Copeland

CR & CX Piston Hermetic to Copeland Air Conditioning Scroll

Replacement Guidelines

Table of Contents

	Page
CR / CX to Copeland A/C Scroll Cross-References	3
Voltages and B.O.M	4
Cross-References Technical Comparisons CR-Copeland A/C Scroll	5
Cross-References Technical Comparisons CX-Copeland A/C Scroll	6
Drawings with dimensions CR / CX	7
Drawings with dimensions Copeland A/C Scroll	8
Model Nomenclature	9

CR / CX

Copeland A/C Scroll

CR-CX Replacement by Copeland A/C Scroll

CR to Copeland A/C Scroll Cross-Reference

CRAQ-0150/015E	ZR18K4/K4E
CRDQ-0200/020E	ZR22K3/K3E
CREQ-0225/022E	ZR28K3/K3E
CRGQ-0250/025E	ZR28/34K3/K3E
CRJQ- 0300/030E	ZR34K3/K3E
CRKQ- 0325/032E	ZR40K3/K3E
CRLQ- 0350/035E	ZR48K3/K3E
CRMQ-0400/040E	ZR48K3/K3E
CRNQ-0500/050E	ZR61KC/KCE

	CR	Copeland A/C Scroll
Refrigerants	R22/R407C	R22, R407C & R134a
B.O.M.	522, 523 & 551	522, [523 - ZR48 / 61]
Voltages	TFD/5 [CRA/D/E/GQ -PFJ]	TFD/5 [ZR 18/48 - PFJ]

CX to Copeland A/C Scroll Cross-Reference

CX 11 K1	ZR18K4E
CX 16 K1	ZR22/28K3E
CX 25 K1	ZR34/40K3E
CX 37 K1	ZR48/61K3E

	CX	Copeland A/C Scroll
Refrigerants	R134a	R22, R407C & R134a
B.O.M.	551	522, [523 - ZR48 / 61]
Voltages	TFD [CX11/16/25K1 -PFJ]	TFD/5 [ZR 18/48 - PFJ]

Voltages and B.O.M

Voltages: ± 10% / ~ / Hz	
PFJ	220 - 240 / 1 / 50
TFD	380 - 420 / 3 / 50
TF5	200 - 220 / 3 / 50

B.O.M.

522	Brazing Stub Tubes
523	Rotalock Threaded Stubs (CRQ & ZR48 - 61)
551	Rotalock Threaded Stubs, Oil Sight Glass (ZR)

Cross-Reference Technical Comparisons
CR - Copeland A/C Scroll

R22 & R407C, 50Hz @ARI

PRODUCT		CRAQ	ZR18	CRDQ	ZR22	CREQ	ZR28	CRGQ	ZR34
Cooling Capacity	kW	4.38	4.3	5.5	5.3	6.7/6.27	6.9	7.7/7.48	8.3
Power Input	kW	1.5	1.38/1.43	2	1.76	2.19	2.16/2.28	2.62	2.65/2.69
Efficiency	COP	2.9	3.2/3.06	2.82	3.02	3.03/3.8	3.24/3.05	2.94	3.27/3.07
Displacement	m3/hr	5.7	4.3	7.12	5.34	8.18	6.83	10.57	8.03
Refrigerants		R22,R407C	R22, R407C	R22,R407C	R22, R407C	R22,R407C	R22, R407C	R22,R407C	R22, R407C
Motor Version		PFJ	PFJ	PFJ,TFD/5	PFJ,TFD/5	PFJ,TFD/5	PFJ,TFD/5	PFJ,TFD/5	PFJ,TFD/5
MOC	A	8.7	10	3.8	4.2	4.6/3.8	4.6/5.1	5.2	5.5/6.2
LRA	A	35	35	22	24	27/22	32	31	40
Sound Pressure	dBA	57	54	59	53	58	53	61	53
Length (L)	mm	240	242	240	242	240	242	240	242
Width (B)	mm	235	242	235	242	235	242	235	242
Height (H)	mm	365	383	360	383	365	383	375	405
Footprint	mm	190x190	190x190	190x190	190x190	190x190	190x190	190x190	190x190
Suction Brazing	Inch	5/8	3/4	5/8	3/4	5/8	3/4	3/4	3/4
Discharge Brazing	Inch	3/8	1/2	3/8	1/2	3/8	1/2	3/8	1/2
Oil Charge	l	1.5	0.74	1.5	1	1.5	1	1.5	1.1
Net Weight	kg	28.5	18	28.5	22	29	25	30.5	26
Gross Weight	kg	31	21	31	26	32	29	33	30

PRODUCT		CRJQ	CRKQ	ZR40	CRLQ	CRMQ	ZR48	CRNQ	ZR61
Cooling Capacity	kW	9	9.6	9.8	11	12.57	11.9	14.7	14.49/14.75
Power Input	kW	3.1	3.35	3.0/3.14	3.8	4.2	3.74	5	4.43/4.68
Efficiency	COP	2.93	2.87	3.27/3.09	2.9	2.94	3.17	2.99	3.27/3.15
Displacement	m3/hr	11.97	12.8	9.44	14.19	15.59	11.4	17.7	14.4
Refrigerants		R22,R407C	R22,R407C	R22, R407C	R22,R407C	R22,R407C	R22, R407C	R22,R407C	R22, R407C
Motor Version		TFD/5	TFD/5	PFJ,TFD/5	TFD/5	TFD/5	PFJ,TFD/5	TFD/5	TFD/5
MOC	A	6.3	6.8	6.6/7	7.6	8.6	10	9.8	12
LRA	A	39	39	46	40	43	50	62	66
Sound Pressure	dBA	62	61	53	61	59	57	65	59
Length (L)	mm	240	240	242	240	240	242	290	242
Width (B)	mm	235	235	242	235	245	242	255	242
Height (H)	mm	385	395	419	400	400	436	420	457
Footprint	mm	190x190	190x190	190x190	190x190	190x190	190x190	190x190	190x190
Suction Brazing	Inch	3/4	3/4	3/4	7/8	7/8	7/8	7/8	3/4
Discharge Brazing	Inch	3/8	3/8	1/2	1/2	1/2	1/2	1/2	1/2
Oil Charge	l	1.5	1.5	1.1	1.5	1.5	1.1	2	1.65
Net Weight	kg	32	32	27	33	33.5	29	38	40
Gross Weight	kg	35	36	31	36	37	33	41	44

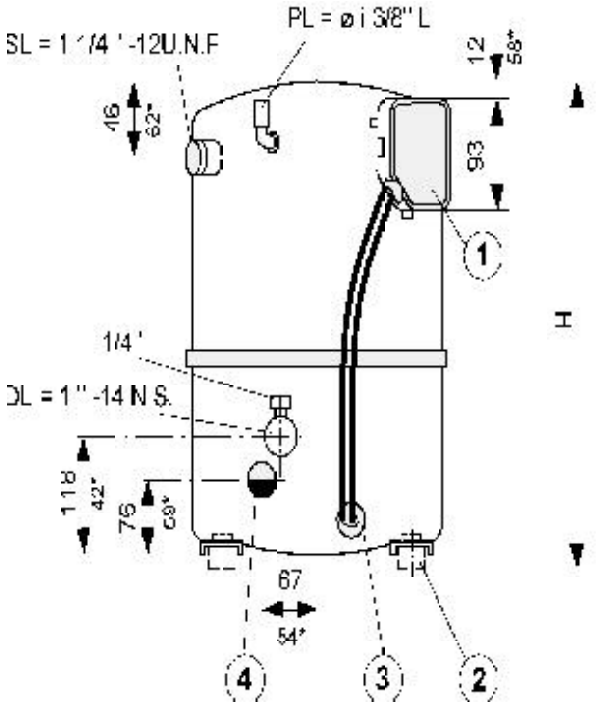
Cross-Reference Technical Comparisons
CX - Copeland A/C Scroll

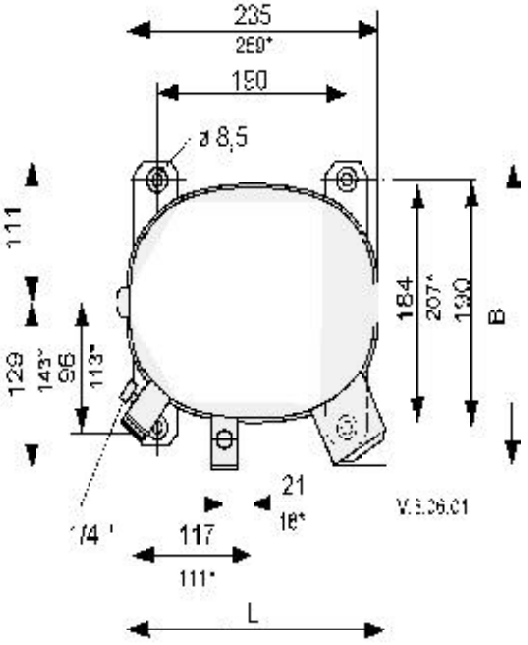
R134a, 50Hz @ ARI

PRODUCTS		CX 11	ZR18	CX 16	ZR22	ZR28	CX 25	ZR34	ZR40
Cooling Capacity	kW	2.3	2.85	4.1	3.61	4.74	6.1	5.55	6.48
Power Input	kW	0.972	1.05	1.44	1.23	1.57	2.06	1.83	2.09
Efficiency	COP	2.74	3.07	2.85	2.94	3.03	2.95	3.03	3.11
Displacement	m3/h	5.7	4.3	7.16	5.34	6.83	8.18	8.03	9.44
Refrigerants		R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134
Motor Version		PFJ	PFJ	PFJ,TFD	PFJ,TFD/5	PFJ,TFD/5	PFJ,TFD	PFJ,TFD/5	PFJ,TFD/5
MOC	A	6	10	2.8	4.2	5.1	4.2	6.2	'7.0
LRA	A	37	35	17	24	32	28	40	46
Sound Pressure	dBA	57	54	59	54	57	59	57	57
Length(L)	mm	240	242	240	242	242	240	242	242
Width(B)	mm	235	242	235	242	242	235	242	242
Height(H)	mm	365	383	365	383	383	365	405	419
Footprint	mm	190x190	190x190	190x190	190x190	190x190	190x190	190x190	190x190
Suct. Rotalock/Bra.	Inch	5/8	3/4	5/8	3/4	3/4	5/8	3/4	3/4
Disch. Rotalock/Bra.	Inch	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Oil Charge	l	1.5	0.74	1.5	1	1	1.5	1.1	1.1
Net Weight	kg	27	18	27.5	22	25	28.5	26	27
Gross Weight	kg	29	21	29.5	26	29	30.5	30	31

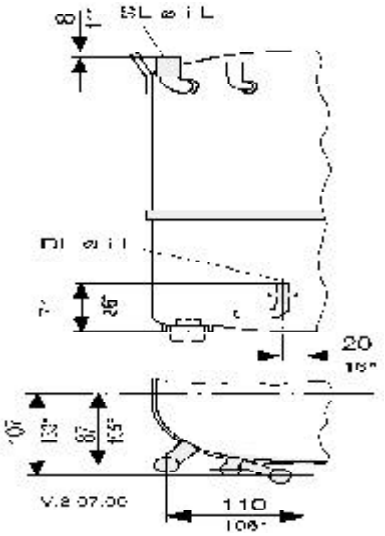
PRODUCTS		CX 37	ZR48	ZR61
Cooling Capacity	kW	9.2	7.74	10.04
Power Input	kW	3.14	2.53	2.99
Efficiency	COP	2.92	3.06	3.11
Displacement	m3/h	10.6	11.46	3.36
Refrigerants		R134a	R134a	R134a
Motor Versoion		TFD	PFJ,TFD/5	TFD,TF5
MOC	A	6	10	12.0
LRA	A	41	50	66
Sound Pressure	dBA	61	57	61
Length(L)	mm	240	242	242
Width(B)	mm	235	242	242
Height(H)	mm	365	436	457
Footprint	mm	190x190	190x190	190x190
Suct. Rotalock/Bra.	Inch	7/8	7/8	7/8
Disch. Rotalock/Bra.	Inch	1/2	1/2	1/2
Oil Charge	l	1.5	1.1	1.85
Net Weight	kg	33	29	38
Gross Weight	kg	35.5	33	41

CR & CX Drawings with Dimensions





Version with stub tubes



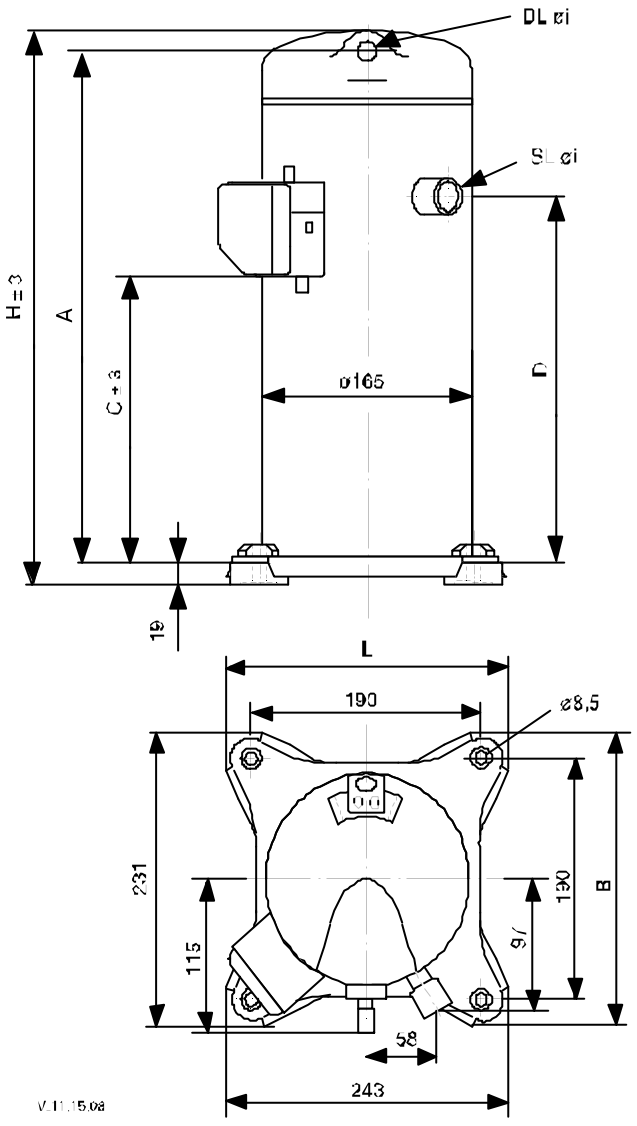
CR & CX

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

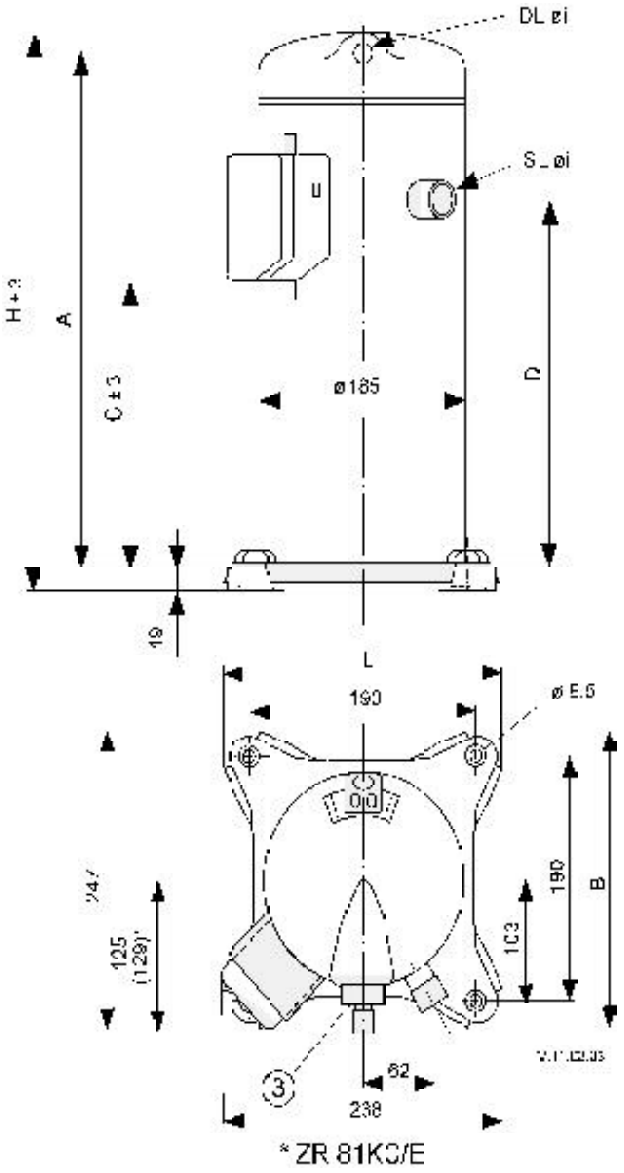
PRODUCT		CX11,16,25	CX37	CRAQ/DQ	CREQ	CRGQ/JQ	CRKQ	CRLQ/MQ	CRNQ
Length (L)	mm	240	240	240	240	240	240	240	290
Width (B)	mm	235	235	235	235	235	235	235/245	255
Height (H)	mm	365	385	360/365	365	375/385	395	400	420
Footprint	mm	190x190	190x190	190x190	190x190	190x190	190x190	190x190	190x190
Suction - brazing	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 A/C Scroll Drawings with Dimensions

ZR18K4 / K4E to ZR48K3 / K3E



ZR61KC / KCE to ZR72KC / KCE



Product		ZR18	ZR22	ZR28	ZR34	ZR40	ZR48	ZR61	ZR72
Length(L)	mm	242	242	242	242	242	242	242	242
Width(B)	mm	242	242	242	242	242	242	242	242
Heigth(H)	mm	383	383	383	405	419	436	457	457
Footprint	mm	190x190	190x190	190x190	190x190	190x190	190x190	190x190	190x190
Dimension A	mm	338	338	338	361	375	392	410	410
Dimension C	mm	205	202	202	222	235	252	233	233
Dimension D	mm	245	245	245	265	277	294	297	297
Suction-brazing	Inch	3/4	3/4	3/4	3/4	3/4	7/8	7/8	7/8
Discharge brazing	Inch	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2

Model Nomenclature

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

C X 11K 1 – TFD – 551
1 2 8 4 6 7

1. Compressor line – 2 cylinder

2. High / medium temperature
   R = mineral oil
   X = R134a with ester oil

3. Indication of theoretical displacement alphabetically ascending

4. Model variation

5. Motor size

6. Motor version

7. Bill of Material

8. Nominal capacity in BTU/hr at 60 Hz and ARI conditions using multiplier “K” for 1000

Z R 34K 3 E – TFD – 522
1 2 3 4 5 6 7

1. Compressor family Z = Compliant scroll

2. R = 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