

Model  
SC18MNX

Sales code:  
104H7870

Compressor Data

|                            |                       |
|----------------------------|-----------------------|
| Refrigerant(s)             | R290                  |
| Refr. charge - tech. limit | 150g / 5.29oz         |
| Weight                     | 14.20 kg / 31.31lbs   |
| Displacement               | 17.69 cm3 / 1.08cu.in |
| Compressors on pallet      | 80                    |



General – Configurations With SC18MNX

| -                       | Conf. 1     | Conf. 2     |
|-------------------------|-------------|-------------|
| Motor configuration     | CSIR        | CSCR        |
| Power supply (nominal)  | 115 V/60 Hz | 115 V/60 Hz |
| Number of phases        | 1           | 1           |
| Voltage range           | 103-127 V   | 103-127 V   |
| Approvals               | UL          | UL          |
| Starting torque         | HST         | HST         |
| Refrigerant             | R290        | R290        |
| Application             | MBP         | MBP         |
| Long interval pull down | OK          | OK          |

Application Notes

- Provision for PE Grounding is located at the PE Stamp on the compressor

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### Compressor Design

|                       |                                          |                         |                      |
|-----------------------|------------------------------------------|-------------------------|----------------------|
| Oil type              | <b>POE</b>                               | Winding resistance main | <b>0.600 Ohm</b>     |
| Oil viscosity         | <b>32cSt</b>                             | Winding resistance aux  | <b>3.00 Ohm</b>      |
| Oil quantity          | <b>550 / 18.60fl.oz</b>                  | Max. winding temp.      | <b>125 °C</b>        |
| Free gas volume comp. | <b>1,460 cm<sup>3</sup> / 49.37fl.oz</b> | Max. discharge temp.    | <b>135°C / 275°F</b> |
| Motor protection      | <b>external</b>                          |                         |                      |

### Compressor Dimensions

#### Housing

|                   |                        |
|-------------------|------------------------|
| A Height          | <b>219mm / 8.62in</b>  |
| B Height          | <b>213mm / 8.39in</b>  |
| C Length shell    | <b>218mm / 8.58in</b>  |
| D Length w. cover | <b>255mm / 10.04in</b> |
| E Width           | <b>151mm / 5.94in</b>  |

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| Connectors            | Suction X                     | Discharge Y                   | Process Z                       |
|-----------------------|-------------------------------|-------------------------------|---------------------------------|
| Diameter [mm]         | øi 9.54–9.72 / 0.38–0.38in    | øi 6.41–6.59 / 0.25–0.26in    | øi 6.41–6.59 / 0.25–0.26in      |
| Material              | CU                            | CU                            | CU                              |
| Horizontal angle ±2°  | 37°                           | 37°                           | 143°                            |
| Vertical angle ±2°    | 30°                           | 0°                            | 150°                            |
| Position l/h/w [mm]   | 107/193/55 / 4.21/7.60/2.17in | 115/110/63 / 4.53/4.33/2.48in | -107/193/55 / -4.21/7.60/2.17in |
| Straight tube l. [mm] | 12 / 0.47in                   | 12 / 0.47in                   | 12 / 0.47in                     |

### Mounting Accessories



#### Bolt joint



#### Snap-on



Dimensions in mm [in]

|                            | one comp. | multi pack |
|----------------------------|-----------|------------|
| Bolt joint   M6   ø16mm    | 118-1917  | 118-1918   |
| Bolt joint   ø1/4"   ø16mm | 118-1946  | -          |
| Bolt joint   ø1/4"   ø19mm | 118-1949  | -          |
| Snap-on   ø7,3   ø16mm     | 118-1947  | 118-1919   |

Model  
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Configuration 1

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### Configuration

|                                    |                       |
|------------------------------------|-----------------------|
| Motor configuration                | <b>CSIR</b>           |
| Power supply (nominal)             | <b>115 V/60 Hz 1~</b> |
| Refrigerant                        | <b>R290</b>           |
| Application                        | <b>MBP</b>            |
| Voltage range                      | <b>103-127 V</b>      |
| Starting torque                    | <b>HST</b>            |
| Approvals                          | <b>UL</b>             |
| Starting device type               | <b>relay</b>          |
| Run capacitor                      | <b>-/-</b>            |
| Start capacitor                    | <b>410 µF</b>         |
| LRA (locked rotor amps / 4s/ U(N)) | <b>63 A</b>           |
| RLA (rated load amps / 1s/ U(N))   | <b>9.6 A</b>          |
| Cut in current (U(N))              | <b>63 A</b>           |

### Ambient/ machine room temperatures minimum /maximum

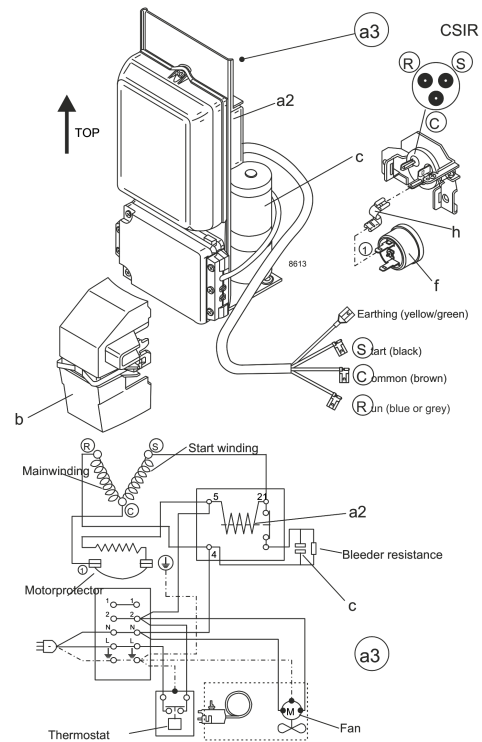
Ambient temperature range: 10 - 38°C / 50 - 100°F

Machine room temp. compressor: 10 - 43°C / 50 - 109°F

### System Cooling

fan 3m/s

### Electrical Accessories / Wiring Diagram



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### Components

**a3** SC starter kit 117-7053

**f** ext. protector (T0761/46) 117U3212

**b** plastic cover + clamp 117U1021

### Alternative components

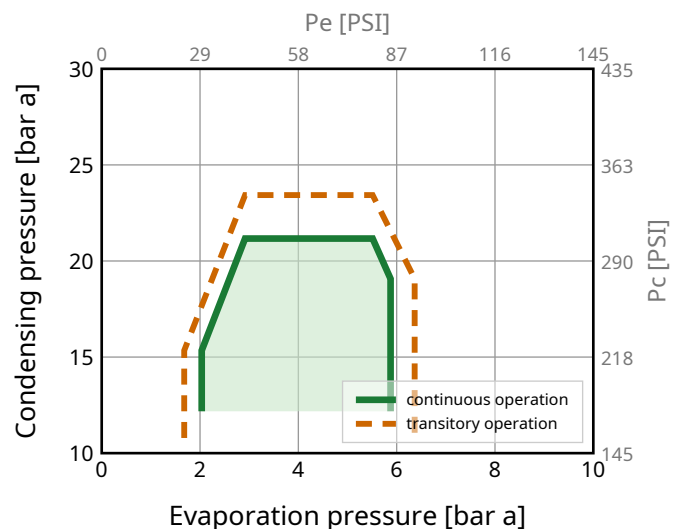
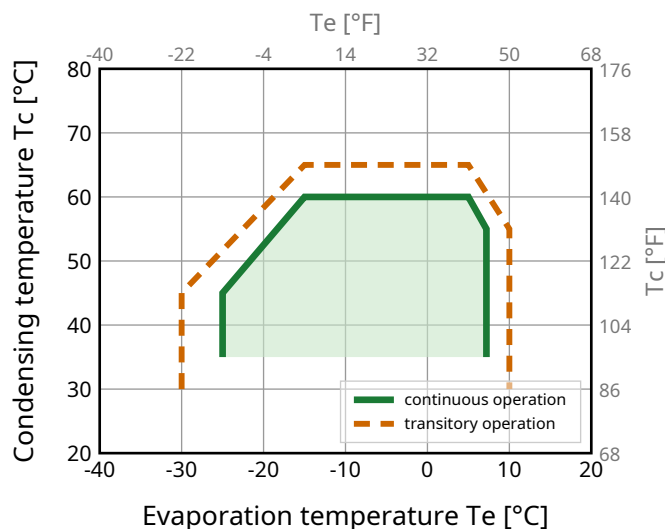
**a2** potential relay (RVA 7AA3R) 117-7441

**c** start capacitor (410µF, 6.3mm) 117U5043

**f** ext. protector (T0761/46) 117U3212

**b** plastic cover + clamp 117U1021

### Operation Pressure Range



Model

SC18MNX

Configuration 1

Sales code:

104H7870

Standard Conditions

R290, 115 V/60 Hz, CSIR, fan 3m/s

| pe           | pc            | RGT          | Tliq          | Cooling capacity |         |          | COP   | EER      | P   | I     | m      |             |
|--------------|---------------|--------------|---------------|------------------|---------|----------|-------|----------|-----|-------|--------|-------------|
| [°C]<br>[°F] | [°C]<br>[°F]  | [°C]<br>[°F] | [°C]<br>[°F]  | [W]              | [Btu/h] | [kcal/h] | [W/W] | [Btu/Wh] | [W] | [A]   | [kg/h] |             |
| -6.7<br>20   | 54.4<br>129.9 | 35<br>95     | 46.1<br>115   | 1561             | 5326    | 1343     | 1.70  | 5.81     | 916 | 10.86 | 17.87  | ASHRAE MBP  |
| -10<br>14    | 55<br>131     | 32<br>89.6   | 55<br>131     | 1241             | 4236    | 1068     | 1.41  | 4.82     | 878 | 10.58 | 15.79  | CECOMAF MBP |
| -10<br>14    | 45<br>113     | 20<br>68     | 45<br>113     | 1420             | 4844    | 1221     | 1.71  | 5.83     | 831 | 10.38 | 17.47  | EN12900 MBP |
| -6.7<br>20   | 48.8<br>119.8 | 18.3<br>64.9 | 48.8<br>119.8 | 1491             | 5088    | 1282     | 1.68  | 5.75     | 885 | 10.72 | 19.39  | ARI540 MBP  |
| -10<br>14    | 45<br>113     | 32<br>89.6   | 45<br>113     | 1476             | 5036    | 1269     | 1.78  | 6.06     | 831 | 10.38 | 16.95  | opt MBP     |
| -23.3<br>-10 | 45<br>113     | 32.2<br>90   | 32.2<br>90    | 989              | 3375    | 851      | 1.43  | 4.88     | 691 | 9.72  | 10.05  | opt LBP     |

Performance Tables

R290, 115 V/60 Hz, CSIR, fan 3m/s

pc= 45/113 | RGT= 32/89.6 | Tliq= 45/113 | °C/°F

| pe   |      | Cooling capacity |         |          | COP   | EER      | P    | I     | m      |
|------|------|------------------|---------|----------|-------|----------|------|-------|--------|
| [°C] | [°F] | [W]              | [Btu/h] | [kcal/h] | [W/W] | [Btu/Wh] | [W]  | [A]   | [kg/h] |
| -25  | -13  | 824              | 2811    | 708      | 1.23  | 4.18     | 672  | 9.66  | 9.34   |
| -20  | -4   | 1012             | 3453    | 870      | 1.39  | 4.75     | 727  | 9.85  | 11.51  |
| -15  | 5    | 1225             | 4179    | 1053     | 1.57  | 5.36     | 780  | 10.09 | 14.00  |
| -10  | 14   | 1476             | 5036    | 1269     | 1.78  | 6.06     | 831  | 10.38 | 16.95  |
| -5   | 23   | 1778             | 6066    | 1529     | 2.02  | 6.89     | 881  | 10.71 | 20.53  |
| 0    | 32   | 2144             | 7316    | 1844     | 2.31  | 7.86     | 930  | 11.08 | 24.93  |
| 5    | 41   | 2588             | 8829    | 2225     | 2.64  | 9.01     | 980  | 11.48 | 30.32  |
| 7.2  | 45   | 2810             | 9589    | 2417     | 2.81  | 9.58     | 1001 | 11.66 | 33.06  |

pc= 55/131 | RGT= 32/89.6 | Tliq= 55/131 | °C/°F

|     |     |      |      |      |      |      |      |       |       |
|-----|-----|------|------|------|------|------|------|-------|-------|
| -25 | -13 | 650  | 2218 | 559  | 0.96 | 3.28 | 677  | 9.18  | 8.15  |
| -20 | -4  | 831  | 2834 | 714  | 1.11 | 3.80 | 746  | 9.64  | 10.46 |
| -15 | 5   | 1023 | 3492 | 880  | 1.26 | 4.30 | 813  | 10.11 | 12.94 |
| -10 | 14  | 1241 | 4236 | 1068 | 1.41 | 4.82 | 878  | 10.58 | 15.79 |
| -5  | 23  | 1498 | 5110 | 1288 | 1.59 | 5.43 | 942  | 11.04 | 19.17 |
| 0   | 32  | 1806 | 6160 | 1553 | 1.80 | 6.13 | 1005 | 11.49 | 23.28 |
| 5   | 41  | 2178 | 7431 | 1873 | 2.04 | 6.95 | 1068 | 11.93 | 28.33 |
| 7.2 | 45  | 2365 | 8071 | 2034 | 2.16 | 7.36 | 1096 | 12.12 | 30.90 |

Model  
**SC18MNX**

Configuration 2

Sales code:  
**104H7870**

### Configuration

|                                    |                               |
|------------------------------------|-------------------------------|
| Motor configuration                | <b>CSCR</b>                   |
| Power supply (nominal)             | <b>115 V/60 Hz 1~</b>         |
| Refrigerant                        | <b>R290</b>                   |
| Application                        | <b>MBP</b>                    |
| Voltage range                      | <b>103-127 V</b>              |
| Starting torque                    | <b>HST</b>                    |
| Approvals                          | <b>UL</b>                     |
| Starting device type               | <b>relay</b>                  |
| Run capacitor                      | <b>23.5 <math>\mu</math>F</b> |
| Start capacitor                    | <b>410 <math>\mu</math>F</b>  |
| LRA (locked rotor amps / 4s/ U(N)) | <b>63 A</b>                   |
| RLA (rated load amps / 1s/ U(N))   | <b>9.6 A</b>                  |
| Cut in current (U(N))              | <b>63 A</b>                   |

### Ambient/ machine room temperatures minimum /maximum

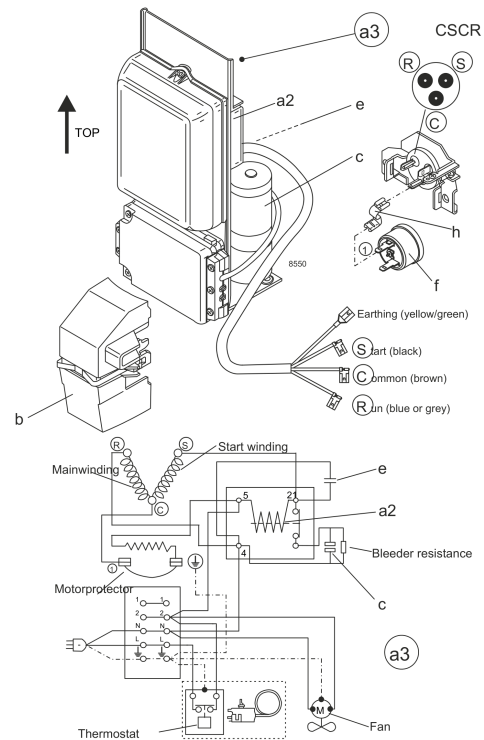
Ambient temperature range: 10 - 38°C / 50 - 100°F

Machine room temp. compressor: 10 - 43°C / 50 - 109°F

### System Cooling

fan 3m/s

### Electrical Accessories / Wiring Diagram



[View full size](#)

### Components

**a3** SC starter kit 117-7045

**f** ext. protector (T0761/46) 117U3212

**b** plastic cover + clamp 117U1021

### Alternative components

**a2** potential relay (RVA 7AA3R) 117-7441

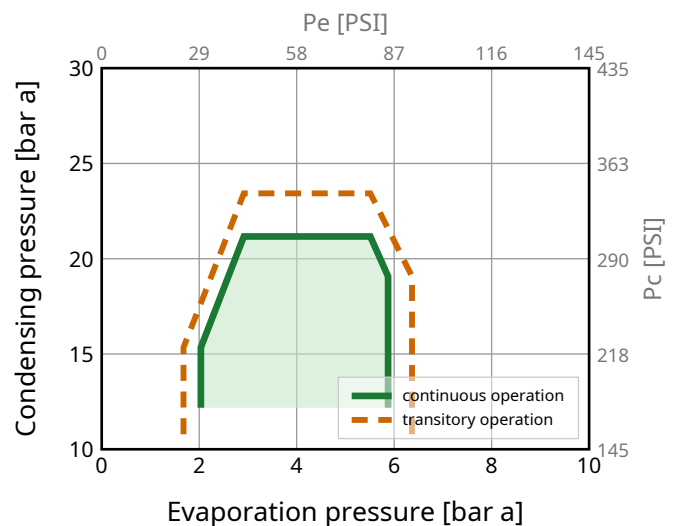
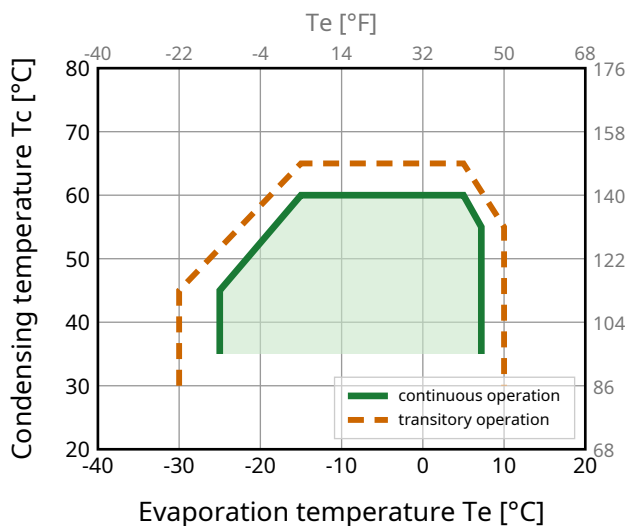
**e** run capacitor (23,5 $\mu$ F, 6.3mm) 117-7114

**c** start capacitor (410 $\mu$ F, 6.3mm) 117U5043

**f** ext. protector (T0761/46) 117U3212

**b** plastic cover + clamp 117U1021

### Operation Pressure Range



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Configuration 2

Sales code:  
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Standard Conditions

R290, 115 V/60 Hz, CSCR, fan 3m/s

| pe           | pc            | RGT          | Tliq          | Cooling capacity |         |          | COP   | EER      | P   | I     | m      |             |
|--------------|---------------|--------------|---------------|------------------|---------|----------|-------|----------|-----|-------|--------|-------------|
| [°C]<br>[°F] | [°C]<br>[°F]  | [°C]<br>[°F] | [°C]<br>[°F]  | [W]              | [Btu/h] | [kcal/h] | [W/W] | [Btu/Wh] | [W] | [A]   | [kg/h] |             |
| -6.7<br>20   | 54.4<br>129.9 | 35<br>95     | 46.1<br>115   | 1587             | 5415    | 1365     | 1.82  | 6.22     | 870 | 10.31 | 18.17  | ASHRAE MBP  |
| -10<br>14    | 55<br>131     | 32<br>89.6   | 55<br>131     | 1264             | 4312    | 1087     | 1.52  | 5.17     | 834 | 10.05 | 16.07  | CECOMAF MBP |
| -10<br>14    | 45<br>113     | 20<br>68     | 45<br>113     | 1445             | 4930    | 1243     | 1.83  | 6.25     | 789 | 9.86  | 17.78  | EN12900 MBP |
| -6.7<br>20   | 48.8<br>119.8 | 18.3<br>64.9 | 48.8<br>119.8 | 1516             | 5173    | 1304     | 1.80  | 6.15     | 841 | 10.18 | 19.71  | ARI540 MBP  |
| -10<br>14    | 45<br>113     | 32<br>89.6   | 45<br>113     | 1502             | 5125    | 1292     | 1.90  | 6.49     | 789 | 9.86  | 17.25  | opt MBP     |
| -23.3<br>-10 | 45<br>113     | 32.2<br>90   | 32.2<br>90    | 1017             | 3471    | 875      | 1.55  | 5.29     | 657 | 9.23  | 10.33  | opt LBP     |

Performance Tables

R290, 115 V/60 Hz, CSCR, fan 3m/s

pc= 45/113 | RGT= 32/89.6 | Tliq= 45/113 | °C/°F

| pe   |      | Cooling capacity |         |          | COP   | EER      | P   | I     | m      |
|------|------|------------------|---------|----------|-------|----------|-----|-------|--------|
| [°C] | [°F] | [W]              | [Btu/h] | [kcal/h] | [W/W] | [Btu/Wh] | [W] | [A]   | [kg/h] |
| -25  | -13  | 849              | 2896    | 730      | 1.33  | 4.53     | 639 | 9.18  | 9.62   |
| -20  | -4   | 1037             | 3539    | 892      | 1.50  | 5.12     | 691 | 9.36  | 11.80  |
| -15  | 5    | 1250             | 4265    | 1075     | 1.69  | 5.76     | 741 | 9.59  | 14.28  |
| -10  | 14   | 1502             | 5125    | 1292     | 1.90  | 6.49     | 789 | 9.86  | 17.25  |
| -5   | 23   | 1807             | 6165    | 1554     | 2.16  | 7.37     | 836 | 10.17 | 20.87  |
| 0    | 32   | 2179             | 7436    | 1874     | 2.47  | 8.42     | 883 | 10.52 | 25.34  |
| 5    | 41   | 2633             | 8984    | 2265     | 2.83  | 9.66     | 930 | 10.90 | 30.86  |
| 7.2  | 45   | 2862             | 9767    | 2462     | 3.01  | 10.27    | 951 | 11.07 | 33.67  |

pc= 55/131 | RGT= 32/89.6 | Tliq= 55/131 | °C/°F

|     |     |      |      |      |      |      |      |       |       |
|-----|-----|------|------|------|------|------|------|-------|-------|
| -25 | -13 | 671  | 2288 | 577  | 1.04 | 3.56 | 643  | 8.72  | 8.41  |
| -20 | -4  | 852  | 2908 | 733  | 1.20 | 4.10 | 708  | 9.16  | 10.73 |
| -15 | 5   | 1045 | 3566 | 899  | 1.35 | 4.62 | 772  | 9.60  | 13.22 |
| -10 | 14  | 1264 | 4312 | 1087 | 1.52 | 5.17 | 834  | 10.05 | 16.07 |
| -5  | 23  | 1522 | 5193 | 1309 | 1.70 | 5.81 | 894  | 10.48 | 19.48 |
| 0   | 32  | 1835 | 6260 | 1578 | 1.92 | 6.56 | 955  | 10.91 | 23.66 |
| 5   | 41  | 2215 | 7559 | 1905 | 2.18 | 7.45 | 1014 | 11.33 | 28.82 |
| 7.2 | 45  | 2408 | 8216 | 2071 | 2.31 | 7.89 | 1041 | 11.51 | 31.46 |