

## Model

|             |                  |                  |             |                 |
|-------------|------------------|------------------|-------------|-----------------|
| Designation | <b>SC21/21CL</b> | 220-240V/50Hz 1~ | Sales code: | <b>104L4094</b> |
|-------------|------------------|------------------|-------------|-----------------|

## Compressor design

|                            |                                 |                       |                                 |
|----------------------------|---------------------------------|-----------------------|---------------------------------|
| Oil type                   | Polyolester                     | Refrigerant(s)        | <b>R404A, R452A, R507</b>       |
| Oil viscosity              | 32,5cST                         | Displacement          | 41,9cm <sup>3</sup> / 2,56cu.in |
| Oil quantity               | 1218cm <sup>3</sup> / 41,2fl.oz | Compressors on pallet | 18                              |
| Refr. charge - tech. limit | 2200g / 77,6oz                  |                       |                                 |
| Free gas volume comp.      | 2920cm <sup>3</sup> / 98,7fl.oz |                       |                                 |
| Weight                     | 29,1kg / 64,2lbs                |                       |                                 |
| Motor protection           | 1# internal                     |                       |                                 |
| Winding resistance main    | 3,4Ω (at 25°C)                  |                       |                                 |
| Winding resistance aux     | 14,4Ω (at 25°C)                 |                       |                                 |
| Max. winding temp.         | 125°C / 257°F                   |                       |                                 |
| Max. discharge temp.       | 135°C / 275°F                   |                       |                                 |



## General - Configurations with SC21/21CL

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

## Applications with SC21/21CL

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

## Electrical data - Configurations with SC21/21CL

|                              |                |
|------------------------------|----------------|
|                              | <b>Conf. 1</b> |
| Starting device type         | relay          |
| Run capacitor                | 10μF           |
| Start capacitor              | 80μF           |
| LRA (locked rotor amps / 4s) | 2x 23,4A       |
| RLA (rated load amps / 1s)   | 2x 4,3A        |
| Cut in current               | 2x 23,4A       |

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## Model

Designation

**SC21/21CL**

220-240V/50Hz 1~

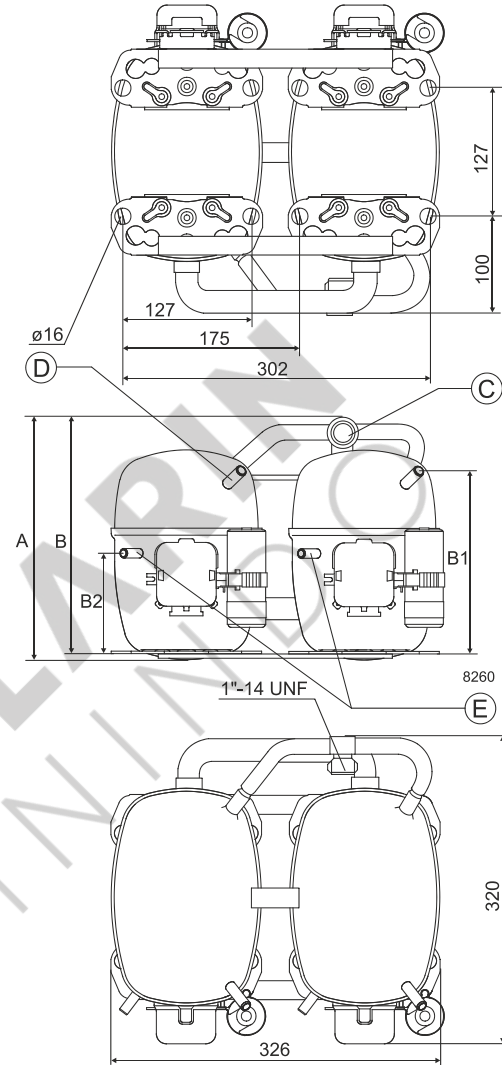
Sales code:

**104L4094**

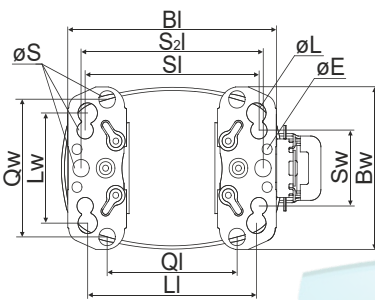
## Compressor dimensions

|                |          |                |
|----------------|----------|----------------|
| <b>Housing</b> | A Height | 259mm / 10,2in |
|                | B Height | 254mm / 10in   |
|                | B1       | 193mm / 7,6in  |
|                | B2       | 110mm / 4,33in |

| Connectors            |      | Suction        | Discharge    | Process      |
|-----------------------|------|----------------|--------------|--------------|
|                       |      | C              | E            | D            |
| Diameter              | [mm] | øi 15,21-15,37 | øi 6,11-6,29 | øi 6,11-6,29 |
| (i:inside, o:outside) | [in] | øi 0,6-0,61    | øi 0,24-0,25 | øi 0,24-0,25 |
| Material              |      | steel          | copper       | copper       |
| Horizontal angle      | ±2°  | 0°             | 37°          | 37°          |
| Vertical angle        | ±2°  | 0°             | 0°           | 0°           |
| Position l/h/w        | [mm] | 0/0/0          | 0/0/0        | 0/0/0        |
|                       | [in] | 0/0/0          | 0/0/0        | 0/0/0        |
| Straight tube l.      | [mm] | 10             | 12           | 12           |
|                       | [in] | 0,4            | 0,5          | 0,5          |



## Compressor fixation



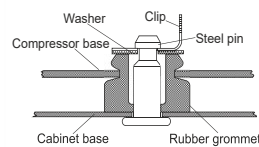
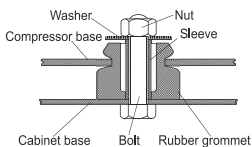
| Baseplate   | [mm]  | [inch] |
|-------------|-------|--------|
| BI          | 204   | 8.03   |
| Bw          | 150   | 5.9    |
| øE          | ø 9.7 | ø 0.38 |
| Large holes |       |        |
| LI          | 165   | 6.5    |
| Lw          | 101.6 | 4      |
| øL          | ø 19  | ø 0.75 |
| Small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

## 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   |

## Bolt joint

## Snap-on



## Application notes

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

Twin should be used with a time-delay relay

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| Designation | <b>SC21/21CL</b> | <b>220-240V/50Hz</b> | <b>Conf. 1</b> | Sales code: | <b>104L4094</b> |
|-------------|------------------|----------------------|----------------|-------------|-----------------|

## Configuration

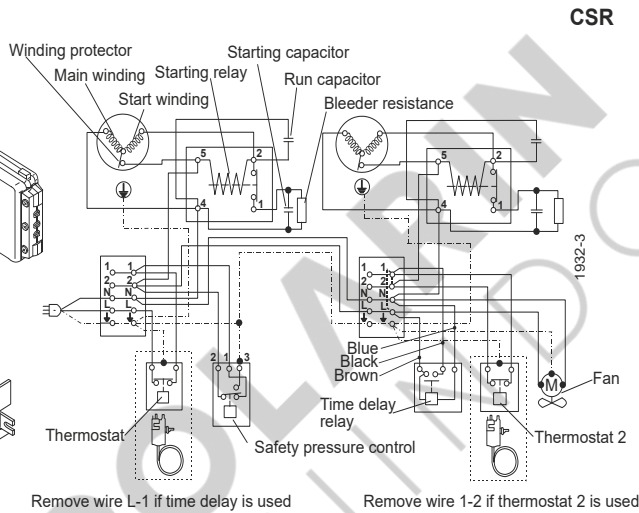
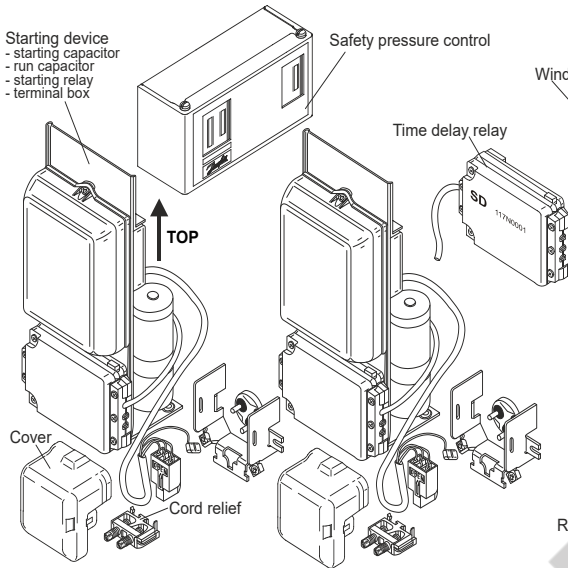
|                        |                  |
|------------------------|------------------|
| Motorconfiguration     | CSCR             |
| Power supply (nominal) | 220-240V/50Hz 1~ |
| Refrigerant            | R404A            |
| Application            | LBP              |
| Voltage range         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

## Ambient/ machine room temperatures minimum /maximum

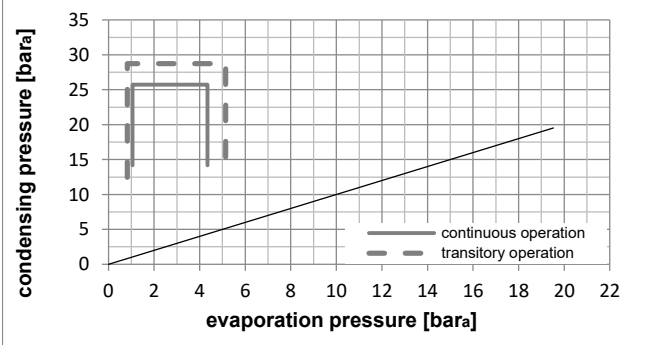
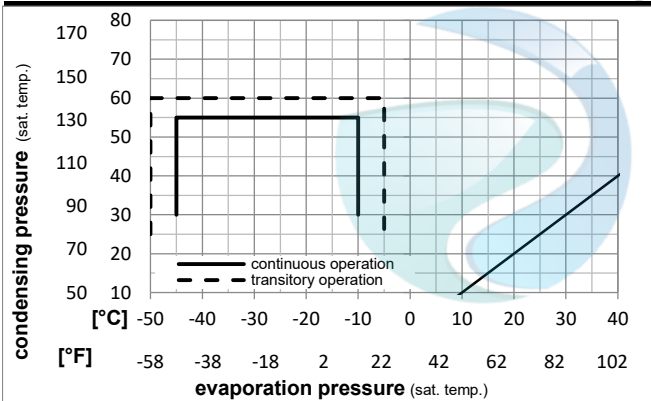
|                                 |                        |
|---------------------------------|------------------------|
| Ambient temperature range:      | 10 - 38°C / 50 - 101°F |
| Machine room temperature range: | 10 - 43°C / 50 - 110°F |
| Compressor cooling:             | fan 3m/s               |

## Operation Limits

## Electrical accessories / wiring diagram

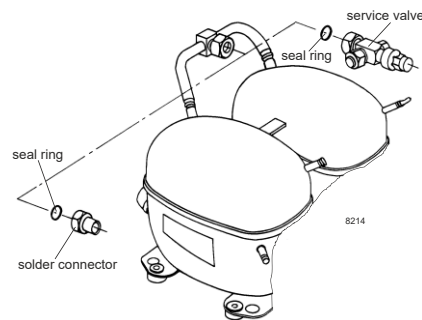


## Operation pressure range



## Components

|    |  |          |
|----|--|----------|
| a3 | SC starter kit (550mm)                         | 117-7027 |
| b  | plastic cover                                  | 103N2009 |
| d  | cord relief                                    | 103N1004 |
| .  | Half Twin compressor                           | 104L2326 |
| .  | Check valve (to be used with time-delay relay) | 020-1014 |
| .  | Service valve 16mm                             | 118-7351 |
| .  | Solder connector (alternative) 16 mm           | 118-7405 |
| .  | Seal ring for service valve and solder conn.   | 118-3638 |



### Model

Designation **SC21/21CL** **220-240V/50Hz** Conf. 1 Sales code: **104L4094**

### Optimization + standard conditions

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

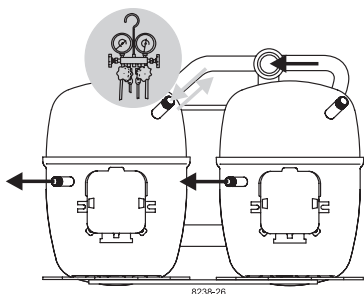
|      |      | Evaporating pressure (saturation temperature) |      |      |      | Condensing pressure (saturation temperature) |         |          | Return gas temp. |          | Liquid temp. |        | Cooling capacity |                |             | COP | EER | Power consumption |  |  |
|------|------|---|------|------|------|--|---------|----------|------------------|----------|--------------|--------|------------------|----------------|-------------|-----|-----|-------------------|--|--|
|      |      | pe  | pc   | RGT  | Tliq | [W]  | [Btu/h] | [kcal/h] | [W/W]            | [Btu/Wh] | [kcal/Wh]    | P1     | I                | Ref. mass flow |             |     |     |                   |  |  |
| [°C] | [°F] | [°C]  | [°F] | [°C] | [°C] |  |         |          |                  |          |              | [W]    | [A]              | [kg/h]         |             |     |     |                   |  |  |
| -23  | -10  | 54  | 130  | 32   | 32   | 1805,9                                       | 6167    | 1554,1   | 1,18             | 4,02     | 1,01         | 1534,7 | 8,03             | 42,08          | ASHRAE LBP  |     |     |                   |  |  |
| -25  | -13  | 55  | 131  | 32   | 55   | 1216,9                                       | 4156    | 1047,3   | 0,83             | 2,82     | 0,71         | 1471,7 | 7,72             | 38,03          | cecomaf LBP |     |     |                   |  |  |
| -35  | -31  | 40  | 104  | 20   | 40   | 1018,1                                       | 3477    | 876,2    | 0,98             | 3,34     | 0,84         | 1042,1 | 5,90             | 27,67          | EN12900 LBP |     |     |                   |  |  |
| -23  | -10  | 49  | 120  | 4,4  | 49   | 1371,1                                       | 4683    | 1180,0   | 0,91             | 3,12     | 0,79         | 1499,3 | 7,83             | 48,54          | ARI540 LBP  |     |     |                   |  |  |
| -23  | -10  | 41  | 105  | 32   | 32   | 2182,0                                       | 7452    | 1877,9   | 1,53             | 5,23     | 1,32         | 1423,7 | 7,60             | 50,84          | AHAM LBP    |     |     |                   |  |  |
| -35  | -31  | 45  | 113  | 32   | 45   | 910,0  | 3108    | 783,2    | 0,85             | 2,91     | 0,73         | 1068,4 | 5,88             | 24,33          | opt         |     |     |                   |  |  |

### Performance tables

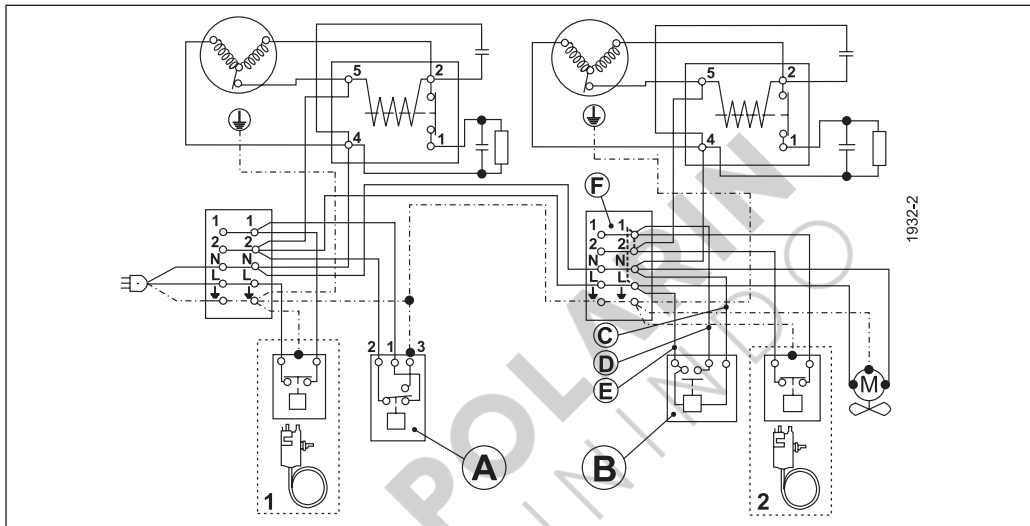
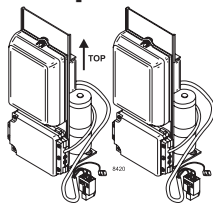
R404A, 220V/50Hz, CSCR, fan 3m/s, VDE, EAC

|                  | 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  | 451,9            | 1543    | 388,9    | 0,57  | 1,93     | 0,49      | 799,3  | 4,80  | 12,00  |   |
| cond. pressure   | -35  | -31  | 910,0            | 3108    | 783,2    | 0,85  | 2,91     | 0,73      | 1068,4 | 5,88  | 24,33  |   |
| pc= 45/113       | -30  | -22  | 1234,8           | 4217    | 1062,6   | 1,00  | 3,43     | 0,86      | 1229,6 | 6,61  | 33,14  |   |
| return gas temp. | -25  | -13  | 1625,6           | 5552    | 1399,0   | 1,16  | 3,95     | 1,00      | 1404,3 | 7,42  | 43,85  |   |
| RGT= 32/90       | -20  | -4   | 2084,3           | 7118    | 1793,8   | 1,31  | 4,48     | 1,13      | 1589,3 | 8,28  | 56,55  |   |
| liquid temp      | -15  | 5    | 2612,7           | 8923    | 2248,5   | 1,47  | 5,01     | 1,26      | 1781,6 | 9,15  | 71,37  |   |
| Tliq= 45/113     | -10  | 14   | 3212,5           | 10971   | 2764,7   | 1,62  | 5,55     | 1,40      | 1978,0 | 9,99  | 88,47  |   |
| [°C / °F]        | -45  | -49  | 348,9            | 1192    | 300,3    | 0,44  | 1,49     | 0,37      | 802,0  | 4,57  | 10,72  |   |
| cond. pressure   | -35  | -31  | 655,3            | 2238    | 564,0    | 0,59  | 2,02     | 0,51      | 1106,2 | 5,89  | 20,27  |   |
| pc= 55/131       | -30  | -22  | 903,3            | 3085    | 777,4    | 0,70  | 2,40     | 0,61      | 1282,8 | 6,76  | 28,07  |   |
| return gas temp  | -25  | -13  | 1216,9           | 4156    | 1047,3   | 0,83  | 2,82     | 0,71      | 1471,7 | 7,72  | 38,03  |   |
| RGT= 32/90       | -20  | -4   | 1597,8           | 5457    | 1375,1   | 0,96  | 3,27     | 0,82      | 1669,6 | 8,74  | 50,27  |   |
| liquid temp      | -15  | 5    | 2047,9           | 6994    | 1762,4   | 1,09  | 3,73     | 0,94      | 1873,5 | 9,79  | 64,95  |   |
| Tliq= 55/131     | -10  | 14   | 2568,8           | 8773    | 2210,7   | 1,23  | 4,22     | 1,06      | 2080,1 | 10,82 | 82,23  |   |

# SC Twin Compressors



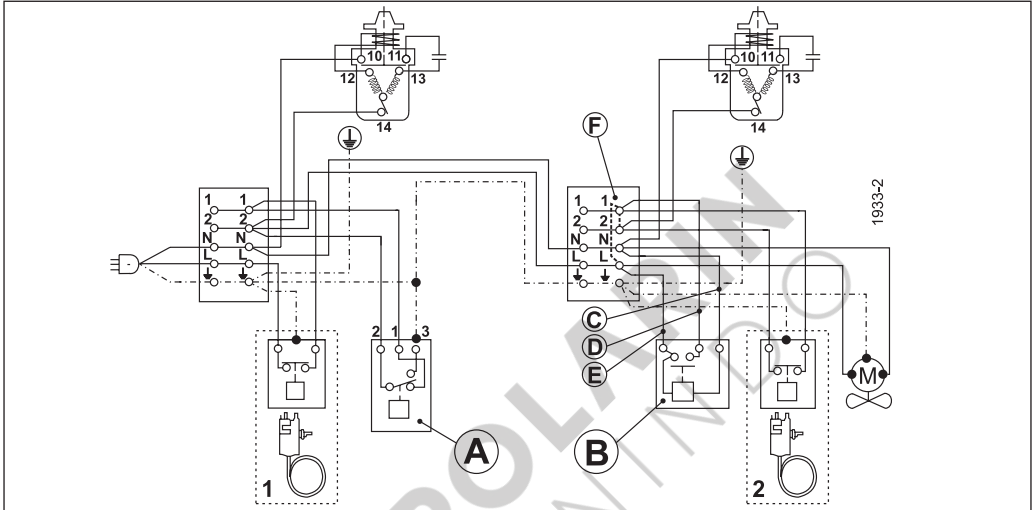
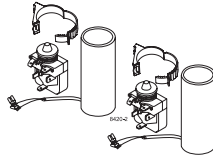
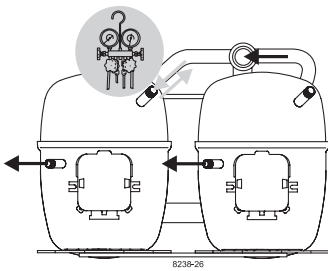
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1932-2

|            | A                               | B                       | C     | D       | E          | F   |   |
|------------|---------------------------------|-------------------------|-------|---------|------------|---|---|
| ENGLISH    | Safety pressure control         | Time delay relay        | Blue  | Black   | Brown      | Remove wire L-1 if time delay is used                                 | Remove wire 1-2 if thermostat 2 is used                 |
| 中文         | 安全压力控制                          | 延时继电器                   | 蓝     | 黑       | 棕          | 若延时继电器使用, 线L-1不使用   | 若温控器2使用, 线1-2不使用  |
| Русский    | Предохранительное реле давления | Реле задержки времени   | Синий | Чёрный  | Коричневый | Отсоедините провод L-1, если используется реле задержки времени       | Отсоедините провод 1-2, если используется термостат 2   |
| DEUTSCH    | Sicherheitsdruckschalter        | Zeitrelais (verzögernd) | Blau  | Schwarz | Braun      | Bei Benutzung der Anlaufverzögerung Brücke L-1 entfernen              | Bei Benutzung von Thermostat 2 Brücke 1-2 entfernen     |
| FRANÇAIS   | Pressostat                      | Relais de temporisation | Bleu  | Noir    | Marron     | Supprimer la connection L-1 si le relais de temporisation est utilisé | Supprimer la connection 1-2 si thermostat 2 est utilisé |
| ESPAÑOL    | Presostato de seguridad         | Relé de retardo         | Azul  | Negro   | Marrón     | Quitar cable L-1, si se utiliza un relé de retardo                    | Quitar cable 1-2, si se utiliza el termostato 2         |
| ITALIANO   | Pressostato                     | Relè di ritardo avviam. | Blu   | Nero    | Marrone    | Eliminare il cavo L-1 se è utilizzato il ritardatore                  | Eliminare il cavo 1-2 se è utilizzato il termostato 2   |
| NEDERLANDS | Pressostaat                     | Tijdvertraging-relais   | Blauw | Zwart   | Bruin      | Verwijder draad L-1 indien tijdvertraging wordt toegepast             | Verwijder draad 1-2 indien thermostaat wordt toegepast  |
| DANSK      | Sikkerhedspressostat            | Tidsforsinkel-sesrelæ   | Blå   | Sort    | Brun       | Ved tidsforsinkelse fjernes ledning L-1                               | Ved termostat 2 fjernes ledning 1-2                     |
| SVENSKA    | Säkerhetspressostat             | Tidsfördröjningsrelä    | Blå   | Svart   | Brun       | Vid anslutning av tidfördröjningsrelä avlägsnas bygling L-1           | Vid anslutning av termostat 2 avlägsnas bygling 1-2     |

# SC Twin Compressors



|            | A                               | B                          | C     | D       | E          | F   |   |
|------------|---------------------------------|----------------------------|-------|---------|------------|---|---|
| ENGLISH    | Safety pressure control         | Time delay relay           | Blue  | Black   | Brown      | Remove wire L-1 if time delay is used                                 | Remove wire 1-2 if thermostat 2 is used                 |
| 中文         | 安全压力控制                          | 延时继电器                      | 蓝     | 黑       | 棕          | 若延时继电器使用, 线L-1不使用   | 若温控器2使用, 线1-2不使用  |
| Русский    | Предохранительное реле давления | Реле задержки времени      | Синий | Чёрный  | Коричневый | Отсоедините провод L-1, если используется реле задержки времени       | Отсоедините провод 1-2, если используется термостат 2   |
| DEUTSCH    | Sicherheitsdruckschalter        | Zeitrelais (verzögernd)    | Blau  | Schwarz | Braun      | Bei Benutzung der Anlaufverzögerung Brücke L-1 entfernen              | Bei Benutzung von Thermostat 2 Brücke 1-2 entfernen     |
| FRANÇAIS   | Pressostat                      | Relais de temporisation    | Bleu  | Noir    | Marron     | Supprimer la connection L-1 si le relais de temporisation est utilisé | Supprimer la connection 1-2 si thermostat 2 est utilisé |
| ESPAÑOL    | Presostato de seguridad         | Relé de retardo            | Azul  | Negro   | Marrón     | Quitar cable L-1, si se utiliza un relé de retardo                    | Quitar cable 1-2, si se utiliza el termostato 2         |
| ITALIANO   | Pressostato                     | Relè di ritardo avviamento | Blu   | Nero    | Marrone    | Eliminare il cavo L-1 se è utilizzato il ritardatore                  | Eliminare il cavo 1-2 se è utilizzato il termostato 2   |
| NEDERLANDS | Pressostaat                     | Tijdvertraging-relais      | Blauw | Zwart   | Bruin      | Verwijder draad L-1 indien tijdvertraging wordt toegepast             | Verwijder draad 1-2 indien thermostaat wordt toegepast  |
| DANSK      | Sikkerhedspressostat            | Tidsforsinkelserelæ        | Blå   | Sort    | Brun       | Ved tidsforsinkelse fjernes ledning L-1                               | Ved termostat 2 fjernes ledning 1-2                     |
| SVENSKA    | Säkerhetspressostat             | Tidsfördröjningsrelä       | Blå   | Svart   | Brun       | Vid anslutning av tidsfördröjningsrelä avlägsnas bygling L-1          | Vid anslutning av termostat 2 avlägsnas bygling 1-2     |

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