

Air Conditioning (R22) Copeland Scroll™ Specifications

Quick Reference Guide



Updated As On March 16, 2012

Copeland[®]
brand products


EMERSON[™]
Climate Technologies

Index

<u>High Efficiency Residential Scrolls</u>			
ZR28KM-PFZ			
ZR30KM-PFZ			
ZR31KM-PFZ			
<u>'Quantum' Scrolls (Single Phase / Three Phase)</u>		<u>'Quest' Scroll</u>	
ZR22K3-PFJ / TFD	ZR36K3-PFJ / TFD	ZR54KC-TFD	ZR68KC-TFD
ZR24K3-PFJ / TFD	ZR40K3-PFJ / TFD	ZR57KC-TFD	ZR72KC-TFD
ZR26K3-PFJ / TFD	ZR42K3-PFJ / TFD	ZR61KC-TFD	ZR81KC-TFD
ZR28K3-PFJ / TFD	ZR45K3-PFJ / TFD		
ZR30K3-PFJ / TFD	ZR47K3-PFJ / TFD		
ZR32K3-PFJ / TFD	ZR48K3-PFJ / TFD		
<u>'Summit' Scrolls</u>		<u>Large Commercial Scrolls (LCS)</u>	
ZR84KC-TFD	ZR144KC-TFD	ZR250KC-TWD	
ZR94KC-TFD	ZR160KC-TFD	ZR300KC-TWD	
ZR108KC-TFD	ZR190KC-TFD	ZR310KC-TWD	
ZR125KC-TFD		ZR380KC-TWD	

Introduction

- This Quick Reference Guide Covers R22 AC Scrolls, 50Hz, Single And Three Phase, Single Compressor Models Commonly Used In India.
- We Have A Very Wide Variety Of BoMs (See Next Slide), Exciting And Innovative Products Like AC Scrolls, Digital Scrolls etc.
- For Latest And More Detailed Technical Specifications, Please Visit Our Web Site www.emersonclimate.com/OPI or Contact Our Sales Staff. Emerson Climate Technologies' *Product Selection Software* Can Be Downloaded From Above Link.
- Copeland Selection Software 'Select-7' Can Be Downloaded At www.ecopeland.com

Rating Conditions

- Scroll Compressor Performance Given In This Quick Reference Guide Is At ARI Rating Condition.
- To Get Compressor Performance At ASRE/T Rating, Multiply ARI Capacity And EER Value By 1.03, Power Remaining Unchanged.

<u>Temperature</u>		<u>ARI Rating</u>	<u>ASRE/T Rating</u>
Ambient	°C (°F)	35 (95)	35 (95)
Evaporating	°C (°F)	7.2 (45)	7.2 (45)
Condensing	°C (°F)	54.4 (130)	54.4 (130)
Suction Gas	°C (°F)	18.3 (65)	35 (95)
Liquid Line	°C (°F)	46.1 (115)	46.1 (115)

Copeland Scroll™ Product Range

- **This Guide For India Market Covers Single Phase 220-240V And Three Phase 380-420V Models.**
- **We Also Have Other Nominal Voltage Options Available For Overseas Market.**
- **Other Than R22, Options Of R134a / R407C / R410A Are Also Available.**
- **Models Covered In This Guide Are Also Available In Tandem, Trio, Digital, EVI Versions.**
- **For Further Details Please Contact Emerson Climate Technologies' Representative Or Visit www.emersonclimate.com/OPI**

High Efficiency Residential Scroll (R22)

R22

220 - 240 V / 1 Φ / 50 Hz



High Efficiency Residential Scroll (R22)

- Performance Data @ ARI Rating

	ZR28KM-PFZ	ZR30KM-PFZ	ZR31KM-PFZ
Capacity (Btu/hr)	23,000	25,000	26,600
Rated Amp	9.2	10.1	11.0
Power (Watts)	2,020	2,190	2,370
E.E.R (Btu/W-hr)	11.40	11.40	11.20
Ave. Sound (dBA)	63	63	63
Ave. Vibration (mils)	2.0	2.0	2.5
Mass flow (lbs/hr)	338	366	390
RLA / MCC / LRA	52.9 / 16.0 / 11.4	52.9 / 17.0 / 12.1	55.5 / 16.8 / 12.0

- Electrical Rating : 220-240V, 50 Hz, 1 Phase
- Operating Voltage Range : 198 - 264 V
- RLA : Rated Load Amp
- MCC : Maximum Continuous Current
- LRA : Locked Rotor Amps

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High Efficiency Residential Scroll (R22)

- Physical Data

	ZR28KM-PFZ	ZR30KM-PFZ	ZR31KM-PFZ
Motor HP	2.5	2.5	2.66
Displacement (CFH)	228.6	248.7	260.8
Suction Tube Size (in)	3/4" Stub	3/4" Stub	3/4" Stub
Discharge Tube Size (in)	1/2" Stub	1/2" Stub	1/2" Stub
Oil Charge (lit / oz)	0.769 / 26		
Compressor Height (mm)	438.15		
Shell Diameter (mm)	125.3		
Net Weight (kg / lb)	19.38 / 42.7	19.33 / 42.6	19.65 / 43.3

Bill of material

582 : Stub Tube Without Run Capacitor

583 : Stub Tube With Run Capacitor

Accessories Part No:

• Crankcase Heater : 018-0070-00 (40 Watts, 240V), 21" Leads

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High Efficiency Residential Scroll (R22)

- Features & Safety Devices

<u>Internal Safety Devices</u>	
Motor Protector	✓ Internal OLP
Internal Pressure Relief Valve	✗
Floating Seal	✓
Discharge Gas Temperature Protection	✓ Therm-O-Disc®
Scroll Unloading Provision @ 10:1 Ratio	✓
Discharge Tube Check Valve	✗
DU Bearings	✓
Axial / Radial Compliance	✓
<u>External Accessories</u>	
Service Valve Option	✗
Oil Sight Glass	✗ (No Clearance Inside To Fix It)
Crankcase Heater Not Required Up To A 'System Gas Charge Quantity' Of	4.3 kg
Handling Care Needed	<ul style="list-style-type: none"> • Take Care Of Sudden Voltage Dips And Very Brief Power Interruptions • Follow Scroll Charging Guidelines

Copeland 'Quantum' Scroll Specifications

- Single Phase Models

R22

220 -240 V / 1 Φ / 50 Hz



'Quantum' Scroll Technical Specifications

- Single Phase Models Performance Data @ ARI Rating

	ZR22K3 – PFJ	ZR24K3 - PFJ	ZR26K3 – PFJ	ZR28K3 – PFJ	ZR30K3 – PFJ	ZR32K3 – PFJ	ZR34K3 – PFJ
Capacity (Btu/hr)	18,200	20,200	21,700	23,600	25,200	26,500	28,100
Rated Amp	8.0	9.2	9.5	10.4	11.1	11.8	12.1
Power (Watts)	1,730	1,920	2,010	2,190	2,330	2,430	2,550
E.E.R (Btu/W-hr)	10.5	10.5	10.8	10.8	10.8	10.9	11.0
Ave. Sound (dBA)	65	65	65	65	65	68	68
Ave. Vibration (Mils)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Mass flow (lbs/hr)	267	296	318	346	369	388	411
RLA / MCC / LRA	9.6 / 13.5 / 43-47	11.4 / 16 / 53 - 58	11.4 / 16 / 54-60	12.9 / 18 / 56-61	14.3 / 20 / 68-74	14.3 / 20 / 68-74	13.6 / 19 / 70-76

- Electrical Rating : 220-240V, 50 Hz, 1 Phase
- Operating Voltage Range : 198 V – 264 V

- RLA : Rated Load Amp
- MCC : Maximum Continuous Current
- LRA : Locked Rotor Amps

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'Quantum' Scroll Technical Specifications

- Single Phase Models Performance Data @ ARI Rating

	ZR36K3 – PFJ	ZR40K3 - PFJ	ZR42K3 - PFJ	ZR45K3 – PFJ	ZR47K3 - PFJ	ZR48K3 – PFJ
Capacity (Btu/hr)	30,200	33,300	35,000	38,200	39,400	40,500
Rated Amp	13.1	14.7	15.2	16.40	16.80	17.60
Power (Watts)	2,720	3,000	3,150	3,380	3,460	3,630
E.E.R (Btu/W-hr)	11.1	11.1	11.1	11.3	11.4	11.2
Ave. Sound (dBA)	68	68	68	68	68	68
Ave. Vibration (Mils)	2.0	2.0	2.0	2.0	2.0	2.0
Mass flow (lbs/hr)	442	488	515	560	575	595
RLA / MCC / LRA	16.4 / 23 / 75-82	17.1 / 24 / 90-100	17.1 / 24 / 89-97	19.3 / 27 / 105 - 114	19.3 / 27 / 105 - 114	19.3 / 27 / 105 - 114

- Electrical Rating : 220-240V, 50 Hz, 1 Phase
- Operating Voltage Range : 198 V – 264 V
- RLA : Rated Load Amp
- MCC : Maximum Continuous Current
- LRA : Locked Rotor Amps

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'Quantum' Scroll Technical Specifications

- Single Phase Models Physical Data

	ZR22K3 - PFJ	ZR24K3 - PFJ	ZR26K3 - PFJ	ZR28K3 - PFJ	ZR30K3 - PFJ	ZR32K3 - PFJ	ZR34K3 - PFJ
Motor HP	1.82	2.0	2.0	2.5	2.5	2.65	3.0
Displacement (CFH)	188.59	209.04	221.73	241.16	258.08	266.84	283.55
Suction Tube Size (in)	3/4" Stub	3/4" Stub	3/4" Stub	3/4" Stub	3/4" Stub	3/4" Stub	3/4" Stub
Discharge Tube Size (in)	1/2" Stub	1/2" Stub	1/2" Stub	1/2" Stub	1/2" Stub	1/2" Stub	1/2" Stub
Oil Charge (Lit / Oz)	1.123 / 38	1.123 / 38	1.123 / 38	1.123 / 38	1.242 / 42	1.242 / 42	1.242 / 42
Compressor Height (mm)	383	383	383	383	406	406	406
Shell Diameter (mm)	165.9	165.9	165.9	165.9	165.9	165.9	165.9
Net Weight (kg/ lb)	26 / 57	25 / 55	27 / 60	27 / 60	28 / 62	29 / 63	29 / 63

Bill of material

- 501 : Stub Tube Without Grounding Tab & Screw
- 522 : Stub Tube With Grounding Tab & Screw
- 523 : Rotalock With Grounding Tab & Screw

Accessories Part No:

- Crankcase Heater : 018-0057-00 (70 Watts, 240V)
- ## For other Bill of Material, please refer Copeland Literature (or) contact EMR Climate Regional office

'Quantum' Scroll Technical Specifications

- Single Phase Models Physical Data

	ZR36K3 – PFJ	ZR40K3 – PFJ	ZR42K3 – PFJ	ZR45K3 - PFJ	ZR47K3 – PFJ	ZR48K3- PFJ
Motor HP	3.0	3.33	3.50	3.5	4.0	4.0
Displacement (CFH)	304.10	333.20	351.22	375.20	389.08	402.47
Suction Tube Size (in)	3/4" Stub	3/4" Stub	3/4" Stub	7/8" Stub	7/8" Stub	7/8" Stub
Discharge Tube Size (in)	1/2" Stub	1/2" Stub	1/2" Stub	1/2" Stub	1/2" Stub	1/2" Stub
Oil Charge (Lit / Oz)	1.242 / 42	1.242 / 42	1.242 / 42	1.242 / 42	1.242 / 42	1.242 / 42
Compressor Height (mm)	406	419	419	437	437	437
Shell Diameter (mm)	165.9	165.9	165.9	165.9	165.9	165.9
Net Weight (kg/ lb)	30 / 65	28 / 61.5	30.4 / 67	32.2 / 71	31.29 / 69	31.29 / 69

Bill of material

- 501 : Stub Tube Without Grounding Tab & Screw
- 522 : Stub Tube With Grounding Tab & Screw
- 523 : Rotalock With Grounding Tab & Screw

Accessories Part No:

- Crankcase Heater : 018-0057-00 (70 Watts, 240V)
- ## For Other Bill Of Material, Please Refer Copeland Literature (Or) Contact EMR Climate Regional Office

Copeland 'Quantum' Scroll Specifications

- Three Phase Models

R22

380 - 420 V / 3 Φ / 50 Hz



'Quantum' Scroll Technical Specifications

- Three Phase Models Performance Data @ ARI Rating

	ZR22K3 - TFD	ZR24K3 - TFD	ZR26K3 - TFD	ZR28K3 - TFD	ZR30K3 - TFD	ZR32K3 - TFD	ZR34K3 - TFD
Capacity (Btu/hr)	18,200	20,200	21,700	23,600	25,200	26,500	28,100
Rated Amp	3.20	3.5	3.8	4.0	4.2	4.4	4.6
Power (Watts)	1,770	1,920	2,010	2,150	2,290	2,430	2,500
E.E.R (Btu/W-hr)	10.30	10.5	10.8	11.0	11.0	10.9	11.2
Ave. Sound (dBA)	65	65	65	65	65	68	68
Ave. Vibration (mils)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Mass flow (lbs/hr)	267	296	318	346	369	388	412
RLA / MCC / LRA	3.9 / 5.5 / 21.0-24.0	4.3 / 6.0 / 24.5-26.0	4.3 / 6.0 / 25.0-26.0	5.0 / 7.0 / 30.0-32.0	5.0 / 7.0 / 30.0-32.0	5.4 / 7.5 / 32.0-35.0	5.7 / 8.0 / 36.0-40.0

- Electrical Rating : 380-420V, 50 Hz, 3 Phase
- Operating Voltage Range : 342 V – 462 V
- RLA : Rated Load Amp
- MCC : Maximum Continuous Current
- LRA : Locked Rotor Amps

'Quantum' Scroll Technical Specifications

- Three Phase Models Performance Data @ ARI Rating

	ZR36K3 – TFD	ZR40K3 – TFD	ZR42K3 – TFD	ZR45K3 – TFD	ZR47K3 – TFD	ZR48K3 – TFD
Capacity (Btu/hr)	30,200	33,300	35,000	37,500	38,800	40,500
Rated Amp	4.8	5.3	5.5	5.9	6.0	6.5
Power (Watts)	2,700	2,970	3,110	3,320	3,430	3,610
E.E.R (Btu/W-hr)	11.2	11.2	11.3	11.3	11.3	11.2
Ave. Sound (dBA)	68	68	68	68	68	68
Ave. Vibration (Mils)	2.0	2.0	2.0	2.0	2.0	2.0
Mass flow(lbs/hr)	443	487	510	550	570	595
RLA / MCC / LRA	5.7 / 8.0 / 36.0 - 40.0	6.4 / 9.0 / 41.0 - 46.0	7.1 / 10 / 41.0 - 46.0	7.9 / 11 / 43.0 - 48.0	7.9 / 11.0 / 50.0	7.9 / 11.0 / 50.0

- Electrical Rating : 380 / 420V, 50 Hz, 3 Phase
- Operating Voltage Range : 342 V – 462 V
- RLA : Rated Load Amp
- MCC : Maximum Continuous Current
- LRA : Locked Rotor Amps

'Quantum' Scroll Technical Specification

- Three Phase Models Physical Data

	ZR22K3 - TFD	ZR24K3 - TFD	ZR26K3 - TFD	ZR28K3 - TFD	ZR30K3 - TFD	ZR32K3 - TFD	ZR34K3 - TFD
Motor HP	1.8	2.0	2.0	2.5	2.5	2.65	3.0
Displacement (CFH)	188.6	209.4	221.7	241.2	258.1	266.8	283.5
Suction Tube size (in)	3/4" Stub	3/4" Stub	3/4" Stub	3/4" Stub	3/4" Stub	3/4" Stub	3/4" Stub
Discharge Tube size (in)	1/2" Stub	1/2" Stub	1/2" Stub	1/2" Stub	1/2" Stub	1/2" Stub	1/2" Stub
Oil Charge (Lit/Oz)	1.12 / 38	1.12 / 38	1.12 / 38	1.12 / 38	1.24 / 42	1.24 / 42	1.24 / 42
Compressor Height (mm)	383	383	383	383	406	406	406
Shell Diameter (mm)	165.8	165.8	165.8	165.8	165.8	165.8	165.8
Net Weight (kg/lb)	25 / 54	25 / 55	27 / 59	25 / 56	26 / 57	26 / 58	27 / 60

Bill of material

501 : Stub Tube Without Grounding Tab & Screw
 522 : Stub Tube With Grounding Tab & Screw
 523 : Rotalock With Grounding Tab & Screw

Accessories Part No:

• Crankcase Heater : 018-0057-00 (70 Watts, 240V)
 ## For Other Bill Of Material, Please Refer Copeland Literature (Or) Contact ECT Regional Office

'Quantum' Scroll Technical Specifications

- Three Phase Models Physical Data

	ZR36K3 – TFD	ZR40K3 – TFD	ZR42K3 – TFD	ZR45K3 – TFD	ZR47K3 – TFD	ZR48K3 – TFD
Motor HP	3.0	3.33	3.5	3.5	4.0	4.0
Displacement (CFH)	304.1	333.2	351.2	375.19	389.08	402.47
Suction Stub Tube Size (in)	¾" Stub	¾" Stub	¾" Stub	7/8" Stub	7/8" Stub	7/8" Stub
Discharge Stub Tube (in)	½" Stub	½" Stub	½" Stub	½" Stub	½" Stub	½" Stub
Oil Charge (Lit/Oz)	1.24 / 42	1.24 / 42	1.24 / 42	1.36 / 46	1.36 / 46	1.36 / 46
Compressor Height (mm)	406	406	406	437	437	437
Diameter of Shell (mm)	165.8	165.8	165.8	165.9	165.9	165.9
Net Weight (Kg/ lb)	27.21 / 60	28.12 / 62	28.16 / 62.1	28.12 / 62	28.12 / 62	28.12 / 62

Bill of material

501 : Stub Tube Without Grounding Tab & Screw
 522 : Stub Tube With Grounding Tab & Screw
 523 : Rotalock With Grounding Tab & Screw

Accessories Part No:

• Crankcase Heater : 018-0057-00 (70 Watts, 240V)
 ## For Other Bill Of Material, Please Refer Copeland
 Literature (Or) Contact ECT Regional Office

Copeland 'Quest' Scroll Specifications

R22

380 - 420 V / 3 Φ / 50 Hz



'Quest' Scroll Technical Specifications

- Performance Data @ ARI Rating

	ZR54KC-TFD	ZR57KC-TFD	ZR61KC-TFD	ZR68KC-TFD	ZR72KC-TFD	ZR81KC-TFD
Capacity (Btu/hr)	45,000	47,500	49,700	57,500	60,500	68,000
Rated Amp	7.30	7.80	8.20	8.60	8.80	10.50
Power (Watts)	3,980	4,170	4,430	4,960	5,200	5,810
E.E.R (Btu/W-hr)	11.30	11.40	11.20	11.60	11.70	11.70
Ave. Sound (dBA)	71	71	71	72	72	72
Ave. Vibration (Mils)	2.0	2.0	2.0	2.0	2.0	2.0
Mass flow (lbs/hr)	660	695	730	845	885	995
RLA / MCC / LRA	8.3 / 11.6 / 55.5 – 61.8	8.3 / 11.6 / 55.5 – 61.8	10 / 14.0 / 58.6 – 65.5	10 / 14.0 / 67 - 74	10 / 14.0 / 67 - 74	12.1 / 17 / 90.5 - 101

- Electrical Rating : 380 / 420V, 50 Hz, 3 Phase
- Operating Voltage Range : 342 - 462 V
- RLA : Rated Load Amp
- MCC : Maximum Continuous Current
- LRA : Locked Rotor Amps

'Quest' Scroll Technical Specification

- Physical Data

	ZR54KC-TFD	ZR57KC-TFD	ZR61KC-TFD	ZR68KC-TFD	ZR72KC-TFD	ZR81KC-TFD
Motor HP	4.5	4.75	5.0	6.0	6.0	6.8
Displacement (CFH)	449.9	474.27	507.5	571.54	602.45	662.26
Suction Stub Tube Size (in)	7/8" Stub	7/8" Stub	7/8" Stub	7/8" Stub	7/8" Stub	7/8" Stub
Discharge Stub Tube (in)	1/2" Stub	1/2" Stub	1/2" Stub	1/2" Stub	1/2" Stub	3/4" Stub
Oil Charge (Lit/Oz)	1.95 / 66	1.95 / 66	1.95 / 66	1.77 / 60	1.77 / 60	1.77 / 60
Compressor Height (mm)	457	457	457	457	457	463
Diameter of Shell (mm)	185.5	185.5	185.5	185.5	185.5	185.5
Net Weight (Kg/ lb)	35.83 / 79	36.28 / 80	36.06 / 79.5	39.00/ 86	38.55 / 85	39.00 / 86

Bill of material

501 : Stub Tube Without Grounding Tab & Screw
 522 : Stub Tube With Grounding Tab & Screw
 523 : Rotalock With Grounding Tab & Screw

Accessories Part No:

• Crankcase Heater : 018-0057-00 (70 Watts, 240V)
 ## For Other Bill Of Material, Please Refer Copeland Literature
 (Or) Contact ECT Regional Office

'Quantum / Quest' Scrolls

- Features & Safety Devices

<u>Internal Safety Devices</u>	
Motor Protector	✓ Internal OLP
Internal Pressure Relief Valve	✓
Floating Seal	✓
Discharge Gas Temperature Protection	✓ Therm-O-Disc®
Scroll Unloading Provision @ 10:1 Ratio	✓
Discharge Tube Check Valve	✓
DU Bearings	✓
Axial / Radial Compliance	✓
<u>External Accessories</u>	
Service Valve Option	✓
Oil Sight Glass	× (No Clearance Inside To Fix It)
Crankcase Heater Not Required Up To A 'System Gas Charge Quantity' Of	3.6 kg (Quantum) / 4.5 kg (Quest)
Handling Care Needed	<ul style="list-style-type: none"> • Provide Phase-reversal Protection • Follow Scroll Charging Guidelines

Copeland 'Summit' Scroll Specifications

R22

380-420 V / 3 Φ / 50 Hz



'Summit' Scroll Technical Specifications

- Performance Data @ ARI Rating

	ZR84KC-TFD	ZR94KC-TFD	ZR108KC-TFD	ZR125KC-TFD	ZR144KC-TFD	ZR160KC-TFD	ZR190KC-TFD
Capacity (Btu/hr)	71,000	79,500	90,000	106,000	120,000	130,000	155,000
Capacity (TR)	5.92	6.63	7.50	8.83	10.0	10.83	12.91
Rated Amps.	11.4	12.5	13.7	15.8	17.7	20.30	25.60
Power (Watts)	6,000	6,750	7,550	9,000	101,00	113,00	136,00
E.E.R (Btu/W-hr)	11.8	11.8	12.0	11.8	11.9	11.50	11.4
Ave. Sound (dBA)	73	73	74	75	76	79	82
Ave. Vibration (Mils)	2.5	2.5	3.0	3.0	3.0	3.0	3.0
Mass flow(lb/hr)	1,040	1,170	1,320	1,550	1,750	1,910	2,260
RLA / MCC / LRA	14.3 / 20.0 / 90-100	16.4 / 23.0 / 86-95	17.3 / 24.2 / 100-111	19.2 / 26.9 / 110-118	22.1 / 31.0 / 110-118	25 / 35 / 133-140	30 / 42 / 157-174

- Electrical Rating : 380 / 420V, 50 Hz, 3 Phase
- Operating Voltage Range : 342 V – 462 V
- RLA : Rated Load Amp
- MCC : Maximum Continuous Current
- LRA : Locked Rotor Amps

'Summit' Scroll Technical Specifications

- Physical Data

	ZR84KC-TFD	ZR94KC-TFD	ZR108KC-TFD	ZR125KC-TFD	ZR144KC-TFD	ZR160KC-TFD	ZR190KC-TFD
Motor HP	7.0	8.0	9.0	10.0	12.0	13	15.5
Displacement (CFH)	697.91	781.18	878.15	1026.8	1172.6	1284.86	1530.75
Suction Size(in)	1 ¹ / ₈ " Stub	1 ¹ / ₈ " Stub	1 ³ / ₈ " Stub	1 ³ / ₈ " Stub	1 ³ / ₈ " Stub	1 ³ / ₈ " Stub	1 ³ / ₈ " Stub
Discharge Size(in)	7 ⁷ / ₈ " Stub	7 ⁷ / ₈ " Stub	7 ⁷ / ₈ " Stub	7 ⁷ / ₈ " Stub	7 ⁷ / ₈ " Stub	7 ⁷ / ₈ " Stub	7 ⁷ / ₈ " Stub
Oil Charge (Lit/ Oz)	2.51 / 85	2.51 / 85	3.25 / 110	3.25 / 110	3.25 / 110	3.25 / 110	3.25 / 110
Height (mm)	496	496	552	552	552	585	585
Diameter (mm)	232.2						
Net Weight (Kg/ lb)	57.1 / 126	57.1 / 126	59.9 / 132	61.2 / 135	61.2 / 135	64.86 / 143	66.22 / 146

Bill Of Material

- 501 : Stub Tube – Without Grounding Tab & Screw
- 522 : Stub Tube With Grounding Tab & Screw
- 523 : Rotalock With Grounding Tab & Screw
- 452 : Stub Tube - Tandem Ready Model

Accessories Part No

- Crankcase Heater : 018-0047-01 (90 Watts, 240V)

'Summit' Scrolls

- Features & Safety Devices

<u>Internal Safety Devices</u>	
Motor Protector	✓ Internal OLP
Floating Seal	✓
Discharge Gas Temperature Protection	✓ ASTP
Scroll Unloading Provision @ 10:1 Ratio	✓
Discharge Tube Check Valve	✓
DU Bearings	✓
Axial / Radial Compliance	✓
<u>External Accessories</u>	
Service Valve Option	✓
Oil Sight Glass	× (No Clearance Inside To Fix It)
Crankcase Heater Not Required Up To A "System Gas Charge Quantity" Of	7.3 Kg
<u>Handling Care Needed</u>	
<ul style="list-style-type: none"> • Suction Tube At Lower Level: (1) Do Not Spill Oil, (2) Provide Suction Loop In Split AC • Use A HP Cutout As There Is No Internal Pressure Relief Valve • Provide Phase-Reversal Protection • Follow Scroll Charging Guidelines 	

Copeland 'Large Commercial Scrolls' (LCS)

R22

380 - 420V / 3 Φ / 50 Hz



LCS (R22) - Technical Specifications

- Performance Data @ ARI Rating

	ZR250KC-TWD	ZR300KC-TWD	ZR310KC-TWD	ZR380KC-TWD
Capacity (Btu/hr)	204,000	241,000	253,000	315,000
Capacity (TR)	17.0	20.0	21.1	26.25
Rated Amp	29.6	34.6	37.9	45.1
Power (Watts)	17,700	20,100	22,000	26,500
E.E.R (Btu/W-hr)	11.5	12.0	11.5	11.9
Ave. Sound (dBA)	83	86	85	88
Ave. Vibration (Mils)	3.5	3.0	3.7	3.7
Mass Flow(lbs/hr)	2,990	3,530	3,710	4,610
RLA / MCC / LRA	33.6 / 47 / 225	42.9 / 60 / 250	41.4 / 58 / 272	54.3 / 76 / 310

- Electrical Rating : 380 / 420V, 50 Hz, 3 Phase
- Operating Voltage Range : 342 V – 462 V
- RLA : Rated Load Amp
- MCC : Maximum Continuous Current
- LRA : Locked Rotor Amps

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LCS (R22) - Technical Specifications

- Physical Data

	ZR250KC-TWD	ZR300KC-TWD	ZR310KC-TWD	ZR380KC-TWD
Motor HP	20	25	26	30
Displacement (CFH)	1,997.67	2,363.3	2,522.4	3,088.3
Suction Size (in)	1 5/8" Stub	2 1/8" Stub	1 5/8" Stub	1 5/8" Stub
Discharge Size (in)	1 3/8" Stub	1 3/8" Stub	1 3/8" Stub	1 3/8" Stub
Oil Charge (lit /oz)	4.67/ 158	6.30 / 213	6.78 / 230	6.30 / 213
Height (mm)	737	734	734	734
Shell Diameter (mm)	289.0	331.0	331.0	331.0
Net Weight (kg/lb)	139.2/ 307	184.3 / 406	160/ 353	177/ 390
Gas Charge (kg) Limit for not Using Crankcase Heater	11.3	13.6	13.6	13.6

Bill Of Material

522 : Stub Tube, 115/230V Motor Protector Module

523 : Rotalock, 115/230V Motor Protector Module

Crankcase Heater Part No.

ZR250 : 02-6333-00 (120 Watts, 240 V)

ZR300 : 018-0068-05 (150 Watts, 240 V)

ZR310/380 : 018-0056-01 (150 Watts, 240 V)

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LCS Scrolls

- Features & Safety Devices

<u>Internal Safety Devices</u>	
Motor Protector	✓ Electronic Solid State Module
Floating Seal	✓
Discharge Gas Temperature Protection	✓ Thermistor Chain
Scroll Unloading Provision @ 10:1 Ratio	✓
Discharge Tube Check Valve	✓
DU Bearings	✓
Axial / Radial Compliance	✓
<u>External Accessories</u>	
Service Valve Option	✓
Oil Sight Glass	✓ (Standard Bill Of Material)
<u>Handling Care Needed</u>	
<ul style="list-style-type: none"> • Use A HP Cutout, As There Is No Internal Pressure Relief Valve • Do Not Bypass Module At Any Time • Even If The Module Trips, Auxiliary Supply To Module Should Remain 'ON' • Provide Phase-Reversal Protection • Follow Scroll Charging Procedure 	



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