

1.Specification

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1.1 Compressor

1	Compressor Model Name	JQA048MAA
2	Compressor Type	Hermetic Motor Compressor
3	Compression Type	Scroll Type
4	Displacement	43.8 cm ³ / rev
5	Refrigerant	R410A
6	Safety Approval	-
7	Oil / Oil Charging Amount	FVC68D(PVE) 1,200 cc
8	Nitrogen Gas Holding Pressure	0.4 ± 0.2 kg/cm ² G
9	Painting	Black Color Paint
10	Net Weight (Including Oil , Reference)	30.5 kg
11	Suction Tube I.D	Φ 22.6 mm
12	Discharge Tube I.D	Φ 16.05 mm

1.2 Motor

Motor Type	Three phase BLDC Motor		
Pole / Rated input	6 Pole / 4200 watts @ 3600rpm		
Power Source	3Φ 380V Carrier Frequency: 6kHz		
Rated Revolution	3,600 rpm (at 60Hz)		
Insulation Class	B Class		
Winding Resistance	Temp.	25°C	75°C
	U-V	0.178 ± 7% ohm	0.212 ± 7% ohm
	V-W	0.178 ± 7% ohm	0.212 ± 7% ohm
	W-U	0.178 ± 7% ohm	0.212 ± 7% ohm

1.3 Material of Parts

Parts	Material
Fixed /Orbit Scroll	Gray Cast Iron
Main Frame	Gray Cast Iron
Lower Frame	Gray Cast Iron
Crank Shaft	SUM32

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1.4 Performance(※)

Frequency	[Hz]	30Hz	60Hz	90Hz
Cooling Capacity (± 5%)	[BTU/h]	29,800	59,800	90,000
	[Watts]	8,732	17,524	26,374
Power Input (± 5%)	[Watts]	1,420	2,915	4,740
CHEER (± 5%)	[Btu/wh]	21.0	20.5	19.0
Running Current (Reference)	[A]	11.3	12.0	14.0
Sound Level (ARI)	[dB(A)]	66 max	74 max	82 max
Vibration (ARI)	[micron]	50 max	50 max	50 max
Oil circulation (ARI)	[wt%,Max]	Below 1.0 wt % (at 150Hz, HiPOR)		

(※) Performance test conducted CHEER condition.

(※) Performance data measured after 14hours run-in.

(※) Rating Conditions (CHEER)

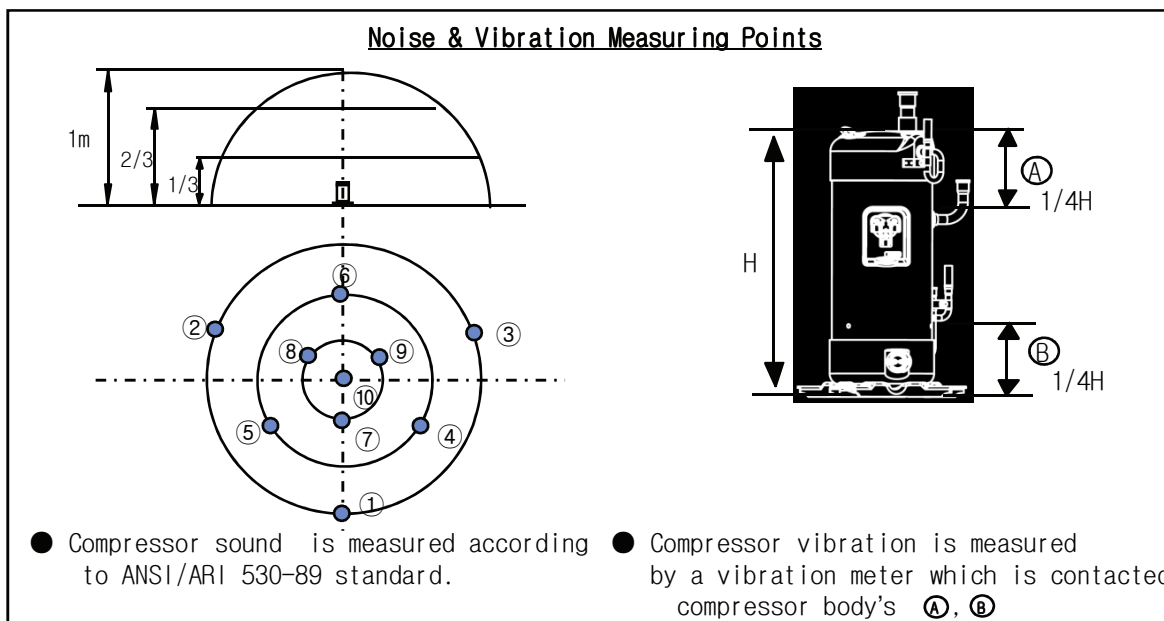
Cond. Temp. : 37.9 °C (100 °F) Return Gas Temp. : 18.3 °C (65 °F)
 Evap. Temp. : 7.2 °C (45 °F) Liquid Temp. : 29.5 °C (85 °F)
 Ambient Temp. : 35.0 °C (95 °F)

(※) Noise/Vibration tests conducted ARI condition.

(※) Rating Conditions (ARI)

Cond. Temp. : 54.4 °C (130 °F) Return Gas Temp. : 18.3 °C (65 °F)
 Evap. Temp. : 7.2 °C (45 °F) Liquid Temp. : 46.1 °C (115 °F)
 Ambient Temp. : 35.0 °C (95 °F)

(※) Oil circulation ratio should comply with OCR Measurement Standard of LG Scroll Compressor (ARI condition) (LG (72)-F0-5026)



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1.5 Others

Leak Tight Pressure	Air Pressure	40 kg/cm ² G
Hydrostatic Strength Pressure	High Pressure Side	155 kg/cm ² G
	Lower Pressure Side	- kg/cm ² G
Insulation Resistance with 500V D.C Mega Tester (Nitrogen Gas is filled in Compressor)		50 M Ω Min.(Dry Condition)
Withstand Voltage (Nitrogen Gas is filled in Compressor)		2,200 V- 1 sec. Leakage Current is less than 5mA. Capacitance is less than 6.1 nF
Residual Moisture / Residual Impurities		200 mg Max. / 80 mg Max.

1.6 Electrical Component

Part Name	Specification
Running Capacitor	-
Overload Protector	No OLP

2.Delivered Parts List

Parts Name	Type (Model)	EA	Parts' Dwg. NO.		Supply	
			LG		YES	NO
Compressor	JQA048MAA	1			<input checked="" type="radio"/>	<input type="radio"/>
O.L.P	-		-		YES	<input checked="" type="radio"/>
Cover, Terminal	-	1	MCK66539501		<input checked="" type="radio"/>	<input type="radio"/>
Gasket	-	-	-		YES	<input checked="" type="radio"/>
Grommet	-	-	-		YES	<input checked="" type="radio"/>
Screw, Earth	M4*0.7 Length: Max. 6mm				YES	<input checked="" type="radio"/>

※) Refer to Attachments (Accessory Parts Drawings.)

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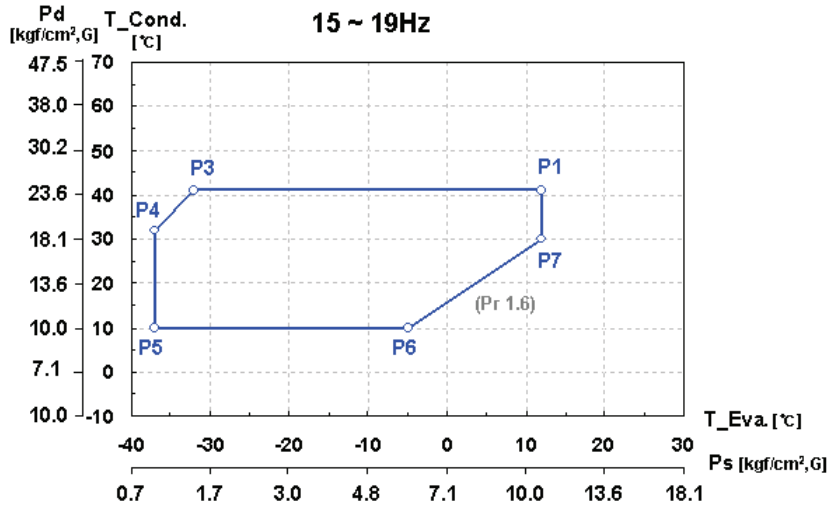
3. Operating Limit

Variable Frequency Range	15 Hz~150 Hz
Start Frequency	30 Hz [Min] <ul style="list-style-type: none"> •Flooded_start must be avoided •Reversed_start must be avoided
On/Off Interval	<ul style="list-style-type: none"> • On / Off =3 Minutes / 3 Minutes (However, Except The Balanced Pressure) •10 times / Hr (Max.)
ON/OFF Cycle	Compressor should not be started for 3 minutes or more until balanced pressure after compressor stop or air conditioner plug in.
Voltage Range	3Φ 380V
Running Current [RMS, Reference]	Cooling 24A, Heating 26A[Max]
Refrigerant Charge Limit	<ul style="list-style-type: none"> •4,000g [Max.] •When Over-Charging Ref. Accumulator Must be Installed And Protect In case Liquid ref. To Comp.
Discharge Pressure	Refer to Operating Map (page 10,11,12)
Suction Pressure	Refer to Operating Map (page 10,11,12)
Discharge Temperature	Refer to Operating Guide (page 7)
Compression Ratio in Operating	Refer to Operating Guide (page 7)
Oil Temperature	Refer to Operating Guide (page 8)
Motor Coil Temperature	125°C [Max]
Continuous Flood Back	Continuous Flood Back before the compressor should not be more than 10% of the total circulation quantity of refrigerant.
Tilt in Operation	The allowable tilt of the compressor in operation shall be 3 ° or less

5. Operating Range

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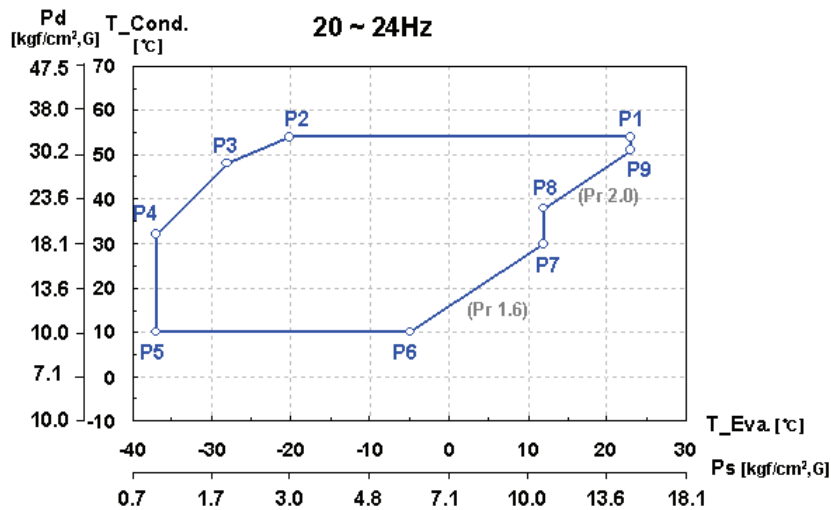
5-1. 15~19Hz



	T_Eva[°C]	T_Cond[°C]
P1	12	41
P3	-32	41
P4	-37	32
P5	-37	10
P6	-5	10
P7	12	30

※ During abnormal operating like compressor start-up, possible operating minimum low pressure is a -40°C(0.7kgf/cm²) of evaporate temperature, must be returned to the normal operating area within 1 minute

5-2. 20~24Hz

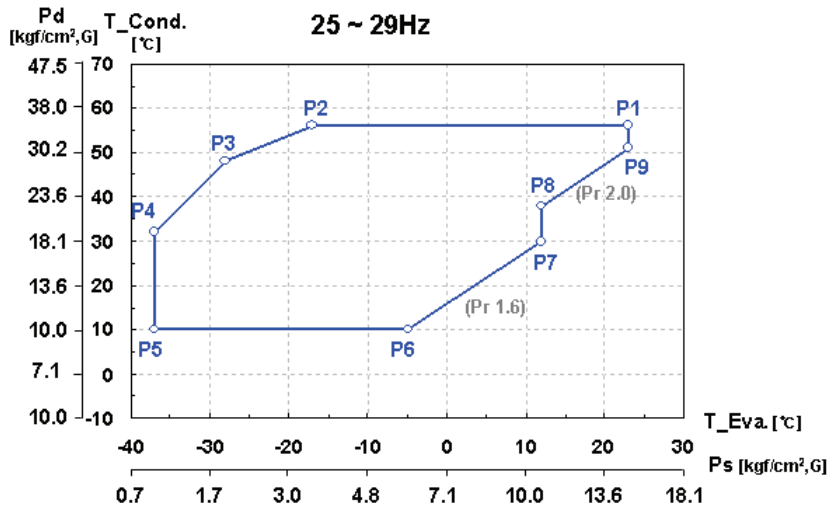


	T_Eva[°C]	T_Cond[°C]
P1	23	54
P2	-20	54
P3	-28	48
P4	-37	32
P5	-37	10
P6	-5	10
P7	12	30
P8	12	38
P9	23	51

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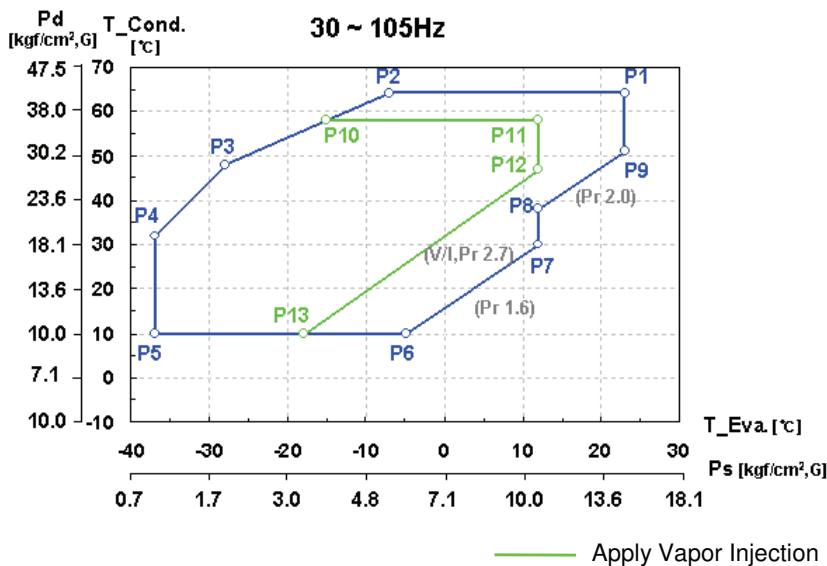
5-3. 25~29Hz



	T_Eva[°C]	T_Cond[°C]
P1	23	56
P2	-17	56
P3	-28	48
P4	-37	32
P5	-37	10
P6	-5	10
P7	12	30
P8	12	38
P9	23	51

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5-4. 30~105Hz

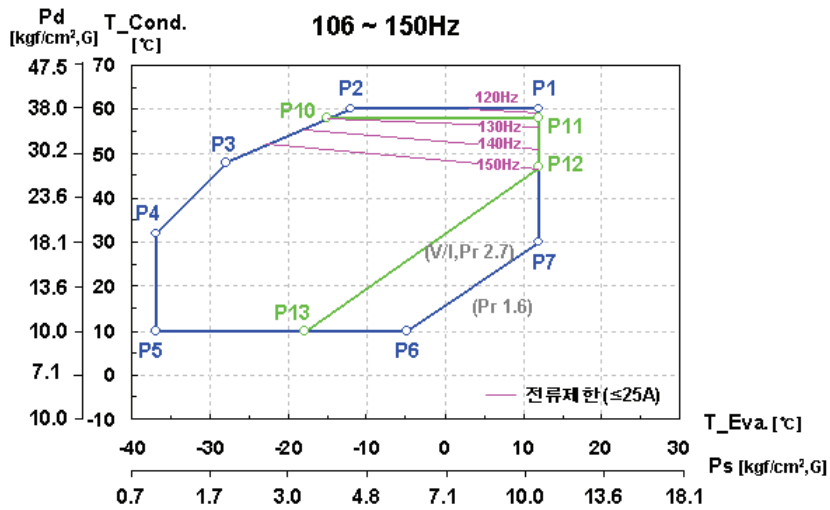


	T_Eva[°C]	T_Cond[°C]
P1	23	64
P2	-7	64
P3	-28	48
P4	-37	32
P5	-37	10
P6	-5	10
P7	12	30
P8	12	38
P9	23	51
P10	-15	58
P11	12	58
P12	12	47
P13	-18	10

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5-3. 106~150Hz

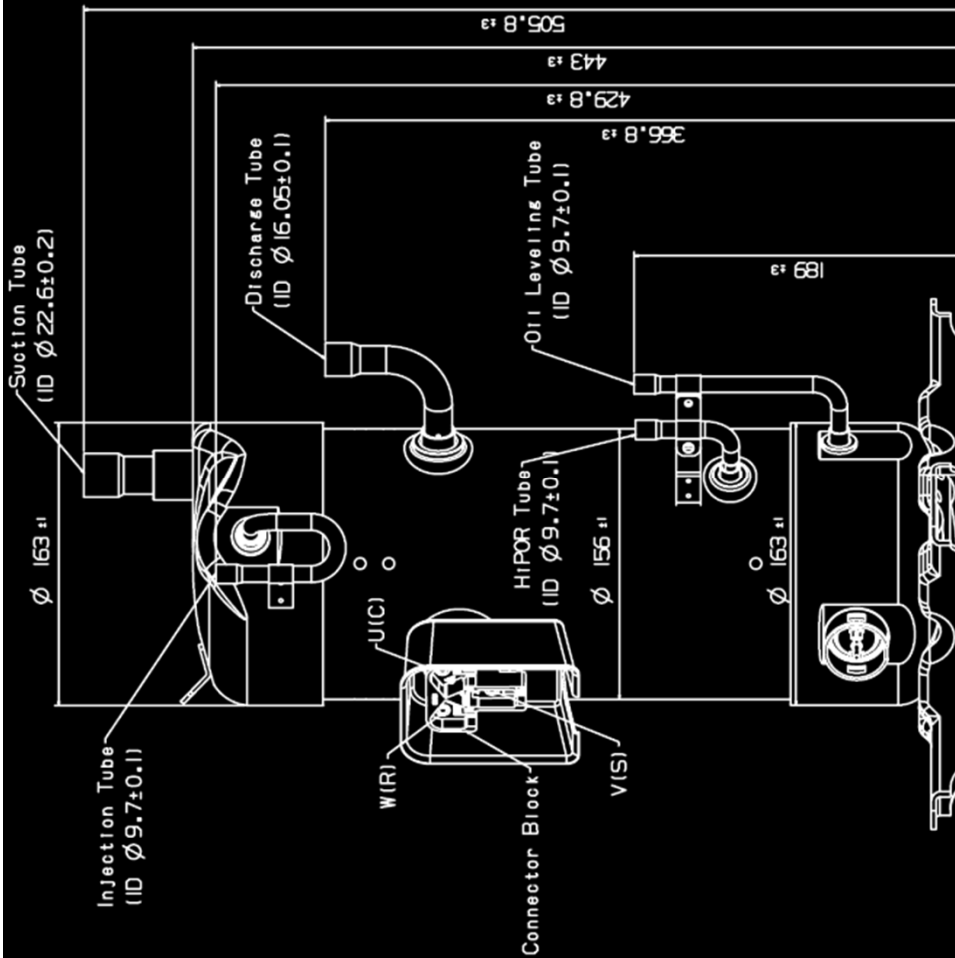
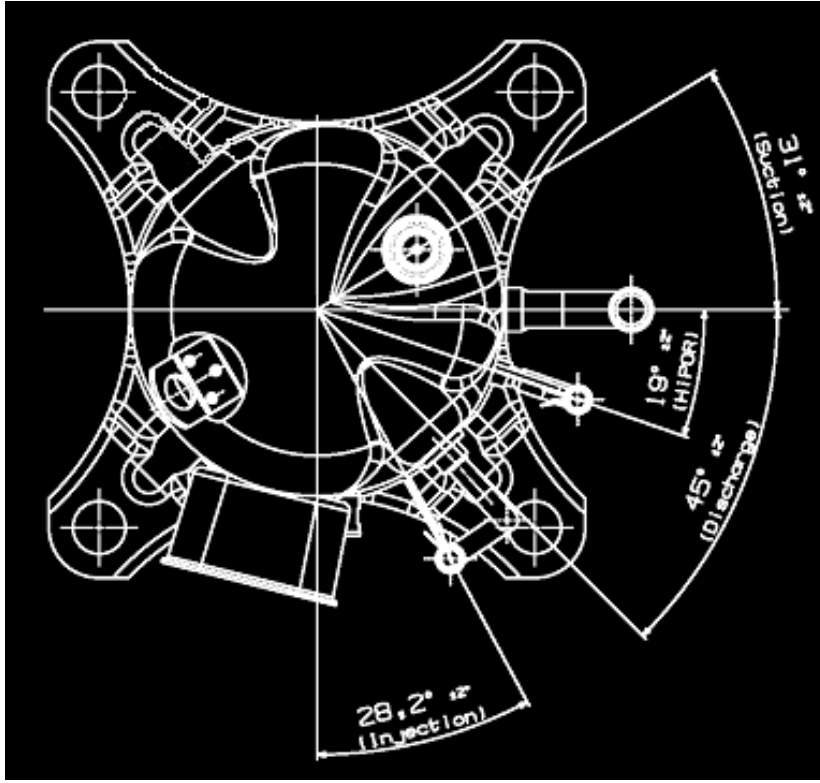


	T_Eva[°C]	T_Cond[°C]
P1	12	60
P2	-12	60
P3	-28	48
P4	-37	32
P5	-37	10
P6	-5	10
P7	12	30
P10	12	46
P11	12	51
P12	12	56
P13	12	59

— Apply Vapor Injection

※ During abnormal operating like compressor start-up, possible operating minimum low pressure is a -40°C(0.7kgf/cm²) of evaporate temperature, must be returned to the normal operating area within 1 minute

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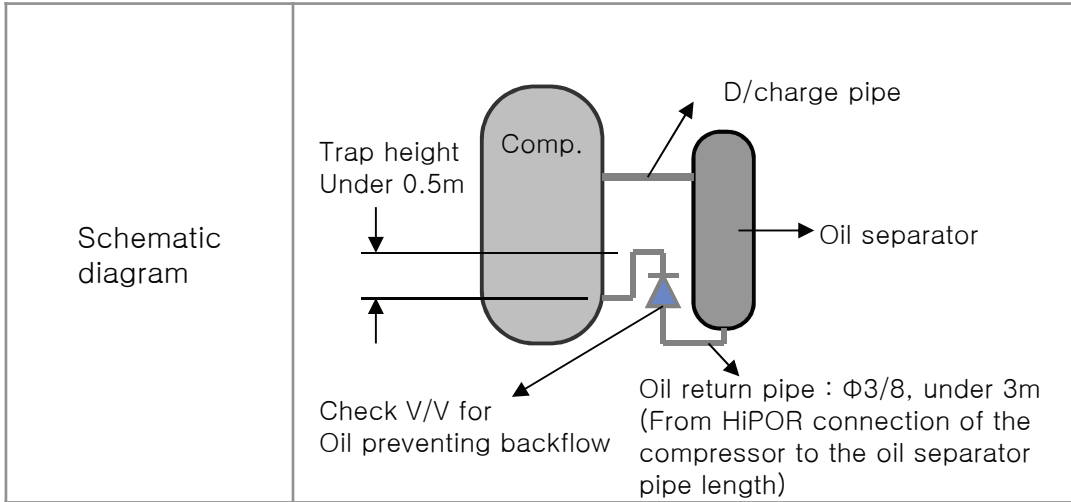


COMP. OUT LINE		
UNIT	mm	SCALE
		N / S
JQA048MAA		

- NOTES
1. PAINTING : BLACK PAINT (ELECTRO DEPOSITION)
 2. OIL : FVC68D(PVE) OR EQUIVALENT 1,200cc CHARGED
 3. NITROGEN CHARGED AFTER DEHYDRATION

HiPOR Guide

HiPOR connecting pipe design of the compressor must be refer to the below Guide.



Oil return pipe design	Pipe Diameter	3/8"
	Pipe Length	3m [Max]
	Trap height	0.5m [Max]
	Check V/V	Because Start / Operating conditions are suddenly change to occur the possibility of backflow, check V/V for preventing backflow must be installed between HiPOR pipe and oil separator