

Model: YIW72E1G-V100

*1 Compressor Basic Performance Specification

1. 1 Compressor Specifications	
Model	YIW72E1G-V100
Type	LP Cavity Hermetic Scroll Compressor
Application	Heating pump
Refrigerant	R134a
Displacement (cm ³ /rev)	72.0
Cap(W) (a)	18000
Power Input (W) ^(a)	4137
Running Current (a) ^(a)	6.6
COP ^(a)	4.35
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)	27.0
Oil	POE (Coefficient Of Viscosity 32)
Oil Charge (First Charge, L)	1.40
(Recharge, L)	1.30



Oil Circulation (%) ^(f)	<1%
Rated Sound (Sound Power) ^(g)	75
Max Running Sound (Sound Power)	80
Maximal Vib (mm, Peak-Peak) ^(h)	0.10
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	57.1
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 (B 级)
Resistance @ 25°C Ambient (Ω)	0.245 (± 10%)
Insulation Voltage (V)	2000
Leakage Current (mA)	<5
Insulation Resistance (MΩ)	>20
Ground Resistance (Ω)	<0.1
1.3 Safe Running Conditions	
Highest Running Pressure	
High Side (Mpa)	3.0
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	7.2
2	Condensing T	54.4
3	Ambient T	35.0
4	Return Gas T	18.3
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

*4 Internal Protection Parts

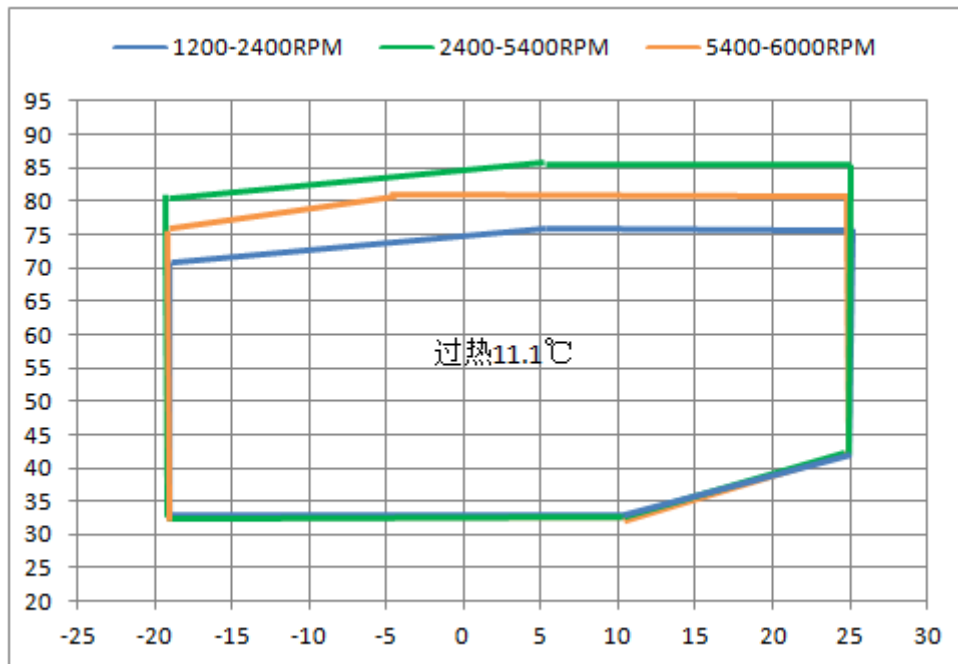
- Internal protector Protection
- Internal Pressure Release Valve Protection

Pressure Release Valve Open Range: 3.97—4.31Mpa

*5 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 Performance Curve

7.1 4500RPM

制热量W (制冷量 +功率)	80	7646	8727	10438	12088	13989	16286	18578	21147	20773	23635
	70	7985	9285	10714	12468	14339	16829	19289	22078	25206	28700
	60	8289	9710	10973	12728	14832	17111	19570	22388	25526	29002
	50	8215	9613	11146	13094	15198	17528	20161	23188	26550	30261
	40	7965	9532	11368	13399	15693	18228	21361	24663	28300	
	30	7703	9567	11570	13864	16431	19450	22797			
功率W	80	5511	5606	6148	6501	6591	6851	6923	7043	7067	7106
	70	4351	4672	4922	5155	5311	5515	5660	5857	6128	6498
	60	3404	3860	3918	4135	4318	4469	4651	4891	5213	5641
	50	2758	3028	3212	3365	3511	3667	3850	4098	4437	4886
	40	2371	2527	2684	2811	2927	3050	3196	3414	3726	
	30	2178	2262	2361	2428	2480	2532	2606			

Cap 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 $\leq 0.3\text{Mpa}$;
- 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

