

Ref. No.	-
Date	-
Rev. No.	REV. 0
Rev. Date	-

1.Specification

1.1 Compressor

1	Compressor Model Name	GA102MAA
2	Compressor Type	Hermetic Motor Compressor
3	Compression Type	Single Rotary
4	Displacement	10.2 cm ³ / rev
5	Refrigerant	R410A
6	Oil / Oil Charging Amount	POE or PVE / 310 cc
7	Painting	Black Color Paint
8	Net Weight (Including Oil)	6.52 kg
9	Suction Tube I.D	Φ 12.8 $^{+0.15}_0$ mm
10	Discharge Tube I.D	Φ 8.06 $^{+0.1}_0$ mm
11	Application	Cooling with BLDC Inverter System

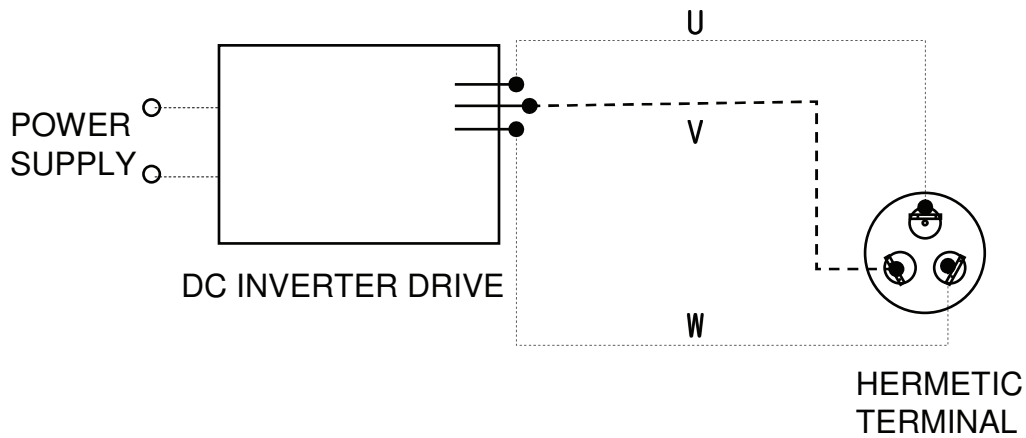
1.2 Motor

Safety

Motor Type	Brushless DC Motor/ DC Inverter Starting	
Pole / Rated Output	3 Phase 6 Pole / 900 Watts (@60Hz)	
Power Source	Sensorless Brushless Inverter (200-240 Volts)	
Winding type	Concentrated Winding	
Insulation Class	E Class	
Windings Resistance (at 25 °C)	U-V	1.58 ± 7% Ohms
	V-W	1.58 ± 7% Ohms
	W-U	1.58 ± 7% Ohms

Ref. No.	-
Date	-
Rev. No.	REV. 0
Rev. Date	-

1.3 Wiring diagram



1.4 Performance

※ Electric source

DC Link Voltage : 280 V , 180° Sine Wave Current Charge (Designed by LGE)

		60Hz
Cooling Capacity (95%↑)	[BTU/h]	10,900
	[kcal/h]	2,747
Power Input (105%↓)	[watts]	973
EER (95%↑)	[BTU/w · hr]	11.2
Running Current	[A]	4.9

☞ Rated Conditions (ASHRAE-T Condition)

Cond. Temp. : 54.4 °C (130 °F)

Evap. Temp. : 7.2 °C (45 °F)

Return Gas Temp. : 35.0 °C (95 °F)

Liquid Temp. : 46.1 °C (115 °F)

Ambient Temp. : 35.0 °C (95 °F)

Ref. No.	-
Date	-
Rev. No.	REV. 0
Rev. Date	-

1.6 Others

Leak Tight Pressure	High Pressure Side	42 kgf / cm ² G
	Low Pressure Side	-
Hydrostatic Strength Pressure	High Pressure Side	170 kgf / cm ² G
	Low Pressure Side	80 kgf / cm ² G
Insulation Resistance (with 500V D.C Mega Tester)		50 MΩ Min.
Withstand Voltage		At 2,200 V / 1 Sec. Leakage Current is less than 5 mA
Residual Moisture (Karl Fisher Method)		60 mg Max.
* Residual Impurities		70 mg Max

*) Each part was measured separately

1.7 Revolution Range (By standard DC Inverter)

Operating Range	15 ~ 120 rps
Rated Condition	35 ~ 90 rps
Max Load Condition	40 ~ 85 rps

* Condition

	Rated Condition	Max Load Condition
Con. Temp(°C)	55	65
Eva. Temp(°C)	7	12
Return Gas. Temp(°C)	35	25
Ambient Temp(°C)	35	35

Ref. No.	-
Date	-
Rev. No.	REV. 0
Rev. Date	-

3. Operating Limit

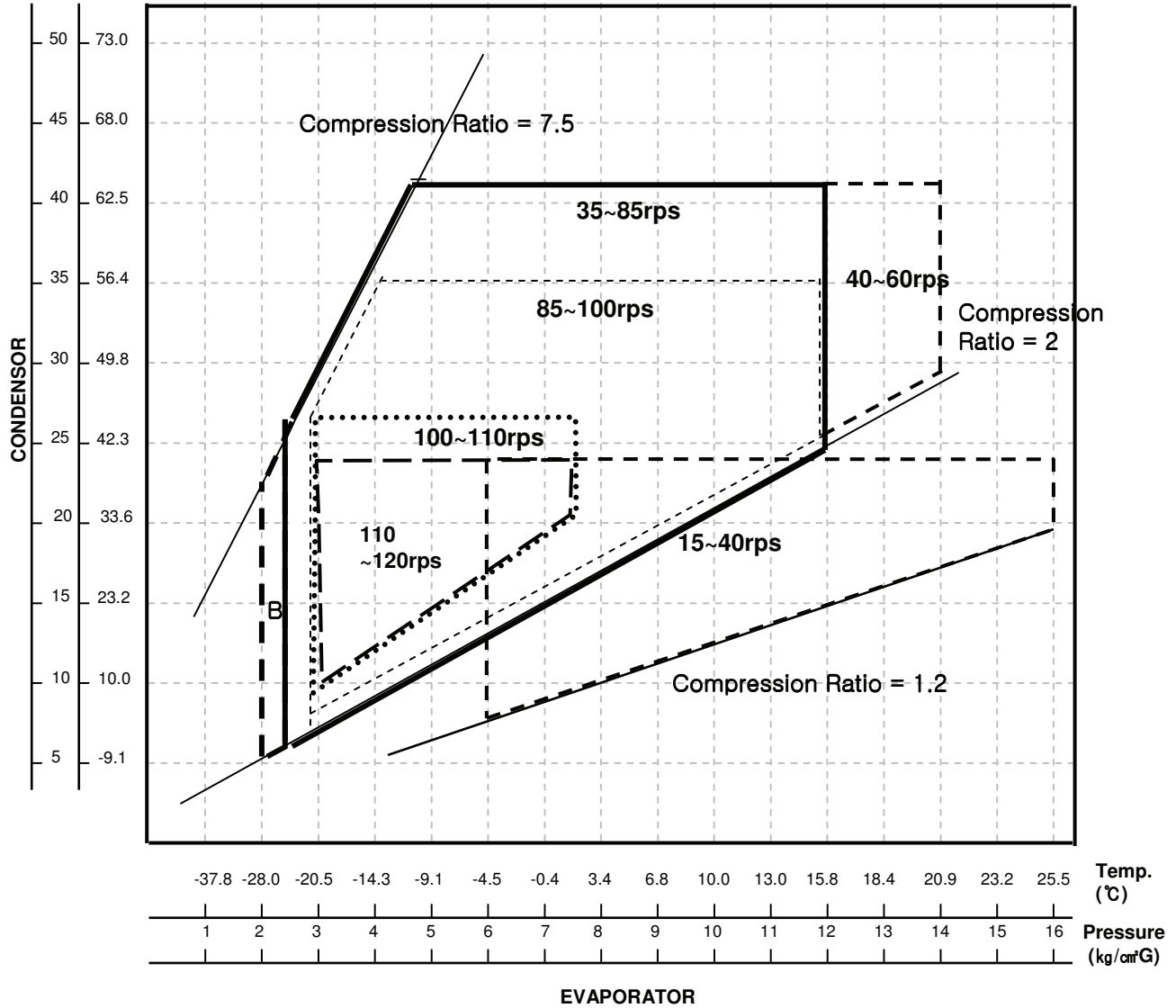
Application Limit

Discharge Pressure	[kgf / cm ² G]	42 Max.
Suction Pressure	[kgf / cm ² G]	2.4 ~ 14
Discharge Pipe Temp.	[°C]	115 Max.
Motor Coil Temp.	[°C]	130 Max.
Maximum Load Current	[A rms]	6.5 Max.

Operating Speed (rps)	Discharge Pressure (kgf/cm ² G)
15 ~ 20 rps	24 Max.
21 ~ 35 rps	33 Max.
36 ~ 85 rps	42 Max
86 ~ 100 rps	35 Max
101 ~ 110 rps	27 Max
111 ~ 120 rps	24 Max

Ref. No.	-
Date	-
Rev. No.	REV. 0
Rev. Date	-

Pressure Temp.
(kg/cm²G) (°C)

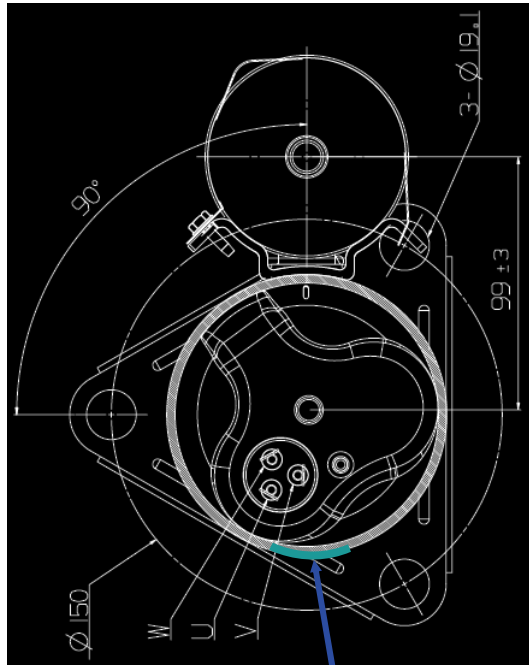


In case of B Area,

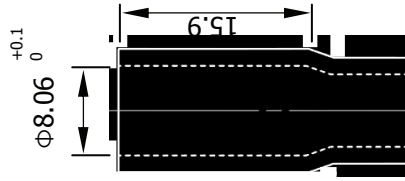
- less than 3 min. at defrosting and restarting after defrosting
- Motor wire temperature less than 130°C
- Do not occur liquid refrigerant back
- Must keep Minimum oil level

If **Pd** is instantly over 42 kg/cm², the time (over 42kg/cm²) must be below 1 minutes.

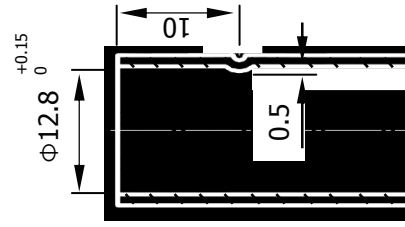
Ref. No.	-
Date	-
Rev. No.	REV. 0
Rev. Date	-



Label
Position



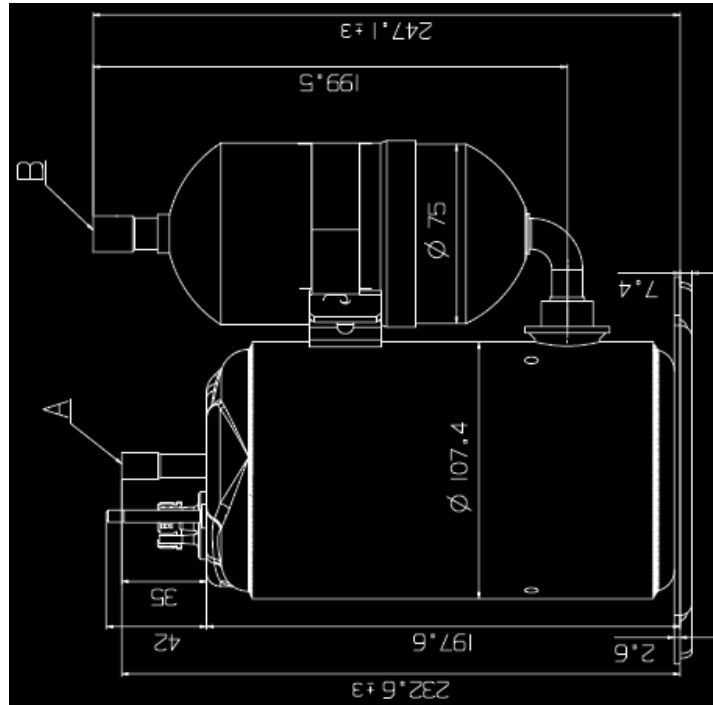
Detail of Discharge Tube



Detail of Suction Tube

NOTES

1. PAINTING : BLACK PAINT (ELECTRO DEPOSITION)
2. OIL : POE or PVE 310 cc CHARGED
3. NITROGEN CHARGED AFTER DEHYDRATION
4. UNIT : mm



UNIT	mm	SCALE	N / S	COMP. OUT LINE	
DES. ENGR.	CHF. ENGR.	Ying MA	S.M.Byun		
LG Electronics (Tianjin) Appliance Co., Ltd		CUSTOMER		GA102MAA	
		Embrital			