



SANYO SCROLL COMPRESSORS

Model : C-SBP160H38B



DALIAN SANYO COMPRESSOR CO.,LTD.

Rev. 2010-12

SANYO Scroll Compressor**Model** C-SBP160H38B**Refrigerant** R410A**Electrical** 380-415 Volts 3 Phase 50Hz440-460 Volts 3 Phase 60Hz**Nominal Performance at ARI**

Power Source	<u>50Hz-380V</u>	<u>60Hz-440V</u>
Capacity (W)	<u>13200</u>	<u>16200</u>
Power (W)	<u>4600</u>	<u>5400</u>
Current (A)	<u>8.61</u>	<u>8.55</u>
COP (W/W)	<u>2.87</u>	<u>3.00</u>
Mass Flow (kg/h)	<u>303</u>	<u>371</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>11.9</u>	
MCC (A)	<u>16.7</u>	
LRA (A)	<u>73</u>	<u>73</u>
RPM (min ⁻¹)	<u>2900</u>	<u>3450</u>

Compressor

Maximum Discharge Temp(°C)	<u>130</u>
Displacement (cm ³ /rev)	<u>51.8</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.

Made by: Dalian **SANYO** Compressor Co., Ltd.

PERFORMANCE DATA

Compressor Model	C-SBP160H38B
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	7,080	8,680	9,940	13,060	15,630	17,530	19,650	21,320
40.5	6,550	8,030	9,190	12,070	14,450	16,190	18,150	19,690
45.0	6,150	7,530	8,620	11,310	13,530	15,160	16,990	18,430
50.0	5,720	7,010	8,010	10,520	12,570	14,090	15,780	17,120
54.4		6,580	7,520	9,860	11,780	13,200	14,790	16,030
60.0			6,930	9,080	10,850	12,150	13,610	14,750
65.0				8,450	10,090	11,290	12,640	13,700

POWER(W)

Condensing Temperature(°C)	Evaporating Temperature(°C)							
	-15	-10	-6.7	0	4.4	7.2	10	12
35.0	3,090	3,110	3,110	3,080	3,040	3,000	2,960	2,920
40.5	3,470	3,480	3,480	3,450	3,400	3,360	3,320	3,280
45.0	3,830	3,840	3,840	3,800	3,750	3,710	3,670	3,630
50.0	4,290	4,300	4,290	4,250	4,200	4,160	4,110	4,080
54.4		4,750	4,740	4,690	4,640	4,600	4,560	4,520
60.0			5,370	5,320	5,270	5,230	5,180	5,150
65.0				5,940	5,890	5,850	5,810	5,780

CURRENT(A)

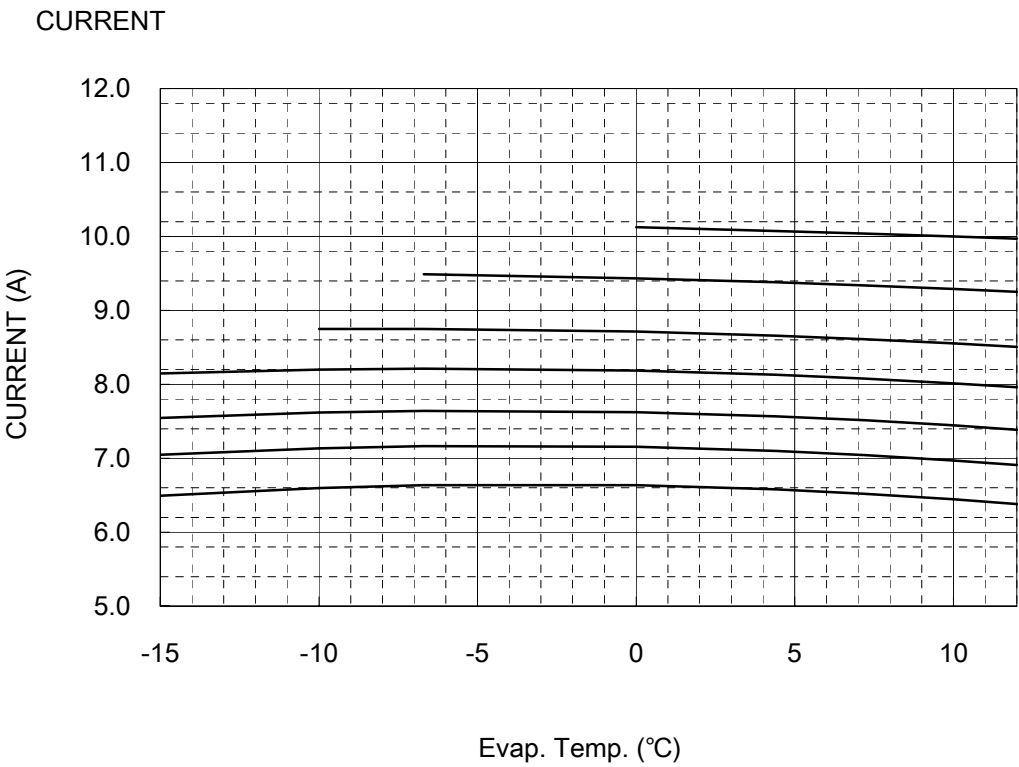
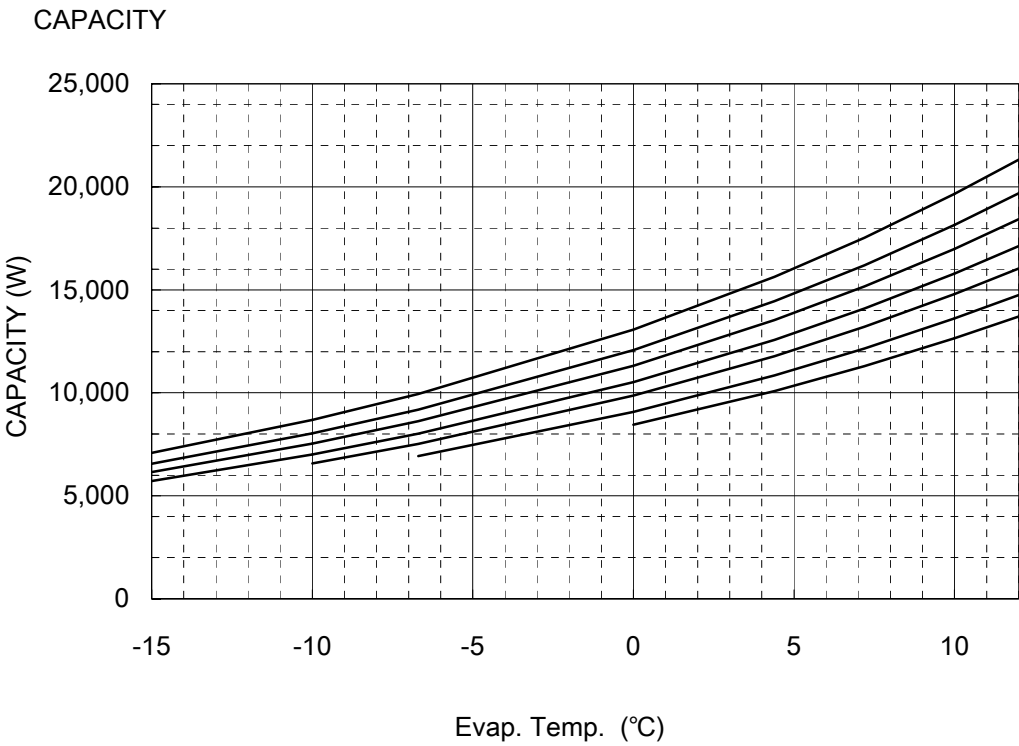
Condensing Temperature(°C)	Evaporating Temperature(°C)							
	-15	-10	-6.7	0	4.4	7.2	10	12
35.0	6.5	6.6	6.6	6.6	6.6	6.5	6.4	6.4
40.5	7.0	7.1	7.2	7.2	7.1	7.0	7.0	6.9
45.0	7.5	7.6	7.6	7.6	7.6	7.5	7.4	7.4
50.0	8.1	8.2	8.2	8.2	8.1	8.1	8.0	8.0
54.4		8.7	8.8	8.7	8.7	8.6	8.6	8.5
60.0			9.5	9.4	9.4	9.3	9.3	9.3
65.0				10.1	10.1	10.0	10.0	10.0

NOTE:

* The performance values subject to change without notice.

Compressor Model
Power Source

C-SBP160H38B
3PH 50Hz 380-415V



COEFFICIENTS OF PERFORMANCE CURVES



Compressor Model **C-SBP160H38B**
 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

380V-50Hz	CAPACITY (W)	POWER (W)	CURRENT (A)
C1	2.089989E+04	2.425226E+03	4.621001E+00
C2	8.854847E+02	-1.544845E+00	-2.507900E-03
C3	-2.620907E+02	-2.254793E+01	2.605116E-02
C4	1.617375E+01	-6.586300E-01	-2.200493E-03
C5	-1.179316E+01	-2.309266E-01	-1.964342E-04
C6	1.086340E+00	1.179561E+00	9.031450E-04
C7	1.243980E-01	1.035626E-03	1.876989E-06
C8	-1.455837E-01	5.087408E-03	2.908065E-05
C9	5.206752E-02	1.506128E-03	1.165666E-06
C10	-7.034941E-09	-1.225001E-08	-1.100945E-11

Note: The polynomial coefficients subject to change without notice.

PERFORMANCE DATA

Compressor Model	C-SBP160H38B
Power Source	3PH 60Hz 440-460V
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	9,060	10,980	12,470	16,130	19,110	21,280	23,700	25,600
40.5	8,380	10,160	11,540	14,940	17,700	19,720	21,970	23,730
45.0	7,860	9,530	10,820	14,020	16,610	18,510	20,620	22,280
50.0	7,310	8,870	10,070	13,050	15,480	17,250	19,220	20,760
54.4		8,320	9,460	12,260	14,540	16,200	18,060	19,510
60.0			8,730	11,310	13,420	14,960	16,680	18,020
65.0				10,540	12,500	13,940	15,540	16,800

POWER(W)

Condensing Temperature(°C)	Evaporating Temperature(°C)							
	-15	-10	-6.7	0	4.4	7.2	10	12
35.0	3,680	3,680	3,680	3,640	3,610	3,580	3,540	3,510
40.5	4,100	4,110	4,100	4,070	4,030	3,990	3,960	3,930
45.0	4,500	4,510	4,500	4,470	4,430	4,400	4,360	4,320
50.0	5,000	5,010	5,010	4,980	4,940	4,900	4,860	4,830
54.4		5,510	5,510	5,480	5,440	5,400	5,360	5,320
60.0			6,210	6,190	6,140	6,110	6,060	6,030
65.0				6,890	6,840	6,810	6,760	6,720

CURRENT(A)

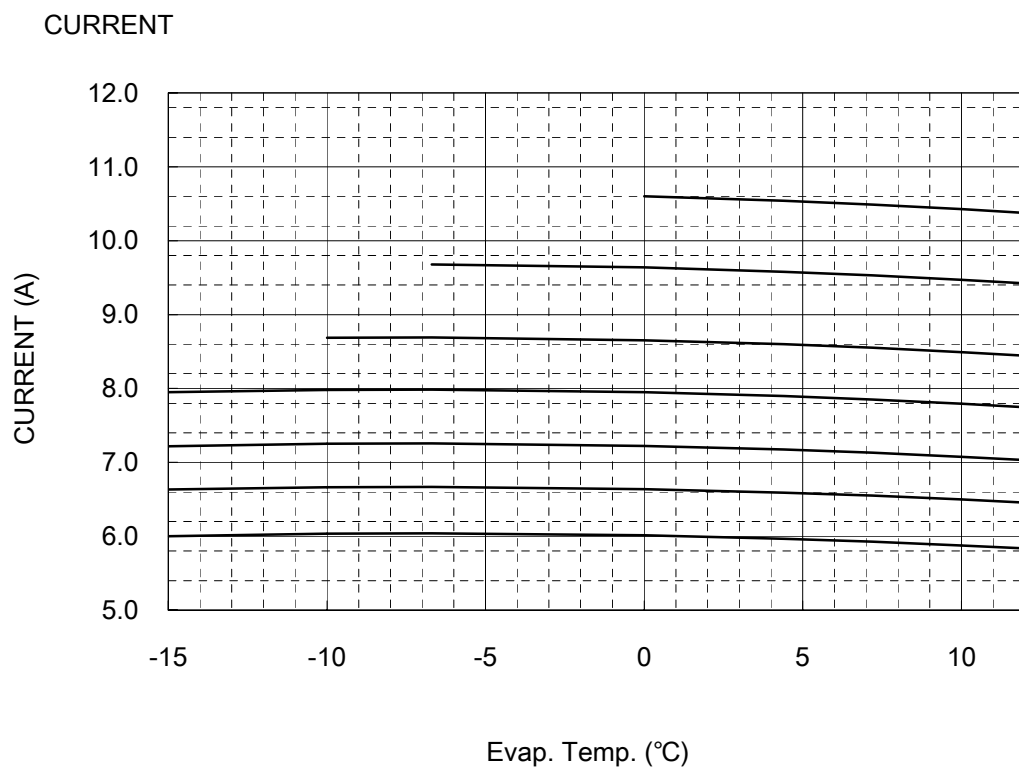
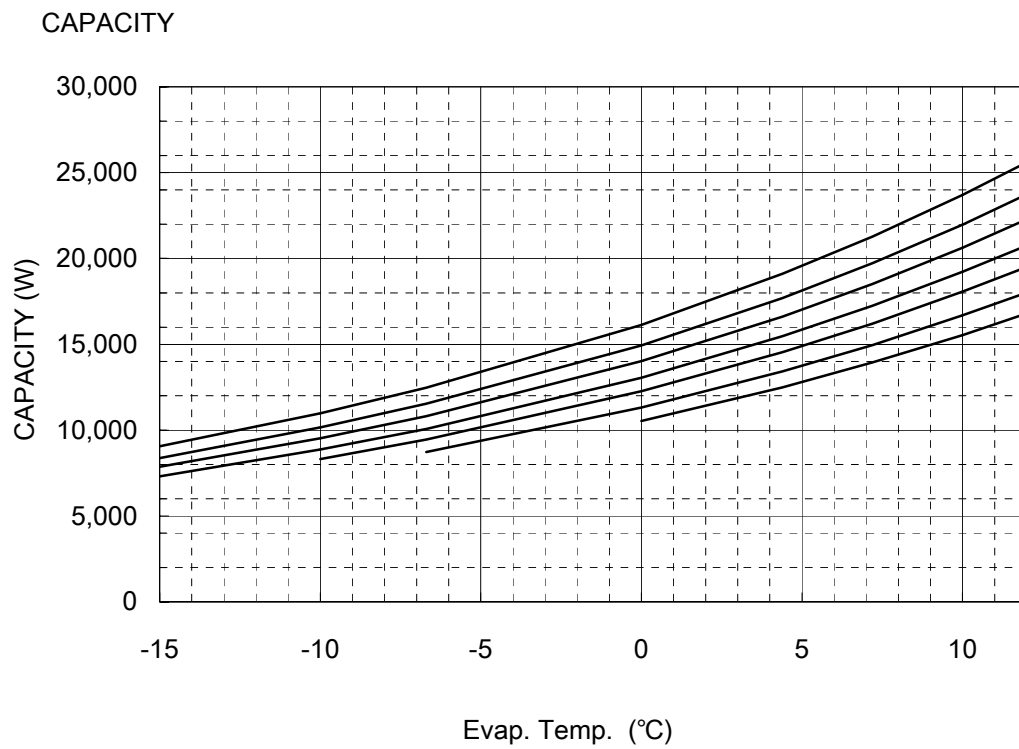
Condensing Temperature(°C)	Evaporating Temperature(°C)							
	-15	-10	-6.7	0	4.4	7.2	10	12
35.0	6.0	6.0	6.0	6.0	6.0	5.9	5.9	5.8
40.5	6.6	6.7	6.7	6.6	6.6	6.5	6.5	6.5
45.0	7.2	7.3	7.3	7.2	7.2	7.1	7.1	7.0
50.0	7.9	8.0	8.0	7.9	7.9	7.9	7.8	7.7
54.4		8.7	8.7	8.7	8.6	8.6	8.5	8.4
60.0			9.7	9.6	9.6	9.5	9.5	9.4
65.0				10.6	10.5	10.5	10.4	10.4

NOTE:

* The performance values subject to change without notice.

Compressor Model
Power Source

C-SBP160H38B
3PH 60Hz 440-460V



COEFFICIENTS OF PERFORMANCE CURVES



Compressor Model **C-SBP160H38B**
 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

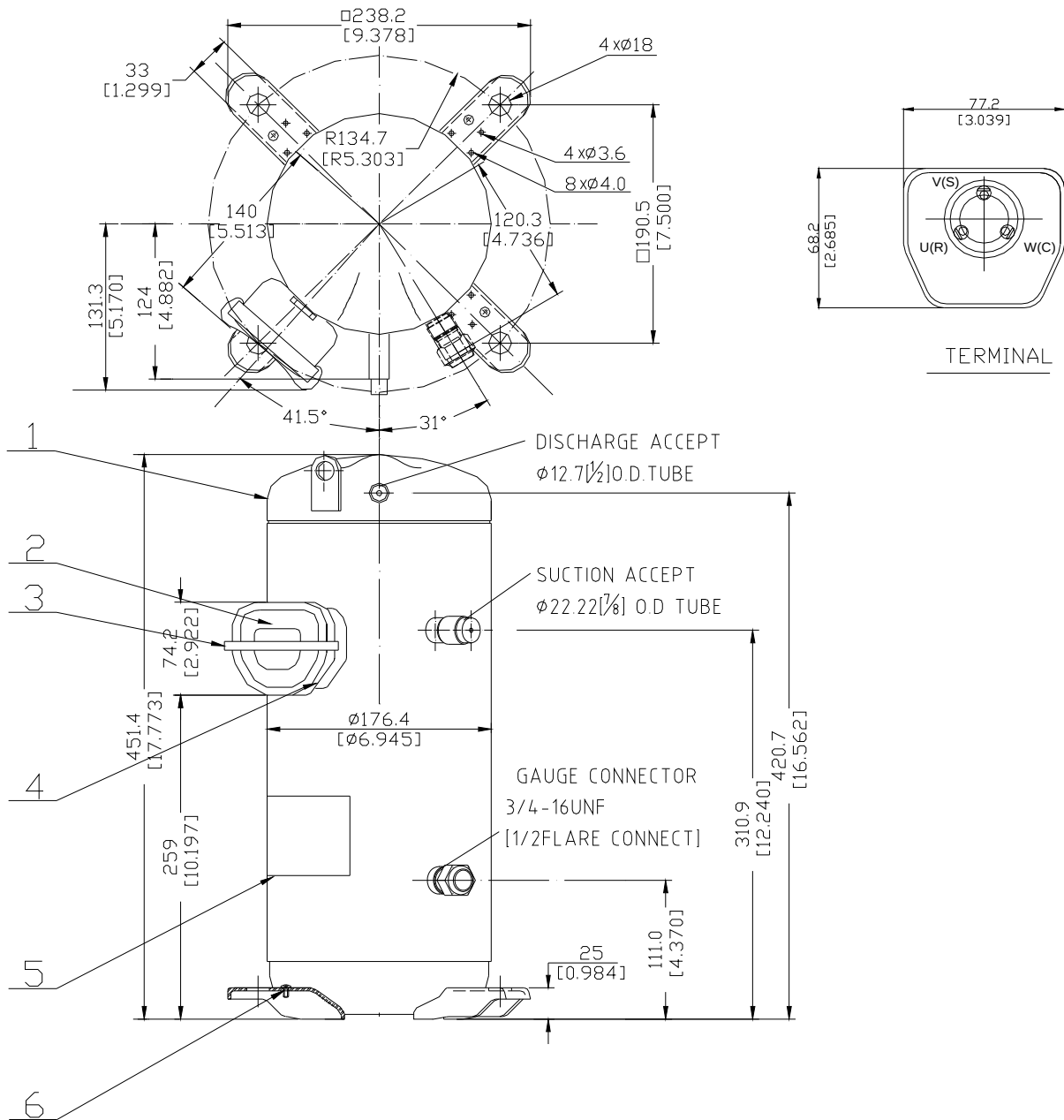
D—CONDENSING TEMP, °C

440V-60Hz	CAPACITY (W)	POWER (W)	CURRENT (A)
C1	2.554336E+04	2.745417E+03	4.272622E+00
C2	9.914916E+02	-2.284984E+00	-4.385217E-03
C3	-3.136283E+02	-1.866812E+01	-5.892502E-03
C4	1.712446E+01	-7.069734E-02	-4.506859E-04
C5	-1.230546E+01	-2.036909E-01	-1.020494E-04
C6	1.274719E+00	1.267076E+00	1.588368E-03
C7	1.308756E-01	-1.385417E-03	2.054960E-07
C8	-1.425026E-01	-7.113928E-03	-3.357661E-06
C9	5.121541E-02	2.011517E-03	7.482048E-08
C10	-1.573633E-08	2.054829E-09	-3.943897E-12

Note: The polynomial coefficients subject to change without notice.

DIMENSIONAL SKETCH

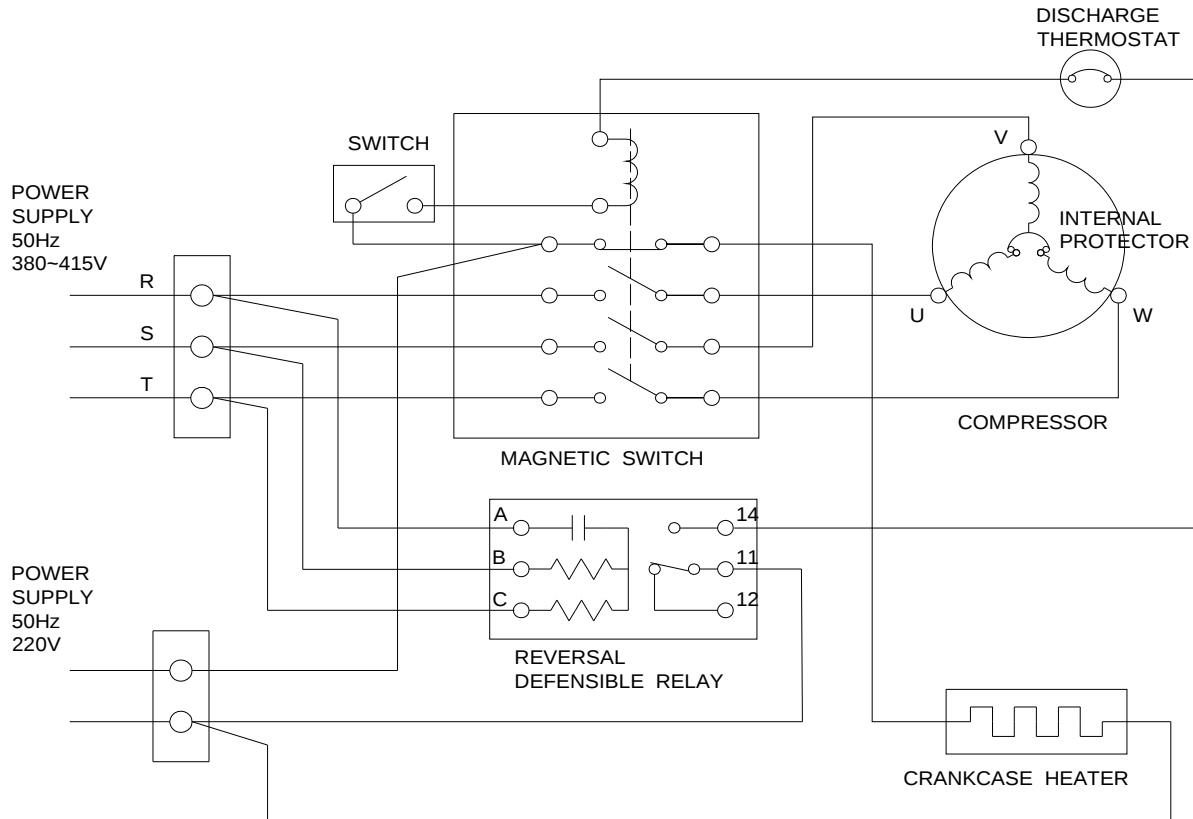
C-SB Tandem Series



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

