ANKANG

Zhejiang Ankang Refrigeration Equipment Co., Ltd.

XINGFA

PISTON COMPRESSOR

QR3-35A

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	QR3-35A
Compressor Type	Piston Compressor
Application	Medium/high back pressure
Refrigerant	R404A
Displacement (cc/Rev)	34.45
Oil Type	POE
Viscosity (sCt, 40°C)	32
Oil Charge (mL)	500
Rated Speed (r/min)	2900
IP Class	IP21
Compressor Colour	Blaclk
ID OF SUCTION TUBE	Ø12.2
ID OF DISCHARGE TUBE	Ø10
ID OF PROCESS TUBE	Ø7

1.2 Performance Specifications

Cooling Capacity (W)	5030
Cooling Capacity (BTU)	17150
Input Power (W)	2100
COP (W/W)	2.4
EER (BTU/WH)	8.2
Rated run Current (A)	4
Sound Power (dBA)	≤ 60

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~/ 50H
Starting capacitor (μF/V)	/
Running capacitor (μF/V)	/
Potential Relay	/
Winding Resistance (Ω, 25°C)	8.7
Locked Rotor Current (A)	23
Insulation Class	F
Dielectric Strength	2000VAC/1S/5mA

1.4 Safety Running Limitation

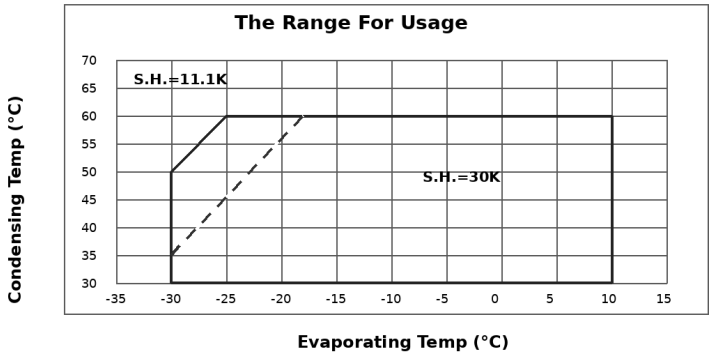
Tightness Test Pressure (Mpa)	2.2
High Side Max Running pressure (Mpa)	3.2
Low side Max Running Pressure (Mpa)	2.0
Discharge Temp.Limit (°C)	≤125

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: QR3-35A | Performance data at 50Hz

Refrigerating capacity (watts)

Evaporating temp. (°C)	30	35	40	45	50	55	60
-20	2438	2317					
-15	3201	3062	2773	2476			
-10	4093	3928	3585	3230	3049	2685	
-5	5137	4937	4523	4094	3875	3433	2994
0	6354	6112	5612	5092	4828	4292	3758
5	7769	7477	6875	6251	5933	5289	4647
10	9404	9056	8339	7597	7219	6455	5694

Motor input (watts)

Evaporating temp. (°C)	30	35	40	45	50	55	60
-20	1226	1246					
-15	1344	1372	1422	1464			
-10	1460	1494	1560	1622	1650	1697	
-5	1575	1615	1695	1774	1813	1884	1947
0	1692	1736	1828	1924	1972	2065	2154
5	1811	1858	1961	2071	2128	2242	2355
10	1934	1984	2095	2218	2282	2415	2551

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

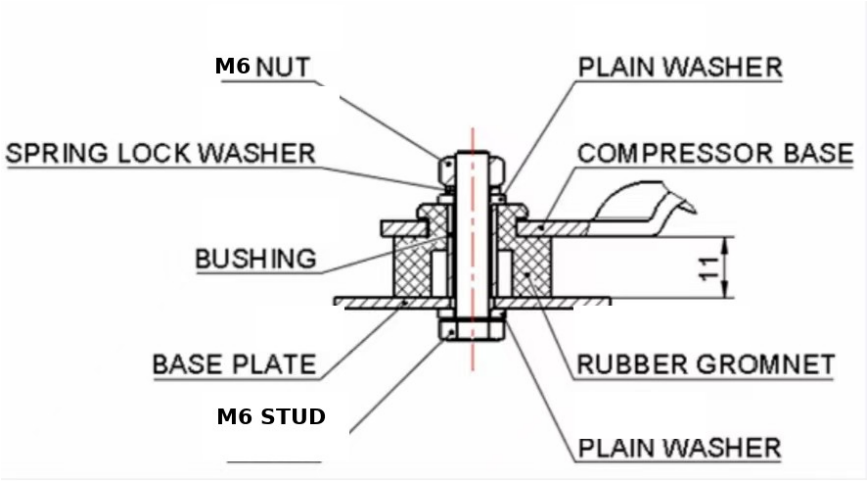
6 Packing, Transportation and Storage

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

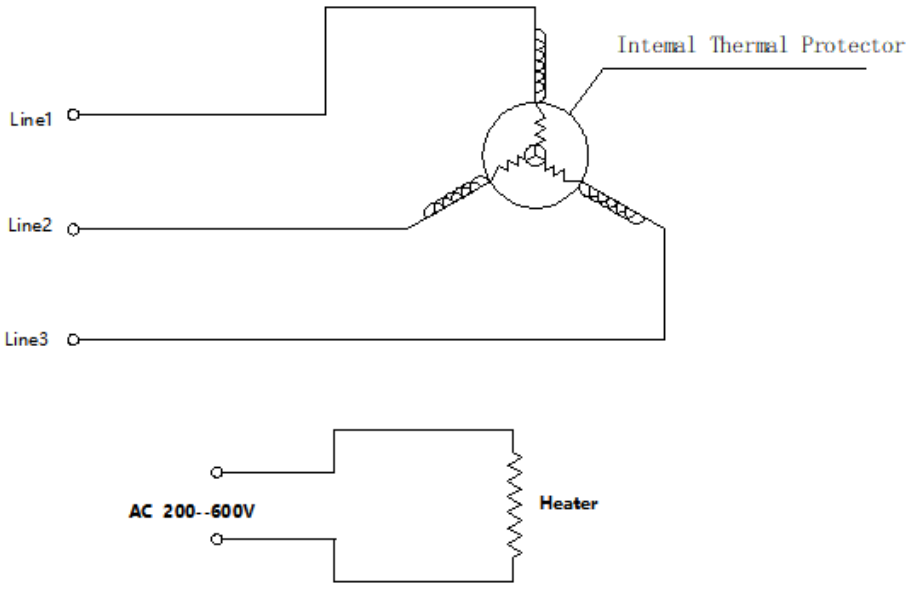
7.1	It is not allowed to perform vacuum in the system by using the refrigeration compressor. The compressor can start only after the refrigerant is charged;
7.2	It is not allowed to charge the refrigerant from the suction or discharge line closes to the compressor. The charge port should be arranged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

