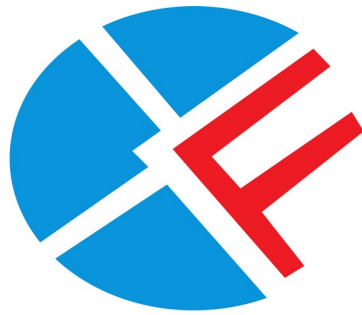




ZINGFA

Zhejiang Ankang Refrigeration Equipment Co.,Lid.

Piston Compressor

QL3- 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	QL3-112
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)	1500
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)	4350
Cooling Capacity (BTU)	14830
input Power (W)	2830
COP (W/W)	1.5
EER (BTU/WH)	5.2
Rated run Current (A)	5.0
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)	68
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

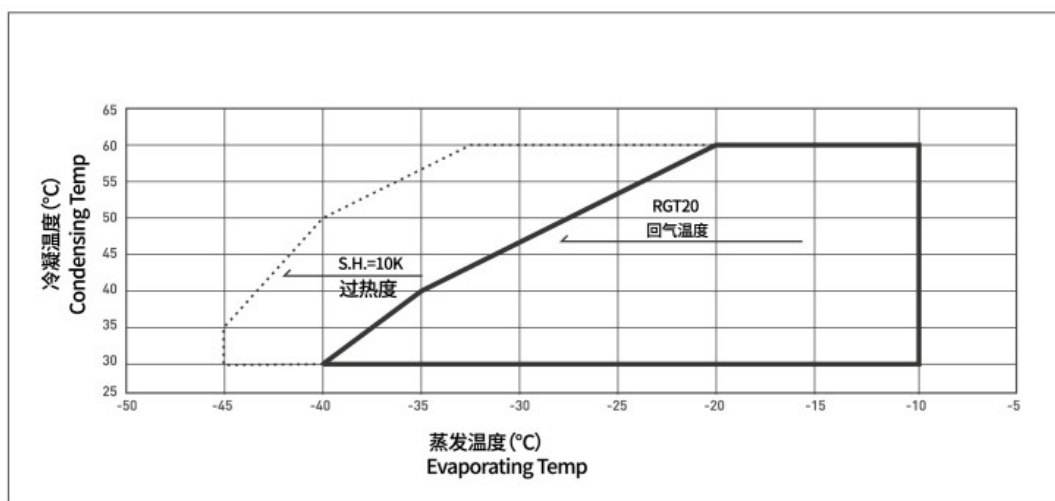
2.2 High Pressure Relieve

Internal Pressure Protection

3 Running Envelope

活塞式QL系列压缩机适用范围R404

QL MODELS Operating Conditions R404



4 Performance date type QL3-112

Performance date at 50Hz

Refrigerating capacity (watts)

evaporating temperature °C	Condensing temperature °C						
	30	35	40	45	50	55	60
-40	2903						
-35	3787	3590	3135				
-30	5140	4905	4379	3811	3523	2959	
-25	6966	6671	6032	5360	5023	4364	3748
-20	9266	8890	8096	7279	6872	6080	5338
-15	12044	11564	10572	9568	9072	8109	7203

Motor input (watts)

evaporating temperature °C	Condensing temperature °C						
	30	35	40	45	50	55	60
-40	2108						
-35	2377	2292	2128				
-30	2682	2634	2543	2456	2414	2328	
-25	3024	3012	2994	2979	2972	2959	2944
-20	3402	3426	3479	3535	3564	3623	3679
-15	3816	3876	3999	4127	4191	4319	4446

Return gas 32 °C
Subcooling 0 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;

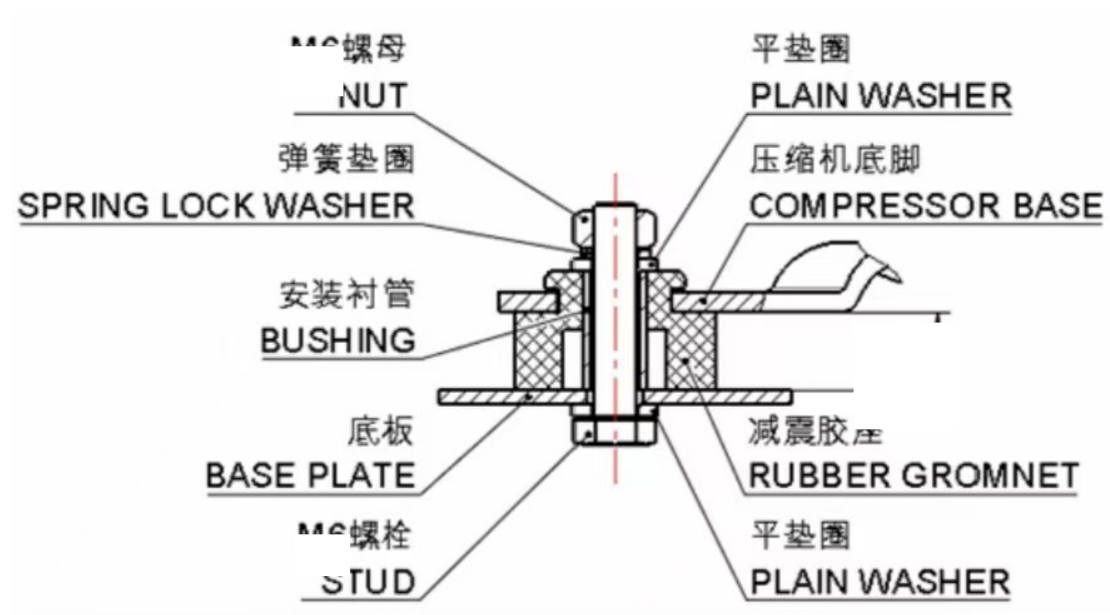
7.8 The frequently start/stop compressor should be avoided. The suggested minimum continuous running time is 10 minutes to guarantee the safe oil level ($\geq 50\%$ initial charge volume), the suggested minimum interval between start and stop is 3 minutes.

7.9 A 45W crankcase heater is recommended to avoid the refrigerant migration during the off cycle and flooded start. The crankcase heater should be powered on 12 hours earlier before the first start or restart after long duration off;

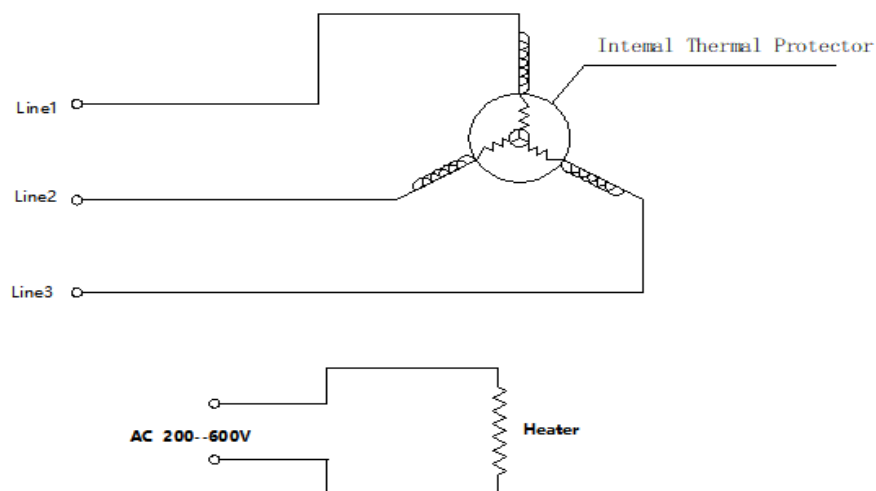
7.10 The system should be equipped with necessary protection devices for pressure, temperature, oil return, overcurrent and phase fault, etc.

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.

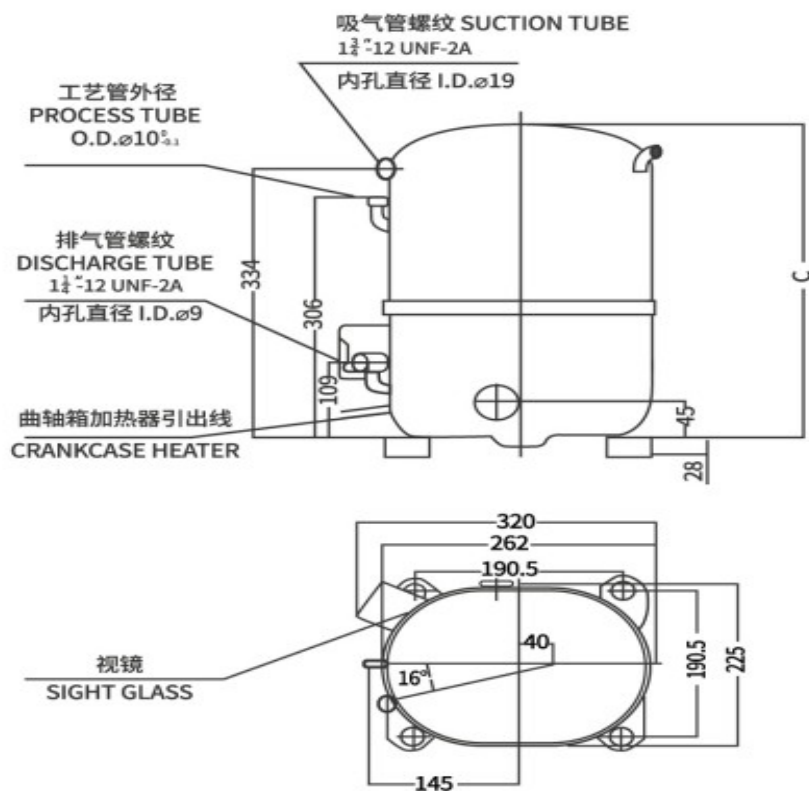
8 Mount Diagram



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	