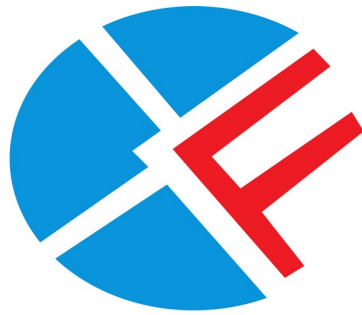




ZINGFA

Zhejiang Ankang Refrigeration Equipment Co.,Lid.

Piston Compressor

QR3-112

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	QR3-112
Compressor Type	Piston Compressor
Application	Medium/high back pressure
Refrigerant	R404A
Displacement(cc/Rev)	112.5
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)	14780
Cooling Capacity (BTU)	50400
input Power (W)	6100
COP (W/W)	2.8
EER (BTU/WH)	8.3
Rated run Current (A)	9.6
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

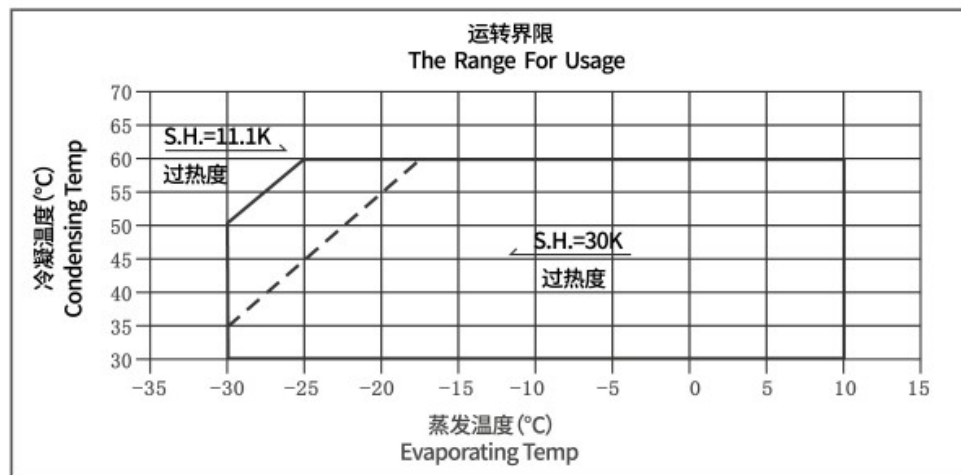
2.1 motor protector

Internal Protector For Motor Protection

2.2 High Pressure Relieve

Internal Pressure Protection

3 Running Envelope



4 Performance date type QR3-112

Performance date at 50Hz

Refrigerating capacity (watts)

evaporating temperature °C	Condensing temperature °C						
	30	35	40	45	50	55	60
-20	6324	5923					
-15	8611	8139	7188	6223			
-10	11377	10798	9646	8496	7919	6758	
-5	14702	13982	12560	11155	10457	9069	7691
0	18669	17776	16016	14289	13437	11754	10106
5	23363	22265	20105	17993	16954	14913	12936
10	28874	27540	24921	22365	21111	18657	16298

Motor input (watts)

evaporating temperature °C	Condensing temperature °C						
	30	35	40	45	50	55	60
-20	2755	2766					
-15	3189	3227	3279	3290			
-10	3616	3674	3775	3847	3869	3881	
-5	4056	4127	4263	4383	4434	4511	4547
0	4531	4608	4765	4918	4991	5120	5222
5	5061	5136	5301	5475	5562	5730	5882
10	5666	5734	5893	6073	6168	6361	6550

Return gas 35 °C
Subcooling 8.3 K

5 Accessories

Serial number	Name	Quantit y	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;

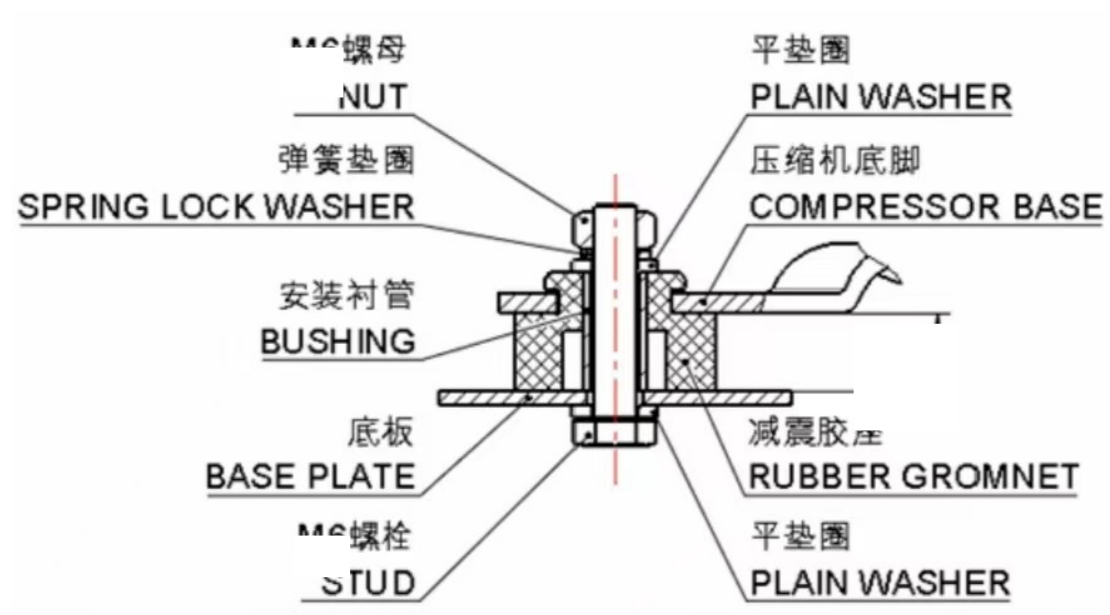
7.8 The frequently start/stop compressor should be avoided. The suggested minimum continuous running time is 10 minutes to guarantee the safe oil level ($\geq 50\%$ initial charge volume), the suggested minimum interval between start and stop is 3 minutes.

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;

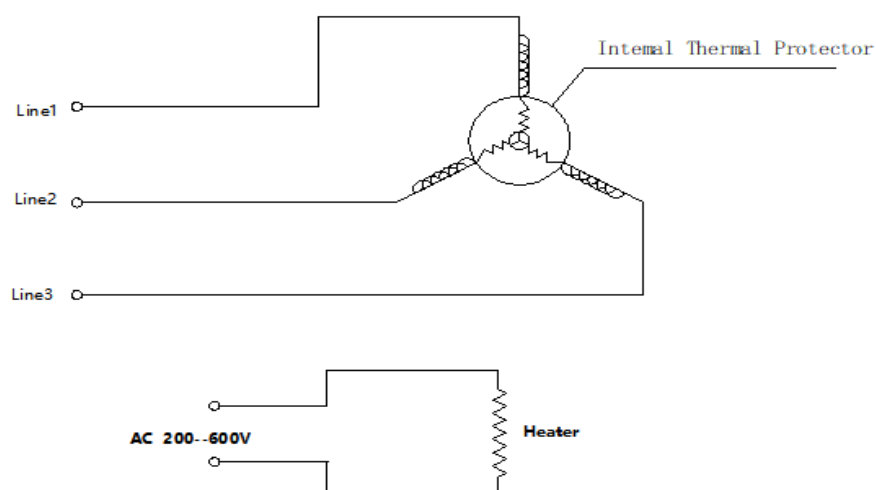
7.10 The system should be equipped with necessary protection devices for pressure, temperature, oil return, overcurrent and phase fault, etc.

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.

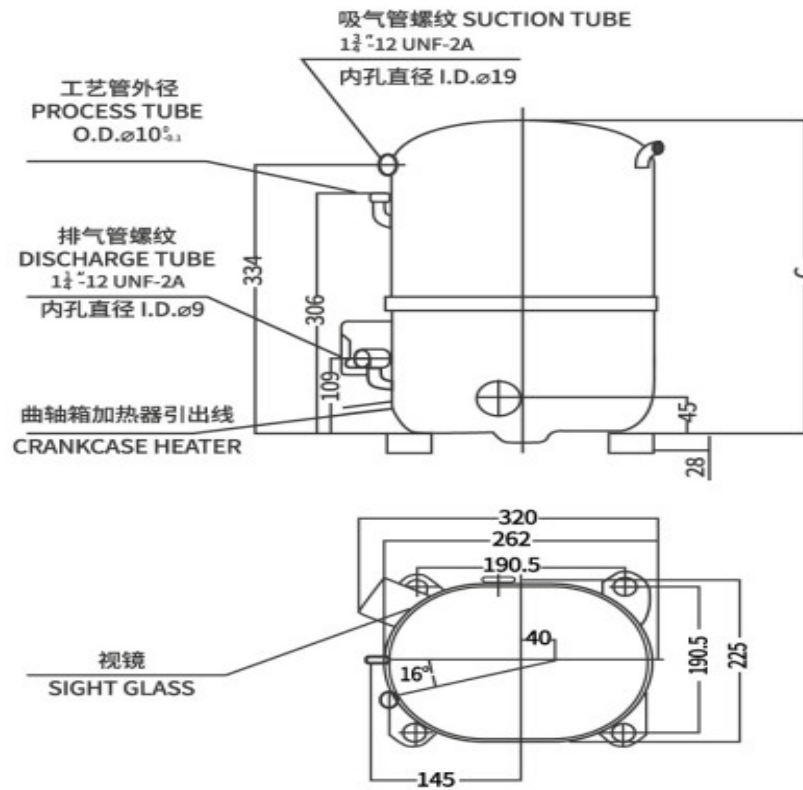
8 Mount Diagram



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	