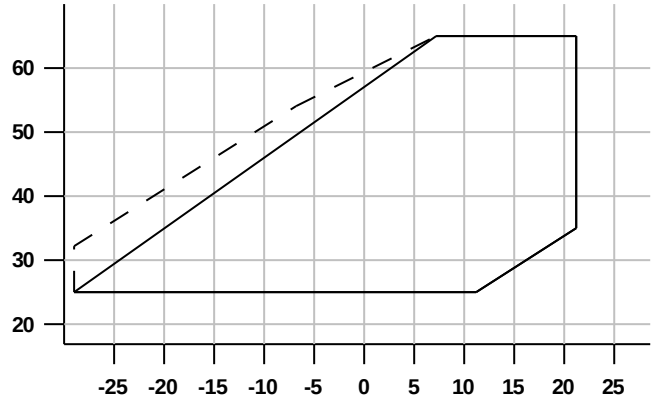

Minimum evaporating temp. with:

——— **25°C Suction Gas Return**

— — - **10K Suction Superheat**

Suction Superheat 10.0K

Evaporating Temperature °C

Liquid subcooling 0.0K

Cond °C	-25	-20	-15	-10	-5	0	5	7	10	12.5	15	20
	Capacity kW											
25	12.45	15.60	19.40	23.80	28.80	34.30	40.20	42.80	46.70			
30	11.85	14.85	18.50	22.80	27.60	33.00	38.90	41.40	45.30	48.60	52.10	
35	11.20	14.00	17.50	21.60	26.30	31.60	37.40	39.90	43.70	47.00	50.40	57.60
40		13.20	16.45	20.40	25.00	30.10	35.80	38.20	42.00	45.20	48.60	55.70
45			15.40	19.15	23.50	28.50	34.00	36.30	40.00	43.20	46.50	53.50
50				17.80	21.90	26.70	32.00	34.30	37.90	41.00	44.30	51.10
55					20.30	24.80	29.90	32.10	35.60	38.70	41.80	48.50
60							27.70	29.80	33.20	36.10	39.10	45.60
65								27.30	30.50	33.30	36.30	42.50
	Power Input kW											
25	4.73	4.89	4.98	5.06	5.15	5.30	5.55	5.68	5.93			
30	5.31	5.49	5.61	5.68	5.76	5.89	6.09	6.20	6.40	6.62	6.88	
35	5.94	6.16	6.29	6.38	6.45	6.54	6.70	6.79	6.96	7.14	7.36	7.95
40		6.89	7.05	7.14	7.21	7.28	7.41	7.48	7.62	7.77	7.95	8.45
45			7.89	8.00	8.07	8.12	8.22	8.27	8.38	8.50	8.65	9.07
50				8.96	9.03	9.08	9.14	9.18	9.26	9.36	9.48	9.82
55					10.10	10.15	10.20	10.20	10.25	10.35	10.45	10.70
60							11.40	11.40	11.45	11.50	11.55	11.75
65								12.75	12.75	12.75	12.80	12.95
	Current 400V, A											
25	10.19	10.40	10.53	10.63	10.77	10.98	11.34	11.54	11.89			
30	10.89	11.15	11.31	11.42	11.53	11.70	11.99	12.15	12.45	12.76	13.13	
35	11.69	12.01	12.20	12.31	12.41	12.55	12.78	12.91	13.15	13.41	13.73	14.57
40		12.98	13.21	13.35	13.45	13.55	13.73	13.83	14.03	14.24	14.51	15.22
45			14.38	14.54	14.64	14.73	14.86	14.94	15.09	15.26	15.48	16.08
50				15.91	16.02	16.10	16.19	16.25	16.37	16.50	16.67	17.17
55					17.61	17.68	17.75	17.79	17.87	17.97	18.10	18.50
60							19.54	19.57	19.62	19.69	19.79	20.09
65								21.61	21.64	21.68	21.75	21.97
	Mass Flow g/s											
25	72.60	90.00	110.00	133.50	159.00	188.00	218.00	231.00	250.00			
30	71.60	88.50	109.00	132.50	159.00	187.00	218.00	231.00	251.00	269.00	286.00	
35	70.50	87.00	107.00	130.50	157.00	186.00	218.00	231.00	252.00	269.00	287.00	325.00
40		85.50	105.00	128.50	155.00	184.00	217.00	230.00	251.00	269.00	288.00	326.00
45			102.50	125.50	152.00	182.00	214.00	228.00	249.00	268.00	287.00	326.00
50				122.00	148.50	178.00	211.00	225.00	247.00	265.00	285.00	325.00
55					144.00	174.00	207.00	221.00	243.00	262.00	282.00	323.00
60							202.00	216.00	238.00	257.00	277.00	319.00
65								209.00	231.00	251.00	271.00	314.00

Copeland Scroll - Compressor - Air Conditioning - Standard

COMPRESSOR MECHANICAL AND PHYSICAL DATA

Displacement @ 50 Hz, cu.m/h	33.2
Length/Width, mm	264/285
Height, mm	533
Net Weight, kg	61.2
Stub Suction, inch	1 3/8
Stub Discharge, inch	7/8
Oil Quantity, l	3.4
Base mounting (hole dia), mm	190 x 190 (8.5)
Sound Pressure @ 1m, dBA	65
Sound Power, dBA	76
PED Category	2
High Side PS, bar(g)	32
Low Side PS, bar(g)	20
Low Side TS Max., °C	52
Low Side TS Min., °C	-35
Internal Free Volume, l	13.3

COMPRESSOR ELECTRICAL DATA (380/420V - 3~ - 50Hz)

Maximum Operating Current, A	22.3
Locked Rotor Current, A	118
Winding Resistance, ohm	1.2
Default Enclosure Class	IP 21 (IEC 34)

ACCESSORIES INCLUDED

Discharge Temperature Protection	ASTP Therm-O-Disc In Scroll
Enclosure Class	IP21
Mounting Grommets	Rubber Grommet For Single
Oil Service Valve	Schraeder Valve
Check Valve (NRV)	Discharge Low Leak Check Valve

ACCESSORIES OPTIONAL

Crankcase Heater	90W External
Enclosure Class	IP66 With Molded Plug
Mounting Grommets	Hard Mounts for Paralleling
Adapter Kit	R1"1/4 -B 1"1/8 For TPTL for Parallel Operation
Sound Attenuation	Sound Shell (12dBA)

MOTOR OPTIONS

Power Supply	*Nominal Voltage*	*Motor Code*	*Start Connection*	*DOL Connection*	*Amps Factor*
380-420 V/3~/50H	400	TFD		Y	1.00
200-220 V/3~/50H	200	TF5		Y	2.09
200-230 V/3~/60H	230	TF5		Y	2.09
575 V/3~/60Hz	575	TFE		Y	0.80
380 V/3~/60Hz	380	TF7		Y	1.26
460 V/3~/60Hz	460	TFD		Y	1.04

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:	ZR144KCE-TFD

PERFORMANCE AT SPECIFIED OPERATING POINT
ZR144KCE-TFD Data at 50 Hz

Capacity kW	19.20
Power Input kW	8.00
COP	2.40
Current 400V, A	14.54
Mass Flow g/s	115.50
Heating Capacity kW	26.80

COMPRESSOR MECHANICAL AND PHYSICAL DATA

Length/Width, mm 264/285
Height, mm 533
Net Weight, kg 61.2
Stub Suction, inch 1 3/8
Stub Discharge, inch 7/8
Oil Quantity, l 3.4
Sound Power, dBA 76
PED Category 2
High Side PS, bar(g) 32
Low Side PS, bar(g) 20
Low Side TS Max., °C 52
Low Side TS Min., °C -35
Internal Free Volume, l 13.3
Displacement @ 50 Hz, cu.m/h 33.2
Base mounting (hole dia), mm 190 x 190 (8.5)
Sound Pressure @ 1m, dBA 65

COMPRESSOR ELECTRICAL DATA (380/420V - 3~ - 50Hz)

Locked Rotor Current, A 118
Winding Resistance, ohm 1.2
Maximum Operating Current, A 22.3
Default Enclosure Class IP 21 (IEC 34)

ACCESSORIES INCLUDED

Discharge Temperature Protection	ASTP Therm-O-Disc In Scroll
Enclosure Class	IP21
Mounting Grommets	Rubber Grommet For Single
Oil Service Valve	Schraeder Valve
Check Valve (NRV)	Discharge Low Leak Check Valve

ACCESSORIES OPTIONAL

Crankcase Heater	90W External
Enclosure Class	IP66 With Molded Plug
Mounting Grommets	Hard Mounts for Paralleling
Adapter Kit	R1"1/4 -B 1"1/8 For TPTL for Parallel Operation
Sound Attenuation	Sound Shell (12dBA)

Model: ZR144KCE-TFD Refrigerant: R22 S.I.
Suction Return Temperature 20.0°C Liquid subcooling 0.0K 50Hz

	Evaporating Temperature °C											
	-25.0	-20.0	-15.0	-10.0	-5.0	0.0	5.0	7.0	10.0	12.5	15.0	20.0
	Capacity kW											
25.0	12.35	15.45	19.20	23.60	28.50	34.00	40.10	42.70	46.70			
30.0		14.75	18.35	22.60	27.40	32.80	38.80	41.30	45.30	48.70	52.30	
35.0		14.00	17.45	21.50	26.20	31.50	37.30	39.80	43.70	47.10	50.60	
40.0			16.50	20.40	24.90	30.10	35.70	38.20	42.00	45.30	48.70	
45.0				19.20	23.50	28.50	34.00	36.30	40.00	43.20	46.60	
50.0					22.00	26.80	32.10	34.30	37.90	41.00	44.30	
55.0						24.90	30.00	32.20	35.60	38.60	41.80	
60.0							27.80	29.90	33.20	36.00	39.00	
65.0								27.40	30.50	33.30	36.10	

	-25.0	-20.0	-15.0	-10.0	-5.0	0.0	5.0	7.0	10.0	12.5	15.0	20.0
	Power Input kW											
25.0	4.73	4.89	4.98	5.06	5.15	5.30	5.55	5.68	5.93			
30.0		5.49	5.61	5.68	5.76	5.89	6.09	6.20	6.40	6.62	6.88	
35.0		6.16	6.29	6.38	6.45	6.54	6.70	6.79	6.96	7.14	7.36	
40.0			7.05	7.14	7.21	7.28	7.41	7.48	7.62	7.77	7.95	
45.0				8.00	8.07	8.12	8.22	8.27	8.38	8.50	8.65	
50.0					9.03	9.08	9.14	9.18	9.26	9.36	9.48	
55.0						10.15	10.20	10.20	10.25	10.35	10.45	
60.0							11.40	11.40	11.45	11.50	11.55	
65.0								12.75	12.75	12.75	12.80	

	-25.0	-20.0	-15.0	-10.0	-5.0	0.0	5.0	7.0	10.0	12.5	15.0	20.0
	COP											
25.0	2.61	3.16	3.86	4.66	5.54	6.42	7.22	7.51	7.87			
30.0		2.68	3.27	3.98	4.76	5.58	6.37	6.67	7.07	7.36	7.61	
35.0		2.28	2.77	3.38	4.07	4.82	5.57	5.86	6.28	6.59	6.87	
40.0			2.34	2.86	3.46	4.13	4.82	5.10	5.51	5.83	6.13	
45.0				2.40	2.92	3.50	4.13	4.39	4.78	5.09	5.39	
50.0					2.44	2.95	3.51	3.74	4.09	4.39	4.67	
55.0						2.46	2.94	3.15	3.47	3.73	4.00	
60.0							2.44	2.62	2.90	3.14	3.38	
65.0								2.15	2.39	2.60	2.82	

	-25.0	-20.0	-15.0	-10.0	-5.0	0.0	5.0	7.0	10.0	12.5	15.0	20.0
	Current 400V, A											
25.0	10.19	10.40	10.53	10.63	10.77	10.98	11.34	11.54	11.89			
30.0		11.15	11.31	11.42	11.53	11.70	11.99	12.15	12.45	12.76	13.13	
35.0		12.01	12.20	12.31	12.41	12.55	12.78	12.91	13.15	13.41	13.73	
40.0			13.21	13.35	13.45	13.55	13.73	13.83	14.03	14.24	14.51	
45.0				14.54	14.64	14.73	14.86	14.94	15.09	15.26	15.48	
50.0					16.02	16.10	16.19	16.25	16.37	16.50	16.67	
55.0						17.68	17.75	17.79	17.87	17.97	18.10	
60.0							19.54	19.57	19.62	19.69	19.79	
65.0								21.61	21.64	21.68	21.75	

Model: ZR144KCE-TFD Refrigerant: R22

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	63.40	79.50	99.50	122.50	149.50	179.00	213.00	227.00	250.00			
30.0		78.50	98.50	121.50	148.50	179.00	213.00	228.00	251.00	272.00	294.00	
35.0		77.50	97.00	120.00	147.00	178.00	213.00	228.00	252.00	273.00	295.00	
40.0			95.00	118.00	145.00	176.00	212.00	227.00	251.00	272.00	295.00	
45.0				115.50	142.50	174.00	209.00	225.00	249.00	271.00	294.00	
50.0					139.50	171.00	206.00	222.00	247.00	269.00	292.00	
55.0						166.00	202.00	218.00	243.00	265.00	289.00	
60.0							197.00	213.00	238.00	260.00	284.00	
65.0								206.00	231.00	254.00	278.00	

Heating 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	16.85	20.10	23.90	28.40	33.40	39.10	45.40	48.10	52.30			
30.0		19.95	23.70	28.00	32.90	38.40	44.60	47.20	51.40	55.00	58.80	
35.0		19.85	23.40	27.60	32.40	37.70	43.70	46.30	50.30	53.90	57.60	
40.0			23.20	27.20	31.80	37.00	42.80	45.30	49.20	52.60	56.30	
45.0				26.80	31.20	36.20	41.80	44.20	48.00	51.30	54.80	
50.0					30.60	35.40	40.70	43.00	46.70	49.90	53.30	
55.0						34.60	39.70	41.90	45.40	48.50	51.70	
60.0							38.60	40.70	44.00	46.90	50.00	
65.0								39.50	42.60	45.40	48.30	