ANKANG

Zhejiang Ankang Refrigeration Equipment Co., Ltd.

XINGFA

PISTON COMPRESSOR

QR3-44A

PRODUCT SPECIFICATION

Revision Record

Revision	Reviser	Description	Date
A		Released	25/8/1

Checked By		**Date**	
Approved By		**Date**	

1 Specification

1.1 Basic Parameters

Compressor Model	QR3-44A
Compressor Type	Piston Compressor
Application	Medium/high back pressure
Refrigerant	R404A
Displacement (cc/Rev)	44
Oil Type	POE
Viscosity (sCt, 40°C)	32
Oil Charge (mL)	1500
Rated Speed (r/min)	2900
IP Class	IP21
Compressor Colour	Blaclk
ID OF SUCTION TUBE	Ø 12.7 ±0.2
ID OF DISCHARGE TUBE	Ø 19.1 ±0.2
ID OF PROCESS TUBE	Ø 7±0.2

1.2 Performance Specifications

Cooling Capacity (W)	5977
Cooling Capacity (BTU)	20380
Input Power (W)	2300
COP (W/W)	2.6
EER (BTU/WH)	8.9
Rated run Current (A)	3.8
Sound Power (dBA)	≤ 62

Test Condition

Operating 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	380V--400V/3~/ 50Hz 460V/3~/60Hz
Starting capacitor (μF/V)	/
Running capacitor (μF/V)	/
Potential Relay	/
Winding Resistance (Ω, 25°C)	6.8
Locked Rotor Current (A)	30
Insulation Class	F
Dielectric Strength	2000VAC/1S/5mA

1.4 Safety Running Limitation

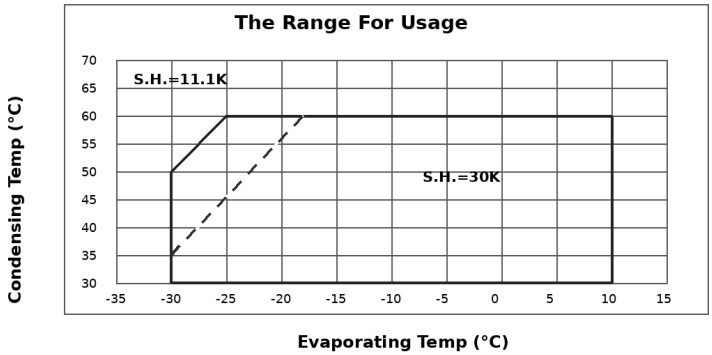
Tightness Test Pressure (Mpa)	2.2
High Side Max Running pressure (Mpa)	3.2
Low side Max Running Pressure (Mpa)	2.0
Discharge Temp.Limit (°C)	≤125

2 Compressor Protection

2.1 Motor Protector	Internal Protector For Motor Protection
2.2 High Pressure Relieve	Internal Pressure Protection

3 Running Envelope

QR MODELS Operating Conditions R404A



4 Performance Data

Type: QR3-44A | Performance data at 50Hz

Refrigerating capacity (watts)

Evaporating temp. (°C)	30	35	40	45	50	55	60
-20	2679	2514					
-15	3667	3480	3092	2687			
-10	4829	4610	4159	3690	3449	2953	
-5	6181	5920	5387	4836	4555	3979	3387
0	7737	7426	6793	6143	5812	5140	4457
5	9515	9146	8395	7629	7241	6456	5666
10	11532	11096	10213	9316	8863	7952	7045

Motor input (watts)

Evaporating temp. (°C)	30	35	40	45	50	55	60
-25							
-20	1300	1307					
-15	1477	1500	1530	1539			
-10	1630	1667	1729	1771	1784	1794	
-5	1763	1813	1903	1975	2005	2050	2074
0	1880	1942	2056	2156	2201	2277	2336
5	1985	2056	2193	2318	2375	2480	2570
10	2080	2161	2316	2463	2533	2663	2781

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

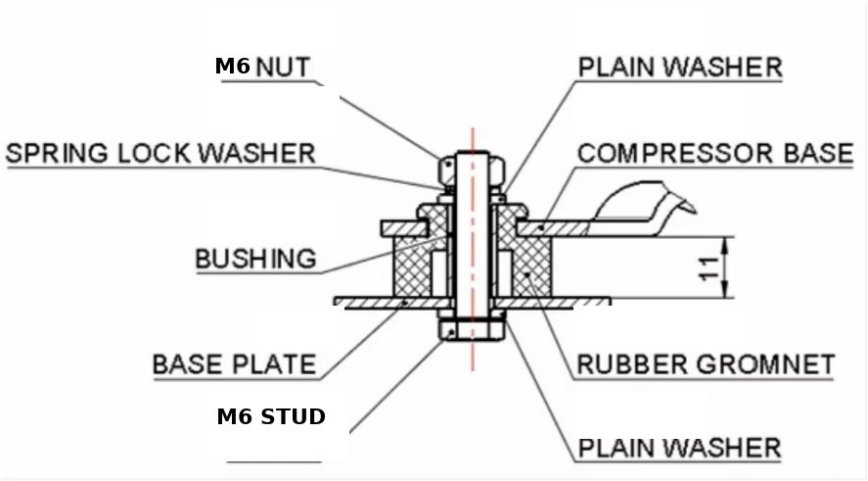
6 Packing, Transportation and Storage

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

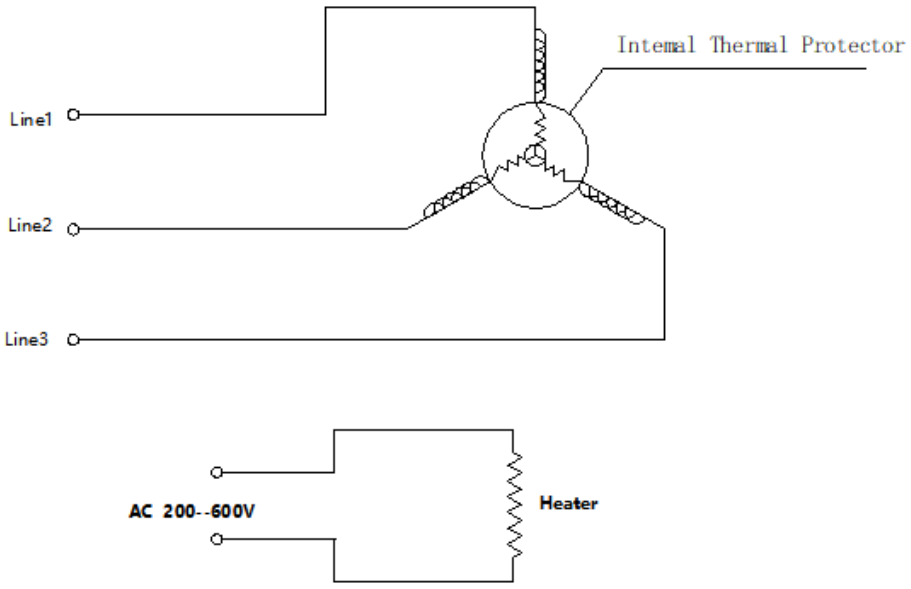
7.1	It is not allowed to perform vacuum in the system by using the refrigeration compressor. The compressor can start only after the refrigerant is charged;
7.2	It is not allowed to charge the refrigerant from the suction or discharge line closes to the compressor. The charge port should be arranged 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 (>=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

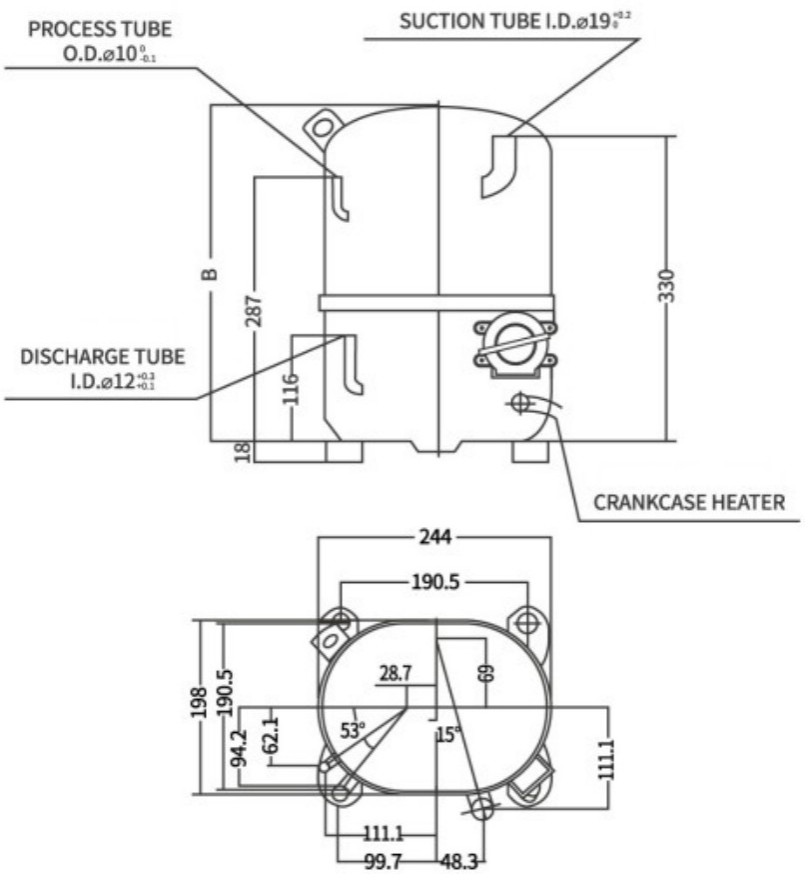


MOUNTING TYPE: (1)

9 Wiring Diagram



10 Dimensional Drawing



MODEL	B (IN/mm)
QR41A (QR3-41A)	14.4/365
QR44A(QR3-44A)	14.4/365
QR52A(QR3-52A)	14.4/365
QL52A(QL3-52A)	14.4/365
QR62A(QR3-62A)	14.4/365
QL62A(QL3-62A)	14.4/365
QR3-74A	14.4/365
QL3-74A	14.4/365