



# SANYO SCROLL COMPRESSORS

Code : 809 953 88

Model : C-SBN373H8D



DALIAN SANYO COMPRESSOR CO.,LTD.

Rev. 2007-5

**SANYO Scroll Compressor**

|                    |                    |
|--------------------|--------------------|
| <b>Model</b>       | <u>C-SBN373H8D</u> |
| <b>Refrigerant</b> | <u>R410A</u>       |

|                   |                                   |
|-------------------|-----------------------------------|
| <b>Electrical</b> | <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>14100</u>     | <u>17100</u>     |
| Power (W)        | <u>4750</u>      | <u>5600</u>      |
| Current (A)      | <u>8.22</u>      | <u>8.3</u>       |
| COP (W/W)        | <u>2.97</u>      | <u>3.05</u>      |
| Mass Flow (kg/h) | <u>322</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**

|                          |                |                |
|--------------------------|----------------|----------------|
|                          | <b>50Hz</b>    | <b>60Hz</b>    |
| Voltage Range(V)         | <u>342-456</u> | <u>396-506</u> |
| RLA (A)                  | <u>10.1</u>    |                |
| MCC (A)                  | <u>14.1</u>    |                |
| LRA (A)                  | <u>63</u>      | <u>69</u>      |
| RPM (min <sup>-1</sup> ) | <u>2900</u>    | <u>3450</u>    |

**Compressor**

|                                     |             |
|-------------------------------------|-------------|
| Maximum Discharge Temp(°C)          | <u>130</u>  |
| Displacement (cm <sup>3</sup> /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.



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

**PERFORMANCE DATA**

Compressor Model(Code)

**C-SBN373H8D (809 953 88)**

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                       | 8,140                       | 9,830 | 11,130 | 14,320 | 16,900 | 18,780 | 20,870 | 22,500 |
| 40.5                       | 7,420                       | 8,990 | 10,190 | 13,170 | 15,580 | 17,340 | 19,300 | 20,830 |
| 45.0                       | 6,880                       | 8,340 | 9,480  | 12,280 | 14,560 | 16,220 | 18,080 | 19,530 |
| 50.0                       | 6,320                       | 7,680 | 8,740  | 11,360 | 13,500 | 15,060 | 16,800 | 18,170 |
| 54.4                       |                             | 7,140 | 8,130  | 10,600 | 12,620 | 14,100 | 15,750 | 17,050 |
| 60.0                       |                             |       | 7,420  | 9,710  | 11,590 | 12,970 | 14,510 | 15,720 |
| 65.0                       |                             |       |        | 8,990  | 10,740 | 12,040 | 13,490 | 14,630 |

**POWER(W)**

| Condensing Temperature(°C) | Evaporating Temperature(°C) |       |       |       |       |       |       |       |
|----------------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|
|                            | -15                         | -10   | -6.7  | 0     | 4.4   | 7.2   | 10    | 12    |
| 35.0                       | 3,130                       | 3,130 | 3,130 | 3,120 | 3,100 | 3,090 | 3,080 | 3,060 |
| 40.5                       | 3,520                       | 3,520 | 3,510 | 3,500 | 3,480 | 3,470 | 3,450 | 3,440 |
| 45.0                       | 3,900                       | 3,890 | 3,890 | 3,870 | 3,850 | 3,830 | 3,810 | 3,800 |
| 50.0                       | 4,380                       | 4,370 | 4,360 | 4,330 | 4,310 | 4,290 | 4,270 | 4,260 |
| 54.4                       |                             | 4,850 | 4,830 | 4,790 | 4,770 | 4,750 | 4,730 | 4,720 |
| 60.0                       |                             |       | 5,500 | 5,450 | 5,420 | 5,400 | 5,380 | 5,370 |
| 65.0                       |                             |       |       | 6,110 | 6,070 | 6,050 | 6,030 | 6,010 |

**CURRENT(A)**

@380V

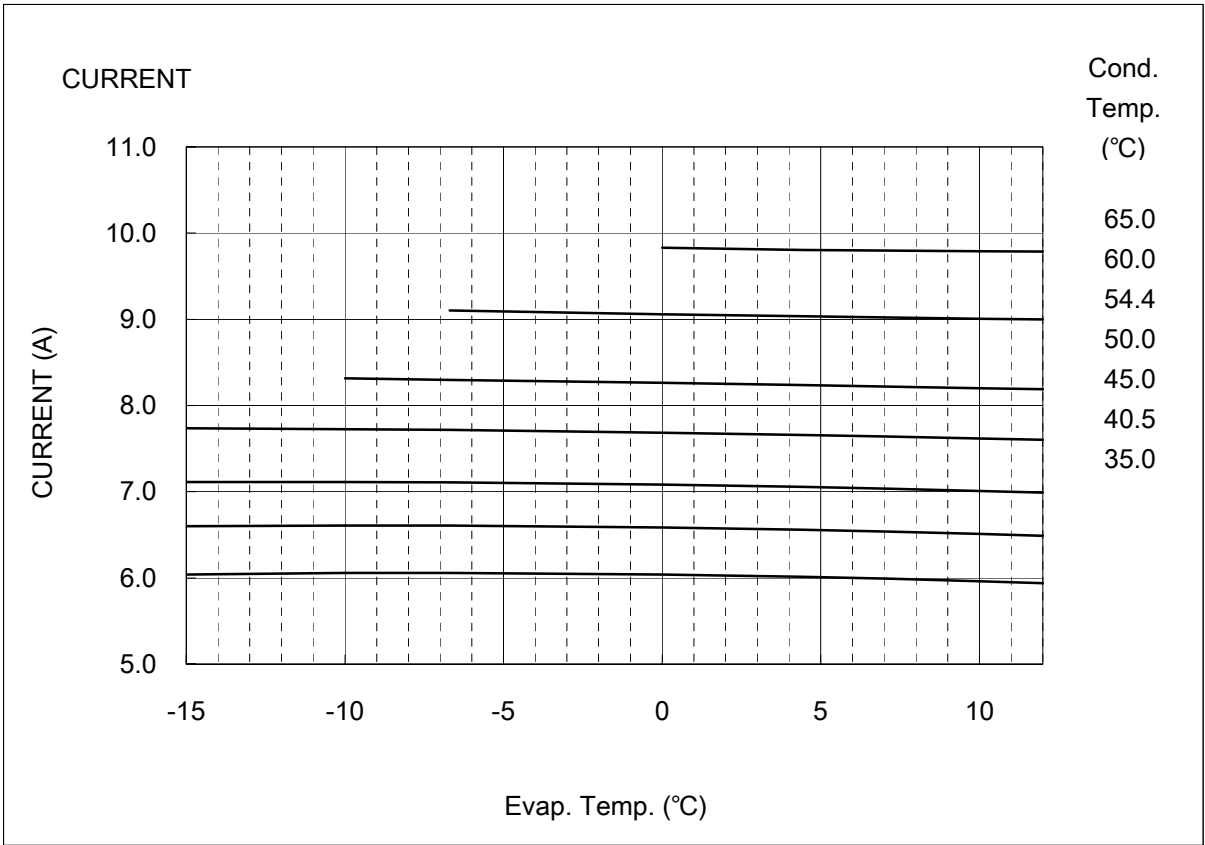
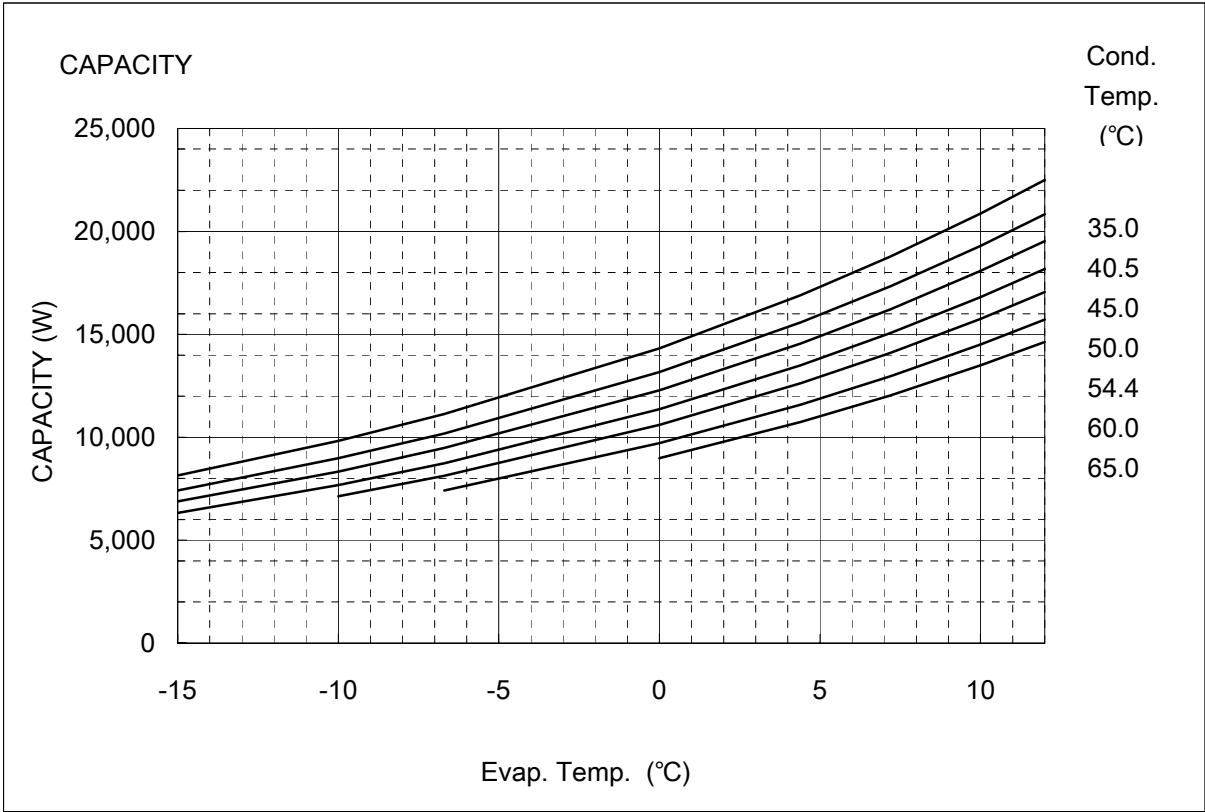
| Condensing Temperature(°C) | Evaporating Temperature(°C) |     |      |     |     |     |     |     |
|----------------------------|-----------------------------|-----|------|-----|-----|-----|-----|-----|
|                            | -15                         | -10 | -6.7 | 0   | 4.4 | 7.2 | 10  | 12  |
| 35.0                       | 6.0                         | 6.1 | 6.1  | 6.0 | 6.0 | 6.0 | 6.0 | 5.9 |
| 40.5                       | 6.6                         | 6.6 | 6.6  | 6.6 | 6.6 | 6.5 | 6.5 | 6.5 |
| 45.0                       | 7.1                         | 7.1 | 7.1  | 7.1 | 7.1 | 7.0 | 7.0 | 7.0 |
| 50.0                       | 7.7                         | 7.7 | 7.7  | 7.7 | 7.7 | 7.6 | 7.6 | 7.6 |
| 54.4                       |                             | 8.3 | 8.3  | 8.3 | 8.2 | 8.2 | 8.2 | 8.2 |
| 60.0                       |                             |     | 9.1  | 9.1 | 9.0 | 9.0 | 9.0 | 9.0 |
| 65.0                       |                             |     |      | 9.8 | 9.8 | 9.8 | 9.8 | 9.8 |

**NOTE:**

\* The performance values subject to change without notice.

Compressor Model(Code)  
Power Source

C-SBN373H8D (809 953 88)  
3PH 50Hz 380-415V



## COEFFICIENTS OF PERFORMANCE CURVES



Compressor Model **C-SBN373H8D (809 953 88)**  
 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

| <b>380V-50Hz</b> | 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(Code)

**C-SBN373H8D (809 953 88)**

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<br>Temperature(°C) | Evaporating Temperature(°C) |        |        |        |        |        |        |        |
|-------------------------------|-----------------------------|--------|--------|--------|--------|--------|--------|--------|
|                               | -15                         | -10    | -6.7   | 0      | 4.4    | 7.2    | 10     | 12     |
| 35.0                          | 9,990                       | 12,040 | 13,610 | 17,480 | 20,600 | 22,870 | 25,380 | 27,350 |
| 40.5                          | 9,160                       | 11,050 | 12,510 | 16,090 | 18,980 | 21,080 | 23,420 | 25,250 |
| 45.0                          | 8,530                       | 10,300 | 11,670 | 15,020 | 17,740 | 19,710 | 21,910 | 23,630 |
| 50.0                          | 7,870                       | 9,510  | 10,780 | 13,910 | 16,440 | 18,280 | 20,330 | 21,930 |
| 54.4                          |                             | 8,870  | 10,060 | 12,990 | 15,370 | 17,100 | 19,030 | 20,540 |
| 60.0                          |                             |        | 9,210  | 11,910 | 14,110 | 15,710 | 17,490 | 18,890 |
| 65.0                          |                             |        |        | 11,030 | 13,080 | 14,570 | 16,230 | 17,530 |

**POWER(W)**

| Condensing<br>Temperature(°C) | Evaporating Temperature(°C) |       |       |       |       |       |       |       |
|-------------------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|
|                               | -15                         | -10   | -6.7  | 0     | 4.4   | 7.2   | 10    | 12    |
| 35.0                          | 3,760                       | 3,730 | 3,710 | 3,690 | 3,670 | 3,670 | 3,660 | 3,660 |
| 40.5                          | 4,190                       | 4,170 | 4,150 | 4,130 | 4,120 | 4,110 | 4,100 | 4,100 |
| 45.0                          | 4,600                       | 4,590 | 4,580 | 4,560 | 4,540 | 4,530 | 4,520 | 4,510 |
| 50.0                          | 5,120                       | 5,120 | 5,120 | 5,100 | 5,080 | 5,070 | 5,050 | 5,040 |
| 54.4                          |                             | 5,640 | 5,650 | 5,640 | 5,620 | 5,600 | 5,580 | 5,550 |
| 60.0                          |                             |       | 6,410 | 6,410 | 6,380 | 6,360 | 6,320 | 6,290 |
| 65.0                          |                             |       |       | 7,170 | 7,140 | 7,100 | 7,060 | 7,020 |

**CURRENT(A)**

@440V

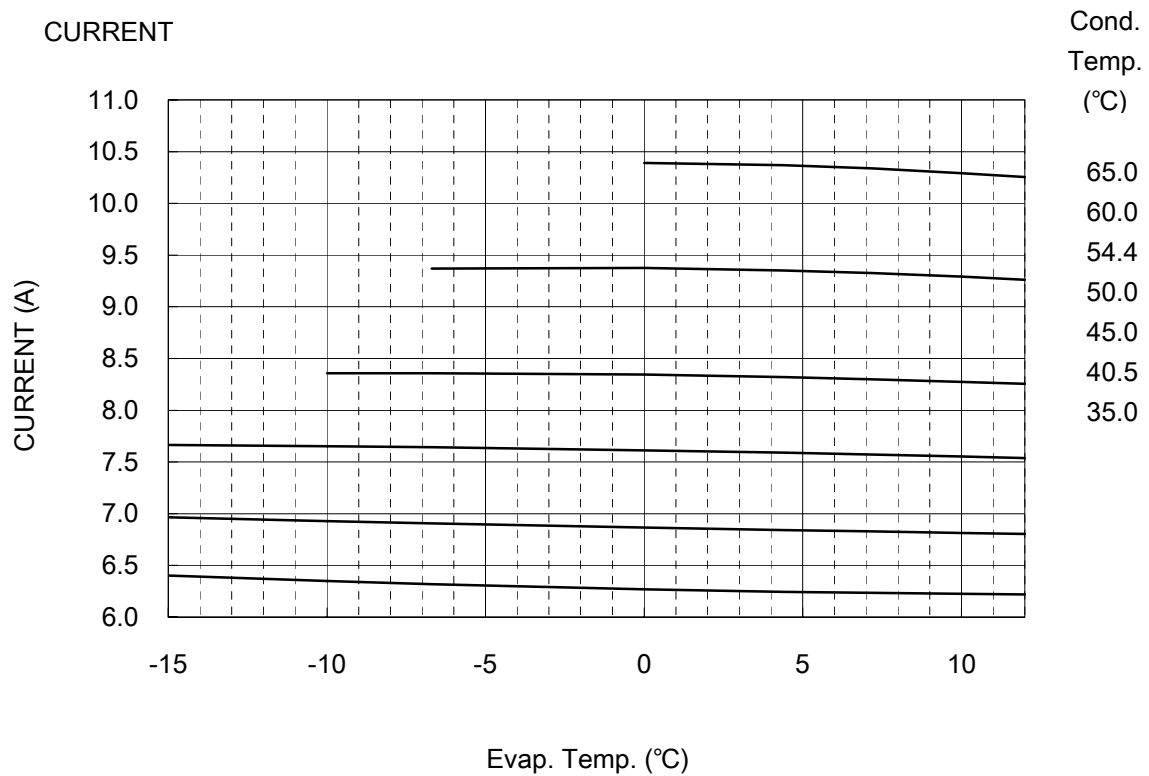
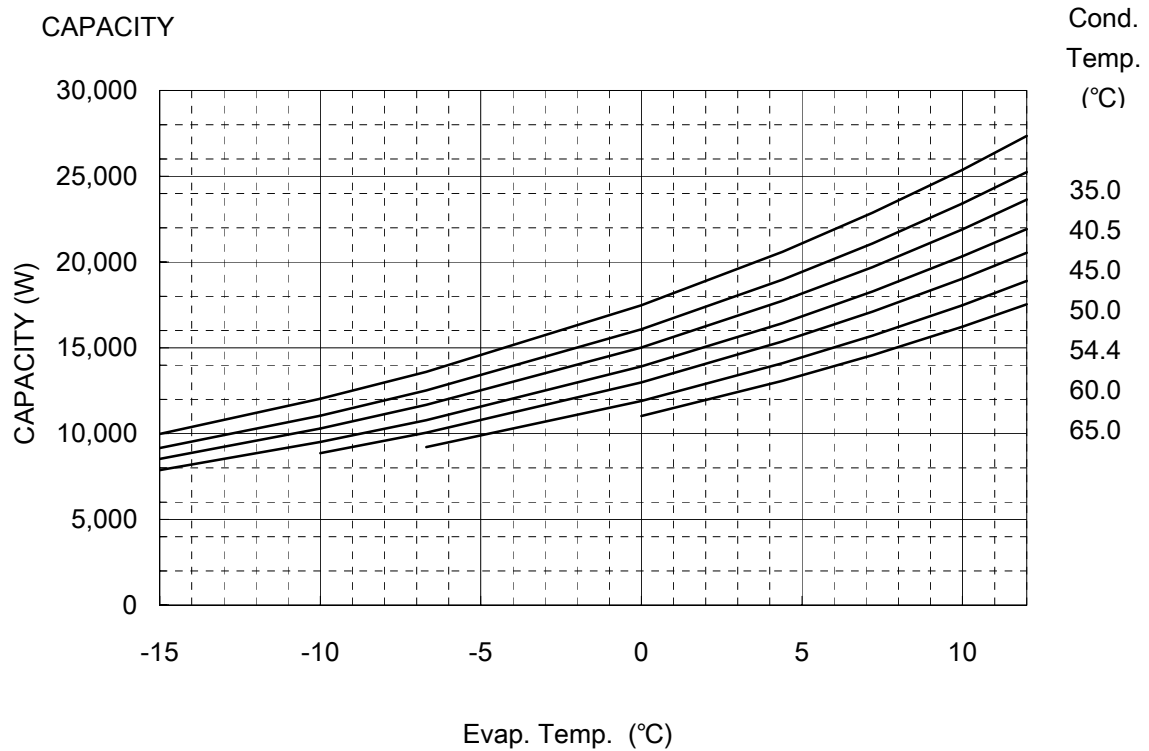
| Condensing<br>Temperature(°C) | Evaporating Temperature(°C) |     |      |      |      |      |      |      |
|-------------------------------|-----------------------------|-----|------|------|------|------|------|------|
|                               | -15                         | -10 | -6.7 | 0    | 4.4  | 7.2  | 10   | 12   |
| 35.0                          | 5.8                         | 5.7 | 5.7  | 5.6  | 5.6  | 5.6  | 5.6  | 5.6  |
| 40.5                          | 6.4                         | 6.3 | 6.3  | 6.3  | 6.2  | 6.2  | 6.2  | 6.2  |
| 45.0                          | 7.0                         | 6.9 | 6.9  | 6.9  | 6.8  | 6.8  | 6.8  | 6.8  |
| 50.0                          | 7.7                         | 7.7 | 7.6  | 7.6  | 7.6  | 7.6  | 7.6  | 7.5  |
| 54.4                          |                             | 8.4 | 8.4  | 8.3  | 8.3  | 8.3  | 8.3  | 8.3  |
| 60.0                          |                             |     | 9.4  | 9.4  | 9.4  | 9.3  | 9.3  | 9.3  |
| 65.0                          |                             |     |      | 10.4 | 10.4 | 10.3 | 10.3 | 10.3 |

**NOTE:**

\* The performance values subject to change without notice.

Compressor Model(Code)  
Power Source

**C-SBN373H8D (809 953 88)**  
**3PH 60Hz 440-460V**



## COEFFICIENTS OF PERFORMANCE CURVES



Compressor Model **C-SBN373H8D (809 953 88)**  
 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

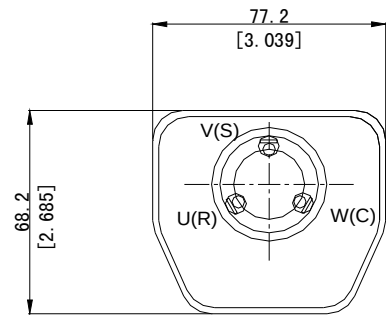
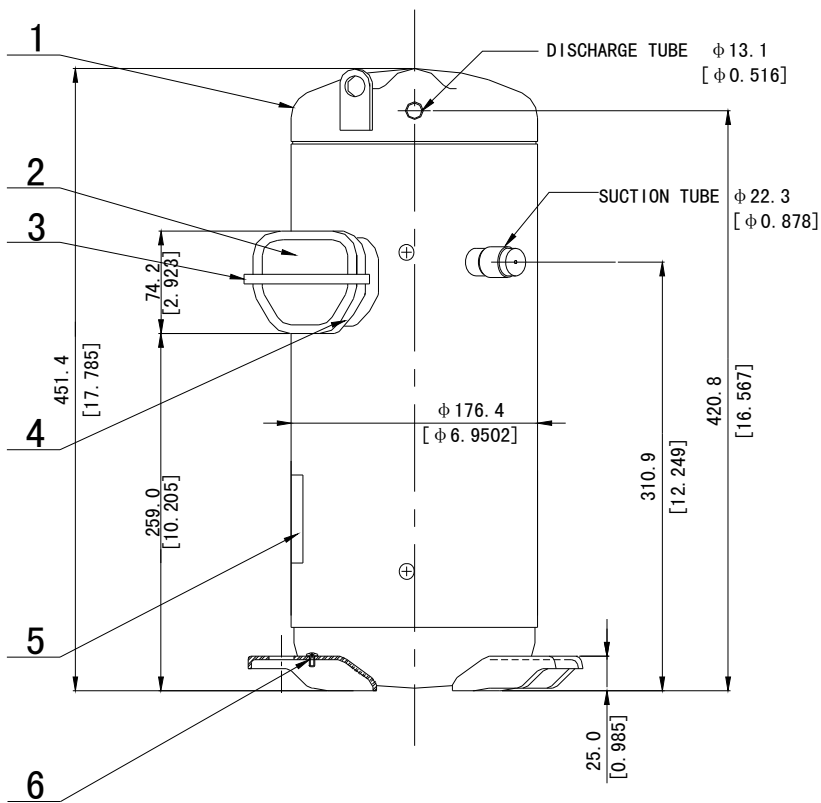
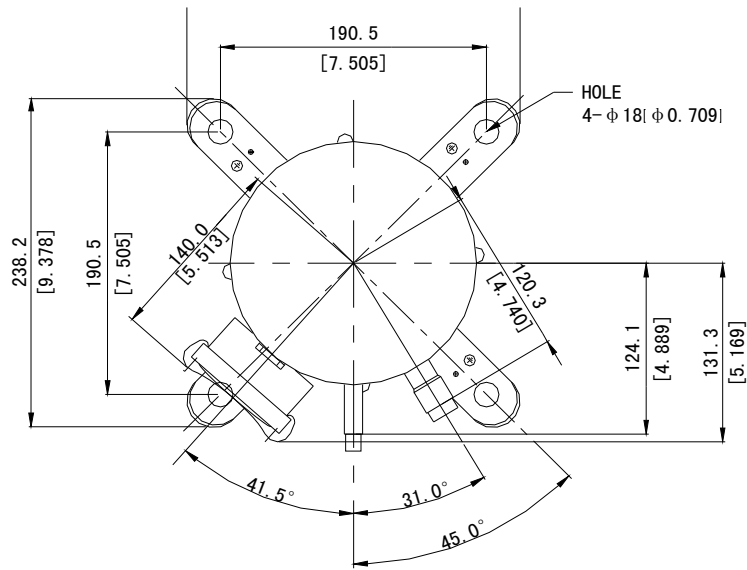
| <b>440V-60Hz</b> | CAPACITY (W)  | POWER (W)     | CURRENT (A)   |
|------------------|---------------|---------------|---------------|
| C1               | 2.855252E+04  | 2.837985E+03  | 4.061056E+00  |
| C2               | 1.047005E+03  | -6.360431E+00 | -4.716481E-03 |
| C3               | -3.713430E+02 | -2.536107E+01 | -1.607307E-02 |
| C4               | 1.727480E+01  | 9.725248E-01  | 1.434216E-03  |
| C5               | -1.311611E+01 | 1.770763E-01  | -1.296393E-04 |
| C6               | 1.567016E+00  | 1.414027E+00  | 1.743596E-03  |
| C7               | 1.299814E-01  | -2.588601E-03 | -2.396602E-06 |
| C8               | -1.406911E-01 | -2.347427E-02 | -3.165750E-05 |
| C9               | 5.460546E-02  | -2.285470E-03 | 2.569023E-06  |
| C10              | -9.268498E-09 | 1.429778E-08  | 9.552248E-12  |

Note: The polynomial coefficients subject to change without notice.



## DIMENSIONAL SKETCH

### C-SB Series

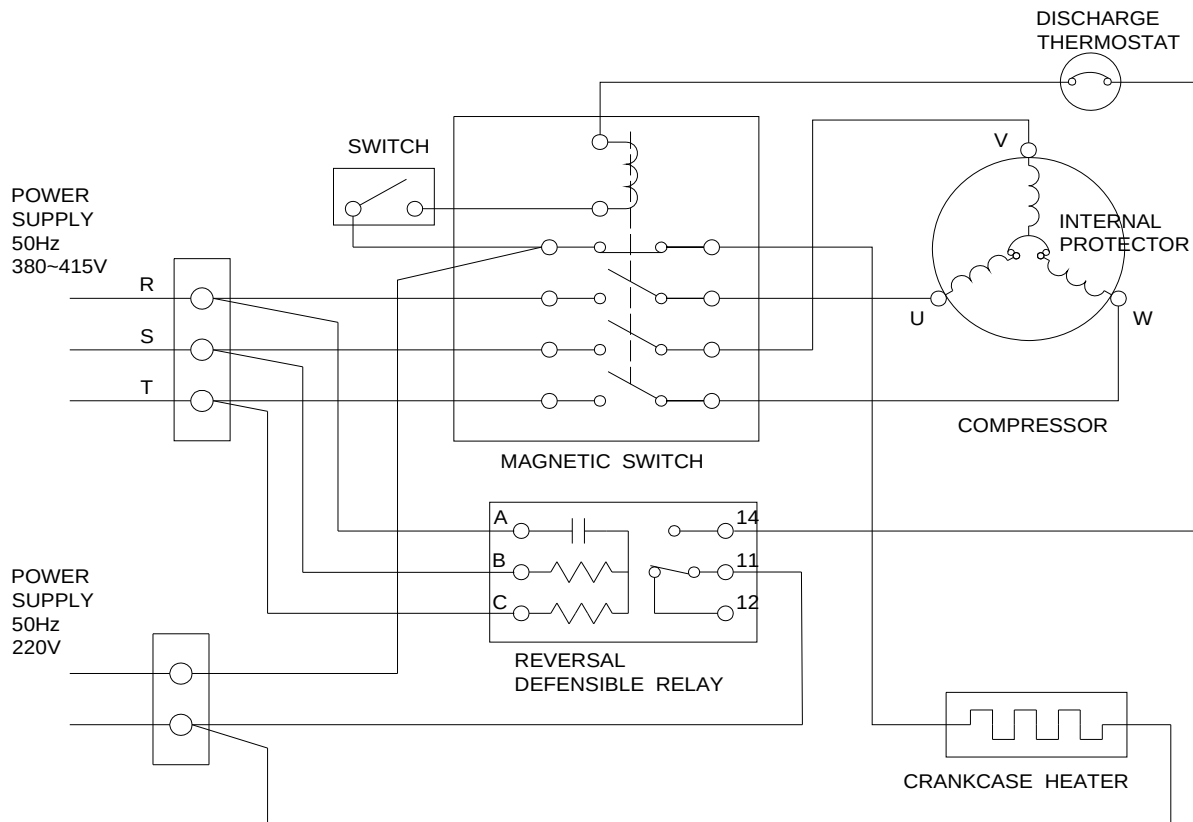


**TERMINAL**

| 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

