ZINGFA

Zhejiang Ankang Refrigeration Equipment Co.,Lid.

Piston Compressor

QL3- 145

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	Q L3-145
Compressor Type	Piston Compressor
Application	Low back pressure
Refrigerant	R404A
Displacement(cc/Rev)	145
Oil Type	POE
Viscosity (sCt,40℃)	32
Oil Charge (mL)	2000
Rated Speed (r/min)	2850
IP Class	IP21
Compressor Colour	Blaclk
(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)	5980
Cooling Capacity (BTU)	20392
input Power (W)	3960
COP (W/W)	1.51
EER (BTU/WH)	5.15
Rated run Current (A)	7.5
Sound Power (dBA)	≤ 62

Test Condition

	Evaporating Temp. ℃	Condensing Temp. ℃	Suction Temp. ℃	Liquid Subcooling K	Ambient Temp. ℃
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 (℃)	≤125

2 Compressor Protection

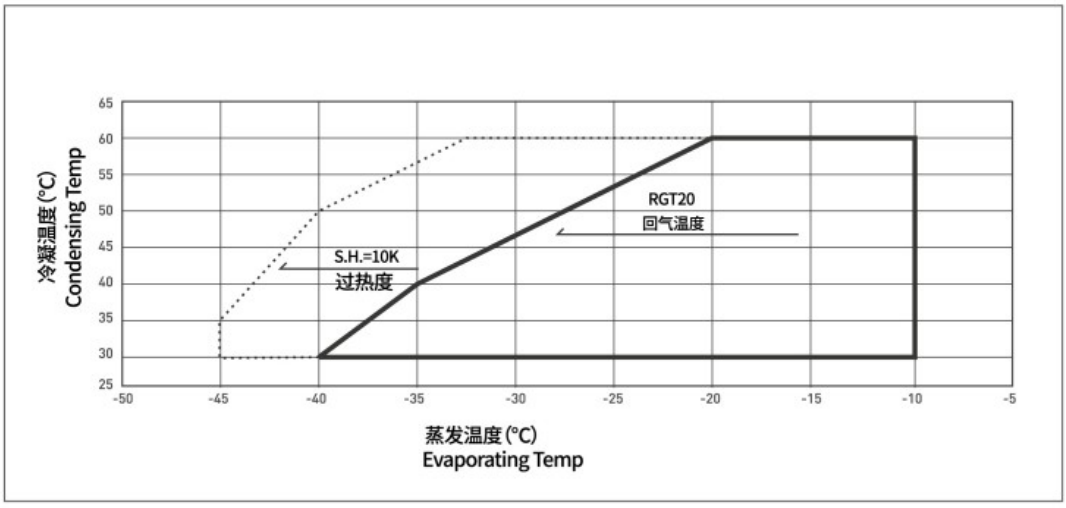
2.1 motor protector

Internal Protector For Motor Protection

2.2 High Pressure Relieve

Internal Pressure Protection

2 Running Envelope



3 Performance date type QL3-145

Performance date at 50Hz

Refrigerating capacity (watts)

evaporating temperature ℃	Condensing temperature ℃						
	30	35	40	45	50	55	60
-40	4493						
-35	5539	5243	4567				
-30	7205	6871	6129	5331	4925	4133	
-25	9491	9089	8219	7302	6841	5941	5099
-20	12402	11900	10838	9743	9198	8135	7139
-15	15942	15307	13991	12657	11997	10716	9512

Motor input (watts)

evaporating temperature ℃	Condensing temperature ℃						
	30	35	40	45	50	55	60
-40	3076						
-35	3292	3175	2948				
-30	3580	3515	3394	3275	3218	3103	
-25	3940	3926	3903	3883	3875	3857	3839
-20	4374	4406	4475	4549	4587	4661	4734
-15	4881	4957	5113	5272	5354	5515	5673

Return gas **32 ℃**
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;

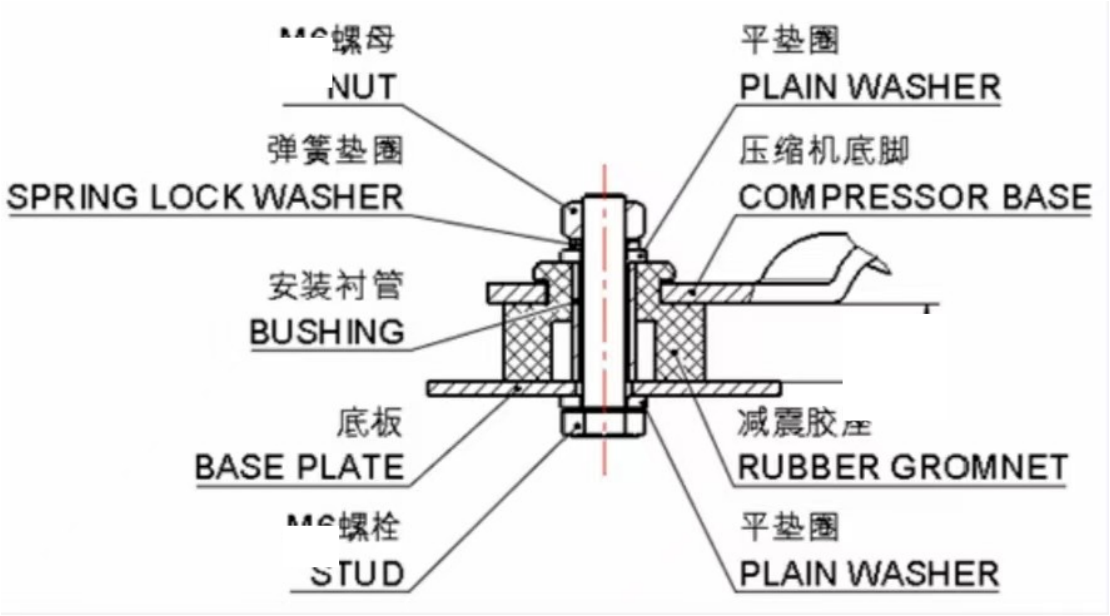
7.8 The frequently start/stop compressor should be avoided. The suggested minimum continuous running time is 10 minutes to guarantee the safe oil level (>=50% initial charge volume), the suggested minimum interval between start and stop is 3 minutes.

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;

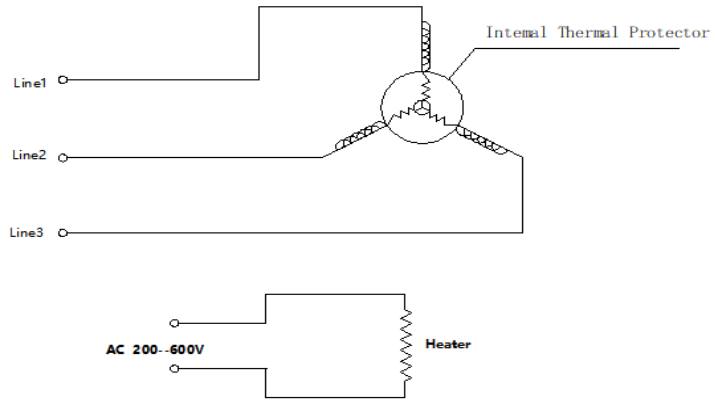
7.10 The system should be equipped with necessary protection devices for
pressure, temperature, oil return, overcurrent and phase fault, etc.

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.

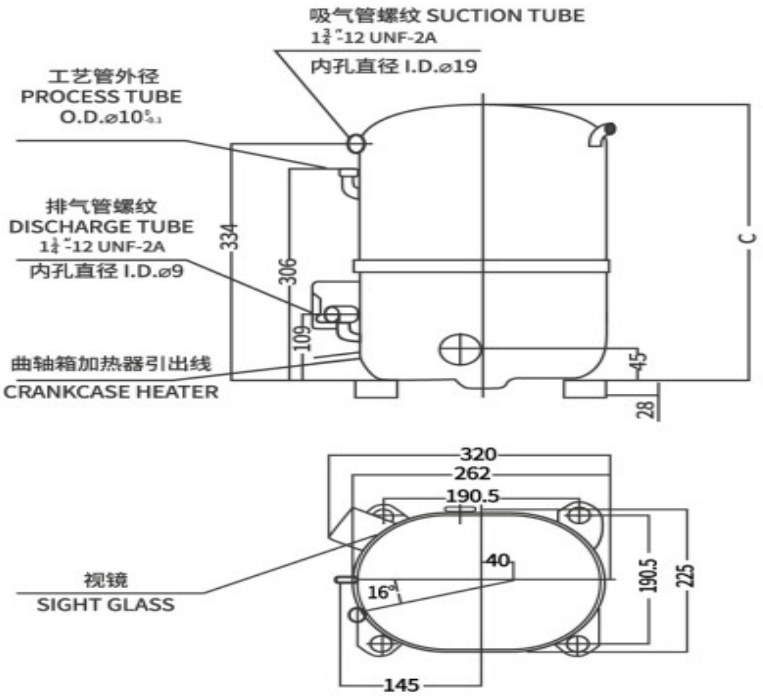
8 Mount Diagram



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	
QR3-145	15.7/398
QL3-145	