

Date: Jan 27 2014 Ref#: ASP040127X3033

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Subject: C-SDP205H02B Specification sheet

C-SDP205H02B Specification

Translations copy only, all data subject to Sanyo official specification.

1. General Specification

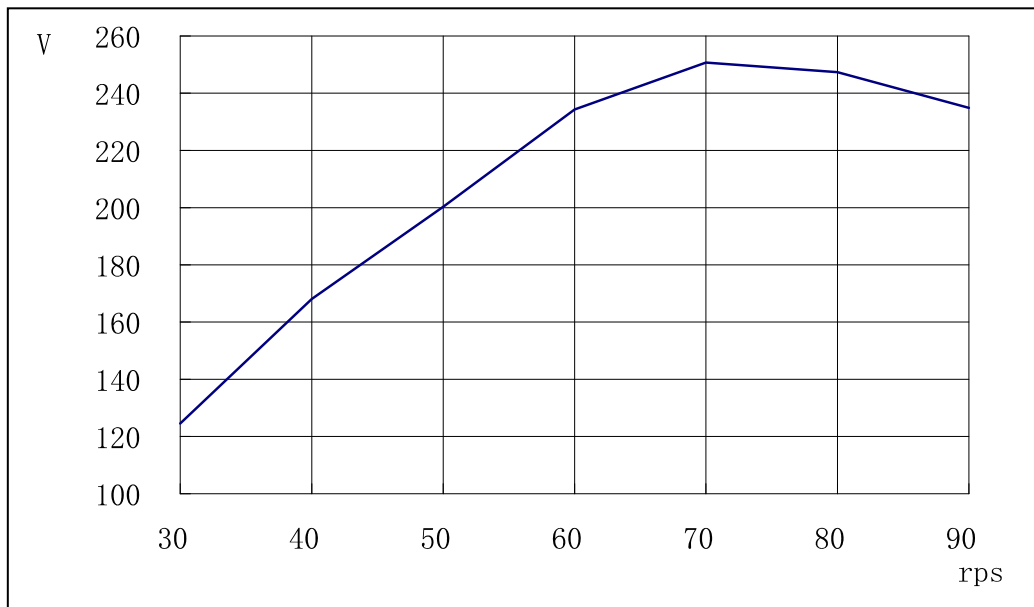
Item	Unit	Content/Specification	
Model Number	-	C- SDP205H02B	
Type	-	DC Inverter Scroll Compressor	
Application	-	HBP	
Eva. Temperature Range	°C	-15 ~ +12	
Compressor Cooling Type	-	Air Cool	
Power Source Type	-	DC Inverter	
Voltage Supply Type	V	Vector Control	
Working Range	Rps	30 ~ 90	
Inverter Input Power	V	380-415V, 3phase, 50/60Hz	
Weight(Include oil)	Kg	36	
Refrigerant	-	R410A	
Oil Type	-	FV68S	
Oil Feed	ml	2000	
Displacement	cm ³ /rev	42.3	
Motor	Type	-	3phase DC Inverter sync. motor
	Pole	-	4
	Insulation Level	-	E
	Rated speed(*1)	min ⁻¹	synchro-speed
	Starting current(*2)	A	-
	Coil resistance(25 °C)	Ω	U-V
U-W			0.552
V-W			0.552
Connection part(*3)	Suction pipe(O.D)	mm(in)	22.2(0.875)
	Discharge pipe(O.D)	mm(in)	12.7(0.5)
Surface	-	Black	
Remark:			
*1 : Rated running speed			
*2 : Starting current measure by COLD method			
*3 : Connection part pipe O.D			

Voltage-Frequency: vector characteristic curve

The vector frequency control voltage is based on common motor speed and torque regulation, and the state will be used in high-speed field weakening control, the change is more complex, using a voltage - speed curve or voltage - torque curve is difficult to articulate, so only ARI on the relationship between speed and voltage conditions to make the voltage - speed curve.

ARI condition		
Refrigerant	-	R410A
Condensing temp.	°C	54.4
Eva.temp.	°C	7.2
Suction superheat temp.	°C	11.1
Subcooling	°C	8.3
Compressor cool condition	-	Nature air

Voltage(V)	125	168	200	234	251	247	235
Rev. Speed(rps)	30	40	50	60	70	80	90
Torque(N.m)	-						



2. Characteristic Guarantee

2.1 Performance

Compressor input power (Inverter output power)	Hz	60	Remark
	V	235	
Cooling capacity	W	13500	+/- 7%
	Btu/h	46000	+/- 7%
Input Power(not include Inverter)	W	4300	+/- 7%
Current(Not include inverter)	A	10.90	+/- 7%

Test Condition

Refrigerant	-	R410A	/
Condensing temp.	°C	54.4	/
Eva.temp.	°C	7.2	/
Suction.Temp.	°C	18.3	
Expansion valve inlet temp.	°C	46.1	
Ambient.Temp.	°C	35.0	

2.2 Vibration and Noise

Vibration	um	65 Max.
Noise	dB(A)	66Max.
Remark:		
1. Running condition same as 2.1		
2. Microphone position: Compressor crosswise 1meter		
3. Noise value is average value		

2.3 Other Characteristic

Item	Unit	Guarantee Value
Design pressure	Low pressure part	Mpa(G)
	High pressure part	Mpa(G)
Insulation Resistance	MΩ	>100 (not include refrigerant)
Withstand voltage	V	2300(1sec)
Residual moisture	mg	<300
Remark:		
Insulation resistance use DC500V insulation resistance meter.		

3. Accessories

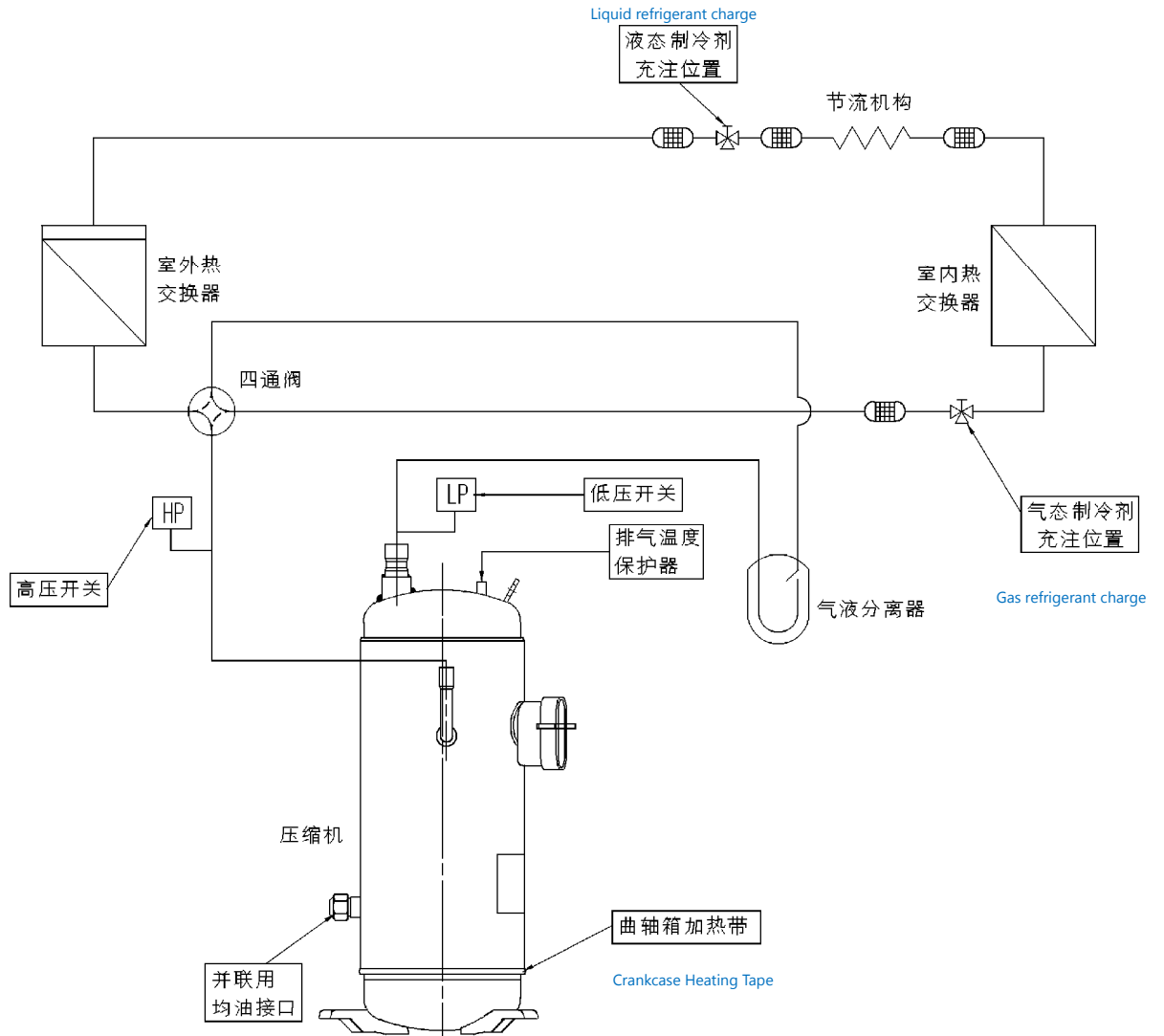
Subject to supplying of Sanyo Compressor

4. Compressor protection device

4.1 Necessary protection device (Does not include in compressor)

Protection Device	Item	Spec.
Crankcase Heating Tape	Rated power	35Watts
Discharge temperature protector	Installation position	The compressor cover blind copper tube
	OFF-temperature	115+/- 5°C
	Restore-temperature	95+/- 10°C
Hi-pressure switch	Setup value	<4.15MPa(G)
Lo-pressure switch	Setup value	>0.05MPa(G)

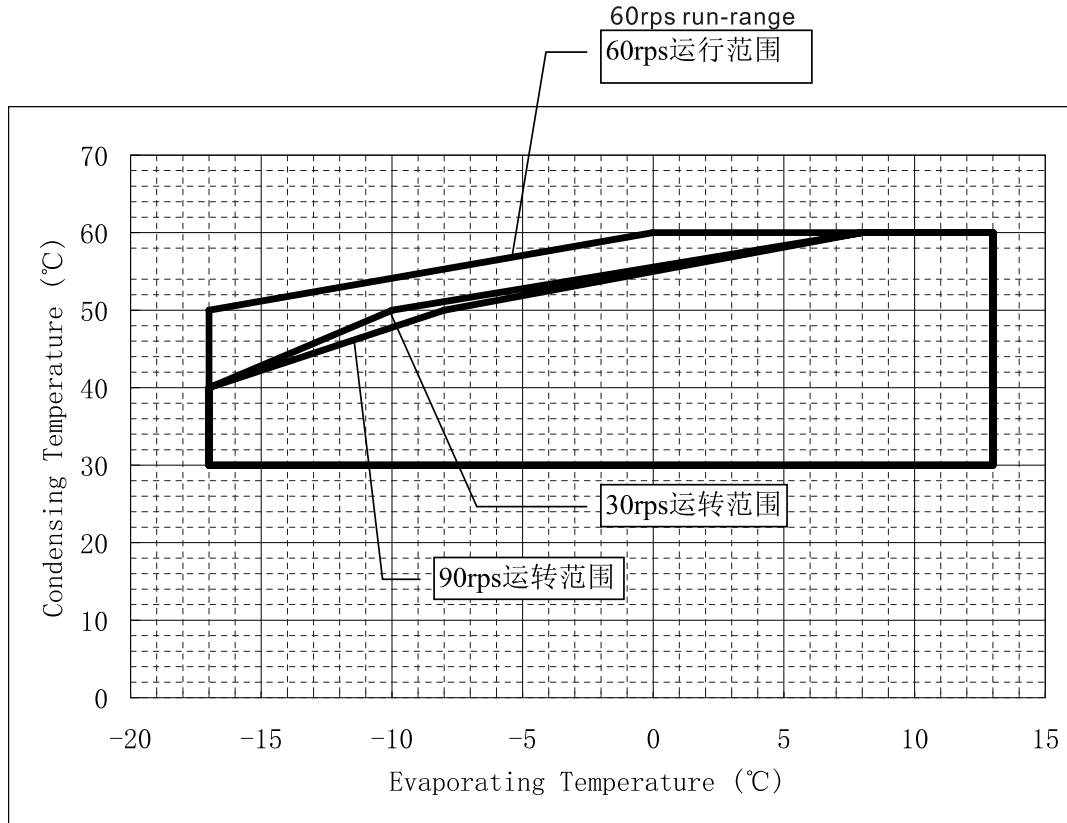
4.2 Protection device installation and refrigerant charge position



5. Working range

Suction superheat temperature: 11.1K

Refrigerant: R410A.



6. Compressor performance chart

6.1 压缩机性能曲线

电源类型:	3 ϕ 50/60Hz 380-415V
冷凝温度(°C)	54.4
蒸发温度(°C)	7.2
吸气过热(°C)	11.1
过冷度(°C)	8.3
压缩机冷却条件:	自然空冷
冷媒类型:	R410A
转速:	30rps

CAPACITY(W)

Condensing Temperature	Evaporating Temperature(°C)							
	-15	-10	-6.7	0	4.4	7.2	10	12
35.0	4,120	4,950	5,510	6,710	7,530	8,070	8,620	9,020
40.5	3,430	4,270	4,840	6,070	6,920	7,480	8,050	8,470
45.0	2,930	3,770	4,350	5,590	6,450	7,020	7,610	8,030
50.0	2,450	3,270	3,850	5,090	5,960	6,540	7,140	7,580
54.4		2,880	3,450	4,690	5,570	6,150	6,750	7,200
60.0			3,010	4,220	5,100	5,680	6,290	6,750

POWER(W)

Condensing Temperature	Evaporating Temperature(°C)							
	-15	-10	-6.7	0	4.4	7.2	10	12
35.0	1,300	1,270	1,250	1,240	1,250	1,260	1,270	1,280
40.5	1,540	1,500	1,480	1,450	1,450	1,450	1,450	1,460
45.0	1,800	1,740	1,710	1,670	1,650	1,640	1,640	1,640
50.0	2,150	2,080	2,030	1,950	1,920	1,900	1,880	1,870
54.4		2,420	2,360	2,250	2,180	2,150	2,120	2,100
60.0			2,840	2,670	2,580	2,520	2,460	2,430

CURRENT(A)

Condensing Temperature	Evaporating Temperature(°C)							
	-15	-10	-6.7	0	4.4	7.2	10	12
35.0	6.5	6.3	6.2	6.2	6.2	6.2	6.3	6.3
40.5	7.6	7.4	7.3	7.2	7.1	7.1	7.2	7.2
45.0	8.8	8.6	8.4	8.2	8.1	8.0	8.0	8.0
50.0	10.5	10.1	9.9	9.5	9.3	9.2	9.1	9.1
54.4		11.7	11.4	10.9	10.6	10.4	10.2	10.2
60.0			13.6	12.8	12.4	12.1	11.8	11.7

NOTE:

* The performance values subject to change without notice.

6.2 压缩机性能曲线

电源类型:	3 φ 50/60Hz 380-415V
冷凝温度(°C)	54.4
蒸发温度(°C)	7.2
吸气过热(°C)	11.1
过冷度(°C)	8.3
压缩机冷却条件:	自然空冷
冷媒类型:	R410A
转速:	60rps

CAPACITY(W)

Condensing Temperature	Evaporating Temperature(°C)							
	-15	-10	-6.7	0	4.4	7.2	10	12
35.0	8,640	10,150	11,270	13,860	15,790	17,110	18,510	19,550
40.5	7,440	9,020	10,180	12,790	14,710	16,010	17,380	18,390
45.0	6,560	8,180	9,350	11,970	13,870	15,150	16,490	17,490
50.0	5,690	7,330	8,510	11,120	12,990	14,250	15,560	16,530
54.4		6,650	7,820	10,410	12,260	13,500	14,790	15,740
60.0			7,040	9,580	11,390	12,600	13,860	14,780

POWER(W)

Condensing Temperature	Evaporating Temperature(°C)							
	-15	-10	-6.7	0	4.4	7.2	10	12
35.0	2,690	2,710	2,720	2,750	2,760	2,760	2,770	2,770
40.5	2,990	3,020	3,040	3,070	3,080	3,090	3,100	3,100
45.0	3,280	3,320	3,340	3,370	3,390	3,400	3,400	3,410
50.0	3,630	3,680	3,700	3,750	3,770	3,780	3,790	3,790
54.4		4,030	4,060	4,110	4,140	4,150	4,160	4,160
60.0			4,560	4,630	4,660	4,670	4,680	4,690

CURRENT @380V

Condensing Temperature	Evaporating Temperature(°C)							
	-15	-10	-6.7	0	4.4	7.2	10	12
35.0	7.7	7.8	7.8	7.8	7.8	7.8	7.8	7.9
40.5	8.4	8.4	8.5	8.5	8.5	8.5	8.6	8.6
45.0	9.0	9.0	9.1	9.1	9.2	9.2	9.2	9.2
50.0	9.7	9.8	9.8	9.9	9.9	10.0	10.0	10.0
54.4		10.4	10.5	10.6	10.7	10.7	10.7	10.7
60.0			11.5	11.6	11.7	11.7	11.7	11.7

NOTE:

* The performance values subject to change without notice.

6.3 压缩机性能曲线

电源类型:	3 φ 50/60Hz 380-415V
冷凝温度(°C)	54.4
蒸发温度(°C)	7.2
吸气过热(°C)	11.1
过冷度(°C)	8.3
压缩机冷却条件:	自然空冷
冷媒类型:	R410A
转速:	90rps

CAPACITY(W)

Condensing Temperature	Evaporating Temperature(°C)							
	-15	-10	-6.7	0	4.4	7.2	10	12
35.0	13,220	15,560	17,320	21,400	24,470	26,580	28,810	30,480
40.5	11,630	14,000	15,770	19,840	22,860	24,920	27,100	28,730
45.0	10,440	12,830	14,600	18,630	21,610	23,640	25,770	27,360
50.0	9,240	11,630	13,380	17,370	20,290	22,280	24,370	25,920
54.4		10,670	12,400	16,320	19,200	21,150	23,200	24,720
60.0			11,260	15,090	17,890	19,790	21,790	23,270

POWER(W)

Condensing Temperature	Evaporating Temperature(°C)							
	-15	-10	-6.7	0	4.4	7.2	10	12
35.0	3,980	4,080	4,140	4,290	4,380	4,450	4,510	4,560
40.5	4,700	4,750	4,780	4,870	4,930	4,980	5,030	5,070
45.0	5,470	5,430	5,420	5,430	5,450	5,480	5,510	5,540
50.0	6,520	6,350	6,260	6,140	6,100	6,100	6,110	6,120
54.4		7,280	7,110	6,840	6,740	6,700	6,680	6,690
60.0			8,330	7,840	7,630	7,550	7,490	7,480

CURRENT(A)

Condensing Temperature	Evaporating Temperature(°C)							
	-15	-10	-6.7	0	4.4	7.2	10	12
35.0	11.4	11.5	11.6	11.9	12.1	12.2	12.4	12.5
40.5	12.8	12.9	13.0	13.2	13.3	13.4	13.6	13.7
45.0	14.1	14.2	14.2	14.4	14.5	14.6	14.6	14.7
50.0	15.7	15.8	15.8	15.9	15.9	15.9	15.9	15.9
54.4		17.3	17.3	17.3	17.2	17.2	17.2	17.1
60.0			19.5	19.3	19.1	19.0	18.9	18.8

NOTE:

* The performance values subject to change without notice.

7. Standard recommended practice (Standard). Use Limitation(Limitation).

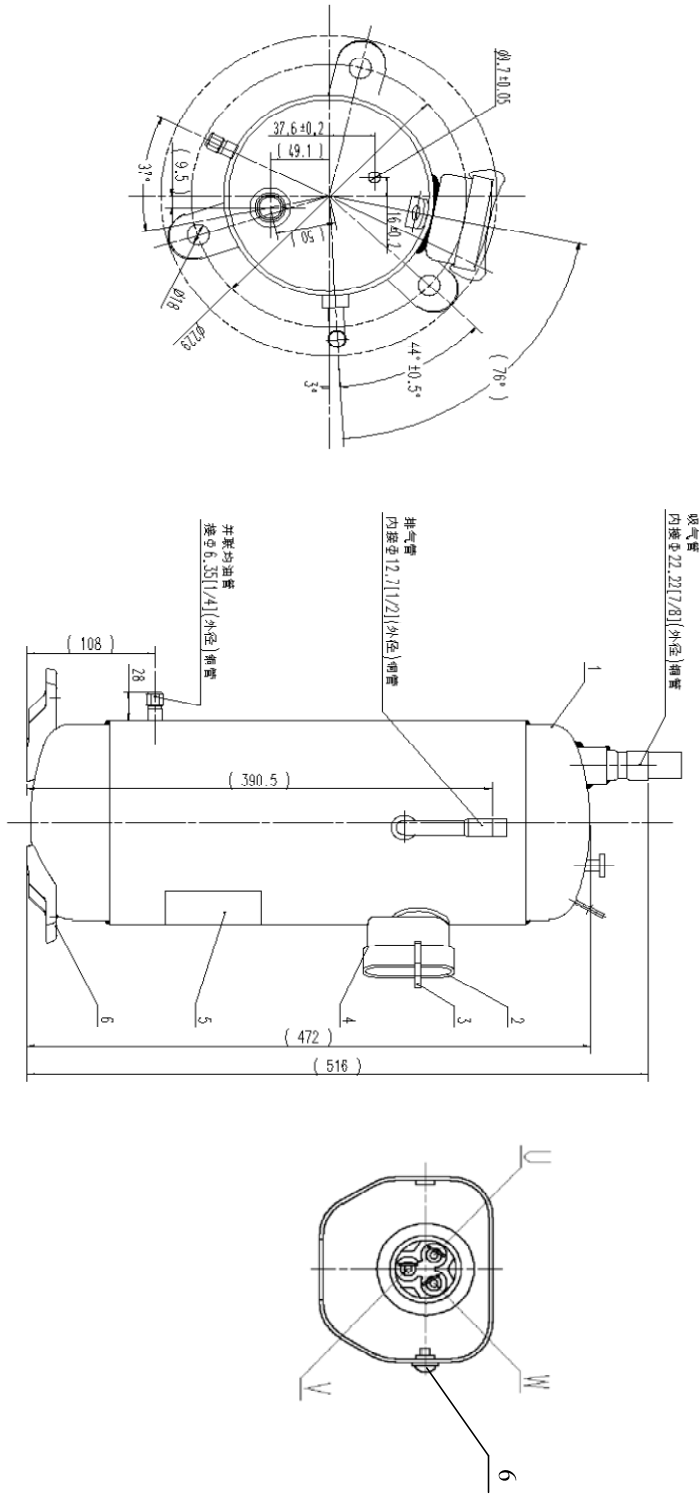
For correct use this vertical scroll compressor, list below standard recommended practice and use limitation:

Standard recommended practice: as normal use condition, refer to Japan JIS B8616.

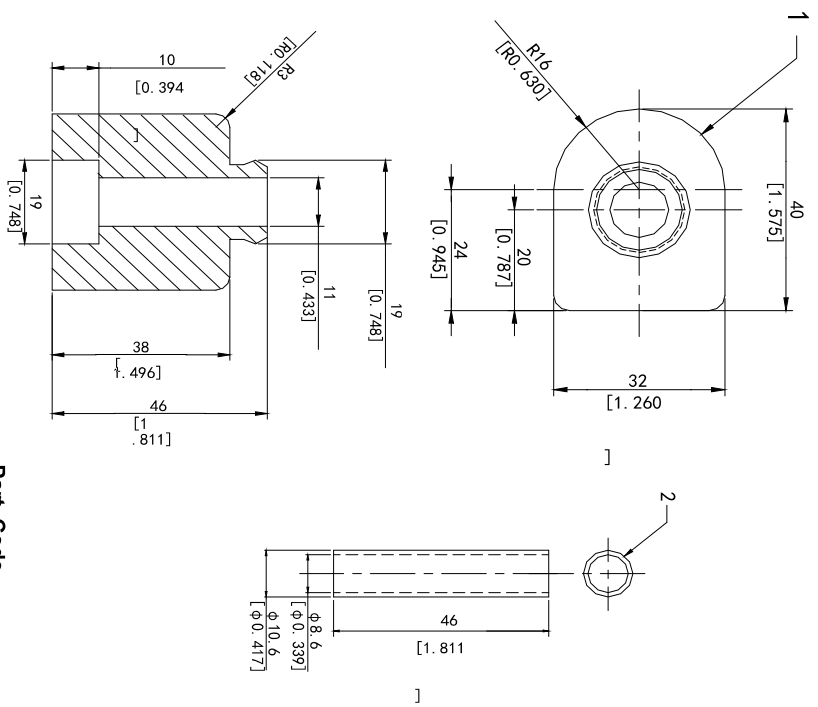
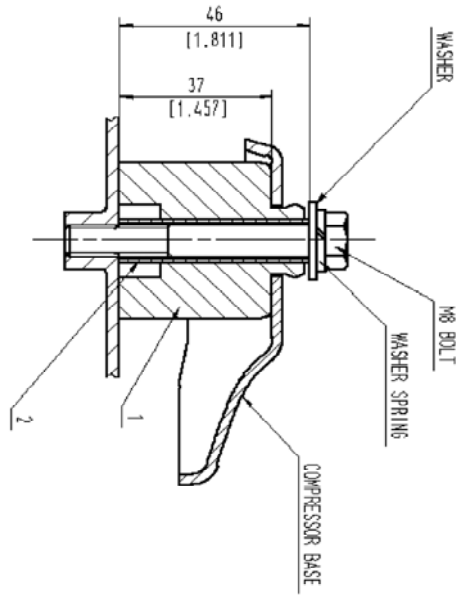
Use limitation: suitable for under the condition of transition

No.	Item	Use value (range)	Remark
1	Refrigerant	R410A	
2	Evaporation Temperature	-15 ~ + 12°C 0.38 ~ 1.05MPa (G)	Compressor suction pressure
3	Condensing temp.	+30 ~+60°C 1.78~3.75MPa(G)	Compressor discharge pressure
4	Compression ratio	2 ~ 6 (except starting, defrosting..etc)	
5	Motor Coil temperature	Under(<) 120 °C	
6	Compressor body bottom temperature	Under(<) 105 °C Condensing temperature(>) + 0.5K	
7	Discharge temperature	Under(<) 115 °C	Position of compressor discharge pipe 10cm
8	Suction temperature	Suction overheat > 5K	Suction pipe temperature of position of compressor inlet side less than 30cm
9	Inverter input voltage (on running)	Rated voltage +/- 20%	Inverter output voltage on running
10	Inverter input voltage (on starting)	3phase : more than 85% of rated voltage	Voltage of inverter of starting current rise and voltage drop
11	Start-stop cycle	Running time: ensure there is enough time for oil return back to indicated oil level. Stop time: Ensure high-low pressure balance	1 cycle: > 8 minutes Stop: > 3minutes Run: >5minutes
12	Refrigerant charge	Suggested oil/refrigerant weight ratio>0.35	Oil specific gravity 0.94
13	Start-stop frequency	200,000 cycles	
14	Oil level inside of compressor	Not less compressor under end face of lower bearing	
15	Unusual pressure rise/drop	Pressure rise: <4.15MPa(G) Pressure drop: >0.15MPa(G)	High-pressure switch set value Low-pressure switch set value
16	Moisture	Refrigeration circuit moisture <200ppm	Dryer (ref. Sanyo D-S type)
17	Non-condensable gas	non-condensable gas in refrigeration circuit <1% (volume ratio), residual oxygen <0.1% (volume ratio)	Vacuum 24hours absolute pressure <1.01kPa
18	Angle of inclination	5degree max.	

No.	Part Code	Qty	Name
1	C-SDP205H02B	1	Compressor
2	A-0101-DSB	1	Terminal Box Cover
3	A-0201-DSB	1	Terminal Box Clip
4	A-0301-DSB	1	Insulating Grommet
5	A-5102-DSB	1	Nameplate
6	B-0101-DSB	1	Screw Special

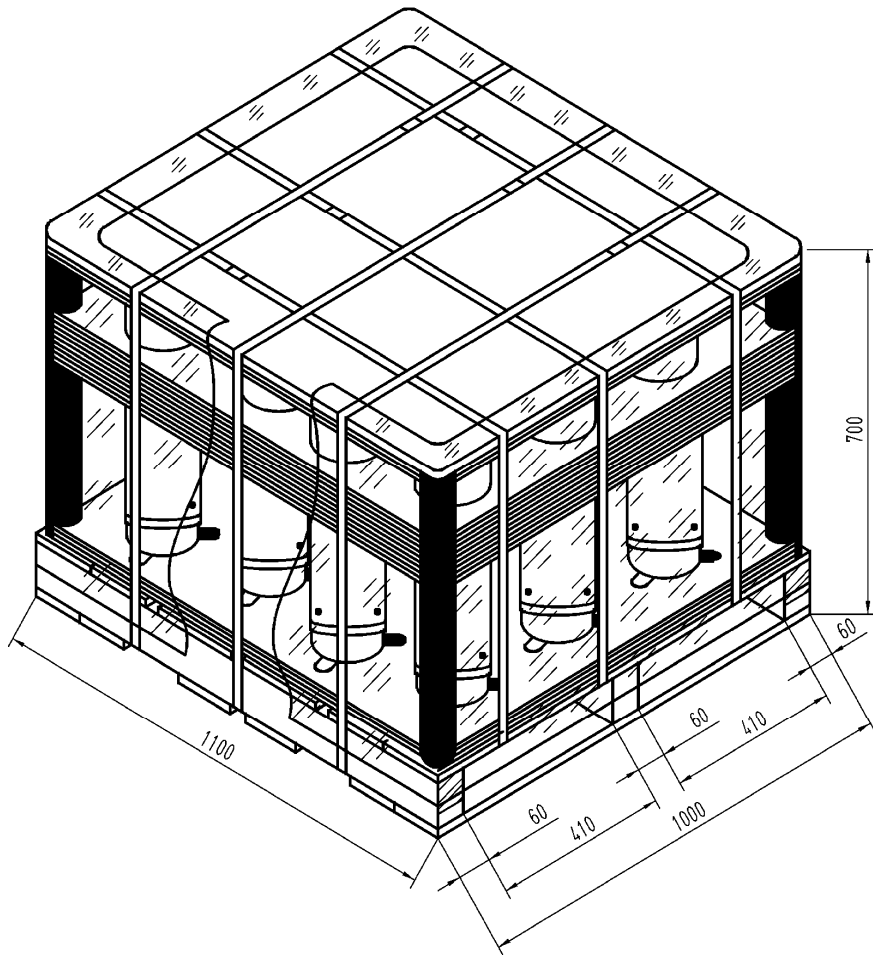


Part Code
D-0108-DSB
Name
Compressor Outline Drawing



No.	Part	QTY	Name
1	M-0101-DSB	4	Grommet
2	M-0201-DSB	4	Mounting Sleeve
3	B-0101-DSB	1	Screw Special

Part Code
M-5101-DSB
Name
Mounting Parts List



Part Code
D-0201-DSB
Name
Packing Dimensions