

Model: YIW38C1G-V100

*1 Compressor Basic Performance Specification

1.1 Compressor Specifications	
Model	YIW38C1G-V100
Type	LP Cavity Hermetic Scroll Compressor
Application	Heating Pump
Refrigerant	R410A
Displacement (cm ³ /rev)	38.0
Cap(W) (a)	20526
Power Input (W) ^(a)	5301
Running Current (A) ^(a)	9.0
COP ^(a)	3.87
Rated Voltage (V)	380-420V
Phase (Hz)	3~ 50/60 HZ
Lowest Running Voltage (V)	342
Highest Running Voltage (V)	462
Lock Rotor Current ^(a)	13.3
Rated Motor Speed (R/Min) ^(c)	4500
Comp Weight With Oil (kg)	27
Oil	POE (Coefficient Of Viscosity 32)
Oil Charge (First Charge, L)	1.30
(Recharge, L)	1.2
Oil Circulation (%) ^(f)	<1%
Rated Sound (Sound Power) ^(g)	70
Max Running Sound (Sound Power)	75
Maximal Vib (mm, Peak-Peak) ^(h)	0.09
Maximal Moisture (mg)	500
Maximal Impurity (mg)	100



Lowest Voltage Start (V) ^(d)	323
MOV (V) ^(e)	342
1.2 Motor Specifications	
Motor Type	Permanent Magnets Motor
Pole	4
Running frequency (Hz)	40~200
Running speed (RPM)	1200~6000
Running voltage (V)	51~380
Start voltage (V)@900RPM/8N·m	51
Magnet flux (mWb.t)@20°C	50
Back EMF constant (V/1000r)	662.1
Demagnetization current(A)@110°C	97
Q axis inductance (mH)	5.94
D axis inductance (mH)	2.89
Highest Running Current (A)	25
Motor Insulation Temperature °C	130
Resistance @ 25°C Ambient (Ω)	0.245 (± 10%)
Insulation Voltage (V)	2000
Leakage Current (mA)	<5
Insulation Resistance (MΩ)	>20
1.3 Safe Running Conditions	
Highest Running Pressure:	
High Side (Mpa)	4.3
Low Side (Mpa)	2.0
Air pressure test (Mpa)	3.8
Max Discharge Temperature	125°C
Compressor Start-off Revolution	3min
deceleration limit (r/s)	2-5

Running Condition Notes:

- a) Test Condition: First Rated Running Point;
- b) Test Condition: ET/CT/SH/SC/AT 11.9/65/11.9/8.3/46.1°C, 90% Rated Voltage;
- c) Test Condition: First Rated Running Point
- d) Discharge Pressure & Suction Pressure= Refrigerant 40°C Saturation Absolute Pressure
- e) Running Over Load Condition: ET/CT/SH/SC/AT11.9/65/11.9/8.3/46.1°C
- f) First Rated Point, Oil circulation
- g) First Rated Point, A class average sound power
- h) First Rated Point, Maximal Shell Running Displacement Under Normal Direction



Rated Condition, Allowed capacity and cop $\geq 95\%$ Rated, power ≤ 105 Rated (Performance And Sound Test Needed 48hrs Break In Running)

Seq	Parameter	First Rated Running Point
1	Evaporating T	5.0
2	Condensing T	55.0
3	Ambient T	35.0
4	Return Gas T	16.1
5	Superheat K	11.1
6	Subcooling K	8.3
7	Rated Voltage(V) ~ Phase (Hz)	380V 3~ 50/60Hz
8	Motor Speed RPM	4500

*2 Internal Protection Parts

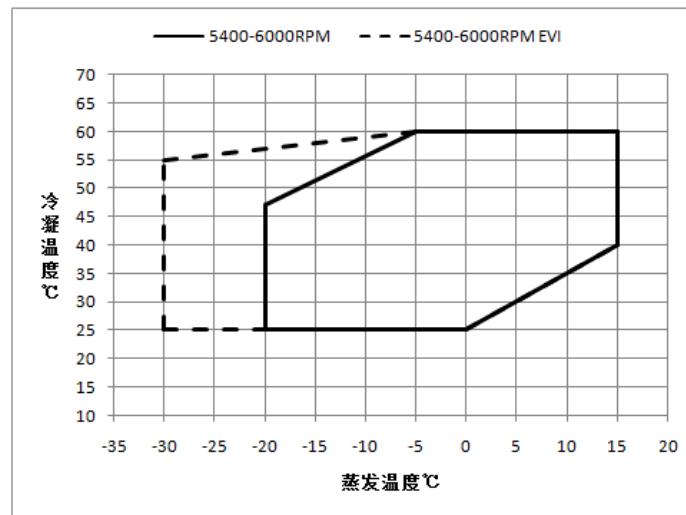
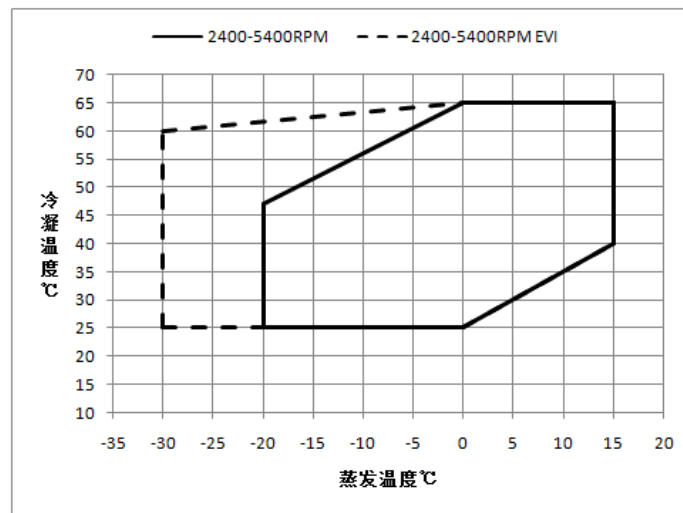
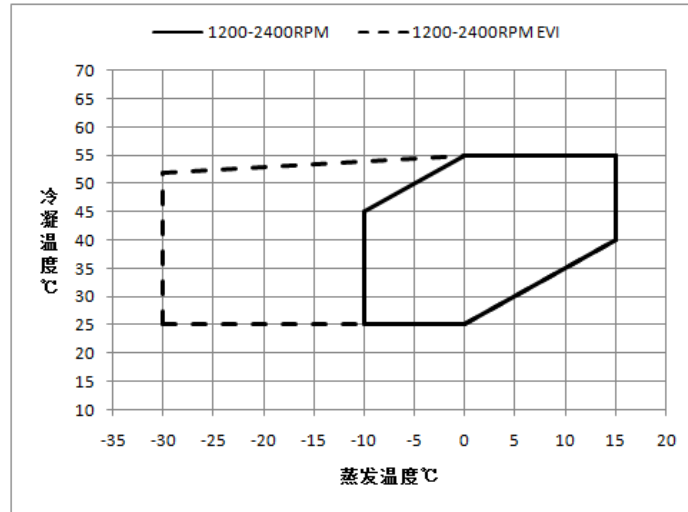
- Internal protector Protection
- Internal Pressure Release Valve Protection

Pressure Release Valve Open Range: 3.97—4.31Mpa

*3 Accessories

YIH72C1G-100			
Accessory	Description	P/N	PCS
1	Rubber Grommet	070-0003-00	4
2	Sleeve	010-0014-00	4

*6 Compressor Running Envelope



7.1 4500RPM

制热量W (制冷量 +功率)		-20	-10	0	10
	55	11733	14408	18516	23445
	45	11224	14526	18629	24080
	35	11044	14504	19099	24660
功率W	55	4988	5018	5147	5292
	45	4070	4105	4183	4360
	35	3297	3359	3509	3714

Capacity And Power Is Under 11.1°C Superheat, 8.3°C sub cooling, ambient temperature 35°C

*8 Notes

- 1) The compressor should not be used to be operated under vacuum, compress air, run without load or reverse;
- 2) The compressor should not be opened in the atmosphere for more than 15 minutes;
- 3) The compressor continuous running time should be more than 10minutes, the duration between two start-ups shall exceed three minutes, the compressor should not start/stop frequently to avoiding oil being pumped together with the refrigerant;
- 4) Before starting, discharge pressure – suction pressure \leq 0.3Mpa;
- 5) The running voltage shall be within $\pm 10\%$ of the rated voltage;
- 6) In low temperature application, because lots of refrigerant may migrate to the compressor cavity, deposit at the bottom of the compressor, it may cause the problem of lubrication and oil return, it is better to install the crankshaft heating device;
- 7) The system should set basic protection of pressure, temperature, over-current, phase-loss and oil return device etc.
- 8) Do not put the compressor horizontally or put it upside down.
- 9) Starting Speed Control
 - 9.1 Ambient Temperature $\geq 10^{\circ}\text{C}$, 3000RPM
 - 9.2 $0^{\circ}\text{C} \leq$ Ambient Temperature $< 10^{\circ}\text{C}$, 4500RPM
 - 9.3 Ambient Temperature $< 0^{\circ}\text{C}$, 4800RPM

*10 Drawings

