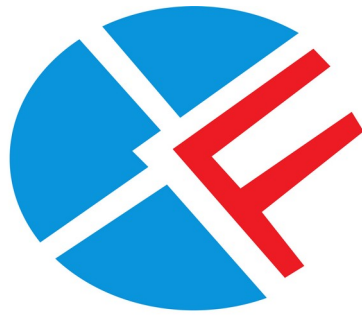




ZINGFA

Zhejiang Ankang Refrigeration Equipment Co.,Lid.

Piston Compressor

QR3-74

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	QR3-74
Compressor Type	Piston Compressor
Application	Medium/high back pressure
Refrigerant	R404A
Displacement(cc/Rev)	74.25
Oil Type	POE
Viscosity (sCt,40°C)	32
Oil Charge (mL)	1500
Rated Speed (r/min)	2900
IP Class	IP21
Compressor Colour	Black
(ID OF SUCTION TUBE)	1 1/4"-12 UNF
(ID OF DISCHARGE TUBE)	1"-14 UNF
(ID OF PROCESS TUBE)	Ø7±0.2

1.2 Performance Specifications

Cooling Capacity (W)	9984
Cooling Capacity (BTU)	34000
input Power (W)	4250
COP (W/W)	2.9
EER (BTU/WH)	9.4
Rated run Current (A)	6.7
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℃)	3.4
Locked Rotor Current (A)	39
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

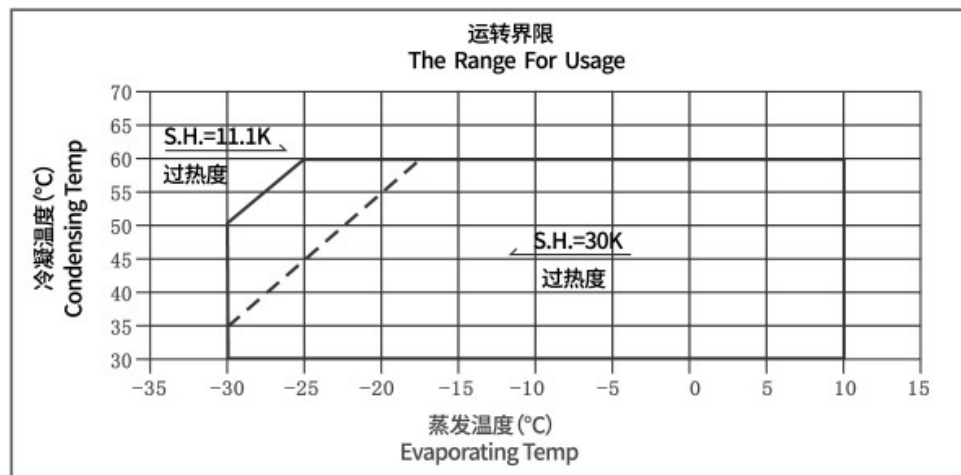
2.1 motor protector

Internal Protector For Motor Protection

2.2 High Pressure Relieve

Internal Pressure Protection

3 Running Envelope



4 Performance date type QR3-74

Performance date at 50Hz

Refrigerating capacity (watts)

evaporating temperature °C	Condensing temperature °C						
	30	35	40	45	50	55	60
-20	4682	4427					
-15	6178	5890	5300	4692			
-10	7921	7583	6894	6189	5830	5102	
-5	9956	9550	8728	7891	7467	6612	5753
0	12323	11835	10847	9845	9340	8326	7315
5	15069	14482	13298	12102	11500	10296	9105
10	18240	17540	16132	14713	14002	12582	11190

Motor input (watts)

evaporating temperature °C	Condensing temperature °C						
	30	35	40	45	50	55	60
-20	2194	2215					
-15	2467	2502	2560	2602			
-10	2743	2788	2868	2935	2964	3010	
-5	3032	3083	3179	3266	3305	3376	3434
0	3347	3401	3506	3606	3653	3741	3820
5	3698	3753	3861	3966	4017	4117	4211
10	4098	4150	4254	4359	4412	4516	4618

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.

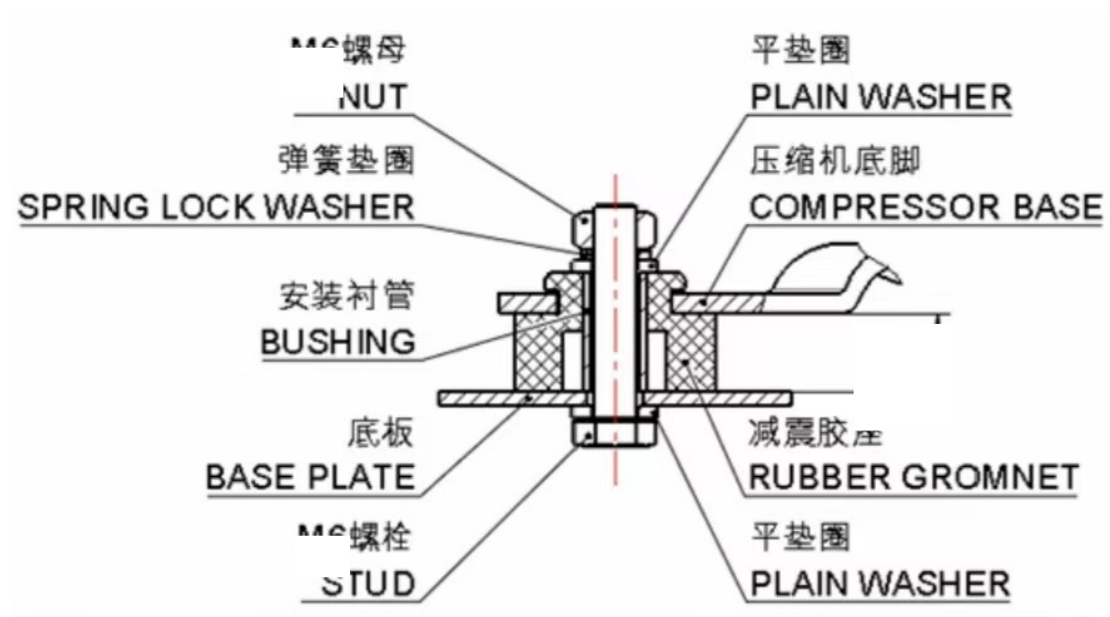
7.9 A 45W crankcase heater is recommended to avoid the refrigerant migration during the off circle and flooded start. The crankcase

heater should be powered on 12 hours earlier before the first start or restart after long duration off;

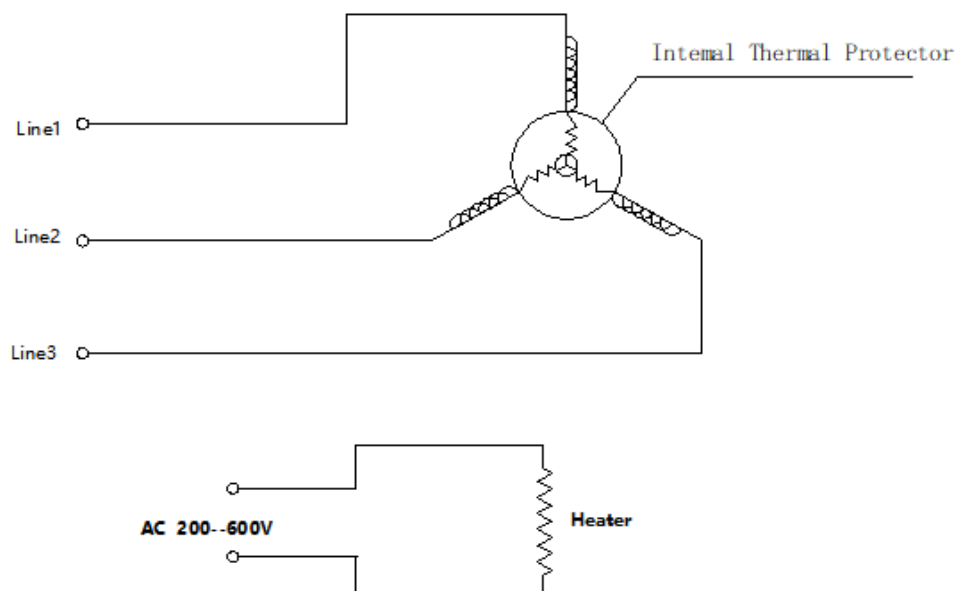
7.10 The system should be equipped with necessary protection devices for pressure, temperature, oil return, overcurrent and phase fault, etc.

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.

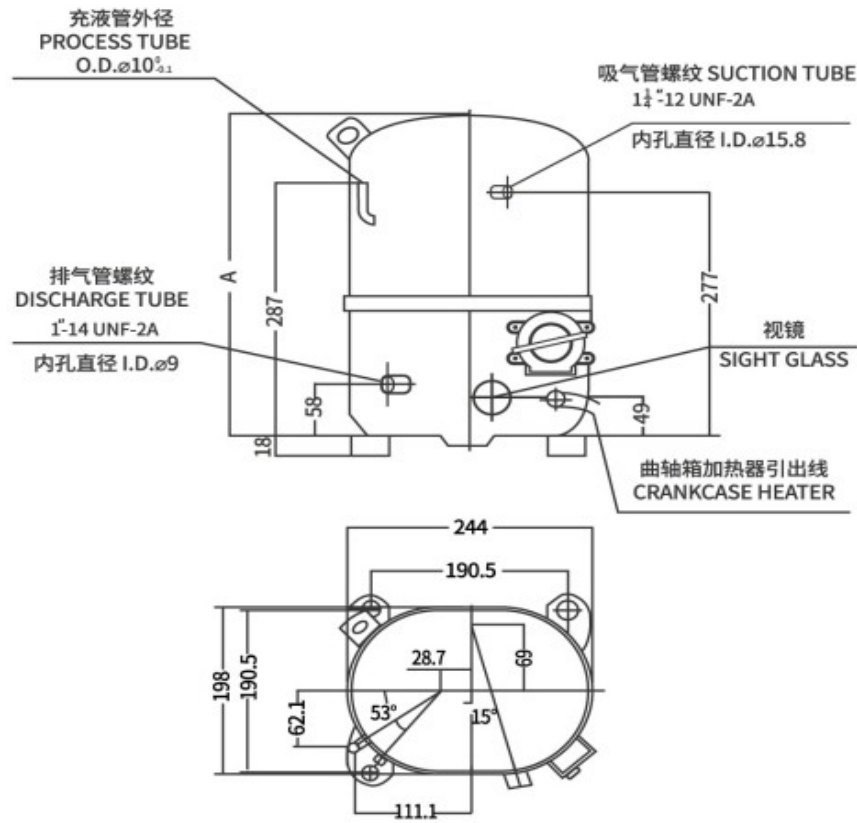
8 Mount Diagram



9 Wiring Diagram



10 PISTON COMPRESSOR Dimensional Drawing



MODEL	B (IN/mm)
QR41(QR3-41)	14.4/365
QR44(QR3-44)	
QR52(QR3-52)	14.4/365
QR58(QR3-58)	
QR62(QR3-62)	14.4/365
QR3-74	