SPECIFICATIONS OF COMPRESSOR

Code No. : 808 515 60

Model No. : C-7RVN113L0A

Output : 1100W

R410A

AVIC ELECTROMECHANICAL (SHENYANG) SANYO
REFRIGERATION EQUIPMENT CO., LTD.

December 25, 2017

GENERAL SPECIFICATIONS

Code No. : 808 515 60

Model No. : C－7RVN113L0A

1. Application

(1) Evaporating Temp. Range	(℃)	−45 ～ −5
(2) Refrigerant		R410A
(3) Compressor Cooling Type		Liquid Injection
(4) Variable Frequency Range	(s^{-1})	15 ～ 90

2. Performance

(1) Capacity	(W)	2650
(2) Input	(W)	＊ 1325
(3) Current	(A)	＊ 5.32

＊ : Measured at primary values of inverter circuit.

Rated Conditions :

a) Comp. Revolution	(s^{-1})	60
b) Evaporating Temp.	(℃)	−23.3
c) Condensing Temp.	(℃)	54.4
d) Suction Gas Temp.	(℃)	18.3
e) Liquid Temp.	(℃)	32.2
f) Ambient Temp.	(℃)	32.2

3. Compressor

(1) Design		Hermetic Rotary Compressor
(2) Displacement	(cm^3)	23.3
(3) Suction Line Connection	(mm O.D.)	15.87
(4) Discharge Line Connection)	(mm O.D.)	7.93
(5) Liquid Injection Line Connection	(mm O.D.)	6.35
(6) Oil	(mL)	700
(7) Weight(Incl. Oil)	(kg)	14.0

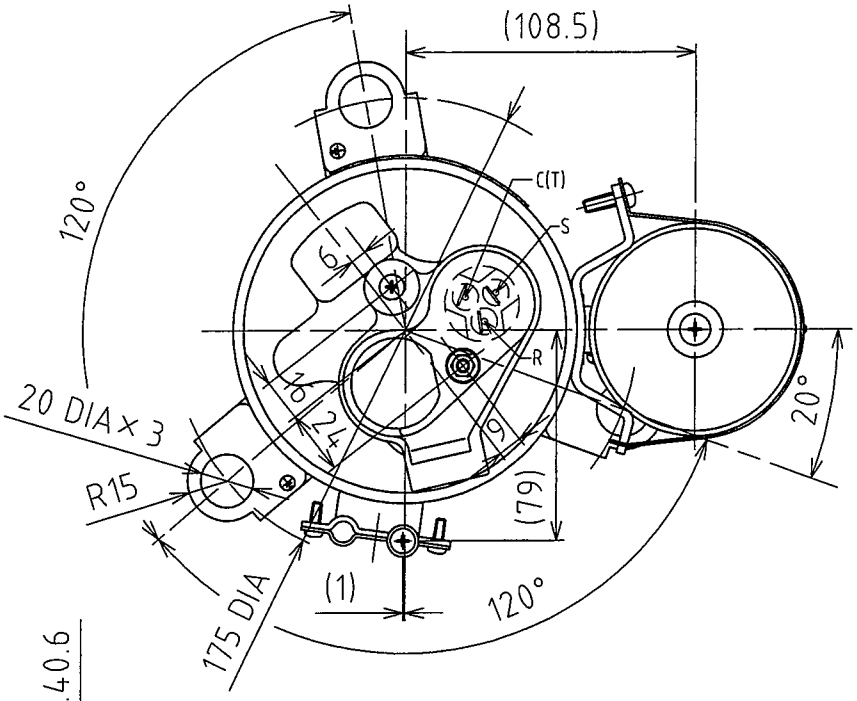
4. Motor

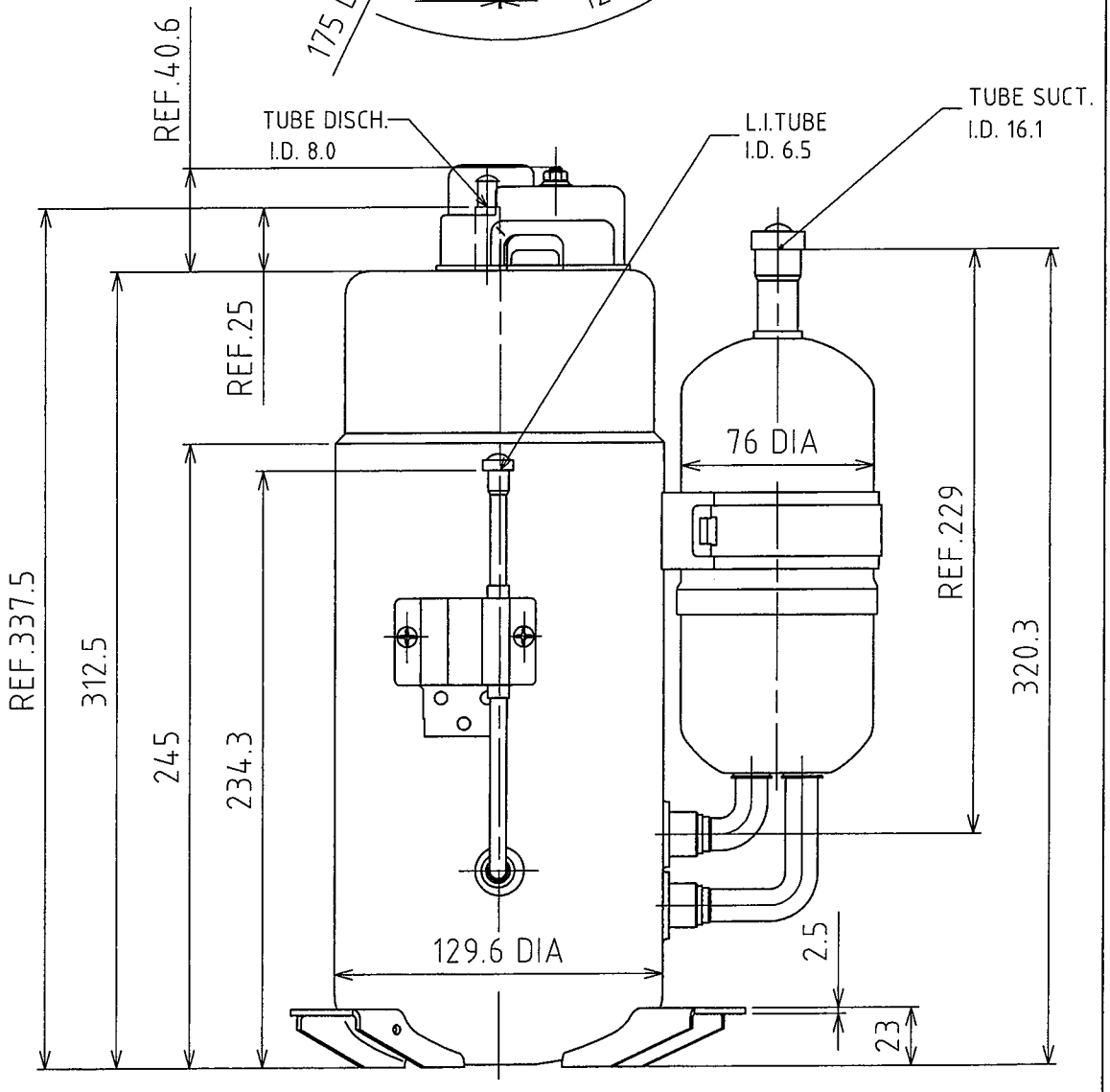
(1) Type	DC Brushless Motor
(2) Motor Maximum Permissible current (A) (0-Peak)	25 (Discharge Temp. 110℃)

DIMENSIONAL SKETCH

CODE No. 80851560

1100W Vertical Type 20FDC2P23.3cc





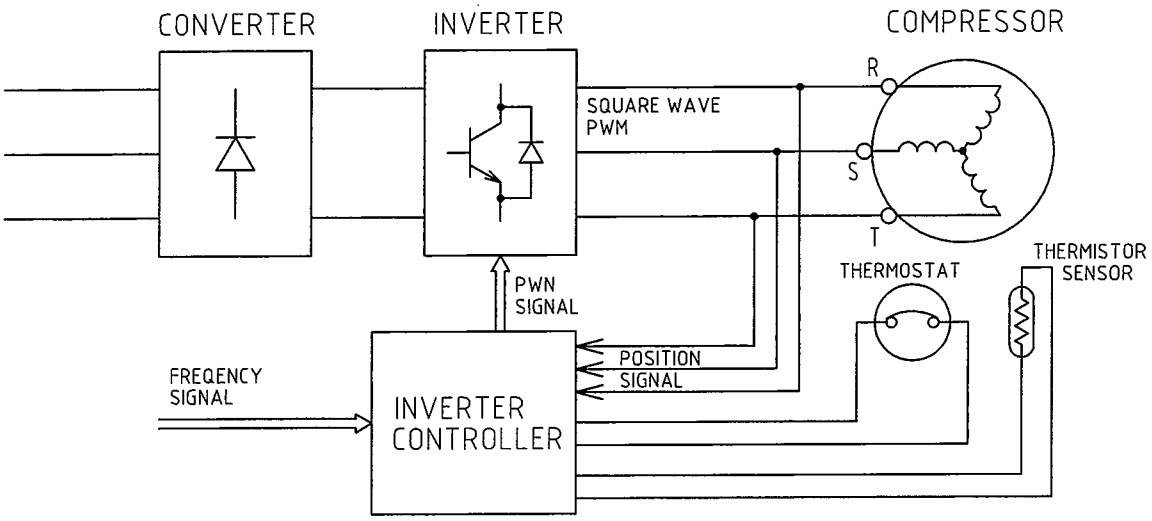
mm

WIRING & MOUNTING SKETCH

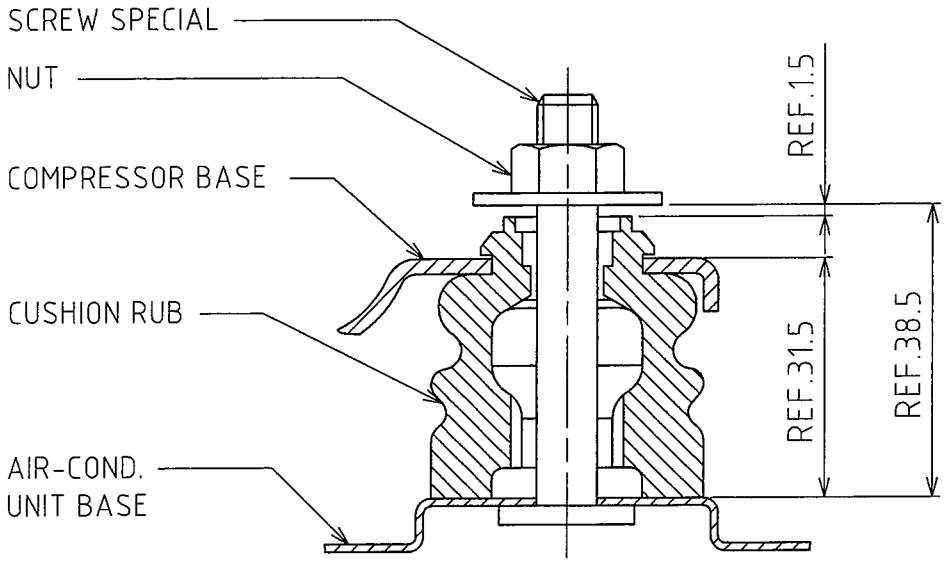
MODEL CODE : 808 515 60

MODEL NO. : C-7RVN113L0A

WIRING DIAGRAM



MOUNTING SKETCH



COMPRESSOR APPLICATION STANDARD

(R410A• LBP• DC INV• Vertical• Li-in)

The following requirements apply to Vertical type Rotary Compressors (liquid injection).

Standard: Applicable to ordinary conditions equivalent conditions, such as standard rating conditions, maximum operating conditions, low temperature conditions,etc.

Limit: Applicable to transitional brief periods, such as start-up and beginning of defrost mode.

No	Item	Standard	Limit	Note
1	Refrigerant	R410A		
2	Evaporating Temp.	-45～-5 ℃ (0.038～0.576 MPa(G))		
3	Condensing Temp.	*Operation Limitation	60 ℃ 3.68 MPa(G)	
4	Compression Ratio	16 Max	19 Max	
		Except very short period such as pull-down		
5	Winding Temp.	115 ℃Max	125 ℃Max	
6	Compressor case bottom Temp.	Upper Limit: 90℃ Max LOWER Limit: Evaporating Temp.+0.5℃Min		
7	Discharge Gas Temp	105 ℃Max	110 ℃Max	At around 50mm from the Comp.discharge end
8	Suction Gas Temp.	18℃Max Superheat:10K Min	No excessive noise	At around 50mm from the comp. suction head Items
9	Running Voltage	Within±10% of rated voltage		Voltage at the Comp. terminals
10	Starting Voltage	85% of rated voltage Min		Dropped voltage at the comp. terminals
11	Operating and Shut-off Period	Operating: Until the oil level return specified position Shut-off: Until pressure balance of high and low is obtained		One cycle:10 minutes. For at least 3 minutes Shut-off /7minutes operating is recommendable.
12	Refrigerant Charge	Oil/Refrigerant(wt.)≧0.25		The density of oil :0.94g/cm³
13	Action cycle	200000 cycles Max		
14	Minimum Oil Level	Center of the cylinder(upper)	1-cyl:Top of the lower bearing 2-cyl: Center of the cylinder(low)	Full lubrication of sliding parts
15	Abnormal Pressure Rise	15/20F: Max 4.90Mpa(G) (Condenser fan failure,etc. Confirmation of pressure)		Have a high switch: No need for confirmation No high switch: Need to be confirmed
16	System Moisture Level	Prevent moisture from entering into the enclosed unit system, moisture content 200ppm Max. It is necessary to install a dryer to dehumidify the residual moisture mixed in the refrigerant in the cycling system. The specially defined molecular-sieve dryer is advised.		

17	System uncondensable Gas Level	1 Vol. % Max. Residual Oxygen 0.1Vol. % Max.	24 hrs. after vacuuming:1.01kPa Max
18	Tilt	5° Deg. Max.	
19	Other	◆ To prevent the refrigerant and oil flowing back when compressor is stopped. One-way Valve should be set between assistant stank and compressor。 ◆ To prevent Liquid refrigerant inflow evaporator when compressor is stopped. Between expansion valve(capillary tube) and receiver tank(condenser),solenoid valve shall be installed。 ◆Pipe length and drop: length drop 600W 20m Max 10m Max 750～1100W 30m Max 10m Max 1500～2400W 50m Max 20m Max ◆Refer to the attached" refrigeration system schematic diagram " ◆Do idle running for at least one minutes within 15 minutes after refrigerant charge. ◆Evacuate internal section in the refrigeration system from high and low pressure sides and charge refrigerant liquid from condenser outlet side.	

(G):Gauge Pressure

Remarks:

1.Operating Frequency

(1)Frequency range in the Approval Sheet shall be carefully observed.

(2)Though the step △f/△t is not specified ,operate for at least 30 seconds at a frequency between 50 and 75s-1 to prevent oil shortage.

(3)Refer to the attached" Operation Limitation "

2.Power Supply to Compressor

(1)You shall be used the DC Inverter circuit.(Do not supply commercial power source.)

3. Compressor installation notes

(1)Installation shall be completed within 15 minutes,after removing the rubber plugs.

(2)Do not compress air.

(3)Do not energize under vavuumed condition.

(4)Do not tilt over when carrying.

(5)Do not remove the paint、Cover、Accumulate.

(6)Do not revers compressor operation.

(7)The value of high pressure swith:2.84Mpa(G)Max

(8)Copper Piping Stress(half amplitude).

Start&Shutdown: 34.32N/mm^2Max

Run : 12.26N/mm^2Max

(11)Selection of electrical wire size/Installation of ground: (refer to the next page:Selection Of electrical wire.

Selection Of electrical wire

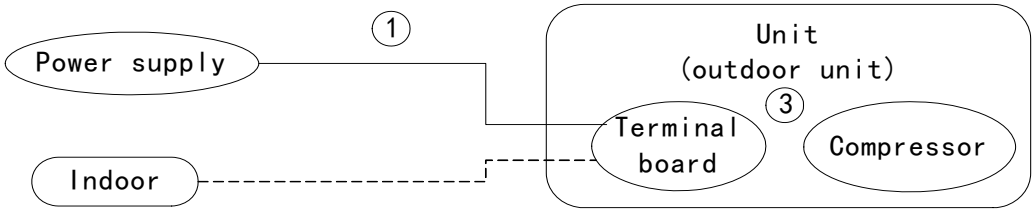
The voltage drop will be occurred due to the large current at the compressor starting.

It should be difficult to start the compressor depending upon the voltage drop level

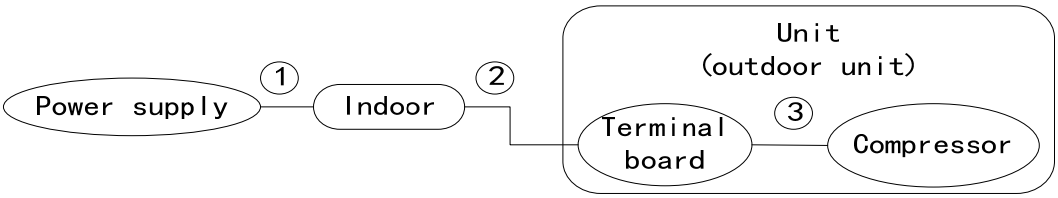
Therefore , we would recommend you to select the wire size from the below "electrical wire size selection table" which is depended on motor's starting current.

1. Type of unit

(1)Window & Commercial Type unit



(2)Split type(Separate type)



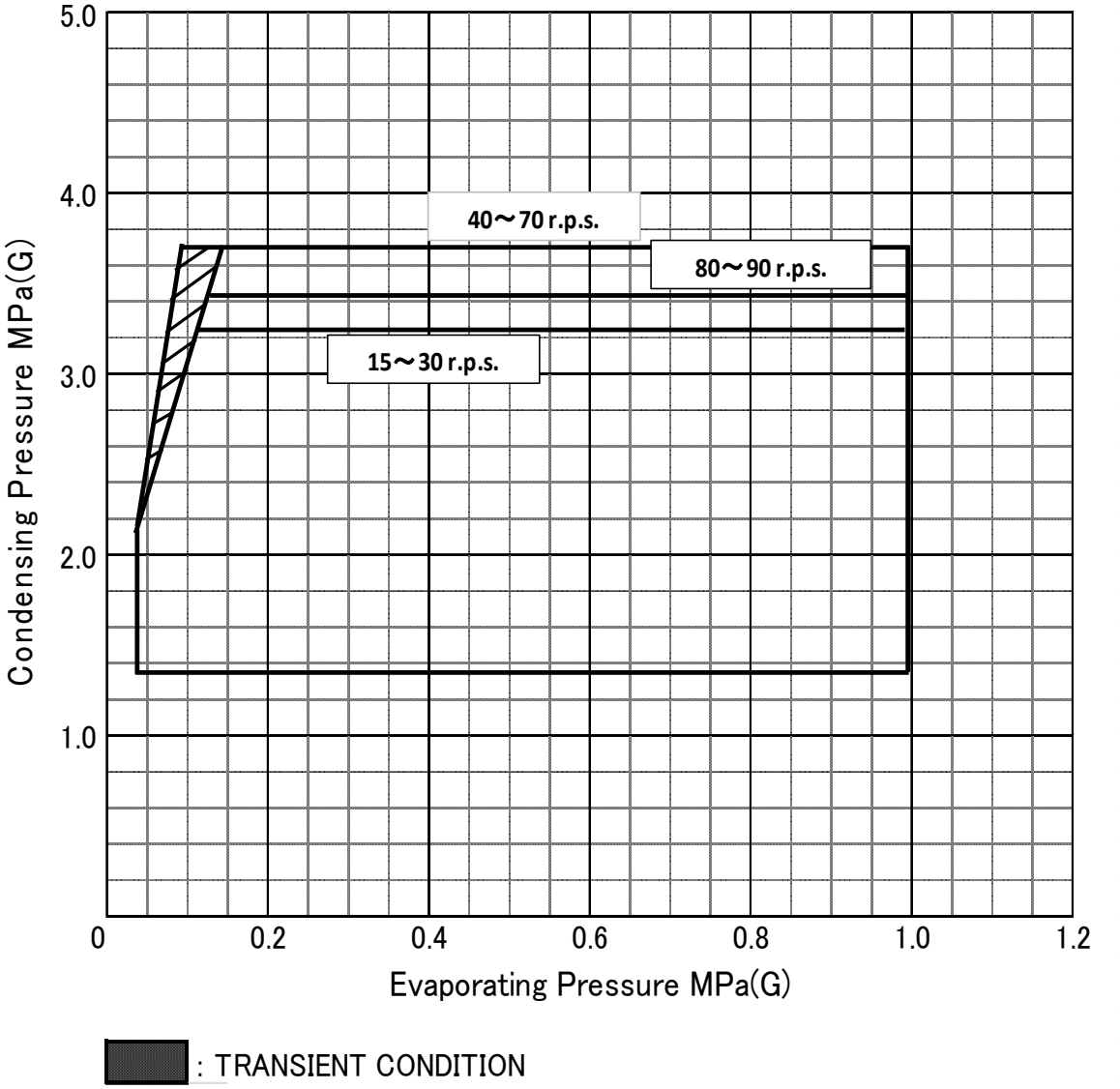
2. Selection of electrical wire's size table

Staring Current (A)	Size of electrical wire(mm^2)							
	Remark③ or Remark①and② (heat-resistance Temperature:"60℃"min.)							Remark③ (heat-resistance temperature: "120℃"min.)
	3m max.	5m max.	10m max.	15m max.	20m max.	30m max.	50m max.	1m max.
20 max.	2.0	2.0	2.0	2.0	3.5	5.5	8.0	2.0
30 〃	〃	〃	〃	3.5	5.5	〃	14.0	〃
40 〃	〃	〃	3.5	5.5	〃	8.0	〃	〃
50 〃	〃	〃	〃	〃	8.0	14.0	22.0	〃
60 〃	〃	〃	5.5	〃	〃	〃	〃	〃
70 〃	3.5	3.5	〃	8.0	14.0	〃	〃	3.5
80 〃	〃	〃	〃	〃	〃	22.0	30.0	〃
90 〃	〃	〃	〃	14.0	〃	〃	〃	〃
100 〃	〃	〃	8.0	〃	〃	〃	38.0	〃
110 〃	〃	〃	〃	〃	〃	〃	〃	〃
120 〃	〃	5.5	〃	〃	22.0	30.0	〃	〃

Caution of ground

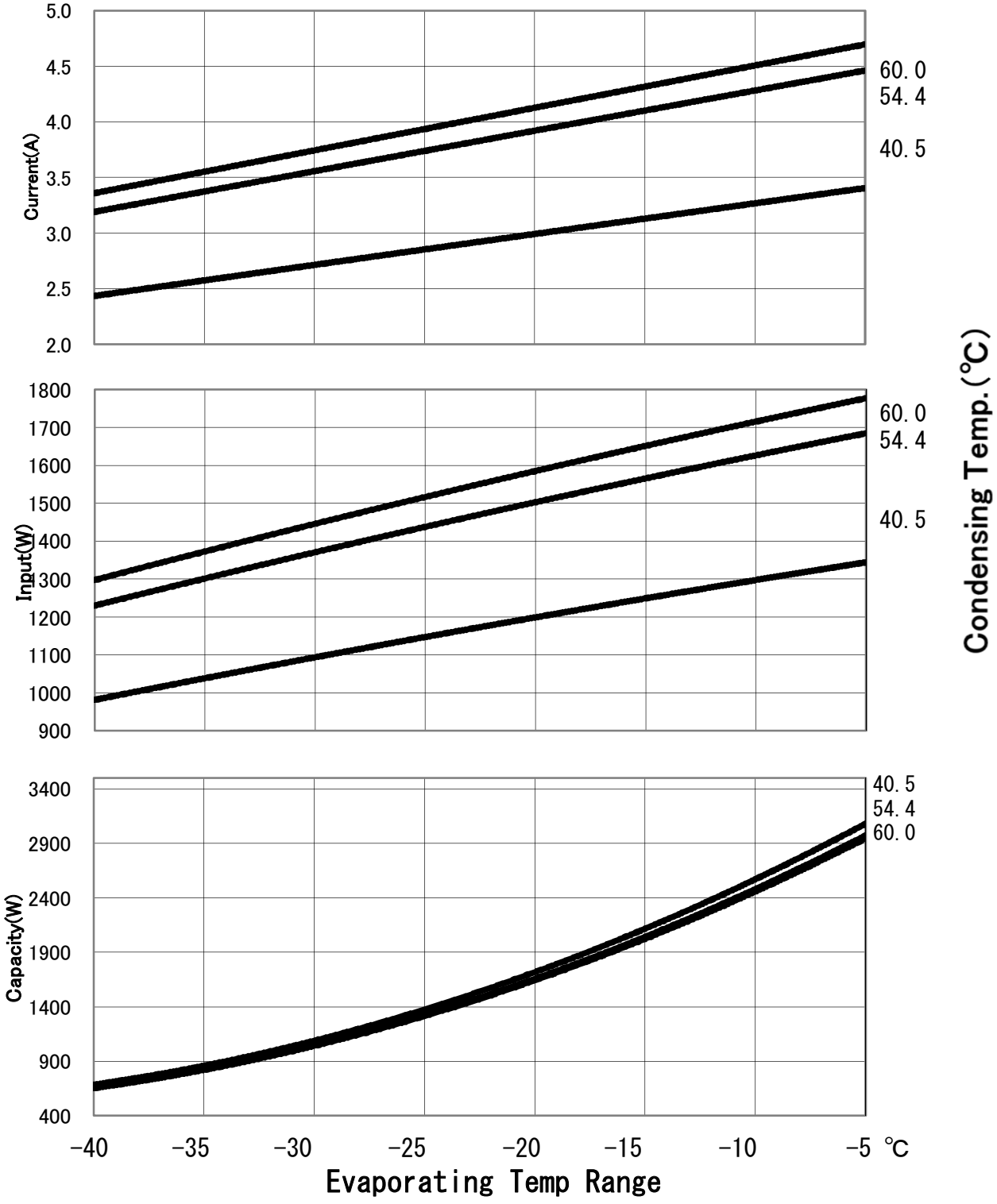
Sanyo compressor shall be used the motor Protector which Sanyo approved onl. This motor protector does not cover the protection against all. Due to the various casuses, the compressor's motor may occur to burn out. Therefore, please be sure that the production shll be designed with the ground and installed it in the field.

Operation Limitation of Model



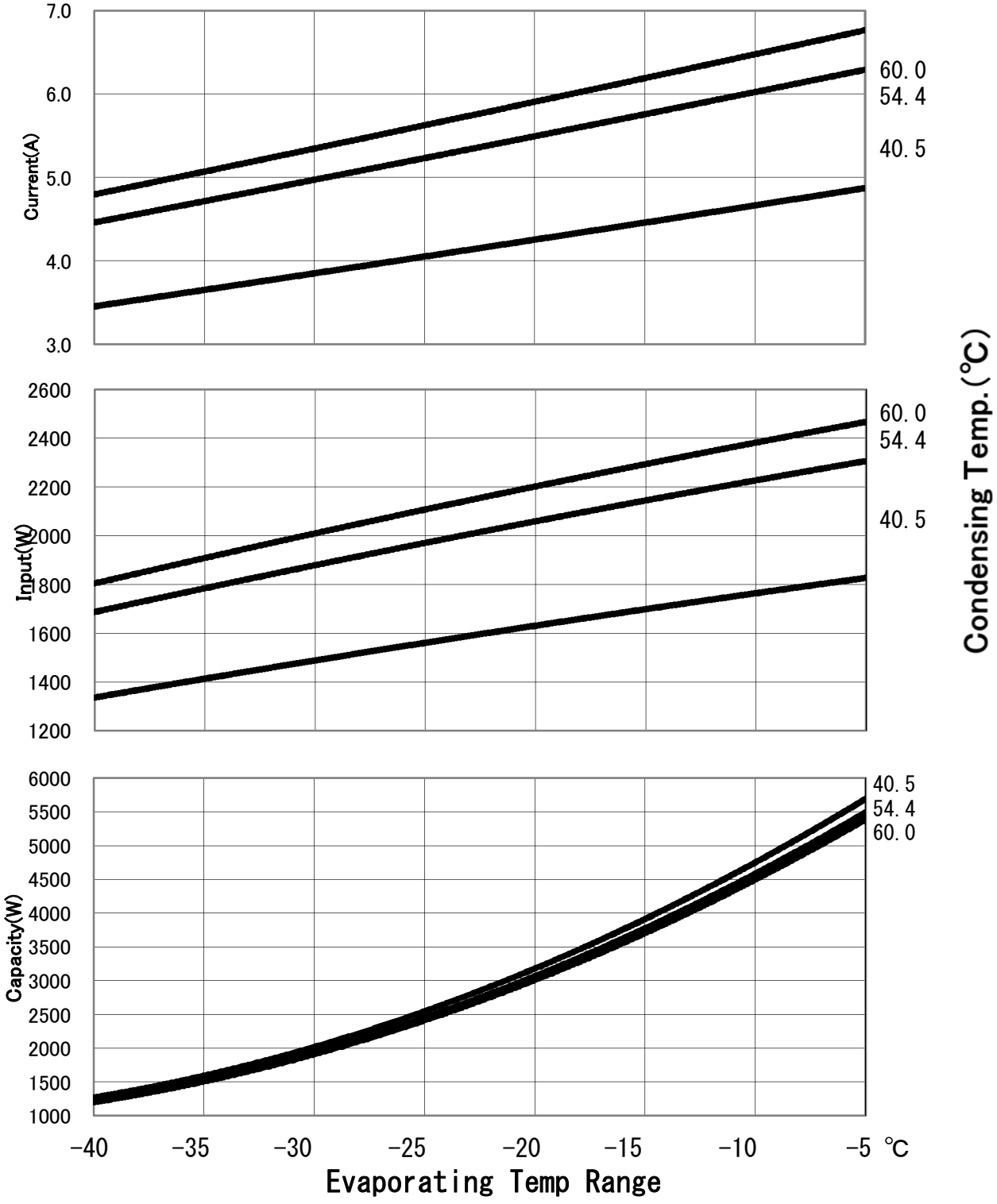
PERFORMANCE DATA

Compresser	808 515 60
Power Source	3-PH 50Hz 380v
	※Measured at primary values of inverter circuit.
Compressor Revolusion	$40s^{-1}$
Condensing Temp.	40.5 54.4 60.0
Suctino GAS TEMP.	18.3 18.3 18.3
Liquid TEMP.	32.2 32.2 32.2
Compressor Cooling	Liquid Injection
Refrigerant	R410A



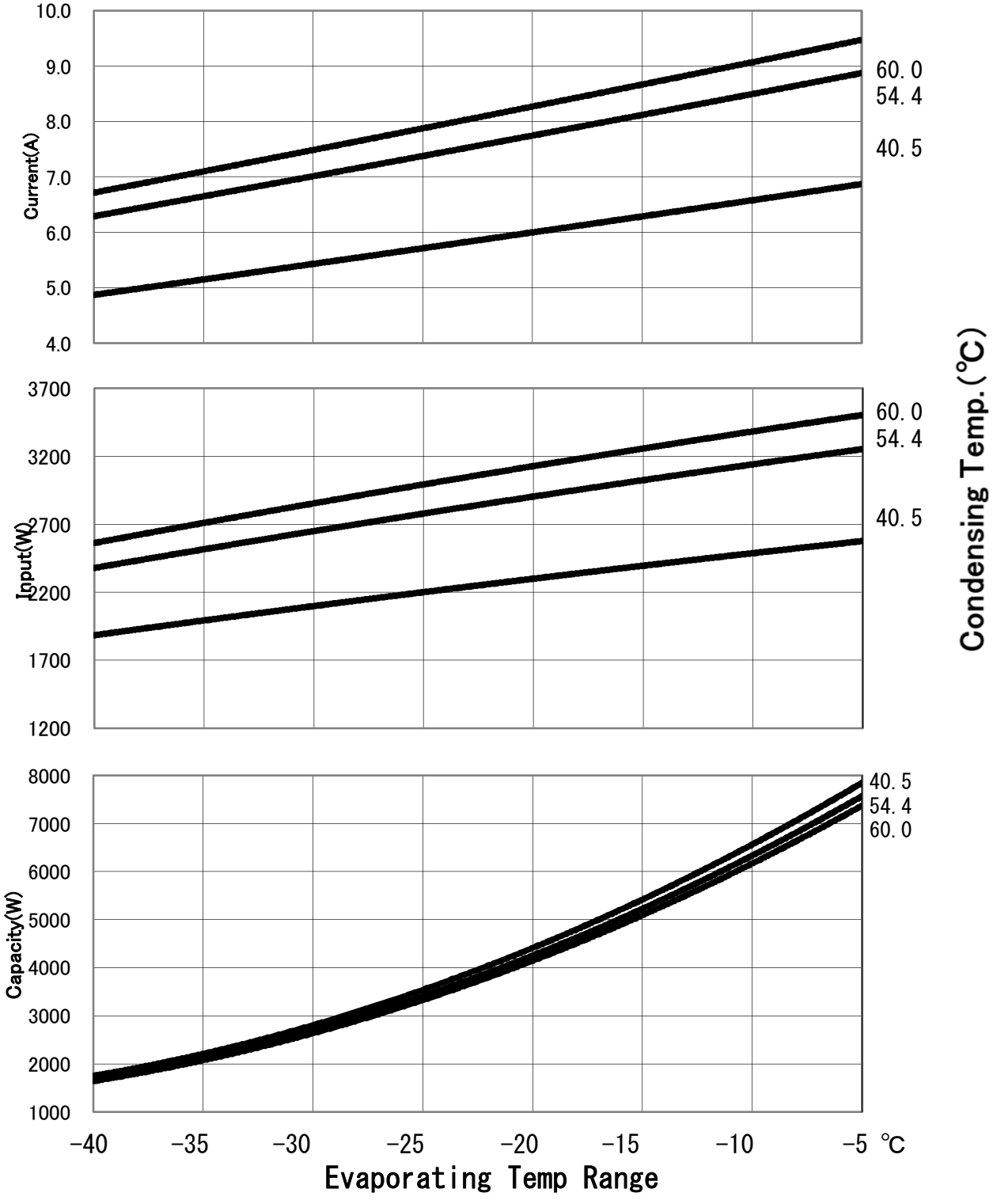
PERFORMANCE DATA

Compresser	808 515 60
Power Source	3-PH 50Hz 380v
	※Measured at primary values of inverter circuit.
Compressor Revolusion	$60s^{-1}$
Condensing Temp.	40.5 54.4 60.0
Suctino GAS TEMP.	18.3 18.3 18.3
Liquid TEMP.	32.2 32.2 32.2
Compressor Cooling	Liquid Injection
Refrigerant	R410A



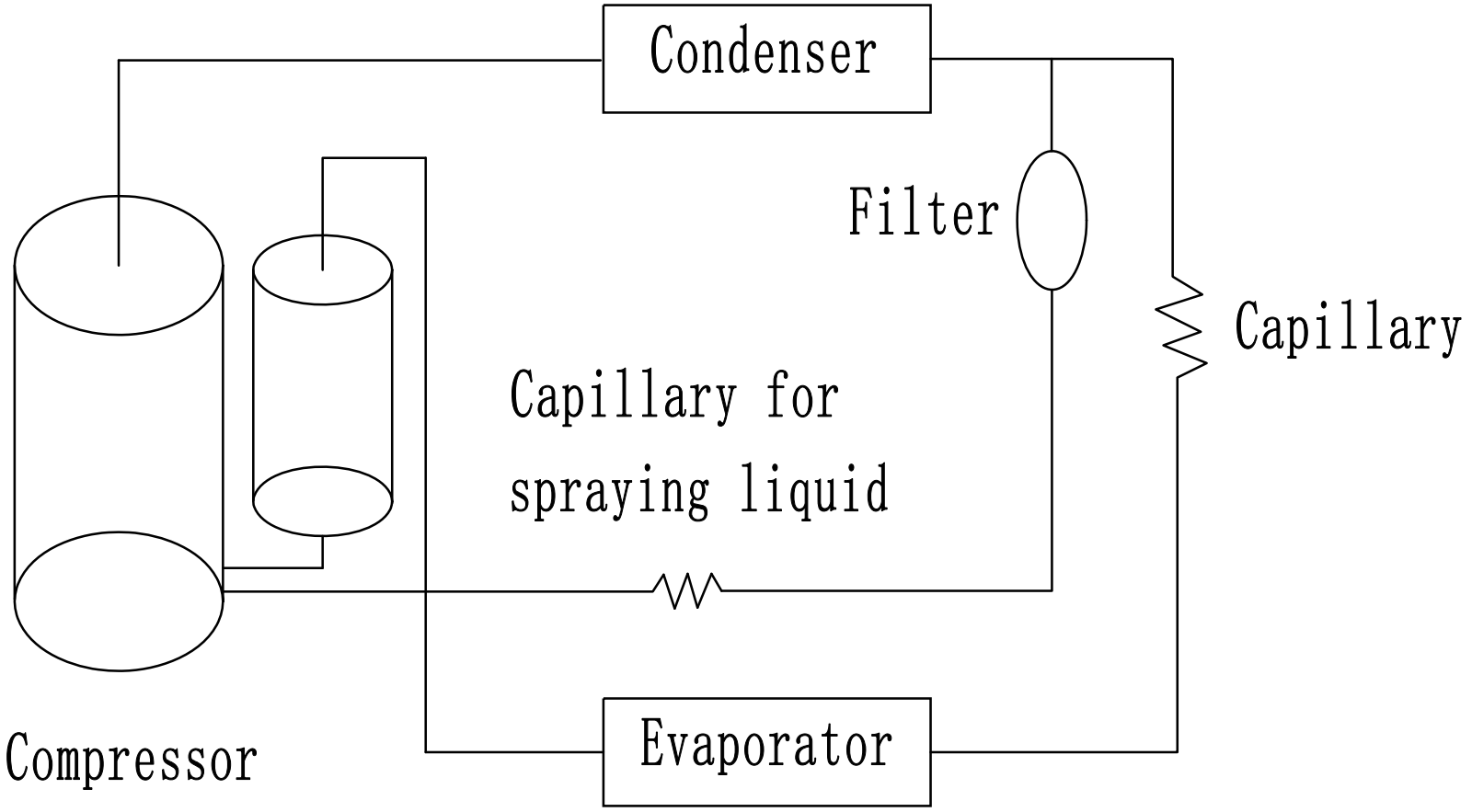
PERFORMANCE DATA

Compresser	808 515 60
Power Source	3-PH 50Hz 380v
	※Measured at primary values of inverter circuit.
Compressor Revolusion	$80s^{-1}$
Condensing Temp.	40.5 54.4 60.0
Suctino GAS TEMP.	18.3 18.3 18.3
Liquid TEMP.	32.2 32.2 32.2
Compressor Cooling	Liquid Injection
Refrigerant	R410A



C-7RVN113L0A Motor Parameter Sheet

No.	Item		Parameter
1	Compressor Model		C-7RVN113L0A (808 515 60)
2	Manufacturer		AVIC ELECTROMECHANICAL(SHENYANG) SANYO REFRIGERATION EQUIPMENT CO..LTD
3	Motor Pole	Poles	4
4	Winding Resistance (per-phase)	[Ω]	1.570
5	Inductance_Ld	Ld [mH]	10.47 / 10.44 / 10.44 I= 2.0 / 4.0 / 6.0A
6	Inductance_Lq	Lq [mH]	20.71 / 19.91 / 18.97 I= 2.0 / 4.0 / 6.0A
7	Voltage Constant	[Vrms/krpm]	65.3
8	Inertia	J [kg·m^2]	4.01E-04
9	Torque Constant	Kt [Nm/A]	0.9765
10	Max Rated Frequency	[rps]	90
11	Min Rated Frequency	[rps]	15
12	Demagnetizing Current	$A_{0\text{-}Peak}$	25 (110℃)
13	Magnet Material		NdFeB

Refrigeration System Schematic Diagram

(Li-in)