

The background of the page is a composite image. On the left, there are concentric ripples from a water droplet on a light surface. On the right, there is a close-up, high-angle view of a metallic compressor piston with a central pin and rings. The entire image is overlaid with a semi-transparent blue grid pattern.

Copeland Hermetic Service Compressors

Replacement Guidelines

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Cross Reference Tables

Current CR to the new CRKQ/E & CX to the Copeland Hermetic Service Compressor

Current CR 220-240V/Single Phase/50Hz Mineral Oil/Polyolester Oil	New CRKQ/E 220-240V/Single Phase/50Hz Mineral Oil/Polyolester Oil
CRAQ-0150/015E All BOMs	CR18KQ/E-PFZ-28SBM
CRDQ-0200/020E All BOMs	CR24KQ/E-PFZ-28SBM
CREQ-0225/022E All BOMs	CR28KQ/E-PFZ-28SBM
CRGQ-0250/025E All BOMs	CR33KQ/E-PFT-28SBM
CRJQ-0300/030E All BOMs	CR37KQ/E-PFT-28SBM
CRKQ-0325/032E All BOMs	CR41KQ/E-PFT-28SBM
CRLQ-0350/035E All BOMs	CR47KQ/E-PFZ-28SBM

Current CR 380-420V/Three Phase/50Hz Mineral Oil/Polyolester Oil	New CRKQ/E 380-420V/Three Phase/50Hz Mineral Oil/Polyolester Oil
CRAQ-0150/015E All BOMs	CR18KQ/E-TFD-28SBM
CRDQ-0200/020E All BOMs	CR24KQ/E-TFD-28SBM
CREQ-0225/022E All BOMs	CR28KQ/E-TFD-28SBM
CRGQ-0250/025E All BOMs	CR33KQ/E-TFD-28SBM
CRJQ-0300/030E All BOMs	CR37KQ/E-TFD-28SBM
CRKQ-0325/032E All BOMs	CR41KQ/E-TFD-28SBM
CRLQ-0350/035E All BOMs	CR47KQ/E-TFD-28SBM
CRMQ-0400/040E All BOMs	CR53KQ/E-TFD-28SBM
CRNQ-0500/050E All BOMs	*CRNQ-050E-TFD-550

*CRNQ-0500/050E changeover is cancelled continue using the CRNQ-050E-TFD with BOM 550

Note:

- 1 CRKQ is charged with mineral oil suitable for use with R22
- 2 CRKQE is charged with polyolester oil suitable for use with R407C
- 3 New CRKQE has a brazed stubs and oil sight glass as **standard**.
- 4 Current CR compressors with motor version TF5 shall be replaced by scroll compressors

CX to Copeland Hermetic Service Comp.	
CX 11 K1	ZR18K4E
CX 16 K1	ZR22/28K3E
CX 25 K1	ZR34/40K3E
CX 37 K1	ZR48/61K3E

CX	Copeland Herm. Service Compressors
Refrigerants R134a	R22, R407C & R134a
B.O.M.: 551	522 [523 - ZR48 / 61]
Voltage TFD[CX 11/16/25K1 - PFJ]	ZR18/48 - PFJ & ZR22/61 - TFD / 5

Replacement Compressor Changing Oil Recommendations

The CRKQE compressor is charged with 3MAQ POE oil which is our new 3MA oil plus foamer additive. This lubricant is compatible with other Copeland approved POE oils and with the mineral oil 3GS used with CRKQ models. These lubricants are miscible.

CR R407C / Ester to CRKQE R407C / Ester

The compressor and oil can be changed according to the correct safe working practice for changing compressors. I.e. Isolate compressor, reclaim refrigerant etc. Replacing the filter drier is an important part of that standard practice.

CR R22 / Ester to CRKQE R22 / Ester

The compressor and oil can be changed according to the correct safe working practice for changing compressors. I.e. Isolate compressor, reclaim refrigerant etc. Replacing the filter drier is an important part of that standard practice.

CR R22 / Mineral to CRKQE R22 / Ester

The compressor and oil can be changed according to the correct safe working practice for changing compressors. I.e. Isolate compressor, reclaim refrigerant etc. Replacing the filter drier with a new POE compatible filter/drier is an important part of that standard practice.

CR R22 / Mineral to CRKQE R407C / Ester

Please read and follow the procedures indicated in the AE "Refrigerant Changeover Guidelines R22 to R407C" prior to replacing the compressor. The compressor / system oil will need to be tested with a refractometer or suitable oil test kit to determine that the amount of mineral oil left in the system is less than 5%.

Compressor Ident Numbers & B.O.M.

Model No.	Motor Version	Ident No.	B.O.M. (New 5 digit)
CR18KQ	PFZ	8039322	28SBM
	TFD	8039333	28SBM
CR18KQE	PFZ	8038578	28SBM
	TFD	8038589	28SBM
CR24KQ	PFZ	8039344	28SBM
	TFD	8039355	28SBM
CR24KQE	PFZ	8038590	28SBM
	TFD	8038603	28SBM
CR28KQ	PFZ	8039366	28SBM
	TFD	8039377	28SBM
CR28KQE	PFZ	8038614	28SBM
	TFD	8038625	28SBM
CR33KQ	PFT	8039220	28SBM
	TFD	8039231	28SBM
CR33KQE	PFT	8038636	28SBM
	TFD	8038647	28SBM
CR37KQ	PFT	8039242	28SBM
	TFD	8039253	28SBM
CR37KQE	PFT	8038658	28SBM
	TFD	8038669	28SBM
CR41KQ	PFT	8039264	28SBM
	TFD	8039275	28SBM
CR41KQE	PFT	8038670	28SBM
	TFD	8038681	28SBM
CR47KQ	PFZ	8039286	28SBM
	TFD	8039297	28SBM
CR47KQE	PFZ	8038692	28SBM
	TFD	8038705	28SBM
CR53KQ	TFD	8039300	28SBM
CR53KQE	TFD	8038716	28SBM
CRNQ – 0500	TFD	8039311	550
CRNQ – 050E	TFD	8038909	550

PFZ = 220/240 – 1 - 50

PFT = 200/240 – 1 - 50

PFJ = 220/240 – 1 - 50

TFD = 380/420 - 3 - 50

B.O.M. 28SBM = 550 = 4ft mount, square terminal fence, process tube, suction elbow, mounting parts, CCH, ground kit & *oil sight glass

*The oil sight glass for the CRKQ/E range of compressors are not removable

For orders of compressors with sizes up to CR53KQ/E a "Full pallet" contains 40 compressors with a "Half pallet" containing 20 compressors

For the CRNQ-0500 a "Full pallet" contains 32 compressors and "Half pallet" 16 compressors

Cross-Reference Technical Comparisons CR - Copeland Hermetic Service Compressors

R22 & R407C, Single Phase, 50Hz @ ARI

Model		CRAQ 0150/015E	CR18KQE	CRDQ 0200/020E	CR24KQE	CREQ 0225/022E	CR28KQE	CRGQ 0250/025E	CR33KQE
Cooling Capacity	kW	4.34	4.6	5.4	5.8	6.59	6.6	7.65	7.82
Power Input	kW	1.5	1.6	2	1.98	2.24	2.5	2.68	2.67
Efficiency	COP	2.83	2.9	2.71	2.9	2.95	2.8	2.86	2.9
Displacement	m ³ /h	5.69	6.35	6.91	7.7	8.18	8.6	10.57	10.55
Refrigerants		R22, R407C	R22, R407C	R22, R407C	R22, R407C	R22, R407C	R22, R407C	R22, R407C	R22, R407C
Motor Version		PFJ	PFZ	PFJ	PFZ	PFJ	PFZ	PFJ	PFT
MOC	A	8.7		11.3		13.6		15.5	15
LRA	A	36	45.5	44	54	53	61	61	73.2
Sound Pressure	dBA	57	55	59	57	58	57	61	61
Footprint	mm	190 x 190	190 x 190	190 x 190	190 x 190	190 x 190	190 x 190	190 x 190	190 x 190
Height	mm	365	346	360	346	365	343	375	359
Discharge brazing	Inch	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Suction brazing	Inch	5/8	5/8	5/8	5/8	5/8	5/8	3/4	3/4
Orientation		Slightly Different		Slightly Different		Slightly Different		Slightly Different	
Crankcase Heater		Wrap Around	Internal	Wrap Around	Internal	Wrap Around	Internal	Internal	Internal

Model		CRJQ 0300/030E	CR37KQE	CRKQ 03250/032E	CR41KQE	CRLQ 0350/035E	CR47KQE
Cooling Capacity	kW	9.14	9.1	10.0	10.1	11.1	11.6
Power Input	kW	3.13	3.19	3.46	3.52	3.9	3.9
Efficiency	COP	2.98	2.87	2.9	2.87	2.84	2.97
Displacement	m ³ /h	11.9	11.58	12.8	12.81	14.1	14.12
Refrigerants		R22, R407C	R22, R407C	R22, R407C	R22, R407C	R22, R407C	R22, R407C
Motor Version		PFJ	PFT	PFJ	PFT	PFJ	PFZ
MOC	A		23.6		28		28.4
LRA	A	87	85.8	96	97.4	95.6	96.9
Sound Pressure	dBA	61	63	61	63	63	63
Footprint	mm	190 x 190	190 x 190	190 x 190	190 x 190	190 x 190	190 x 190
Height	mm	386	372	392	380	399	385
Discharge brazing	Inch	3/8	3/8	3/8	3/8	1/2	1/2
Suction brazing	Inch	3/4	3/4	3/4	3/4	7/8	7/8
Orientation		Slightly Different		Slightly Different		Slightly Different	
Crankcase Heater		Internal	Internal	Internal	Internal	Internal	Internal

Cross-Reference Technical Comparisons

CR - Copeland Hermetic Service Compressors

R22 & R407C, Three Phase, 50Hz @ ARI

Model		CRAQ 0150/015E	CR18KQE	CRDQ 0200/020E	CR24KQE	CREQ 0225/022E	CR28KQE	CRGQ 0250/025E	CR33KQE
Cooling Capacity	kW	4.38	4.5	5.5	5.8	6.3	6.8	7.7/7.48	7.82
Power Input	kW	1.5	1.6	2	1.9	2.19	2.2	2.62	2.67
Efficiency	COP	2.9	3.0	2.82	3.0	2.8	3.1	2.94	2.92
Displacement	m3/h	5.7	6.35	7.12	7.7	8.18	8.6	10.57	10.54
Refrigerants		R22, R407C	R22, R407C	R22, R407C	R22, R407C	R22, R407C	R22, R407C	R22, R407C	R22, R407C
Motor Version		TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD
MOC	A	2.9		3.8		4.6/3.8		5.2	6.3
LRA	A	16	23	22	25	27/22	30	31	31.6
Sound Pressure	dB	57	55	59	57	58	57	61	61
Footprint	mm	190 x 190	190 x 190	190 x 190	190 x 190	190 x 190	190 x 190	190 x 190	190 x 190
Height	mm	365	346	360	346	365	343	375	349
Discharge brazing	Inch	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Suction brazing	Inch	5/8	5/8	5/8	5/8	5/8	5/8	3/4	3/4
Orientation		Slightly Different		Slightly Different		Slightly Different		Slightly Different	
Crankcase Heater		Internal	Wrap Around	Internal	Wrap Around	Internal	Wrap Around	Internal	Internal

Model		CRJQ 0300/030E	CR37KQE	CRKQ 03250/032E	CR41KQE	CRLQ 0350/035E	CR47KQE	CRMQ-0400 0400/040E	CR53KQE
Cooling Capacity	kW	9	9.1	9.6	10.11	11	11.6	12.6	13.0
Power Input	kW	3.1	3.19	3.35	3.52	3.8	3.89	4.2	4.34
Efficiency	COP	2.93	2.86	2.87	2.87	2.9	2.98	2.94	3.2
Displacement	m3/h	11.97	11.58	12.8	12.81	14.19	14.1	15.59	15.6
Refrigerants		R22, R407C	R22, R407C	R22, R407C	R22, R407C	R22, R407C	R22, R407C	R22, R407C	R22, R407C
Motor Version		TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD
MOC	A	6.3	6.9	7.6	8.2	7.6	11.1	8.6	12.7
LRA	A	39	39	40	42	40	50	43	55
Sound Pressure	dB	62	62	61	61	61	63	59	63
Footprint	mm	190 x 190	190 x 190	190 x 190	190 x 190	190 x 190	190 x 190	190 x 190	190 x 190
Height	mm	385	372	395	380	400	385	400	385
Discharge brazing	Inch	3/8	3/8	3/8	3/8	1/2	1/2	1/2	1/2
Suction brazing	Inch	3/4	3/4	3/4	3/4	7/8	7/8	7/8	7/8
Orientation		Slightly Different		Slightly Different		Slightly Different		Slightly Different	
Crankcase Heater		Internal	Internal	Internal	Internal	Internal	Internal	Internal	Internal

Model		CRNQ 0500/050E	CRNQE-050E
Cooling Capacity	kW	14.7	14.7
Power Input	kW	5	5
Efficiency	COP	2.99	2.99
Displacement	m3/h	17.7	17.7
Refrigerants		R22, R407C	R22, R407C
Motor Version		TFD	TFD
MOC	A	9.8	9.8
LRA	A	62	62
Sound Pressure	dB	65	65
Footprint	mm	190 x 190	190 x 190
Height	mm	420	420
Discharge brazing	Inch	1/2	1/2
Suction brazing	Inch	7/8	7/8
Orientation		Slightly Different	
Crankcase Heater		Internal	Internal

The missing data will be available at a later date

Values are given at ARI Conditions

CRNQ-0500/050E changeover has been cancelled use the CRNQ-050E-TFD-550

Cross-Reference Technical Comparisons

CX - Copeland Scroll

R134a, 50Hz @ ARI

Products		CX11	ZR18		CX 16	ZR22	ZR28
Cooling Capacity	kW	2.3	2.85		4.1	3.61	4.74
Power Input	kW	0.972	1.05		1.44	1.23	1.57
Efficiency	COP	2.74	3.07		2.85	2.94	3.03
Displacement	m3/h	5.7	4.3		7.16	5.34	6.83
Refrigerants		R134a	R134a		R134a	R134a	R134a
Motor Version		PFJ,TFD	PFJ		PFJ,TFD	PFJ,TFD/5	PFJ,TFD/5
MOC	A	2.1	10		2.8	11.4/4.2	14.8/5.1
LRA	A	17	35		17	47/24	61/32
Sound Pressure	dBA	57	54		59	54	57
Length(L)	mm	240	242		240	242	242
Width(L)	mm	235	242		235	242	242
Height(H)	mm	365	383		365	383	383
Footprint	mm	190x190	190x190		190x190	190x190	190x190
Suct. Rotalock/Bra.	Inch	5/8	3/4		5/8	3/4	3/4
Disch. Rotalock/Bra.	Inch	1/2	1/2		1/2	1/2	1/2
Oil Charge	l	1.5	0.74		1.5	1	1
Net Weight	kg	27	18		27.5	22	25
Gross Weight	kg	29	21		29.5	26	29

Products		CX25	ZR34	ZR40
Cooling Capacity	kW	6.1	5.55	6.48
Power Input	kW	2.06	1.83	2.09
Efficiency	COP	2.95	3.03	3.11
Displacement	m3/h	8.18	8.03	9.44
Refrigerants		R134a	R134a	R134a
Motor Version		PFJ,TFD	PFJ,TFD/5	PFJ,TFD/5
MOC	A	4.2	17.3/6.2	23.1/7
LRA	A	28	76/40	100/46
Sound Pressure	dBA	59	57	57
Length(L)	mm	240	242	242
Width(L)	mm	235	242	242
Height(H)	mm	365	405	419
Footprint	mm	190x190	190x190	190x190
Suct. Rotalock/Bra.	Inch	5/8	3/4	3/4
Disch. Rotalock/Bra.	Inch	1/2	1/2	1/2
Oil Charge	l	1.5	1.1	1.1
Net Weight	kg	28.5	26	27
Gross Weight	kg	30.5	30	31

	CX37	ZR48	ZR61
	9.2	7.74	10.04
	3.14	2.53	2.99
	2.92	3.06	3.11
	10.6	11.46	3.36
	R134a	R134a	R134a
	TFD	PFJ,TFD/5	TFD,TF5
	6	23.5/10	12.4
	41	114/50	66
	61	57	61
	240	242	242
	235	242	242
	365	436	457
	190x190	190x190	190x190
	7/8	7/8	7/8
	1/2	1/2	1/2
	1.5	1.1	1.85
	33	29	38
	35.5	33	41



CR18KQ-PFZ
Refrigerant: R 22

Suction Superheat: 11.1K
 Liquid Subcooling: 8.3K

50 Hz
 Air Over: 35°C

Condensing Temp. °C	Refrigeration Capacity kW					Evaporating Temperature °C				
	-20	-15	-10	-5	0	5	7	10	12.5	
30	1.36	2.08	2.93	3.93	5.04	6.33	6.89	7.79	8.58	
35	1.11	1.79	2.61	3.55	4.60	5.86	6.39	7.24	8.03	
40	0.89	1.52	2.28	3.17	4.19	5.36	5.88	6.70	7.43	
45	.	1.29	1.99	2.81	3.78	4.89	5.36	6.15	6.86	
50	.	.	1.70	2.46	3.37	4.42	4.86	5.63	6.27	
55	.	.	1.44	2.14	2.99	3.96	4.40	5.07	5.71	
60	.	.	.	1.85	2.61	3.52	3.90	4.57	5.13	
65	.	.	.	.	2.26	3.08	3.46	4.04	4.60

COP	Refrigeration Capacity kW					Evaporating Temperature °C				
	-20	-15	-10	-5	0	5	7	10	12.5	
30	1.86	2.48	3.15	3.89	4.75	5.81	6.32	7.22	8.10	
35	1.55	2.10	2.72	3.34	4.07	4.97	5.37	6.03	6.69	
40	1.27	1.81	2.35	2.91	3.52	4.22	4.56	5.11	5.63	
45	.	1.57	2.03	2.51	3.05	3.65	3.91	4.36	4.79	
50	.	.	1.75	2.18	2.65	3.16	3.38	3.75	4.07	
55	.	.	1.51	1.89	2.30	2.73	2.93	3.21	3.51	
60	.	.	.	1.65	1.99	2.36	2.51	2.79	3.00	
65	.	.	.	.	1.71	2.02	2.17	2.38	2.58

Power kW	Refrigeration Capacity kW					Evaporating Temperature °C				
	-20	-15	-10	-5	0	5	7	10	12.5	
30	0.73	0.84	0.93	1.01	1.06	1.09	1.09	1.08	1.06	
35	0.72	0.85	0.96	1.06	1.13	1.18	1.19	1.20	1.20	
40	0.70	0.84	0.97	1.09	1.19	1.27	1.29	1.31	1.32	
45	.	0.82	0.98	1.12	1.24	1.34	1.37	1.41	1.43	
50	.	.	0.97	1.13	1.27	1.40	1.44	1.50	1.54	
55	.	.	0.95	1.13	1.30	1.45	1.50	1.58	1.63	
60	.	.	.	1.12	1.31	1.49	1.55	1.64	1.71	
65	.	.	.	.	1.32	1.52	1.59	1.70	1.78

Current at 220V A	Refrigeration Capacity kW					Evaporating Temperature °C				
	-20	-15	-10	-5	0	5	7	10	12.5	
30	3.78	4.22	4.61	4.93	5.15	5.27	5.28	5.25	5.19	
35	3.71	4.24	4.72	5.13	5.46	5.68	5.74	5.78	5.78	
40	3.60	4.21	4.78	5.29	5.72	6.05	6.15	6.27	6.33	
45	.	4.13	4.79	5.40	5.93	6.38	6.53	6.71	6.83	
50	.	.	4.75	5.46	6.10	6.66	6.85	7.11	7.30	
55	.	.	4.66	5.47	6.21	6.88	7.13	7.46	7.71	
60	.	.	.	5.42	6.27	7.06	7.35	7.76	8.07	
65	.	.	.	.	6.28	7.18	7.52	8.00	8.38

Refrigerant Mass Flow g/s	Refrigeration Capacity kW					Evaporating Temperature °C				
	-20	-15	-10	-5	0	5	7	10	12.5	
30	7.63	11.53	16.02	21.13	26.93	33.46	36.29	40.78	44.75	
35	6.48	10.31	14.72	19.76	25.49	31.96	34.77	39.23	43.17	
40	5.36	9.09	13.40	18.35	24.00	30.38	33.15	37.56	41.47	
45	.	7.89	12.08	16.92	22.45	28.72	31.45	35.80	39.65	
50	.	.	10.77	15.47	20.86	27.00	29.68	33.95	37.74	
55	.	.	9.48	14.01	19.25	25.23	27.85	32.03	35.74	
60	.	.	.	12.57	17.62	23.43	25.97	30.04	33.67	
65	.	.	.	.	15.99	21.60	24.06	28.01	31.55

Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without notice.

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CR24KQ-PFZ

Refrigerant: R 22

50 Hz

Air Over: 35°C

Suction Superheat: 11.1K

Liquid Subcooling: 8.3K

		Refrigeration Capacity kW					Evaporating Temperature °C			
		-20	-15	-10	-5	0	5	7	10	12.5
Condensing Temp. °C	30	1.95	2.81	3.81	4.98	6.30	7.82	8.50	9.55	10.46
	35	1.64	2.49	3.46	4.57	5.86	7.33	7.97	9.00	9.90
	40	1.37	2.17	3.08	4.16	5.39	6.81	7.43	8.42	9.30
	45	.	1.88	2.72	3.75	4.92	6.27	6.89	7.82	8.67
	50	.	.	2.40	3.34	4.45	5.74	6.30	7.21	8.03
	55	.	.	2.11	2.99	4.01	5.22	5.74	6.59	7.35
	60	.	.	.	2.64	3.57	4.66	5.16	5.95	6.68
	65	.	.	.	.	3.14	4.16	4.60	5.33	6.01

		COP								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	1.91	2.47	3.07	3.75	4.53	5.47	5.90	6.63	7.26
	35	1.61	2.15	2.70	3.29	3.96	4.73	5.11	5.69	6.23
	40	1.37	1.87	2.35	2.87	3.46	4.13	4.42	4.90	5.35
	45	.	1.62	2.03	2.52	3.02	3.58	3.83	4.23	4.59
	50	.	.	1.78	2.18	2.62	3.12	3.32	3.66	3.97
	55	.	.	1.57	1.93	2.31	2.72	2.90	3.18	3.44
	60	.	.	.	1.70	2.02	2.35	2.52	2.75	2.98
	65	.	.	.	.	1.75	2.06	2.19	2.39	2.58

		Power kW								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	1.02	1.14	1.24	1.33	1.39	1.43	1.44	1.44	1.44
	35	1.02	1.16	1.28	1.39	1.48	1.55	1.56	1.58	1.59
	40	1.00	1.16	1.31	1.45	1.56	1.65	1.68	1.72	1.74
	45	.	1.16	1.34	1.49	1.63	1.75	1.80	1.85	1.89
	50	.	.	1.35	1.53	1.70	1.84	1.90	1.97	2.02
	55	.	.	1.34	1.55	1.74	1.92	1.98	2.07	2.14
	60	.	.	.	1.55	1.77	1.98	2.05	2.16	2.24
	65	.	.	.	.	1.79	2.02	2.10	2.23	2.33

		Current at 220V A								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	5.71	6.10	6.47	6.78	7.03	7.20	7.24	7.26	7.25
	35	5.71	6.17	6.62	7.03	7.39	7.66	7.75	7.85	7.89
	40	5.67	6.21	6.74	7.25	7.71	8.10	8.23	8.40	8.52
	45	.	6.20	6.83	7.43	7.99	8.50	8.68	8.92	9.10
	50	.	.	6.86	7.56	8.23	8.85	9.08	9.40	9.65
	55	.	.	6.83	7.63	8.41	9.15	9.43	9.83	10.14
	60	.	.	.	7.64	8.53	9.39	9.72	10.20	10.58
	65	.	.	.	.	8.58	9.56	9.94	10.50	10.95

		Refrigerant Mass Flow g/s								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	10.90	15.56	20.87	26.89	33.70	41.36	44.68	49.94	54.60
	35	9.54	14.18	19.48	25.52	32.36	40.08	43.42	48.73	53.43
	40	8.27	12.83	18.07	24.07	30.88	38.59	41.94	47.25	51.97
	45	.	11.55	16.67	22.56	29.29	36.93	40.25	45.54	50.24
	50	.	.	15.30	21.03	27.61	35.12	38.40	43.63	48.28
	55	.	.	14.00	19.50	25.88	33.20	36.41	41.54	46.11
	60	.	.	.	18.01	24.12	31.19	34.31	39.30	43.76
	65	.	.	.	.	22.36	29.13	32.13	36.95	41.27

Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without notice.

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CR28KQ-PFZ
Refrigerant: R 22

Suction Superheat: 11.1K
 Liquid Subcooling: 8.3K

50 Hz
 Air Over: 35°C

		Refrigeration Capacity kW					Evaporating Temperature °C				
		-20	-15	-10	-5	0	5	7	10	12.5	
Condensing Temp. °C	30	2.37	3.40	4.60	5.92	7.41	9.08	9.79	10.93	11.93	
	35	1.99	3.02	4.19	5.48	6.94	8.56	9.23	10.31	11.28	
	40	1.55	2.58	3.74	5.01	6.42	7.96	8.63	9.67	10.59	
	45	.	2.14	3.25	4.51	5.86	7.35	8.00	9.00	9.87	
	50	.	.	2.78	3.98	5.30	6.74	7.35	8.32	9.14	
	55	.	.	2.31	3.49	4.78	6.15	6.74	7.65	8.44	
	60	.	.	.	3.02	4.25	5.57	6.12	7.00	7.74	
	65	.	.	.	.	3.78	5.07	5.60	6.42	7.12

		COP								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	1.93	2.50	3.11	3.77	4.49	5.34	5.72	6.35	6.89
	35	1.65	2.19	2.76	3.34	3.99	4.73	5.02	5.54	6.00
	40	1.31	1.87	2.40	2.93	3.51	4.13	4.40	4.83	5.21
	45	.	1.56	2.06	2.56	3.05	3.61	3.83	4.20	4.53
	50	.	.	1.75	2.20	2.66	3.13	3.33	3.65	3.92
	55	.	.	1.47	1.91	2.32	2.73	2.92	3.19	3.42
	60	.	.	.	1.64	2.02	2.40	2.55	2.78	2.98
	65	.	.	.	.	1.78	2.13	2.26	2.46	2.63

		Power kW								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	1.23	1.36	1.48	1.57	1.65	1.70	1.71	1.72	1.73
	35	1.21	1.38	1.52	1.64	1.74	1.81	1.84	1.86	1.88
	40	1.18	1.38	1.56	1.71	1.83	1.93	1.96	2.00	2.03
	45	.	1.37	1.58	1.76	1.92	2.04	2.09	2.14	2.18
	50	.	.	1.59	1.81	1.99	2.15	2.21	2.28	2.33
	55	.	.	1.58	1.83	2.06	2.25	2.31	2.40	2.47
	60	.	.	.	1.84	2.10	2.32	2.40	2.52	2.60
	65	.	.	.	.	2.12	2.38	2.48	2.61	2.71

		Current at 220V A								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	7.52	7.89	8.23	8.55	8.81	8.99	9.04	9.09	9.10
	35	7.45	7.92	8.38	8.79	9.15	9.43	9.52	9.61	9.66
	40	7.33	7.93	8.50	9.03	9.49	9.88	10.01	10.16	10.26
	45	.	7.88	8.58	9.23	9.82	10.32	10.49	10.72	10.87
	50	.	.	8.61	9.40	10.11	10.74	10.97	11.27	11.48
	55	.	.	8.56	9.50	10.36	11.13	11.41	11.79	12.07
	60	.	.	.	9.52	10.54	11.46	11.80	12.27	12.62
	65	.	.	.	.	10.64	11.73	12.13	12.69	13.12

		Refrigerant Mass Flow g/s								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	13.16	18.76	25.00	31.90	39.53	47.92	51.51	57.14	62.07
	35	11.31	17.12	23.51	30.52	38.20	46.60	50.18	55.77	60.66
	40	9.20	15.22	21.76	28.88	36.62	45.03	48.59	54.15	59.00
	45	.	13.11	19.82	27.04	34.83	43.25	46.80	52.33	57.14
	50	.	.	17.72	25.05	32.90	41.32	44.86	50.36	55.13
	55	.	.	15.53	22.97	30.88	39.31	42.83	48.30	53.03
	60	.	.	.	20.85	28.82	37.25	40.77	46.20	50.89
	65	.	.	.	.	26.77	35.22	38.72	44.13	48.77

Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without notice.

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CR33KQ-PFT

Refrigerant: R 22

50 Hz

Air Over: 35°C

Suction Superheat: 11.1K
Liquid Subcooling: 8.3K

		Refrigeration Capacity kW					Evaporating Temperature °C			
		-20	-15	-10	-5	0	5	7	10	12.5
Condensing Temp. °C	30	2.58	3.63	4.98	6.59	8.47	10.55	11.43	12.80	14.01
	35	2.29	3.25	4.51	6.04	7.82	9.82	10.67	11.98	13.16
	40	2.03	2.90	4.06	5.49	7.17	9.08	9.89	11.18	12.30
	45	.	2.55	3.63	4.95	6.56	8.35	9.14	10.37	11.46
	50	.	.	3.22	4.45	5.95	7.65	8.41	9.58	10.61
	55	.	.	2.81	3.96	5.33	6.94	7.65	8.76	9.76
	60	.	.	.	3.46	4.75	6.24	6.91	7.97	8.91
	65	.	.	.	.	4.13	5.54	6.15	7.15	8.03

		COP								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	1.88	2.41	3.02	3.70	4.46	5.33	5.71	6.34	6.93
	35	1.64	2.10	2.64	3.25	3.91	4.65	4.96	5.50	5.98
	40	1.45	1.84	2.30	2.83	3.41	4.05	4.32	4.76	5.17
	45	.	1.59	2.02	2.46	2.98	3.52	3.76	4.13	4.48
	50	.	.	1.76	2.16	2.61	3.07	3.28	3.60	3.89
	55	.	.	1.54	1.89	2.27	2.68	2.86	3.13	3.39
	60	.	.	.	1.64	1.98	2.34	2.50	2.73	2.94
	65	.	.	.	.	1.71	2.03	2.16	2.37	2.55

		Power kW								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	1.37	1.51	1.65	1.78	1.90	1.98	2.00	2.02	2.02
	35	1.39	1.55	1.71	1.86	2.00	2.11	2.15	2.18	2.20
	40	1.40	1.58	1.76	1.94	2.10	2.24	2.29	2.35	2.38
	45	.	1.60	1.80	2.01	2.20	2.37	2.43	2.51	2.56
	50	.	.	1.83	2.06	2.28	2.49	2.56	2.66	2.73
	55	.	.	1.83	2.09	2.35	2.59	2.67	2.80	2.88
	60	.	.	.	2.11	2.40	2.67	2.77	2.92	3.03
	65	.	.	.	.	2.42	2.73	2.85	3.02	3.15

		Current at 220V A								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	8.75	9.15	9.61	10.07	10.48	10.78	10.86	10.93	10.93
	35	8.82	9.28	9.81	10.36	10.87	11.29	11.43	11.57	11.64
	40	8.85	9.38	9.99	10.63	11.26	11.81	12.00	12.23	12.38
	45	.	9.43	10.13	10.88	11.63	12.31	12.55	12.88	13.11
	50	.	.	10.22	11.08	11.95	12.78	13.08	13.51	13.82
	55	.	.	10.24	11.22	12.22	13.20	13.57	14.09	14.49
	60	.	.	.	11.27	12.41	13.54	13.98	14.61	15.10
	65	.	.	.	.	12.51	13.81	14.31	15.05	15.63

		Refrigerant Mass Flow g/s								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	14.45	20.12	27.23	35.63	45.16	55.68	60.12	67.01	72.94
	35	13.28	18.64	25.51	33.72	43.13	53.57	58.01	64.90	70.84
	40	12.20	17.23	23.83	31.83	41.07	51.42	55.82	62.70	68.64
	45	.	15.86	22.15	29.90	38.96	49.18	53.55	60.38	66.31
	50	.	.	20.45	27.93	36.78	46.83	51.15	57.94	63.84
	55	.	.	18.71	25.89	34.49	44.35	48.61	55.32	61.18
	60	.	.	.	23.74	32.06	41.71	45.90	52.52	58.32
	65	.	.	.	.	29.48	38.88	42.99	49.50	55.22

Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without notice.

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CR37KQ-PFT

Refrigerant: R 22

50 Hz

Air Over: 35°C

Suction Superheat: 11.1K

Liquid Subcooling: 8.3K

		Refrigeration Capacity kW					Evaporating Temperature °C				
		-20	-15	-10	-5	0	5	7	10	12.5	
Condensing Temp. °C	30	2.92	4.16	5.74	7.59	9.70	12.01	12.98	14.50	15.79	
	35	2.58	3.75	5.24	7.00	9.02	11.25	12.19	13.65	14.91	
	40	2.27	3.34	4.74	6.41	8.34	10.47	11.38	12.78	13.99	
	45	.	2.96	4.25	5.83	7.68	9.70	10.58	11.93	13.10	
	50	.	.	3.78	5.27	7.00	8.94	9.76	11.05	12.16	
	55	.	.	3.31	4.72	6.33	8.17	8.97	10.20	11.25	
	60	.	.	.	4.16	5.68	7.41	8.17	9.32	10.34	
	65	.	.	.	.	5.04	6.68	7.38	8.47	9.43

		COP								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	1.73	2.26	2.86	3.51	4.22	4.98	5.30	5.82	6.29
	35	1.51	1.98	2.52	3.10	3.73	4.40	4.69	5.15	5.56
	40	1.33	1.74	2.21	2.73	3.28	3.88	4.14	4.53	4.89
	45	.	1.53	1.95	2.41	2.91	3.41	3.65	4.00	4.31
	50	.	.	1.71	2.13	2.56	3.01	3.20	3.51	3.78
	55	.	.	1.50	1.86	2.24	2.64	2.81	3.07	3.30
	60	.	.	.	1.62	1.95	2.30	2.45	2.68	2.88
	65	.	.	.	.	1.69	2.01	2.13	2.33	2.50

		Power kW								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	1.69	1.84	2.01	2.16	2.30	2.41	2.45	2.49	2.51
	35	1.71	1.89	2.08	2.26	2.42	2.56	2.60	2.65	2.68
	40	1.70	1.92	2.14	2.35	2.54	2.70	2.75	2.82	2.86
	45	.	1.93	2.18	2.42	2.64	2.84	2.90	2.98	3.04
	50	.	.	2.21	2.48	2.74	2.97	3.05	3.15	3.22
	55	.	.	2.21	2.53	2.83	3.10	3.19	3.32	3.41
	60	.	.	.	2.57	2.91	3.22	3.33	3.48	3.59
	65	.	.	.	.	2.98	3.33	3.46	3.64	3.77

		Current at 220V A								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	10.84	11.27	11.77	12.28	12.77	13.17	13.29	13.43	13.49
	35	10.87	11.38	11.97	12.59	13.17	13.67	13.83	14.03	14.14
	40	10.83	11.45	12.15	12.87	13.57	14.19	14.40	14.67	14.84
	45	.	11.47	12.29	13.14	13.96	14.71	14.97	15.32	15.56
	50	.	.	12.38	13.37	14.33	15.23	15.55	15.99	16.30
	55	.	.	12.41	13.56	14.68	15.73	16.12	16.66	17.06
	60	.	.	.	13.70	15.00	16.22	16.68	17.33	17.81
	65	.	.	.	.	15.27	16.69	17.22	17.98	18.57

		Refrigerant Mass Flow g/s								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	16.34	23.05	31.36	41.02	51.82	63.52	68.40	75.89	82.26
	35	15.02	21.52	29.64	39.17	49.87	61.51	66.37	73.86	80.23
	40	13.66	19.92	27.85	37.22	47.79	59.36	64.21	71.67	78.04
	45	.	18.27	25.98	35.17	45.61	57.08	61.90	69.33	75.69
	50	.	.	24.04	33.04	43.32	54.67	59.46	66.85	73.18
	55	.	.	22.05	30.83	40.94	52.15	56.89	64.23	70.52
	60	.	.	.	28.54	38.46	49.51	54.20	61.47	67.73
	65	.	.	.	.	35.89	46.77	51.40	58.59	64.79

Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without notice.

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Revision date 04-99

Status: Y

Copeland Ref: 2.12AC5I



CR41KQ-PFT

Refrigerant: R 22

50 Hz

Air Over: 35°C

Suction Superheat: 11.1K
Liquid Subcooling: 8.3K

		Refrigeration Capacity kW					Evaporating Temperature °C			
		-20	-15	-10	-5	0	5	7	10	12.5
Condensing Temp. °C	30	3.46	4.83	6.53	8.53	10.81	13.30	14.39	16.03	17.46
	35	3.11	4.37	5.98	7.88	10.05	12.48	13.51	15.09	16.50
	40	2.76	3.93	5.42	7.22	9.30	11.61	12.60	14.14	15.48
	45	.	3.49	4.89	6.59	8.56	10.75	11.72	13.19	14.47
	50	.	.	4.37	5.95	7.79	9.90	10.81	12.22	13.45
	55	.	.	3.87	5.33	7.06	9.05	9.90	11.25	12.42
	60	.	.	.	4.75	6.36	8.20	9.02	10.28	11.40
65	.	.	.	.	5.65	7.38	8.15	9.35	10.40	

COP

		-20	-15	-10	-5	0	5	7	10	12.5
30	1.93	2.44	3.01	3.66	4.40	5.22	5.58	6.16	6.69	
35	1.71	2.13	2.64	3.22	3.85	4.56	4.86	5.35	5.81	
40	1.51	1.88	2.32	2.82	3.37	3.98	4.24	4.65	5.03	
45	.	1.66	2.05	2.48	2.95	3.47	3.71	4.06	4.37	
50	.	.	1.80	2.17	2.58	3.04	3.23	3.53	3.80	
55	.	.	1.58	1.90	2.26	2.65	2.81	3.07	3.30	
60	.	.	.	1.67	1.97	2.30	2.45	2.66	2.86	
65	.	.	.	.	1.71	2.00	2.12	2.31	2.48

Power kW

		-20	-15	-10	-5	0	5	7	10	12.5
30	1.79	1.98	2.17	2.33	2.46	2.55	2.58	2.60	2.61	
35	1.82	2.05	2.26	2.45	2.61	2.74	2.78	2.82	2.84	
40	1.82	2.09	2.34	2.56	2.76	2.92	2.97	3.04	3.08	
45	.	2.10	2.39	2.66	2.90	3.10	3.16	3.25	3.31	
50	.	.	2.43	2.74	3.02	3.26	3.35	3.46	3.54	
55	.	.	2.45	2.81	3.13	3.42	3.52	3.66	3.77	
60	.	.	.	2.85	3.23	3.57	3.69	3.86	3.99	
65	.	.	.	.	3.31	3.70	3.84	4.05	4.20

Current at 220V A

		-20	-15	-10	-5	0	5	7	10	12.5
30	12.63	13.07	13.56	14.04	14.46	14.79	14.89	14.98	15.00	
35	12.69	13.26	13.86	14.46	15.00	15.44	15.57	15.73	15.81	
40	12.66	13.37	14.11	14.85	15.52	16.09	16.28	16.52	16.66	
45	.	13.40	14.30	15.20	16.03	16.75	17.00	17.32	17.54	
50	.	.	14.42	15.49	16.50	17.40	17.72	18.15	18.45	
55	.	.	14.45	15.73	16.93	18.03	18.42	18.97	19.36	
60	.	.	.	15.88	17.31	18.62	19.11	19.78	20.28	
65	.	.	.	.	17.63	19.18	19.76	20.57	21.19

Refrigerant Mass Flow g/s

		-20	-15	-10	-5	0	5	7	10	12.5
30	19.41	26.75	35.71	46.10	57.73	70.40	75.72	83.94	90.96	
35	18.00	25.07	33.81	44.04	55.57	68.19	73.51	81.73	88.78	
40	16.60	23.36	31.85	41.89	53.27	65.81	71.10	79.31	86.37	
45	.	21.64	29.84	39.64	50.85	63.26	68.53	76.70	83.75	
50	.	.	27.80	37.33	48.32	60.58	65.80	73.91	80.93	
55	.	.	25.75	34.97	45.71	57.77	62.92	70.97	77.93	
60	.	.	.	32.57	43.02	54.86	59.93	67.87	74.77	
65	.	.	.	.	40.29	51.85	56.83	64.65	71.46

Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without notice.

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Revision date 06-98

Status: Y

Copeland Ref: 2.12AC5I



CR47KQ-PFZ

Refrigerant: R 22

50 Hz

Air Over: 35°C

Suction Superheat: 11.1K
Liquid Subcooling: 8.3K

		Refrigeration Capacity kW					Evaporating Temperature °C			
		-20	-15	-10	-5	0	5	7	10	12.5
Condensing Temp. °C	30	4.23	5.77	7.71	9.99	12.60	15.44	16.64	18.49	20.07
	35	3.78	5.22	7.06	9.26	11.75	14.50	15.68	17.46	19.02
	40	3.39	4.72	6.43	8.51	10.91	13.57	14.69	16.44	17.93
	45	.	4.22	5.83	7.79	10.08	12.63	13.71	15.41	16.85
	50	.	.	5.24	7.09	9.26	11.69	12.72	14.36	15.73
	55	.	.	4.69	6.39	8.44	10.72	11.72	13.27	14.59
	60	.	.	.	5.71	7.59	9.76	10.69	12.16	13.45
	65	.	.	.	.	6.77	8.79	9.67	11.05	12.25

		COP								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	2.02	2.52	3.11	3.77	4.53	5.38	5.78	6.40	6.99
	35	1.77	2.20	2.72	3.31	3.96	4.71	5.04	5.56	6.06
	40	1.58	1.94	2.38	2.90	3.46	4.11	4.39	4.83	5.24
	45	.	1.71	2.10	2.54	3.04	3.59	3.82	4.21	4.54
	50	.	.	1.85	2.24	2.66	3.13	3.33	3.66	3.94
	55	.	.	1.63	1.96	2.33	2.73	2.90	3.18	3.41
	60	.	.	.	1.72	2.03	2.37	2.52	2.75	2.96
	65	.	.	.	.	1.77	2.06	2.19	2.38	2.55

		Power kW								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	2.09	2.29	2.48	2.65	2.78	2.87	2.88	2.89	2.87
	35	2.13	2.37	2.60	2.80	2.97	3.08	3.11	3.14	3.14
	40	2.15	2.43	2.70	2.94	3.15	3.30	3.35	3.40	3.42
	45	.	2.47	2.78	3.07	3.32	3.52	3.59	3.66	3.71
	50	.	.	2.84	3.17	3.48	3.73	3.82	3.92	3.99
	55	.	.	2.87	3.26	3.62	3.93	4.04	4.18	4.28
	60	.	.	.	3.32	3.74	4.11	4.24	4.42	4.55
	65	.	.	.	.	3.82	4.26	4.42	4.64	4.80

		Current at 240V A								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	12.17	12.70	13.27	13.81	14.26	14.56	14.62	14.64	14.57
	35	12.31	12.94	13.61	14.27	14.84	15.26	15.37	15.46	15.47
	40	12.38	13.13	13.93	14.72	15.43	16.00	16.17	16.36	16.44
	45	.	13.25	14.21	15.16	16.03	16.77	17.01	17.30	17.47
	50	.	.	14.41	15.54	16.60	17.53	17.84	18.26	18.53
	55	.	.	14.51	15.84	17.11	18.25	18.66	19.20	19.58
	60	.	.	.	16.04	17.54	18.92	19.42	20.11	20.62
	65	.	.	.	.	17.86	19.50	20.11	20.96	21.60

		Refrigerant Mass Flow g/s								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	23.67	31.88	42.08	53.98	67.25	81.61	87.59	96.75	104.51
	35	21.98	29.91	39.91	51.68	64.91	79.30	85.31	94.54	102.39
	40	20.43	28.03	37.77	49.37	62.50	76.87	82.89	92.16	100.07
	45	.	26.19	35.63	47.00	59.98	74.27	80.29	89.58	97.51
	50	.	.	33.45	44.54	57.32	71.49	77.48	86.75	94.69
	55	.	.	31.20	41.95	54.48	68.48	74.42	83.63	91.55
	60	.	.	.	39.21	51.43	65.20	71.07	80.21	88.08
	65	.	.	.	.	48.13	61.62	67.40	76.43	84.23

Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without notice.

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CR18KQ-TFD

Refrigerant: R 22

50 Hz

Air Over: 35°C

Suction Superheat: 11.1K

Liquid Subcooling: 8.3K

		Refrigeration Capacity kW					Evaporating Temperature °C			
		-20	-15	-10	-5	0	5	7	10	12.5
Condensing Temp. °C	30	1.74	2.05	2.78	3.78	5.01	6.39	6.94	7.76	8.47
	35	1.73	1.90	2.49	3.40	4.54	5.83	6.36	7.18	7.85
	40	1.78	1.82	2.26	3.05	4.10	5.31	5.82	6.60	7.25
	45	.	1.73	2.05	2.72	3.66	4.81	5.30	6.04	6.68
	50	.	.	1.85	2.40	3.25	4.31	4.78	5.48	6.09
	55	.	.	1.64	2.08	2.84	3.84	4.28	4.95	5.51
	60	.	.	.	1.79	2.46	3.34	3.75	4.40	4.95
	65	.	.	.	.	2.05	2.87	3.22	3.84	4.37

		COP								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	2.35	2.63	3.24	4.02	4.96	6.14	6.61	7.54	8.47
	35	2.22	2.29	2.77	3.43	4.24	5.16	5.53	6.24	6.89
	40	2.14	2.11	2.40	2.96	3.63	4.35	4.70	5.24	5.71
	45	.	1.92	2.11	2.55	3.08	3.72	3.99	4.41	4.81
	50	.	.	1.86	2.18	2.64	3.17	3.41	3.73	4.04
	55	.	.	1.64	1.86	2.26	2.72	2.91	3.19	3.42
	60	.	.	.	1.60	1.92	2.30	2.48	2.73	2.93
	65	.	.	.	.	1.61	1.97	2.09	2.31	2.49

		Power kW								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	0.74	0.78	0.86	0.94	1.01	1.04	1.05	1.03	1.00
	35	0.78	0.83	0.90	0.99	1.07	1.13	1.15	1.15	1.14
	40	0.83	0.86	0.94	1.03	1.13	1.22	1.24	1.26	1.27
	45	.	0.90	0.97	1.07	1.19	1.29	1.33	1.37	1.39
	50	.	.	0.99	1.10	1.23	1.36	1.40	1.47	1.51
	55	.	.	1.00	1.12	1.26	1.41	1.47	1.55	1.61
	60	.	.	.	1.12	1.28	1.45	1.51	1.61	1.69
	65	.	.	.	.	1.27	1.46	1.54	1.66	1.75

		Current at 380V A								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	2.04	2.10	2.19	2.28	2.36	2.41	2.42	2.42	2.40
	35	2.09	2.14	2.23	2.33	2.44	2.53	2.56	2.58	2.59
	40	2.13	2.18	2.27	2.38	2.51	2.63	2.68	2.73	2.76
	45	.	2.21	2.30	2.43	2.58	2.73	2.79	2.87	2.92
	50	.	.	2.33	2.47	2.63	2.81	2.88	2.99	3.07
	55	.	.	2.37	2.51	2.69	2.89	2.97	3.10	3.20
	60	.	.	.	2.55	2.74	2.96	3.06	3.20	3.32
	65	.	.	.	.	2.79	3.03	3.13	3.30	3.44

		Refrigerant Mass Flow g/s								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	9.66	11.38	15.15	20.45	26.81	33.71	36.52	40.67	44.01
	35	9.86	10.92	14.15	19.05	25.13	31.89	34.68	38.84	42.22
	40	10.17	10.55	13.22	17.71	23.50	30.10	32.85	37.01	40.43
	45	.	10.23	12.34	16.38	21.86	28.28	31.00	35.15	38.59
	50	.	.	11.45	15.03	20.19	26.41	29.09	33.21	36.67
	55	.	.	10.52	13.63	18.44	24.45	27.08	31.17	34.63
	60	.	.	.	12.14	16.58	22.36	24.94	28.98	32.44
	65	.	.	.	.	14.58	20.10	22.61	26.60	30.05

Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without notice.

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CR24KQ-TFD
Refrigerant: R 22

Suction Superheat: 11.1K
 Liquid Subcooling: 8.3K

50 Hz
 Air Over: 35°C

		Refrigeration Capacity kW					Evaporating Temperature °C				
		-20	-15	-10	-5	0	5	7	10	12.5	
Condensing Temp. °C	30	2.01	2.75	3.72	4.89	6.24	7.74	8.38	9.38	10.26	
	35	1.79	2.46	3.34	4.45	5.74	7.18	7.79	8.76	9.61	
	40	1.58	2.17	2.99	4.02	5.23	6.61	7.21	8.14	8.95	
	45	.	1.90	2.64	3.60	4.75	6.04	6.62	7.50	8.29	
	50	.	.	2.34	3.19	4.25	5.48	6.04	6.89	7.62	
	55	.	.	2.05	2.81	3.78	4.95	5.45	6.24	6.97	
	60	.	.	.	2.46	3.34	4.42	4.89	5.63	6.30	
	65	.	.	.	.	2.96	3.93	4.34	5.04	5.65

		COP									
		-20	-15	-10	-5	0	5	7	10	12.5	
	30	2.29	2.75	3.35	4.04	4.84	5.82	6.25	7.00	7.77	
	35	2.03	2.41	2.88	3.48	4.16	4.95	5.30	5.92	6.45	
	40	1.84	2.11	2.51	3.02	3.58	4.24	4.53	5.02	5.46	
	45	.	1.87	2.20	2.63	3.12	3.66	3.90	4.29	4.66	
	50	.	.	1.94	2.28	2.69	3.15	3.37	3.68	3.97	
	55	.	.	1.71	1.98	2.32	2.74	2.90	3.17	3.42	
	60	.	.	.	1.72	2.01	2.35	2.50	2.72	2.92	
	65	.	.	.	.	1.75	2.03	2.14	2.33	2.50

		Power kW									
		-20	-15	-10	-5	0	5	7	10	12.5	
	30	0.88	1.00	1.11	1.21	1.29	1.33	1.34	1.34	1.32	
	35	0.88	1.02	1.16	1.28	1.38	1.45	1.47	1.48	1.49	
	40	0.86	1.03	1.19	1.33	1.46	1.56	1.59	1.62	1.64	
	45	.	1.02	1.20	1.37	1.52	1.65	1.70	1.75	1.78	
	50	.	.	1.21	1.40	1.58	1.74	1.79	1.87	1.92	
	55	.	.	1.20	1.42	1.63	1.81	1.88	1.97	2.04	
	60	.	.	.	1.43	1.66	1.88	1.96	2.07	2.16	
	65	.	.	.	.	1.69	1.93	2.03	2.16	2.26

		Current at 380V A									
		-20	-15	-10	-5	0	5	7	10	12.5	
	30	2.07	2.20	2.33	2.44	2.54	2.59	2.60	2.60	2.58	
	35	2.07	2.22	2.38	2.53	2.65	2.75	2.77	2.79	2.80	
	40	2.05	2.23	2.42	2.60	2.76	2.89	2.93	2.98	3.01	
	45	.	2.22	2.44	2.65	2.85	3.02	3.08	3.16	3.21	
	50	.	.	2.45	2.69	2.93	3.15	3.22	3.33	3.40	
	55	.	.	2.44	2.72	3.00	3.26	3.35	3.48	3.58	
	60	.	.	.	2.73	3.05	3.35	3.47	3.63	3.75	
	65	.	.	.	.	3.08	3.43	3.56	3.75	3.90

		Refrigerant Mass Flow g/s									
		-20	-15	-10	-5	0	5	7	10	12.5	
	30	11.26	15.25	20.33	26.39	33.29	40.90	44.12	49.10	53.38	
	35	10.33	14.07	18.96	24.87	31.68	39.26	42.49	47.49	51.80	
	40	9.46	12.90	17.55	23.28	29.97	37.47	40.68	45.68	50.00	
	45	.	11.79	16.16	21.66	28.17	35.56	38.73	43.70	48.01	
	50	.	.	14.81	20.05	26.34	33.57	36.69	41.60	45.88	
	55	.	.	13.56	18.47	24.50	31.53	34.58	39.41	43.63	
	60	.	.	.	16.98	22.70	29.48	32.45	37.16	41.31	
	65	.	.	.	.	20.98	27.45	30.32	34.90	38.95

Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without notice.

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CR28KQE-TFD

Refrigerant: R 407C

50 Hz Mid-Point Data

Air Over: 35°C

Suction Superheat: 11.1K

Liquid Subcooling: 8.3K

Condensing Temp. °C	Refrigeration Capacity kW					Evaporating Temperature °C				
	-20	-15	-10	-5	0	5	7	10	12.5	
30	2.42	3.34	4.45	5.74	7.21	8.85	9.55	10.64	11.60	
35	2.14	2.99	4.04	5.27	6.68	8.26	8.94	9.99	10.93	
40	1.88	2.67	3.63	4.79	6.14	7.66	8.32	9.34	10.23	
45	.	2.34	3.22	4.34	5.60	7.06	7.68	8.67	9.52	
50	.	.	2.84	3.87	5.07	6.45	7.06	8.00	8.82	
55	.	.	2.49	3.43	4.54	5.86	6.42	7.33	8.12	
60	.	.	.	2.99	4.04	5.24	5.80	6.65	7.38	
65	.	.	.	.	3.55	4.69	5.19	5.98	6.71

COP

	-20	-15	-10	-5	0	5	7	10	12.5
30	2.30	2.83	3.43	4.10	4.87	5.78	6.24	6.95	7.63
35	2.02	2.45	2.97	3.56	4.23	5.01	5.35	5.95	6.51
40	1.78	2.17	2.59	3.09	3.68	4.33	4.62	5.10	5.56
45	.	1.91	2.27	2.71	3.20	3.76	4.00	4.40	4.79
50	.	.	1.99	2.37	2.79	3.27	3.48	3.81	4.12
55	.	.	1.75	2.07	2.42	2.83	3.01	3.30	3.54
60	.	.	.	1.79	2.10	2.44	2.60	2.83	3.04
65	.	.	.	.	1.80	2.10	2.23	2.42	2.61

Power kW

	-20	-15	-10	-5	0	5	7	10	12.5
30	1.05	1.18	1.30	1.40	1.48	1.53	1.53	1.53	1.52
35	1.06	1.22	1.36	1.48	1.58	1.65	1.67	1.68	1.68
40	1.06	1.23	1.40	1.55	1.67	1.77	1.80	1.83	1.84
45	.	1.23	1.42	1.60	1.75	1.88	1.92	1.97	1.99
50	.	.	1.43	1.63	1.82	1.97	2.03	2.10	2.14
55	.	.	1.42	1.66	1.88	2.07	2.13	2.22	2.29
60	.	.	.	1.67	1.93	2.15	2.23	2.35	2.43
65	.	.	.	.	1.97	2.23	2.33	2.47	2.57

Current at 380V A

	-20	-15	-10	-5	0	5	7	10	12.5
30	2.15	2.27	2.38	2.48	2.55	2.59	2.60	2.59	2.58
35	2.16	2.30	2.44	2.56	2.65	2.72	2.74	2.75	2.75
40	2.15	2.32	2.47	2.62	2.74	2.84	2.87	2.90	2.92
45	.	2.31	2.49	2.67	2.82	2.95	2.99	3.05	3.08
50	.	.	2.50	2.70	2.89	3.06	3.11	3.19	3.24
55	.	.	2.49	2.73	2.95	3.16	3.23	3.33	3.41
60	.	.	.	2.75	3.01	3.26	3.35	3.47	3.57
65	.	.	.	.	3.06	3.35	3.46	3.61	3.73

Refrigerant Mass Flow g/s

	-20	-15	-10	-5	0	5	7	10	12.5
30	13.60	18.49	24.36	31.12	38.69	46.99	50.49	55.93	60.61
35	12.51	17.19	22.91	29.57	37.09	45.38	48.90	54.37	59.10
40	11.39	15.84	21.37	27.90	35.33	43.60	47.11	52.60	57.35
45	.	14.48	19.79	26.14	33.46	41.65	45.16	50.64	55.41
50	.	.	18.18	24.33	31.50	39.59	43.07	48.53	53.29
55	.	.	16.59	22.51	29.49	37.44	40.88	46.29	51.03
60	.	.	.	20.69	27.45	35.24	38.62	43.97	48.67
65	.	.	.	.	25.42	33.01	36.33	41.59	46.23

Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without notice.

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Revision date 08-02

Status: Y

Copeland Ref: 2.13AC5I



CR33KQ-TFD

Refrigerant: R 22

50 Hz

Air Over: 35°C

Suction Superheat: 11.1K
Liquid Subcooling: 8.3K

		Refrigeration Capacity kW					Evaporating Temperature °C			
		-20	-15	-10	-5	0	5	7	10	12.5
Condensing Temp. °C	30	2.66	3.69	5.04	6.65	8.50	10.55	11.40	12.75	13.89
	35	2.40	3.31	4.57	6.07	7.82	9.79	10.64	11.95	13.07
	40	2.16	2.96	4.10	5.51	7.17	9.06	9.86	11.12	12.22
	45	.	2.64	3.66	4.95	6.53	8.32	9.08	10.31	11.37
	50	.	.	3.22	4.42	5.89	7.59	8.32	9.49	10.52
	55	.	.	2.84	3.93	5.27	6.86	7.56	8.67	9.64
	60	.	.	.	3.43	4.66	6.12	6.80	7.85	8.76
	65	.	.	.	.	4.04	5.42	6.04	7.03	7.91

COP

		-20	-15	-10	-5	0	5	7	10	12.5
	30	2.13	2.64	3.23	3.89	4.62	5.47	5.84	6.47	7.09
	35	1.89	2.30	2.82	3.39	4.01	4.73	5.06	5.61	6.11
	40	1.69	2.03	2.47	2.96	3.52	4.14	4.40	4.84	5.24
	45	.	1.78	2.15	2.58	3.07	3.59	3.82	4.19	4.53
	50	.	.	1.88	2.26	2.66	3.12	3.32	3.64	3.92
	55	.	.	1.66	1.97	2.32	2.72	2.89	3.15	3.39
	60	.	.	.	1.72	2.02	2.36	2.51	2.74	2.93
	65	.	.	.	.	1.74	2.04	2.16	2.37	2.54

Power kW

		-20	-15	-10	-5	0	5	7	10	12.5
	30	1.25	1.40	1.56	1.71	1.84	1.93	1.95	1.97	1.96
	35	1.27	1.44	1.62	1.79	1.95	2.07	2.10	2.13	2.14
	40	1.28	1.46	1.66	1.86	2.04	2.19	2.24	2.30	2.33
	45	.	1.48	1.70	1.92	2.13	2.32	2.38	2.46	2.51
	50	.	.	1.71	1.96	2.21	2.43	2.51	2.61	2.68
	55	.	.	1.71	1.99	2.27	2.52	2.62	2.75	2.84
	60	.	.	.	1.99	2.31	2.60	2.71	2.87	2.99
	65	.	.	.	.	2.32	2.66	2.79	2.97	3.11

Current at 420V A

		-20	-15	-10	-5	0	5	7	10	12.5
	30	3.08	3.20	3.35	3.50	3.64	3.73	3.75	3.76	3.74
	35	3.12	3.24	3.40	3.58	3.74	3.86	3.90	3.93	3.93
	40	3.14	3.28	3.45	3.65	3.84	4.00	4.05	4.10	4.13
	45	.	3.29	3.49	3.71	3.93	4.13	4.20	4.28	4.33
	50	.	.	3.50	3.76	4.01	4.25	4.34	4.46	4.53
	55	.	.	3.50	3.79	4.08	4.37	4.48	4.63	4.73
	60	.	.	.	3.79	4.14	4.47	4.60	4.79	4.92
	65	.	.	.	.	4.17	4.56	4.71	4.93	5.10

Refrigerant Mass Flow g/s

		-20	-15	-10	-5	0	5	7	10	12.5
	30	14.91	20.47	27.55	35.93	45.39	55.72	60.04	66.69	72.34
	35	13.93	19.06	25.81	33.96	43.29	53.58	57.92	64.62	70.34
	40	13.03	17.69	24.07	31.94	41.10	51.32	55.65	62.38	68.15
	45	.	16.36	22.32	29.89	38.83	48.93	53.24	59.97	65.77
	50	.	.	20.57	27.78	36.47	46.41	50.69	57.39	63.20
	55	.	.	18.82	25.63	34.02	43.76	47.99	54.65	60.44
	60	.	.	.	23.44	31.49	40.99	45.15	51.73	57.49
	65	.	.	.	.	28.87	38.09	42.17	48.65	54.36

Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without notice.

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Revision date 08-98

Status: Y

Copeland Ref: 2.12AC5I



CR37KQ-TFD

Refrigerant: R 22

50 Hz

Air Over: 35°C

Suction Superheat: 11.1K

Liquid Subcooling: 8.3K

		Refrigeration Capacity kW					Evaporating Temperature °C				
		-20	-15	-10	-5	0	5	7	10	12.5	
Condensing Temp. °C	30	3.27	4.48	5.98	7.74	9.73	11.95	12.92	14.42	15.70	
	35	2.90	4.04	5.45	7.15	9.05	11.19	12.13	13.57	14.83	
	40	2.57	3.63	4.96	6.55	8.38	10.43	11.32	12.70	13.91	
	45	.	3.25	4.48	5.98	7.71	9.67	10.52	11.84	13.01	
	50	.	.	4.04	5.42	7.06	8.91	9.73	10.99	12.10	
	55	.	.	3.60	4.89	6.42	8.17	8.91	10.11	11.16	
	60	.	.	.	4.37	5.77	7.41	8.12	9.23	10.23	
	65	.	.	.	.	5.16	6.65	7.33	8.35	9.29

		COP								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	2.32	2.80	3.36	3.99	4.70	5.48	5.82	6.38	6.89
	35	2.04	2.47	2.95	3.50	4.12	4.78	5.10	5.56	5.98
	40	1.80	2.16	2.60	3.07	3.61	4.19	4.46	4.85	5.21
	45	.	1.92	2.29	2.70	3.17	3.68	3.90	4.23	4.55
	50	.	.	2.03	2.39	2.79	3.23	3.41	3.71	3.97
	55	.	.	1.79	2.10	2.45	2.83	2.99	3.24	3.47
	60	.	.	.	1.85	2.15	2.48	2.61	2.83	3.02
	65	.	.	.	.	1.88	2.16	2.28	2.46	2.62

		Power kW								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	1.41	1.60	1.78	1.94	2.07	2.18	2.22	2.26	2.28
	35	1.42	1.64	1.85	2.04	2.20	2.34	2.38	2.44	2.48
	40	1.43	1.68	1.91	2.13	2.32	2.49	2.54	2.62	2.67
	45	.	1.69	1.96	2.21	2.43	2.63	2.70	2.80	2.86
	50	.	.	1.99	2.27	2.53	2.76	2.85	2.96	3.05
	55	.	.	2.01	2.33	2.62	2.89	2.98	3.12	3.22
	60	.	.	.	2.36	2.69	2.99	3.11	3.26	3.39
	65	.	.	.	.	2.74	3.08	3.21	3.39	3.54

		Current at 420V A								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	3.49	3.66	3.82	3.97	4.10	4.21	4.25	4.29	4.31
	35	3.50	3.70	3.89	4.07	4.23	4.38	4.43	4.49	4.54
	40	3.51	3.73	3.95	4.16	4.36	4.54	4.60	4.69	4.76
	45	.	3.75	4.00	4.25	4.48	4.70	4.78	4.89	4.98
	50	.	.	4.05	4.33	4.60	4.85	4.95	5.09	5.20
	55	.	.	4.07	4.39	4.70	5.00	5.11	5.28	5.41
	60	.	.	.	4.44	4.79	5.13	5.27	5.46	5.62
	65	.	.	.	.	4.87	5.25	5.40	5.63	5.81

		Refrigerant Mass Flow g/s								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	18.29	24.84	32.71	41.79	52.00	63.24	68.01	75.42	81.83
	35	16.83	23.20	30.92	39.90	50.03	61.23	65.99	73.40	79.82
	40	15.49	21.64	29.17	37.99	48.01	59.12	63.85	71.23	77.64
	45	.	20.15	27.44	36.07	45.91	56.89	61.58	68.91	75.28
	50	.	.	25.73	34.11	43.74	54.55	59.18	66.43	72.74
	55	.	.	24.02	32.11	41.49	52.07	56.62	63.76	69.99
	60	.	.	.	30.06	39.14	49.45	53.91	60.91	67.04
	65	.	.	.	.	36.68	46.68	51.02	57.86	63.87

Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without notice.

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Revision date 11-98

Status: Y

Copeland Ref: 2.12AC5I



CR41KQ-TFD

Refrigerant: R 22

50 Hz

Air Over: 35°C

Suction Superheat: 11.1K

Liquid Subcooling: 8.3K

		Refrigeration Capacity kW					Evaporating Temperature °C			
		-20	-15	-10	-5	0	5	7	10	12.5
Condensing Temp. °C	30	3.67	5.04	6.71	8.64	10.84	13.36	14.44	16.14	17.64
	35	3.28	4.57	6.15	8.00	10.11	12.51	13.57	15.21	16.67
	40	2.91	4.13	5.60	7.35	9.37	11.68	12.68	14.26	15.66
	45	.	3.69	5.07	6.71	8.64	10.84	11.78	13.30	14.65
	50	.	.	4.54	6.09	7.91	9.99	10.90	12.34	13.62
	55	.	.	4.04	5.48	7.15	9.11	9.96	11.34	12.57
	60	.	.	.	4.86	6.42	8.23	9.05	10.34	11.49
	65	.	.	.	.	5.68	7.38	8.12	9.32	10.40

COP

		-20	-15	-10	-5	0	5	7	10	12.5
	30	2.29	2.80	3.37	4.02	4.73	5.59	5.97	6.59	7.17
	35	2.01	2.46	2.96	3.52	4.14	4.87	5.18	5.70	6.17
	40	1.77	2.17	2.61	3.08	3.62	4.23	4.50	4.93	5.33
	45	.	1.91	2.28	2.69	3.17	3.69	3.91	4.28	4.61
	50	.	.	2.01	2.37	2.77	3.21	3.41	3.72	4.00
	55	.	.	1.78	2.08	2.42	2.80	2.96	3.22	3.45
	60	.	.	.	1.83	2.10	2.42	2.56	2.79	2.98
	65	.	.	.	.	1.83	2.10	2.22	2.41	2.57

Power kW

		-20	-15	-10	-5	0	5	7	10	12.5
	30	1.60	1.80	1.99	2.15	2.29	2.39	2.42	2.45	2.46
	35	1.63	1.86	2.08	2.27	2.44	2.57	2.62	2.67	2.70
	40	1.64	1.90	2.15	2.39	2.59	2.76	2.82	2.89	2.94
	45	.	1.93	2.22	2.49	2.73	2.94	3.01	3.11	3.18
	50	.	.	2.26	2.57	2.86	3.11	3.20	3.32	3.41
	55	.	.	2.27	2.63	2.96	3.26	3.37	3.52	3.64
	60	.	.	.	2.66	3.05	3.40	3.53	3.71	3.85
	65	.	.	.	.	3.10	3.51	3.66	3.87	4.04

Current at 420V A

		-20	-15	-10	-5	0	5	7	10	12.5
	30	3.82	4.00	4.17	4.34	4.47	4.58	4.62	4.65	4.67
	35	3.84	4.05	4.26	4.46	4.64	4.79	4.84	4.90	4.94
	40	3.84	4.10	4.35	4.59	4.81	5.00	5.07	5.16	5.22
	45	.	4.12	4.42	4.70	4.97	5.22	5.30	5.42	5.51
	50	.	.	4.46	4.80	5.12	5.42	5.53	5.69	5.80
	55	.	.	4.48	4.88	5.26	5.62	5.75	5.94	6.09
	60	.	.	.	4.92	5.36	5.79	5.95	6.18	6.36
	65	.	.	.	.	5.44	5.93	6.12	6.39	6.61

Refrigerant Mass Flow g/s

		-20	-15	-10	-5	0	5	7	10	12.5
	30	20.55	27.95	36.64	46.64	57.94	70.54	75.95	84.46	91.91
	35	19.00	26.23	34.78	44.66	55.88	68.43	73.83	82.33	89.78
	40	17.51	24.52	32.88	42.61	53.70	66.16	71.52	79.98	87.41
	45	.	22.81	30.94	40.47	51.38	63.70	69.02	77.41	84.80
	50	.	.	28.94	38.21	48.91	61.04	66.29	74.60	81.92
	55	.	.	26.86	35.84	46.28	58.17	63.34	71.53	78.76
	60	.	.	.	33.32	43.45	55.07	60.14	68.18	75.30
	65	.	.	.	.	40.43	51.72	56.67	64.54	71.52

Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without

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Revision date 06-98

Status: Y

Copeland Ref: 2.12AC5



CR47KQ-TFD

Refrigerant: R 22

50 Hz

Air Over: 35°C

Suction Superheat: 11.1K
Liquid Subcooling: 8.3K

		Refrigeration Capacity kW					Evaporating Temperature °C				
		-20	-15	-10	-5	0	5	7	10	12.5	
Condensing Temp. °C	30	4.31	5.89	7.76	9.96	12.45	15.18	16.32	18.11	19.66	
	35	3.90	5.36	7.15	9.23	11.60	14.24	15.35	17.08	18.58	
	40	3.52	4.86	6.53	8.51	10.77	13.29	14.36	16.04	17.48	
	45	.	4.40	5.95	7.79	9.96	12.36	13.39	15.00	16.41	
	50	.	.	5.36	7.12	9.14	11.43	12.39	13.95	15.29	
	55	.	.	4.83	6.42	8.32	10.49	11.43	12.89	14.15	
	60	.	.	.	5.77	7.53	9.55	10.43	11.81	13.04	
	65	.	.	.	.	6.74	8.61	9.43	10.75	11.90

		COP								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	2.28	2.78	3.33	3.97	4.73	5.62	6.02	6.71	7.36
	35	2.01	2.43	2.92	3.46	4.10	4.84	5.17	5.73	6.25
	40	1.79	2.13	2.55	3.02	3.56	4.18	4.45	4.90	5.33
	45	.	1.89	2.24	2.63	3.09	3.62	3.84	4.21	4.56
	50	.	.	1.96	2.31	2.69	3.12	3.31	3.62	3.91
	55	.	.	1.75	2.02	2.34	2.70	2.87	3.12	3.35
	60	.	.	.	1.77	2.04	2.34	2.48	2.69	2.88
	65	.	.	.	.	1.77	2.03	2.13	2.32	2.48

		Power kW								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	1.89	2.12	2.33	2.51	2.63	2.70	2.71	2.70	2.67
	35	1.94	2.21	2.45	2.67	2.83	2.94	2.97	2.98	2.97
	40	1.97	2.28	2.56	2.82	3.03	3.18	3.23	3.27	3.28
	45	.	2.32	2.66	2.96	3.22	3.42	3.49	3.56	3.60
	50	.	.	2.73	3.08	3.40	3.66	3.74	3.85	3.91
	55	.	.	2.77	3.18	3.56	3.88	3.98	4.13	4.22
	60	.	.	.	3.26	3.69	4.08	4.21	4.39	4.52
	65	.	.	.	.	3.80	4.25	4.42	4.64	4.80

		Current at 380V A								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	4.50	4.74	4.97	5.17	5.32	5.41	5.42	5.40	5.36
	35	4.55	4.83	5.11	5.37	5.57	5.71	5.74	5.76	5.75
	40	4.57	4.92	5.25	5.56	5.83	6.03	6.08	6.14	6.16
	45	.	4.97	5.37	5.75	6.08	6.35	6.44	6.53	6.59
	50	.	.	5.47	5.92	6.33	6.67	6.79	6.94	7.03
	55	.	.	5.52	6.06	6.55	6.98	7.13	7.33	7.47
	60	.	.	.	6.16	6.75	7.27	7.46	7.72	7.90
	65	.	.	.	.	6.91	7.53	7.76	8.08	8.32

		Refrigerant Mass Flow g/s								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	24.14	32.50	42.46	53.85	66.49	80.18	85.91	94.75	102.31
	35	22.62	30.66	40.39	51.61	64.15	77.82	83.56	92.43	100.04
	40	21.20	28.89	38.32	49.33	61.72	75.31	81.05	89.93	97.57
	45	.	27.15	36.25	46.99	59.19	72.66	78.37	87.23	94.87
	50	.	.	34.16	44.59	56.55	69.85	75.51	84.33	91.94
	55	.	.	32.06	42.12	53.79	66.88	72.47	81.21	88.78
	60	.	.	.	39.57	50.90	63.73	69.24	77.86	85.36
	65	.	.	.	.	47.88	60.39	65.79	74.29	81.69

Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without notice.

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CR53KQ-TFD

Refrigerant: R 22

50 Hz

Suction Superheat: 11.1K

Liquid Subcooling: 8.3K

Air Over: 35°C

		Refrigeration Capacity kW					Evaporating Temperature °C				
		-20	-15	-10	-5	0	5	7	10	12.5	
Condensing Temp. °C	30	5.10	6.83	8.85	11.19	13.86	16.85	18.14	20.19	21.98	
	35	4.57	6.24	8.17	10.43	12.98	15.85	17.08	19.05	20.77	
	40	4.05	5.65	7.52	9.67	12.10	14.84	16.02	17.89	19.54	
	45	.	5.10	6.85	8.91	11.25	13.86	14.97	16.76	18.34	
	50	.	.	6.21	8.17	10.37	12.86	13.92	15.62	17.11	
	55	.	.	5.57	7.41	9.52	11.87	12.86	14.47	15.88	
	60	.	.	.	6.68	8.64	10.87	11.81	13.33	14.65	
	65	.	.	.	.	7.76	9.84	10.75	12.16	13.42

		COP								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	2.34	2.80	3.31	3.91	4.62	5.45	5.81	6.43	7.00
	35	2.06	2.46	2.91	3.43	4.03	4.73	5.04	5.55	6.04
	40	1.81	2.17	2.56	3.00	3.51	4.10	4.37	4.80	5.20
	45	.	1.92	2.25	2.64	3.07	3.57	3.79	4.15	4.48
	50	.	.	1.99	2.32	2.68	3.11	3.28	3.59	3.86
	55	.	.	1.76	2.04	2.35	2.70	2.85	3.11	3.33
	60	.	.	.	1.79	2.05	2.35	2.47	2.68	2.87
	65	.	.	.	.	1.78	2.03	2.14	2.31	2.47

		Power kW								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	2.18	2.44	2.67	2.86	3.00	3.09	3.12	3.14	3.14
	35	2.22	2.54	2.81	3.04	3.22	3.35	3.39	3.43	3.44
	40	2.24	2.61	2.94	3.22	3.45	3.62	3.67	3.73	3.76
	45	.	2.65	3.04	3.38	3.66	3.88	3.95	4.04	4.09
	50	.	.	3.12	3.52	3.87	4.14	4.24	4.35	4.43
	55	.	.	3.17	3.64	4.05	4.40	4.51	4.66	4.77
	60	.	.	.	3.73	4.22	4.63	4.78	4.97	5.10
	65	.	.	.	.	4.36	4.85	5.03	5.26	5.43

		Current at 380V A								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	5.25	5.54	5.80	6.03	6.20	6.31	6.34	6.35	6.34
	35	5.31	5.66	5.98	6.26	6.48	6.64	6.68	6.72	6.73
	40	5.32	5.75	6.14	6.48	6.77	6.99	7.05	7.13	7.16
	45	.	5.80	6.27	6.70	7.06	7.35	7.44	7.55	7.62
	50	.	.	6.38	6.89	7.34	7.71	7.84	8.00	8.10
	55	.	.	6.44	7.06	7.61	8.08	8.24	8.45	8.59
	60	.	.	.	7.19	7.85	8.43	8.63	8.90	9.10
	65	.	.	.	.	8.07	8.76	9.00	9.34	9.60

		Refrigerant Mass Flow g/s								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	28.55	37.77	48.40	60.46	73.99	89.03	95.47	105.60	114.47
	35	26.52	35.74	46.33	58.31	71.73	86.62	92.99	103.01	111.78
	40	24.44	33.64	44.17	56.07	69.37	84.10	90.41	100.30	108.96
	45	.	31.45	41.92	53.72	66.89	81.46	87.68	97.45	106.00
	50	.	.	39.54	51.24	64.27	78.65	84.80	94.44	102.86
	55	.	.	37.02	48.60	61.47	75.67	81.73	91.24	99.54
	60	.	.	.	45.77	58.49	72.49	78.46	87.82	96.00
	65	.	.	.	.	55.29	69.09	74.97	84.18	92.22

Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without notice.

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Revision date 10-00

Status: Y

Copeland Ref: 2.12AC5I



CRNQ-0500-TFD

Refrigerant: R 22

50 Hz

Air Over: 35°C

Suction Superheat: 11.1K

Liquid Subcooling: 8.3K

		Refrigeration Capacity kW					Evaporating Temperature °C			
		-20	-15	-10	-5	0	5	7	10	12.5
Condensing Temp. °C	30	6.17	8.00	10.26	12.92	16.00	19.48	20.98	23.38	25.46
	35	5.51	7.24	9.41	11.95	14.94	18.34	19.81	22.12	24.14
	40	4.90	6.50	8.54	11.00	13.87	17.13	18.55	20.80	22.78
	45	.	5.80	7.70	10.05	12.77	15.94	17.32	19.48	21.39
	50	.	.	6.89	9.08	11.69	14.71	16.03	18.11	19.95
	55	.	.	6.07	8.12	10.58	13.45	14.71	16.73	18.49
	60	.	.	.	7.18	9.49	12.19	13.39	15.29	16.99
	65	.	.	.	.	8.38	10.93	12.04	13.86	15.47

COP

		-20	-15	-10	-5	0	5	7	10	12.5
	30	2.54	2.91	3.40	3.98	4.66	5.46	5.80	6.35	6.84
	35	2.23	2.54	2.96	3.46	4.05	4.72	5.01	5.48	5.87
	40	2.00	2.24	2.60	3.03	3.54	4.12	4.37	4.76	5.11
	45	.	1.99	2.29	2.67	3.11	3.61	3.83	4.17	4.47
	50	.	.	2.03	2.35	2.74	3.17	3.36	3.65	3.91
	55	.	.	1.78	2.06	2.39	2.77	2.94	3.20	3.42
	60	.	.	.	1.79	2.08	2.41	2.56	2.78	2.98
	65	.	.	.	.	1.79	2.08	2.20	2.40	2.57

Power kW

		-20	-15	-10	-5	0	5	7	10	12.5
	30	2.43	2.75	3.02	3.25	3.43	3.57	3.62	3.68	3.72
	35	2.47	2.85	3.18	3.46	3.69	3.89	3.95	4.04	4.11
	40	2.45	2.90	3.29	3.63	3.92	4.16	4.25	4.37	4.46
	45	.	2.91	3.36	3.76	4.11	4.41	4.52	4.67	4.79
	50	.	.	3.40	3.86	4.27	4.64	4.77	4.96	5.10
	55	.	.	3.41	3.94	4.42	4.85	5.01	5.23	5.41
	60	.	.	.	4.01	4.56	5.05	5.24	5.50	5.71
	65	.	.	.	.	4.69	5.26	5.47	5.78	6.02

Current at 380V A

		-20	-15	-10	-5	0	5	7	10	12.5
	30	4.29	4.84	5.28	5.64	5.93	6.17	6.26	6.38	6.47
	35	4.35	5.00	5.54	5.99	6.37	6.69	6.81	6.97	7.10
	40	4.34	5.09	5.73	6.28	6.76	7.17	7.32	7.53	7.71
	45	.	5.11	5.86	6.52	7.09	7.60	7.79	8.06	8.28
	50	.	.	5.93	6.70	7.38	7.99	8.22	8.55	8.82
	55	.	.	5.93	6.82	7.62	8.34	8.61	9.00	9.32
	60	.	.	.	6.88	7.80	8.64	8.96	9.42	9.79
	65	.	.	.	.	7.93	8.89	9.26	9.79	10.22

Refrigerant Mass Flow g/s

		-20	-15	-10	-5	0	5	7	10	12.5
	30	34.54	44.22	55.98	69.76	85.45	102.98	110.49	122.27	132.55
	35	32.05	41.52	53.15	66.86	82.56	100.16	107.72	119.60	129.97
	40	29.53	38.75	50.19	63.78	79.44	97.08	104.67	116.61	127.06
	45	.	35.87	47.08	60.51	76.08	93.69	101.29	113.27	123.77
	50	.	.	43.80	57.01	72.44	89.98	97.57	109.56	120.09
	55	.	.	40.30	53.26	68.49	85.91	93.48	105.44	115.97
	60	.	.	.	49.21	64.20	81.46	88.98	100.89	111.40
	65	.	.	.	.	59.55	76.59	84.04	95.88	106.34

Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without notice.



CR18KQE-PFZ

Refrigerant: R 407C

50 Hz Mid-Point Data

Air Over: 35°C

Suction Superheat: 11.1K

Liquid Subcooling: 8.3K

		Refrigeration Capacity kW					Evaporating Temperature °C			
		-20	-15	-10	-5	0	5	7	10	12.5
Condensing Temp. °C	30	1.63	2.20	2.90	3.75	4.66	5.71	6.15	6.83	7.41
	35	1.47	2.02	2.70	3.49	4.37	5.36	5.80	6.45	7.03
	40	1.29	1.82	2.45	3.21	4.07	5.02	5.43	6.07	6.63
	45	.	1.61	2.23	2.93	3.75	4.69	5.07	5.68	6.21
	50	.	.	1.96	2.67	3.46	4.34	4.72	5.30	5.83
	55	.	.	1.73	2.37	3.14	3.98	4.34	4.92	5.42
	60	.	.	.	2.11	2.81	3.63	3.98	4.51	4.98
65	.	.	.	.	2.49	3.28	3.60	4.13	4.57	

COP

		-20	-15	-10	-5	0	5	7	10	12.5
30	1.93	2.39	2.93	3.54	4.20	4.93	5.21	5.64	6.03	
35	1.72	2.15	2.62	3.17	3.73	4.36	4.64	5.04	5.37	
40	1.50	1.89	2.31	2.79	3.31	3.86	4.08	4.46	4.77	
45	.	1.66	2.06	2.46	2.93	3.42	3.62	3.92	4.20	
50	.	.	1.78	2.19	2.60	3.01	3.21	3.47	3.69	
55	.	.	1.56	1.90	2.27	2.66	2.80	3.06	3.25	
60	.	.	.	1.66	1.98	2.33	2.48	2.67	2.85	
65	.	.	.	.	1.72	2.04	2.16	2.35	2.48

Power kW

		-20	-15	-10	-5	0	5	7	10	12.5
30	0.84	0.92	0.99	1.06	1.11	1.16	1.18	1.21	1.23	
35	0.85	0.94	1.03	1.10	1.17	1.23	1.25	1.28	1.31	
40	0.86	0.96	1.06	1.15	1.23	1.30	1.33	1.36	1.39	
45	.	0.97	1.08	1.19	1.28	1.37	1.40	1.45	1.48	
50	.	.	1.10	1.22	1.33	1.44	1.47	1.53	1.58	
55	.	.	1.11	1.25	1.38	1.50	1.55	1.61	1.67	
60	.	.	.	1.27	1.42	1.56	1.61	1.69	1.75	
65	.	.	.	.	1.45	1.61	1.67	1.76	1.84

Current at 220V A

		-20	-15	-10	-5	0	5	7	10	12.5
30	3.51	3.61	3.72	3.84	3.95	4.04	4.08	4.12	4.15	
35	3.54	3.65	3.78	3.91	4.04	4.17	4.21	4.27	4.31	
40	3.55	3.68	3.83	3.99	4.15	4.30	4.36	4.43	4.49	
45	.	3.70	3.88	4.07	4.26	4.45	4.52	4.62	4.69	
50	.	.	3.92	4.14	4.37	4.60	4.68	4.81	4.91	
55	.	.	3.93	4.20	4.47	4.74	4.85	5.00	5.12	
60	.	.	.	4.24	4.56	4.88	5.01	5.19	5.34	
65	.	.	.	.	4.63	5.01	5.16	5.38	5.56

Refrigerant Mass Flow g/s

		-20	-15	-10	-5	0	5	7	10	12.5
30	9.07	12.16	15.86	20.10	24.84	30.02	32.20	35.58	38.49	
35	8.43	11.47	15.13	19.34	24.05	29.21	31.39	34.76	37.67	
40	7.73	10.72	14.34	18.51	23.20	28.35	30.52	33.90	36.80	
45	.	9.89	13.47	17.62	22.29	27.42	29.59	32.97	35.87	
50	.	.	12.52	16.64	21.29	26.42	28.59	31.96	34.87	
55	.	.	11.46	15.57	20.20	25.32	27.49	30.87	33.78	
60	.	.	.	14.38	19.01	24.13	26.30	29.68	32.60	
65	.	.	.	.	17.70	22.81	24.99	28.37	31.30

Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without notice.

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Revision date 08-02

Status: Y

Copeland Ref:



CR24KQE-PFZ
Refrigerant: R 407C

Suction Superheat: 11.1K
 Liquid Subcooling: 8.3K

50 Hz **Mid-Point Data**
 Air Over: 35°C

		Refrigeration Capacity kW					Evaporating Temperature °C				
		-20	-15	-10	-5	0	5	7	10	12.5	
Condensing Temp. °C	30	1.88	2.72	3.69	4.81	6.09	7.56	8.20	9.23	10.14	
	35	1.58	2.40	3.34	4.42	5.65	7.09	7.71	8.70	9.58	
	40	1.33	2.08	2.98	4.02	5.22	6.59	7.19	8.15	9.00	
	45	.	1.82	2.64	3.63	4.78	6.07	6.65	7.56	8.38	
	50	.	.	2.31	3.25	4.31	5.57	6.09	6.97	7.76	
	55	.	.	2.02	2.87	3.87	5.04	5.54	6.39	7.12	
	60	.	.	.	2.55	3.46	4.51	4.98	5.77	6.48	
	65	.	.	.	.	3.05	4.01	4.45	5.16	5.80

		COP								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	1.90	2.45	3.05	3.72	4.51	5.44	5.86	6.59	7.29
	35	1.60	2.15	2.69	3.28	3.95	4.73	5.07	5.65	6.18
	40	1.37	1.84	2.35	2.87	3.46	4.12	4.41	4.88	5.32
	45	.	1.61	2.04	2.51	3.02	3.57	3.82	4.22	4.58
	50	.	.	1.78	2.20	2.63	3.11	3.31	3.65	3.96
	55	.	.	1.56	1.91	2.29	2.71	2.88	3.18	3.44
	60	.	.	.	1.69	2.01	2.35	2.50	2.76	2.98
	65	.	.	.	.	1.76	2.05	2.18	2.39	2.57

		Power kW								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	0.99	1.11	1.21	1.29	1.35	1.39	1.40	1.40	1.39
	35	0.99	1.12	1.24	1.35	1.43	1.50	1.52	1.54	1.55
	40	0.97	1.13	1.27	1.40	1.51	1.60	1.63	1.67	1.69
	45	.	1.13	1.29	1.45	1.58	1.70	1.74	1.79	1.83
	50	.	.	1.30	1.48	1.64	1.79	1.84	1.91	1.96
	55	.	.	1.30	1.50	1.69	1.86	1.92	2.01	2.07
	60	.	.	.	1.51	1.72	1.92	1.99	2.09	2.17
	65	.	.	.	.	1.73	1.96	2.04	2.16	2.26

		Current at 220V A								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	4.56	4.88	5.17	5.42	5.62	5.75	5.78	5.80	5.79
	35	4.56	4.93	5.29	5.62	5.90	6.12	6.19	6.27	6.31
	40	4.53	4.96	5.39	5.79	6.16	6.47	6.58	6.71	6.80
	45	.	4.96	5.45	5.93	6.38	6.79	6.93	7.13	7.27
	50	.	.	5.48	6.04	6.57	7.07	7.25	7.51	7.71
	55	.	.	5.46	6.10	6.72	7.31	7.53	7.85	8.10
	60	.	.	.	6.10	6.82	7.50	7.77	8.15	8.45
	65	.	.	.	.	6.85	7.64	7.94	8.39	8.75

		Refrigerant Mass Flow g/s								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	10.56	15.07	20.21	26.04	32.63	40.05	43.26	48.36	52.87
	35	9.24	13.73	18.86	24.71	31.34	38.81	42.05	47.19	51.74
	40	8.01	12.42	17.50	23.30	29.91	37.37	40.61	45.76	50.32
	45	.	11.18	16.14	21.84	28.36	35.76	38.98	44.10	48.65
	50	.	.	14.82	20.36	26.74	34.01	37.19	42.25	46.75
	55	.	.	13.55	18.88	25.06	32.15	35.26	40.22	44.65
	60	.	.	.	17.44	23.36	30.21	33.22	38.06	42.38
	65	.	.	.	.	21.66	28.21	31.11	35.78	39.96

Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without notice.

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CR28KQE-PFZ

Refrigerant: **R 407C**

50 Hz Mid-Point Data

Air Over: 35°C

Suction Superheat: 11.1K

Liquid Subcooling: 8.3K

Condensing Temp. °C	Refrigeration Capacity kW					Evaporating Temperature °C				
	-20	-15	-10	-5	0	5	7	10	12.5	
30	2.54	3.46	4.54	5.83	7.30	8.91	9.61	10.67	11.60	
35	2.29	3.14	4.19	5.42	6.83	8.38	9.05	10.08	10.99	
40	2.01	2.81	3.83	5.01	6.35	7.85	8.49	9.49	10.35	
45	.	2.52	3.46	4.60	5.89	7.33	7.94	8.91	9.73	
50	.	.	3.08	4.16	5.39	6.77	7.35	8.29	9.08	
55	.	.	2.70	3.72	4.89	6.21	6.80	7.68	8.44	
60	.	.	.	3.28	4.40	5.68	6.21	7.06	7.79	
65	.	.	.	.	3.90	5.10	5.63	6.45	7.15

COP	-20	-15	-10	-5	0	5	7	10	12.5
	30	1.91	2.37	2.89	3.47	4.12	4.81	5.11	5.55	5.95
35	1.69	2.09	2.57	3.10	3.67	4.30	4.55	4.94	5.28
40	1.48	1.84	2.28	2.75	3.26	3.81	4.04	4.37	4.68
45	.	1.64	2.01	2.45	2.90	3.38	3.58	3.87	4.14
50	.	.	1.76	2.14	2.54	2.97	3.14	3.41	3.63
55	.	.	1.53	1.88	2.23	2.61	2.77	3.00	3.20
60	.	.	.	1.63	1.95	2.30	2.43	2.63	2.80
65	.	.	.	.	1.69	1.99	2.11	2.30	2.45

Power kW	-20	-15	-10	-5	0	5	7	10	12.5
	30	1.33	1.46	1.57	1.68	1.77	1.85	1.88	1.92	1.95
35	1.35	1.50	1.63	1.75	1.86	1.95	1.99	2.04	2.08
40	1.36	1.53	1.68	1.82	1.95	2.06	2.10	2.17	2.21
45	.	1.54	1.72	1.88	2.03	2.17	2.22	2.30	2.35
50	.	.	1.75	1.94	2.12	2.28	2.34	2.43	2.50
55	.	.	1.76	1.98	2.19	2.38	2.45	2.56	2.64
60	.	.	.	2.01	2.25	2.47	2.56	2.68	2.78
65	.	.	.	.	2.30	2.56	2.66	2.80	2.92

Current at 220V A	-20	-15	-10	-5	0	5	7	10	12.5
	30	6.92	7.11	7.33	7.56	7.77	7.96	8.03	8.11	8.17
35	6.97	7.19	7.44	7.71	7.97	8.20	8.29	8.40	8.48
40	6.99	7.25	7.55	7.86	8.18	8.47	8.58	8.73	8.85
45	.	7.29	7.65	8.02	8.40	8.76	8.90	9.09	9.24
50	.	.	7.72	8.16	8.61	9.05	9.22	9.47	9.66
55	.	.	7.75	8.27	8.81	9.34	9.55	9.85	10.09
60	.	.	.	8.35	8.98	9.61	9.86	10.23	10.52
65	.	.	.	.	9.12	9.86	10.15	10.59	10.94

Refrigerant Mass Flow g/s	-20	-15	-10	-5	0	5	7	10	12.5
	30	14.26	19.12	24.93	31.60	39.05	47.19	50.62	55.94	60.52
35	13.26	18.04	23.78	30.40	37.81	45.92	49.34	54.65	59.23
40	12.15	16.86	22.54	29.11	36.48	44.57	47.98	53.29	57.86
45	.	15.55	21.18	27.70	35.04	43.11	46.52	51.83	56.40
50	.	.	19.68	26.16	33.47	41.53	44.94	50.25	54.82
55	.	.	18.02	24.47	31.76	39.81	43.22	48.53	53.11
60	.	.	.	22.61	29.89	37.93	41.34	46.66	51.25
65	.	.	.	.	27.82	35.87	39.28	44.61	49.21

Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without notice.

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Revision date 08-02

Status: Y

Copeland Ref:



CR33KQE-PFT

Refrigerant: R 407C

50 Hz

Mid-Point Data

Suction Superheat: 11.1K

Liquid Subcooling: 8.3K

Air Over: 35°C

	Refrigeration Capacity kW					Evaporating Temperature °C				
	-20	-15	-10	-5	0	5	7	10	12.5	
30	2.69	3.84	5.19	6.74	8.58	10.72	11.69	13.24	14.65	
35	2.29	3.40	4.66	6.15	7.91	9.99	10.90	12.39	13.71	
40	1.93	2.96	4.15	5.57	7.23	9.19	10.06	11.48	12.76	
45	.	2.55	3.66	4.98	6.53	8.38	9.20	10.55	11.78	
50	.	.	3.19	4.40	5.86	7.56	8.35	9.61	10.75	
55	.	.	2.75	3.84	5.16	6.74	7.47	8.64	9.73	
60	.	.	.	3.31	4.51	5.95	6.59	7.68	8.67	
65	.	.	.	.	3.87	5.16	5.74	6.71	7.62

	COP								
	-20	-15	-10	-5	0	5	7	10	12.5
30	2.03	2.59	3.20	3.87	4.64	5.50	5.90	6.49	7.01
35	1.74	2.27	2.79	3.38	4.06	4.80	5.12	5.63	6.04
40	1.50	1.96	2.43	2.96	3.53	4.18	4.43	4.86	5.25
45	.	1.70	2.12	2.58	3.07	3.63	3.85	4.22	4.55
50	.	.	1.85	2.23	2.68	3.14	3.35	3.67	3.94
55	.	.	1.60	1.94	2.31	2.72	2.90	3.18	3.41
60	.	.	.	1.68	2.00	2.35	2.50	2.73	2.95
65	.	.	.	.	1.71	2.01	2.14	2.34	2.52

	Power kW								
	-20	-15	-10	-5	0	5	7	10	12.5
30	1.32	1.48	1.62	1.74	1.85	1.95	1.98	2.04	2.09
35	1.31	1.50	1.67	1.82	1.95	2.08	2.13	2.20	2.27
40	1.29	1.51	1.71	1.88	2.05	2.20	2.27	2.36	2.43
45	.	1.50	1.73	1.93	2.13	2.31	2.39	2.50	2.59
50	.	.	1.73	1.97	2.19	2.41	2.49	2.62	2.73
55	.	.	1.72	1.98	2.23	2.48	2.58	2.72	2.85
60	.	.	.	1.97	2.26	2.53	2.64	2.81	2.94
65	.	.	.	.	2.26	2.56	2.68	2.87	3.02

	Current at 220V A								
	-20	-15	-10	-5	0	5	7	10	12.5
30	9.47	9.83	10.19	10.53	10.85	11.14	11.25	11.41	11.52
35	9.42	9.86	10.30	10.74	11.17	11.58	11.74	11.98	12.17
40	9.36	9.87	10.39	10.92	11.45	11.99	12.20	12.51	12.77
45	.	9.84	10.44	11.07	11.70	12.35	12.61	13.01	13.33
50	.	.	10.45	11.17	11.91	12.67	12.98	13.45	13.84
55	.	.	10.41	11.21	12.05	12.92	13.28	13.82	14.28
60	.	.	.	11.18	12.12	13.10	13.50	14.12	14.64
65	.	.	.	.	12.10	13.19	13.64	14.33	14.92

	Refrigerant Mass Flow g/s								
	-20	-15	-10	-5	0	5	7	10	12.5
30	14.59	20.49	27.15	34.79	43.60	53.79	58.29	65.54	72.07
35	13.04	18.90	25.55	33.16	41.96	52.13	56.62	63.87	70.39
40	11.54	17.31	23.87	31.41	40.13	50.22	54.69	61.90	68.39
45	.	15.74	22.15	29.55	38.14	48.10	52.52	59.65	66.08
50	.	.	20.43	27.63	36.02	45.80	50.14	57.16	63.50
55	.	.	18.72	25.66	33.80	43.33	47.58	54.45	60.67
60	.	.	.	23.68	31.51	40.73	44.86	51.55	57.62
65	.	.	.	.	29.17	38.03	42.01	48.49	54.38

Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without notice.

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Revision date 12-00

Status: Y

Copeland Ref:



CR37KQE-PFT

Refrigerant: **R 407C**

50 Hz

Mid-Point Data

Suction Superheat: 11.1K

Liquid Subcooling: 8.3K

Air Over: 35°C

	Refrigeration Capacity kW					Evaporating Temperature °C				
	-20	-15	-10	-5	0	5	7	10	12.5	
30	3.14	4.48	6.04	7.88	10.02	12.54	13.65	15.47	17.11	
35	2.67	3.96	5.45	7.21	9.26	11.66	12.75	14.47	16.03	
40	2.25	3.46	4.85	6.50	8.45	10.74	11.76	13.41	14.91	
45	.	2.99	4.28	5.83	7.65	9.79	10.75	12.34	13.77	
50	.	.	3.72	5.16	6.83	8.85	9.76	11.22	12.57	
55	.	.	3.22	4.51	6.04	7.88	8.73	10.11	11.34	
60	.	.	.	3.90	5.27	6.94	7.71	8.97	10.14	
65	.	.	.	.	4.51	6.01	6.71	7.85	8.91

	COP								
	-20	-15	-10	-5	0	5	7	10	12.5
30	1.99	2.53	3.11	3.79	4.53	5.41	5.76	6.34	6.87
35	1.70	2.20	2.74	3.32	3.97	4.68	5.02	5.50	5.91
40	1.46	1.92	2.38	2.89	3.45	4.08	4.34	4.76	5.12
45	.	1.67	2.08	2.52	3.01	3.55	3.77	4.14	4.46
50	.	.	1.80	2.19	2.61	3.08	3.27	3.59	3.86
55	.	.	1.57	1.90	2.26	2.66	2.83	3.11	3.34
60	.	.	.	1.65	1.95	2.29	2.44	2.68	2.88
65	.	.	.	.	1.68	1.96	2.09	2.30	2.47

	Power kW								
	-20	-15	-10	-5	0	5	7	10	12.5
30	1.58	1.77	1.94	2.08	2.21	2.32	2.37	2.44	2.49
35	1.57	1.80	1.99	2.17	2.33	2.49	2.54	2.63	2.71
40	1.54	1.80	2.04	2.25	2.45	2.63	2.71	2.82	2.91
45	.	1.79	2.06	2.31	2.54	2.76	2.85	2.98	3.09
50	.	.	2.07	2.35	2.62	2.87	2.98	3.13	3.26
55	.	.	2.05	2.37	2.67	2.96	3.08	3.25	3.40
60	.	.	.	2.36	2.70	3.03	3.16	3.35	3.52
65	.	.	.	.	2.69	3.06	3.21	3.42	3.61

	Current at 220V A								
	-20	-15	-10	-5	0	5	7	10	12.5
30	11.21	11.64	12.06	12.47	12.84	13.19	13.32	13.50	13.64
35	11.16	11.67	12.19	12.71	13.22	13.71	13.90	14.18	14.40
40	11.08	11.68	12.30	12.93	13.56	14.19	14.44	14.81	15.12
45	.	11.65	12.36	13.10	13.86	14.62	14.93	15.40	15.79
50	.	.	12.38	13.22	14.09	15.00	15.36	15.92	16.38
55	.	.	12.32	13.27	14.26	15.29	15.72	16.36	16.91
60	.	.	.	13.24	14.34	15.50	15.98	16.71	17.34
65	.	.	.	.	14.33	15.62	16.15	16.96	17.66

	Refrigerant Mass Flow g/s								
	-20	-15	-10	-5	0	5	7	10	12.5
30	17.05	23.94	31.73	40.66	50.95	62.85	68.11	76.58	84.21
35	15.24	22.09	29.85	38.75	49.03	60.91	66.17	74.63	82.26
40	13.48	20.23	27.89	36.70	46.89	58.69	63.91	72.33	79.91
45	.	18.39	25.89	34.54	44.57	56.21	61.37	69.71	77.22
50	.	.	23.87	32.29	42.09	53.52	58.59	66.79	74.20
55	.	.	21.87	29.99	39.50	50.63	55.59	63.63	70.89
60	.	.	.	27.67	36.82	47.60	52.42	60.24	67.33
65	.	.	.	.	34.09	44.44	49.09	56.66	63.54

Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without notice.

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Revision date 12-00

Status: Y

Copeland Ref:



CR41KQE-PFT

Refrigerant: **R 407C**

50 Hz

Mid-Point Data

Suction Superheat: 11.1K

Liquid Subcooling: 8.3K

Air Over: 35°C

	Refrigeration Capacity kW					Evaporating Temperature °C				
	-20	-15	-10	-5	0	5	7	10	12.5	
30	3.47	4.95	6.68	8.70	11.10	13.86	15.12	17.11	18.90	
35	2.96	4.37	6.04	7.97	10.23	12.89	14.09	16.00	17.73	
40	2.49	3.81	5.37	7.19	9.34	11.87	13.00	14.83	16.49	
45	.	3.28	4.74	6.45	8.44	10.84	11.90	13.62	15.21	
50	.	.	4.13	5.68	7.56	9.79	10.78	12.42	13.89	
55	.	.	3.57	4.98	6.68	8.73	9.64	11.16	12.54	
60	.	.	.	4.31	5.83	7.68	8.53	9.93	11.19	
65	.	.	.	.	5.01	6.65	7.41	8.67	9.84

	COP								
	-20	-15	-10	-5	0	5	7	10	12.5
30	1.99	2.53	3.12	3.78	4.55	5.41	5.79	6.36	6.87
35	1.71	2.20	2.74	3.32	3.96	4.71	5.02	5.52	5.93
40	1.47	1.91	2.39	2.90	3.46	4.08	4.35	4.77	5.14
45	.	1.66	2.08	2.53	3.01	3.55	3.78	4.14	4.46
50	.	.	1.81	2.19	2.62	3.09	3.29	3.60	3.87
55	.	.	1.58	1.91	2.26	2.67	2.84	3.11	3.34
60	.	.	.	1.66	1.96	2.30	2.45	2.68	2.88
65	.	.	.	.	1.69	1.97	2.09	2.29	2.47

	Power kW								
	-20	-15	-10	-5	0	5	7	10	12.5
30	1.74	1.96	2.14	2.30	2.44	2.56	2.61	2.69	2.75
35	1.73	1.98	2.20	2.40	2.58	2.74	2.81	2.90	2.99
40	1.70	1.99	2.25	2.48	2.70	2.91	2.99	3.11	3.21
45	.	1.98	2.28	2.55	2.80	3.05	3.15	3.29	3.41
50	.	.	2.28	2.59	2.89	3.17	3.28	3.45	3.59
55	.	.	2.26	2.61	2.95	3.27	3.40	3.59	3.75
60	.	.	.	2.60	2.97	3.34	3.48	3.70	3.88
65	.	.	.	.	2.97	3.38	3.54	3.78	3.98

	Current at 220V A								
	-20	-15	-10	-5	0	5	7	10	12.5
30	12.81	13.30	13.79	14.25	14.68	15.08	15.23	15.43	15.59
35	12.75	13.34	13.94	14.53	15.11	15.67	15.89	16.20	16.46
40	12.66	13.35	14.06	14.77	15.50	16.22	16.50	16.93	17.28
45	.	13.32	14.13	14.97	15.84	16.71	17.07	17.60	18.04
50	.	.	14.14	15.11	16.11	17.14	17.56	18.19	18.73
55	.	.	14.09	15.16	16.30	17.48	17.96	18.70	19.32
60	.	.	.	15.13	16.39	17.72	18.27	19.10	19.81
65	.	.	.	.	16.38	17.85	18.45	19.39	20.18

	Refrigerant Mass Flow g/s								
	-20	-15	-10	-5	0	5	7	10	12.5
30	18.86	26.47	35.09	44.96	56.34	69.50	75.32	84.68	93.12
35	16.85	24.43	33.01	42.85	54.22	67.35	73.17	82.53	90.96
40	14.91	22.37	30.84	40.58	51.85	64.89	70.67	79.98	88.37
45	.	20.34	28.63	38.19	49.28	62.16	67.87	77.08	85.39
50	.	.	26.40	35.70	46.54	59.18	64.79	73.86	82.05
55	.	.	24.19	33.16	43.68	55.99	61.47	70.36	78.39
60	.	.	.	30.60	40.72	52.63	57.96	66.61	74.45
65	.	.	.	.	37.70	49.14	54.28	62.65	70.26

Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without notice.

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Revision date 12-00

Status: Y

Copeland Ref:



CR47KQE-PFZ

Refrigerant: **R 407C**

50 Hz Mid-Point Data

Air Over: 35°C

Suction Superheat: 11.1K
Liquid Subcooling: 8.3K

		Refrigeration Capacity kW					Evaporating Temperature °C			
		-20	-15	-10	-5	0	5	7	10	12.5
Condensing Temp. °C	30	4.10	5.86	7.88	10.28	13.10	16.38	17.84	20.19	22.33
	35	3.49	5.16	7.12	9.41	12.07	15.24	16.61	18.90	20.95
	40	2.94	4.51	6.34	8.49	11.03	14.02	15.35	17.51	19.47
	45	.	3.90	5.59	7.59	9.99	12.80	14.06	16.12	17.96
	50	.	.	4.86	6.71	8.94	11.54	12.75	14.65	16.41
	55	.	.	4.22	5.89	7.88	10.31	11.40	13.19	14.83
	60	.	.	.	5.07	6.89	9.05	10.08	11.72	13.21
	65	.	.	.	.	5.89	7.85	8.76	10.26	11.63

COP

		-20	-15	-10	-5	0	5	7	10	12.5
	30	2.08	2.65	3.27	3.97	4.76	5.65	6.05	6.64	7.20
	35	1.78	2.30	2.86	3.47	4.15	4.91	5.24	5.76	6.22
	40	1.53	2.01	2.49	3.03	3.62	4.27	4.56	4.99	5.38
	45	.	1.74	2.18	2.63	3.15	3.72	3.96	4.33	4.67
	50	.	.	1.89	2.29	2.74	3.22	3.44	3.76	4.04
	55	.	.	1.65	2.00	2.37	2.80	2.97	3.26	3.50
	60	.	.	.	1.72	2.05	2.40	2.56	2.80	3.02
	65	.	.	.	.	1.75	2.06	2.20	2.40	2.59

Power kW

		-20	-15	-10	-5	0	5	7	10	12.5
	30	1.97	2.21	2.41	2.59	2.75	2.90	2.95	3.04	3.10
	35	1.96	2.24	2.49	2.71	2.91	3.10	3.17	3.28	3.37
	40	1.92	2.25	2.54	2.80	3.05	3.28	3.37	3.51	3.62
	45	.	2.24	2.57	2.88	3.17	3.44	3.55	3.72	3.85
	50	.	.	2.58	2.93	3.26	3.58	3.71	3.90	4.06
	55	.	.	2.55	2.95	3.33	3.69	3.84	4.05	4.24
	60	.	.	.	2.94	3.36	3.77	3.93	4.18	4.38
	65	.	.	.	.	3.36	3.81	3.99	4.27	4.49

Current at 220V A

		-20	-15	-10	-5	0	5	7	10	12.5
	30	13.00	13.50	13.99	14.45	14.89	15.30	15.45	15.66	15.82
	35	12.93	13.53	14.14	14.74	15.33	15.90	16.12	16.44	16.70
	40	12.85	13.54	14.26	14.99	15.72	16.45	16.74	17.18	17.53
	45	.	13.51	14.33	15.19	16.07	16.96	17.31	17.85	18.30
	50	.	.	14.35	15.33	16.34	17.39	17.81	18.46	19.00
	55	.	.	14.29	15.38	16.53	17.73	18.22	18.97	19.60
	60	.	.	.	15.35	16.63	17.98	18.53	19.38	20.10
	65	.	.	.	.	16.61	18.10	18.72	19.67	20.48

Refrigerant Mass Flow g/s

		-20	-15	-10	-5	0	5	7	10	12.5
	30	22.26	31.26	41.43	53.09	66.53	82.07	88.93	100.00	109.95
	35	19.89	28.84	38.98	50.60	64.02	79.53	86.39	97.45	107.40
	40	17.60	26.41	36.42	47.92	61.22	76.63	83.45	94.44	104.34
	45	.	24.02	33.80	45.09	58.19	73.39	80.14	91.01	100.82
	50	.	.	31.17	42.16	54.96	69.87	76.50	87.21	96.88
	55	.	.	28.56	39.16	51.57	66.11	72.59	83.08	92.56
	60	.	.	.	36.13	48.08	62.15	68.44	78.65	87.91
	65	.	.	.	.	44.51	58.03	64.10	73.98	82.96

Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without notice.

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Revision date 01-01

Status: Y

Copeland Ref:



CR18KQE-TFD

Refrigerant: **R 407C**

50 Hz

Mid-Point Data

Suction Superheat: 11.1K

Liquid Subcooling: 8.3K

Air Over: 35°C

		Refrigeration Capacity kW					Evaporating Temperature °C				
		-20	-15	-10	-5	0	5	7	10	12.5	
Condensing Temp. °C	30	1.62	2.20	2.90	3.72	4.66	5.68	6.12	6.80	7.38	
	35	1.47	1.99	2.67	3.46	4.34	5.33	5.77	6.42	7.00	
	40	1.28	1.79	2.44	3.19	4.05	5.00	5.41	6.04	6.59	
	45	.	1.61	2.20	2.93	3.75	4.66	5.04	5.65	6.18	
	50	.	.	1.96	2.64	3.43	4.31	4.69	5.27	5.80	
	55	.	.	1.73	2.37	3.14	3.96	4.34	4.89	5.39	
	60	.	.	.	2.08	2.81	3.60	3.96	4.48	4.98	
	65	.	.	.	.	2.49	3.25	3.57	4.10	4.54

COP

		-20	-15	-10	-5	0	5	7	10	12.5
	30	2.05	2.53	3.09	3.72	4.44	5.17	5.47	5.96	6.37
	35	1.83	2.24	2.75	3.32	3.94	4.60	4.89	5.30	5.69
	40	1.58	1.96	2.44	2.95	3.49	4.06	4.32	4.68	4.99
	45	.	1.75	2.15	2.62	3.10	3.61	3.82	4.13	4.42
	50	.	.	1.89	2.29	2.72	3.19	3.37	3.66	3.89
	55	.	.	1.65	2.01	2.41	2.79	2.97	3.22	3.43
	60	.	.	.	1.73	2.10	2.45	2.60	2.80	3.00
	65	.	.	.	.	1.82	2.14	2.26	2.46	2.63

Power kW

		-20	-15	-10	-5	0	5	7	10	12.5
	30	0.79	0.87	0.94	1.00	1.05	1.10	1.12	1.14	1.16
	35	0.80	0.89	0.97	1.04	1.10	1.16	1.18	1.21	1.23
	40	0.81	0.91	1.00	1.08	1.16	1.23	1.25	1.29	1.32
	45	.	0.92	1.02	1.12	1.21	1.29	1.32	1.37	1.40
	50	.	.	1.04	1.15	1.26	1.35	1.39	1.44	1.49
	55	.	.	1.05	1.18	1.30	1.42	1.46	1.52	1.57
	60	.	.	.	1.20	1.34	1.47	1.52	1.60	1.66
	65	.	.	.	.	1.37	1.52	1.58	1.67	1.73

Current at 380V A

		-20	-15	-10	-5	0	5	7	10	12.5
	30	3.20	3.29	3.39	3.50	3.60	3.69	3.72	3.76	3.78
	35	3.22	3.33	3.45	3.57	3.69	3.80	3.84	3.89	3.93
	40	3.23	3.36	3.50	3.64	3.78	3.92	3.97	4.04	4.09
	45	.	3.37	3.54	3.71	3.89	4.05	4.12	4.21	4.28
	50	.	.	3.57	3.78	3.98	4.19	4.27	4.38	4.47
	55	.	.	3.58	3.83	4.08	4.32	4.42	4.56	4.67
	60	.	.	.	3.86	4.16	4.45	4.56	4.73	4.87
	65	.	.	.	.	4.22	4.56	4.70	4.90	5.06

Refrigerant Mass Flow g/s

		-20	-15	-10	-5	0	5	7	10	12.5
	30	9.92	13.30	17.33	21.97	27.15	32.81	35.20	38.90	42.08
	35	9.22	12.55	16.54	21.14	26.29	31.93	34.31	38.00	41.18
	40	8.45	11.72	15.67	20.24	25.37	30.99	33.36	37.05	40.23
	45	.	10.81	14.72	19.26	24.37	29.98	32.35	36.03	39.21
	50	.	.	13.68	18.19	23.28	28.88	31.25	34.93	38.11
	55	.	.	12.53	17.01	22.09	27.68	30.05	33.74	36.93
	60	.	.	.	15.72	20.78	26.37	28.75	32.44	35.63
	65	.	.	.	.	19.35	24.94	27.32	31.02	34.22

Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without notice.



CR24KQE-TFD

Refrigerant: **R 407C**

50 Hz Mid-Point Data

Air Over: 35°C

Suction Superheat: 11.1K

Liquid Subcooling: 8.3K

Condensing Temp. °C	Refrigeration Capacity kW					Evaporating Temperature °C				
	-20	-15	-10	-5	0	5	7	10	12.5	
30	2.11	2.93	3.81	4.81	5.95	7.24	7.79	8.70	9.52	
35	1.88	2.67	3.55	4.51	5.60	6.86	7.41	8.29	9.05	
40	1.66	2.40	3.24	4.17	5.23	6.44	6.97	7.82	8.58	
45	.	2.14	2.93	3.84	4.83	6.01	6.50	7.33	8.06	
50	.	.	2.64	3.49	4.45	5.57	6.07	6.83	7.56	
55	.	.	2.34	3.14	4.07	5.13	5.57	6.33	7.00	
60	.	.	.	2.81	3.66	4.66	5.10	5.83	6.48	
65	.	.	.	.	3.31	4.22	4.66	5.33	5.95

COP

	-20	-15	-10	-5	0	5	7	10	12.5
30	2.20	2.71	3.23	3.78	4.41	5.06	5.34	5.76	6.18
35	1.93	2.40	2.88	3.39	3.94	4.54	4.81	5.22	5.55
40	1.69	2.13	2.57	3.02	3.51	4.05	4.30	4.65	4.96
45	.	1.88	2.27	2.68	3.12	3.62	3.80	4.14	4.43
50	.	.	2.01	2.37	2.77	3.20	3.39	3.67	3.94
55	.	.	1.78	2.09	2.44	2.82	2.98	3.23	3.45
60	.	.	.	1.84	2.13	2.46	2.60	2.83	3.03
65	.	.	.	.	1.87	2.14	2.28	2.48	2.64

Power kW

	-20	-15	-10	-5	0	5	7	10	12.5
30	0.96	1.08	1.18	1.27	1.35	1.43	1.46	1.51	1.54
35	0.97	1.11	1.23	1.33	1.42	1.51	1.54	1.59	1.63
40	0.98	1.13	1.26	1.38	1.49	1.59	1.62	1.68	1.73
45	.	1.14	1.29	1.43	1.55	1.66	1.71	1.77	1.82
50	.	.	1.31	1.47	1.61	1.74	1.79	1.86	1.92
55	.	.	1.32	1.50	1.67	1.82	1.87	1.96	2.03
60	.	.	.	1.53	1.72	1.89	1.96	2.06	2.14
65	.	.	.	.	1.77	1.97	2.04	2.15	2.25

Current at 420V A

	-20	-15	-10	-5	0	5	7	10	12.5
30	3.24	3.49	3.71	3.92	4.11	4.29	4.37	4.47	4.56
35	3.27	3.55	3.81	4.05	4.27	4.48	4.56	4.68	4.79
40	3.27	3.60	3.90	4.17	4.43	4.67	4.77	4.91	5.02
45	.	3.62	3.96	4.28	4.58	4.87	4.98	5.14	5.27
50	.	.	4.01	4.38	4.73	5.06	5.19	5.38	5.54
55	.	.	4.03	4.47	4.87	5.26	5.41	5.63	5.81
60	.	.	.	4.54	5.01	5.45	5.63	5.88	6.09
65	.	.	.	.	5.13	5.65	5.85	6.14	6.38

Refrigerant Mass Flow g/s

	-20	-15	-10	-5	0	5	7	10	12.5
30	11.83	16.17	20.87	26.04	31.81	38.30	41.12	45.62	49.63
35	10.97	15.31	20.01	25.20	30.98	37.50	40.33	44.85	48.88
40	10.01	14.33	19.02	24.20	29.98	36.50	39.34	43.86	47.90
45	.	13.26	17.92	23.07	28.84	35.34	38.18	42.70	46.73
50	.	.	16.75	21.86	27.59	34.06	36.88	41.39	45.41
55	.	.	15.54	20.59	26.26	32.67	35.48	39.96	43.96
60	.	.	.	19.29	24.88	31.23	34.00	38.44	42.42
65	.	.	.	.	23.49	29.74	32.48	36.88	40.81

Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without notice.

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Revision date 08-02

Status: Y

Copeland Ref: 2.13AC5I



CR28KQE-TFD

Refrigerant: R 407C

50 Hz Mid-Point Data

Air Over: 35°C

Suction Superheat: 11.1K

Liquid Subcooling: 8.3K

Condensing Temp. °C	Refrigeration Capacity kW					Evaporating Temperature °C				
	-20	-15	-10	-5	0	5	7	10	12.5	
30	2.42	3.34	4.45	5.74	7.21	8.85	9.55	10.64	11.60	
35	2.14	2.99	4.04	5.27	6.68	8.26	8.94	9.99	10.93	
40	1.88	2.67	3.63	4.79	6.14	7.66	8.32	9.34	10.23	
45	.	2.34	3.22	4.34	5.60	7.06	7.68	8.67	9.52	
50	.	.	2.84	3.87	5.07	6.45	7.06	8.00	8.82	
55	.	.	2.49	3.43	4.54	5.86	6.42	7.33	8.12	
60	.	.	.	2.99	4.04	5.24	5.80	6.65	7.38	
65	.	.	.	.	3.55	4.69	5.19	5.98	6.71

COP

	-20	-15	-10	-5	0	5	7	10	12.5
30	2.30	2.83	3.43	4.10	4.87	5.78	6.24	6.95	7.63
35	2.02	2.45	2.97	3.56	4.23	5.01	5.35	5.95	6.51
40	1.78	2.17	2.59	3.09	3.68	4.33	4.62	5.10	5.56
45	.	1.91	2.27	2.71	3.20	3.76	4.00	4.40	4.79
50	.	.	1.99	2.37	2.79	3.27	3.48	3.81	4.12
55	.	.	1.75	2.07	2.42	2.83	3.01	3.30	3.54
60	.	.	.	1.79	2.10	2.44	2.60	2.83	3.04
65	.	.	.	.	1.80	2.10	2.23	2.42	2.61

Power kW

	-20	-15	-10	-5	0	5	7	10	12.5
30	1.05	1.18	1.30	1.40	1.48	1.53	1.53	1.53	1.52
35	1.06	1.22	1.36	1.48	1.58	1.65	1.67	1.68	1.68
40	1.06	1.23	1.40	1.55	1.67	1.77	1.80	1.83	1.84
45	.	1.23	1.42	1.60	1.75	1.88	1.92	1.97	1.99
50	.	.	1.43	1.63	1.82	1.97	2.03	2.10	2.14
55	.	.	1.42	1.66	1.88	2.07	2.13	2.22	2.29
60	.	.	.	1.67	1.93	2.15	2.23	2.35	2.43
65	.	.	.	.	1.97	2.23	2.33	2.47	2.57

Current at 380V A

	-20	-15	-10	-5	0	5	7	10	12.5
30	2.15	2.27	2.38	2.48	2.55	2.59	2.60	2.59	2.58
35	2.16	2.30	2.44	2.56	2.65	2.72	2.74	2.75	2.75
40	2.15	2.32	2.47	2.62	2.74	2.84	2.87	2.90	2.92
45	.	2.31	2.49	2.67	2.82	2.95	2.99	3.05	3.08
50	.	.	2.50	2.70	2.89	3.06	3.11	3.19	3.24
55	.	.	2.49	2.73	2.95	3.16	3.23	3.33	3.41
60	.	.	.	2.75	3.01	3.26	3.35	3.47	3.57
65	.	.	.	.	3.06	3.35	3.46	3.61	3.73

Refrigerant Mass Flow g/s

	-20	-15	-10	-5	0	5	7	10	12.5
30	13.60	18.49	24.36	31.12	38.69	46.99	50.49	55.93	60.61
35	12.51	17.19	22.91	29.57	37.09	45.38	48.90	54.37	59.10
40	11.39	15.84	21.37	27.90	35.33	43.60	47.11	52.60	57.35
45	.	14.48	19.79	26.14	33.46	41.65	45.16	50.64	55.41
50	.	.	18.18	24.33	31.50	39.59	43.07	48.53	53.29
55	.	.	16.59	22.51	29.49	37.44	40.88	46.29	51.03
60	.	.	.	20.69	27.45	35.24	38.62	43.97	48.67
65	.	.	.	.	25.42	33.01	36.33	41.59	46.23

Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without notice.



CR33KQE-TFD

Refrigerant: **R 407C**

50 Hz

Mid-Point Data

Suction Superheat: 11.1K

Liquid Subcooling: 8.3K

Air Over: 35°C

	Refrigeration Capacity kW					Evaporating Temperature °C				
	-20	-15	-10	-5	0	5	7	10	12.5	
30	2.66	3.78	5.13	6.68	8.50	10.61	11.57	13.10	14.47	
35	2.26	3.34	4.60	6.09	7.82	9.87	10.78	12.25	13.57	
40	1.91	2.93	4.11	5.50	7.15	9.08	9.95	11.35	12.62	
45	.	2.52	3.63	4.92	6.48	8.29	9.11	10.43	11.63	
50	.	.	3.16	4.37	5.77	7.47	8.26	9.49	10.64	
55	.	.	2.72	3.81	5.10	6.68	7.38	8.56	9.61	
60	.	.	.	3.28	4.45	5.89	6.53	7.59	8.56	
65	.	.	.	.	3.84	5.10	5.68	6.65	7.53

	COP								
	-20	-15	-10	-5	0	5	7	10	12.5
30	2.04	2.59	3.22	3.91	4.69	5.55	5.94	6.55	7.06
35	1.75	2.27	2.80	3.42	4.07	4.84	5.16	5.67	6.11
40	1.50	1.98	2.46	2.97	3.56	4.21	4.48	4.91	5.28
45	.	1.71	2.15	2.59	3.10	3.65	3.89	4.26	4.58
50	.	.	1.86	2.26	2.68	3.17	3.39	3.69	3.98
55	.	.	1.62	1.96	2.33	2.75	2.92	3.20	3.44
60	.	.	.	1.69	2.02	2.37	2.52	2.76	2.96
65	.	.	.	.	1.74	2.03	2.16	2.37	2.54

	Power kW								
	-20	-15	-10	-5	0	5	7	10	12.5
30	1.30	1.46	1.59	1.71	1.81	1.91	1.95	2.00	2.05
35	1.29	1.47	1.64	1.78	1.92	2.04	2.09	2.16	2.22
40	1.27	1.48	1.67	1.85	2.01	2.16	2.22	2.31	2.39
45	.	1.47	1.69	1.90	2.09	2.27	2.34	2.45	2.54
50	.	.	1.70	1.93	2.15	2.36	2.44	2.57	2.67
55	.	.	1.68	1.94	2.19	2.43	2.53	2.67	2.79
60	.	.	.	1.94	2.21	2.49	2.59	2.75	2.89
65	.	.	.	.	2.21	2.51	2.63	2.81	2.96

	Current at 380V A								
	-20	-15	-10	-5	0	5	7	10	12.5
30	3.41	3.54	3.67	3.79	3.91	4.02	4.05	4.11	4.15
35	3.40	3.55	3.71	3.87	4.02	4.17	4.23	4.32	4.38
40	3.37	3.56	3.74	3.93	4.13	4.32	4.40	4.51	4.60
45	.	3.55	3.76	3.99	4.22	4.45	4.54	4.69	4.80
50	.	.	3.77	4.02	4.29	4.56	4.68	4.84	4.99
55	.	.	3.75	4.04	4.34	4.65	4.78	4.98	5.15
60	.	.	.	4.03	4.37	4.72	4.86	5.09	5.28
65	.	.	.	.	4.36	4.75	4.91	5.16	5.38

	Refrigerant Mass Flow g/s								
	-20	-15	-10	-5	0	5	7	10	12.5
30	14.43	20.26	26.85	34.40	43.11	53.18	57.63	64.80	71.26
35	12.89	18.69	25.26	32.79	41.49	51.54	55.99	63.15	69.60
40	11.41	17.12	23.60	31.06	39.68	49.66	54.08	61.20	67.62
45	.	15.56	21.91	29.22	37.71	47.56	51.93	58.98	65.34
50	.	.	20.20	27.32	35.62	45.28	49.58	56.52	62.78
55	.	.	18.51	25.38	33.42	42.84	47.04	53.84	59.99
60	.	.	.	23.42	31.16	40.27	44.35	50.97	56.97
65	.	.	.	.	28.85	37.60	41.54	47.94	53.76

Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without notice.

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Revision date 12-00

Status: Y

Copeland Ref:



CR37KQE-TFD

Refrigerant: **R 407C**

50 Hz

Mid-Point Data

Suction Superheat: 11.1K

Liquid Subcooling: 8.3K

Air Over: 35°C

	Refrigeration Capacity kW					Evaporating Temperature °C				
	-20	-15	-10	-5	0	5	7	10	12.5	
30	3.12	4.45	6.01	7.82	9.96	12.45	13.57	15.38	16.99	
35	2.67	3.93	5.42	7.15	9.20	11.57	12.66	14.39	15.94	
40	2.24	3.43	4.82	6.46	8.39	10.67	11.68	13.33	14.82	
45	.	2.96	4.25	5.77	7.59	9.73	10.69	12.25	13.68	
50	.	.	3.72	5.13	6.80	8.79	9.70	11.16	12.48	
55	.	.	3.19	4.48	6.01	7.85	8.67	10.02	11.28	
60	.	.	.	3.87	5.24	6.89	7.65	8.91	10.05	
65	.	.	.	.	4.48	5.98	6.65	7.79	8.85

	COP								
	-20	-15	-10	-5	0	5	7	10	12.5
30	2.11	2.68	3.32	4.03	4.84	5.74	6.14	6.75	7.29
35	1.81	2.34	2.91	3.52	4.22	4.99	5.32	5.85	6.30
40	1.55	2.03	2.54	3.08	3.67	4.34	4.62	5.07	5.45
45	.	1.76	2.20	2.67	3.20	3.77	4.02	4.39	4.73
50	.	.	1.93	2.34	2.79	3.27	3.49	3.82	4.11
55	.	.	1.67	2.03	2.41	2.83	3.01	3.30	3.55
60	.	.	.	1.76	2.08	2.43	2.59	2.85	3.05
65	.	.	.	.	1.78	2.09	2.22	2.44	2.63

	Power kW								
	-20	-15	-10	-5	0	5	7	10	12.5
30	1.48	1.66	1.81	1.94	2.06	2.17	2.21	2.28	2.33
35	1.47	1.68	1.86	2.03	2.18	2.32	2.38	2.46	2.53
40	1.44	1.69	1.90	2.10	2.29	2.46	2.53	2.63	2.72
45	.	1.68	1.93	2.16	2.37	2.58	2.66	2.79	2.89
50	.	.	1.93	2.19	2.44	2.69	2.78	2.92	3.04
55	.	.	1.91	2.21	2.49	2.77	2.88	3.04	3.18
60	.	.	.	2.20	2.52	2.83	2.95	3.13	3.29
65	.	.	.	.	2.52	2.86	2.99	3.20	3.37

	Current at 380V A								
	-20	-15	-10	-5	0	5	7	10	12.5
30	3.90	4.05	4.20	4.34	4.47	4.59	4.63	4.70	4.75
35	3.88	4.06	4.24	4.42	4.60	4.77	4.83	4.93	5.01
40	3.85	4.06	4.28	4.50	4.72	4.94	5.02	5.15	5.26
45	.	4.05	4.30	4.56	4.82	5.09	5.19	5.36	5.49
50	.	.	4.31	4.60	4.90	5.22	5.34	5.54	5.70
55	.	.	4.29	4.62	4.96	5.32	5.47	5.69	5.88
60	.	.	.	4.60	4.99	5.39	5.56	5.81	6.03
65	.	.	.	.	4.98	5.43	5.62	5.90	6.14

	Refrigerant Mass Flow g/s								
	-20	-15	-10	-5	0	5	7	10	12.5
30	16.94	23.79	31.53	40.40	50.63	62.45	67.68	76.09	83.67
35	15.14	21.95	29.66	38.51	48.72	60.52	65.74	74.15	81.73
40	13.39	20.10	27.71	36.47	46.59	58.31	63.50	71.87	79.40
45	.	18.27	25.72	34.31	44.28	55.85	60.98	69.26	76.72
50	.	.	23.72	32.08	41.82	53.17	58.22	66.36	73.72
55	.	.	21.73	29.80	39.25	50.31	55.24	63.22	70.44
60	.	.	.	27.50	36.58	47.29	52.08	59.85	66.90
65	.	.	.	.	33.87	44.16	48.78	56.29	63.13

Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without notice.

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Revision date 12-00

Status: Y

Copeland Ref:



CR41KQE-TFD

Refrigerant: **R 407C**

50 Hz

Mid-Point Data

Suction Superheat: 11.1K

Liquid Subcooling: 8.3K

Air Over: 35°C

	Refrigeration Capacity kW					Evaporating Temperature °C				
	-20	-15	-10	-5	0	5	7	10	12.5	
30	3.49	4.98	6.71	8.76	11.13	13.95	15.18	17.17	18.99	
35	2.99	4.40	6.04	8.00	10.28	12.95	14.15	16.06	17.81	
40	2.50	3.84	5.39	7.22	9.38	11.92	13.06	14.90	16.56	
45	.	3.31	4.74	6.48	8.50	10.87	11.95	13.68	15.27	
50	.	.	4.13	5.71	7.59	9.82	10.84	12.45	13.95	
55	.	.	3.57	5.01	6.71	8.76	9.70	11.22	12.60	
60	.	.	.	4.31	5.86	7.71	8.56	9.96	11.25	
65	.	.	.	.	5.01	6.68	7.44	8.70	9.87

	COP								
	-20	-15	-10	-5	0	5	7	10	12.5
30	2.09	2.66	3.27	3.98	4.78	5.67	6.07	6.68	7.22
35	1.80	2.31	2.86	3.49	4.16	4.92	5.26	5.78	6.23
40	1.54	2.01	2.51	3.03	3.64	4.29	4.57	5.02	5.39
45	.	1.74	2.18	2.65	3.17	3.72	3.97	4.34	4.67
50	.	.	1.90	2.30	2.75	3.23	3.45	3.76	4.05
55	.	.	1.65	2.00	2.38	2.80	2.98	3.26	3.51
60	.	.	.	1.73	2.06	2.41	2.57	2.81	3.02
65	.	.	.	.	1.76	2.07	2.20	2.40	2.59

	Power kW								
	-20	-15	-10	-5	0	5	7	10	12.5
30	1.67	1.87	2.05	2.20	2.33	2.46	2.50	2.57	2.63
35	1.66	1.90	2.11	2.29	2.47	2.63	2.69	2.78	2.86
40	1.63	1.91	2.15	2.38	2.58	2.78	2.86	2.97	3.07
45	.	1.90	2.18	2.44	2.68	2.92	3.01	3.15	3.27
50	.	.	2.18	2.48	2.76	3.04	3.14	3.31	3.44
55	.	.	2.16	2.50	2.82	3.13	3.25	3.44	3.59
60	.	.	.	2.49	2.85	3.20	3.33	3.54	3.72
65	.	.	.	.	2.85	3.23	3.39	3.62	3.81

	Current at 380V A								
	-20	-15	-10	-5	0	5	7	10	12.5
30	4.39	4.56	4.72	4.88	5.03	5.16	5.21	5.28	5.34
35	4.37	4.57	4.77	4.97	5.17	5.36	5.44	5.55	5.64
40	4.34	4.57	4.81	5.06	5.31	5.55	5.65	5.80	5.92
45	.	4.56	4.84	5.13	5.42	5.72	5.84	6.03	6.18
50	.	.	4.84	5.17	5.51	5.87	6.01	6.23	6.41
55	.	.	4.82	5.19	5.58	5.98	6.15	6.40	6.62
60	.	.	.	5.18	5.61	6.07	6.25	6.54	6.78
65	.	.	.	.	5.61	6.11	6.32	6.64	6.91

	Refrigerant Mass Flow g/s								
	-20	-15	-10	-5	0	5	7	10	12.5
30	18.94	26.59	35.24	45.15	56.59	69.80	75.64	85.05	93.52
35	16.92	24.53	33.15	43.04	54.45	67.65	73.48	82.88	91.35
40	14.97	22.47	30.98	40.76	52.07	65.17	70.97	80.33	88.75
45	.	20.43	28.75	38.35	49.49	62.42	68.16	77.41	85.75
50	.	.	26.51	35.86	46.74	59.43	65.07	74.18	82.40
55	.	.	24.29	33.30	43.86	56.23	61.74	70.66	78.73
60	.	.	.	30.73	40.89	52.86	58.21	66.90	74.77
65	.	.	.	.	37.86	49.35	54.52	62.92	70.56

Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without notice.

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Revision date 12-00

Status: Y

Copeland Ref:



CR47KQE-TFD

Refrigerant: **R 407C**

50 Hz

Mid-Point Data

Suction Superheat: 11.1K

Liquid Subcooling: 8.3K

Air Over: 35°C

		Refrigeration Capacity kW					Evaporating Temperature °C			
		-20	-15	-10	-5	0	5	7	10	12.5
Condensing Temp. °C	30	4.07	5.80	7.82	10.20	13.01	16.26	17.70	20.04	22.15
	35	3.49	5.13	7.06	9.32	11.98	15.12	16.50	18.75	20.77
	40	2.92	4.48	6.29	8.43	10.95	13.91	15.24	17.38	19.32
	45	.	3.87	5.54	7.53	9.90	12.69	13.95	16.00	17.81
	50	.	.	4.83	6.68	8.85	11.46	12.63	14.53	16.29
	55	.	.	4.16	5.83	7.82	10.23	11.31	13.10	14.71
	60	.	.	.	5.04	6.83	9.00	9.99	11.63	13.13
	65	.	.	.	.	5.86	7.79	8.70	10.17	11.54

		COP								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	2.04	2.59	3.19	3.88	4.66	5.55	5.92	6.53	7.03
	35	1.76	2.26	2.80	3.40	4.06	4.81	5.14	5.65	6.07
	40	1.50	1.97	2.45	2.97	3.54	4.19	4.46	4.90	5.27
	45	.	1.70	2.13	2.58	3.09	3.64	3.87	4.25	4.57
	50	.	.	1.85	2.25	2.68	3.16	3.36	3.68	3.96
	55	.	.	1.61	1.95	2.32	2.73	2.91	3.19	3.43
	60	.	.	.	1.69	2.01	2.35	2.51	2.75	2.96
	65	.	.	.	.	1.72	2.02	2.15	2.35	2.54

		Power kW								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	1.99	2.24	2.45	2.63	2.79	2.93	2.99	3.07	3.15
	35	1.98	2.27	2.52	2.74	2.95	3.14	3.21	3.32	3.42
	40	1.95	2.28	2.57	2.84	3.09	3.32	3.42	3.55	3.67
	45	.	2.27	2.60	2.92	3.21	3.49	3.60	3.76	3.90
	50	.	.	2.61	2.97	3.30	3.63	3.76	3.95	4.11
	55	.	.	2.59	2.99	3.37	3.74	3.89	4.11	4.29
	60	.	.	.	2.98	3.40	3.82	3.98	4.23	4.44
	65	.	.	.	.	3.40	3.86	4.05	4.32	4.55

		Current at 420V A								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	5.00	5.19	5.38	5.56	5.73	5.88	5.94	6.02	6.08
	35	4.97	5.21	5.44	5.67	5.89	6.11	6.20	6.32	6.42
	40	4.94	5.21	5.48	5.76	6.05	6.33	6.44	6.61	6.74
	45	.	5.20	5.51	5.84	6.18	6.52	6.66	6.87	7.04
	50	.	.	5.52	5.89	6.28	6.69	6.85	7.10	7.31
	55	.	.	5.50	5.92	6.36	6.82	7.01	7.30	7.54
	60	.	.	.	5.90	6.40	6.91	7.13	7.45	7.73
	65	.	.	.	.	6.39	6.96	7.20	7.56	7.88

		Refrigerant Mass Flow g/s								
		-20	-15	-10	-5	0	5	7	10	12.5
	30	22.10	31.02	41.12	52.69	66.03	81.45	88.26	99.24	109.13
	35	19.75	28.63	38.68	50.22	63.54	78.93	85.74	96.72	106.59
	40	17.47	26.22	36.15	47.56	60.76	76.05	82.82	93.73	103.56
	45	.	23.83	33.55	44.75	57.75	72.84	79.53	90.33	100.07
	50	.	.	30.93	41.84	54.54	69.35	75.93	86.56	96.15
	55	.	.	28.34	38.86	51.18	65.61	72.04	82.45	91.87
	60	.	.	.	35.86	47.72	61.68	67.93	78.06	87.25
	65	.	.	.	.	44.18	57.59	63.61	73.42	82.34

Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without notice.

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Revision date 01-01

Status: Y

Copeland Ref:



CR53KQE-TFD

Refrigerant: **R 407C**

50 Hz Mid-Point Data

Air Over: 35°C

Suction Superheat: 11.1K
Liquid Subcooling: 8.3K

		Refrigeration Capacity kW					Evaporating Temperature °C			
		-20	-15	-10	-5	0	5	7	10	12.5
Condensing Temp. °C	30	4.49	6.42	8.64	11.28	14.36	17.93	19.54	22.12	24.47
	35	3.84	5.65	7.79	10.28	13.24	16.67	18.20	20.69	22.94
	40	3.22	4.95	6.94	9.30	12.08	15.35	16.81	19.18	21.32
	45	.	4.25	6.12	8.32	10.93	14.01	15.38	17.64	19.66
	50	.	.	5.33	7.35	9.79	12.66	13.95	16.06	17.96
	55	.	.	4.60	6.45	8.64	11.28	12.48	14.44	16.23
	60	.	.	.	5.57	7.53	9.93	11.02	12.83	14.47
	65	.	.	.	.	6.48	8.61	9.58	11.22	12.72

COP

		-20	-15	-10	-5	0	5	7	10	12.5
	30	2.01	2.57	3.17	3.85	4.62	5.48	5.85	6.45	6.97
	35	1.74	2.24	2.77	3.36	4.03	4.76	5.08	5.58	6.02
	40	1.49	1.95	2.42	2.93	3.50	4.14	4.41	4.83	5.21
	45	.	1.68	2.11	2.56	3.05	3.60	3.83	4.20	4.52
	50	.	.	1.83	2.22	2.65	3.13	3.33	3.64	3.91
	55	.	.	1.59	1.94	2.30	2.71	2.88	3.15	3.39
	60	.	.	.	1.68	1.98	2.33	2.48	2.72	2.92
	65	.	.	.	.	1.71	2.00	2.12	2.33	2.50

Power kW

		-20	-15	-10	-5	0	5	7	10	12.5
	30	2.23	2.50	2.73	2.93	3.11	3.27	3.34	3.43	3.51
	35	2.21	2.53	2.81	3.06	3.29	3.50	3.58	3.71	3.81
	40	2.17	2.54	2.87	3.17	3.45	3.71	3.81	3.97	4.09
	45	.	2.53	2.90	3.25	3.58	3.89	4.02	4.20	4.35
	50	.	.	2.91	3.31	3.69	4.05	4.19	4.41	4.59
	55	.	.	2.89	3.33	3.76	4.17	4.34	4.58	4.79
	60	.	.	.	3.32	3.80	4.26	4.45	4.72	4.95
	65	.	.	.	.	3.79	4.31	4.51	4.82	5.08

Current at 420V A

		-20	-15	-10	-5	0	5	7	10	12.5
	30	5.71	5.93	6.15	6.35	6.55	6.72	6.79	6.88	6.95
	35	5.69	5.95	6.21	6.48	6.74	6.99	7.08	7.23	7.34
	40	5.65	5.95	6.27	6.59	6.91	7.23	7.36	7.55	7.71
	45	.	5.94	6.30	6.68	7.06	7.45	7.61	7.85	8.04
	50	.	.	6.31	6.74	7.18	7.64	7.83	8.11	8.35
	55	.	.	6.28	6.76	7.27	7.79	8.01	8.34	8.62
	60	.	.	.	6.75	7.31	7.90	8.15	8.52	8.83
	65	.	.	.	.	7.30	7.96	8.23	8.65	9.00

Refrigerant Mass Flow g/s

		-20	-15	-10	-5	0	5	7	10	12.5
	30	24.39	34.23	45.38	58.14	72.87	89.88	97.40	109.52	120.43
	35	21.79	31.59	42.69	55.42	70.11	87.11	94.62	106.73	117.63
	40	19.28	28.93	39.89	52.49	67.05	83.93	91.39	103.43	114.28
	45	.	26.30	37.02	49.39	63.73	80.38	87.77	99.68	110.43
	50	.	.	34.14	46.17	60.19	76.53	83.79	95.52	106.11
	55	.	.	31.28	42.89	56.48	72.41	79.50	90.99	101.38
	60	.	.	.	39.58	52.66	68.07	74.96	86.14	96.28
	65	.	.	.	.	48.75	63.55	70.20	81.02	90.86

Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without notice.

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Revision date 01-01

Status: Y

Copeland Ref:



CRNQ-050E-TF5

Refrigerant: **R 407C**

Suction Superheat: 11.1K
Liquid Subcooling: 8.3K

50 Hz Mid-Point Data
Air Over: 35°C

	Refrigeration Capacity kW					Evaporating Temperature °C			
	-20	-15	-10	-5	0	5	7	10	12.5
30	5.92	7.94	10.37	13.24	16.58	20.39	22.06	24.73	27.07
35	5.22	7.15	9.46	12.19	15.35	19.02	20.60	23.15	25.40
40	4.52	6.36	8.54	11.12	14.12	17.57	19.08	21.49	23.64
45	.	5.60	7.64	10.05	12.89	16.12	17.55	19.84	21.86
50	.	.	6.77	9.00	11.63	14.65	16.00	18.14	20.01
55	.	.	5.92	7.97	10.40	13.19	14.42	16.41	18.17
60	.	.	.	6.97	9.17	11.72	12.86	14.68	16.29
65	.	.	.	.	7.97	10.28	11.31	12.95	14.44

	COP								
	-20	-15	-10	-5	0	5	7	10	12.5
30	2.51	2.95	3.49	4.14	4.89	5.71	6.06	6.61	7.07
35	2.21	2.59	3.05	3.61	4.24	4.95	5.25	5.73	6.14
40	1.96	2.28	2.67	3.14	3.68	4.29	4.55	4.95	5.31
45	.	2.01	2.34	2.74	3.20	3.71	3.94	4.29	4.59
50	.	.	2.06	2.39	2.78	3.21	3.40	3.70	3.95
55	.	.	1.82	2.08	2.41	2.77	2.93	3.19	3.41
60	.	.	.	1.82	2.08	2.38	2.52	2.73	2.91
65	.	.	.	.	1.79	2.04	2.15	2.33	2.49

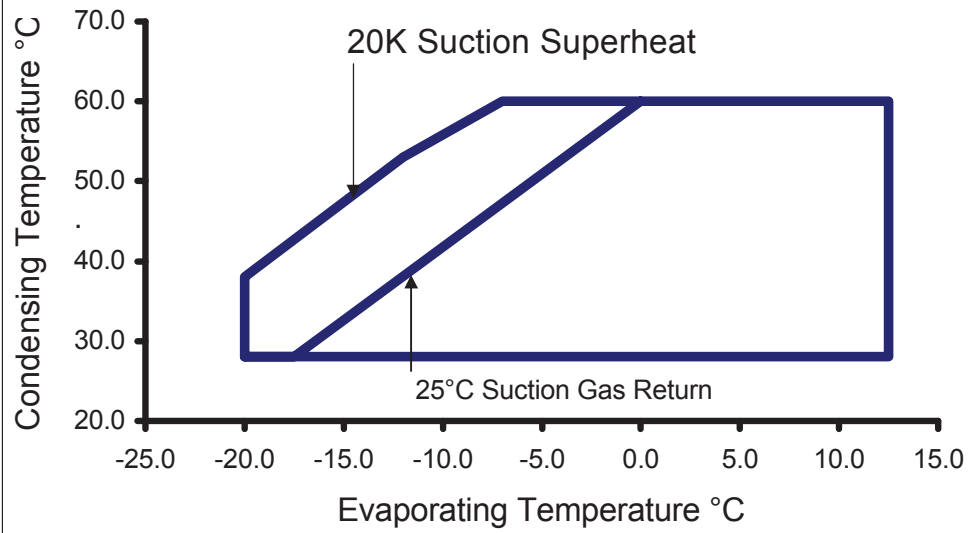
	Power kW								
	-20	-15	-10	-5	0	5	7	10	12.5
30	2.36	2.69	2.97	3.20	3.39	3.57	3.64	3.74	3.83
35	2.36	2.76	3.10	3.38	3.62	3.84	3.92	4.04	4.14
40	2.31	2.79	3.20	3.54	3.84	4.10	4.19	4.34	4.45
45	.	2.78	3.26	3.67	4.03	4.34	4.46	4.62	4.76
50	.	.	3.29	3.77	4.19	4.56	4.70	4.90	5.06
55	.	.	3.26	3.83	4.32	4.76	4.92	5.15	5.33
60	.	.	.	3.84	4.41	4.92	5.11	5.38	5.59
65	.	.	.	.	4.45	5.04	5.26	5.57	5.81

	Current at 220V A								
	-20	-15	-10	-5	0	5	7	10	12.5
30	9.93	10.49	10.97	11.40	11.78	12.12	12.24	12.43	12.58
35	9.94	10.63	11.23	11.76	12.23	12.66	12.83	13.06	13.25
40	9.86	10.69	11.42	12.08	12.67	13.20	13.41	13.70	13.93
45	.	10.66	11.54	12.34	13.06	13.72	13.97	14.33	14.62
50	.	.	11.58	12.54	13.41	14.21	14.52	14.96	15.31
55	.	.	11.53	12.66	13.70	14.67	15.03	15.56	15.98
60	.	.	.	12.71	13.93	15.07	15.50	16.13	16.64
65	.	.	.	.	14.08	15.41	15.92	16.66	17.26

	Refrigerant Mass Flow g/s								
	-20	-15	-10	-5	0	5	7	10	12.5
30	30.74	41.76	53.63	66.82	81.79	99.00	106.62	118.93	130.06
35	28.04	39.34	51.38	64.63	79.56	96.63	104.16	116.31	127.27
40	24.90	36.50	48.74	62.09	77.02	93.98	101.44	113.45	124.26
45	.	33.28	45.76	59.25	74.20	91.09	98.49	110.37	121.07
50	.	.	42.47	56.12	71.14	87.98	95.34	107.13	117.71
55	.	.	38.90	52.75	67.86	84.70	92.03	103.74	114.22
60	.	.	.	49.16	64.40	81.27	88.58	100.23	110.64
65	.	.	.	.	60.79	77.72	85.03	96.64	106.99

C5.8.4/0902/E Nominal Performance Values (±5%) based on minimum 24 hours run-in. Subject to change without notice.

CR**KQE OPERATING ENVELOPER407C Mid-Point



8	7	6	5	4	3	2	1
MODEL NO.	A	B	C	SPECIFICATIONS			
				ES NO.	DESCRIPTION		
CR33KO-PFV-240/280	13 3/4	14 1/8	13 7/16				
CR33KO-PFV-240/280	13 1/8	13 1/2	12 13/16				
CR33KO-IFD-240/280	13 3/4	14 1/8	13 7/16				
CR33KO-IF5-240/280	13 3/4	14 1/8	13 7/16				
CR34KO-PFV-240/280	13 7/8	14 1/4	13 9/16				
CR34KO-PFV-240/280	13 3/8	13 3/4	13 1/16				
CR34KO-IFD-240/280	13 11/16	14 1/16	13 3/8				
CR34KO-IF5-240/280	14	14 3/8	13 11/16				
CR36KO-PFV-240/280	13 1/2	13 7/8	13 3/16				
CR36KO-IFD-240/280	14 1/4	14 5/8	13 15/16				
CR36KO-IF5-240/280	14 1/4	14 5/8	13 15/16				
CR37KO-PFV-240/280	14	14 3/8	13 11/16				
CR37KO-IFD-240/280	13 5/8	14	13 9/16				
CR37KO-IF5-240/280	14 1/4	14 5/8	13 15/16				
CR41KO-PFV-240/280	14 1/4	14 5/8	13 15/16				
CR41KO-IFD-240/280	13 7/8	14 1/4	13 9/16				
CR41KO-IF5-240/280	14 9/16	14 15/16	14 1/4				
CR44KO-IF5-240/280	14 9/16	14 15/16	14 1/4				

D

0.750-0.775 DIAMETER HOLE 4-PLACES

B

3/8 I.D. SUCTION COPPER TUBE 0.058 WALL

3/8 I.D. DISCHARGE COPPER TUBE 0.058 WALL

CRANKCASE HEATER (OPTIONAL SEE B/M)

C

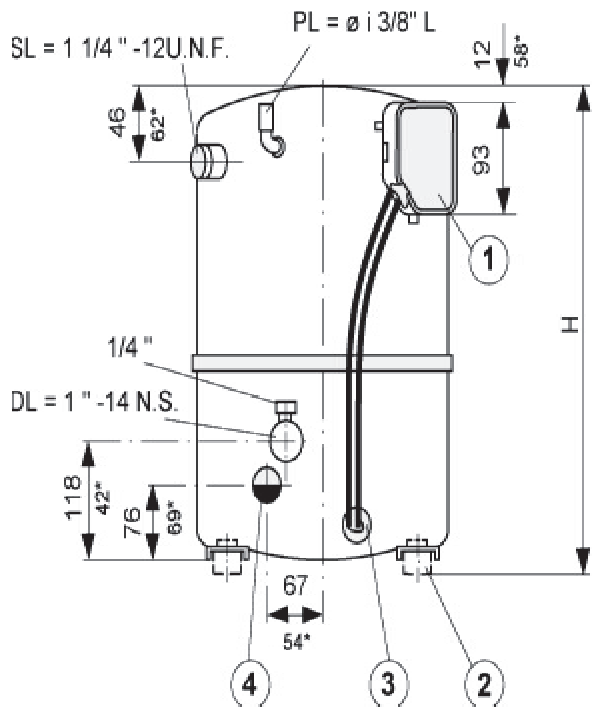
NOTES:

- TOLERANCES TO BE ± 0.062 UNLESS OTHERWISE SPECIFIED.
- TUBE ENDS MUST BE PLUGGED.

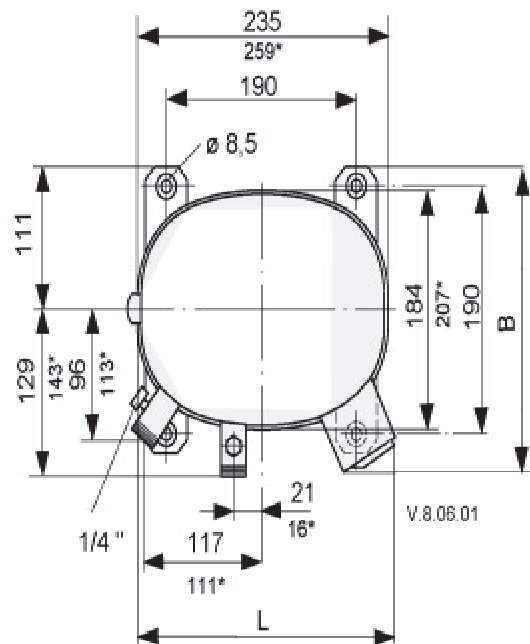
A

FR. DESIGNATION	DESCRIPTION	QTY	UNIT
27	ADDED ZBO DESIGNATION TO MODELS	1	DEB
32-0899-086	CR34KO-PFV-240 ADDED	14-21-98	EG DEB
32-1298-022	MODEL NO. WASCRC240 NONGCR33KO	17-18-98	EG DEB
32-0898-011	CR36KO-IF5-240 ADDED	17-18-98	EG DEB
32-0898-011	CR36KO-IFD-240 ADDED	17-18-98	EG DEB
32-0898-028	CR34KO-IF5-240 ADDED	14-22-98	EG DEB
32-0898-029	CR37KO-IFD-240 ADDED	14-22-98	EG DEB
32-0898-019	CR32KO-IF5-240 ADDED	14-08-98	EG DEB
32-0898-019	CR32KO-IFD-240 ADDED	14-13-98	EG DEB
32-0898-027	CR44KO-PFV-240 ADDED	2-15-98	EG DEB
32-0898-027	CR44KO-IFD-240 ADDED	2-15-98	EG DEB
32-0897-068	MODEL WAS: CR42KO-IFD-240	2-15-98	EG DEB
32-0897-068	MODEL WAS: CR42KO-PFV-240	2-15-98	EG DEB
32-0898-012	CR37KO-IFD-240 ADDED	17-20-98	EG DEB
32-0897-013	MODEL WAS: CR38KO-IF5-240	17-20-98	EG DEB
32-0897-009	MODEL WAS: CR38KO-PFV-240	17-20-98	EG DEB
32-0898-013	CR37KO-PFV-240 ADDED	17-20-98	EG DEB
32-1297-041	CR44KO-IF5-240 ADDED	14-24-98	EG DEB
32-1297-041	CR44KO-IFD-240 ADDED	14-24-98	EG DEB
32-1097-015	CR38KO-IF5-240 ADDED	10-14-97	EG DEB
32-0897-029	CR34KO-PFV-240 ADDED	9-5-97	EG DEB
32-0897-031	CR32KO-PFV-240 ADDED	9-5-97	EG DEB
32-0897-009	CR32KO-PFV-240 ADDED	9-5-97	EG DEB
32-0897-056	CR38KO-PFV-240 HEIGHT INCREASED	10-14-97	EG DEB
32-0897-056	CR38KO-IFD-240 HEIGHT INCREASED	10-14-97	EG DEB
32-0897-009	CR38KO-PFV-240 ADDED	10-14-97	EG DEB
32-0897-058	CR42KO-IFD-240 ADDED	7-31-97	EG DEB
32-0897-058	CR42KO-IFD-240 ADDED	7-31-97	EG DEB

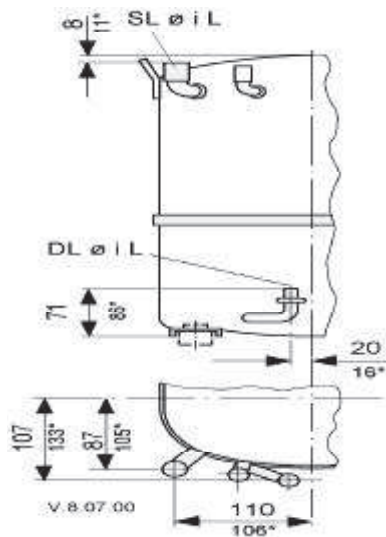
CR & CX Drawings with Dimensions



Version with stub tubes



CR & CX

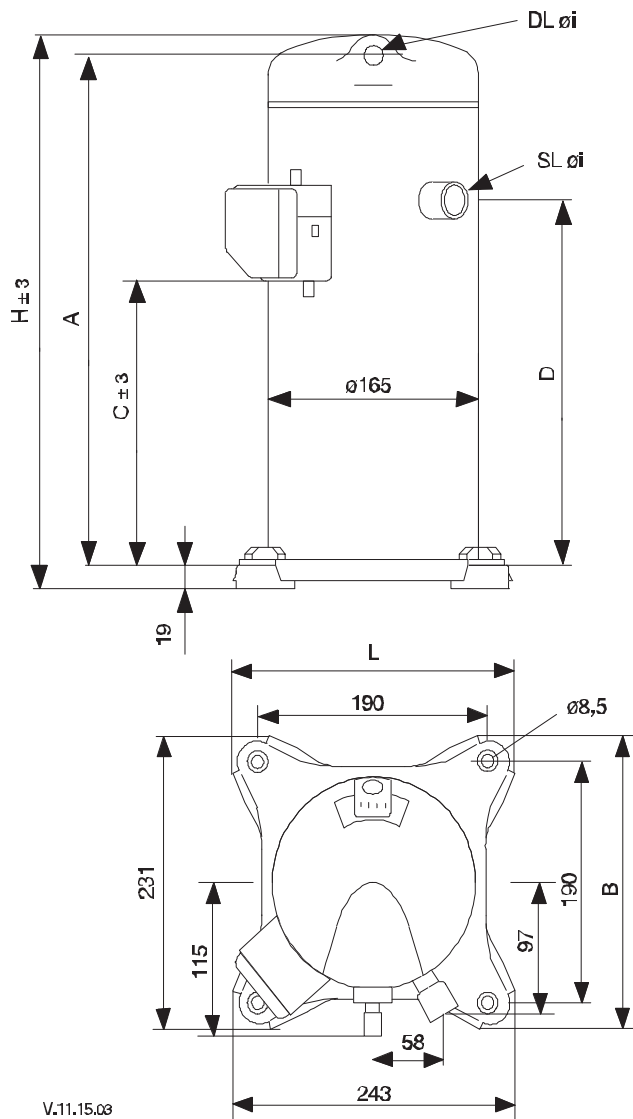


- * = (CRQ) Dimensions of model CRNQ-0500
- * = (CX) Dimensions of model CX 37 K1
- SL = suction line (L = sweat)
- DL = discharge line (L = sweat)
- PL = process line (L = sweat)
- 1 = terminal box
- 2 = rubber mounting
- 3 = crankcase heater
- 4 = sight glass

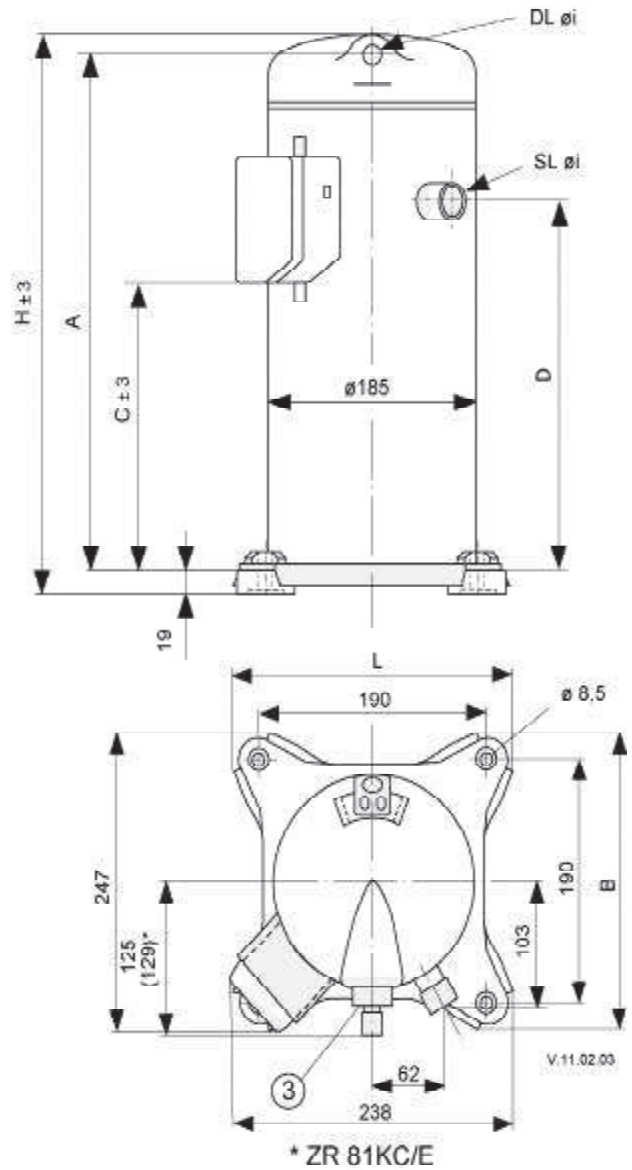
Product		CX11,16,25	CX 37	CRAQ,DQ	CREQ	CRGQ,JQ	CRKQ	CRLQ,MQ	CRNQ
Length (L)	mm	240	240	240	240	240	240	240	290
Width (B)	mm	235	235	235	235	235	235	235 / 245	255
Height (H)	mm	365	385	365/360	365	372/385	391	400	420
Footprint	mm	190 x 190	190 x 190	190 x 190	190 x 190	190 x 190	190 x 190	190 x 190	190 x 190
Suction Brazing	Inch	5/8	7/8	5/8	5/8	3/4	3/4	7/8	7/8
Discharge Brazing	Inch	1/2	1/2	3/8	3/8	3/8	3/8	1/2	1/2

Copeland Scroll Drawings with Dimensions

ZR18K4E to ZR48K3E



ZR61KCE

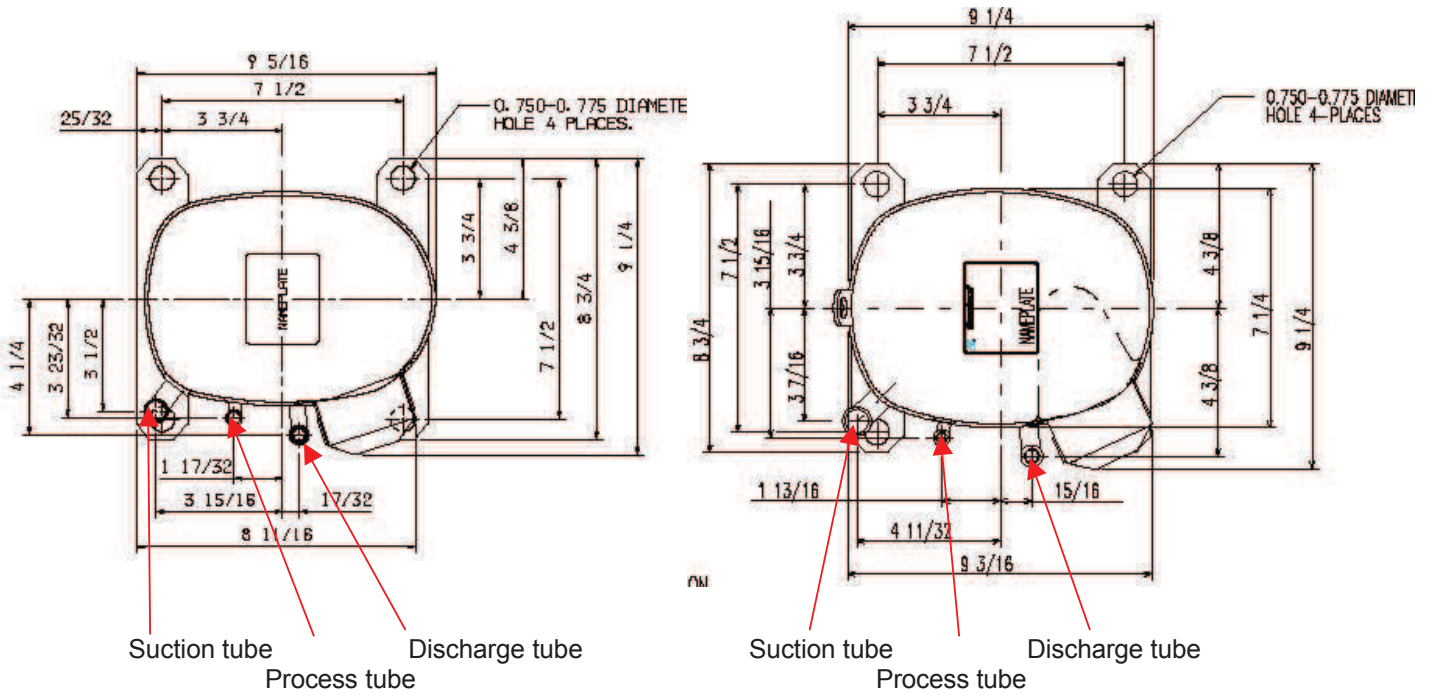


Product		ZR18	ZR22	ZR28	ZR34	ZR40	ZR48	ZR61
Length(L)	mm	242	242	242	242	242	242	242
Width(B)	mm	242	242	242	242	242	242	242
Height(H)	mm	383	383	383	405	419	436	457
Footprint	mm	190x190	190x190	190x190	190x190	190x19	190x190	190x190
Dimension A	mm	338	338	338	361	375	392	410
Dimension C	mm	205	202	202	222	235	252	233
Dimension D	mm	245	245	245	265	277	294	297
Suction-brazing	Inch	3/4	3/4	3/4	3/4	3/4	7/8	7/8
Discharge brazing	Inch	1/2	1/2	1/2	1/2	1/2	1/2	1/2

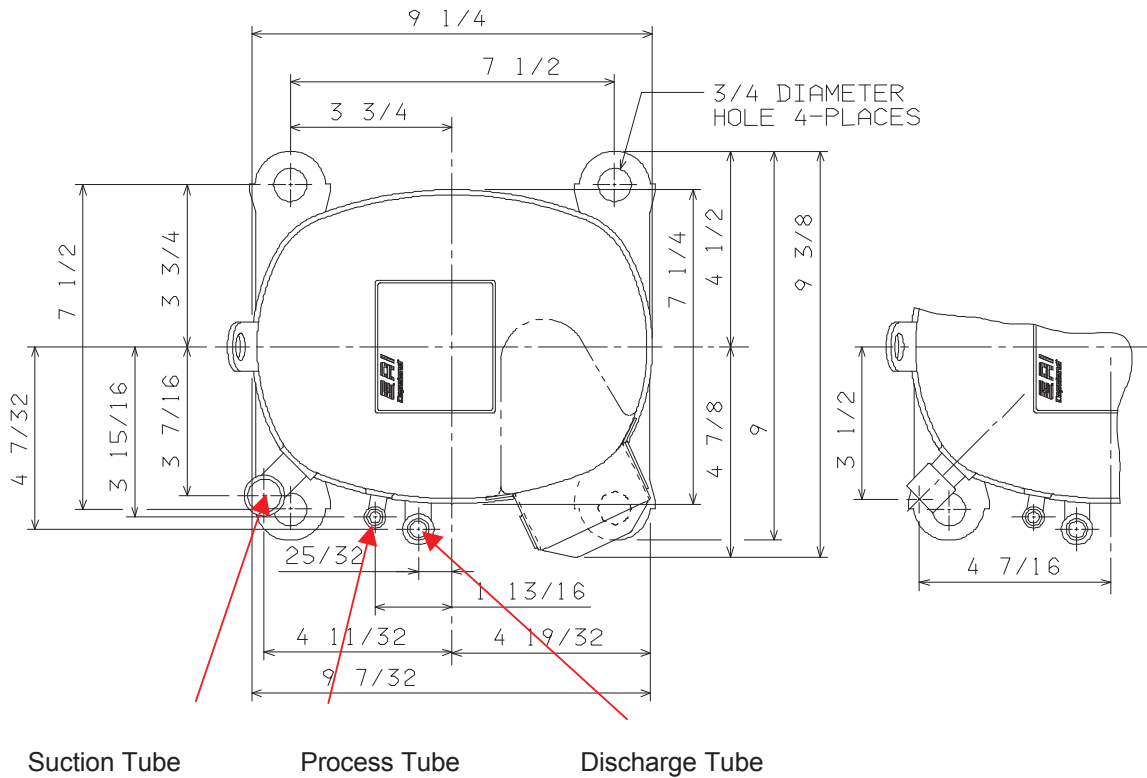
Orientation of the Suction & Discharge Tubes

CR18, 24, 28KQ/E

CR33, 37, 41KQ/E

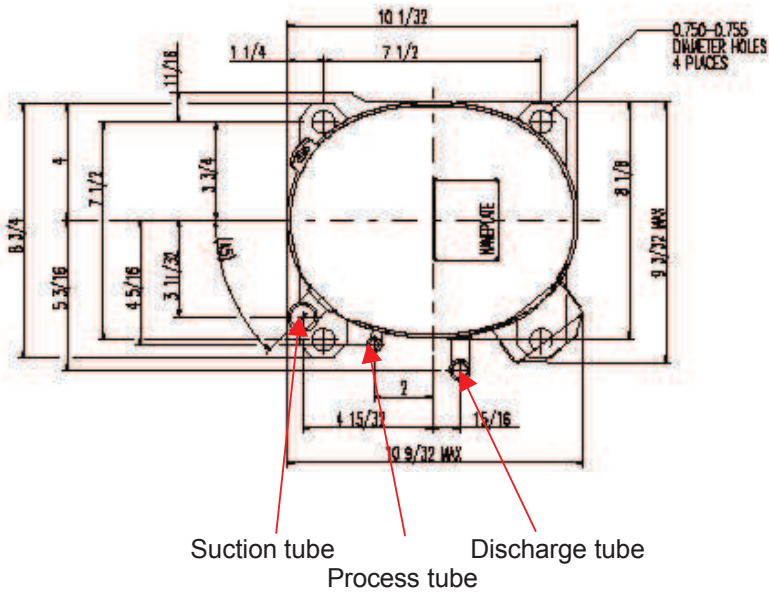


CRAQ, CRDQ, CREQ, CRGQ, CRJQ, CRKQ & CRLQ

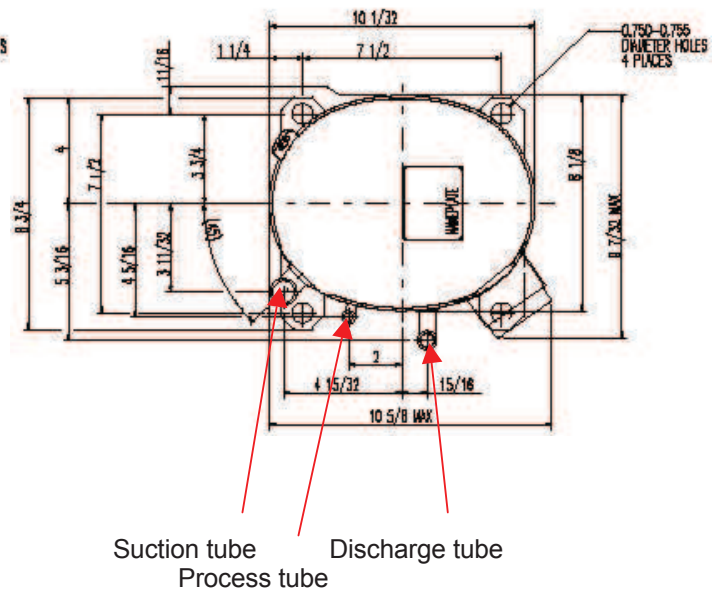


Orientation of the Suction & Discharge Tubes

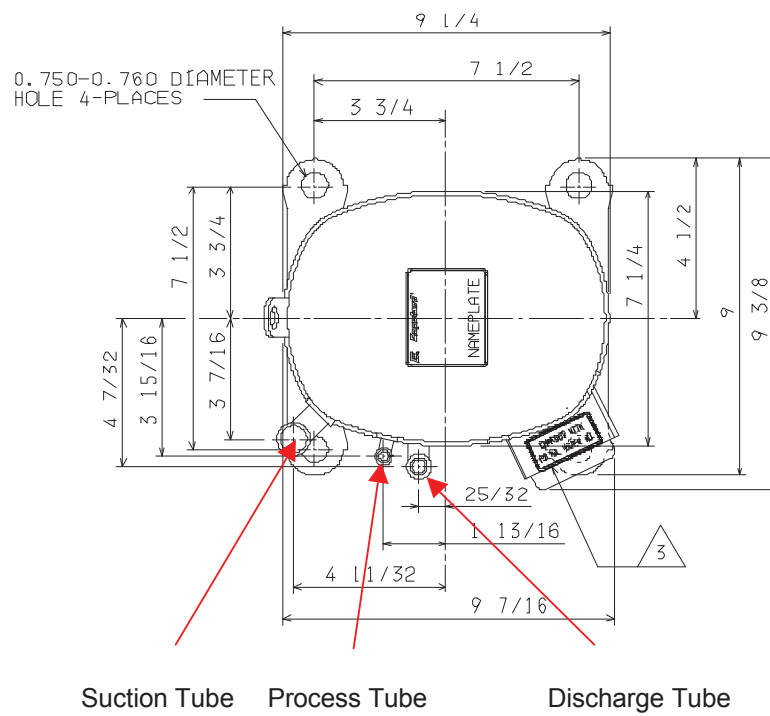
CR47KQ/E



CR53KQ/E

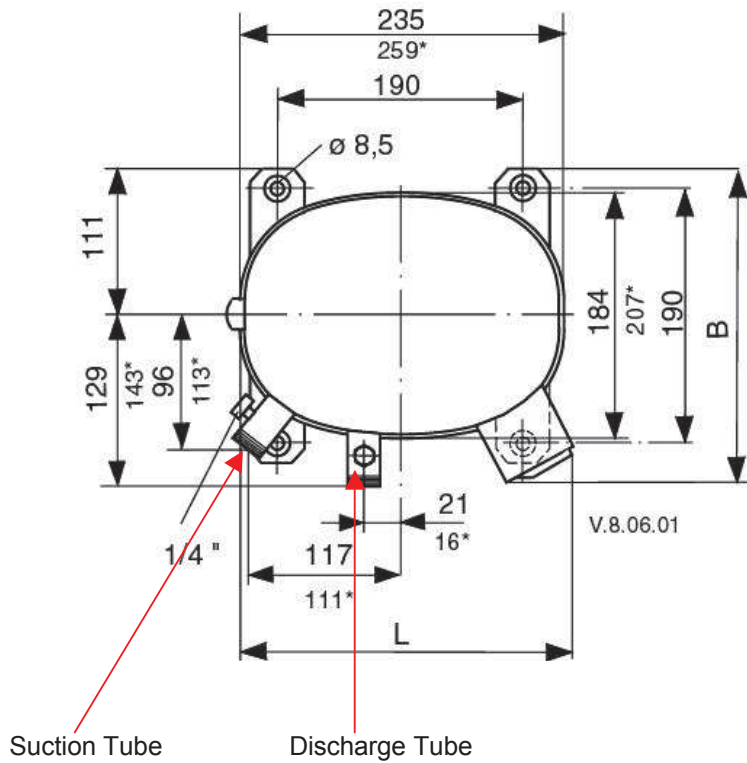


CRMQ-0400/E



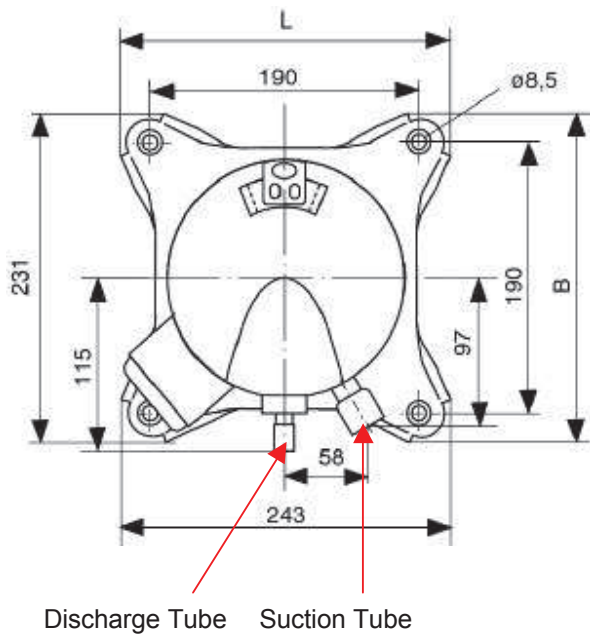
Orientation of the Suction & Discharge Tubes

***CRNQ-0500/E, CX11K1, CX16K1, CX25K1 & *CX37K1**

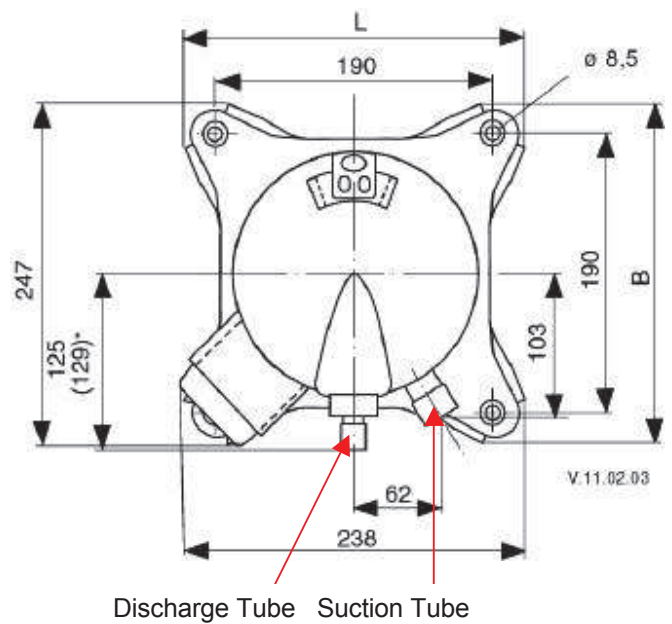


Product	CX11, 16, 25, 37
L - Length	240mm
B - Width	235mm
* Dimensions of CRNQ-0500 & CX37K1	

ZR18K4E to ZR48K3E



ZR61KCE



Product	ZR18K4E to ZR61KCE
L - Length	242mm
B - Width	242mm

Standard Components

Crankcase Heater – Internal (for use with CR 33,37,41,47, 53 KQ/E & CRNQ-0500/E)
Crankcase Heater Retainer (for Internal CCH)
Crankcase Heater – wrap around (for use with CR 18,24 & 28 KQ/E)
Mounting Parts (Rubber Grommets)

Accessories

Run Capacitor
Start Capacitor – High Torque
Start Capacitor – Low Torque
Start Relay
Single-Phase Starting Kits
Rotalock Valve
Rotalock Valve Seal
Kit Rotalock Shut-Off Valves Complete (Suction, Discharge & Gaskets)
Brazing to Rotalock Adaptor
Kit Rotalock adapter, brazing to Rotalock, Suction with gasket.
Kit Rotalock adapter, brazing to Rotalock, Discharge with gasket.
Complete Kit, brazing to Rotalock, Suction & Discharge Rotalock adapters with gaskets.
*Spring Mounting Assembly 2865047

*Add 19.1 mm ($\frac{3}{4}$ inch) to the compressor height when compared to the rubber grommet mounting parts

Spare Parts

Grounding Kit(screws + washer)	8023538
Crankcase Heater – Internal	See Table for Part Number Page 52
Crankcase Heater Retainer (for Internal CCH)	See Table for Part Number Page 52
Crankcase Heater – wrap around	See Table for Part Number Page 52
Mounting Parts (Rubber Grommets)	8016503

CRKQ/E Accessories

Electrical Components for Air Conditioning

Single Phase Compressors @ 50Hz

Model	RUN CAPACITOR		
	MFD	Volts	Part Number
CR18KQ/E- PFZ	25	440	8014347
CR24KQ/E- PFZ	35	440	8011393
CR28KQ/E- PFZ	40	440	8018941
CR33KQ/E- PFT	50	440	8015839
CR37KQ/E- PFT	50	440	8015839
CR41KQ/E- PFT	50	440	8015839
CR47KQ/E- PFZ	60	440	8034098

The PFT – PFZ compressors use a single-phase, permanent split capacitor motor. A run capacitor is required in order to operate this motor. A start capacitor and relay are not required in many applications. This motor when used without starting components is economical and efficient but has low starting torque. Therefore the compressor with the run capacitor only is limited to use on systems where suction and discharge pressures are equalized (balanced conditions) prior to start up. If the compressor is to be started at unbalanced conditions, or if increased starting torque is required for other reasons (such as low voltage), a start capacitor and relay can be added to this motor.

Choosing High or Low Torque Starting Components

If a start capacitor and relay is required, Copeland recommends that the high torque components be used. These components will provide the most consistent starts of the starting components listed. In most cases the same start relay is specified for both high and low torque. Some customers who have used the low starting torque components have found them suitable for their particular application and voltage supply. We recommend them only after a successful field trial is carried out.

HIGH STARTING TORQUE COMPONENTS				
Model	START CAPACITOR			START RELAY
	MFD	Volts	Part Number	
CR18KQ/E- PFZ	145-174	330	8011382	2829716
CR24KQ/E- PFZ	145-174	330	8011382	2829716
CR28KQ/E- PFZ	145-174	330	8011382	2829716
CR33KQ/E- PFT	189-227	330	2829829	8018974
CR37KQ/E- PFT	189-227	330	2829829	8018974
CR41KQ/E- PFT	189-227	330	2829829	8018974
CR47KQ/E- PFZ	189-227	330	2829829	8038807

CRKQ/E Accessories (Continued)

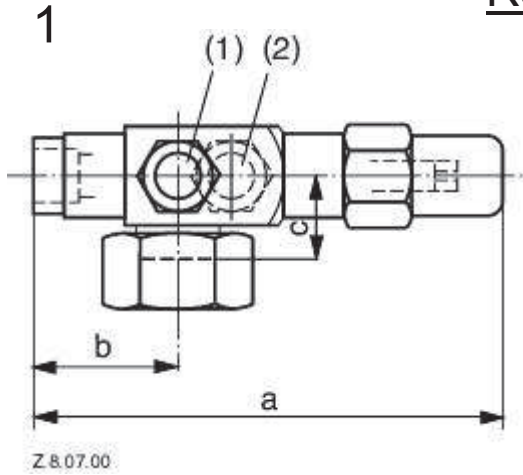
LOW STARTING TORQUE COMPONENTS				
START CAPACITOR				
Model	MFD	Volts	Part Number	START RELAY
CR18KQ/E- PFZ	43-52	220	8022911	2829716
CR24KQ/E- PFZ	43-52	220	8022911	2829716
CR28KQ/E- PFZ	43-52	220	8022911	2829716
CR33KQ/E- PFT	64-77	330	8038829	8018974
CR37KQ/E- PFT	64-77	330	8038829	8018974
CR41KQ/E- PFT	64-77	330	8038829	8018974
CR47KQ/E- PFZ	64-77	330	8038829	8038807

SINGLE-PHASE STARTING KIT	
Start Capacitor, Run Capacitor & Relay	
Model	Part Number
CR18KQ/E-PFZ	8039048
CR24KQ/E-PFZ	8039059
CR28KQ/E-PFZ	8039060
CR33KQ/E-PFT	8039071
CR37KQ/E-PFT	8039071
CR41KQ/E-PFT	8039071
CR47KQ/E-PFZ	8039106

Model	CRANKCASE HEATER Internal 27W / 100 – 600V CR	CRANKCASE HEATER Standard external wrap-around
	Part Number	Part Number
CR18KQ/E	N / A	8038818
CR24KQ/E	N / A	8038818
CR28KQ/E	N / A	8038818
CR33KQ/E	2864840	N / A
CR37KQ/E	2864840	N / A
CR41KQ/E	2864840	N / A
CR47KQ/E	2864840	N / A
CR53KQ/E	2864840	N / A
CRNQ-0500/050E	2864840	N / A

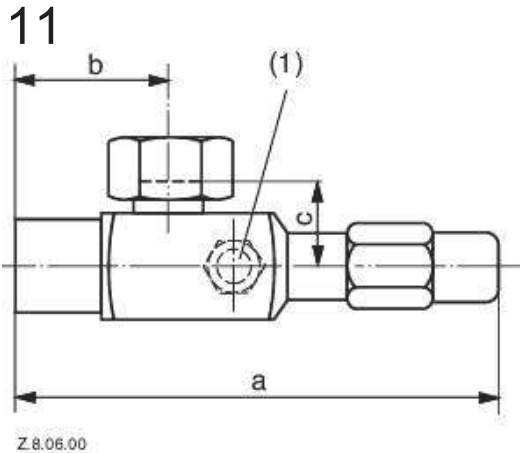
To hold the heater in the heater well a “**Retainer Heater CR**” part no. 8024815 is used

Rotalock Valves



- (1) Pressure control connection
- (2) Gauge connection

Ident No.	Dimensions		
	a	b	c
8002679	95.5	29.5	18.5
2852365	107.5	37	20
2495075	107.5	37	20



- (1) Pressure control connection

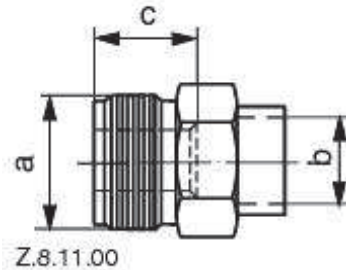
Ident No.	Dimensions		
	a	b	c
2854907	132	42	27
2829614	132	42	27
2495111	146.5	56.5	27

	Brazed Tube Size	Threaded Fit	Drawing	For Use with Models	Ident No.	Seal
Discharge	1/2" (12.5mm)	1" x 14	1	CR18,24,28,33,37,41,47,53KQ/E	8002679	2495928
	5/8" (16.0mm)		1	CRNQ-0500/050E	2852365	2495928
	7/8" (22.0mm)		1	CRNQ-0500/050E	2495075	2495928
Suction	5/8" (16.0mm)	1 1/4" x 12	1	CR18, 24, 28KQ/E	8002624	2495939
	3/4" (19.0mm)		11	CR33, 37, 41KQ/E	2854907	2495939
	7/8" (22.0mm)		11	CR33,37,41,47, 53KQ/E	2829614	2495939
	1 1/8" (28.0mm)		11	CRNQ-0500/050E	2495111	2495939

The "Kit Rotalock shut-off valves complete" below include gaskets.

Kit Rotalock Shut-off Valves complete, (Suction and Discharge)	
Part Number	Model
6310798	CR18, 24, 28KQ/E
6309512	CR33, 37, 41, 47 & 53KQ/E
6309523	CRNQ-0500/0500E

Brazing to Rotalock Adapter



Model		Dimensions			Ident No.	
Discharge	Suction	a	b	c	Adapter	Seal
		(in)	(in) (mm)	(mm)		
CR18,24,28,33,37,41KQE		1 x 14	1/2 12.5	17	2856550	2495928
CR47,53KQE & CRNQ		1 x 14	5/8 16	17	3054755	2495928
	CR18, 24 & 28KQ/E	1 1/4 x 12	5/8 16	17	8026924	2495939
	CR33,37,41,47,53KQ/E,CRNQ	1 1/4 x 12	3/4 19	24	8014358	2495939

Kit Rotalock adapter with gasket, brazing to Rotalock, Discharge		
Description	Part Number	Model
1/2" to 1 x 14	8032069	CR18, 24, 28, 33, 37 & 41KQ/E
5/8" to 1 x 14	8032070	CR 47, 53KQ/E & CRNQ/E

Kit Rotalock adapter with gasket, brazing to Rotalock, Suction		
Description	Part Number	Model
5/8" or 3/4" to 1 1/4" x 12	8026957	CR18, 24, 28KQ/E
3/4" or 7/8" to 1 1/4" x 12	8026935	CR33, 37, 41, 47, 53KQ/E, CRNQ/E

Complete Kit, Suction & Discharge Rotalock Adapters with Gaskets, Brazing to Rotalock	
Part Numbers	Model
8039935	CR18, 24 & 28KQ/E
8039946	CR33, 37 & 41KQ/E
8039957	CR47, 53KQ/E & CRNQ/E

Model Nomenclature

C R A Q 0150 – TFD – 522
1 2 3 4 5 6 7

1. Compressor line – 2 cylinder
2. High / medium temperature
R = mineral oil
3. Indication of theoretical displacement alphabetically ascending
4. Model variation
5. Motor size
E = Ester oil
6. Motor version
7. Bill of Material

C R 33 K Q E – TFD – 522
1 2 3 4 5 6 7 8

1. Compressor family
2. R = High / medium temperature
3. Nominal capacity in BTU/hr at 60 Hz and ARI conditions
4. Capacity multiplier “K” for 1000
5. Model series variation “Q” for quiet compressors
6. Ester oil
7. Motor version
8. Bill of Material

Model Nomenclature

C X 11K 1 – TFD – 551
1 2 3 4 5 6

1. Compressor line – 2 cylinder
2. X = high / medium temperature R134a with ester oil
3. Nominal capacity in BTU/hr at 60 Hz and ARI conditions using multiplier “K” for 1000
4. Model variation
5. Motor version
6. Bill of Material

Z R 34K 3 E – TFD – 522
1 2 3 4 5 6 7

1. Compressor family Z = Compliant scroll
2. R = single high / medium temperature
3. Nominal capacity in BTU/hr at 60 Hz and ARI conditions using multiplier “K” for 1000
4. Model variation
5. Ester oil
6. Motor version
7. Bill of Material