

## Single Pack SC12CL 220-240V 50Hz CSIR

Codice Imballo Singolo: **195B4084**

| Posizione | Titolo                                                  | Codice   | Quantità |
|-----------|---------------------------------------------------------|----------|----------|
| 1         | Compressor SC12CL                                       | 104L2623 | 1        |
| 2         | Starting relay                                          | 117U6005 | 1        |
| 3         | Starting capacitor (80 $\mu$ F 220V, 6.3mm)             | 117U5017 | 1        |
| 4         | Cord relief                                             | 103N1004 | 1        |
| 5         | Cover                                                   | 103N2009 | 1        |
| 6         | Bolt joint for one compressor   M6   $\varnothing$ 16mm | 118-1917 | 1        |

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## Model

|             |               |                  |             |                 |
|-------------|---------------|------------------|-------------|-----------------|
| Designation | <b>SC12CL</b> | 220-240V/50Hz 1~ | Sales code: | <b>104L2623</b> |
|-------------|---------------|------------------|-------------|-----------------|

## Compressor design

|                            |                                 |                       |                                  |
|----------------------------|---------------------------------|-----------------------|----------------------------------|
| Oil type                   | Polyolester                     | Refrigerant(s)        | <b>R404A, R452A, R507</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                     | 13,1kg / 28,9lbs                |                       |                                  |
| Motor protection           | 1# internal                     |                       |                                  |
| Winding resistance main    | 5,13Ω (at 25°C)                 |                       |                                  |
| Winding resistance aux     | 13,51Ω (at 25°C)                |                       |                                  |
| Max. winding temp.         | 125°C / 257°F                   |                       |                                  |
| Max. discharge temp.       | 130°C / 266°F                   |                       |                                  |



## General - Configurations with SC12CL

|                        | <b>Conf. 1</b> | <b>Conf. 2</b> |
|------------------------|----------------|----------------|
| Motorconfiguration     | CSIR           | CSIR           |
| Power supply (nominal) | 220-240V/50Hz  | 220-240V/50Hz  |
| Number of phases       | 1              | 1              |
| Voltage range          | 198-254V       | 198-254V       |
| Approvals              | VDE, CCC, EAC  | VDE, CCC       |
| Starting torque        | HST            | HST            |
| Note                   | - / -          |                |

## Applications with SC12CL

|                         | <b>Conf. 1</b> | <b>Conf. 2</b> |
|-------------------------|----------------|----------------|
| Refrigerant             | R404A          | R452A          |
| Application             | LBP            | LBP            |
| System cooling          | fan 3m/s       | fan 3m/s       |
| Hot gas defrost         | OK             | OK             |
| Long interval pull down | OK             | OK             |

## Electrical data - Configurations with SC12CL

|                              | <b>Conf. 1</b> | <b>Conf. 2</b> |
|------------------------------|----------------|----------------|
| Starting device type         | relay          | relay          |
| Run capacitor                | - / -          | - / -          |
| Start capacitor              | 80μF           | 80μF           |
| LRA (locked rotor amps / 4s) | 23,4A          | 16,2A          |
| RLA (rated load amps / 1s)   | 4,3A           | 3,1A           |
| Cut in current               | 23,4A          | 16,2A          |

## Model

Designation

**SC12CL**

220-240V/50Hz 1~

Sales code:

**104L2623**

## Compressor dimensions

|                |                   |                 |
|----------------|-------------------|-----------------|
| <b>Housing</b> | A Height          | 209mm / 8,23in  |
|                | B Height          | 203mm / 7,99in  |
|                | C Length shell    | 218mm / 8,58in  |
|                | D Length w. cover | 255mm / 10,04in |
|                | E Width           | 151mm / 5,94in  |

| Connectors                 | Suction<br>X | Discharge<br>Y | Process<br>Z |
|----------------------------|--------------|----------------|--------------|
| Diameter [mm]              | ø 8,11-8,29  | ø 6,11-6,29    | ø 6,11-6,29  |
| (i:inside, o:outside) [in] | ø 0,32-0,33  | ø 0,24-0,25    | ø 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]        | 107/183/55   | 115/100/63     | -107/183/55  |
| [in]                       | 4,2/7,2/2,2  | 4,5/3,9/2,5    | -4,2/7,2/2,2 |
| Straight tube l. [mm]      | 12           | 12             | 12           |
| [in]                       | 0,5          | 0,5            | 0,5          |



## Compressor fixation



### 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

|             |               |                      |                |             |                 |
|-------------|---------------|----------------------|----------------|-------------|-----------------|
| Designation | <b>SC12CL</b> | <b>220-240V/50Hz</b> | <b>Conf. 1</b> | Sales code: | <b>104L2623</b> |
|-------------|---------------|----------------------|----------------|-------------|-----------------|

## Configuration

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

## Electrical accessories / wiring diagram

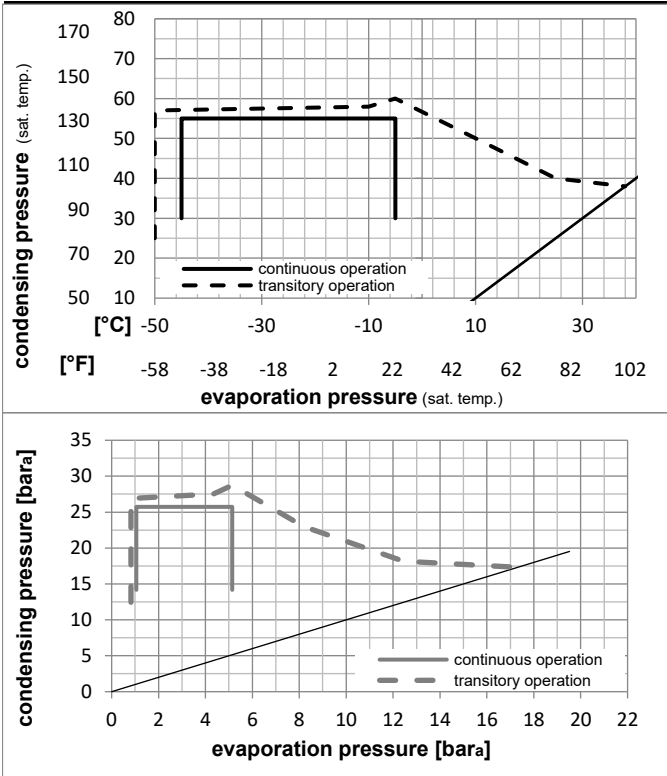


## Ambient/ machine room temperatures minimum /maximum

|                                 |                        |
|---------------------------------|------------------------|
| 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                  | 117U6005 |
| c  | start capacitor (80μF) | 117U5017 |
| d  | cord relief            | 103N1004 |
| b  | plastic cover          | 103N2009 |

## Model

Designation **SC12CL** **220-240V/50Hz** Conf. 1 Sales code: **104L2623**

## Optimization + standard conditions

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

|      | Evaporating pressure (saturation temperature) |     |     |      | Condensing pressure (saturation temperature) |         |          | Return gas temp. | Liquid temp. | Cooling capacity | COP   | EER  | Power consumption |             |   | Ref. mass flow |
|------|-----------------------------------------------|-----|-----|------|----------------------------------------------|---------|----------|------------------|--------------|------------------|-------|------|-------------------|-------------|---|----------------|
|      | pe                                            | pc  | RGT | Tliq | [W]                                          | [Btu/h] | [kcal/h] |                  |              |                  |       |      | P1                | I           | m |                |
| [°C] |                                               |     |     |      |                                              |         |          |                  |              |                  |       |      |                   |             |   |                |
| [°F] |                                               |     |     |      |                                              |         |          |                  |              |                  |       |      |                   |             |   |                |
|      | -23                                           | 54  | 32  | 32   | 514,5                                        | 1757    | 442,8    | 1,10             | 3,75         | 0,94             | 468,9 | 2,89 | 11,99             | ASHRAE LBP  |   |                |
|      | -10                                           | 130 | 90  | 90   |                                              |         |          |                  |              |                  |       |      |                   |             |   |                |
|      | -25                                           | 55  | 32  | 55   | 335,9                                        | 1147    | 289,1    | 0,76             | 2,59         | 0,65             | 443,0 | 2,80 | 10,50             | cecomaf LBP |   |                |
|      | -13                                           | 131 | 90  | 131  |                                              |         |          |                  |              |                  |       |      |                   |             |   |                |
|      | -35                                           | 40  | 20  | 40   | 279,2                                        | 953     | 240,2    | 0,87             | 2,97         | 0,75             | 321,5 | 2,43 | 7,59              | EN12900 LBP |   |                |
|      | -31                                           | 104 | 68  | 104  |                                              |         |          |                  |              |                  |       |      |                   |             |   |                |
|      | -23                                           | 49  | 4,4 | 49   | 410,0                                        | 1400    | 352,9    | 0,88             | 2,99         | 0,75             | 468,3 | 2,91 | 14,52             | ARI540 LBP  |   |                |
|      | -10                                           | 120 | 40  | 120  |                                              |         |          |                  |              |                  |       |      |                   |             |   |                |
|      | -23                                           | 41  | 32  | 32   | 665,5                                        | 2273    | 572,7    | 1,44             | 4,92         | 1,24             | 461,8 | 2,87 | 15,51             | AHAM LBP    |   |                |
|      | -10                                           | 105 | 90  | 90   |                                              |         |          |                  |              |                  |       |      |                   |             |   |                |
|      | -35                                           | 45  | 32  | 45   | 238,8                                        | 816     | 205,5    | 0,76             | 2,59         | 0,65             | 315,3 | 2,43 | 6,38              | opt         |   |                |
|      | -31                                           | 113 | 90  | 113  |                                              |         |          |                  |              |                  |       |      |                   |             |   |                |

## Performance tables

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

|                  | 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]        | -45  | -49  | 78,4             | 268     | 67,5     | 0,41  | 1,40     | 0,35      | 191,6 | 2,15 | 2,08   |
| cond. pressure   | -35  | -31  | 238,8            | 816     | 205,5    | 0,76  | 2,59     | 0,65      | 315,3 | 2,43 | 6,38   |
| pc= 45/113       | -30  | -22  | 350,6            | 1197    | 301,7    | 0,93  | 3,16     | 0,80      | 378,7 | 2,61 | 9,41   |
| return gas temp. | -25  | -13  | 485,6            | 1659    | 417,9    | 1,09  | 3,74     | 0,94      | 443,8 | 2,82 | 13,10  |
| RGT= 32/90       | -20  | -4   | 645,6            | 2205    | 555,6    | 1,26  | 4,31     | 1,09      | 511,1 | 3,06 | 17,52  |
| liquid temp      | -15  | 5    | 832,2            | 2842    | 716,2    | 1,43  | 4,89     | 1,23      | 581,0 | 3,34 | 22,73  |
| Tliq= 45/113     | -5   | 23   | 1291,8           | 4412    | 1111,8   | 1,77  | 6,04     | 1,52      | 730,5 | 3,97 | 35,91  |
| [°C / °F]        | -45  | -49  | 22,2             | 76      | 19,1     | 0,15  | 0,51     | 0,13      | 148,0 | 1,98 | 0,68   |
| cond. pressure   | -35  | -31  | 138,7            | 474     | 119,3    | 0,47  | 1,62     | 0,41      | 293,1 | 2,33 | 4,29   |
| pc= 55/131       | -30  | -22  | 226,3            | 773     | 194,8    | 0,62  | 2,11     | 0,53      | 367,2 | 2,55 | 7,03   |
| return gas temp  | -25  | -13  | 335,9            | 1147    | 289,1    | 0,76  | 2,59     | 0,65      | 443,0 | 2,80 | 10,50  |
| RGT= 32/90       | -20  | -4   | 468,9            | 1601    | 403,5    | 0,90  | 3,07     | 0,77      | 520,9 | 3,08 | 14,75  |
| liquid temp      | -15  | 5    | 627,1            | 2142    | 539,7    | 1,04  | 3,56     | 0,90      | 601,3 | 3,39 | 19,89  |
| Tliq= 55/131     | -5   | 23   | 1025,7           | 3503    | 882,7    | 1,33  | 4,54     | 1,14      | 771,9 | 4,09 | 33,20  |

## Model

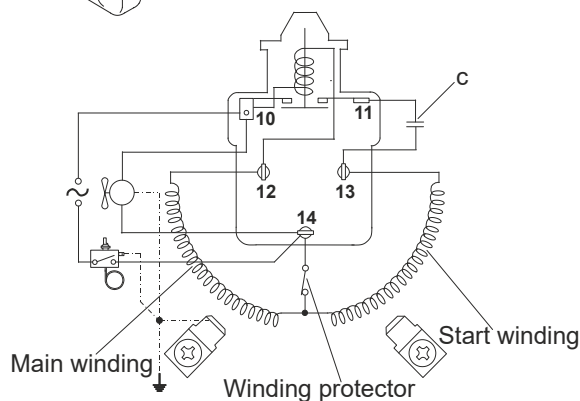
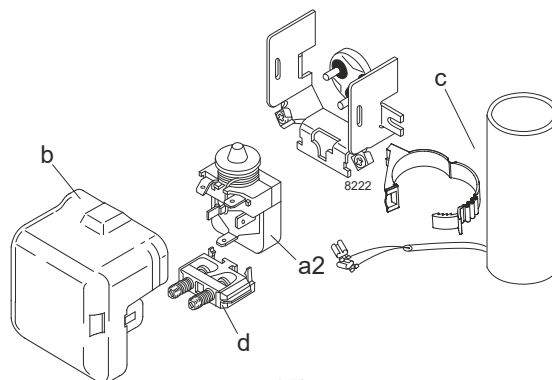
|             |               |                      |                |             |                 |
|-------------|---------------|----------------------|----------------|-------------|-----------------|
| Designation | <b>SC12CL</b> | <b>220-240V/50Hz</b> | <b>Conf. 2</b> | Sales code: | <b>104L2623</b> |
|-------------|---------------|----------------------|----------------|-------------|-----------------|

## Configuration

|                        |                  |
|------------------------|------------------|
| Motorconfiguration     | CSIR             |
| Power supply (nominal) | 220-240V/50Hz 1~ |
| Refrigerant            | R452A            |
| Application            | LBP              |
| Voltage range          | 198-254V         |
| Starting torque        | HST              |
| Approvals              | VDE<br>CCC       |

## Electrical accessories / wiring diagram

CSIR



## Ambient/ machine room temperatures minimum /maximum

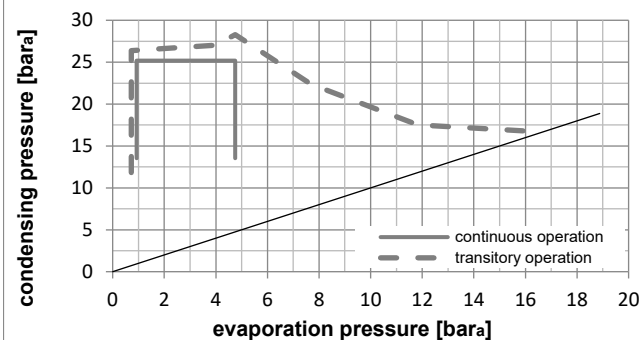
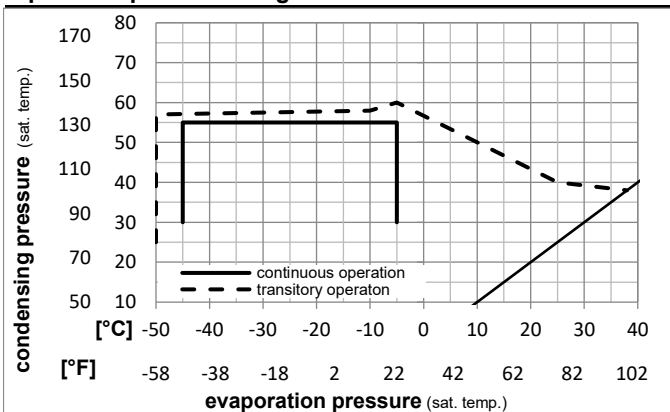
Ambient temperature range: 10 - 38°C / 50 - 101°F

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

Compressor cooling: fan 3m/s

## Operation Limits

## Operation pressure range



## Components

|    |                        |          |
|----|------------------------|----------|
| a2 | relay                  | 117U6005 |
| c  | start capacitor (80μF) | 117U5017 |
| d  | cord relief            | 103N1004 |
| b  | plastic cover          | 103N2009 |

## Model

Designation **SC12CL** **220-240V/50Hz** Conf. 2 Sales code: **104L2623**

## Optimization + standard conditions

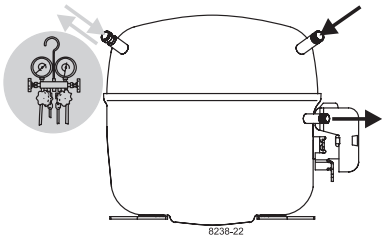
R452A, 220V/50Hz, CSIR, fan 3m/s, VDE, CCC

|      |      | Evaporating pressure (saturation temperature) |      |       |      | Condensing pressure (saturation temperature) |         |          | Return gas temp. |          |           | Liquid temp. |             |   | Cooling capacity |     |        | COP | EER | Power consumption |  |  |  |
|------|------|-----------------------------------------------|------|-------|------|----------------------------------------------|---------|----------|------------------|----------|-----------|--------------|-------------|---|------------------|-----|--------|-----|-----|-------------------|--|--|--|
|      |      | pe                                            | pc   | RGT   | Tliq | [W]                                          | [Btu/h] | [kcal/h] | [W/W]            | [Btu/Wh] | [kcal/Wh] | P1           | I           | m | [W]              | [A] | [kg/h] |     |     |                   |  |  |  |
| [°C] | [°F] | [°C]                                          | [°F] | [°C]  | [°F] |                                              |         |          |                  |          |           |              |             |   |                  |     |        |     |     |                   |  |  |  |
| -23  | 54   | 32                                            | 32   | 463,8 | 1584 | 399,1                                        | 1,07    | 3,66     | 0,92             | 432,3    | 2,87      | 11,15        | ASHRAE LBP  |   |                  |     |        |     |     |                   |  |  |  |
| -10  | 130  | 90                                            | 90   |       |      |                                              |         |          |                  |          |           |              |             |   |                  |     |        |     |     |                   |  |  |  |
| -25  | 55   | 32                                            | 55   | 304,6 | 1040 | 262,2                                        | 0,75    | 2,56     | 0,64             | 406,7    | 2,78      | 9,69         | cecomaf LBP |   |                  |     |        |     |     |                   |  |  |  |
| -13  | 131  | 90                                            | 131  |       |      |                                              |         |          |                  |          |           |              |             |   |                  |     |        |     |     |                   |  |  |  |
| -35  | 40   | 20                                            | 40   | 246,2 | 841  | 211,9                                        | 0,84    | 2,87     | 0,72             | 293,1    | 2,37      | 6,88         | EN12900 LBP |   |                  |     |        |     |     |                   |  |  |  |
| -31  | 104  | 68                                            | 104  |       |      |                                              |         |          |                  |          |           |              |             |   |                  |     |        |     |     |                   |  |  |  |
| -23  | 49   | 4,4                                           | 49   | 376,3 | 1285 | 323,9                                        | 0,87    | 2,96     | 0,75             | 433,7    | 2,88      | 13,53        | ARI540 LBP  |   |                  |     |        |     |     |                   |  |  |  |
| -10  | 120  | 40                                            | 120  |       |      |                                              |         |          |                  |          |           |              |             |   |                  |     |        |     |     |                   |  |  |  |
| -23  | 41   | 32                                            | 32   | 607,3 | 2074 | 522,7                                        | 1,41    | 4,82     | 1,21             | 430,4    | 2,87      | 14,60        | AHAM LBP    |   |                  |     |        |     |     |                   |  |  |  |
| -10  | 105  | 90                                            | 90   |       |      |                                              |         |          |                  |          |           |              |             |   |                  |     |        |     |     |                   |  |  |  |
| -35  | 45   | 32                                            | 45   | 208,6 | 712  | 179,5                                        | 0,73    | 2,49     | 0,63             | 285,6    | 2,35      | 5,73         | opt         |   |                  |     |        |     |     |                   |  |  |  |
| -31  | 113  | 90                                            | 113  |       |      |                                              |         |          |                  |          |           |              |             |   |                  |     |        |     |     |                   |  |  |  |

## Performance tables

R452A, 220V/50Hz, CSIR, fan 3m/s, VDE, CCC

|                  | 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]        | -45  | -49  | 60,4             | 206     | 52,0     | 0,36  | 1,22     | 0,31      | 168,5 | 1,92 | 1,65   |   |
| cond. pressure   | -35  | -31  | 208,6            | 712     | 179,5    | 0,73  | 2,49     | 0,63      | 285,6 | 2,35 | 5,73   |   |
| pc= 45/113       | -30  | -22  | 313,8            | 1072    | 270,0    | 0,90  | 3,09     | 0,78      | 347,1 | 2,57 | 8,64   |   |
| return gas temp. | -25  | -13  | 442,0            | 1509    | 380,4    | 1,08  | 3,67     | 0,93      | 410,9 | 2,80 | 12,23  |   |
| RGT= 32/90       | -20  | -4   | 595,0            | 2032    | 512,1    | 1,25  | 4,26     | 1,07      | 477,5 | 3,04 | 16,55  |   |
| liquid temp      | -15  | 5    | 774,8            | 2646    | 666,8    | 1,42  | 4,84     | 1,22      | 547,1 | 3,29 | 21,67  |   |
| Tliq= 45/113     | -5   | 23   | 1221,4           | 4171    | 1051,1   | 1,75  | 5,99     | 1,51      | 696,9 | 3,83 | 34,71  |   |
| [°C / °F]        | -45  | -49  | 15,4             | 53      | 13,2     | 0,12  | 0,41     | 0,10      | 126,7 | 1,77 | 0,48   |   |
| cond. pressure   | -35  | -31  | 119,7            | 409     | 103,0    | 0,46  | 1,56     | 0,39      | 262,0 | 2,26 | 3,77   |   |
| pc= 55/131       | -30  | -22  | 201,2            | 687     | 173,1    | 0,60  | 2,06     | 0,52      | 333,0 | 2,52 | 6,37   |   |
| return gas temp  | -25  | -13  | 304,6            | 1040    | 262,2    | 0,75  | 2,56     | 0,64      | 406,7 | 2,78 | 9,69   |   |
| RGT= 32/90       | -20  | -4   | 431,8            | 1475    | 371,6    | 0,89  | 3,05     | 0,77      | 483,4 | 3,06 | 13,82  |   |
| liquid temp      | -15  | 5    | 584,6            | 1996    | 503,1    | 1,04  | 3,54     | 0,89      | 563,4 | 3,35 | 18,84  |   |
| Tliq= 55/131     | -5   | 23   | 973,8            | 3326    | 838,1    | 1,33  | 4,53     | 1,14      | 734,9 | 3,96 | 31,96  |   |



# SC Compressors







# SC Compressors

## Service/Repair – R290



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