SPECIFICATIONS OF COMPRESSOR

Model No: 7CE058LA01/04

Output : 3HP

Sonyo Compressor (Dalian) Co., Ltd.

23-Jan-25

GENERAL SPECIFICATIONS

Model No:		7CE058LA01/04	
Application			
Evaporating Temp Range	(℃)	-30 ～40	
Refrigerant		R290	
Compressor Cooling		Natural Cooling	
Rated Performance			
Capacity	(W)	9000	10900
Input	(W)	2810	3400
Current	(A)	5.3	5.3
Revolution	(min^{-1})	-	-
Sound Level	(dB(A))	64	68
Rating Conditions			
Power Source		3-PH 380V 50Hz	3-PH 440V 60Hz
Evaporating Temp	(℃)	7	
Condensing Temp	(℃)	54.5	
Suction Gas Temp	(℃)	18.5	
Liquid Temp	(℃)	46	
Ambient Temp	(℃)	35.0	
Measuring Point of Sound Level			
Distance from the Compressor	(m)	1.0	
Compressor			
Design		Hermetic Scroll	
Displacement	(cm3)	58.5	
Suction Line Connection	(Φmm 0D)	22.22	
Discharge Line Connection	(Φmm 0D)	12.7	
Oil	(ml)	1700 (PZ68S)	
Mass(Incl.Oil)	(kg)	31.5	
Motor			
Type		3-PH Induction Motor(3IR)	
Pole		2	
Rated Power Source		3-PH 50Hz 380-415V 3-PH 60Hz 440-460V	
Voltage Range	(V)	342～456/396～506	
Starting Current	(A)		

Sonyo Compressor (Dalian) Co., Ltd.

PERFORMANCE DATA

Compressor Model	**7CE058LA01/04**
Power Source	**3PH 50Hz 380-415V**
Suction Gas Superheat(K)	**11.5**
Sub Cooling(K)	**8.5**
Compressor Cooling	**Natural Cooling**
Refrigerant	**R290**

CAPACITY(W)

Condensing	Evaporating Temperature(℃)							
Temperature(℃)	-30	-20	-10	0	7	20	30	40
30.0	2,590	4,130	6,430	9,490	12,090	17,910	23,270	29,390
40.0		3,700	5,640	8,370	10,740	16,150	21,210	27,050
50.0		3,320	4,940	7,350	9,510	14,540	19,310	24,880
54.5			4,650	6,930	9,000	13,860	18,510	23,950
60.0			4,320	6,450	8,410	13,080	17,580	22,870
65.0				6,040	7,910	12,410	16,770	21,920
70.0				5,660	7,440	11,770	16,000	21,020
80.0					6,600	10,610	14,590	19,340

POWER(W)

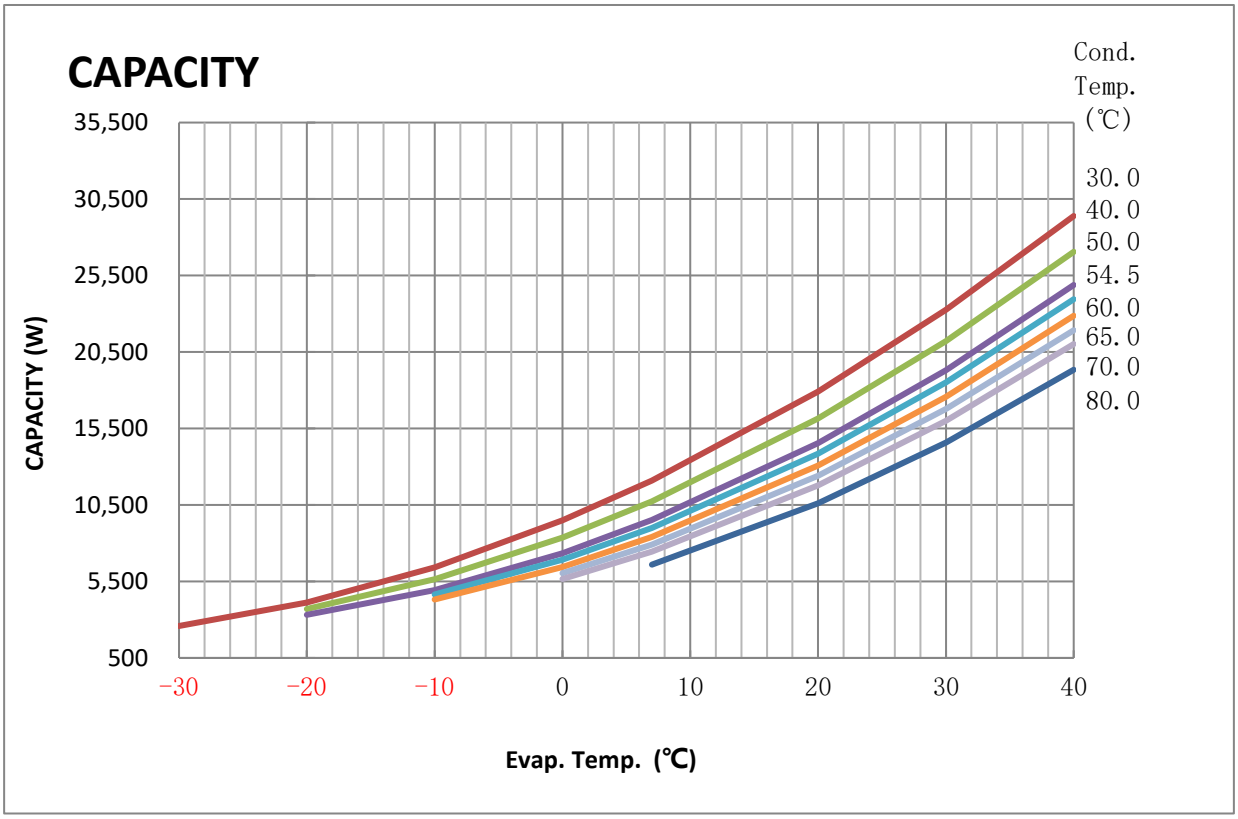
Condensing								
Temperature(℃)	-30	-20	-10	0	7	20	30	40
30.0	1,810	1,800	1,790	1,780	1,770	1,750	1,740	1,730
40.0		2,150	2,130	2,120	2,110	2,090	2,070	2,060
50.0		2,610	2,600	2,580	2,560	2,540	2,520	2,500
54.5			2,840	2,820	2,810	2,780	2,760	2,740
60.0			3,180	3,160	3,140	3,110	3,090	3,070
65.0				3,500	3,480	3,450	3,420	3,390
70.0				3,860	3,840	3,810	3,780	3,750
80.0					4,660	4,620	4,580	4,550

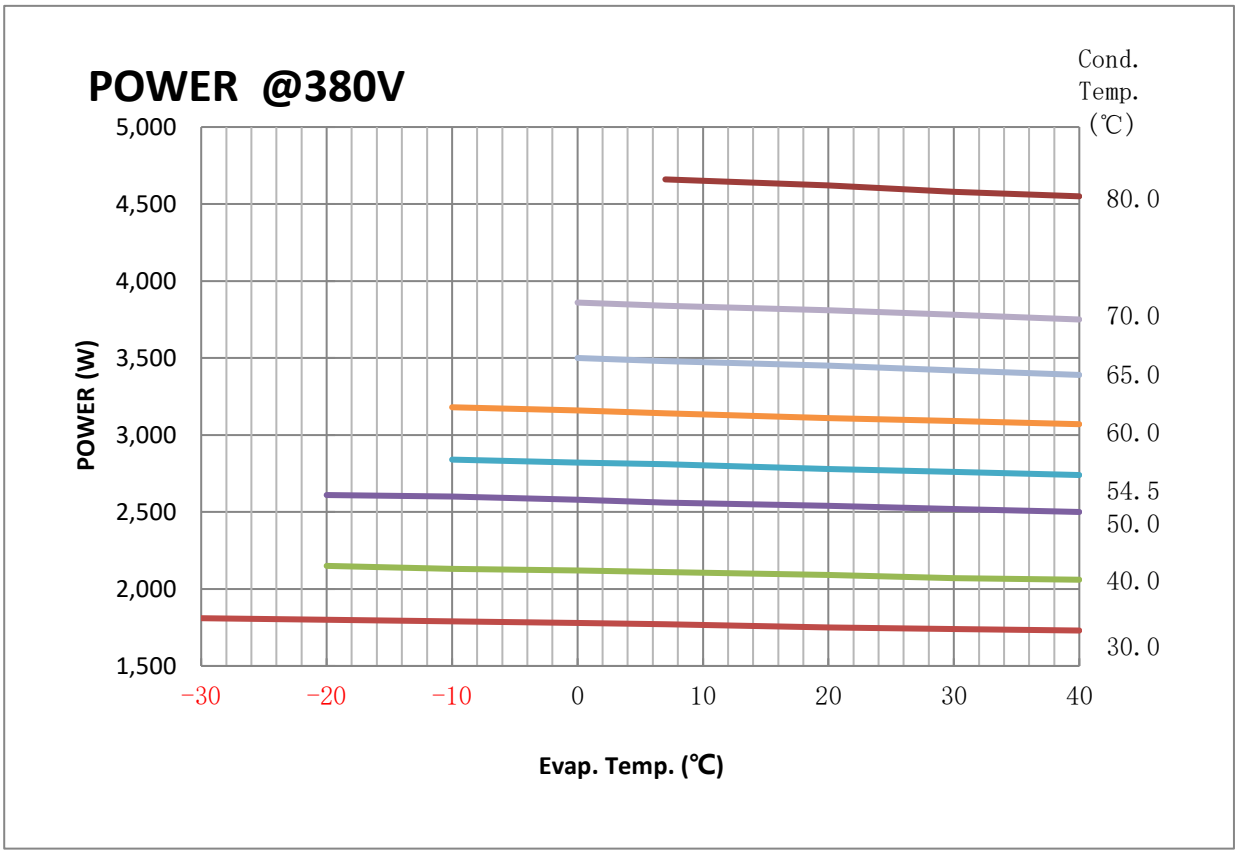
CURRENT(A)

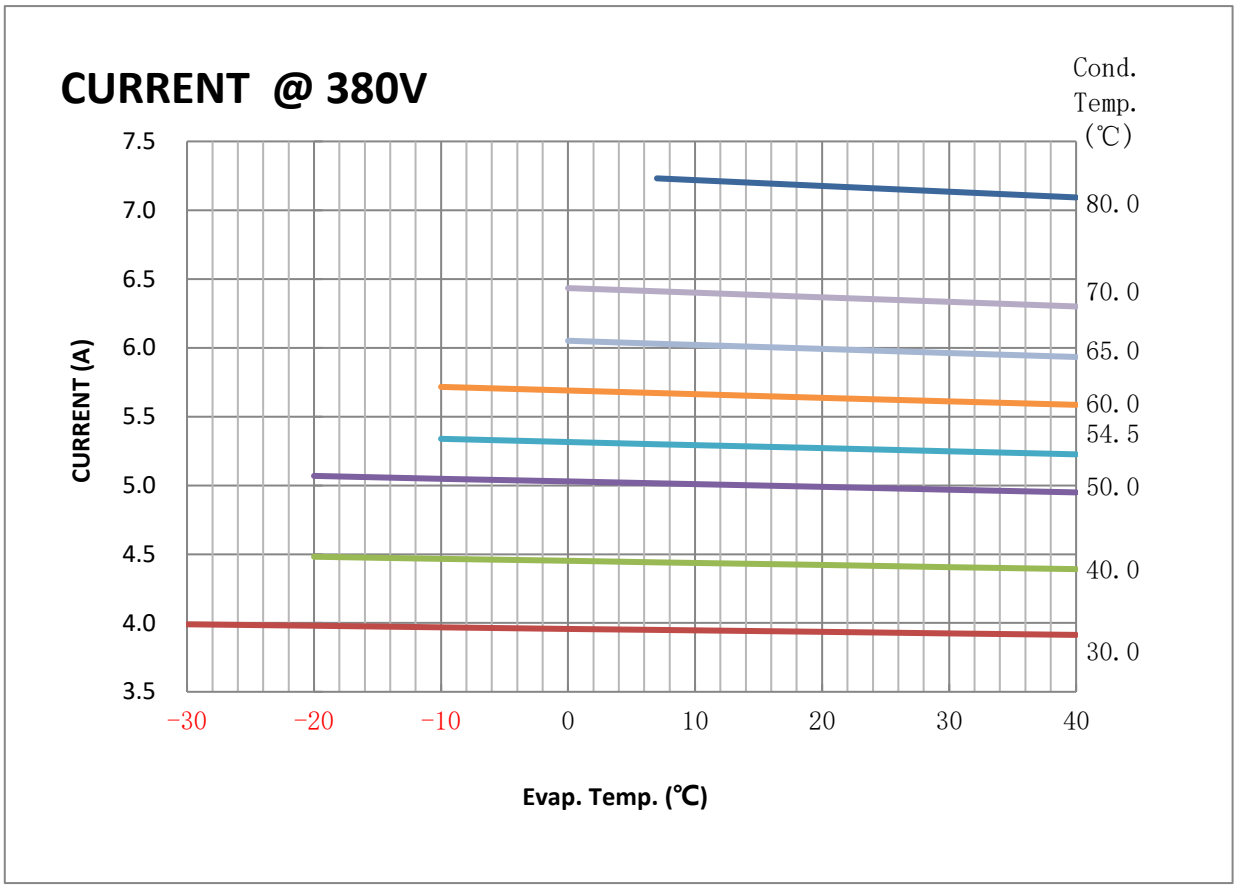
Condensing								
Temperature(℃)	-30	-20	-10	0	7	20	30	40
30.0	4.0	4.0	4.0	4.0	3.9	3.9	3.9	3.9
40.0		4.5	4.5	4.5	4.4	4.4	4.4	4.4
50.0		5.1	5.0	5.0	5.0	5.0	5.0	4.9
54.5			5.3	5.3	5.3	5.3	5.2	5.2
60.0			5.7	5.7	5.7	5.6	5.6	5.6
65.0				6.1	6.0	6.0	6.0	5.9
70.0				6.4	6.4	6.4	6.3	6.3
80.0					7.2	7.2	7.1	7.1

REFRIG FLOW(kg/h)

Condensing								
Temperature(℃)	-30	-20	-10	0	7	20	30	40
30.0	31.9	48.0	70.4	99.0	122.8	175.1	222.4	276.1
40.0		47.2	68.7	97.0	120.8	174.0	222.7	278.2
50.0		46.3	66.9	94.9	118.9	172.9	223.0	280.4
54.5			66.2	94.0	118.0	172.5	223.1	281.4
60.0			65.2	92.9	116.9	171.9	223.3	282.6
65.0				91.9	116.0	171.4	223.4	283.7
70.0				90.9	115.1	170.9	223.6	284.7
80.0					113	170	224	287


CAPACITY
Cond. Temp. (℃)
30.0
40.0
50.0
54.5
60.0
65.0
70.0
80.0
CAPACITY (W)
35,500
30,500
25,500
20,500
15,500
10,500
5,500
500
-30
-20
-10
0
10
20
30
40
Evap. Temp. (℃)


POWER @380V
Cond. Temp. (℃)
80.0
70.0
65.0
60.0
54.5
50.0
40.0
30.0
POWER (W)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
-30
-20
-10
0
10
20
30
40
Evap. Temp. (℃)



COEFFICIENTS OF PERFORMANCE CURVES

Compressor Model	**7CE058LA01/04**
Power Source	**3PH 50Hz 380-415V**
Suction Gas Superheat (K)	**11.5**
Sub Cooling (K)	**8.5**
Compressor Cooling	**Natural Cooling**
Refrigerant	**R290**

X=C1+C2*(S)+C3*D+C4*(S2)+C5*(S*D)+C6*(D2)+C7*(S3)+C8*(D*S2)+C9*(S*D2) +C10*(D3)
X——CAPACITY(W) OR POWER(W) OR CURRENT(A) OR FLOW(kg/h)
S——EVAPORATING TEMP, °C
D——CONDENSING TEMP, °C

380V-50Hz	CAPACITY (W)	POWER (W)	CURRENT (A)	FLOW (kg/h)
1	1.337776E+04	1.497617E+03	2.975845E+00	1.053959E+02
2	4.605317E+02	-4.502977E-01	-6.043005E-04	3.192154E+00
3	-1.445451E+02	-8.919060E+00	2.020660E-02	-2.159867E-01
4	3.765056E+00	-8.254544E-03	-3.541769E-07	2.303349E-02
5	-4.258470E+00	-1.649872E-02	3.141527E-07	-5.351343E-04
6	4.862136E-01	6.100532E-01	4.170491E-04	1.264208E-04
7	-3.797359E-04	2.001998E-05	1.668199E-09	-7.276390E-07
8	2.804957E-03	1.549432E-04	1.647166E-08	2.750264E-04
9	1.326819E-02	-2.470915E-04	-5.679169E-07	1.463681E-07
10	3.187657E-09	7.437739E-09	2.160360E-14	1.380648E-10

PERFORMANCE DATA

Compressor Model	**7CE058LA01/04**
Power Source	**3PH 60Hz 440-460V**
Suction Gas Superheat(K)	**11.5**
Sub Cooling(K)	**8.5**
Compressor Cooling	**Natural Cooling**
Refrigerant	**R290**

CAPACITY(W)

Condensing	Evaporating Temperature(℃)							
Temperature(℃)	-30	-20	-10	0	7	20	30	40
30.0	3,140	5,000	7,780	11,490	14,640	21,690	28,180	35,590
40.0		4,480	6,840	10,130	13,000	19,560	25,690	32,760
50.0		4,020	5,990	8,910	11,520	17,610	23,390	30,130
54.5			5,630	8,400	10,900	16,790	22,420	29,010
60.0			5,230	7,810	10,190	15,840	21,290	27,690
65.0				7,320	9,580	15,030	20,310	26,550
70.0				6,850	9,010	14,260	19,380	25,460
80.0					7,990	12,850	17,670	23,420

POWER(W)

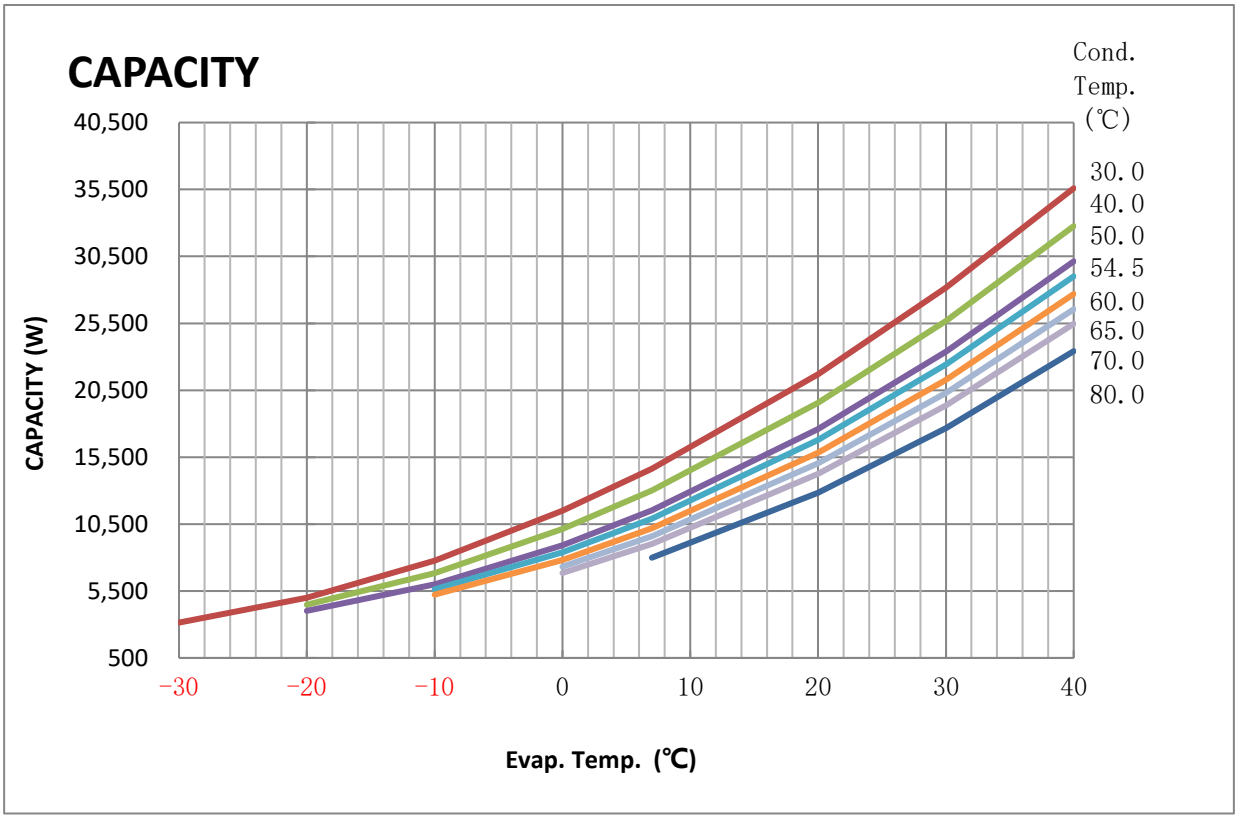
Condensing								
Temperature(℃)	-30	-20	-10	0	7	20	30	40
30.0	2,190	2,180	2,160	2,150	2,140	2,120	2,110	2,090
40.0		2,600	2,580	2,560	2,550	2,530	2,510	2,490
50.0		3,160	3,140	3,120	3,100	3,070	3,050	3,030
54.5			3,440	3,420	3,400	3,370	3,340	3,320
60.0			3,850	3,820	3,800	3,770	3,740	3,710
65.0				4,230	4,210	4,170	4,140	4,110
70.0				4,670	4,650	4,610	4,570	4,540
80.0					5,640	5,590	5,540	5,500

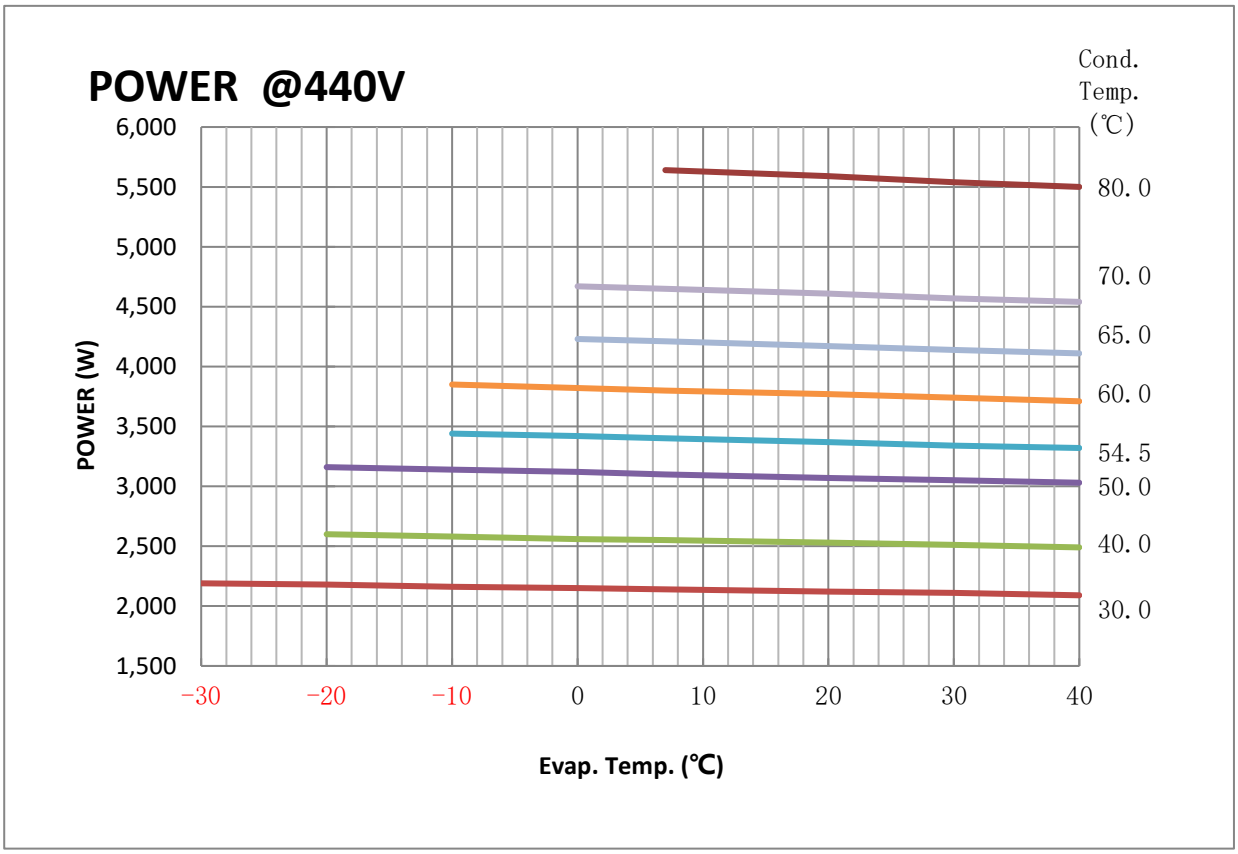
CURRENT(A)

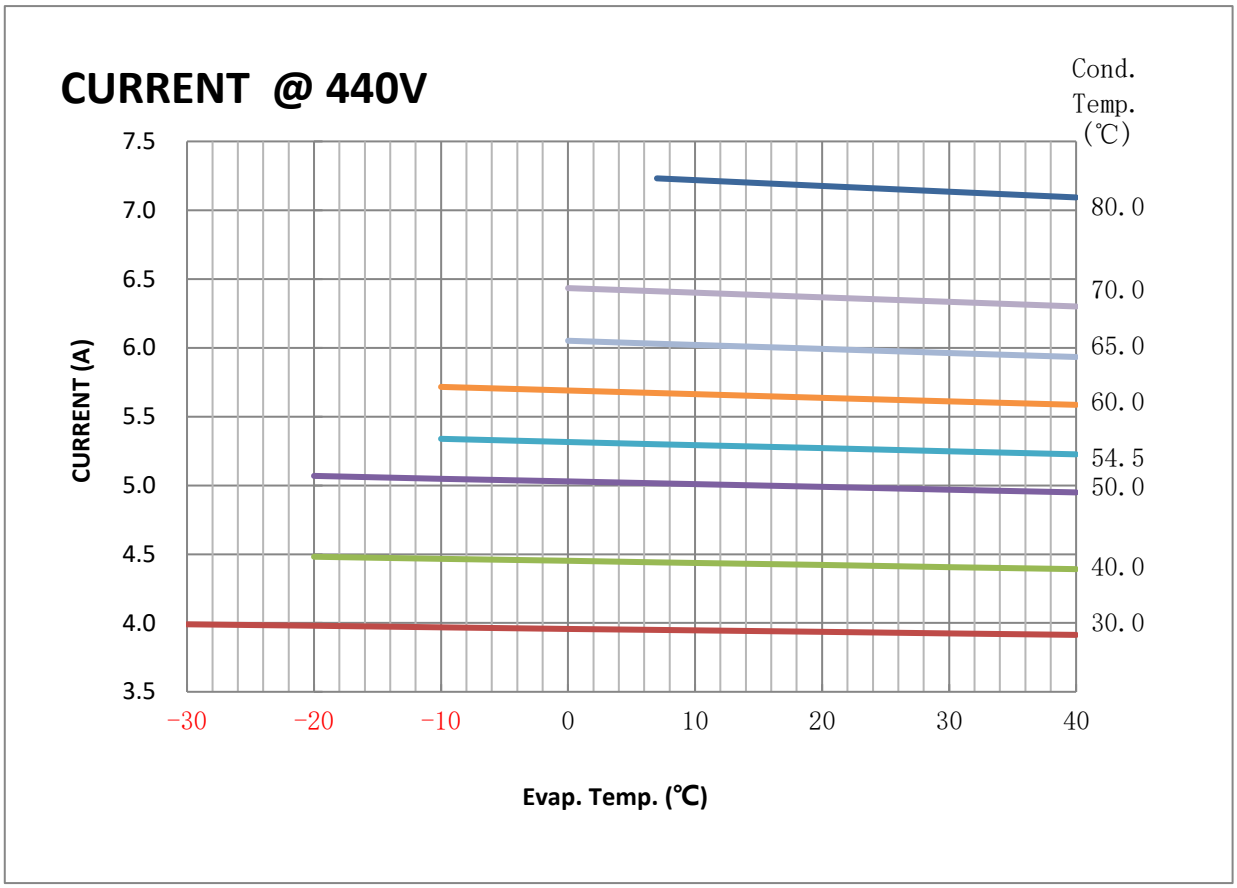
Condensing								
Temperature(℃)	-30	-20	-10	0	7	20	30	40
30.0	4.0	4.0	4.0	4.0	3.9	3.9	3.9	3.9
40.0		4.5	4.5	4.5	4.4	4.4	4.4	4.4
50.0		5.1	5.0	5.0	5.0	5.0	5.0	4.9
54.5			5.3	5.3	5.3	5.3	5.2	5.2
60.0			5.7	5.7	5.7	5.6	5.6	5.6
65.0				6.1	6.0	6.0	6.0	5.9
70.0				6.4	6.4	6.4	6.3	6.3
80.0					7.2	7.2	7.1	7.1

REFRIG FLOW(kg/h)

Condensing								
Temperature(℃)	-30	-20	-10	0	7	20	30	40
30.0	38.9	58.6	85.9	120.9	149.9	213.6	271.4	336.9
40.0		57.6	83.8	118.3	147.4	212.3	271.8	339.5
50.0		56.5	81.7	115.8	145.1	211.0	272.1	342.2
54.5			80.7	114.7	144.0	210.5	272.3	343.4
60.0			79.6	113.4	142.7	209.8	272.5	344.8
65.0				112.1	141.6	209.2	272.7	346.2
70.0				110.9	140.4	208.6	272.9	347.5
80.0					138	207	273	350


CAPACITY
Cond. Temp. (℃)
30.0
40.0
50.0
54.5
60.0
65.0
70.0
80.0
CAPACITY (W)
40,500
35,500
30,500
25,500
20,500
15,500
10,500
5,500
500
-30
-20
-10
0
10
20
30
40
Evap. Temp. (℃)


POWER @440V
Cond. Temp. (℃)
80.0
70.0
65.0
60.0
54.5
50.0
40.0
30.0
POWER (W)
6,000
5,500
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
-30
-20
-10
0
10
20
30
40
Evap. Temp. (℃)

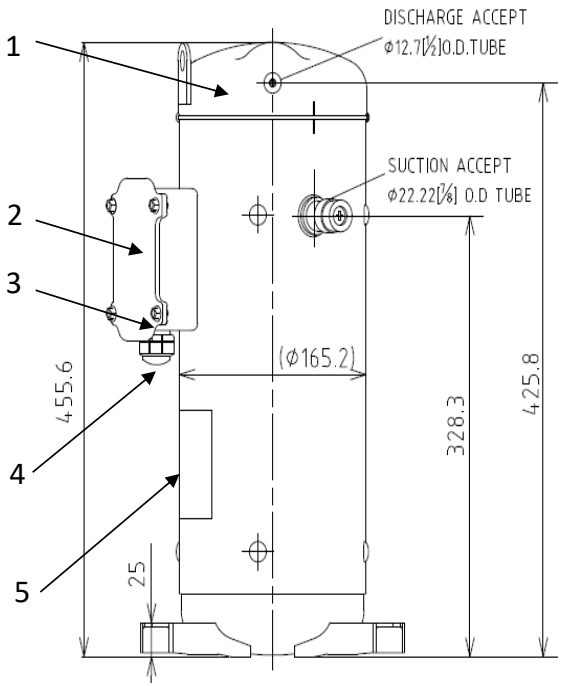


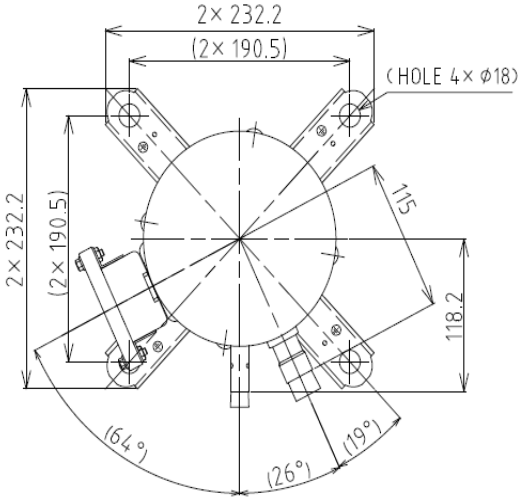
COEFFICIENTS OF PERFORMANCE CURVES

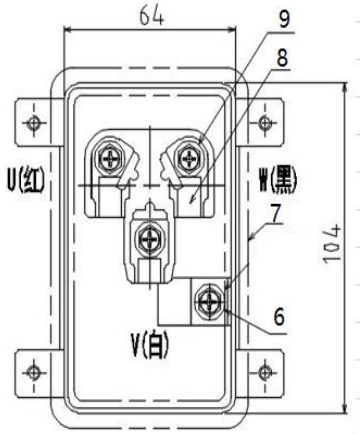
Compressor Model	**7CE058LA01/04**
Power Source	**3PH 60Hz 440-460V**
Suction Gas Superheat (K)	**11.5**
Sub Cooling (K)	**8.5**
Compressor Cooling	**Natural Cooling**
Refrigerant	**R290**

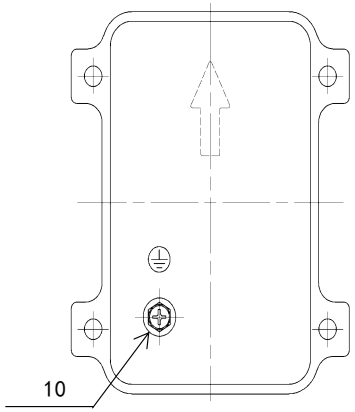
X=C1+C2*(S)+C3*D+C4*(S2)+C5*(S*D)+C6*(D2)+C7*(S3)+C8*(D*S2)+C9*(S*D2) +C10*(D3)
X——CAPACITY(W) OR POWER(W) OR CURRENT(A) OR FLOW(kg/h)
S——EVAPORATING TEMP, °C
D——CONDENSING TEMP, °C

440V-60Hz	CAPACITY (W)	POWER (W)	CURRENT (A)	FLOW (kg/h)
1	1.617484E+04	1.797768E+03	2.975845E+00	1.286456E+02
2	5.578678E+02	-5.005987E-01	-6.043005E-04	3.894113E+00
3	-1.739544E+02	-1.025259E+01	2.020660E-02	-2.642090E-01
4	4.562997E+00	-3.380235E-03	-3.541769E-07	2.799441E-02
5	-5.164130E+00	-1.700033E-02	3.141527E-07	-6.507469E-04
6	5.782914E-01	7.333158E-01	4.170491E-04	1.565394E-04
7	-4.939965E-04	-7.234830E-05	1.668199E-09	4.731349E-07
8	3.338826E-03	7.653223E-05	1.647166E-08	3.377374E-04
9	1.616739E-02	-3.373115E-04	-5.679169E-07	4.266168E-07
10	-6.207296E-09	5.514178E-09	2.160360E-14	-6.754227E-11









No.	Part Code	Qty	Name
1	**7CE058LA01**	**1**	**Compressor**
2	**A-0102-DSW**	**1**	**Terminal Box Cover**
3	**A-0201-DSW**	**4**	**Screw**
4		**1**	**Cable Gland (As required)**
5		**1**	**Nameplate**
6	**4-A-0645-0RC**	**1**	**Screw Special**
7	**A-0301-DSW**	**1**	**Seal**
8	**3-E-1999-0RC**	**1**	**Connector Block**
9	**4-A-0645-0RC**	**3**	**Screw Special**
10	**4-A-0645-0RC**	**1**	**Screw Special**

Remarks:

1.Part 10 could not be used singly for ground connection.

2.Please refer to E-0913-DSW-0 for the internal wiring diagrem.

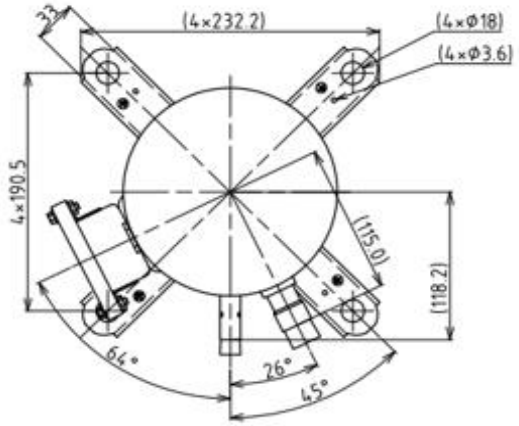
3.Tighten torque of parts 3,6,9,10 is 2.5~3.0N·m.

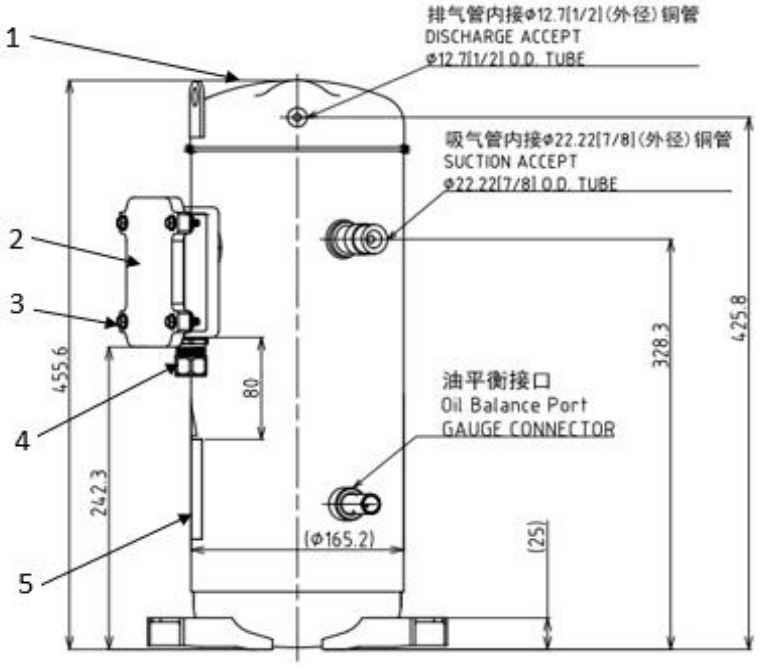
4.Part 4 is not supplied together with the compressor.

5. IP level is IP67 after part 4 installed.

6.Please pay attention to the installation direction of part 2.

Part Code
D-0105-DSE
Name
Compressor Outline Drawing





No.	Part Code	Qty	Name
1	**7CE058LA04**	**1**	**Compressor**
2	**A-0101-DSD**	**1**	**Terminal Box Cover**
3	**A-0201-DSW**	**4**	**Blot 5**
4	**A-0401-DSW**	**1**	**Cable Gland (As required)**
5		**1**	**Nameplate**
6	**4-A-0645-0RC**	**1**	**Screw Special**
7	**A-0301-DSW**	**1**	**Seal**
8	**3-E-1999-0RC**	**1**	**Connector Block**
9	**4-A-0645-0RC**	**3**	**Screw Special**
10	**4-A-0645-0RC**	**1**	**Screw Special**
11	**A-0501-DSW**	**1**	**Internal Ground Wire**

Remarks:

1.Part 10 could not be used singly for ground connection.

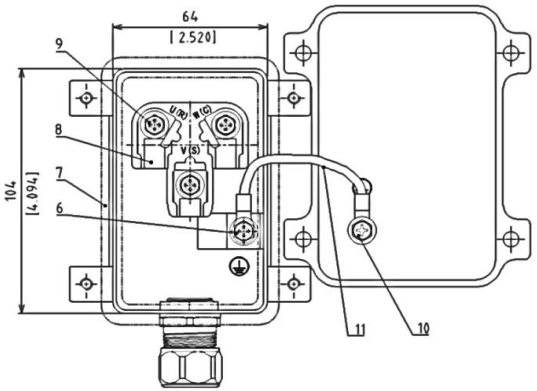
2.Please refer to E-0913-DSW-0 for the internal wiring diagrem.

3.Tighten torque of parts 3,6,9,10 is 2.5~3.0N·m.

4.Part 4 is supplied together with the compressor.

5. IP level is IP67 after part 4 installed.

6.Please pay attention to the installation direction of part 2.



Part Code
D-0106-DSE
Name
Compressor Outline Drawing

Section 5. Operating Envelope
Refrigerant : R290