

SCROLL COMPRESSORS

Model : C-SBP170H38B



Panasonic Appliances Compressor (Dalian) Co., Ltd.

Rev. 2021

Scroll Compressor

Model	<u>C-SBP170H38B</u>
Refrigerant	<u>R410A</u>

Electrical	<u>380-415 Volts 3 Phase 50Hz</u>
	<u>440-460 Volts 3 Phase 60Hz</u>

Nominal Performance at ARI

Power Source	<u>50Hz-380V</u>	<u>60Hz-440V</u>
Capacity (W)	<u>14200</u>	<u>17300</u>
Power (W)	<u>4750</u>	<u>5700</u>
Current (A)	<u>8.7</u>	<u>8.7</u>
COP (W/W)	<u>2.99</u>	<u>3.04</u>
Mass Flow (kg/h)	<u>327</u>	<u>391</u>

Rating Conditions

Condensing Temperature(°C)	<u>54.4</u>
Evaporating Temperature(°C)	<u>7.2</u>
Return Gas temperature(°C)	<u>18.3</u>
Liquid Temperature(°C)	<u>46.1</u>
Ambient Temperature(°C)	<u>35</u>

Motor

	50Hz	60Hz
Voltage Range(V)	<u>342-456</u>	<u>396-506</u>
RLA (A)	<u>-</u>	<u>-</u>
MCC (A)	<u>-</u>	<u>-</u>
LRA (A)	<u>73</u>	<u>-</u>
RPM (min ⁻¹)	<u>2900</u>	<u>3450</u>

Compressor

Maximum Discharge Temp(°C)	<u>130</u>
Displacement (cm ³ /rev)	<u>55.7</u>
Weight (with oil kg)	<u>39</u>

Oil

Oil Type	<u>FV68S</u>
Initial Charge (ml)	<u>1700</u>
Re-charge (ml)	<u>1600</u>

Electrical Components

Motor Protector Type	<u>Internal</u>
Run Capacitor Rating (MFD/Volts)	<u>n/a</u>

Nominal performance values +/-5% with 1 hr run-in.

Ratings with air over compressor.

Specifications subject to change without notice.

PERFORMANCE DATA

Compressor Model	C-SBP170H38B
Power Source	3PH 50Hz 380~415V
Suction Gas Superheat(K)	11.1
Sub Cooling(K)	8.3
Compressor Cooling	Natural Cooling
Refrigerant	R410A

CAPACITY(W)

Condensing Temperature(°C)	Evaporating Temperature(°C)							
	-15	-10	-6.7	0	4.4	7.2	10	12
35.0	8,290	10,010	11,340	14,620	17,270	19,200	21,350	23,030
40.5	7,600	9,190	10,410	13,430	15,870	17,650	19,630	21,170
45.0	7,080	8,560	9,700	12,510	14,790	16,450	18,300	19,750
50.0	6,530	7,900	8,960	11,570	13,680	15,220	16,930	18,270
54.4		7,370	8,350	10,790	12,760	14,200	15,800	17,050
60.0			7,640	9,880	11,690	13,010	14,480	15,630
65.0				9,140	10,820	12,040	13,410	14,480

POWER(W)

Condensing Temperature(°C)	Evaporating Temperature(°C)							
	-15	-10	-6.7	0	4.4	7.2	10	12
35.0	3,060	3,060	3,050	3,030	3,010	3,000	2,980	2,970
40.5	3,470	3,460	3,450	3,430	3,400	3,390	3,370	3,360
45.0	3,870	3,850	3,840	3,800	3,780	3,760	3,740	3,730
50.0	4,370	4,340	4,320	4,280	4,250	4,230	4,220	4,200
54.4		4,830	4,800	4,750	4,720	4,700	4,680	4,670
60.0			5,480	5,410	5,380	5,360	5,340	5,330
65.0				6,070	6,030	6,010	6,000	5,990

CURRENT(A)**@380V**

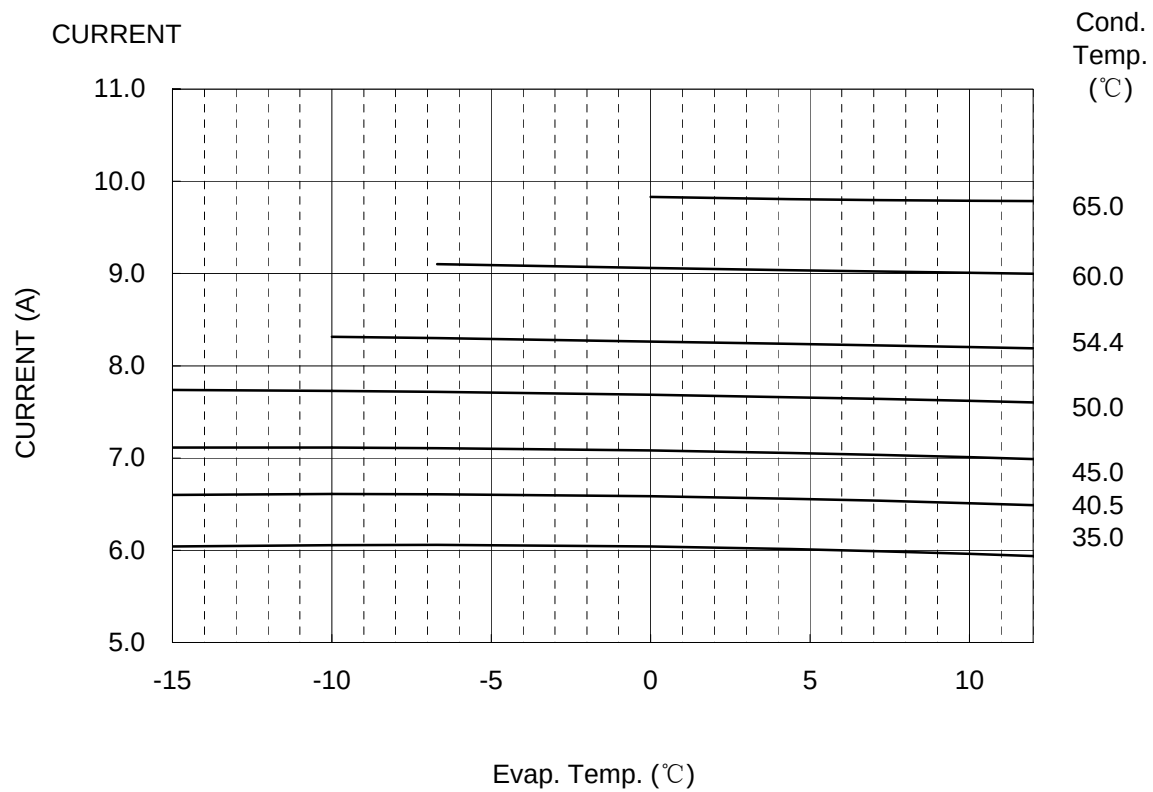
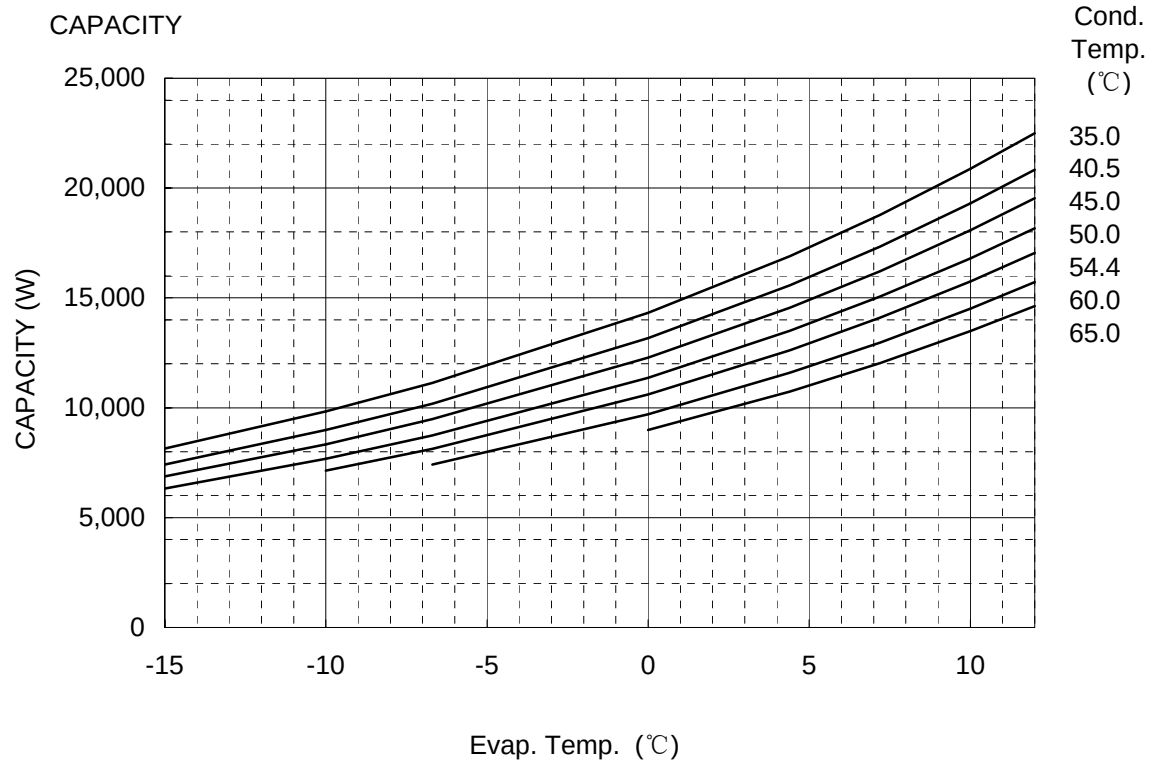
Condensing Temperature(°C)	Evaporating Temperature(°C)							
	-15	-10	-6.7	0	4.4	7.2	10	12
35.0	6.2	6.2	6.2	6.2	6.2	6.2	6.1	6.1
40.5	6.9	6.9	6.9	6.8	6.8	6.8	6.8	6.7
45.0	7.5	7.5	7.4	7.4	7.4	7.3	7.3	7.3
50.0	8.2	8.2	8.1	8.1	8.0	8.0	8.0	8.0
54.4		8.9	8.8	8.7	8.7	8.7	8.7	8.6
60.0			9.8	9.7	9.6	9.6	9.6	9.5
65.0				10.5	10.5	10.5	10.4	10.4

NOTE:

* The performance values subject to change without notice.

Compressor Model
Power Source

C-SBP170H38B
3PH 50Hz 380-415V



COEFFICIENTS OF PERFORMANCE CURVES

Compressor Model **C-SBP170H38B**
 Power Source **3PH 50Hz 380-415V**
 Suction Gas Superheat (K) **11.1**
 Sub Cooling (K) **8.3**
 Compressor Cooling **Natural Cooling**
 Refrigerant **R410A**

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

X——CAPACITY(W) OR POWER(W) OR CURRENT(A) OR FLOW(kg/h)

S——EVAPORATING TEMP, °C

D——CONDENSING TEMP, °C

<u>380V-50Hz</u>	CAPACITY (W)	POWER (W)	CURRENT (A)
C1	2.354166E+04	2.498193E+03	4.177193E+00
C2	8.263569E+02	-3.713576E+00	-1.507840E-03
C3	-3.097891E+02	-2.631897E+01	1.400488E-02
C4	1.364960E+01	-3.480457E-01	-8.696072E-04
C5	-9.357483E+00	1.316946E-01	-1.330550E-04
C6	1.321054E+00	1.259463E+00	1.122924E-03
C7	1.134214E-01	2.752273E-04	1.015386E-06
C8	-9.474550E-02	5.343033E-03	1.507434E-05
C9	3.451120E-02	-3.088744E-03	1.062066E-06
C10	7.338276E-09	1.655876E-09	-1.957214E-12

Note: The polynomial coefficients subject to change without notice.

PERFORMANCE DATA

Compressor Model	C-SBP170H38B
Power Source	3PH 60Hz 440-460V
Suction Gas Superheat(°C)	11.1
Sub Cooling(°C)	8.3
Compressor Cooling	Natural Cooling
Refrigerant	R410A

CAPACITY(W)

Condensing Temperature(°C)	Evaporating Temperature(°C)							
	-15	-10	-6.7	0	4.4	7.2	10	12
35.0	10,090	12,200	13,820	17,810	21,040	23,400	26,010	28,060
40.5	9,260	11,190	12,690	16,360	19,330	21,500	23,910	25,800
45.0	8,620	10,420	11,820	15,250	18,020	20,050	22,300	24,060
50.0	7,960	9,630	10,920	14,090	16,660	18,540	20,620	22,260
54.4		8,970	10,180	13,140	15,550	17,300	19,250	20,780
60.0			9,310	12,030	14,240	15,850	17,640	19,040
65.0				11,130	13,180	14,670	16,340	17,640

POWER(W)

Condensing Temperature(°C)	Evaporating Temperature(°C)							
	-15	-10	-6.7	0	4.4	7.2	10	12
35.0	3,710	3,710	3,700	3,680	3,650	3,630	3,610	3,600
40.5	4,210	4,200	4,190	4,160	4,130	4,110	4,090	4,070
45.0	4,690	4,670	4,650	4,610	4,580	4,560	4,540	4,520
50.0	5,300	5,260	5,240	5,190	5,160	5,140	5,110	5,100
54.4		5,850	5,820	5,760	5,720	5,700	5,680	5,660
60.0			6,640	6,570	6,520	6,500	6,480	6,470
65.0				7,360	7,320	7,290	7,270	7,260

CURRENT(A)

@380V

Condensing Temperature(°C)	Evaporating Temperature(°C)							
	-15	-10	-6.7	0	4.4	7.2	10	12
35.0	6.3	6.3	6.2	6.2	6.2	6.2	6.2	6.1
40.5	6.9	6.9	6.9	6.8	6.8	6.8	6.8	6.8
45.0	7.5	7.5	7.5	7.4	7.4	7.4	7.3	7.3
50.0	8.2	8.2	8.2	8.1	8.1	8.0	8.0	8.0
54.4		8.9	8.8	8.8	8.7	8.7	8.7	8.7
60.0			9.8	9.7	9.6	9.6	9.6	9.6
65.0				10.6	10.5	10.5	10.5	10.4

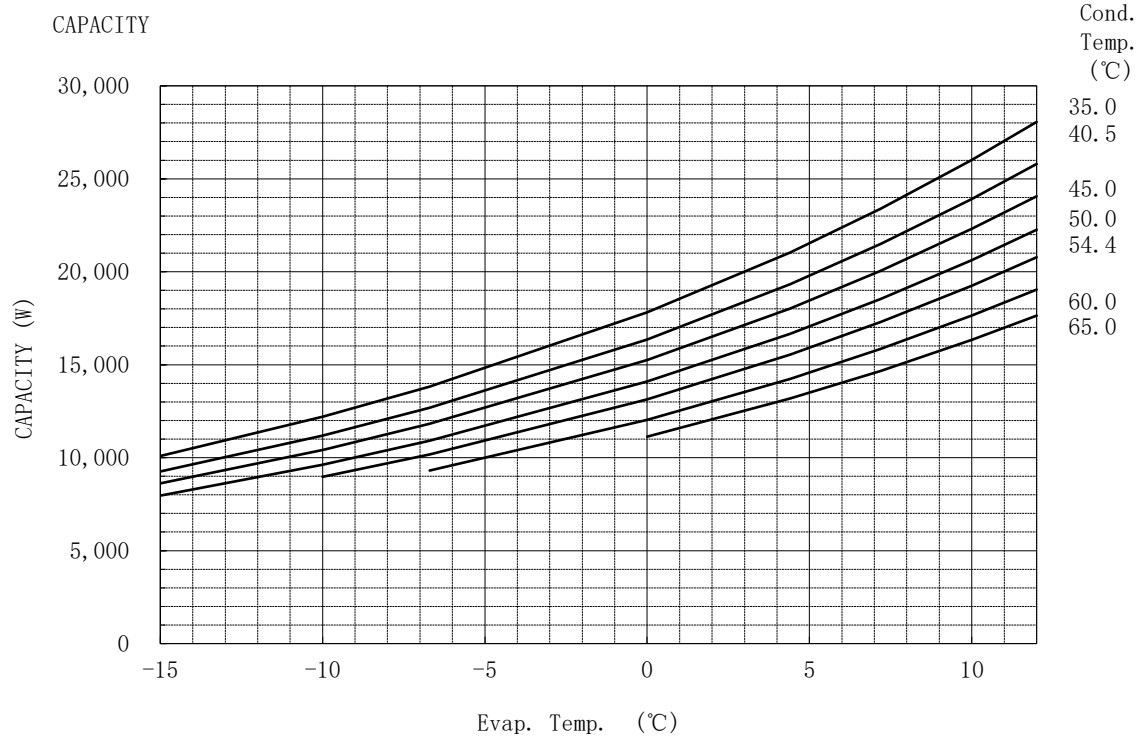
FLOW (kg/h)

@380V

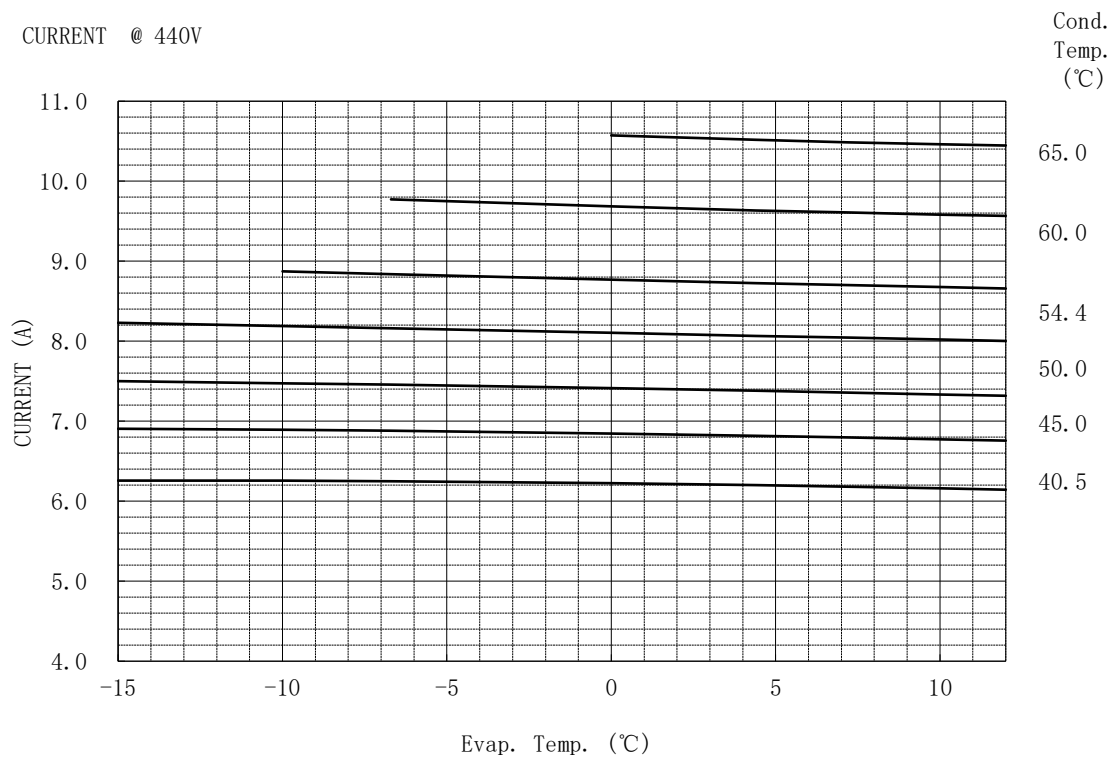
Condensing Temperature(°C)	Evaporating Temperature(°C)							
	-15	-10	-6.7	0	4.4	7.2	10	12
35.0	187.8	227.9	257.7	326.4	377.4	412.4	449.3	476.8
40.5	181.2	220.3	249.6	317.7	368.7	403.7	440.7	468.4
45.0	176.0	214.2	243.2	310.8	361.6	396.7	433.8	461.6
50.0	170.3	207.7	236.2	303.2	354.0	389.0	426.3	454.2
54.4		202.2	230.2	296.8	347.4	382.4	419.7	447.7
60.0			222.9	288.7	339.2	374.2	411.6	439.7
65.0				281.7	332.0	367.0	404.4	432.6

Compressor Model(Code)
Power Source

C-SBP170H38B
3PH 60Hz 440-460V



CURRENT @ 440V



COEFFICIENTS OF PERFORMANCE CURVES

Compressor Model	C-SBP170H38B
Power Source	3PH 60Hz 440-460V
Suction Gas Superheat (K)	11.1
Sub Cooling (K)	8.3
Compressor Cooling	Natural Cooling
Refrigerant	R410A

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

X—CAPACITY(W) OR POWER(W) OR CURRENT(A) OR FLOW(kg/h)

S—EVAPORATING TEMP, °C

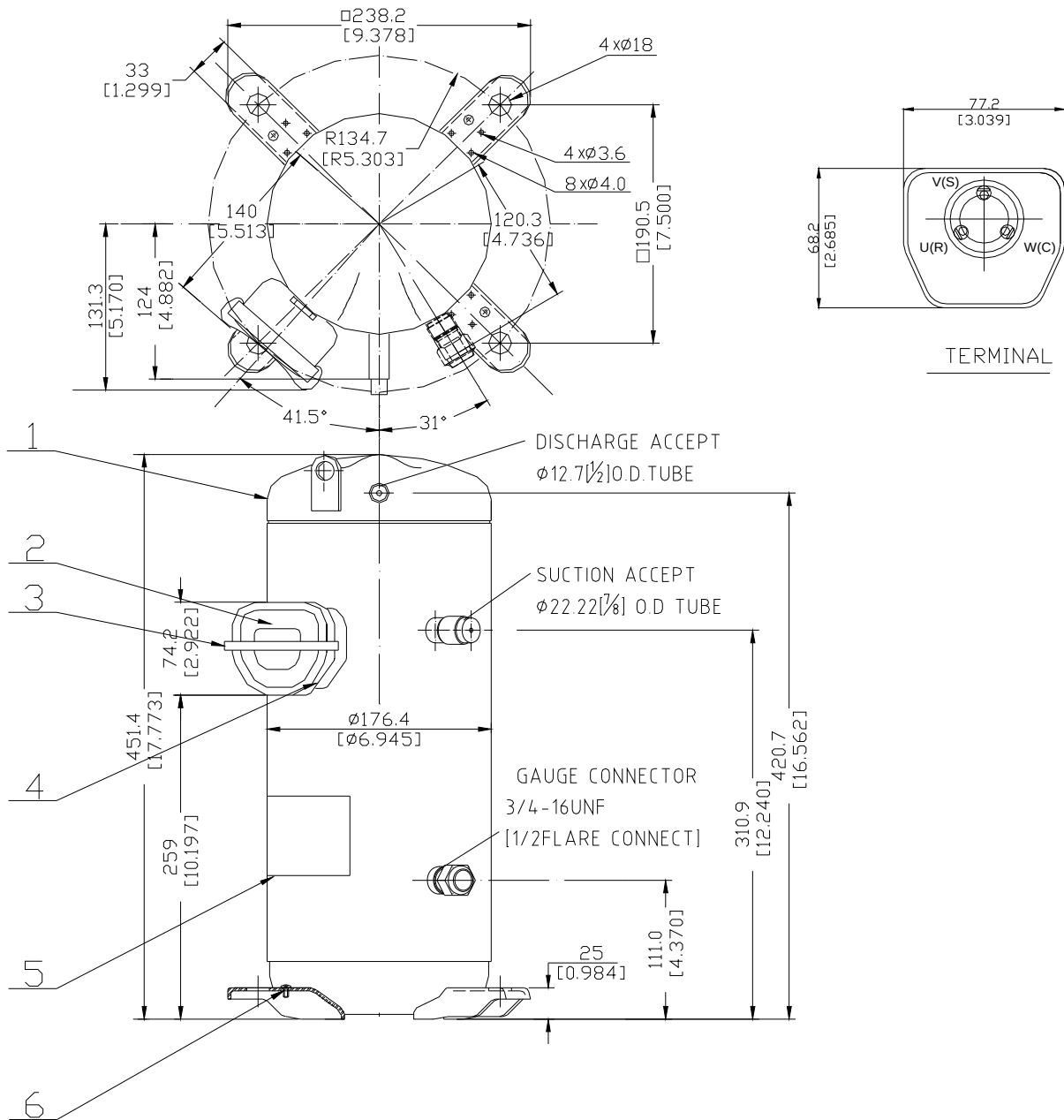
D—CONDENSING TEMP, °C

<u>440V-60Hz</u>	CAPACITY (W)	POWER (W)	CURRENT (A)	FLOW (kg/h)
C1	2.952040E+04	2.739880E+03	4.165163E+00	3.863636E+02
C2	1.133339E+03	-2.724621E+00	-2.467558E-03	1.126731E+01
C3	-3.950647E+02	-2.488622E+01	1.259750E-02	-1.836218E+00
C4	1.874720E+01	-6.139226E-01	-6.706195E-04	8.714233E-02
C5	-1.551180E+01	1.461733E-02	5.383535E-05	-2.800174E-03
C6	1.726841E+00	1.477508E+00	1.323356E-03	3.478636E-03
C7	1.376352E-01	1.434090E-03	8.322801E-07	-1.275843E-05
C8	-1.655578E-01	1.221447E-02	1.363717E-05	1.006783E-03
C9	7.123861E-02	-2.260779E-03	-3.490052E-06	-7.986334E-05
C10	-1.547608E-08	-7.679756E-09	-6.637962E-12	-8.895171E-11

Note: The polynomial coefficients subject to change without notice.

DIMENSIONAL SKETCH

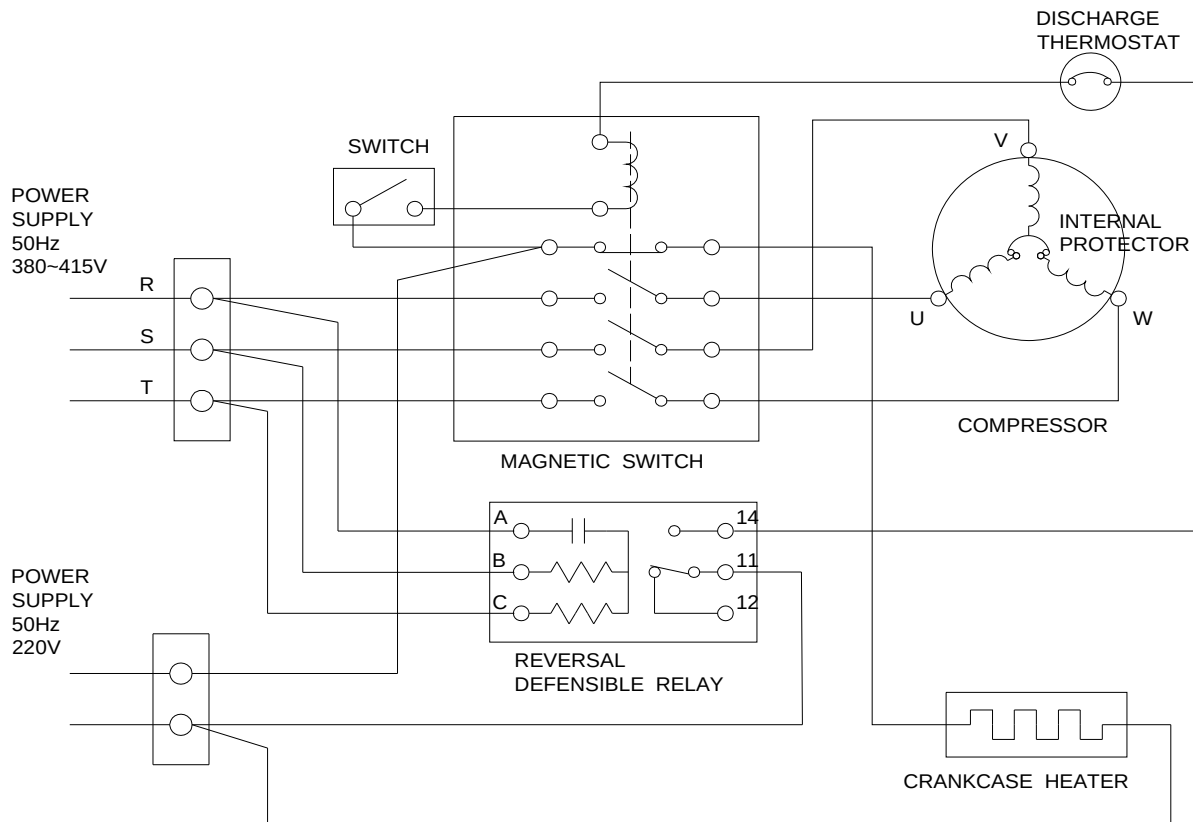
C-SB Tandem Series



No.	Qty	Name
1	1	Compressor
2	1	Terminal Box Cover
3	1	Terminal Box Clip
4	1	Insulating Grommet
5	1	Nameplate
6	1	Screw Special

WIRING & MOUNTING SKETCH

WIRING DIAGRAM C-SB Series 3phase B8



MOUNTING SKETCH

