SPECIFICATIONS OF COMPRESSOR

Model No: 7CB110SA01/04

Output : 6 HP

Temporary

Sonyo Compressor (Dalian) Co., Ltd.

10-Jul-24

GENERAL SPECIFICATIONS

Model No:		7CB110SA01/04
Application		
Evaporating Temp Range	(℃)	-30 ～40
Refrigerant		R290
Compressor Cooling		Natural Cooling
Rated Performance		
Capacity	(W)	16300
Input	(W)	4900
Current	(A)	9.1
Revolution	(min^{-1})	2900
Sound Level	(dB(A))	62 MAX.
Rating Conditions		
Power Source		3-PH 380V 50Hz
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)	110.0
Suction Line Connection	(Φmm 0D)	22.22
Discharge Line Connection	(Φmm 0D)	12.7
Oil	(ml)	1700 (PZ68S)
Mass(Incl.Oil)	(kg)	
Motor		
Type		3-PH Induction Motor(3IR)
Pole		2
Rated Power Source		3-PH 50Hz 380-415V/60Hz 440-460
Voltage Range	(V)	342-457/396-506
Starting Current	(A)	
MCC	(A)	21.2/21.4
RLA	(A)	15.1/15.3
LRA	(A)	78/80

Sonyo Compressor (Dalian) Co., Ltd.

PERFORMANCE DATA

Compressor Model	**7CB110LA01/04**
Power Source	**3PH 50Hz 380V**
Suction Gas Superheat(K)	**11.5**
Sub Cooling(K)	**8.5**
Compressor Cooling	**Natural Cooling**
Refrigerant	**R290**

CAPACITY(W)

Condensing	Evaporating Temperature(℃)							
Temperature(℃)	-15	-10	-6.7	0	4.4	7	10	12
35.0	7,830	9,720	11,220	15,000	18,160	20,500	23,150	25,240
40.5	7,380	9,160	10,560	14,090	17,030	19,220	21,680	23,630
45.0	7,040	8,720	10,040	13,380	16,160	18,220	20,550	22,390
50.0	6,670	8,250	9,500	12,640	15,240	17,170	19,350	21,070
54.5		7,860	9,040	12,010	14,480	16,300	18,350	19,980
60.0			8,490	11,260	13,560	15,250	17,160	18,670
65.0				10,640	12,790	14,380	16,170	17,580

POWER(W)

Condensing	Evaporating Temperature(℃)							
Temperature(℃)	-15	-10	-6.7	0	4.4	7	10	12
35.0	3,170	3,240	3,280	3,330	3,350	3,350	3,350	3,350
40.5	3,510	3,590	3,630	3,690	3,720	3,720	3,730	3,730
45.0	3,830	3,920	3,960	4,030	4,060	4,070	4,070	4,070
50.0	4,230	4,320	4,360	4,440	4,470	4,490	4,500	4,510
54.5		4,700	4,750	4,840	4,880	4,900	4,920	4,920
60.0			5,300	5,400	5,450	5,470	5,490	5,510
65.0				5,940	6,000	6,030	6,060	6,080

CURRENT(A)

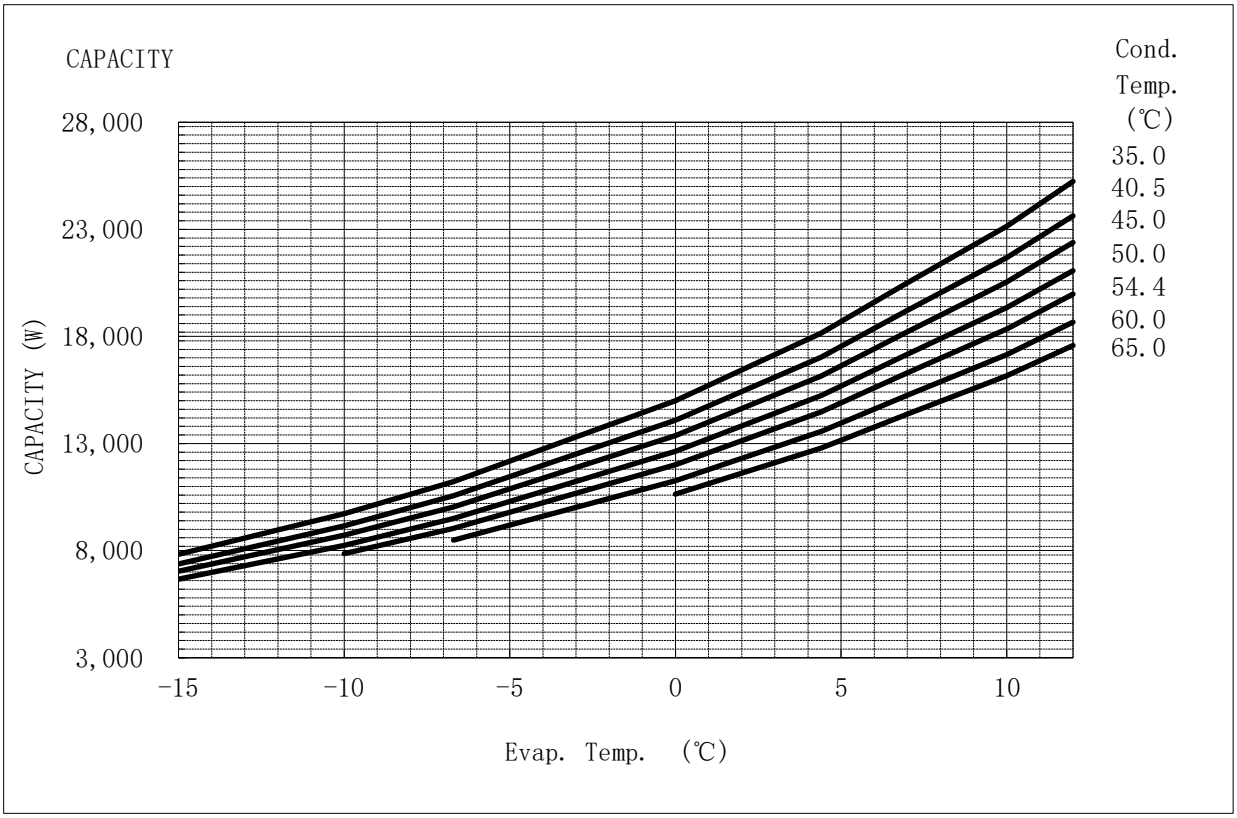
Condensing	Evaporating Temperature(℃)							
Temperature(℃)	-15	-10	-6.7	0	4.4	7	10	12
35.0	7.0	7.1	7.2	7.2	7.2	7.2	7.2	7.2
40.5	7.5	7.6	7.6	7.7	7.7	7.7	7.7	7.7
45.0	7.9	8.0	8.0	8.1	8.1	8.1	8.1	8.1
50.0	8.3	8.4	8.5	8.6	8.6	8.6	8.6	8.7
54.5		8.9	8.9	9.0	9.1	9.1	9.1	9.1
60.0			9.5	9.6	9.7	9.7	9.8	9.8
65.0				10.2	10.3	10.3	10.4	10.4

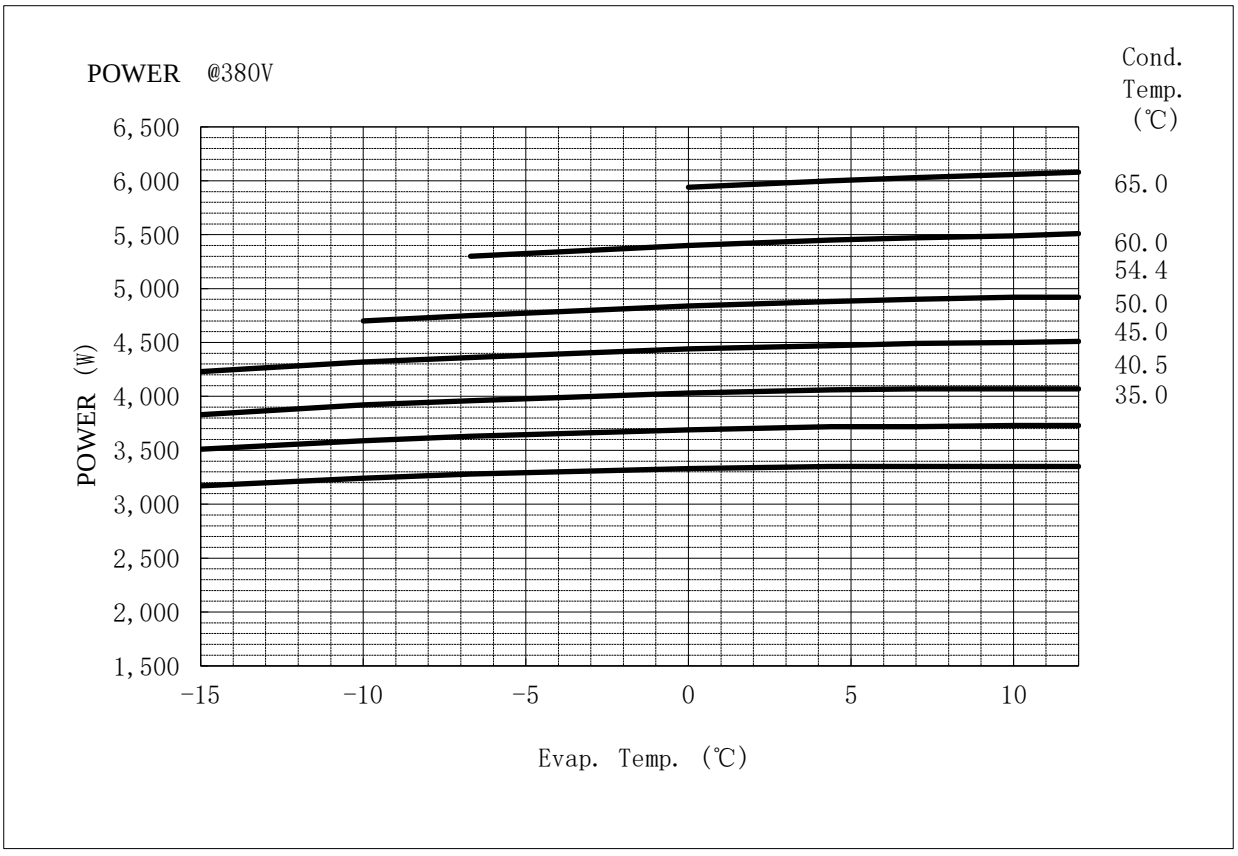
REFRIG FLOW(kg/h)

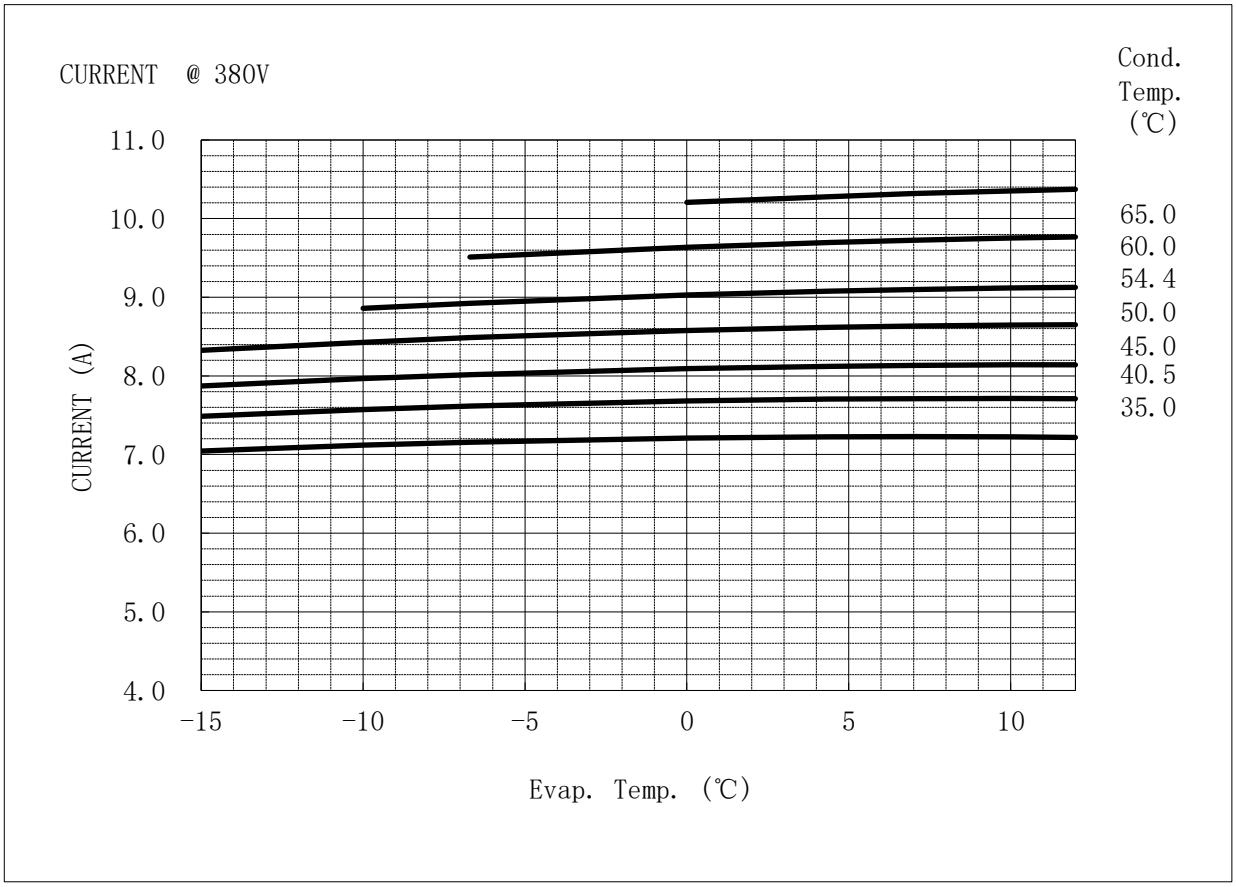
Condensing	Evaporating Temperature(℃)							
Temperature(℃)	-15	-10	-6.7	0	4.4	7	10	12
35.0	97	118	134	175	207	231	258	279
40.5	97	118	134	173	205	229	255	275
45.0	97	117	133	172	203	226	252	272
50.0	97	117	132	170	201	224	249	268
54.5		117	132	169	199	221	246	265
60.0			131	168	197	219	242	261
65.0				166	195	216	239	257

Compressor Model(Code) **7CB110LA01/04**

Power Source **3PH 50Hz 380V**







COEFFICIENTS OF PERFORMANCE CURVES

Compressor Model	**7CB110LA01/04**
Power Source	**3PH 50Hz 380V**
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	2.199549E+04	2.296391E+03	5.081883E+00	1.848251E+02
2	1.024845E+03	5.111322E+00	2.301443E-03	8.076140E+00
3	-2.277769E+02	-1.245346E+00	3.988850E-02	-2.876465E-01
4	1.995803E+01	-4.134186E-01	-3.642663E-04	1.610836E-01
5	-1.215558E+01	-1.446989E-01	-1.025577E-04	-3.528969E-02
6	8.215446E-01	8.814310E-01	5.990367E-04	1.098176E-04
7	1.285515E-01	4.731220E-04	-5.473328E-07	1.057164E-03
8	-1.675131E-01	1.880213E-03	-5.799100E-07	-7.975189E-04
9	5.094675E-02	4.545867E-03	5.496237E-06	7.667072E-05
10	-6.480901E-08	1.841908E-08	1.288347E-11	-1.927747E-10

PERFORMANCE DATA

Compressor Model	**7CB110LA01/04**
Power Source	**3PH 60Hz 440V**
Suction Gas Superheat(K)	**11.5**
Sub Cooling(K)	**8.5**
Compressor Cooling	**Natural Cooling**
Refrigerant	**R290**

CAPACITY(W)

Condensing	Evaporating Temperature(℃)							
Temperature(℃)	-15	-10	-6.7	0	4.4	7	10	12
35.0	9,360	11,630	13,420	17,950	21,720	24,520	27,690	30,200
40.5	8,830	10,960	12,630	16,860	20,380	22,990	25,940	28,270
45.0	8,420	10,430	12,010	16,010	19,330	21,800	24,580	26,780
50.0	7,980	9,870	11,360	15,120	18,230	20,550	23,150	25,210
54.5		9,400	10,820	14,370	17,320	19,500	21,960	23,900
60.0			10,160	13,470	16,220	18,250	20,530	22,340
65.0				12,730	15,300	17,210	19,350	21,040

POWER(W)

Condensing	Evaporating Temperature(℃)							
Temperature(℃)	-15	-10	-6.7	0	4.4	7	10	12
35.0	3,780	3,870	3,910	3,980	4,000	4,000	4,000	4,000
40.5	4,200	4,290	4,330	4,410	4,440	4,450	4,450	4,450
45.0	4,580	4,670	4,730	4,810	4,840	4,860	4,860	4,860
50.0	5,050	5,150	5,210	5,300	5,340	5,360	5,370	5,380
54.5		5,610	5,680	5,780	5,830	5,850	5,870	5,880
60.0			6,330	6,440	6,500	6,530	6,560	6,570
65.0				7,090	7,160	7,200	7,230	7,250

CURRENT(A)

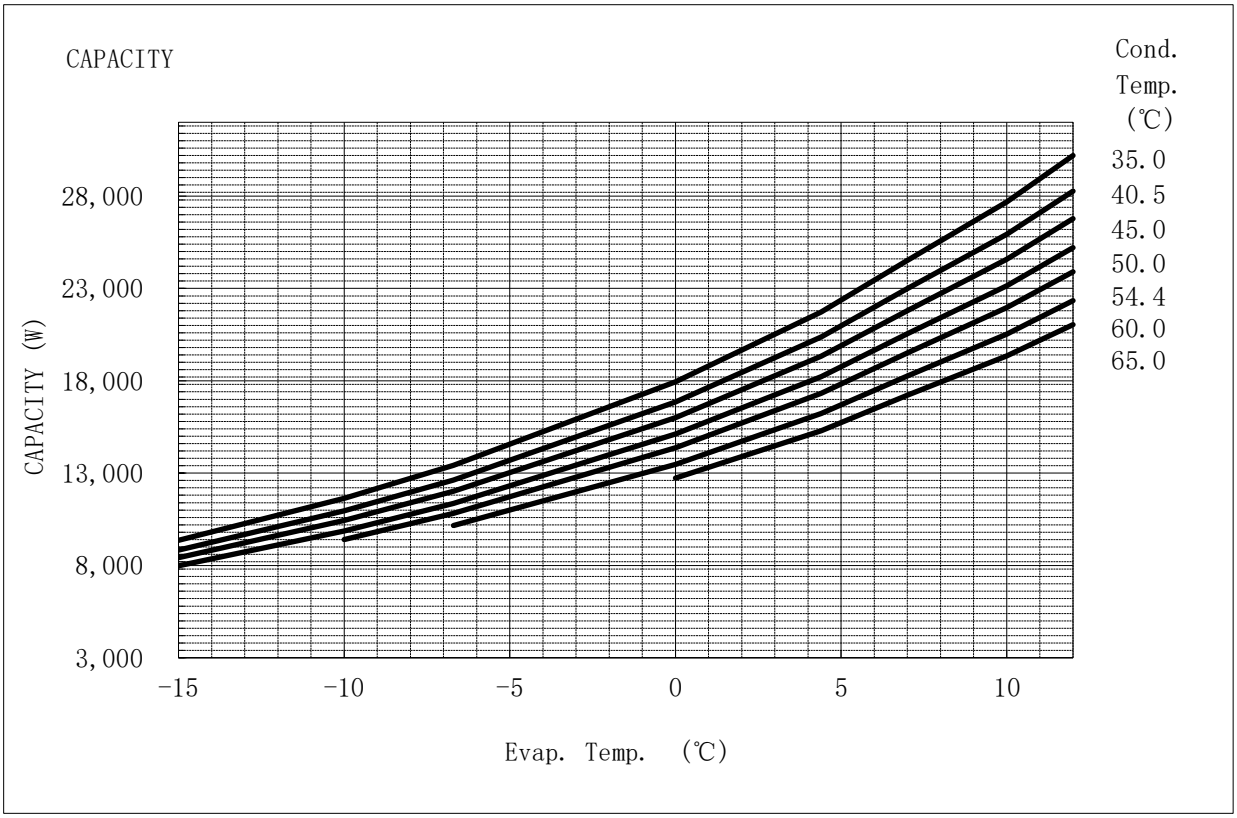
Condensing	Evaporating Temperature(℃)							
Temperature(℃)	-15	-10	-6.7	0	4.4	7	10	12
35.0	7.3	7.4	7.4	7.4	7.5	7.5	7.5	7.5
40.5	7.7	7.8	7.9	7.9	8.0	8.0	8.0	8.0
45.0	8.1	8.2	8.3	8.4	8.4	8.4	8.4	8.4
50.0	8.6	8.7	8.8	8.9	8.9	8.9	8.9	8.9
54.5		9.2	9.2	9.3	9.4	9.4	9.4	9.4
60.0			9.8	10.0	10.0	10.0	10.1	10.1
65.0				10.5	10.6	10.7	10.7	10.7

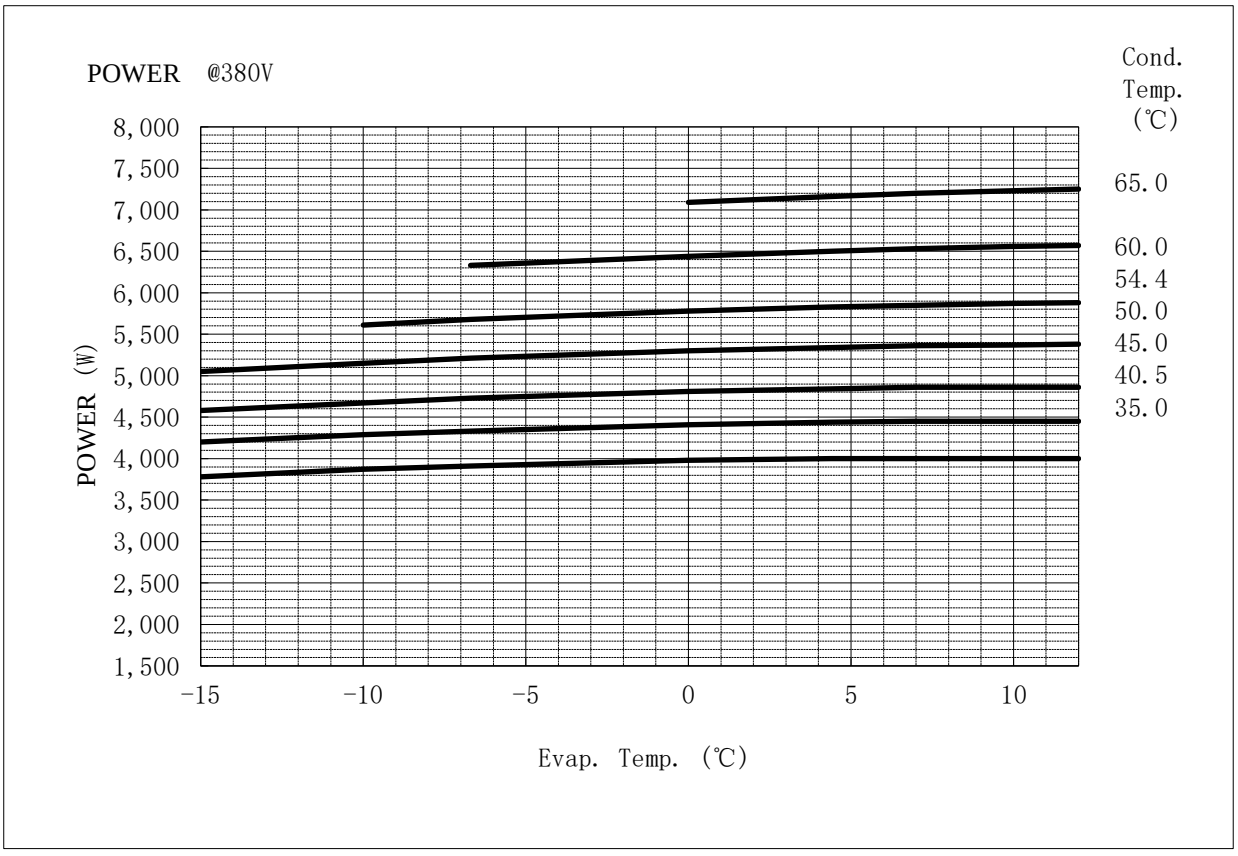
REFRIG FLOW(kg/h)

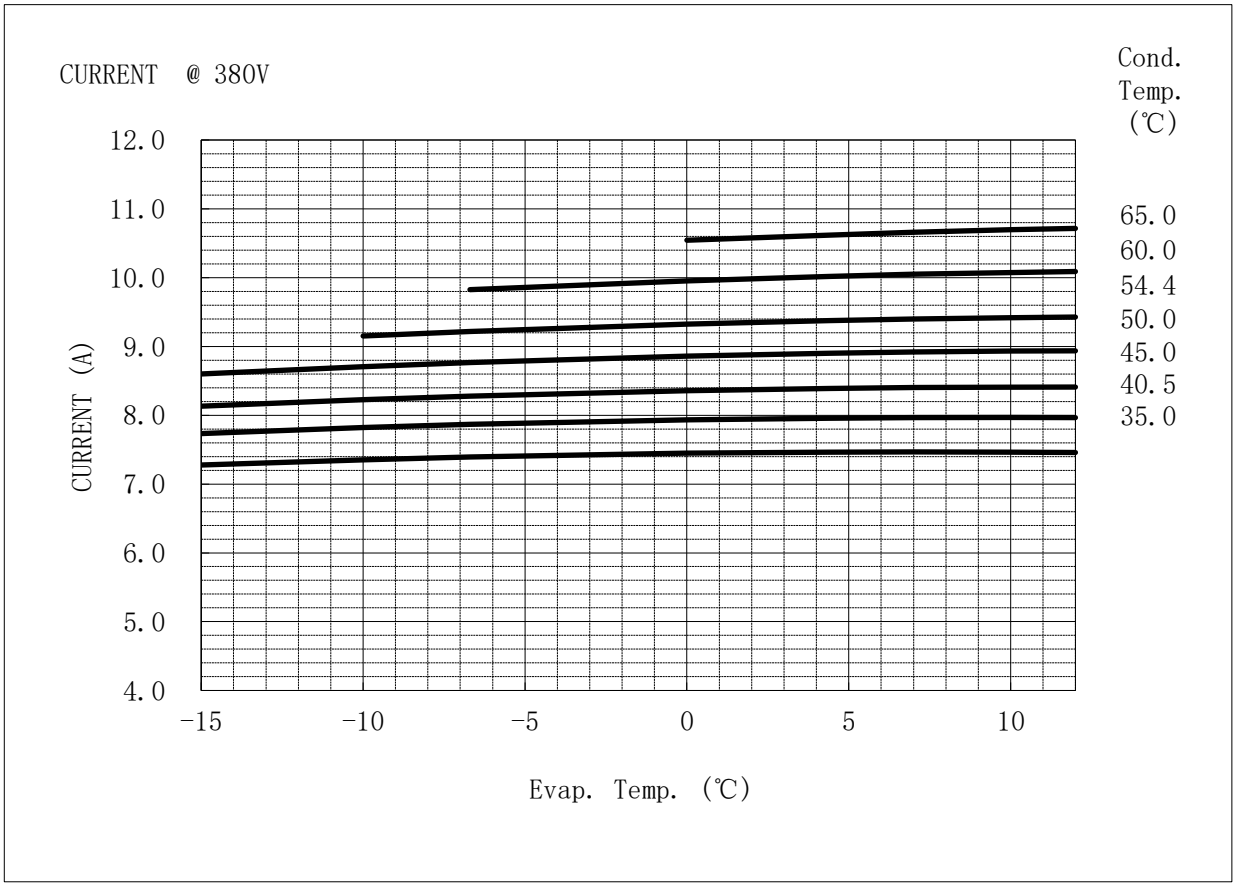
Condensing	Evaporating Temperature(℃)							
Temperature(℃)	-15	-10	-6.7	0	4.4	7.2	10	12
35.0	117	142	161	210	249	278	310	335
40.5	116	141	160	208	246	274	306	330
45.0	116	141	160	206	244	271	302	326
50.0	116	140	159	205	242	268	298	322
54.4		140	158	203	239	266	295	318
60.0			157	201	237	262	291	313
65.0				200	234	259	287	309

Compressor Model(Code) **7CB110LA01/04**

Power Source **3PH 60Hz 440V**



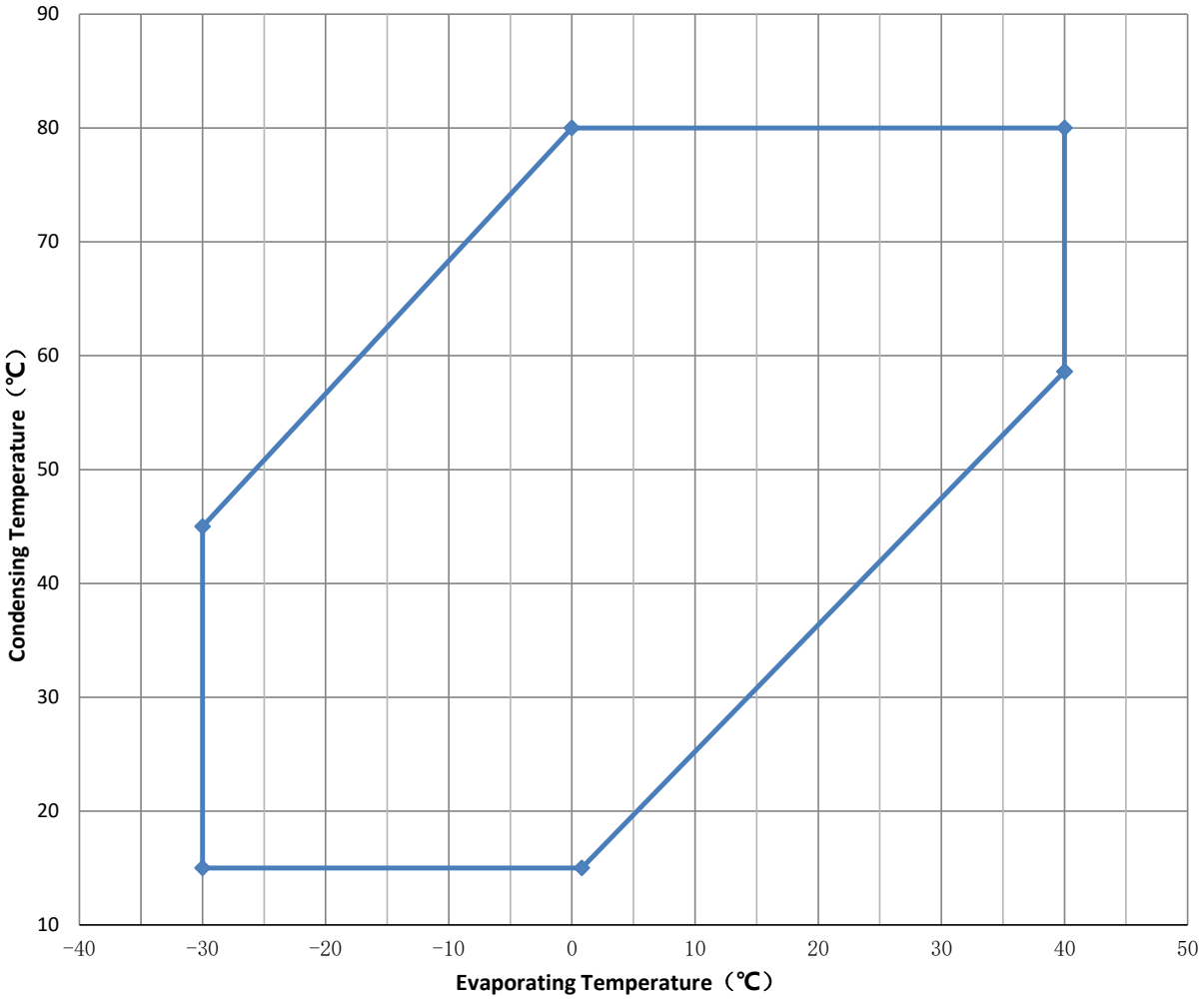




COEFFICIENTS OF PERFORMANCE CURVES

Compressor Model	**7CB110LA01/04**
Power Source	**3PH 60Hz 440V**
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	2.632096E+04	2.732072E+03	5.248724E+00	2.212765E+02
2	1.226767E+03	6.358496E+00	2.365089E-03	9.573574E+00
3	-2.727859E+02	-1.021599E+00	4.123094E-02	-3.479595E-01
4	2.381047E+01	-5.118163E-01	-3.752938E-04	1.993665E-01
5	-1.457647E+01	-1.653001E-01	-1.055371E-04	-4.131486E-02
6	9.858336E-01	1.046989E+00	6.185228E-04	2.406314E-04
7	1.539805E-01	-1.386358E-03	-5.585567E-07	1.835301E-03
8	-1.990221E-01	2.545429E-03	-6.198061E-07	-1.020188E-03
9	6.135849E-02	5.238803E-03	5.674427E-06	8.142590E-05
10	-8.697610E-08	1.773629E-08	2.137487E-11	8.118631E-11

Section 5. Operating Envelope
Refrigerant : R290