

## Model

|             |               |                         |             |                 |
|-------------|---------------|-------------------------|-------------|-----------------|
| Designation | <b>SC12DL</b> | <b>220-240V/50Hz 1~</b> | Sales code: | <b>104L2627</b> |
|-------------|---------------|-------------------------|-------------|-----------------|

## Compressor design

|                            |                                 |                       |                                  |
|----------------------------|---------------------------------|-----------------------|----------------------------------|
| Oil type                   | Polyolester                     | Refrigerant(s)        | <b>R404A, R507, R407C</b>        |
| Oil viscosity              | 32cST                           | Displacement          | 12,87cm <sup>3</sup> / 0,79cu.in |
| Oil quantity               | 550cm <sup>3</sup> / 18,6fl.oz  | Compressors on pallet | 80                               |
| Refr. charge - tech. limit | 1300g / 45,9oz                  |                       |                                  |
| Free gas volume comp.      | 1460cm <sup>3</sup> / 49,4fl.oz |                       |                                  |
| Weight                     | 13,6kg / 30lbs                  |                       |                                  |
| Motor protection           | 1# internal                     |                       |                                  |
| Winding resistance main    | 3,7Ω (at 25°C)                  |                       |                                  |
| Winding resistance aux     | 14Ω (at 25°C)                   |                       |                                  |
| Max. winding temp.         | 125°C / 257°F                   |                       |                                  |
| Max. discharge temp.       | 130°C / 266°F                   |                       |                                  |



## General - Configurations with SC12DL

### Conf. 1

|                        |   |
|------------------------|---|
| Motorconfiguration     | CSIR                                    |
| Power supply (nominal) | 220-240V/50Hz                           |
| Number of phases       | 1                                       |
| Voltage range          | 198-254V                                |
| Approvals              | CCC, VDE,                               |
| Starting torque        | HST                                     |
| Note                   | Compressor with noise optimization kit. |

## Applications with SC12DL

### Conf. 1

|                         |          |
|-------------------------|----------|
| Refrigerant             | R404A    |
| Application             | HBP      |
| System cooling          | fan 3m/s |
| Hot gas defrost         | OK       |
| Long interval pull down | OK       |

## Electrical data - Configurations with SC12DL

### Conf. 1

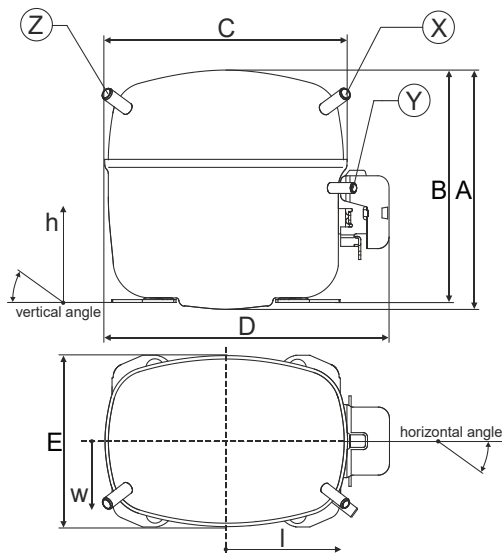
|                              |        |
|------------------------------|--------|
| Starting device type         | relay  |
| Run capacitor                | -/-    |
| Start capacitor              | 80μF   |
| LRA (locked rotor amps / 4s) | 20,43A |
| RLA (rated load amps / 1s)   | 3,9A   |
| Cut in current               | 20,43A |

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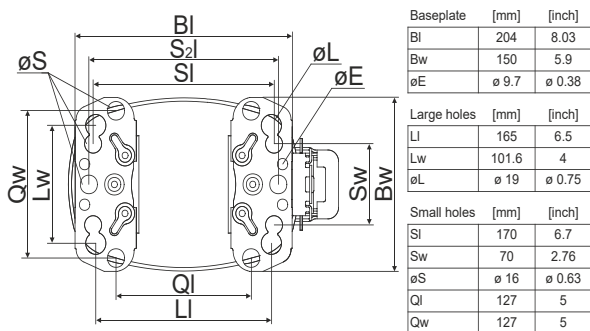
## Compressor dimensions

|                |                   |                 |
|----------------|-------------------|-----------------|
| <b>Housing</b> | A Height          | 219mm / 8,62in  |
|                | B Height          | 213mm / 8,39in  |
|                | C Length shell    | 218mm / 8,58in  |
|                | D Length w. cover | 255mm / 10,04in |
|                | E Width           | 151mm / 5,94in  |



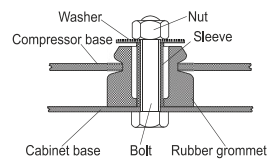
| Connectors                 | Suction        |  | Discharge    |  | Process      |  |
|----------------------------|----------------|--|--------------|--|--------------|--|
|                            | X              |  | Y            |  | Z            |  |
| Diameter [mm]              | øi 10,11-10,29 |  | øi 6,11-6,29 |  | øi 6,11-6,29 |  |
| (i:inside, o:outside) [in] | øi 0,4-0,41    |  | øi 0,24-0,25 |  | øi 0,24-0,25 |  |
| Material                   | copper         |  | copper       |  | copper       |  |
| Horizontal angle ±2°       | 37°            |  | 37°          |  | 143°         |  |
| Vertical angle ±2°         | 30°            |  | 0°           |  | 150°         |  |
| Position l/h/w [mm]        | 107/193/55     |  | 115/110/63   |  | -107/193/55  |  |
| [in]                       | 4,2/7,6/2,2    |  | 4,5/4,3/2,5  |  | -4,2/7,6/2,2 |  |
| Straight tube l. [mm]      | 12             |  | 12           |  | 12           |  |
| [in]                       | 0,5            |  | 0,5          |  | 0,5          |  |

## Compressor fixation

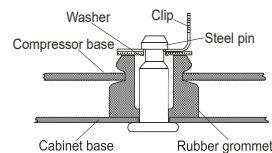


| Baseplate   | [mm]  | [inch] |
|-------------|-------|--------|
| BI          | 204   | 8.03   |
| Bw          | 150   | 5.9    |
| øE          | ø 9.7 | ø 0.38 |
| Large holes | [mm]  | [inch] |
| LI          | 165   | 6.5    |
| LW          | 101.6 | 4      |
| øL          | ø 19  | ø 0.75 |
| Small holes | [mm]  | [inch] |
| SI          | 170   | 6.7    |
| Sw          | 70    | 2.76   |
| øS          | ø 16  | ø 0.63 |
| QI          | 127   | 5      |
| Qw          | 127   | 5      |

## Bolt joint



## Snap-on



## Mounting accessories

|                            | 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   |

## Application notes

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

## Model

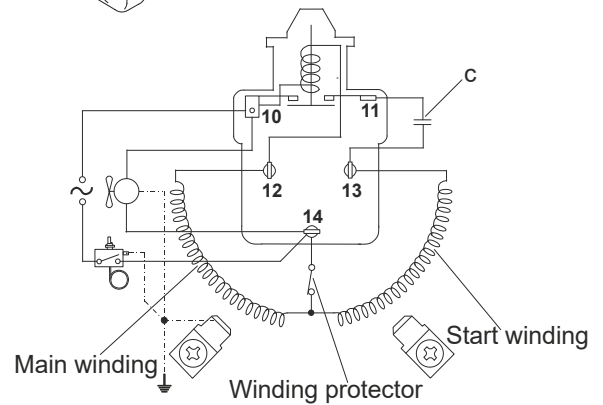
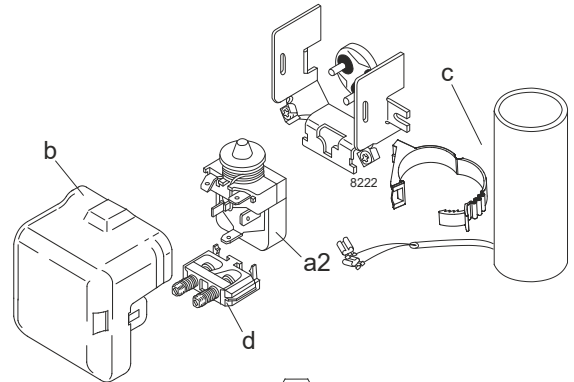
|             |               |                      |         |             |                 |
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## Configuration

|                        |                  |
|------------------------|------------------|
| Motorconfiguration     | CSIR             |
| Power supply (nominal) | 220-240V/50Hz 1~ |
| Refrigerant            | R404A            |
| Application            | HBP              |
| Voltage range          | 198-254V         |
| Starting torque        | HST              |
| Approvals              | CCC              |
|                        | VDE              |
|                        | 0                |

## Electrical accessories / wiring diagram

CSIR



## Ambient/ machine room temperatures minimum /maximum

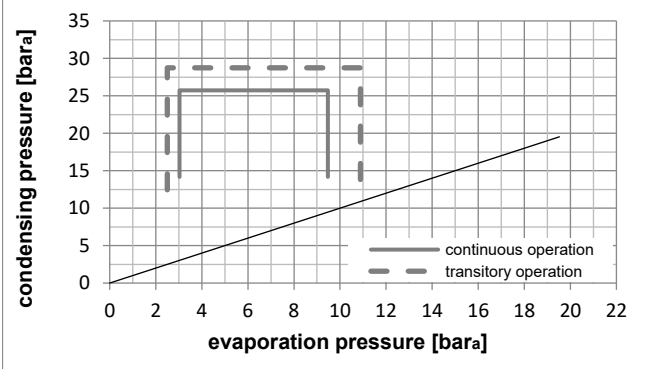
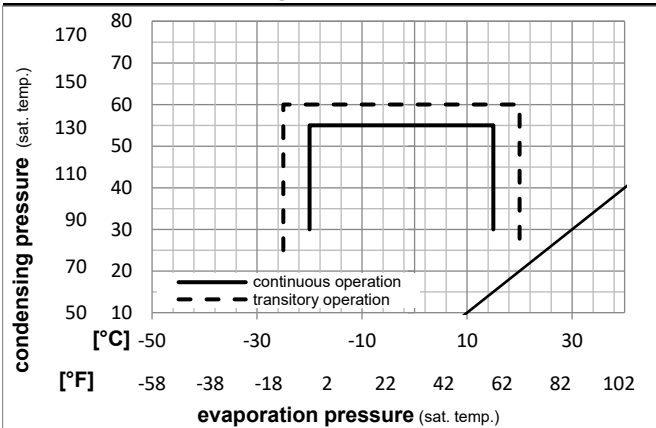
Ambient temperature range: 10 - 38°C / 50 - 101°F

Machine room temperature range: 10 - 43°C / 50 - 110°F

Compressor cooling: fan 3m/s

## Operation Limits

## Operation pressure range



## Components

|    |                        |          |
|----|------------------------|----------|
| a2 | relay                  | 117U6019 |
| c  | start capacitor (80μF) | 117U5017 |
| d  | cord relief            | 103N1004 |
| b  | plastic cover          | 103N2009 |

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## Optimization + standard conditions

R404A, 220V/50Hz, CSIR, fan 3m/s, CCC, VDE,

| Evaporating pressure (saturation temperature) |      |      |      |  | Condensing pressure (saturation temperature) |         |          | Return gas temp. |          |           | Liquid temp. |      |       | Cooling capacity |     |        | COP         | EER | Power consumption |  |  | Ref. mass flow<br>m |  |
|---|------|------|------|--|--|---------|----------|------------------|----------|-----------|--------------|------|-------|------------------|-----|--------|-------------|-----|-------------------|--|--|---------------------|--|
| pe  | pc   | RGT  | Tliq |  | [W]  | [Btu/h] | [kcal/h] | [W/W]            | [Btu/Wh] | [kcal/Wh] | P1           | I    |       | [W]              | [A] | [kg/h] |             |     |                   |  |  |                     |  |
| [°C]  | [°C] | [°C] | [°C] |  |  |         |          |                  |          |           |              |      |       |                  |     |        |             |     |                   |  |  |                     |  |
| 7,2   | 54   | 35   | 46   |  | 1942,9                                       | 6635    | 1672,1   | 2,26             | 7,71     | 1,94      | 860,4        | 4,92 | 55,24 |                  |     |        | ASHRAE HBP  |     |                   |  |  |                     |  |
| [°F]  | [°F] | [°F] | [°F] |  |  |         |          |                  |          |           |              |      |       |                  |     |        |             |     |                   |  |  |                     |  |
| 5   | 55   | 32   | 55   |  | 1525,8                                       | 5211    | 1313,1   | 1,80             | 6,15     | 1,55      | 847,7        | 4,85 | 50,81 |                  |     |        | cecomaf HBP |     |                   |  |  |                     |  |
| [°C]  | [°C] | [°C] | [°C] |  |  |         |          |                  |          |           |              |      |       |                  |     |        |             |     |                   |  |  |                     |  |
| [°F]  | [°F] | [°F] | [°F] |  |  |         |          |                  |          |           |              |      |       |                  |     |        |             |     |                   |  |  |                     |  |
| 5   | 50   | 20   | 50   |  | 1583,4                                       | 5408    | 1362,7   | 1,99             | 6,78     | 1,71      | 797,5        | 4,64 | 54,00 |                  |     |        | EN12900 HBP |     |                   |  |  |                     |  |
| [°C]  | [°C] | [°C] | [°C] |  |  |         |          |                  |          |           |              |      |       |                  |     |        |             |     |                   |  |  |                     |  |
| [°F]  | [°F] | [°F] | [°F] |  |  |         |          |                  |          |           |              |      |       |                  |     |        |             |     |                   |  |  |                     |  |
| -7  | 54   | 35   | 46   |  | 1123,7                                       | 3838    | 967,1    | 1,57             | 5,37     | 1,35      | 714,7        | 4,26 | 30,92 |                  |     |        | ASHRAE MBP  |     |                   |  |  |                     |  |
| [°C]  | [°C] | [°C] | [°C] |  |  |         |          |                  |          |           |              |      |       |                  |     |        |             |     |                   |  |  |                     |  |
| [°F]  | [°F] | [°F] | [°F] |  |  |         |          |                  |          |           |              |      |       |                  |     |        |             |     |                   |  |  |                     |  |
| -10   | 55   | 32   | 55   |  | 826,6  | 2823    | 711,4    | 1,23             | 4,21     | 1,06      | 670,5        | 4,08 | 26,46 |                  |     |        | cecomaf MBP |     |                   |  |  |                     |  |
| [°C]  | [°C] | [°C] | [°C] |  |  |         |          |                  |          |           |              |      |       |                  |     |        |             |     |                   |  |  |                     |  |
| [°F]  | [°F] | [°F] | [°F] |  |  |         |          |                  |          |           |              |      |       |                  |     |        |             |     |                   |  |  |                     |  |
| -10   | 45   | 20   | 45   |  | 968,4  | 3307    | 833,4    | 1,55             | 5,30     | 1,34      | 623,9        | 3,89 | 29,17 |                  |     |        | EN12900 MBP |     |                   |  |  |                     |  |
| [°C]  | [°C] | [°C] | [°C] |  |  |         |          |                  |          |           |              |      |       |                  |     |        |             |     |                   |  |  |                     |  |
| [°F]  | [°F] | [°F] | [°F] |  |  |         |          |                  |          |           |              |      |       |                  |     |        |             |     |                   |  |  |                     |  |

## Performance tables

R404A, 220V/50Hz, CSIR, fan 3m/s, CCC, VDE,

|                  | pe   |      | Cooling capacity |         |          | COP   | EER      |           | P1    | I    | m      |
|------------------|------|------|------------------|---------|----------|-------|----------|-----------|-------|------|--------|
|                  | [°C] | [°F] | [W]              | [Btu/h] | [kcal/h] | [W/W] | [Btu/Wh] | [kcal/Wh] | [W]   | [A]  | [kg/h] |
| [°C / °F]        | -20  | -4   | 608,7            | 2079    | 523,9    | 1,24  | 4,25     | 1,07      | 489,3 | 3,37 | 16,52  |
| cond. pressure   | -15  | 5    | 805,8            | 2752    | 693,4    | 1,43  | 4,89     | 1,23      | 562,5 | 3,65 | 22,01  |
| pc= 45/113       | -10  | 14   | 1027,7           | 3510    | 884,5    | 1,65  | 5,63     | 1,42      | 623,9 | 3,89 | 28,30  |
| return gas temp. | -5   | 23   | 1279,4           | 4369    | 1101,0   | 1,90  | 6,47     | 1,63      | 674,8 | 4,11 | 35,57  |
| RGT= 32/90       | 0    | 32   | 1565,2           | 5345    | 1347,0   | 2,18  | 7,46     | 1,88      | 716,5 | 4,29 | 44,00  |
| liquid temp      | 5    | 41   | 1889,8           | 6454    | 1626,4   | 2,52  | 8,60     | 2,17      | 750,4 | 4,44 | 53,84  |
| Tliq= 45/113     | 15   | 59   | 2674,2           | 9133    | 2301,4   | 3,34  | 11,41    | 2,88      | 800,2 | 4,66 | 78,86  |
| [°C / °F]        | -20  | -4   | 465,8            | 1591    | 400,9    | 0,95  | 3,23     | 0,81      | 492,6 | 3,41 | 14,66  |
| cond. pressure   | -15  | 5    | 638,7            | 2181    | 549,7    | 1,09  | 3,71     | 0,93      | 588,4 | 3,76 | 20,26  |
| pc= 55/131       | -10  | 14   | 826,6            | 2823    | 711,4    | 1,23  | 4,21     | 1,06      | 670,5 | 4,08 | 26,46  |
| return gas temp  | -5   | 23   | 1034,0           | 3531    | 889,8    | 1,40  | 4,77     | 1,20      | 740,2 | 4,37 | 33,47  |
| RGT= 32/90       | 0    | 32   | 1265,5           | 4322    | 1089,1   | 1,58  | 5,41     | 1,36      | 798,8 | 4,62 | 41,50  |
| liquid temp      | 5    | 41   | 1525,8           | 5211    | 1313,1   | 1,80  | 6,15     | 1,55      | 847,7 | 4,85 | 50,81  |
| Tliq= 55/131     | 15   | 59   | 2151,3           | 7347    | 1851,4   | 2,33  | 7,97     | 2,01      | 921,8 | 5,22 | 74,60  |