

# SPECIFICATIONS OF COMPRESSOR

Model No: C-SBS180H00B

Output : 3.5 HP

Temporary

**Sonyo Compressor (dalian) Co.,Ltd.**

29-May-23

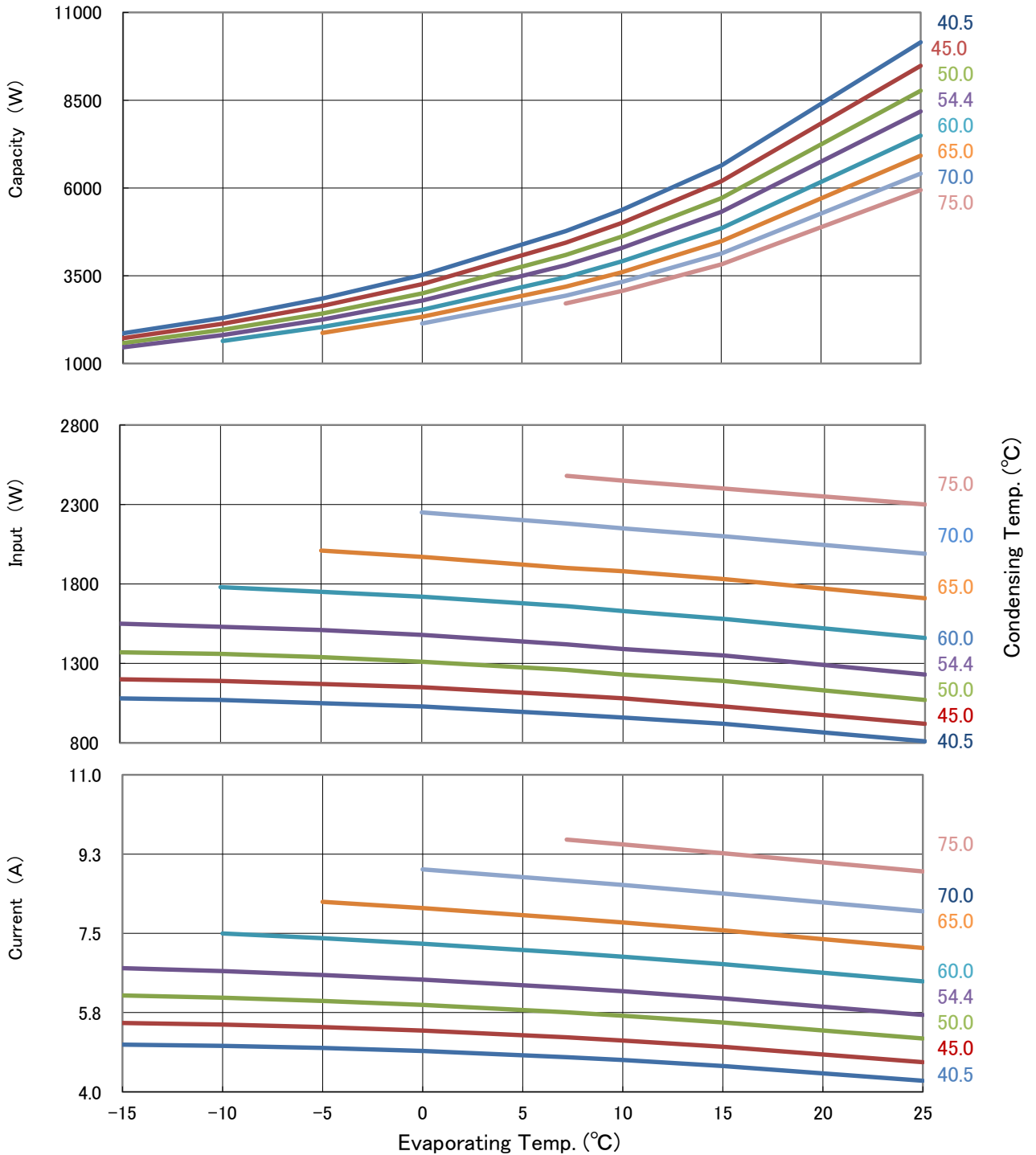
# GENERAL SPECIFICATIONS

Model No:	C-SBS180H00B	
<b>Application</b>		
Evaporating Temp Range	(°C)	-15 ~ 25
Refrigerant		R134a
Compressor Cooling		Natural Cooling
<b>Rated Performance</b>		
Capacity	(W)	8,400
Input	(W)	2,770
Current	(A)	6.6
Revolution	(min <sup>-1</sup> )	3500
Sound Level	(dB(A))	-
<b>Rating Conditions</b>		
Power Source		3-PH 60Hz 265V
Evaporating Temp	(°C)	7.2
Condensing Temp	(°C)	54.4
Suction Gas Temp	(°C)	18.3
Liquid Temp	(°C)	46.1
Ambient Temp	(°C)	35.0
<b>Measuring Point of Sound Level</b>		
Distance from the Compressor	(m)	1.0
<b>Compressor</b>		
Design		Hermetic Scroll
Displacement	(cm <sup>3</sup> )	55.7
Suction Line Connection	(Φ mm OD)	22.22
Discharge Line Connection	(Φ mm OD)	12.7
Oil	(mL)	2000 ( FV68S )
Mass(Incl.Oil)	(kg)	39
<b>Motor</b>		
Type		Inverter 3-PH Induction Motor(3IR)
Pole		2
Rated Power Source		3-PH 50Hz 380V
Voltage Range	(V)	-
Starting Current	(A)	-
Frequency	(Hz)	30~90

Sonyo Compressor (dalian) Co.,Ltd.

# PERFORMANCE CURVE

Code No.	C-SBS180H00B
Power Source	Inverter 3-PH 30Hz 150V
Condensing Temp.(°C)	40.5、45、50、54.4、60、65、70、75
Suction Gas Superheat(K)	11.1
Sub Cooled(K)	8.3
Compressor Cooling	Natural Cooling
Refrigerant	R134a



# PERFORMANCE DATA

Code No.	C-SBS180H00B
Power Source	Inverter 3-PH 30Hz 150V
Condensing Temp.(°C)	40.5、45、50、54.4、60、65、70、75
Suction Gas Superheat(K)	11.1
Sub Cooled(K)	8.3
Compressor Cooling	Natural Cooling
Refrigerant	R134a

Capacity (W)

		Evaporating Temp. (°C)							
		-15	-10	-5	0	7.2	10	15	25
Condensing Temp. (°C)	40.5	1,860	2,300	2,850	3,520	4,770	5,370	6,640	10,150
	45.0	1,720	2,130	2,640	3,260	4,440	5,000	6,190	9,480
	50.0	1,580	1,960	2,420	3,000	4,090	4,610	5,710	8,770
	54.4	1,460	1,810	2,250	2,790	3,800	4,290	5,320	8,180
	60.0		1,640	2,040	2,530	3,460	3,910	4,850	7,490
	65.0			1,870	2,330	3,190	3,600	4,480	6,920
	70.0				2,140	2,930	3,320	4,130	6,410
	75.0					2,710	3,060	3,820	5,940

Input (W)

		Evaporating Temp. (°C)							
		-15	-10	-5	0	7.2	10	15	25
Condensing Temp. (°C)	40.5	1,080	1,070	1,050	1,030	980	960	920	810
	45.0	1,200	1,190	1,170	1,150	1,100	1,080	1,030	920
	50.0	1,370	1,360	1,340	1,310	1,260	1,230	1,190	1,070
	54.4	1,550	1,530	1,510	1,480	1,420	1,390	1,350	1,230
	60.0		1,780	1,750	1,720	1,660	1,630	1,580	1,460
	65.0			2,010	1,970	1,900	1,880	1,830	1,710
	70.0				2,250	2,180	2,150	2,100	1,990
	75.0					2,480	2,450	2,400	2,300

Current (A)

		Evaporating Temp. (°C)							
		-15	-10	-5	0	7.2	10	15	25
Condensing Temp. (°C)	40.5	5.0	5.0	5.0	4.9	4.8	4.7	4.6	4.2
	45.0	5.5	5.5	5.4	5.4	5.2	5.1	5.0	4.7
	50.0	6.1	6.1	6.0	5.9	5.8	5.7	5.5	5.2
	54.4	6.7	6.7	6.6	6.5	6.3	6.2	6.1	5.7
	60.0		7.5	7.4	7.3	7.1	7.0	6.8	6.4
	65.0			8.2	8.1	7.8	7.7	7.6	7.2
	70.0				8.9	8.7	8.6	8.4	8.0
	75.0					9.6	9.5	9.3	8.9

Coefficients of Polynomial Formula

150V-30Hz	Capacity (W)	Input (W)	Current (A)
C1	6.307598E+03	1.044288E+03	3.532750E+00
C2	2.896790E+02	9.782530E-01	-1.999618E-03
C3	-8.280429E+01	-2.441116E+01	-2.506274E-02
C4	5.659653E+00	-2.334480E-01	-7.499621E-04
C5	-4.439132E+00	-1.823267E-01	-2.122865E-04
C6	3.329693E-01	5.942789E-01	1.455800E-03
C7	5.124893E-02	4.277880E-04	5.649410E-07
C8	-5.571644E-02	1.976304E-03	7.322991E-06
C9	2.359615E-02	6.869362E-04	-3.028985E-06
C10	-1.166169E-09	1.988051E-09	-3.305645E-12

Note: The polynomial coefficients subject to change without notice.

$$X=C1+C2*(S)+C3*D+C4*(S^2)+C5*(S*D)+C6*(D^2)+C7*(S^3)+C8*(D*S^2)+C9*(S*D^2)+C10*(D^3)$$

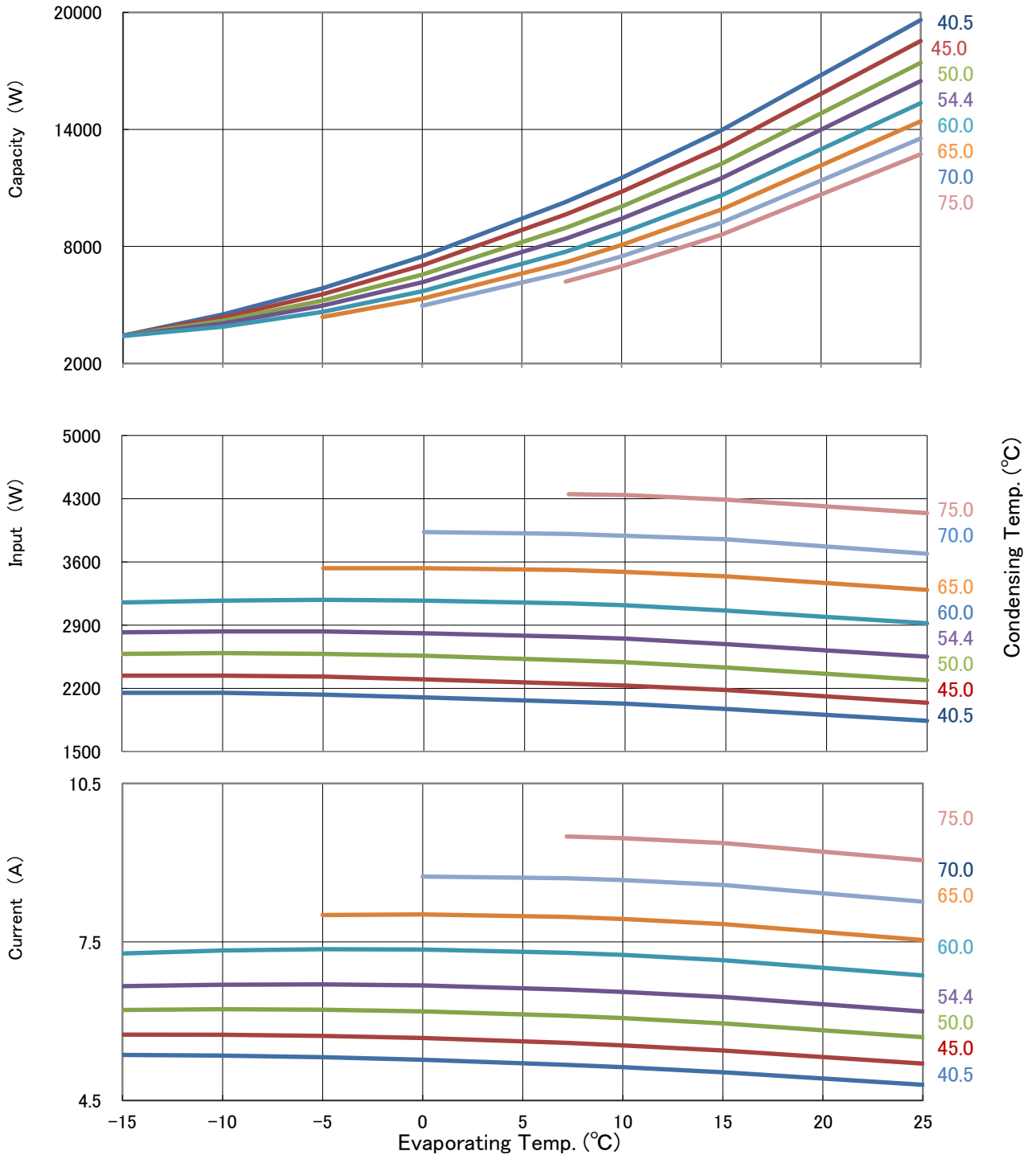
X—CAPACITY(W) OR POWER(W) OR CURRENT(A)

S—EVAPORATING TEMP, °C

D—CONDENSING TEMP, °C

# PERFORMANCE CURVE

Code No.	C-SBS180H00B
Power Source	Inverter 3-PH 60Hz 265V
Condensing Temp.(°C)	40.5、45、50、54.4、60、65、70、75
Suction Gas Superheat(K)	11.1
Sub Cooled(K)	8.3
Compressor Cooling	Natural Cooling
Refrigerant	R134a



# PERFORMANCE DATA

Code No.	C-SBS180H00B
Power Source	Inverter 3-PH 60Hz 265V
Condensing Temp.(°C)	40.5、45、50、54.4、60、65、70、75
Suction Gas Superheat(K)	11.1
Sub Cooled(K)	8.3
Compressor Cooling	Natural Cooling
Refrigerant	R134a

Capacity (W)

		Evaporating Temp. (°C)							
		-15	-10	-5	0	7.2	10	15	25
Condensing Temp. (°C)	40.5	3,430	4,510	5,860	7,480	10,280	11,520	13,950	19,610
	45.0	3,430	4,360	5,550	7,030	9,640	10,810	13,110	18,540
	50.0	3,430	4,190	5,230	6,560	8,960	10,050	12,230	17,420
	54.4	3,420	4,050	4,970	6,170	8,400	9,430	11,490	16,480
	60.0	3,410	3,880	4,650	5,700	7,730	8,690	10,620	15,350
	65.0			4,380	5,320	7,180	8,070	9,890	14,420
	70.0				4,960	6,670	7,500	9,220	13,540
	75.0					6,200	6,980	8,600	12,730

Input (W)

		Evaporating Temp. (°C)							
		-15	-10	-5	0	7.2	10	15	25
Condensing Temp. (°C)	40.5	2,150	2,150	2,130	2,100	2,050	2,030	1,970	1,840
	45.0	2,340	2,340	2,330	2,300	2,250	2,230	2,180	2,040
	50.0	2,580	2,590	2,580	2,560	2,510	2,490	2,430	2,290
	54.4	2,820	2,830	2,830	2,810	2,770	2,750	2,690	2,550
	60.0	3,150	3,170	3,180	3,170	3,140	3,120	3,060	2,920
	65.0			3,530	3,530	3,510	3,490	3,440	3,290
	70.0				3,930	3,910	3,890	3,850	3,690
	75.0					4,350	4,340	4,290	4,140

Current (A)

		Evaporating Temp. (°C)							
		-15	-10	-5	0	7.2	10	15	25
Condensing Temp. (°C)	40.5	5.4	5.3	5.3	5.3	5.2	5.1	5.0	4.8
	45.0	5.7	5.7	5.7	5.7	5.6	5.5	5.4	5.2
	50.0	6.2	6.2	6.2	6.2	6.1	6.1	6.0	5.7
	54.4	6.7	6.7	6.7	6.7	6.6	6.6	6.5	6.2
	60.0	7.3	7.3	7.4	7.4	7.3	7.3	7.2	6.9
	65.0			8.0	8.0	8.0	7.9	7.8	7.5
	70.0				8.7	8.7	8.7	8.6	8.3
	75.0					9.5	9.5	9.4	9.0

Coefficients of Polynomial Formula

265V-60Hz	Capacity (W)	Input (W)	Current (A)
C1	1.249755E+04	1.541730E+03	3.456010E+00
C2	6.591573E+02	-1.098308E+00	-1.061821E-02
C3	-1.463916E+02	-1.388080E+01	2.614420E-03
C4	4.550279E+00	7.795760E-02	3.514377E-04
C5	-8.958570E+00	-3.141820E-01	-2.552042E-04
C6	5.526801E-01	6.849406E-01	1.040205E-03
C7	1.417255E-06	-3.063117E-05	-1.661835E-07
C8	2.137927E-02	-6.242317E-03	-1.610989E-05
C9	3.291482E-02	4.762363E-03	6.034970E-06
C10	7.681535E-09	1.967160E-09	2.520836E-12

Note: The polynomial coefficients subject to change without notice.

$$X=C1+C2*(S)+C3*D+C4*(S^2)+C5*(S*D)+C6*(D^2)+C7*(S^3)+C8*(D*S^2)+C9*(S*D^2)+C10*(D^3)$$

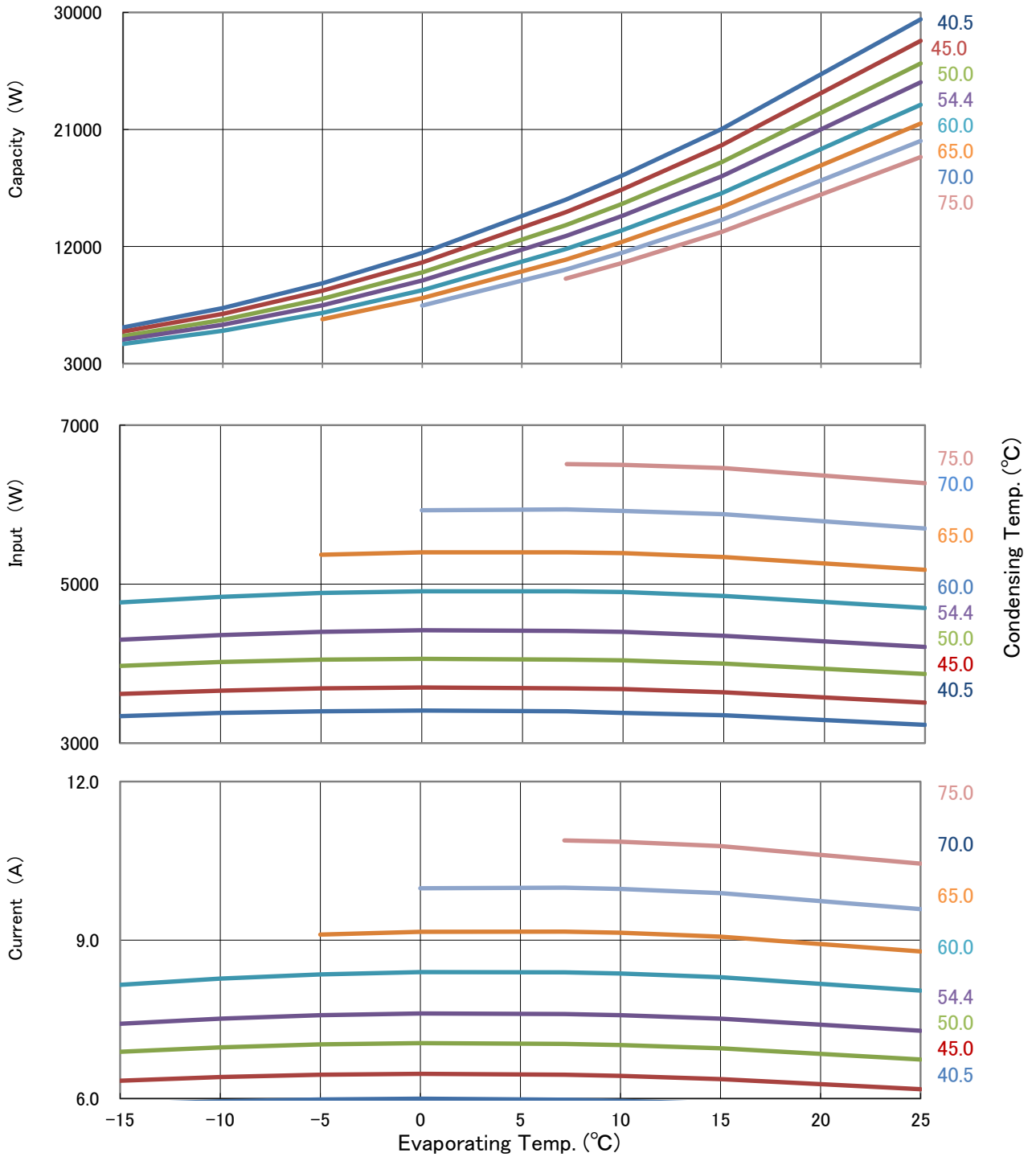
X—CAPACITY(W) OR POWER(W) OR CURRENT(A)

S—EVAPORATING TEMP, °C

D—CONDENSING TEMP, °C

# PERFORMANCE CURVE

Code No.	C-SBS180H00B
Power Source	Inverter 3-PH 90Hz 380V
Condensing Temp.(°C)	40.5、45、50、54.4、60、65、70、75
Suction Gas Superheat(K)	11.1
Sub Cooled(K)	8.3
Compressor Cooling	Natural Cooling
Refrigerant	R134a



# PERFORMANCE DATA

Code No.	C-SBS180H00B
Power Source	Inverter 3-PH 90Hz 380V
Condensing Temp.(°C)	40.5、45、50、54.4、60、65、70、75
Suction Gas Superheat(K)	11.1
Sub Cooled(K)	8.3
Compressor Cooling	Natural Cooling
Refrigerant	R134a

Capacity (W)

		Evaporating Temp. (°C)							
		-15	-10	-5	0	7.2	10	15	25
Condensing Temp. (°C)	40.5	5,780	7,270	9,180	11,510	15,610	17,430	21,020	29,470
	45.0	5,460	6,830	8,600	10,780	14,640	16,370	19,780	27,820
	50.0	5,120	6,360	7,990	10,020	13,640	15,260	18,470	26,080
	54.4	4,840	5,980	7,490	9,390	12,800	14,340	17,390	24,630
	60.0	4,510	5,520	6,900	8,640	11,810	13,240	16,090	22,900
	65.0			6,410	8,030	10,990	12,340	15,020	21,460
	70.0				7,460	10,230	11,500	14,030	20,120
	75.0					9,530	10,730	13,110	18,880

Input (W)

		Evaporating Temp. (°C)							
		-15	-10	-5	0	7.2	10	15	25
Condensing Temp. (°C)	40.5	3,340	3,380	3,400	3,410	3,400	3,380	3,350	3,230
	45.0	3,620	3,660	3,690	3,700	3,690	3,680	3,640	3,510
	50.0	3,970	4,020	4,050	4,060	4,050	4,040	4,000	3,870
	54.4	4,300	4,360	4,400	4,420	4,410	4,400	4,350	4,210
	60.0	4,770	4,840	4,890	4,910	4,910	4,900	4,850	4,700
	65.0			5,370	5,400	5,400	5,390	5,340	5,180
	70.0				5,930	5,940	5,920	5,880	5,700
	75.0					6,510	6,500	6,460	6,270

Current (A)

		Evaporating Temp. (°C)							
		-15	-10	-5	0	7.2	10	15	25
Condensing Temp. (°C)	40.5	5.9	5.9	6.0	6.0	6.0	6.0	5.9	5.7
	45.0	6.3	6.4	6.4	6.5	6.4	6.4	6.4	6.2
	50.0	6.9	7.0	7.0	7.0	7.0	7.0	7.0	6.7
	54.4	7.4	7.5	7.6	7.6	7.6	7.6	7.5	7.3
	60.0	8.2	8.3	8.4	8.4	8.4	8.4	8.3	8.0
	65.0			9.1	9.2	9.2	9.1	9.1	8.8
	70.0				10.0	10.0	10.0	9.9	9.6
	75.0					10.9	10.9	10.8	10.4

Coefficients of Polynomial Formula

380V-90Hz	Capacity (W)	Input (W)	Current (A)
C1	1.984337E+04	2.289528E+03	3.942639E+00
C2	8.579975E+02	2.970606E-01	-4.749530E-03
C3	-2.454365E+02	-5.736757E+00	1.832275E-03
C4	1.057320E+01	5.318110E-02	2.174504E-04
C5	-1.024841E+01	-8.909236E-02	5.021248E-05
C6	9.797749E-01	8.246471E-01	1.206099E-03
C7	1.095001E-04	-2.716609E-04	-1.591525E-07
C8	-5.354478E-02	-8.353031E-03	-1.615434E-05
C9	3.974020E-02	2.165731E-03	1.816289E-06
C10	-1.438686E-08	4.531529E-09	3.611258E-12

Note: The polynomial coefficients subject to change without notice.

$$X=C1+C2*(S)+C3*D+C4*(S^2)+C5*(S*D)+C6*(D^2)+C7*(S^3)+C8*(D*S^2)+C9*(S*D^2)+C10*(D^3)$$

X—CAPACITY(W) OR POWER(W) OR CURRENT(A)

S—EVAPORATING TEMP, °C

D—CONDENSING TEMP, °C



# Voltage-Frequency Curve

