

Ref. No.	LGETA-130727-1487
Issued Date	2013.07.27
Rev. No.	Rev. 0
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1.Specification

1.1 Compressor

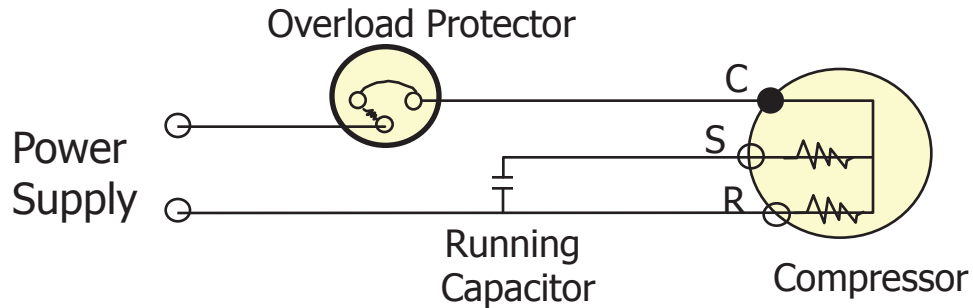
1	Model Name	EKS120PAA
2	Compressor Type	Hermetic Motor Compressor
3	Compression Type	Rotary Type (Rolling Piston Type)
4	Application	Refrigeration system (Cooling & Heating)
5	Refrigerant	R134a
6	Safety Approval	VDE
7	Oil / Oil Charging Amount	POE or equivalent 280 cc
8	Displacement	11.6 cm ³ / rev
9	Painting	Black Color Paint
10	Net Weight (Including Oil)	9.4 kg
11	Suction Tube I.D	Φ 9.7 mm
12	Discharge Tube I.D	Φ 8.06 mm

1.2 Motor

Motor Type / Starting Type	Single Phase Induction Motor / PSC	
Pole / Rated Output	2 Pole / 550 Watts	
Power Source	1Ph – 220-240 Volts – 50Hz	
Rated Revolution	2,779 rpm	
Insulation Class	E Class	
Windings Resistance (at 75 °C)	Main	7.79 ± 7% Ohms
	Sub	5.65 ± 7% Ohms
Locked Rotor Ampere	11.5 A (at 240 V)	

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1.3 Wiring diagram



※ Make Sure to connect right way same with the wiring diagram.

1.4 Electrical Component

Running Capacitor	35MFD / 370 VAC
Over Load Protector	B90-150A-241C

1.5 Performance

Voltage		At 220 V	At 240 V
Cooling Capacity (-5% ↑)	[BTU/h]	7,650	7,750
	[W]	2,242	2,271
Power Input (+5% ↓)	[W]	634	675
EER (-5% ↑)	[BTU/W hr]	12.1	11.5
	[W / W]	3.54	3.36
Running Current	[A]	2.9	2.8

Operating Project Conditions

Cond. Temp.:	71.0°C (160 °F)	Return Gas Temp. :	35.0 °C (95 °F)
Evap. Temp.:	23.0°C (73 °F)	Liquid Temp. :	46.1 °C (115 °F)
		Ambient Temp. :	35.0 °C (95 °F)

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1.7 Minimum Starting Voltage

Cold Start - Temp. Condition : 35°C - Balanced pressure : Pd – Ps ≤ 0.5 kgf/cm ²	176 Volts Max.
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1.8 Voltage Range

at Standard Condition	187 ~ 264 Volts
at Overload Condition	198 ~ 264 Volts

☞ Test Conditions

	Standard Condition	Overload Condition
Con. Temp (°C)	71	80
Eva. Temp (°C)	23	26
Return Gas. Temp (°C)	35	25
Ambient Temp (°C)	35	43

1.9 Others

Leak Tight Pressure	High Pressure Side	28kgf / cm ² G
	Low Pressure Side	-
Hydrostatic strength Pressure	High Pressure Side	155 kgf / cm ² G
	Low Pressure Side	69 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

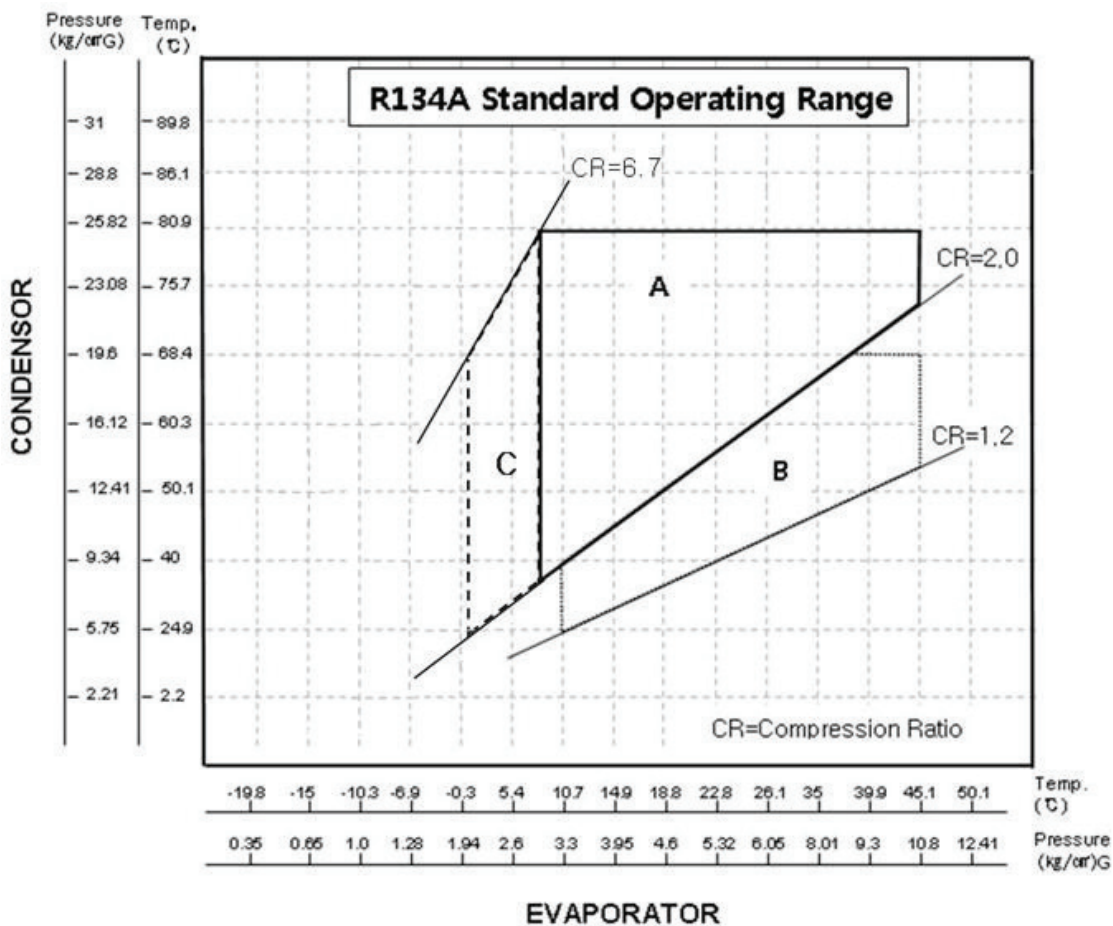
*) Each part was measured separately

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3. Operating Limit

3.1 Operation Range

Discharge Pressure	[kgf / cm ² G]	25.8 Max
Suction Pressure	[kgf / cm ² G]	3.0 ~ 10.8
Discharge Pipe Temp.	[°C]	110 Max.
Motor Coil Temp.	[°C]	130 Max.



Area A : Normal Operating Zone

Area B : High Density Flow Zone
-Running time less than 3 minutes.

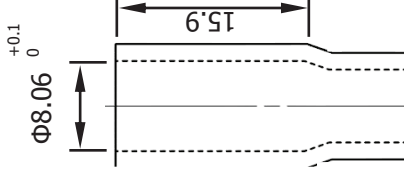
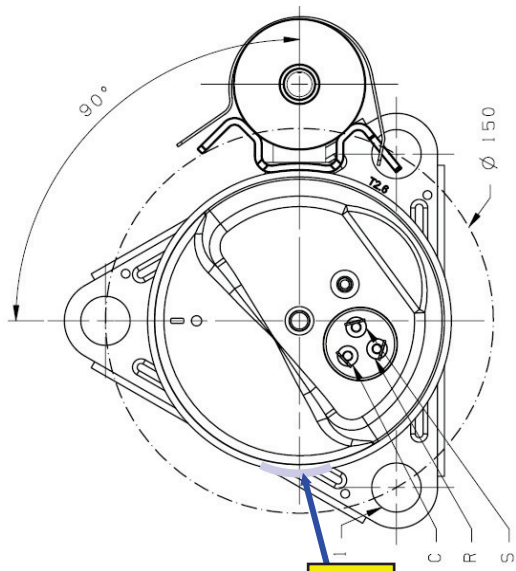
Area C : Low Pressure Zone(defrosting & re-starting)
-Running time less than 3 minutes.
-Should be checked liquid refrigerant back using sight glass accumulator

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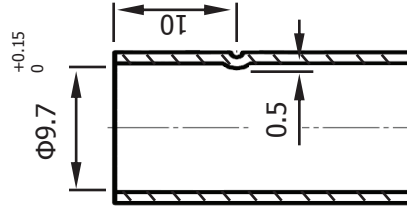
3.2 Application Limit

Refrigerant Charge Limit	[AWHP System] 550g Max (Charge limit depends on Oil Dilution Rate ^{*note 1} & accumulator 'K')
Liquid Refrigerant Back	System should be designed not to allow the liquid to go back to compressor which cause knocking noise , current increase or undesirable vibration and make short compressor life time.
Δ T : Temp. Difference	Δ T = Case Bottom Temp. - Condensing Temp. It must be kept Δ T ≥ 5°C
Pressure Difference in Operating	The Pressure difference in operating shall be 5.0kgf/cm ² or more, but 3 minutes starting excluded.
ON/OFF Operation	Each cycle should be at least 6 minutes (ON Time : at least 3 minute , OFF Time : at least 3 minutes)
Pressure Difference at Starting	When starting, discharge pressure is balanced with suction pressure. (Pd – Ps ≤ 0.5 kgf/cm ²)
Tilt in Operation	The allowable tilt of the compressor in operation shall be 5° or less.
System Accumulator	The Accumulator volume should be enough to cover 60% of maximum system refrigerant volume. Ratio coefficient 'K' should be over 0.6 (heating system) Volume of Accum.(Comp+System) × Specific gravity of Refrigerant K = ----- Charged Weight of Refrigerant ※ Effective volume of compressor accumulator = 140 cm ³ ※ Specific gravity of refrigerant (R134a) = 1.2 g/cm ³ (at 25°C) If coefficient "K" does not meet recommendation, refrigerant system must check liquid back phenomenon at accumulator.
Protecting Reverse Operation	The compressor must be operated by proper voltage in accordance with the frequency without reverse revolution condition. The reverse revolution condition can be avoided by just keeping right order of phase supplied power source.

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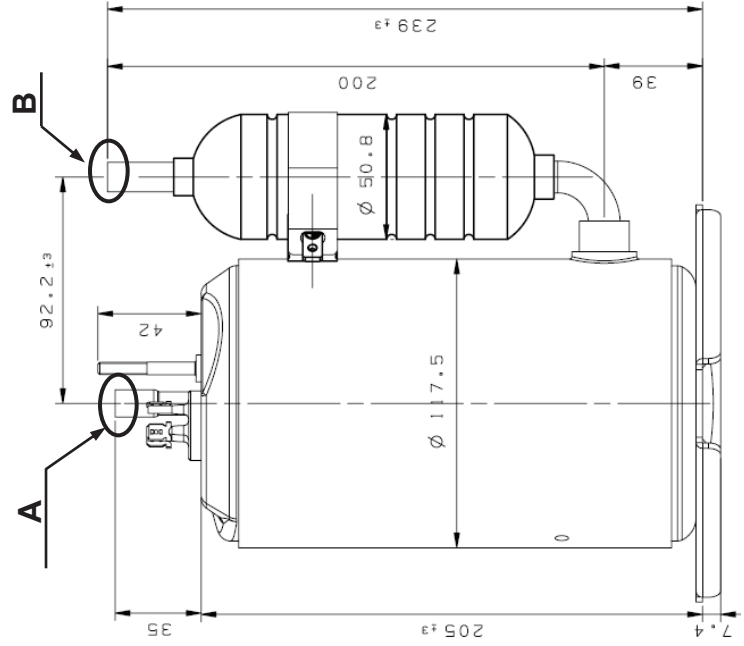
Detail of Discharge Tube



Detail of Suction Tube

NOTES

1. PAINTING : BLACK PAINT (ELECTRO DEPOSITION)
2. OIL : POE or equivalent 280 cc CHARGED
3. NITROGEN CHARGED AFTER DEHYDRATION
4. UNIT : mm



UNIT	mm	SCALE	N / S
DES. ENGR.		CHF. ENGR.	
Jul. 27. 2013 Dongliang Cai		Jul. 27. 2013 S. M. BYUN	
LG Electronics(Tianjin) Appliance Co.,Ltd		CUSTOMER Embrital	

COMP. OUT LINE

EKS120PAA