

SPECIFICATIONS OF COMPRESSOR

Model No: 7CG145LA01(4)

Output : 8HP

Temporary

Sonyo Compressor (Dalian) Co.,Ltd.

02/Nov/24

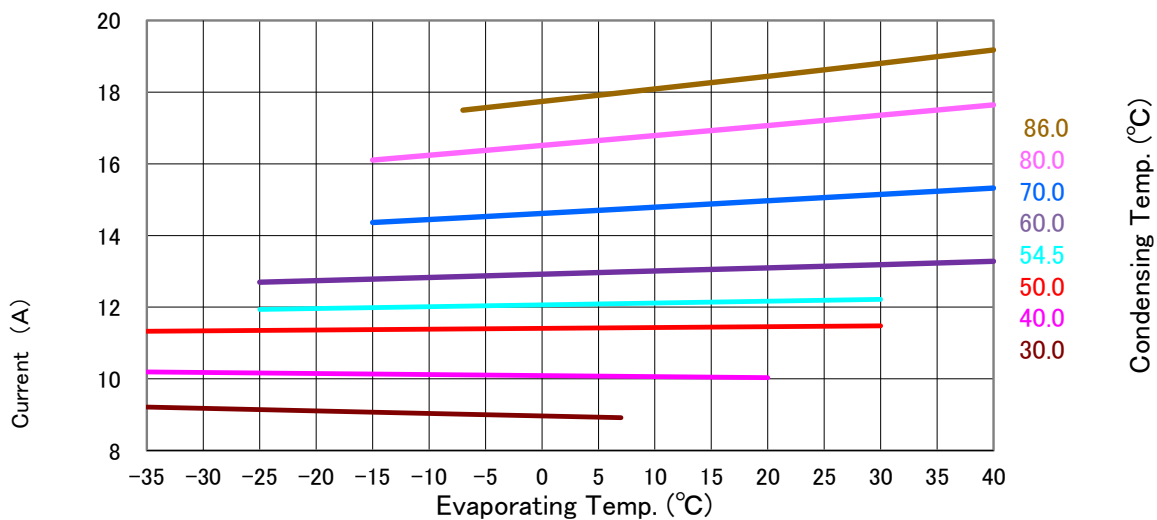
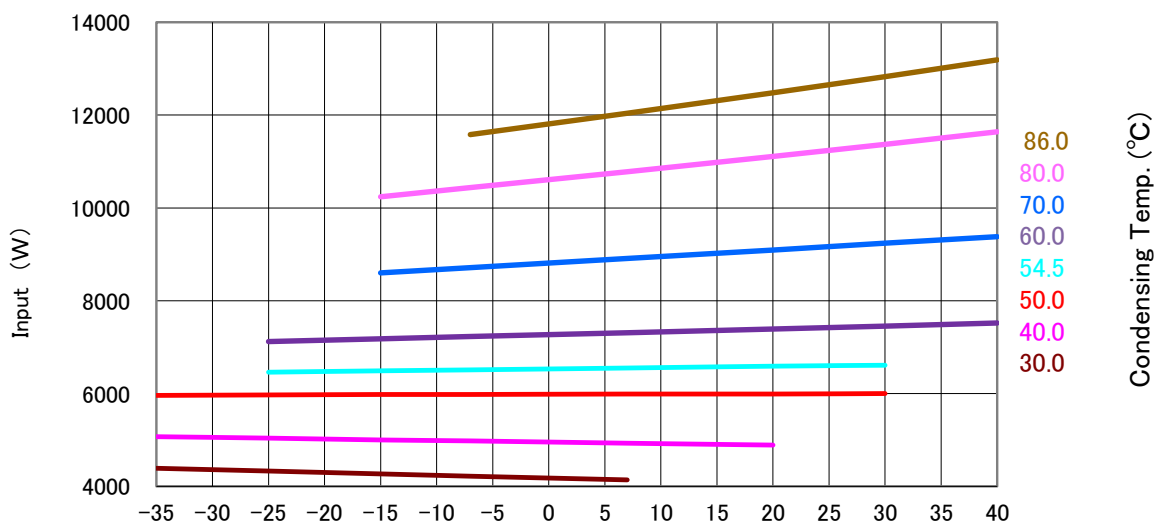
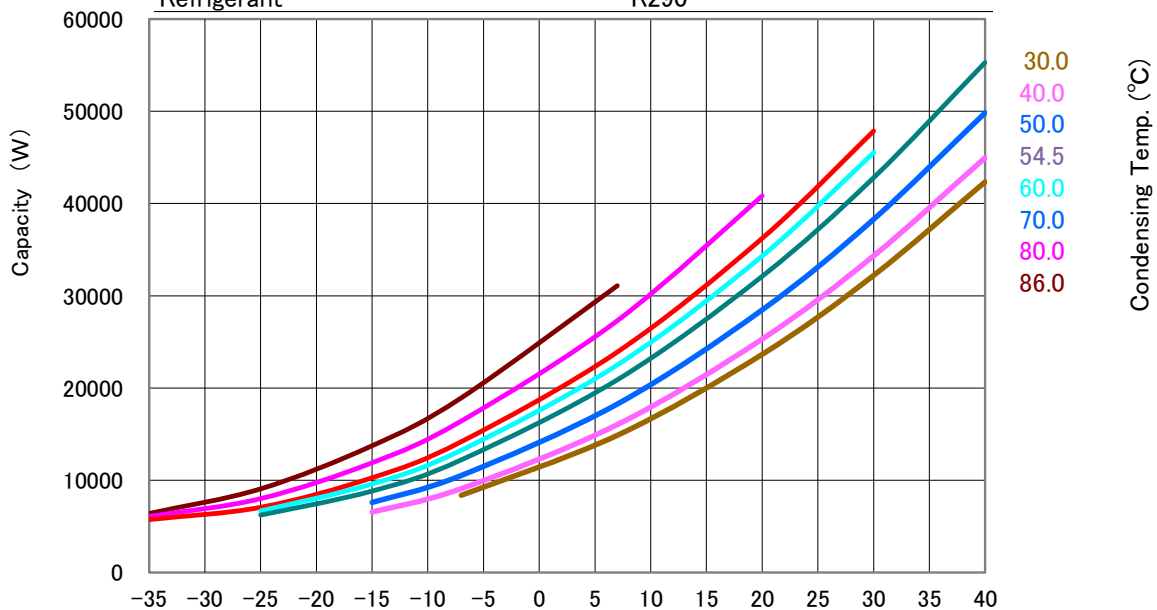
GENERAL SPECIFICATIONS

Model No:		7CG145LA01(4)	
Application			
Evaporating Temp Range	(°C)	-35 ~ 40	
Refrigerant		R290	
Compressor Cooling		Natural Cooling	
Rated Performance			
Capacity	(W)	22,500	
Input	(W)	6,550	
Current	(A)	12.1	
Revolution	(min-1)	2900	
Sound Level	(dB(A))	-	
Rating Conditions			
Power Source		3-PH	50Hz 380V
Evaporating Temp	(°C)	7	
Condensing Temp	(°C)	54.5	
Suction Gas Temp	(°C)	18.5	
Liquid Temp	(°C)	46	
Ambient Temp	(°C)	35.0	
Measuring Point of Sound Level			
Distance from the Compressor	(m)	1.0	
Compressor			
Design		Hermetic Scroll	
Displacement	(cm3)	145	
Suction Line Connection	(Φ mm OD)	28.58	
Discharge Line Connection	(Φ mm OD)	22.23	
Oil	(mL)	2500(PZ68S)	
Mass(Incl.Oil)	(kg)	60	
Motor			
Type		3-PH Induction Motor(3IR)	
Pole		2	
Rated Power Source		3-PH 50/60Hz 380-415V/440-460V	
Voltage Range	(V)	342~506	
Starting Current	(A)	-	

Sonyo Compressor (Dalian) Co.,Ltd.

PERFORMANCE CURVE

Code No.	7CG145LA01(4)
Power Source	3-PH 50Hz 380V
Condensing Temp.(°C)	30、40、50、54.5、60、70、80、86
Suction Gas Superheat(K)	11.5
Sub Cooled(K)	8.5
Compressor Cooling	Natural Cooling
Refrigerant	R290



PERFORMANCE DATA

Code No.	7CG145LA01(4)
Power Source	3-PH 50Hz 380V
Condensing Temp.(°C)	30、40、50、54.5、60、70、80、86
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Sub Cooled(K)	8.5
Compressor Cooling	Natural Cooling
Refrigerant	R290

Capacity (W)

		Evaporating Temp. (°C)							
		-35	-25	-15	-7	7	20	30	40
Condensing Temp. (°C)	30.0	6,400	9,070	13,740	18,930	31,090			
	40.0	6,070	8,010	11,900	16,420	27,300	40,830		
	50.0	5,740	7,070	10,270	14,180	23,900	36,230	47,860	
	54.5		6,680	9,600	13,260	22,500	34,310	45,520	
	60.0		6,230	8,830	12,210	20,890	32,110	42,800	55,290
	70.0			7,600	10,520	18,260	28,470	38,290	49,830
	80.0			6,560	9,090	16,030	25,310	34,330	44,960
	86.0				8,370	14,870	23,650	32,210	42,340

Input (W)

		Evaporating Temp. (°C)							
		-35	-25	-15	-7	7	20	30	40
Condensing Temp. (°C)	30.0	4,390	4,330	4,270	4,220	4,140			
	40.0	5,070	5,040	5,000	4,980	4,930	4,890		
	50.0	5,960	5,970	5,980	5,980	5,990	5,990	6,000	
	54.5		6,460	6,490	6,510	6,550	6,590	6,610	
	60.0		7,120	7,180	7,230	7,310	7,390	7,450	7,520
	70.0			8,600	8,710	8,910	9,090	9,240	9,380
	80.0			10,240	10,440	10,780	11,110	11,370	11,640
	86.0				11,580	12,040	12,480	12,830	13,190

Current (A)

		Evaporating Temp. (°C)							
		-35	-25	-15	-7	7	20	30	40
Condensing Temp. (°C)	30.0	9.2	9.1	9.1	9.0	8.9			
	40.0	10.2	10.2	10.1	10.1	10.1	10.0		
	50.0	11.3	11.4	11.4	11.4	11.4	11.5	11.5	
	54.5		11.9	12.0	12.0	12.1	12.2	12.2	
	60.0		12.7	12.8	12.9	13.0	13.1	13.2	13.3
	70.0			14.4	14.5	14.7	15.0	15.1	15.3
	80.0			16.1	16.3	16.7	17.1	17.4	17.6
	86.0				17.5	18.0	18.4	18.8	19.2

PERFORMANCE DATA

MassFlow(kg/H)

		Evaporating Temp. (°C)							
		-35	-25	-15	-7	7	20	30	40
Condensing Temp. (°C)	30.0	74	102	147	195	305			
	40.0	73	99	143	190	299	431		
	50.0	72	97	139	185	294	425	546	
	54.5		95	137	183	291	422	544	
	60.0		94	135	181	288	419	541	681
	70.0			131	176	283	414	536	676
	80.0			128	172	278	409	531	671
	86.0				169	275	405	527	668

COP

		Evaporating Temp. (°C)							
		-30	-20	-7	0	7	20	30	40
Condensing Temp. (°C)	35.0	1.46	2.09	3.22	4.49	7.51			
	45.0	1.20	1.59	2.38	3.30	5.54	8.35		
	54.5	0.96	1.18	1.72	2.37	3.99	6.05	7.98	
	60.0		1.03	1.48	2.04	3.44	5.21	6.89	
	65.0		0.88	1.23	1.69	2.86	4.35	5.74	7.35
	70.0			0.88	1.21	2.05	3.13	4.14	5.31
	75.0			0.64	0.87	1.49	2.28	3.02	3.86
	80.0				0.72	1.24	1.90	2.51	3.21

Coefficients of Polynomial Formula

	Capacity (W)	Input (W)	Current (A)	MassFlow(kg/H)
C1	3.568171E+04	3.426973E+03	6.761215E+00	2.628812E+02
C2	1.192644E+03	3.410224E-01	-9.112266E-03	8.036386E+00
C3	-4.201097E+02	-1.343880E+01	4.457979E-02	-5.958206E-01
C4	1.121231E+01	-1.967575E-02	-1.391875E-05	7.920916E-02
C5	-1.202259E+01	-4.997441E-01	-1.529907E-04	-6.435932E-03
C6	1.571198E+00	1.290489E+00	9.665997E-04	7.993613E-04
C7	-4.571642E-04	2.416286E-05	1.705848E-08	4.038195E-06
C8	-3.776592E-02	4.702310E-04	3.634386E-07	1.710586E-04
C9	4.138912E-02	9.983605E-03	7.595217E-06	7.451921E-06
C10	1.072757E-08	-3.780615E-09	1.887611E-12	1.431048E-09

Note:The polynomial coefficients subject to change without notice.

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

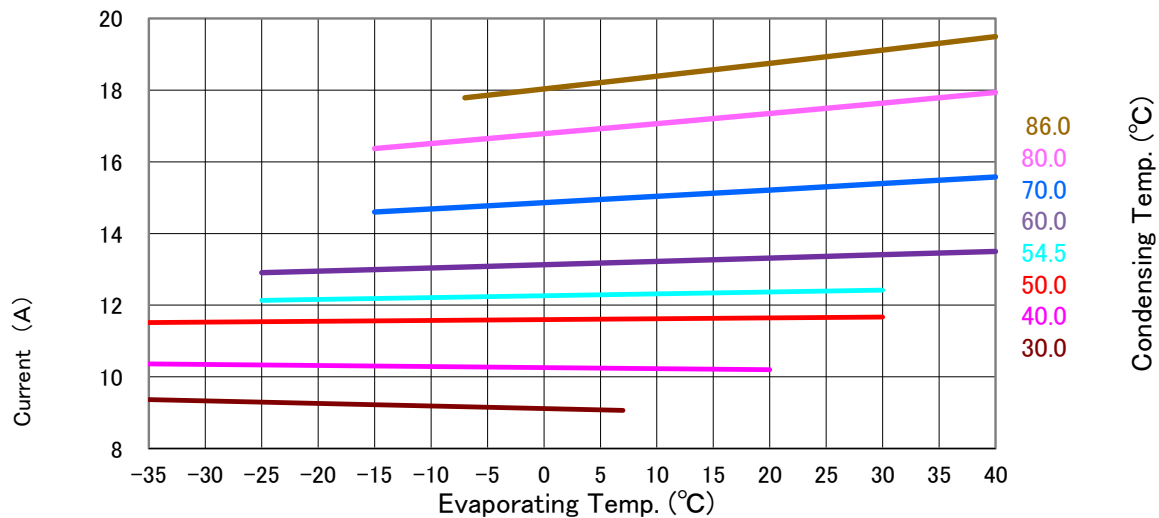
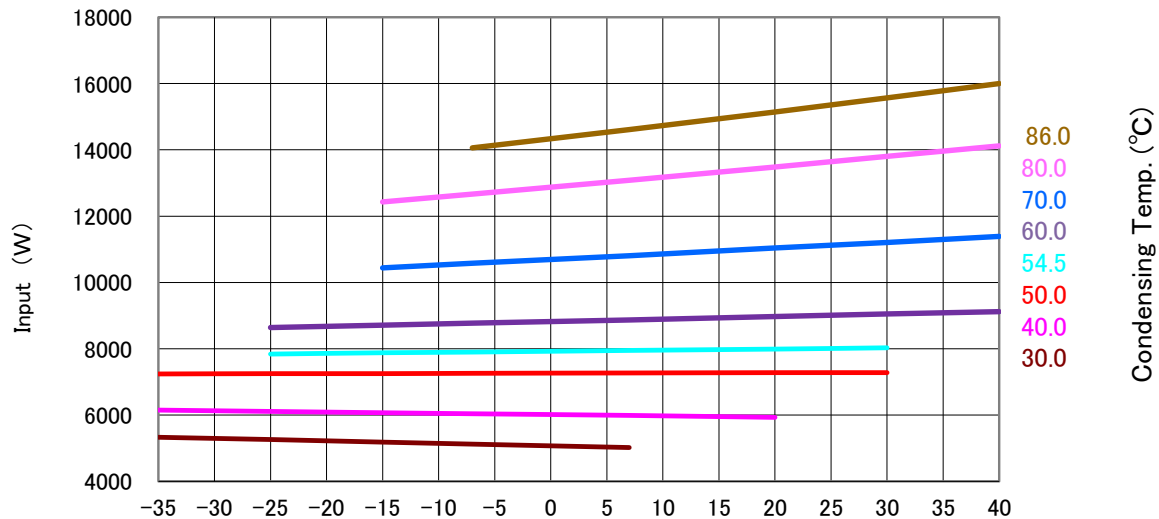
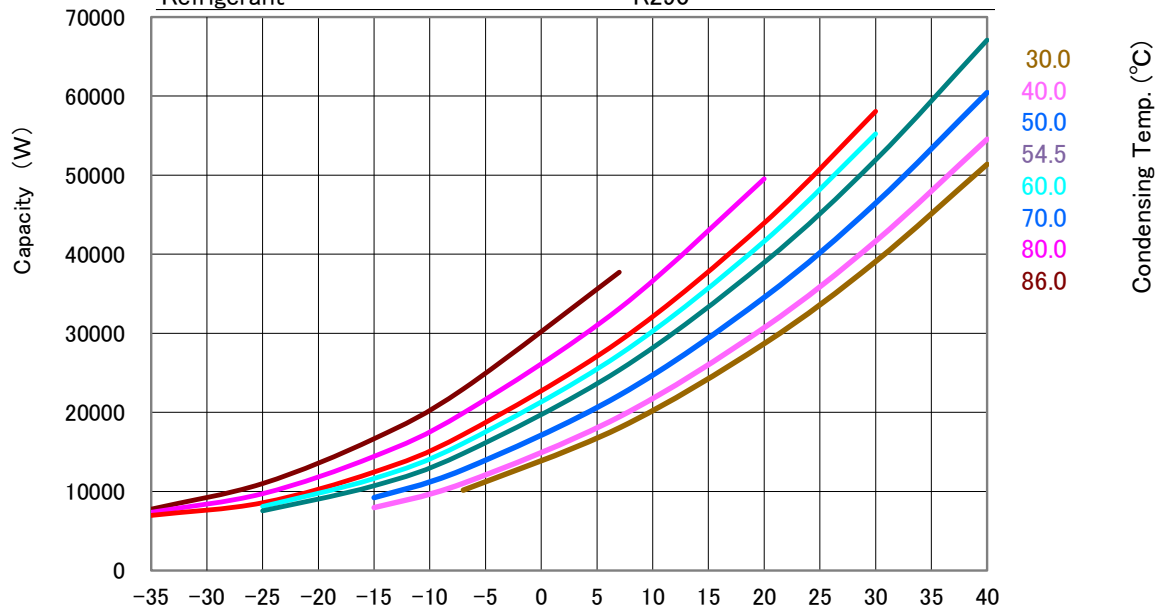
X—CAPACITY(W) OR POWER(W) OR CURRENT(A)

S—EVAPORATING TEMP, °C

D—CONDENSING TEMP, °C

PERFORMANCE CURVE

Code No.	7CG145LA01(4)
Power Source	3-PH 60Hz 440V
Condensing Temp.(°C)	30、40、50、54.5、60、70、80、86
Suction Gas Superheat(K)	11.5
Sub Cooled(K)	8.5
Compressor Cooling	Natural Cooling
Refrigerant	R290



PERFORMANCE DATA

Code No.	7CG145LA01(4)
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Suction Gas Temp.(°C)	11.5
Sub Cooled(K)	8.5
Compressor Cooling	Natural Cooling
Refrigerant	R290

Capacity (W)

		Evaporating Temp. (°C)							
		-35	-25	-15	-7	7	20	30	40
Condensing Temp. (°C)	30.0	7,760	11,000	16,670	22,960	37,730			
	40.0	7,360	9,720	14,440	19,920	33,130	49,540		
	50.0	6,970	8,570	12,460	17,200	29,000	43,950	58,070	
	54.5		8,100	11,640	16,090	27,300	41,630	55,230	
	60.0		7,550	10,720	14,810	25,350	38,960	51,930	67,090
	70.0			9,220	12,760	22,160	34,540	46,460	60,450
	80.0			7,960	11,030	19,440	30,710	41,650	54,550
	86.0				10,160	18,040	28,700	39,080	51,370

Input (W)

		Evaporating Temp. (°C)							
		-35	-25	-15	-7	7	20	30	40
Condensing Temp. (°C)	30.0	5,330	5,260	5,180	5,120	5,020			
	40.0	6,150	6,110	6,070	6,040	5,990	5,930		
	50.0	7,240	7,250	7,250	7,260	7,270	7,280	7,280	
	54.5		7,840	7,880	7,900	7,950	7,990	8,030	
	60.0		8,640	8,710	8,770	8,870	8,970	9,050	9,120
	70.0			10,440	10,580	10,810	11,040	11,210	11,390
	80.0			12,430	12,670	13,080	13,480	13,800	14,120
	86.0				14,060	14,610	15,140	15,570	16,000

Current (A)

		Evaporating Temp. (°C)							
		-35	-25	-15	-7	7	20	30	40
Condensing Temp. (°C)	30.0	9.4	9.3	9.2	9.2	9.1			
	40.0	10.4	10.3	10.3	10.3	10.2	10.2		
	50.0	11.5	11.5	11.6	11.6	11.6	11.6	11.7	
	54.5		12.1	12.2	12.2	12.3	12.4	12.4	
	60.0		12.9	13.0	13.1	13.2	13.3	13.4	13.5
	70.0			14.6	14.7	15.0	15.2	15.4	15.6
	80.0			16.4	16.6	17.0	17.4	17.6	17.9
	86.0				17.8	18.3	18.7	19.1	19.5

PERFORMANCE DATA

MassFlow(kg/H)

		Evaporating Temp. (°C)							
		-35	-25	-15	-7	7	20	30	40
Condensing Temp. (°C)	30.0	90	124	178	236	369			
	40.0	89	120	173	230	362	521		
	50.0	87	117	168	224	355	515	662	
	54.5		116	166	222	352	512	659	
	60.0		114	163	219	349	508	655	824
	70.0			159	213	343	501	649	818
	80.0			155	208	336	495	642	812
	86.0				205	333	491	639	809

COP

		Evaporating Temp. (°C)							
		-35	-25	-15	-7	7	20	30	40
Condensing Temp. (°C)	30.0	1.46	2.09	3.22	4.48	7.52			
	40.0	1.20	1.59	2.38	3.30	5.53	8.35		
	50.0	0.96	1.18	1.72	2.37	3.99	6.04	7.98	
	54.5		1.03	1.48	2.04	3.43	5.21	6.88	
	60.0		0.87	1.23	1.69	2.86	4.34	5.74	7.36
	70.0			0.88	1.21	2.05	3.13	4.14	5.31
	80.0			0.64	0.87	1.49	2.28	3.02	3.86
	86.0				0.72	1.23	1.90	2.51	3.21

Coefficients of Polynomial Formula

	Capacity (W)	Input (W)	Current (A)	MassFlow(kg/H)
C1	4.330006E+04	4.147946E+03	6.872935E+00	3.165170E+02
C2	1.447400E+03	8.781496E-02	-9.266526E-03	9.692540E+00
C3	-5.099552E+02	-1.595149E+01	4.531825E-02	-6.591036E-01
C4	1.359978E+01	-1.809071E-02	-1.415515E-05	9.713314E-02
C5	-1.459309E+01	-5.938138E-01	-1.553812E-04	-6.296673E-03
C6	1.908037E+00	1.563365E+00	9.825605E-04	4.402838E-04
C7	-6.360537E-04	5.900735E-05	1.759120E-08	6.936146E-06
C8	-4.577082E-02	5.108058E-04	3.696329E-07	1.897657E-04
C9	5.024441E-02	1.199848E-02	7.719498E-06	-5.749915E-06
C10	8.925271E-09	-8.781452E-09	-5.156476E-12	-1.156851E-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)

S—EVAPORATING TEMP, °C

D—CONDENSING TEMP, °C