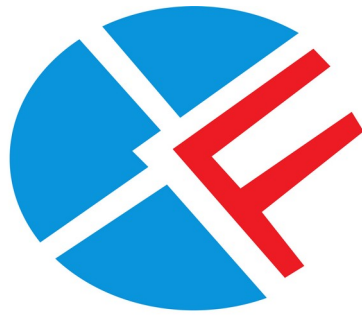




ZINGFA

Zhejiang Ankang Refrigeration Equipment Co.,Lid.

Piston Compressor

QR3-124

Product Specification

Revision Record			
Revision	Reviser	Description	Date
A			25/8/1

Checked By

Date

Approved By

Date

1 Specification

1.1 Basic Specifications

Compressor Model	QR3-124
Compressor Type	Piston Compressor
Application	Medium/high back pressure
Refrigerant	R404A
Displacement(cc/Rev)	124.4
Oil Type	POE
Viscosity (sCt,40°C)	32
Oil Charge (mL)	2000
Rated Speed (r/min)	2900
IP Class	IP21
Compressor Colour	Black
(ID OF SUCTION TUBE)	1 3/4"-12 UNF
(ID OF DISCHARGE TUBE)	1 1/4"-12 UNF
(ID OF PROCESS TUBE)	Ø 7 ±0.2

1.2 Performance Specifications

Cooling Capacity (W)	16650
Cooling Capacity (BTU)	56780
input Power (W)	6800
COP (W/W)	2.7
EER (BTU/WH)	8.5
Rated run Current (A)	10.6
Sound Power (dBA)	≤ 65

Test Condition

	Evaporating Temp. °C	Condensing Temp. °C	Suction Temp. °C	Liquid Subcooling K	Ambient Temp. °C
M/HPB-AC	+7.2	+54.5	+35	8.3	+35
LBP	-23.3	+54.5	+32	22.2	+32

1.3 Electrical Characteristics

Motor type	3PH
Motor Poles	2

Power Supply	380--400V 3~ 50Hz 460v 3~ 60Hz
Starting capacitor (μF/V)	/
Running capacitor (μF/V)	/
Potential Relay	/
Winding Resistance (Ω 25℃)	2.2
Locked Rotor Current (A)	70
Insulation Class	F
Dielectric Strength	2000VAC/1S/5mA

1.4 Safety Running Limitation

Tightness Test Pressure (Mpa)	2.2
High Side Max Running pressure (Mpa)	3.2
Low side Max Running Pressure (Mpa)	2.0
Discharge Temp.Limit (°C)	≤125

2 Compressor Protection

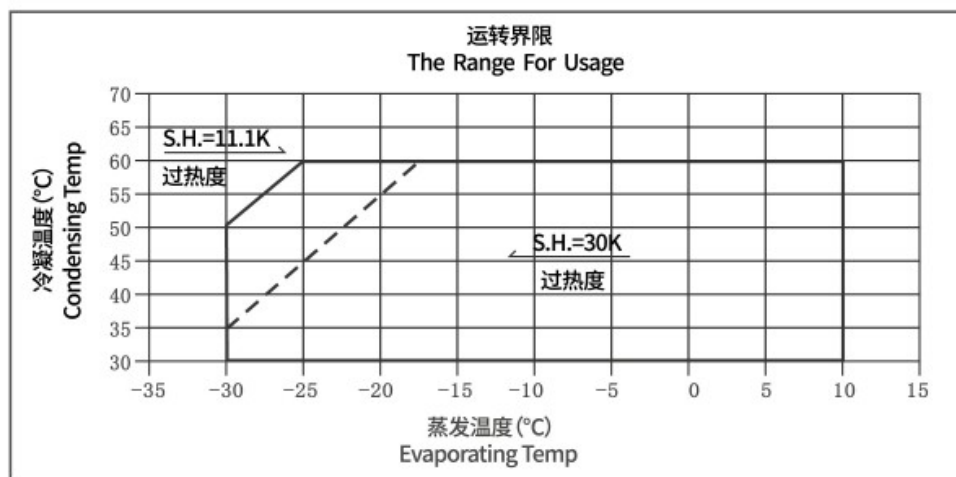
2.1 motor protector

Internal Protector For Motor Protection

2.2 High Pressure Relieve

Internal Pressure Protection

3 Running Envelope



4 Performance date type QR3-124

Performance date at 50Hz

Refrigerating capacity (watts)

evaporating temperature °C	Condensing temperature °C						
	30	35	40	45	50	55	60
-20	7603	7157					
-15	10131	9627	8606	7573			
-10	13138	12549	11358	10150	9541	8318	
-5	16696	15999	14587	13155	12433	10984	9546
0	20884	20055	18374	16670	15812	14092	12391
5	25779	24795	22802	20783	19768	17737	15737
10	31464	30305	27961	25590	24400	22025	19704

Motor input (watts)

evaporating temperature °C	Condensing temperature °C						
	30	35	40	45	50	55	60
-20	3125	3144					
-15	3565	3614	3692	3737			
-10	3993	4062	4197	4317	4368	4446	
-5	4435	4516	4688	4865	4952	5115	5255
0	4919	5002	5192	5407	5520	5750	5976
5	5471	5546	5737	5970	6100	6378	6672
10	6118	6176	6348	6582	6719	7026	7368

Return gas **35 °C**
Subcooling **8.3 K**

5 Accessories

Serial number	Name	Quantity	Notes
1	Compressor	1	
2	Grommet	4	
3	Sleeve	4	
4	VALVE	2	Needed

6. PACKING,TRANSPORTATION AND STORAGE

6.1 The packing should be moisture-resistant, and prevent the compressor in it being damaged. The letters and marks on the package should be clearly painted.

6.2 Don't incline the compressor more than 45°.

6.3 The compressor should be kept in the place with normal room temperature, and should be kept out of corrosive atmosphere.

7 Attention

7.1 It is not allowed to perform vacuum in the system by using the refrigeration compressor. The compressor can start only after the refrigerant is charged;

7.2 It is not allowed to charge the refrigerant from the suction or discharge line closes to the compressor. The charge port should be arranged on the connection pipe of suction line accumulator or receiver, which is far away from the compressor, to avoid the liquid refrigerant flooding back;

7.3 The refrigerant charge amount complies with local regulations;

7.4 It is not allowed to run compressor in vacuum, not allowed to run compressor without refrigerant, and not allowed to run compressor in the reversed direction for long duration;

7.5 The compressor can only work with approved refrigerants;

7.6 The compressor is not allowed to work outside its envelope. System design should guarantee the suction line superheat and avoid the liquid refrigerant flooding back;

7.7 When the suction and discharge plugs are removed, the assembly and brazing should be done in 15 minutes;

7.8 The frequently start/stop compressor should be avoided. The suggested minimum continuous running time is 10 minutes to guarantee the safe oil level ($\geq 50\%$ initial charge volume), the suggested minimum interval between start and stop is 3 minutes.

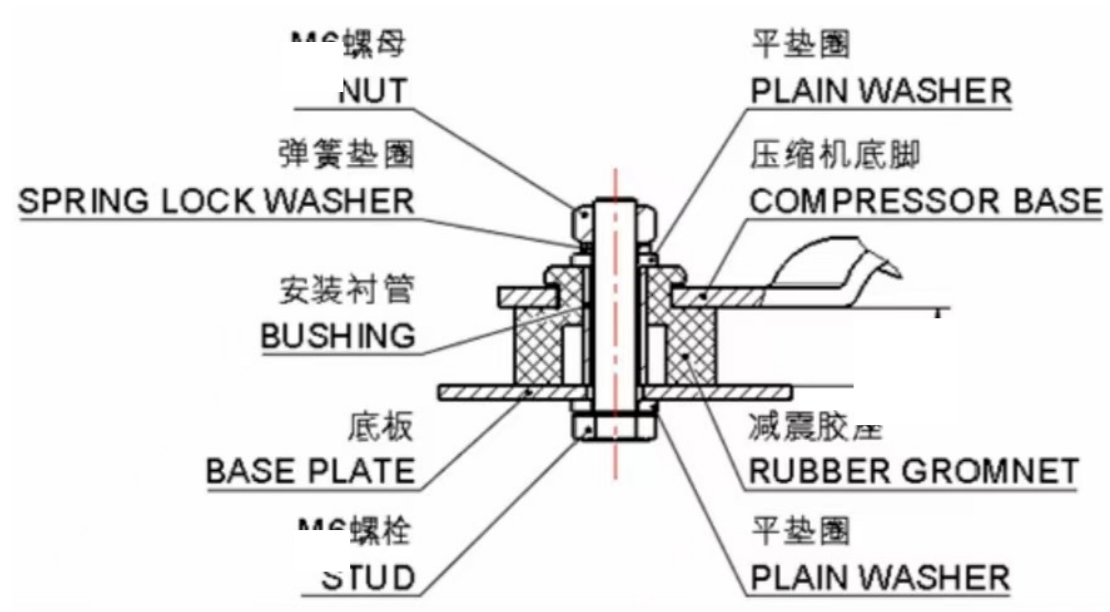
7.9 A 45W crankcase heater is recommended to avoid the refrigerant migration during the off circle and flooded start. The crankcase heater should be powered on 12 hours earlier before the first start

or restart after long duration off;

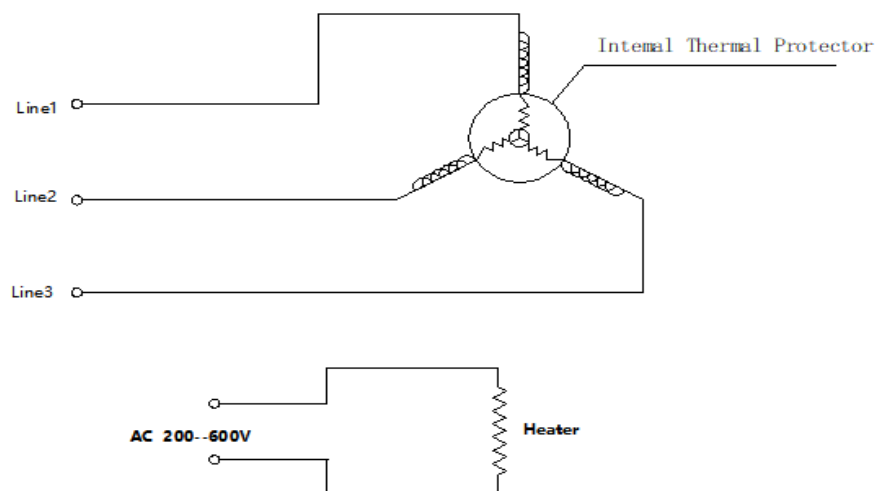
7.10 The system should be equipped with necessary protection devices for pressure, temperature, oil return, overcurrent and phase fault, etc.

7.11 The compressor is not allowed to lay down or place upside down during transportation, stock and installation. The maximum inclination is 15° when the compressor is running.

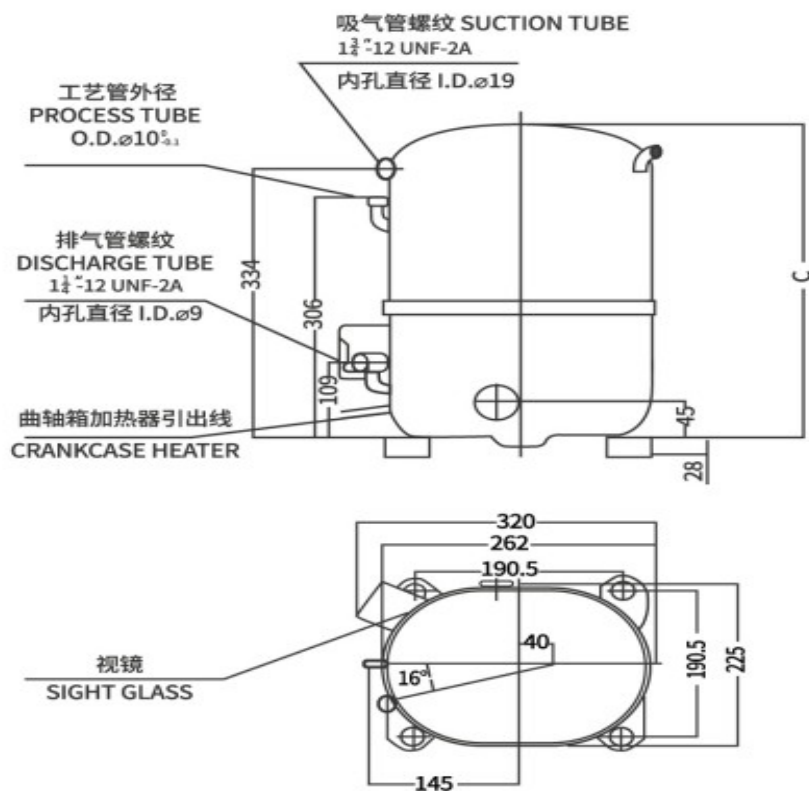
8 Mount Diagram



9 Wiring Diagram



10 PISTON COMPRESSOR Dimensional Drawing



MODEL	C (IN/mm)
QR3-90	15.7/398
QR3-100	
QR3-112	15.7/398
QL3-112	
QR3-124	15.7/398
QL3-124	
QR3-134	15.7/398
QL3-134	