

SPECIFICATIONS OF COMPRESSOR

Model No: C-SBS180H00B

Output : 5 HP



Panasonic Appliances Compressor (Dalian) Co., Ltd.

20/Mar/15

GENERAL SPECIFICATIONS

| | | |
|--------------------------------|------------------------------------|----------------|
| Model No: | C-SBS180H00B | |
| Application | | |
| Evaporating Temp Range | (°C) | -20.0 ~ 12.0 |
| Refrigerant | R404A | |
| Compressor Cooling | Natural Cooling | |
| Rated Performance | | |
| Capacity | (W) | 12310 |
| Input | (W) | 4670 |
| Current | (A) | 9.63 |
| Revolution | (min ⁻¹) | 3450 |
| Sound Level | (dB(A)) | -- |
| Rating Conditions | | |
| Power Source | Inverter 3-PH 60Hz 380V | |
| 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 | (cm ³) | 55.7 |
| Suction Line Connection | (Φ mm OD) | 22.22 |
| Discharge Line Connection | (Φ mm OD) | 12.7 |
| Oil | (ml) | 2000 (FV68S) |
| Mass(Incl.Oil) | (kg) | 38 |
| Motor | | |
| Type | Inverter 3-PH Induction Motor(3IR) | |
| Pole | 2 | |
| Frequency | 30~90Hz | |
| Rated Power Source | 3-PH 60Hz 380~415V | |
| Voltage Range | (V) | 342~456 |

Panasonic Appliances Compressor (Dalian) Co., Ltd.

PERFORMANCE DATA

| | |
|--------------------------|------------------------|
| Compressor Model | C-SBS180H00B |
| Power Source | 3PH 30rps 237V |
| Suction Gas Superheat(K) | 11.1 |
| Sub Cooling(K) | 8.3 |
| Compressor Cooling | Natural Cooling |
| Refrigerant | R404A |

CAPACITY(W)

| Condensing Temperature(°C) | Evaporating Temperature(°C) | | | | | | | |
|----------------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|
| | -20 | -15 | -10 | -6.7 | 0 | 4.4 | 7.2 | 12 |
| 35.0 | 2,000 | 2,540 | 3,230 | 3,780 | 5,200 | 6,410 | 7,330 | 9,210 |
| 40.5 | | 2,350 | 2,970 | 3,460 | 4,730 | 5,810 | 6,620 | 8,290 |
| 45.0 | | | 2,770 | 3,220 | 4,380 | 5,360 | 6,090 | 7,590 |
| 50.0 | | | | 2,970 | 4,010 | 4,890 | 5,550 | 6,880 |
| 54.4 | | | | 2,770 | 3,720 | 4,510 | 5,100 | 6,310 |
| 60.0 | | | | | 3,370 | 4,070 | 4,600 | 5,650 |
| 65.0 | | | | | | 3,720 | 4,190 | 5,130 |

POWER(W)

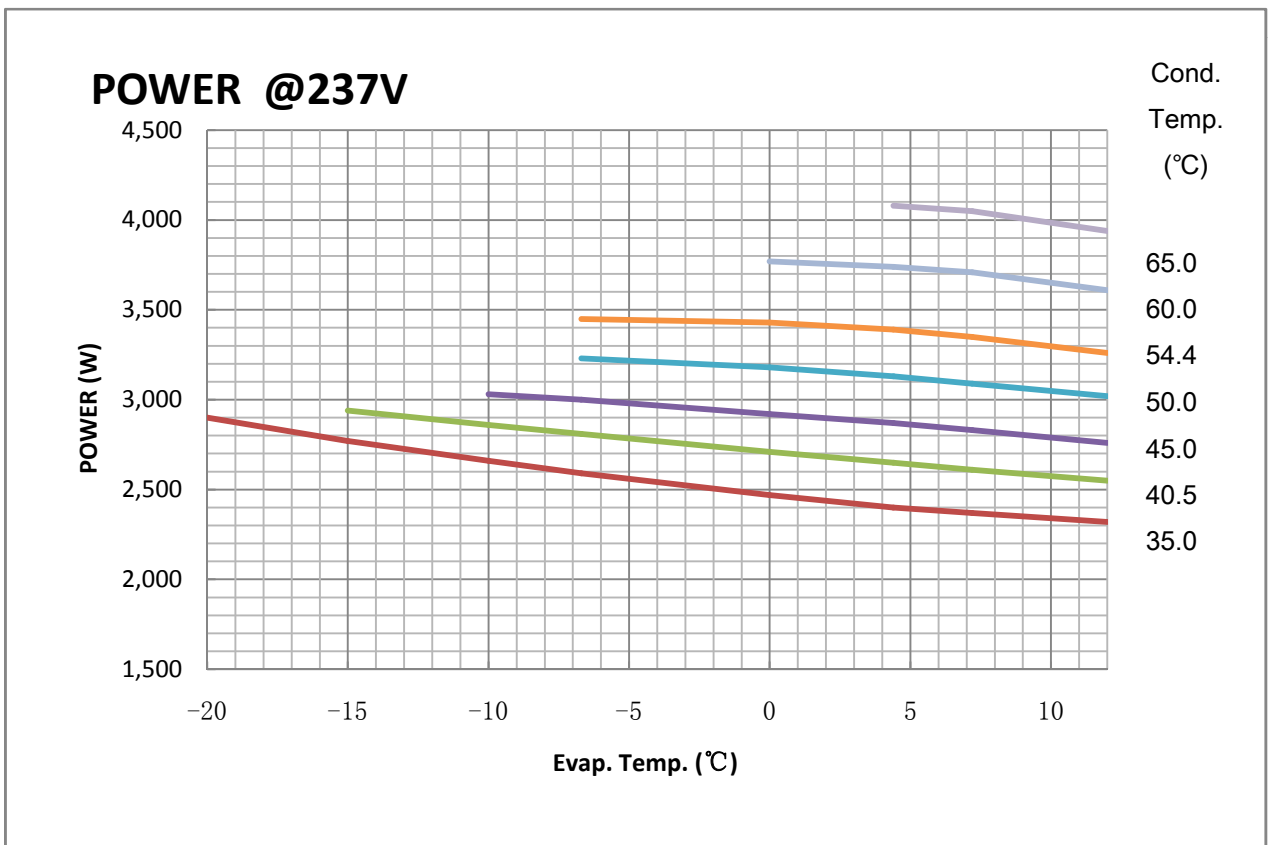
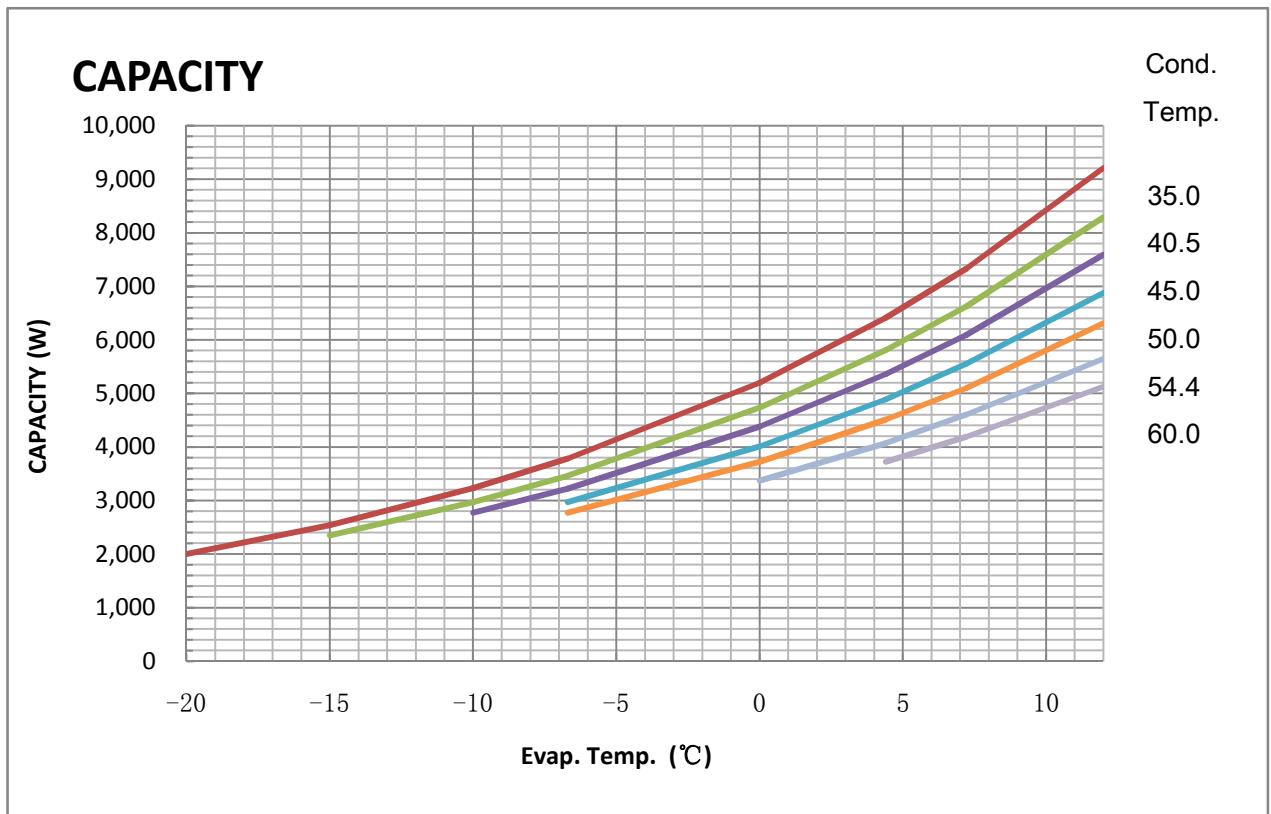
| Condensing Temperature(°C) | Evaporating Temperature(°C) | | | | | | | |
|----------------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|
| | -20 | -15 | -10 | -6.7 | 0 | 4.4 | 7.2 | 12 |
| 35.0 | 2,900 | 2,770 | 2,660 | 2,590 | 2,470 | 2,400 | 2,370 | 2,320 |
| 40.5 | | 2,940 | 2,860 | 2,810 | 2,710 | 2,650 | 2,610 | 2,550 |
| 45.0 | | | 3,030 | 3,000 | 2,920 | 2,870 | 2,830 | 2,760 |
| 50.0 | | | | 3,230 | 3,180 | 3,130 | 3,090 | 3,020 |
| 54.4 | | | | 3,450 | 3,430 | 3,390 | 3,350 | 3,260 |
| 60.0 | | | | | 3,770 | 3,740 | 3,710 | 3,610 |
| 65.0 | | | | | | 4,080 | 4,050 | 3,940 |

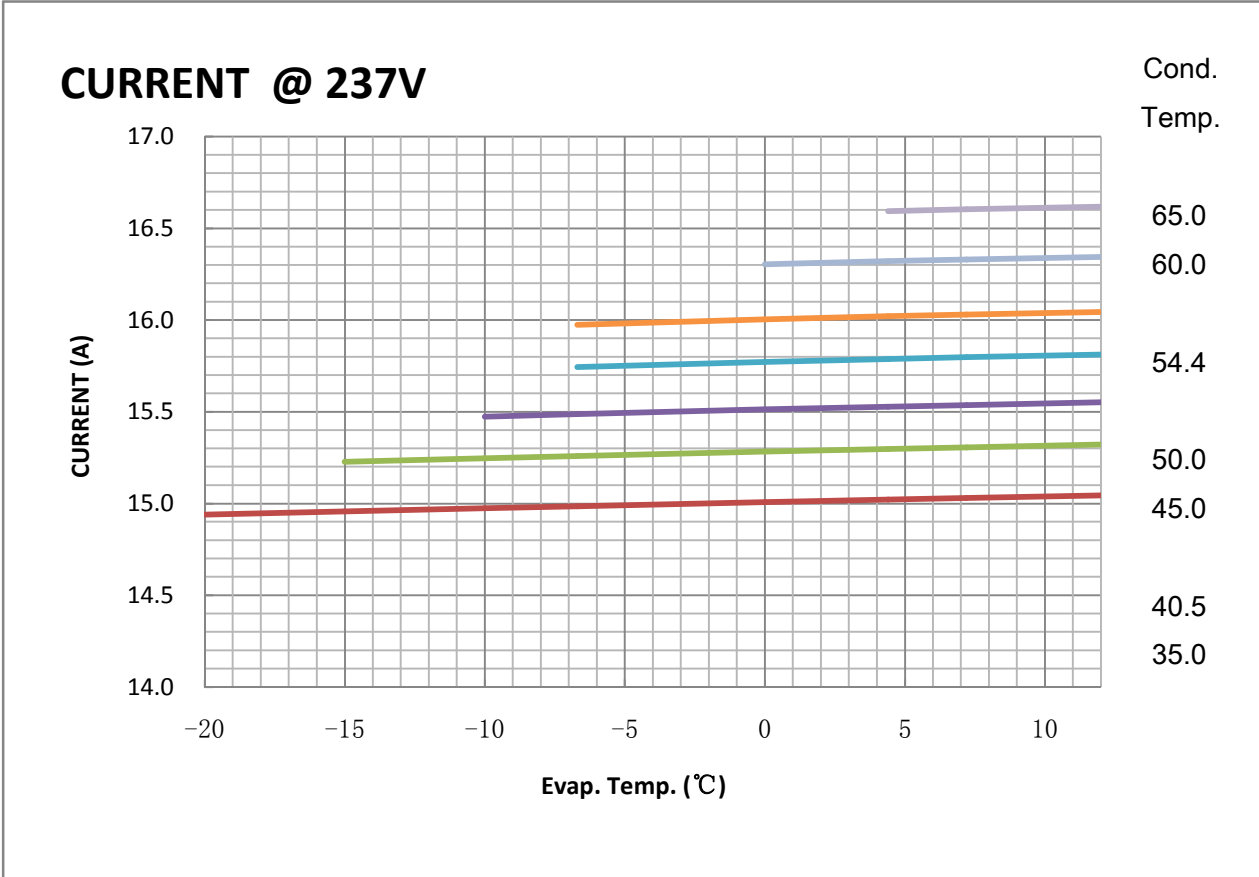
CURRENT(A)

| Condensing Temperature(°C) | Evaporating Temperature(°C) | | | | | | | |
|----------------------------|-----------------------------|------|------|------|------|------|------|------|
| | -20 | -15 | -10 | -6.7 | 0 | 4.4 | 7.2 | 12 |
| 35.0 | 14.9 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 40.5 | | 15.2 | 15.2 | 15.3 | 15.3 | 15.3 | 15.3 | 15.3 |
| 45.0 | | | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.6 |
| 50.0 | | | | 15.7 | 15.8 | 15.8 | 15.8 | 15.8 |
| 54.4 | | | | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 |
| 60.0 | | | | | 16.3 | 16.3 | 16.3 | 16.3 |
| 65.0 | | | | | | 16.6 | 16.6 | 16.6 |

REFRIG FLOW(kg/h)

| Condensing Temperature(°C) | Evaporating Temperature(°C) | | | | | | | |
|----------------------------|-----------------------------|-----|-----|------|-----|-----|-----|-----|
| | -20 | -15 | -10 | -6.7 | 0 | 4.4 | 7.2 | 12 |
| 35.0 | 63 | 76 | 92 | 105 | 136 | 162 | 180 | 217 |
| 40.5 | | 73 | 89 | 102 | 132 | 157 | 176 | 212 |
| 45.0 | | | 87 | 99 | 129 | 154 | 172 | 208 |
| 50.0 | | | | 96 | 125 | 150 | 168 | 203 |
| 54.4 | | | | 93 | 122 | 146 | 164 | 199 |
| 60.0 | | | | | 118 | 142 | 160 | 195 |
| 65.0 | | | | | | 138 | 156 | 190 |





COEFFICIENTS OF PERFORMANCE CURVES

Compressor Model **C-SBS180H00B**
 Power Source **3PH 30rps 237V**
 Suction Gas Superheat (K) **11.1**
 Sub Cooling (K) **8.3**
 Compressor Cooling **Natural Cooling**
 Refrigerant **R404A**

$X=C1+C2*(S)+C3*D+C4*(S^2)+C5*(S*D)+C6*(D^2)+C7*(S^3)+C8*(D*S^2)+C9*(S*D^2)+C10*(D^3)$
 X—CAPACITY(W) OR POWER(W) OR CURRENT(A) OR FLOW(kg/h)
 S—EVAPORATING TEMP, °C
 D—CONDENSING TEMP, °C

| 30rps 237V | CAPACITY (W) | POWER (W) | CURRENT (A) | FLOW (kg/h) |
|-------------------|---------------------|------------------|--------------------|--------------------|
| 1 | 9.270535E+03 | 1.552290E+03 | 1.337300E+01 | 1.656100E+02 |
| 2 | 4.676035E+02 | -1.764656E+00 | 2.223479E-03 | 5.932819E+00 |
| 3 | -1.399478E+02 | 1.100986E+01 | 4.366998E-02 | -9.112894E-01 |
| 4 | 8.695433E+00 | 1.970702E+00 | 8.342011E-05 | 1.084779E-01 |
| 5 | -7.341254E+00 | -9.292874E-01 | 1.990770E-05 | -1.857368E-02 |
| 6 | 6.881739E-01 | 4.328254E-01 | 8.636120E-05 | 2.064042E-03 |
| 7 | 6.350463E-02 | -2.547159E-05 | -2.472716E-08 | 1.136371E-03 |
| 8 | -8.391121E-02 | -4.739815E-02 | -2.596986E-06 | -1.119116E-04 |
| 9 | 3.264745E-02 | 1.520076E-02 | 2.303088E-07 | 2.666590E-05 |
| 10 | -9.146754E-09 | 7.708738E-09 | 8.936678E-13 | -3.247555E-15 |

PERFORMANCE DATA

| | |
|--------------------------|------------------------|
| Compressor Model | C-SBS180H00B |
| Power Source | 3PH 60rps 357V |
| Suction Gas Superheat(K) | 11.1 |
| Sub Cooling(K) | 8.3 |
| Compressor Cooling | Natural Cooling |
| Refrigerant | R404A |

CAPACITY(W)

| Condensing Temperature(°C) | Evaporating Temperature(°C) | | | | | | | |
|----------------------------|-----------------------------|-------|-------|-------|--------|--------|--------|--------|
| | -20 | -15 | -10 | -6.7 | 0 | 4.4 | 7.2 | 12 |
| 35.0 | 5,840 | 7,130 | 8,700 | 9,930 | 12,970 | 15,460 | 17,290 | 20,940 |
| 40.5 | 5,270 | 6,440 | 7,880 | 9,000 | 11,780 | 14,050 | 15,730 | 19,070 |
| 45.0 | 4,840 | 5,930 | 7,250 | 8,290 | 10,870 | 12,980 | 14,540 | 17,650 |
| 50.0 | 4,410 | 5,400 | 6,610 | 7,560 | 9,930 | 11,880 | 13,310 | 16,170 |
| 54.4 | 4,050 | 4,970 | 6,100 | 6,980 | 9,170 | 10,980 | 12,310 | 14,980 |
| 60.0 | 3,640 | 4,470 | 5,500 | 6,300 | 8,290 | 9,940 | 11,150 | 13,590 |
| 65.0 | | 4,080 | 5,020 | 5,750 | 7,590 | 9,110 | 10,230 | 12,470 |

POWER(W)

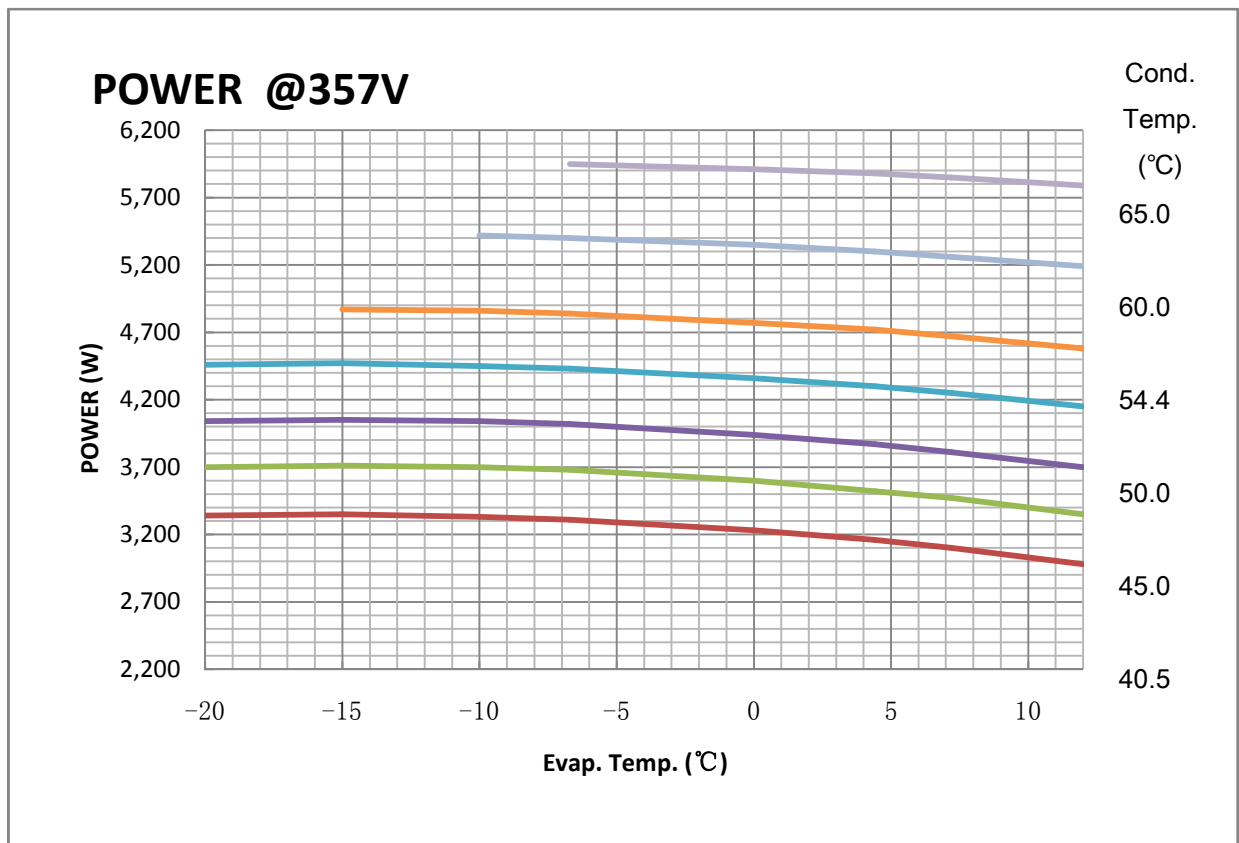
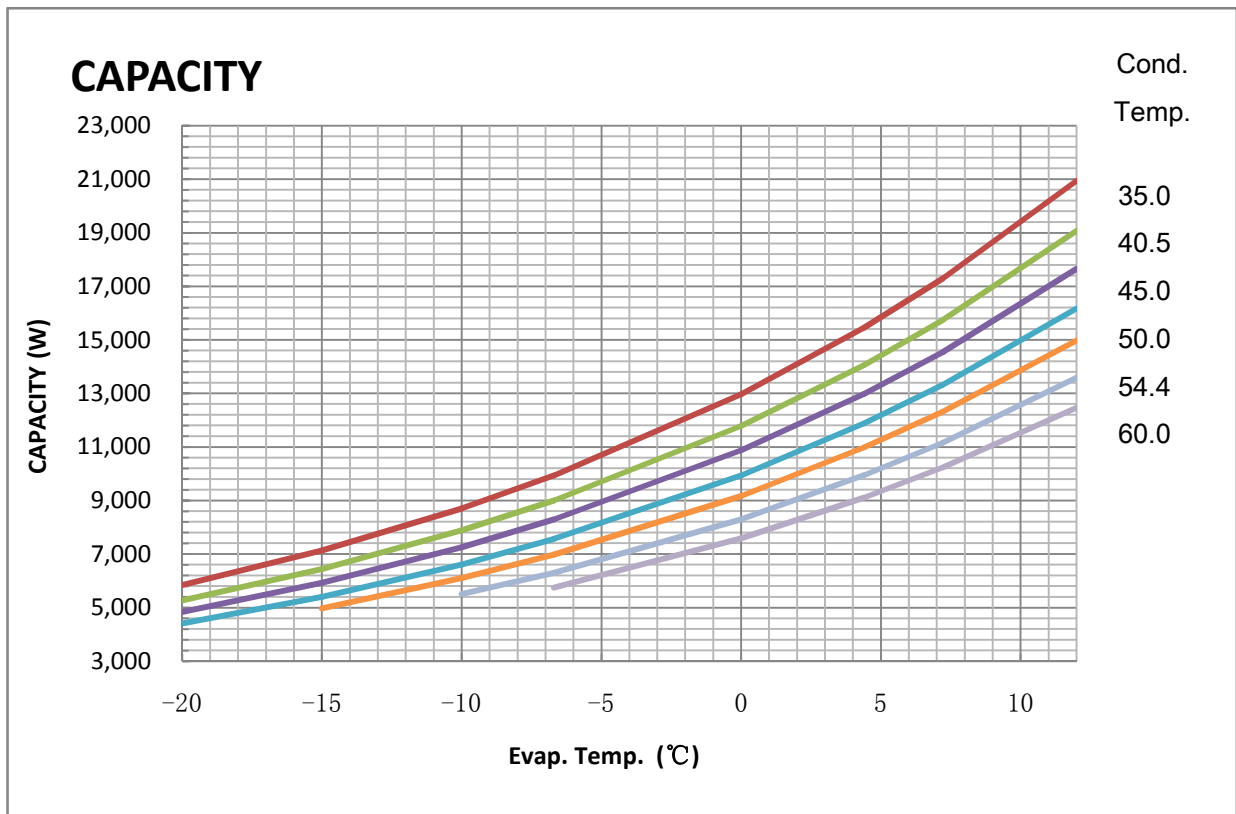
| Condensing Temperature(°C) | Evaporating Temperature(°C) | | | | | | | |
|----------------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|
| | -20 | -15 | -10 | -6.7 | 0 | 4.4 | 7.2 | 12 |
| 35.0 | 3,340 | 3,350 | 3,330 | 3,310 | 3,230 | 3,160 | 3,100 | 2,980 |
| 40.5 | 3,700 | 3,710 | 3,700 | 3,680 | 3,600 | 3,520 | 3,470 | 3,350 |
| 45.0 | 4,040 | 4,050 | 4,040 | 4,020 | 3,940 | 3,870 | 3,810 | 3,700 |
| 50.0 | 4,460 | 4,470 | 4,450 | 4,430 | 4,360 | 4,300 | 4,250 | 4,150 |
| 54.4 | 4,860 | 4,870 | 4,860 | 4,840 | 4,770 | 4,720 | 4,670 | 4,580 |
| 60.0 | 5,420 | 5,430 | 5,420 | 5,400 | 5,350 | 5,300 | 5,260 | 5,190 |
| 65.0 | | 5,970 | 5,960 | 5,950 | 5,910 | 5,880 | 5,850 | 5,790 |

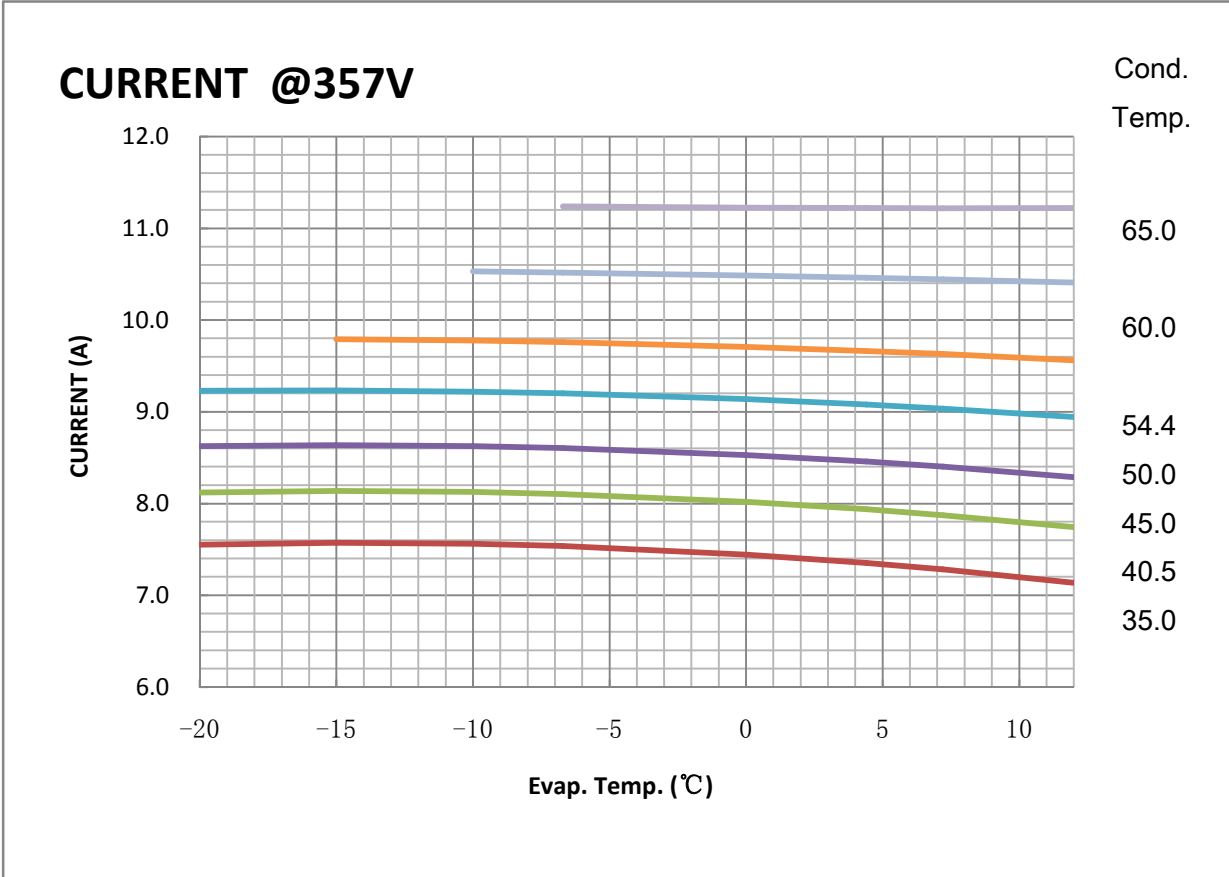
CURRENT(A)

| Condensing Temperature(°C) | Evaporating Temperature(°C) | | | | | | | |
|----------------------------|-----------------------------|------|------|------|------|------|------|------|
| | -20 | -15 | -10 | -6.7 | 0 | 4.4 | 7.2 | 12 |
| 35.0 | 7.6 | 7.6 | 7.6 | 7.5 | 7.4 | 7.4 | 7.3 | 7.1 |
| 40.5 | 8.1 | 8.1 | 8.1 | 8.1 | 8.0 | 7.9 | 7.9 | 7.7 |
| 45.0 | 8.6 | 8.6 | 8.6 | 8.6 | 8.5 | 8.5 | 8.4 | 8.3 |
| 50.0 | 9.2 | 9.2 | 9.2 | 9.2 | 9.1 | 9.1 | 9.0 | 8.9 |
| 54.4 | 9.8 | 9.8 | 9.8 | 9.8 | 9.7 | 9.7 | 9.6 | 9.6 |
| 60.0 | 10.6 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.4 | 10.4 |
| 65.0 | | 11.3 | 11.2 | 11.2 | 11.2 | 11.2 | 11.2 | 11.2 |

REFRIG FLOW(kg/h)

| Condensing Temperature(°C) | Evaporating Temperature(°C) | | | | | | | |
|----------------------------|-----------------------------|-----|-----|------|-----|-----|-----|-----|
| | -20 | -15 | -10 | -6.7 | 0 | 4.4 | 7.2 | 12 |
| 35.0 | 157 | 187 | 224 | 253 | 321 | 376 | 416 | 495 |
| 40.5 | 156 | 186 | 222 | 250 | 318 | 372 | 411 | 488 |
| 45.0 | 155 | 185 | 221 | 248 | 315 | 368 | 407 | 483 |
| 50.0 | 154 | 183 | 219 | 246 | 312 | 364 | 402 | 477 |
| 54.4 | 153 | 182 | 217 | 244 | 309 | 361 | 398 | 472 |
| 60.0 | 152 | 181 | 215 | 242 | 306 | 357 | 393 | 465 |
| 65.0 | | 180 | 214 | 240 | 303 | 353 | 389 | 459 |





COEFFICIENTS OF PERFORMANCE CURVES

Compressor Model **C-SBS180H00B**
 Power Source **3PH 60rps 357V**
 Suction Gas Superheat (K) **11.1**
 Sub Cooling (K) **8.3**
 Compressor Cooling **Natural Cooling**
 Refrigerant **R404A**

$X=C1+C2*(S)+C3*D+C4*(S^2)+C5*(S*D)+C6*(D^2)+C7*(S^3)+C8*(D*S^2)+C9*(S*D^2)+C10*(D^3)$
 X—CAPACITY(W) OR POWER(W) OR CURRENT(A) OR FLOW(kg/h)
 S—EVAPORATING TEMP, °C
 D—CONDENSING TEMP, °C

| 60rps 357V | CAPACITY (W) | POWER (W) | CURRENT (A) | FLOW (kg/h) |
|-------------------|---------------------|------------------|--------------------|--------------------|
| 1 | 2.296899E+04 | 2.250547E+03 | 5.088417E+00 | 3.452746E+02 |
| 2 | 8.815376E+02 | -9.468719E+00 | -2.504341E-02 | 1.306973E+01 |
| 3 | -3.421097E+02 | -4.897933E+00 | 3.579521E-02 | -7.149977E-01 |
| 4 | 1.425008E+01 | -7.926263E-01 | -1.473734E-03 | 2.361994E-01 |
| 5 | -1.209332E+01 | -3.967828E-01 | -6.318855E-06 | -4.440139E-02 |
| 6 | 1.620837E+00 | 9.426066E-01 | 9.028165E-04 | 8.548688E-04 |
| 7 | 1.053806E-01 | 7.577370E-04 | 6.570104E-07 | 2.064384E-03 |
| 8 | -1.126342E-01 | 8.131170E-03 | 2.311323E-05 | -7.451094E-04 |
| 9 | 5.151194E-02 | 6.521150E-03 | 5.541233E-06 | 8.181732E-05 |
| 10 | -1.875695E-08 | -6.480734E-09 | -9.218310E-12 | -3.699223E-11 |

PERFORMANCE DATA

| | |
|--------------------------|------------------------|
| Compressor Model | C-SBS180H00B |
| Power Source | 3PH 90rps 357V |
| Suction Gas Superheat(K) | 11.1 |
| Sub Cooling(K) | 8.3 |
| Compressor Cooling | Natural Cooling |
| Refrigerant | R404A |

CAPACITY(W)

| Condensing Temperature(°C) | Evaporating Temperature(°C) | | | | | | | |
|----------------------------|-----------------------------|--------|--------|--------|--------|--------|--------|--------|
| | -20 | -15 | -10 | -6.7 | 0 | 4.4 | 7.2 | 12 |
| 35.0 | 8,750 | 10,630 | 12,920 | 14,700 | 19,090 | 22,670 | 25,290 | 30,500 |
| 40.5 | 7,870 | 9,590 | 11,680 | 13,300 | 17,320 | 20,600 | 23,010 | 27,800 |
| 45.0 | 7,210 | 8,800 | 10,730 | 12,240 | 15,970 | 19,030 | 21,270 | 25,740 |
| 50.0 | 6,540 | 7,990 | 9,770 | 11,150 | 14,590 | 17,400 | 19,470 | 23,610 |
| 54.4 | 6,000 | 7,340 | 8,990 | 10,270 | 13,470 | 16,090 | 18,010 | 21,870 |
| 60.0 | 5,380 | 6,600 | 8,090 | 9,260 | 12,170 | 14,560 | 16,320 | 19,860 |
| 65.0 | | 6,000 | 7,370 | 8,450 | 11,130 | 13,340 | 14,970 | 18,240 |

POWER(W)

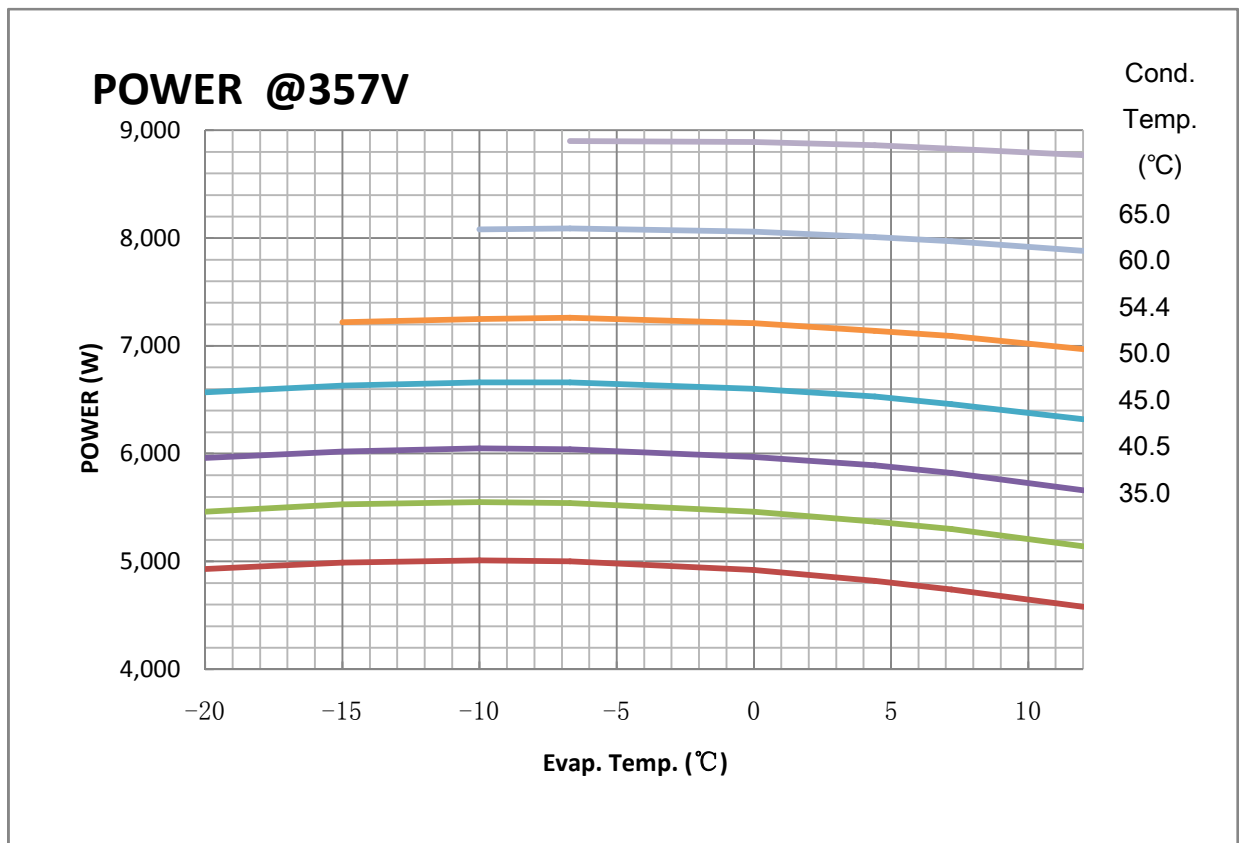
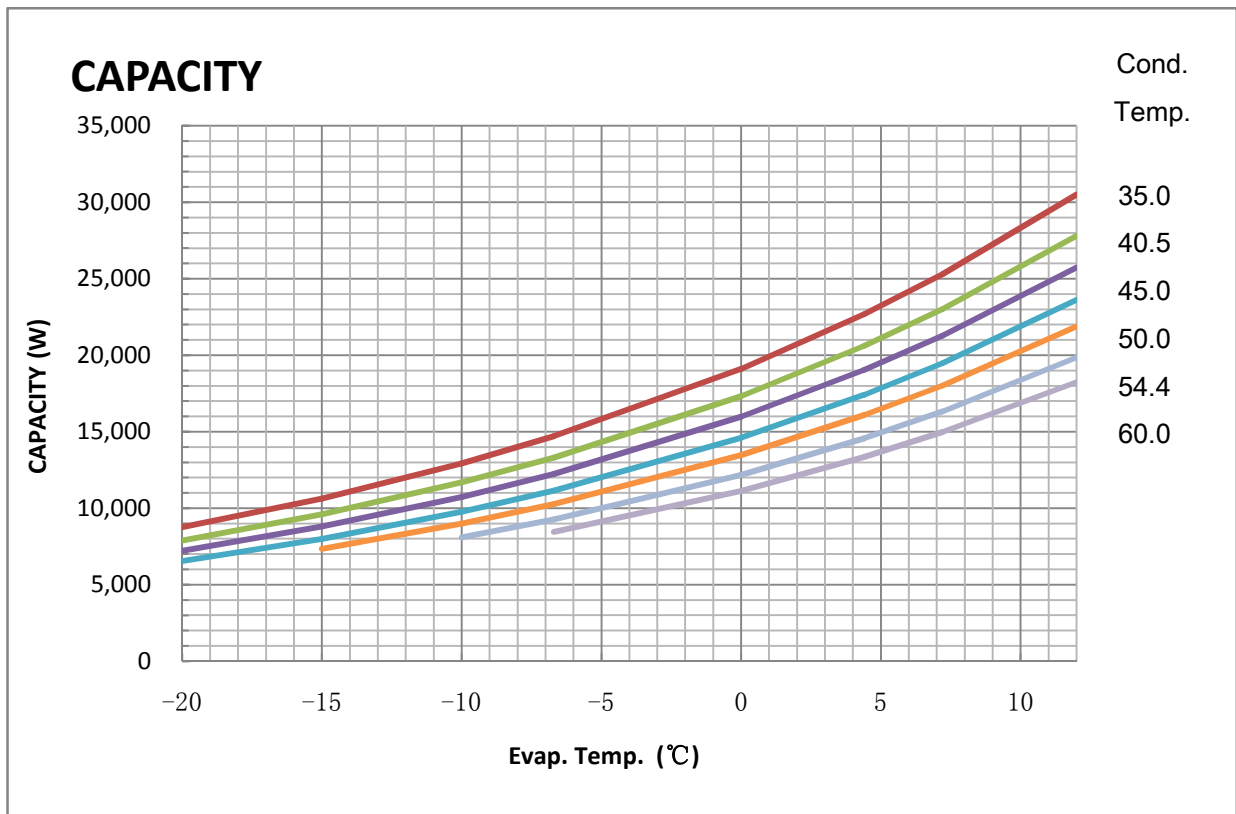
| Condensing Temperature(°C) | Evaporating Temperature(°C) | | | | | | | |
|----------------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|
| | -20 | -15 | -10 | -6.7 | 0 | 4.4 | 7.2 | 12 |
| 35.0 | 4,930 | 4,990 | 5,010 | 5,000 | 4,920 | 4,820 | 4,740 | 4,580 |
| 40.5 | 5,460 | 5,530 | 5,550 | 5,540 | 5,460 | 5,370 | 5,300 | 5,140 |
| 45.0 | 5,960 | 6,020 | 6,050 | 6,040 | 5,970 | 5,890 | 5,820 | 5,660 |
| 50.0 | 6,570 | 6,630 | 6,660 | 6,660 | 6,600 | 6,530 | 6,460 | 6,320 |
| 54.4 | 7,160 | 7,220 | 7,250 | 7,260 | 7,210 | 7,140 | 7,090 | 6,970 |
| 60.0 | 7,980 | 8,050 | 8,080 | 8,090 | 8,060 | 8,010 | 7,970 | 7,880 |
| 65.0 | | 8,850 | 8,880 | 8,900 | 8,890 | 8,860 | 8,830 | 8,770 |

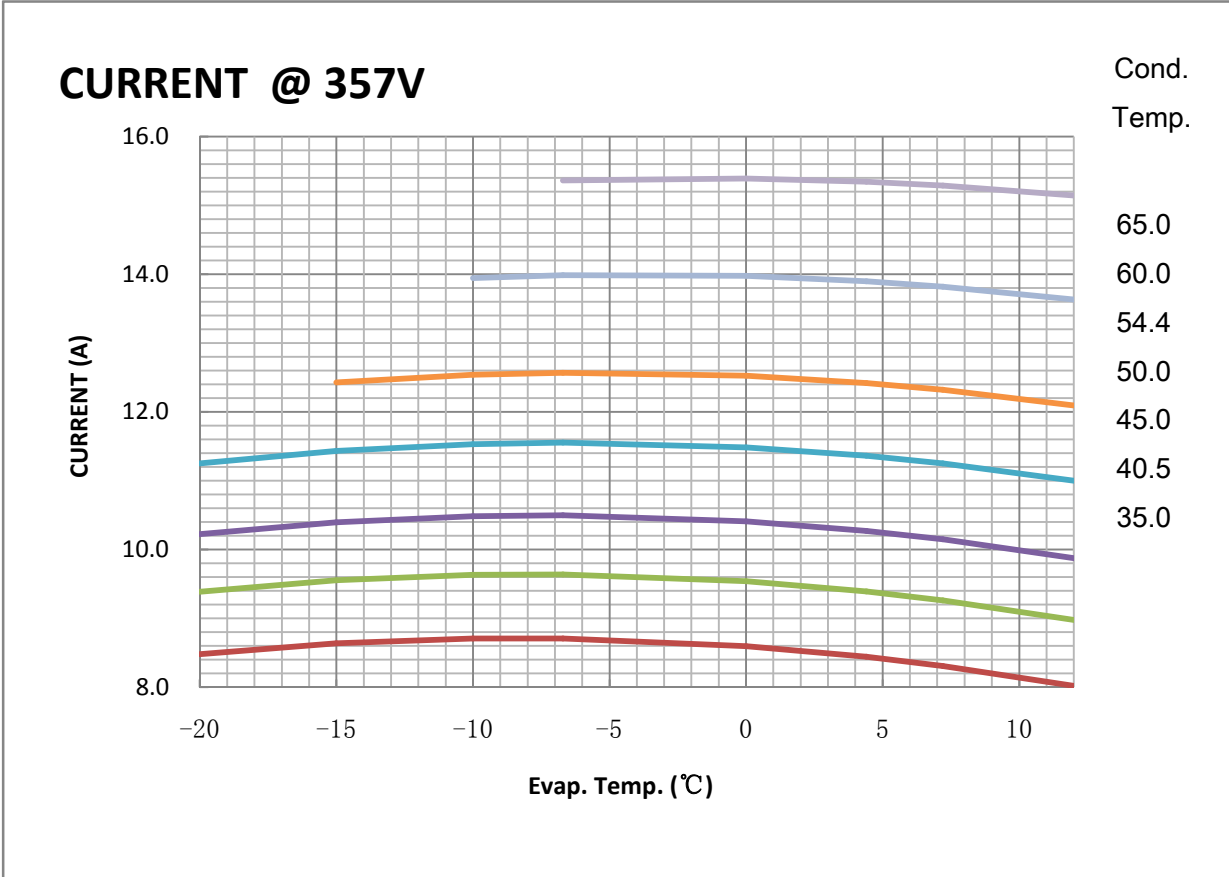
CURRENT(A)

| Condensing Temperature(°C) | Evaporating Temperature(°C) | | | | | | | |
|----------------------------|-----------------------------|------|------|------|------|------|------|------|
| | -20 | -15 | -10 | -6.7 | 0 | 4.4 | 7.2 | 12 |
| 35.0 | 8.5 | 8.6 | 8.7 | 8.7 | 8.6 | 8.4 | 8.3 | 8.0 |
| 40.5 | 9.4 | 9.6 | 9.6 | 9.6 | 9.5 | 9.4 | 9.3 | 9.0 |
| 45.0 | 10.2 | 10.4 | 10.5 | 10.5 | 10.4 | 10.3 | 10.1 | 9.9 |
| 50.0 | 11.2 | 11.4 | 11.5 | 11.6 | 11.5 | 11.4 | 11.2 | 11.0 |
| 54.4 | 12.2 | 12.4 | 12.5 | 12.6 | 12.5 | 12.4 | 12.3 | 12.1 |
| 60.0 | 13.6 | 13.8 | 13.9 | 14.0 | 14.0 | 13.9 | 13.8 | 13.6 |
| 65.0 | | 15.2 | 15.3 | 15.4 | 15.4 | 15.3 | 15.3 | 15.1 |

REFRIG FLOW(kg/h)

| Condensing Temperature(°C) | Evaporating Temperature(°C) | | | | | | | |
|----------------------------|-----------------------------|-----|-----|------|-----|-----|-----|-----|
| | -20 | -15 | -10 | -6.7 | 0 | 4.4 | 7.2 | 12 |
| 35.0 | 244 | 292 | 350 | 394 | 501 | 586 | 648 | 770 |
| 40.5 | 241 | 288 | 345 | 388 | 493 | 578 | 638 | 758 |
| 45.0 | 239 | 285 | 341 | 384 | 488 | 571 | 631 | 749 |
| 50.0 | 236 | 282 | 337 | 379 | 481 | 563 | 622 | 738 |
| 54.4 | 233 | 279 | 333 | 375 | 476 | 556 | 615 | 729 |
| 60.0 | 230 | 275 | 329 | 370 | 469 | 548 | 605 | 718 |
| 65.0 | | 272 | 325 | 365 | 463 | 541 | 597 | 708 |





COEFFICIENTS OF PERFORMANCE CURVES

Compressor Model **C-SBS180H00B**
 Power Source **3PH 90rps 357V**
 Suction Gas Superheat (K) **11.1**
 Sub Cooling (K) **8.3**
 Compressor Cooling **Natural Cooling**
 Refrigerant **R404A**

$X=C1+C2*(S)+C3*D+C4*(S^2)+C5*(S*D)+C6*(D^2)+C7*(S^3)+C8*(D*S^2)+C9*(S*D^2)+C10*(D^3)$
 X—CAPACITY(W) OR POWER(W) OR CURRENT(A) OR FLOW(kg/h)
 S—EVAPORATING TEMP, °C
 D—CONDENSING TEMP, °C

| 90rps 357V | CAPACITY (W) | POWER (W) | CURRENT (A) | FLOW (kg/h) |
|-------------------|---------------------|------------------|--------------------|--------------------|
| 1 | 3.389455E+04 | 3.393298E+03 | 5.885096E+00 | 5.493877E+02 |
| 2 | 1.252311E+03 | -1.758612E+01 | -2.268532E-02 | 2.021796E+01 |
| 3 | -5.067813E+02 | -4.253601E+00 | -2.720654E-03 | -1.468807E+00 |
| 4 | 1.988312E+01 | -1.281403E+00 | -2.110122E-03 | 3.599986E-01 |
| 5 | -1.679586E+01 | -2.666331E-01 | -6.640475E-04 | -6.654136E-02 |
| 6 | 2.405088E+00 | 1.366985E+00 | 2.292529E-03 | 2.010431E-03 |
| 7 | 1.467478E-01 | 9.628317E-04 | 1.031767E-06 | 3.226142E-03 |
| 8 | -1.525163E-01 | 1.134188E-02 | 1.100170E-05 | -9.716115E-04 |
| 9 | 7.008614E-02 | 7.023377E-03 | 1.420631E-05 | 1.241773E-04 |
| 10 | -2.596905E-08 | -8.657006E-09 | -1.996685E-12 | 5.002407E-12 |

Operating Envelope

SH: 11.1K

Refrigerant: R404A

