

SPECIFICATIONS OF COMPRESSOR

Model No: C-SBN303H8A

Output : 4 HP



DALIAN SANYO COMPRESSOR Co.,Ltd.

12-Nov-13

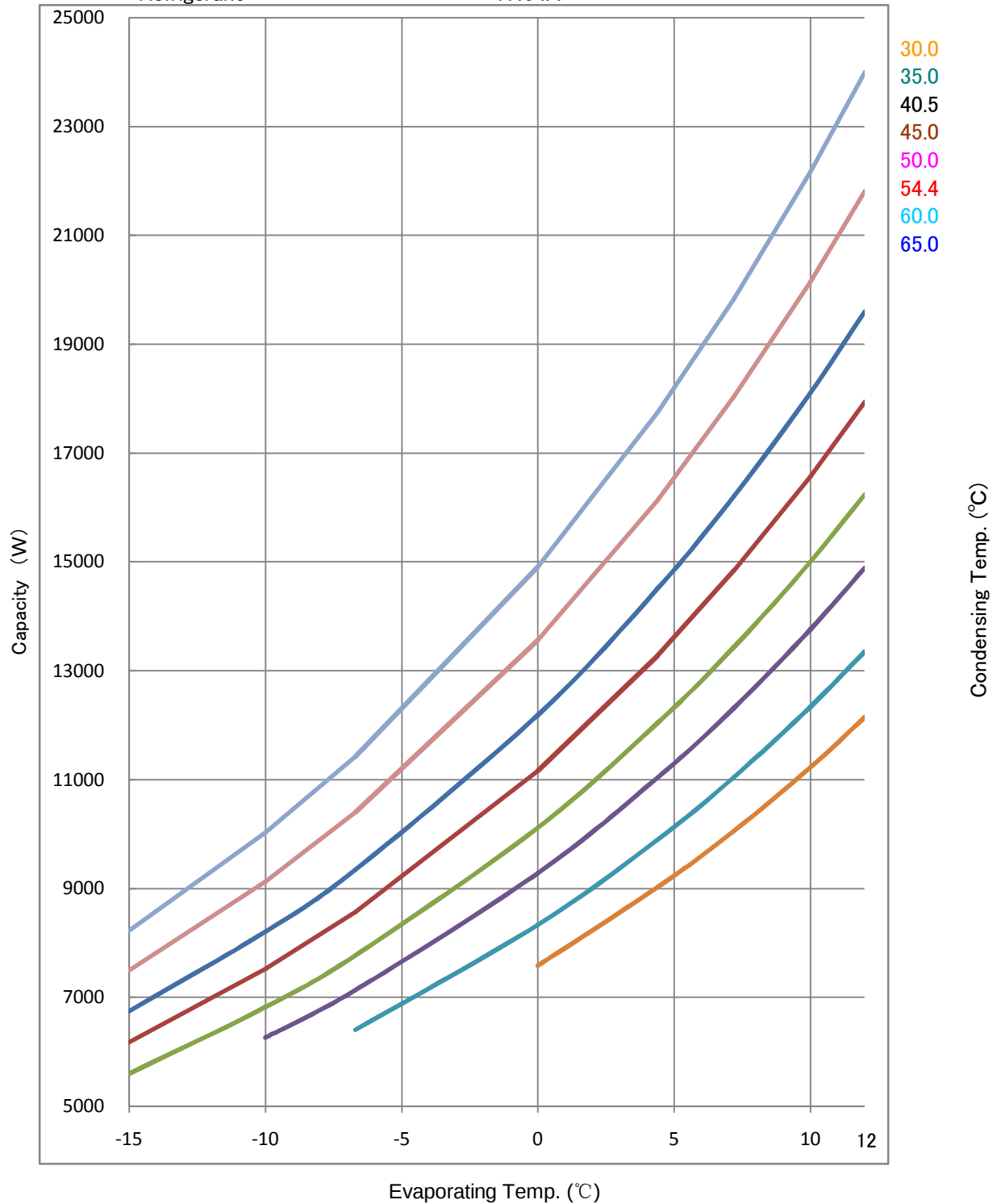
GENERAL SPECIFICATIONS

Model No:		C-SBN303H8A
Application		
Evaporating Temp Range	(°C)	-15.0 ~ 12.0
Refrigerant	R404A	
Compressor Cooling	Natural Cooling	
Rated Performance		50Hz-380V / 60Hz-440V
Capacity	(W)	12320 / 14530
Input	(W)	4260 / 5230
Current	(A)	7.5/ 7.8
Revolution	(min ⁻¹)	2900 / 3450
Sound Level	(dB(A))	62 / 65
Rating Conditions		50Hz-380V / 60Hz-440V
Power Source	50Hz-380V / 60Hz-440V	
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
Measuring Point of Sound Level		
Distance from the Compressor	(m)	1.0
Compressor		
Design	Hermetic Scroll	
Displacement	(cm3)	66.8
Suction Line Connection	(Φ mm OD)	22.22
Discharge Line Connection	(Φ mm OD)	12.7
Oil	(ml)	1700(FV68S)
Mass(Incl.Oil)	(kg)	38
Motor		
Type	3-PH Induction Motor(3IR)	
Pole	2	
Rated Power Source	3Ph 50Hz 380-415V/ 3Ph 60Hz 440-460V	
Voltage Range	(V)	342~456/396~506
Starting Current	(A)	48 / 51

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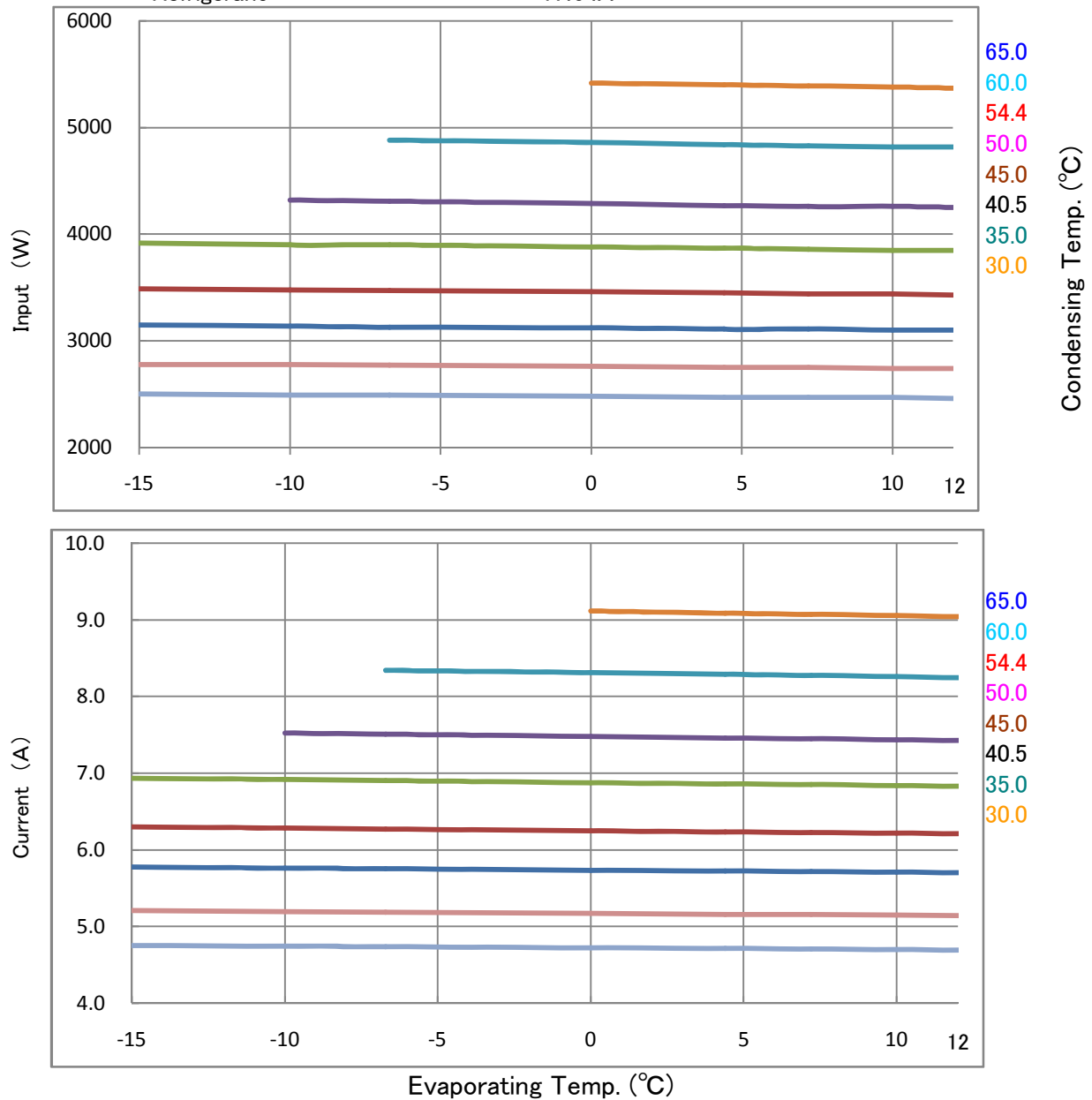
PERFORMANCE CURVE

Code No.	C-SBN303H8A
Power Source	3Ph 50Hz 380V
Condensing Temp.(°C)	30, 35, 40.5, 45, 50, 54.4, 60, 65
Suction Gas Superheat(K)	11.1
Sub Cooled(K)	8.3
Compressor Cooling	Natural Cooling
Refrigerant	R404A



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Compressor Cooling	Natural Cooling
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Capacity (W)

		Evaporating Temp. (°C)							
		-15	-10	-6.7	0	4.4	7.2	10	12
Condensing Temp. (°C)	30	8,230	10,030	11,430	14,910	17,750	19,840	22,170	24,000
	35	7,490	9,130	10,400	13,560	16,140	18,040	20,150	21,810
	40.5	6,740	8,210	9,350	12,190	14,510	16,210	18,110	19,600
	45.0	6,170	7,520	8,570	11,160	13,280	14,840	16,570	17,940
	50.0	5,600	6,820	7,770	10,120	12,040	13,440	15,010	16,240
	54.4		6,260	7,130	9,280	11,040	12,320	13,760	14,890
	60.0			6,400	8,330	9,900	11,050	12,340	13,350
	65.0				7,580	9,020	10,060	11,230	12,150

Input (W)

		Evaporating Temp. (°C)							
		-15	-10	-6.7	0	4.4	7.2	10	12
Condensing Temp. (°C)	30	2,500	2,490	2,490	2,480	2,470	2,470	2,470	2,460
	35	2,780	2,780	2,770	2,760	2,750	2,750	2,740	2,740
	40.5	3,150	3,140	3,130	3,120	3,110	3,110	3,100	3,100
	45.0	3,490	3,480	3,470	3,460	3,450	3,440	3,440	3,430
	50.0	3,920	3,900	3,900	3,880	3,870	3,860	3,850	3,850
	54.4		4,320	4,310	4,290	4,270	4,260	4,260	4,250
	60.0			4,880	4,860	4,840	4,830	4,820	4,820
	65.0				5,420	5,400	5,390	5,380	5,370

Current (A)

		Evaporating Temp. (°C)							
		-15	-10	-6.7	0	4.4	7.2	10	12
Condensing Temp. (°C)	30	4.8	4.7	4.7	4.7	4.7	4.7	4.7	4.7
	35	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.1
	40.5	5.8	5.8	5.8	5.7	5.7	5.7	5.7	5.7
	45.0	6.3	6.3	6.3	6.3	6.2	6.2	6.2	6.2
	50.0	6.9	6.9	6.9	6.9	6.9	6.9	6.8	6.8
	54.4		7.5	7.5	7.5	7.5	7.5	7.4	7.4
	60.0			8.3	8.3	8.3	8.3	8.3	8.3
	65.0				9.1	9.1	9.1	9.1	9.0

MassFlow (kg/H)

		Evaporating Temp. (°C)							
		-15	-10	-6.7	0	4.4	7.2	10	12
Condensing Temp. (°C)	30	220	250	280	350	410	440	480	510
	35	200	240	270	340	400	430	470	500
	40.5	190	230	270	340	390	430	460	490
	45.0	180	230	260	330	380	420	460	480
	50.0	180	220	250	320	380	410	450	480
	54.4		210	240	320	370	400	440	470
	60.0			240	310	360	400	430	460
	65.0				300	350	390	420	450

EER

		Evaporating Temp. (°C)							
		-15	-10	-6.7	0	4.4	7.2	10	12
Condensing Temp. (°C)	30	3.29	4.03	4.59	6.01	7.19	8.03	8.98	9.76
	35	2.69	3.28	3.75	4.91	5.87	6.56	7.35	7.96
	40.5	2.14	2.61	2.99	3.91	4.67	5.21	5.84	6.32
	45.0	1.77	2.16	2.47	3.23	3.85	4.31	4.82	5.23
	50.0	1.43	1.75	1.99	2.61	3.11	3.48	3.90	4.22
	54.4		1.45	1.65	2.16	2.59	2.89	3.23	3.50
	60.0			1.31	1.71	2.05	2.29	2.56	2.77
	65.0				1.40	1.67	1.87	2.09	2.26

Coefficients of Polynomial Formula

	Capacity (W)	Input (W)	Current (A)	MassFlow (kg/h)
C1	2.525298E+04	1.786533E+03	3.258239E+00	3.926694E+02
C2	1.027736E+03	-1.376535E+00	-1.228110E-03	1.026303E+01
C3	-4.073940E+02	-4.995771E+00	1.351309E-02	-1.372289E+00
C4	1.729125E+01	-1.252859E-02	-9.891494E-08	1.940748E-01
C5	-1.711608E+01	3.758729E-02	6.075279E-06	6.305714E-02
C6	2.089888E+00	9.366546E-01	1.178553E-03	-2.910363E-04
C7	1.228347E-01	2.380490E-04	-3.488987E-09	-1.285670E-03
C8	-1.829361E-01	2.924729E-04	2.006663E-08	-1.882725E-03
C9	9.012759E-02	-1.269283E-03	-1.160942E-06	-7.091163E-04
C10	-7.279805E-08	2.938145E-09	-7.907660E-14	-8.251031E-09

Note: The polynomial coefficients subject to change without notice.

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

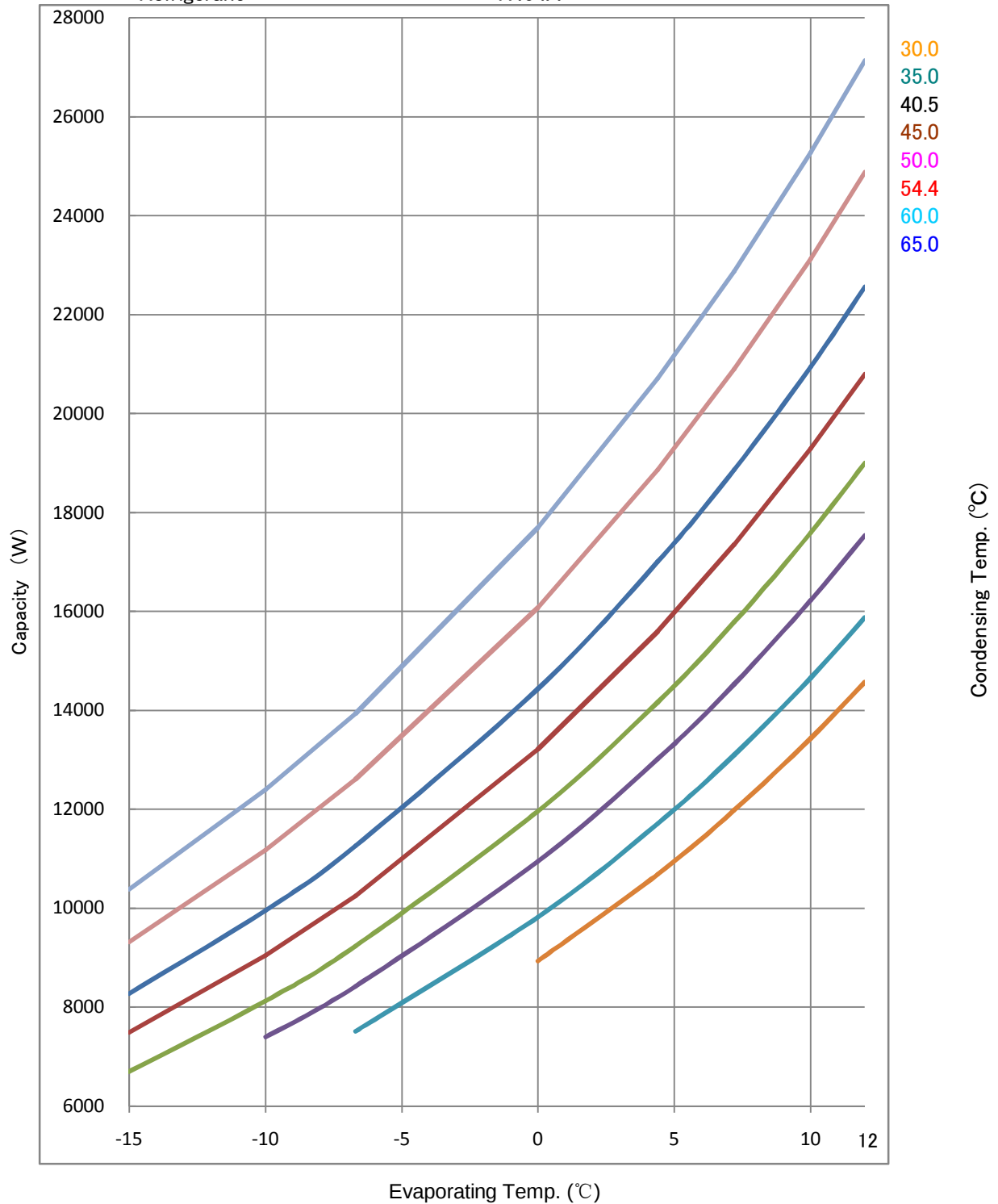
X—CAPACITY(W) OR POWER(W) OR CURRENT(A) OR MassFlow(kg/H)

S—EVAPORATING TEMP, °C

D—CONDENSING TEMP, °C

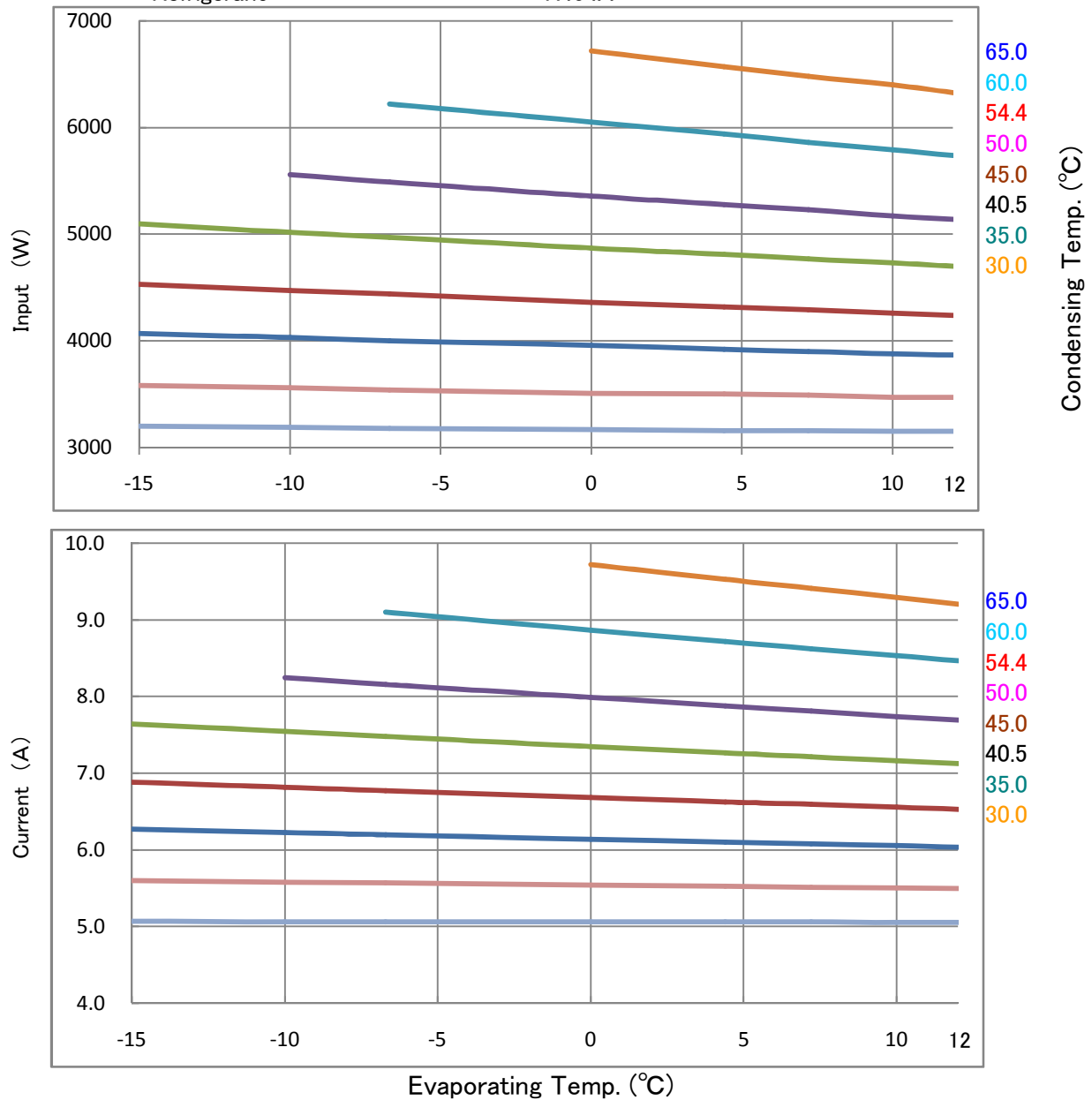
PERFORMANCE CURVE

Code No.	C-SBN303H8A
Power Source	3Ph 60Hz 440V
Condensing Temp.(°C)	30, 35, 40.5, 45, 50, 54.4, 60, 65
Suction Gas Superheat(K)	11.1
Sub Cooled(K)	8.3
Compressor Cooling	Natural Cooling
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Sub Cooled(K)	8.3
Compressor Cooling	Natural Cooling
Refrigerant	R404A

Capacity (W)

		Evaporating Temp. (°C)							
		-15	-10	-6.7	0	4.4	7.2	10	12
Condensing Temp. (°C)	30	10,380	12,400	13,940	17,700	20,710	22,880	25,280	27,140
	35	9,320	11,180	12,610	16,080	18,870	20,900	23,130	24,880
	40.5	8,270	9,960	11,260	14,440	17,010	18,870	20,940	22,560
	45.0	7,490	9,050	10,250	13,210	15,600	17,350	19,290	20,800
	50.0	6,700	8,130	9,230	11,960	14,170	15,780	17,590	19,000
	54.4		7,400	8,420	10,950	13,020	14,530	16,220	17,540
	60.0			7,510	9,820	11,710	13,100	14,660	15,880
	65.0				8,930	10,690	11,980	13,430	14,570

Input (W)

		Evaporating Temp. (°C)							
		-15	-10	-6.7	0	4.4	7.2	10	12
Condensing Temp. (°C)	30	3,200	3,190	3,180	3,170	3,160	3,160	3,150	3,150
	35	3,580	3,560	3,540	3,510	3,500	3,490	3,470	3,470
	40.5	4,070	4,030	4,000	3,960	3,920	3,900	3,880	3,870
	45.0	4,530	4,470	4,440	4,360	4,320	4,290	4,260	4,240
	50.0	5,100	5,020	4,970	4,870	4,810	4,770	4,730	4,700
	54.4		5,560	5,490	5,360	5,280	5,230	5,170	5,140
	60.0			6,220	6,050	5,940	5,860	5,790	5,740
	65.0				6,720	6,570	6,480	6,400	6,330

Current (A)

		Evaporating Temp. (°C)							
		-15	-10	-6.7	0	4.4	7.2	10	12
Condensing Temp. (°C)	30	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
	35	5.6	5.6	5.6	5.5	5.5	5.5	5.5	5.5
	40.5	6.3	6.2	6.2	6.1	6.1	6.1	6.1	6.0
	45.0	6.9	6.8	6.8	6.7	6.6	6.6	6.6	6.5
	50.0	7.6	7.5	7.5	7.4	7.3	7.2	7.2	7.1
	54.4		8.2	8.2	8.0	7.9	7.8	7.7	7.7
	60.0			9.1	8.9	8.7	8.6	8.5	8.5
	65.0				9.7	9.5	9.4	9.3	9.2

MassFlow (kg/H)

		Evaporating Temp. (°C)							
		-15	-10	-6.7	0	4.4	7.2	10	12
Condensing Temp. (°C)	30	330	340	350	410	460	510	560	590
	35	300	310	340	400	460	500	550	590
	40.5	260	290	320	390	450	490	540	580
	45.0	230	270	300	380	450	490	530	570
	50.0	200	250	290	380	440	480	530	560
	54.4		240	280	370	430	480	520	550
	60.0			270	360	430	470	510	550
	65.0				350	420	460	510	540

EER

		Evaporating Temp. (°C)							
		-15	-10	-6.7	0	4.4	7.2	10	12
Condensing Temp. (°C)	30	3.24	3.89	4.38	5.58	6.55	7.24	8.03	8.62
	35	2.60	3.14	3.56	4.58	5.39	5.99	6.67	7.17
	40.5	2.03	2.47	2.82	3.65	4.34	4.84	5.40	5.83
	45.0	1.65	2.02	2.31	3.03	3.61	4.04	4.53	4.91
	50.0	1.31	1.62	1.86	2.46	2.95	3.31	3.72	4.04
	54.4		1.33	1.53	2.04	2.47	2.78	3.14	3.41
	60.0			1.21	1.62	1.97	2.24	2.53	2.77
	65.0				1.33	1.63	1.85	2.10	2.30

Coefficients of Polynomial Formula

	Capacity (W)	Input (W)	Current (A)	MassFlow (kg/h)
C1	3.007196E+04	2.249058E+03	3.505651E+00	4.845450E+02
C2	9.694808E+02	-7.730103E+00	-3.141623E-03	2.283896E+00
C3	-4.865991E+02	-1.908499E+00	1.462959E-02	-2.929020E+00
C4	1.435574E+01	-4.800703E-02	-9.583648E-05	6.954249E-01
C5	-1.283395E+01	6.941736E-01	6.879469E-04	3.728623E-01
C6	2.482513E+00	1.087152E+00	1.245880E-03	1.476162E-02
C7	1.092187E-01	-2.246019E-03	-1.363325E-07	-7.058225E-04
C8	-1.043900E-01	1.336492E-03	2.639220E-06	-1.087883E-02
C9	5.375782E-02	-1.663115E-02	-2.014017E-05	-2.837051E-03
C10	-1.106811E-09	3.825170E-09	1.316117E-11	-5.788915E-09

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) OR MassFlow(kg/H)

S—EVAPORATING TEMP, °C

D—CONDENSING TEMP, °C

WIRING DIAGRAM
C-SB/C Series 3 phase

