
65					2.90	2.86	2.84	2.81	2.78
	Current 230V, A								
	-20	-15	-10	-5	0	5	7	10	12.5
27	5.98	5.95	5.91	5.86	5.77	5.66	5.60	5.51	5.42
30	6.34	6.32	6.29	6.23	6.16	6.05	6.00	5.91	5.82
35	6.97	6.95	6.92	6.87	6.80	6.70	6.65	6.57	6.49
40	7.67	7.65	7.61	7.57	7.49	7.40	7.35	7.27	7.19
45		8.46	8.42	8.36	8.29	8.18	8.13	8.05	7.97
50			9.38	9.31	9.22	9.11	9.05	8.96	8.88
55			10.56	10.47	10.36	10.22	10.16	10.06	9.97
60				11.87	11.74	11.58	11.51	11.39	11.29
65					13.41	13.22	13.14	13.01	12.89
	Mass Flow g/s								
	-20	-15	-10	-5	0	5	7	10	12.5
27	16.60	20.50	25.00	30.20	36.20	43.00	46.00	50.80	55.00
30	16.40	20.30	24.80	30.00	36.00	42.70	45.70	50.40	54.60
35	16.00	20.00	24.60	29.80	35.70	42.40	45.40	50.00	54.10
40	15.40	19.70	24.40	29.60	35.50	42.20	45.10	49.70	53.80
45		19.20	24.00	29.40	35.30	42.00	44.80	49.40	53.50
50			23.30	28.80	34.90	41.60	44.40	49.00	53.10
55			22.10	27.90	34.10	40.90	43.80	48.40	52.40
60				26.20	32.70	39.70	42.60	47.30	51.40
65					30.50	37.80	40.80	45.60	49.80

Copeland Scroll - Compressor - Air Conditioning - Standard
COMPRESSOR MECHANICAL AND PHYSICAL DATA

Displacement @ 50 Hz, cu.m/h	6.8
Length/Width, mm	242/242
Height, mm	363
Net Weight, kg	25
Gross Weight, kg	29
Stub Suction, inch	3/4
Stub Discharge, inch	1/2
Oil Quantity, l	1
Base mounting (hole dia), mm	190 x 190 (8.5)
Sound Pressure @ 1m, dBA	54
Sound Power, dBA	65
PED Category	1
High Side PS, bar(g)	29.5
Low Side PS, bar(g)	20
Low Side TS Max., °C	50
Internal Free Volume, l	2.9

COMPRESSOR ELECTRICAL DATA (220/240V - 1~ - 50Hz)

Maximum Operating Current, A	14.8
Locked Rotor Current, A	61
Start Winding Resistance, ohm	2.2
Winding Resistance, ohm	1.2
Default Enclosure Class	IP 21 (IEC 34)

ACCESSORIES INCLUDED

Discharge Temperature Protection	Internal Thermodisk
Mounting Grommets	Standard

ACCESSORIES OPTIONAL

Crankcase Heater	70W External
Single Phase Equipment	Run Capacitor

MOTOR OPTIONS

<i>Power Supply</i>	<i>Nominal Voltage</i>	<i>Motor Code</i>	<i>Start Connection</i>	<i>DOL Connection</i>	<i>Amps Factor</i>
220-240 V/1~/50Hz	230	PFJ		PSC	1.00
265 V/1~/60Hz	265	PFJ		PSC	0.75

Copeland Selection Software

REFRIGERANT R22

Operating Conditions:

Evaporating Temperature: -10.0°C
 Condensing Temperature: 45.0°C
 Liquid subcooling: 0.0K
 Suction Return Temperature: 20.0°C

Required Capacity: 20.0 kW
 Compressor Selected: ZR28K3E-PFJ

PERFORMANCE AT SPECIFIED OPERATING POINT **ZR28K3E-PFJ Data at 50 Hz**

Operating conditions outside Compressor limits

COMPRESSOR MECHANICAL AND PHYSICAL DATA

Length/Width, mm 242/242	Height, mm 363
Net Weight, kg 25	Gross Weight, kg 29
Stub Suction, inch 3/4	Stub Discharge, inch 1/2
Oil Quantity, l 1	Sound Power, dBA 65
PED Category 1	High Side PS, bar(g) 29.5
Low Side PS, bar(g) 20	Low Side TS Max., °C 50
Internal Free Volume, l 2.9	
Displacement @ 50 Hz, cu.m/h 6.8	
Base mounting (hole dia), mm 190 x 190 (8.5)	
Sound Pressure @ 1m, dBA 54	

COMPRESSOR ELECTRICAL DATA (220/240V - 1~ - 50Hz)

Locked Rotor Current, A 61	Winding Resistance, ohm 1.2
Maximum Operating Current, A 14.8	
Start Winding Resistance, ohm 2.2	
Default Enclosure Class IP 21 (IEC 34)	

ACCESSORIES INCLUDED

Discharge Temperature Protection	Internal Thermodisk
Mounting Grommets	Standard

ACCESSORIES OPTIONAL

Crankcase Heater
Single Phase Equipment

70W External
Run Capacitor

Model: ZR28K3E-PFJ
 Suction Return Temperature 20.0°C

Refrigerant: R22
 Liquid subcooling 0.0K

S.I.
 50Hz

	Evaporating Temperature °C								
	-20.0	-15.0	-10.0	-5.0	0.0	5.0	7.0	10.0	12.5
	Capacity kW								
27.0	2.85	3.55	4.37	5.35	6.48	7.80	8.39	9.34	10.20
30.0		3.45	4.26	5.21	6.31	7.60	8.17	9.08	9.90
35.0		3.29	4.08	4.99	6.05	7.27	7.82	8.69	9.47
40.0			3.89	4.78	5.80	6.97	7.48	8.31	9.05
45.0				4.55	5.53	6.65	7.14	7.93	8.64
50.0				4.29	5.24	6.31	6.78	7.53	8.20
55.0					4.89	5.93	6.37	7.09	7.73
60.0						5.47	5.91	6.59	7.20
65.0						4.94	5.36	6.01	6.60

	-20.0	-15.0	-10.0	-5.0	0.0	5.0	7.0	10.0	12.5
		Power Input kW							
27.0	1.21	1.21	1.20	1.18	1.16	1.14	1.13	1.11	1.09
30.0		1.29	1.29	1.27	1.26	1.23	1.22	1.21	1.19
35.0		1.45	1.44	1.43	1.41	1.39	1.38	1.36	1.35
40.0			1.60	1.59	1.58	1.56	1.55	1.53	1.51
45.0				1.78	1.76	1.74	1.73	1.71	1.69
50.0				2.00	1.98	1.95	1.94	1.92	1.90
55.0					2.23	2.20	2.19	2.17	2.15
60.0						2.50	2.49	2.46	2.44
65.0						2.86	2.84	2.81	2.78

	-20.0	-15.0	-10.0	-5.0	0.0	5.0	7.0	10.0	12.5
		COP							
27.0	2.35	2.93	3.65	4.51	5.56	6.84	7.42	8.39	9.30
30.0		2.66	3.30	4.08	5.01	6.15	6.66	7.52	8.31
35.0		2.27	2.83	3.49	4.28	5.22	5.65	6.36	7.01
40.0			2.42	3.00	3.67	4.47	4.83	5.43	5.97
45.0				2.55	3.14	3.82	4.13	4.63	5.09
50.0				2.15	2.65	3.23	3.49	3.92	4.31
55.0					2.19	2.69	2.91	3.27	3.60
60.0						2.19	2.38	2.68	2.95
65.0						1.73	1.89	2.14	2.37

	-20.0	-15.0	-10.0	-5.0	0.0	5.0	7.0	10.0	12.5
		Current 230V, A							
27.0	5.98	5.95	5.91	5.86	5.77	5.66	5.60	5.51	5.42
30.0		6.32	6.29	6.23	6.16	6.05	6.00	5.91	5.82
35.0		6.95	6.92	6.87	6.80	6.70	6.65	6.57	6.49
40.0			7.61	7.57	7.49	7.40	7.35	7.27	7.19
45.0				8.36	8.29	8.18	8.13	8.05	7.97
50.0				9.31	9.22	9.11	9.05	8.96	8.88
55.0					10.36	10.22	10.16	10.06	9.97
60.0						11.58	11.51	11.39	11.29
65.0						13.22	13.14	13.01	12.89

Model: ZR28K3E-PFJ

Refrigerant: R22

	-20.0	-15.0	-10.0	-5.0	0.0	5.0	7.0	10.0	12.5
	Mass Flow g/s								
27.0	14.90	18.60	23.10	28.30	34.60	42.00	45.30	50.80	55.70
30.0		18.50	22.90	28.20	34.40	41.80	45.10	50.40	55.30
35.0		18.20	22.70	28.00	34.20	41.50	44.70	50.00	54.80
40.0			22.50	27.80	34.00	41.20	44.50	49.70	54.50
45.0				27.60	33.80	41.00	44.20	49.40	54.10
50.0				27.10	33.40	40.60	43.80	49.00	53.70
55.0					32.60	39.90	43.20	48.40	53.10
60.0						38.80	42.10	47.30	52.10
65.0						37.00	40.30	45.60	50.40

	-20.0	-15.0	-10.0	-5.0	0.0	5.0	7.0	10.0	12.5
	Heating Capacity kW								
27.0	4.00	4.70	5.51	6.47	7.59	8.89	9.46	10.40	11.25
30.0		4.68	5.48	6.42	7.51	8.77	9.33	10.25	11.05
35.0		4.66	5.45	6.35	7.39	8.60	9.13	9.98	10.75
40.0			5.42	6.30	7.30	8.45	8.95	9.76	10.50
45.0				6.25	7.21	8.31	8.79	9.56	10.25
50.0				6.19	7.12	8.17	8.63	9.36	10.00
55.0					7.01	8.02	8.46	9.15	9.77
60.0						7.85	8.27	8.93	9.52
65.0						7.65	8.05	8.68	9.24