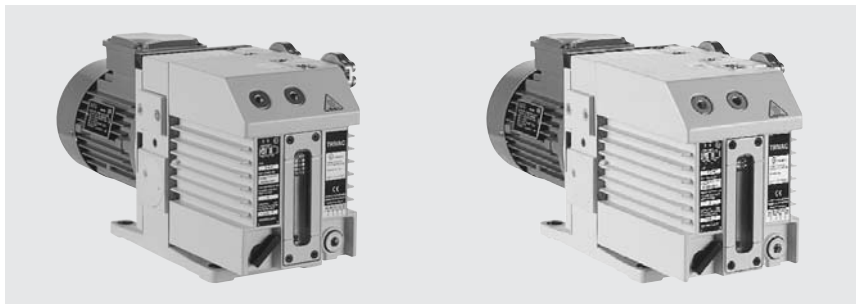


# TRIVAC D 4 B and D 8 B



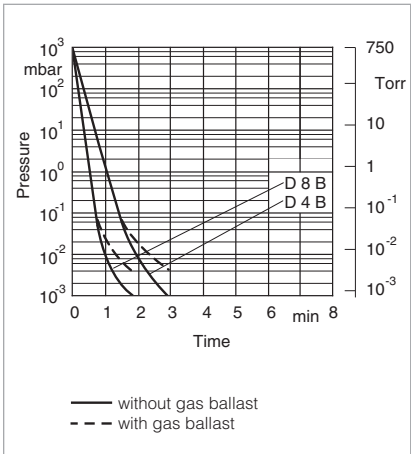
TRIVAC D 4 B (left) and TRIVAC D 8 B (right)

The image contains two technical drawings of a pump assembly. The left drawing is a side view showing dimensions: 'a' (total width), 'c' (width to centerline), 'DN' (flange diameter), 'e' (flange thickness), 'e<sub>1</sub>' (flange offset), 'h<sub>4</sub>' (total height), 'n' (mounting bracket width), 'm' (mounting bracket offset), and 'l<sub>1</sub>' (total length). The right drawing is a front view showing dimensions: 'b<sub>2</sub>' (top flange width), 'b<sub>1</sub>' (bottom flange width), 'h' (total height), 'h<sub>1</sub>' (height to centerline), 'h<sub>2</sub>' (height to bottom flange), and 'h<sub>3</sub>' (height to top flange). A note on the right states: 'US pumps max. length D 4 B: 485 mm (19.1") D 8 B: 555 mm (21.9")'.

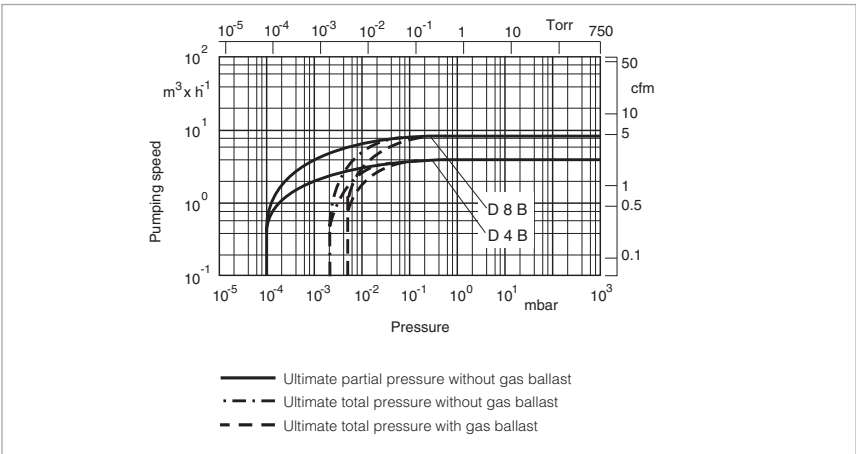
| Type                     | DN    | a         | b           | b <sub>1</sub> | b <sub>2</sub> | c           | e           | e <sub>1</sub> | h            | h <sub>1</sub> | h <sub>2</sub> | h <sub>3</sub> | h <sub>4</sub> | l            | l <sub>1</sub> | m           | n           | o          |             |
|--------------------------|-------|-----------|-------------|----------------|----------------|-------------|-------------|----------------|--------------|----------------|----------------|----------------|----------------|--------------|----------------|-------------|-------------|------------|-------------|
| D 4 B (Part No. 113 09)  | 16 KF | mm<br>in. | 75<br>2.95  | 162<br>6.38    | 147<br>5.79    | 132<br>5.23 | 100<br>3.94 | –<br>6.69      | 170<br>10.43 | 265<br>8.46    | 215<br>8.46    | 200<br>7.87    | 230<br>9.06    | 259<br>10.20 | –<br>17.91     | 455<br>7.80 | 198<br>3.90 | 99<br>4.25 | 108<br>4.25 |
| D 4 B (Part No. 112 45)  | 16 KF | mm<br>in. | 75<br>2.95  | 162<br>6.38    | 147<br>5.79    | 132<br>5.23 | 100<br>3.94 | 102<br>4.02    | –<br>10.43   | 265<br>8.46    | 215<br>8.46    | 200<br>7.87    | 230<br>9.06    | 234<br>9.21  | 437<br>17.21   | –<br>7.80   | 198<br>3.90 | 99<br>4.25 | 108<br>4.25 |
| D 4 B (Part No. 112 46)  | 16 KF | mm<br>in. | 75<br>2.95  | 162<br>6.38    | 147<br>5.79    | 132<br>5.23 | 100<br>3.94 | 89<br>3.5      | –<br>10.43   | 265<br>8.46    | 215<br>8.46    | 200<br>7.87    | 230<br>9.06    | 223<br>8.78  | 438<br>17.24   | –<br>7.80   | 198<br>3.90 | 99<br>4.25 | 108<br>4.25 |
| D 4 B (Part No. 140 140) | 16 KF | mm<br>in. | 75<br>2.95  | 162<br>6.38    | 147<br>5.79    | 132<br>5.23 | 100<br>3.94 | 185<br>7.28    | –<br>10.43   | 265<br>8.46    | 215<br>8.46    | 200<br>7.87    | 230<br>9.06    | 264<br>10.39 | 455<br>17.91   | –<br>7.80   | 198<br>3.90 | 99<br>4.25 | 108<br>4.25 |
| D 8 B (Part No. 113 21)  | 16 KF | mm<br>in. | 100<br>3.94 | 162<br>6.38    | 147<br>5.79    | 132<br>5.23 | 100<br>3.94 | –<br>6.69      | 170<br>10.43 | 265<br>8.46    | 215<br>8.46    | 200<br>7.87    | 230<br>9.06    | 259<br>10.20 | –<br>18.90     | 480<br>7.80 | 198<br>3.90 | 99<br>4.25 | 108<br>4.25 |
| D 8 B (Part No. 112 55)  | 16 KF | mm<br>in. | 100<br>3.94 | 162<br>6.38    | 147<br>5.79    | 132<br>5.23 | 100<br>3.94 | 102<br>4.02    | –<br>10.43   | 265<br>8.46    | 215<br>8.46    | 200<br>7.87    | 230<br>9.06    | 234<br>9.21  | 462<br>18.19   | –<br>7.80   | 198<br>3.90 | 99<br>4.25 | 108<br>4.25 |
| D 8 B (Part No. 112 56)  | 16 KF | mm<br>in. | 100<br>3.94 | 162<br>6.38    | 147<br>5.79    | 132<br>5.23 | 100<br>3.94 | 89<br>3.5      | –<br>10.43   | 265<br>8.46    | 215<br>8.46    | 200<br>7.87    | 230<br>9.06    | 223<br>8.78  | 463<br>18.23   | –<br>7.80   | 198<br>3.90 | 99<br>4.25 | 108<br>4.25 |
| D 8 B (Part No. 140 150) | 16 KF | mm<br>in. | 100<br>3.94 | 162<br>6.38    | 147<br>5.79    | 132<br>5.23 | 100<br>3.94 | 185<br>7.28    | –<br>10.43   | 265<br>8.46    | 215<br>8.46    | 200<br>7.87    | 230<br>9.06    | 264<br>10.39 | 480<br>18.90   | –<br>7.80   | 198<br>3.90 | 99<br>4.25 | 108<br>4.25 |
| D 8 B (Part No. 140 082) | 16 KF | mm<br>in. | 100<br>3.94 | 162<br>6.38    | 147<br>5.79    | 132<br>5.23 | 100<br>3.94 | –<br>6.69      | 170<br>10.43 | 265<br>8.46    | 215<br>8.46    | 200<br>7.87    | 230<br>9.06    | 259<br>10.20 | –<br>18.90     | 480<br>7.80 | 198<br>3.90 | 99<br>4.25 | 108<br>4.25 |

u. r. = upon request

Dimensional drawing for the TRIVAC D 4 B and D 8 B



Pump-down characteristics of a 10 l vessel at 50 Hz



Pumping speed characteristics at 50 Hz (60 Hz curves at the end of the section)

## Technical Data

### TRIVAC D 4 B two-stage

### TRIVAC D 8 B two-stage

|                                                                     |                         | 50 Hz                                              | 60 Hz                                              | 50 Hz                                              | 60 Hz                                              |
|---------------------------------------------------------------------|-------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Nominal pumping speed <sup>1)</sup>                                 | m <sup>3</sup> /h (cfm) | 4.8 (2.8)                                          | 5.8 (3.4)                                          | 9.7 (5.7)                                          | 11.6 (6.9)                                         |
| Pumping speed <sup>1)</sup>                                         | m <sup>3</sup> /h (cfm) | 4.2 (2.5)                                          | 5 (3)                                              | 8.5 (5)                                            | 10.2 (6)                                           |
| Ultimate partial pressure without gas ballast <sup>1)</sup>         | mbar (Torr)             | 10 <sup>-4</sup> (0.75 x 10 <sup>-4</sup> )        | 10 <sup>-4</sup> (0.75 x 10 <sup>-4</sup> )        | 10 <sup>-4</sup> (0.75 x 10 <sup>-4</sup> )        | 10 <sup>-4</sup> (0.75 x 10 <sup>-4</sup> )        |
| Ultimate total pressure without gas ballast <sup>1)</sup>           | mbar (Torr)             | < 2 x 10 <sup>-3</sup> (< 1.5 x 10 <sup>-3</sup> ) | < 2 x 10 <sup>-3</sup> (< 1.5 x 10 <sup>-3</sup> ) | < 2 x 10 <sup>-3</sup> (< 1.5 x 10 <sup>-3</sup> ) | < 2 x 10 <sup>-3</sup> (< 1.5 x 10 <sup>-3</sup> ) |
| Ultimate total pressure with gas ballast <sup>1)</sup>              | mbar (Torr)             | < 5 x 10 <sup>-3</sup> (< 3.8 x 10 <sup>-3</sup> ) | < 5 x 10 <sup>-3</sup> (< 3.8 x 10 <sup>-3</sup> ) | < 5 x 10 <sup>-3</sup> (< 3.8 x 10 <sup>-3</sup> ) | < 5 x 10 <sup>-3</sup> (< 3.8 x 10 <sup>-3</sup> ) |
| Water vapor tolerance <sup>1)</sup>                                 | mbar (Torr)             | 30 (22.5)                                          | 30 (22.5)                                          | 25 (18.8)                                          | 25 (18.8)                                          |
| Water vapor capacity                                                | g/h                     | 93                                                 | 93                                                 | 157                                                | 157                                                |
| Oil filling, min. / max.                                            | l (qt)                  | 0.3 / 0.8 (0.3 / 0.85)                             | 0.3 / 0.8 (0.3 / 0.85)                             | 0.3 / 0.9 (0.3 / 0.95)                             | 0.3 / 0.9 (0.3 / 0.95)                             |
| Noise level <sup>2)</sup> to DIN 45 635, without / with gas ballast | dB(A)                   | 50 / 52                                            | 50 / 52                                            | 50 / 52                                            | 50 / 52                                            |
| Admissible ambient temperature                                      | °C<br>(°F)              | +12 to +40<br>(+54 to +104)                        | +12 to +40<br>(+54 to +104)                        | +12 to +40<br>(+54 to +104)                        | +12 to +40<br>(+54 to +104)                        |
| Motor rating <sup>2)</sup>                                          | W (HP)                  | 370 (0.50)                                         | 370 (0.50)                                         | 370 (0.50)                                         | 370 (0.50)                                         |
| Nominal speed                                                       | rpm                     | 1500                                               | 1800                                               | 1500                                               | 1800                                               |
| Type of protection <sup>3)</sup>                                    | IP                      | 54                                                 | 54                                                 | 54                                                 | 54                                                 |
| Weight <sup>2)</sup>                                                | kg (lbs)                | 18.7 (41.2)                                        | 18.7 (41.2)                                        | 21.2 (46.7)                                        | 21.2 (46.7)                                        |
| Connections, Intake and Exhaust                                     | DN                      | 16 KF                                              | 16 KF                                              | 16 KF                                              | 16 KF                                              |

<sup>1)</sup> To DIN 28 400 and following numbers

<sup>2)</sup> Weight, motor rating and noise levels for the pumps with global version 230 V, 50 Hz AC motor only.

Any data that deviate from the above for pumps with other motors, and other motor-dependent data are given in section "Products", paragraph "Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE"

<sup>3)</sup> Global versions only. North and South American versions are TEFC

## Ordering Information

## TRIVAC D 4 B two-stage

## TRIVAC D 8 B two-stage

|                                                                                                                                                                       |                                                                                                                                                    |                                                                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| TRIVAC B                                                                                                                                                              |                                                                                                                                                    |                                                                                                                                                    |
| without motor                                                                                                                                                         | <b>Part No. 113 07</b>                                                                                                                             | <b>Part No. 113 17</b>                                                                                                                             |
| with 1-phase motor<br>230 V, 50 Hz <sup>1)</sup>                                                                                                                      | <b>Part No. 112 45</b>                                                                                                                             | <b>Part No. 112 55</b>                                                                                                                             |
| with 3-phase motor<br>230/400 V, 50 Hz / 250/440 V, 60 Hz <sup>1)</sup>                                                                                               | <b>Part No. 112 46</b>                                                                                                                             | <b>Part No. 112 56</b>                                                                                                                             |
| 230/400 V, 50 Hz,<br>ATEX Category 3 inside and 3 outside<br>inside: II (i) 3G IIC T4 (50 Hz)<br>outside: II (o) 3G IIC T3 (50 Hz)                                    | <b>Part No. 140 140</b>                                                                                                                            | <b>Part No. 140 150</b>                                                                                                                            |
| with dual voltage motor <sup>2)</sup><br>100-120 V, 50/60 Hz and<br>200-240 V, 50/60 Hz                                                                               | <b>Part No. 140 081 <sup>2)</sup></b>                                                                                                              | <b>Part No. 140 082 <sup>2)</sup></b>                                                                                                              |
| Mains cord for dual voltage motor <sup>2)</sup><br>230 V earthed plug<br>230 V UK plug<br>230 V CH plug<br>230 V NEMA plug (200-240 V)<br>115 V NEMA plug (100-120 V) | <b>Part No. 200 81 091</b><br><b>Part No. 200 81 097</b><br><b>Part No. 200 81 099</b><br><b>Part No. 200 81 141</b><br><b>Part No. 200 81 090</b> | <b>Part No. 200 81 091</b><br><b>Part No. 200 81 097</b><br><b>Part No. 200 81 099</b><br><b>Part No. 200 81 141</b><br><b>Part No. 200 81 090</b> |
| Transition connector<br>(250 V AC, 10 A, L+N+PE)<br>only necessary in Switzerland for 1~ pumps                                                                        | <b>Part No. 800 001 274</b>                                                                                                                        | <b>Part No. 800 001 274</b>                                                                                                                        |
| <b>Accessories</b>                                                                                                                                                    |                                                                                                                                                    |                                                                                                                                                    |
| FS 2-4 dust filter                                                                                                                                                    | <b>Part No. 186 05</b>                                                                                                                             | <b>Part No. 186 05</b>                                                                                                                             |
| FA 2-4 fine vacuum adsorption trap                                                                                                                                    | <b>Part No. 187 05</b>                                                                                                                             | <b>Part No. 187 05</b>                                                                                                                             |
| Adsorption trap with aluminium oxide                                                                                                                                  | <b>Part No. 854 14</b>                                                                                                                             | <b>Part No. 854 14</b>                                                                                                                             |
| Activated aluminium oxide,<br>1.3 kg (2 l approx.)                                                                                                                    | <b>Part No. 854 10</b>                                                                                                                             | <b>Part No. 854 10</b>                                                                                                                             |
| TK 4-8 cold trap                                                                                                                                                      | <b>Part No. 188 20</b>                                                                                                                             | <b>Part No. 188 20</b>                                                                                                                             |
| AF 4-8 exhaust filter                                                                                                                                                 | <b>Part No. 189 06</b>                                                                                                                             | <b>Part No. 189 06</b>                                                                                                                             |
| AR 4-8 exhaust filter with lubricant return                                                                                                                           | <b>Part No. 189 20</b>                                                                                                                             | <b>Part No. 189 20</b>                                                                                                                             |
| AK 4-8 condensate trap                                                                                                                                                | <b>Part No. 188 06</b>                                                                                                                             | <b>Part No. 188 06</b>                                                                                                                             |
| OF 4-25 mechanical oil filter                                                                                                                                         | <b>Part No. 101 91</b>                                                                                                                             | <b>Part No. 101 91</b>                                                                                                                             |
| CF 4-25 chemical oil filter                                                                                                                                           | <b>Part No. 101 96</b>                                                                                                                             | <b>Part No. 101 96</b>                                                                                                                             |
| Connector for gas ballast inlet<br>M 16 x 1.5 – DN 16 KF                                                                                                              | <b>Part No. 168 40</b>                                                                                                                             | <b>Part No. 168 40</b>                                                                                                                             |
| Oil drain tap M 16 x 1.5                                                                                                                                              | <b>Part No. 190 90</b>                                                                                                                             | <b>Part No. 190 90</b>                                                                                                                             |
| <b>Spare Parts</b>                                                                                                                                                    |                                                                                                                                                    |                                                                                                                                                    |
| Inner body                                                                                                                                                            | <b>Part No. E 200 10 989</b>                                                                                                                       | <b>Part No. E 200 10 991</b>                                                                                                                       |
| Major maintenance kit (without oil)                                                                                                                                   | <b>Part No. EK 110 002 622</b>                                                                                                                     | <b>Part No. EK 110 002 620</b>                                                                                                                     |
| Minor maintenance kit (without oil)                                                                                                                                   | <b>Part No. EK 110 002 628</b>                                                                                                                     | <b>Part No. EK 110 002 627</b>                                                                                                                     |
| Shaft sealing replacement kit                                                                                                                                         | <b>Part No. EK 110 002 631</b>                                                                                                                     | <b>Part No. EK 110 002 631</b>                                                                                                                     |
| Small parts kit                                                                                                                                                       | <b>Part No. EK 110 002 634</b>                                                                                                                     | <b>Part No. EK 110 002 634</b>                                                                                                                     |

<sup>1)</sup> Certification after 94/9/EG (ATEX), Category 3 inside. Inside: II (i) 3G IIC T4 (50 Hz), T3 (60 Hz)

<sup>2)</sup> A mains cord needs to be ordered additionally

# Only available for purchase in North and South America

## Ordering Information

## TRIVAC D 4 B two-stage

## TRIVAC D 8 B two-stage

|                                                                                                |                                                      |                                                      |
|------------------------------------------------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|
| TRIVAC B<br>with 1-phase motor<br>115 V, 60/50 Hz, NEMA plug<br>208-230 V, 60/50 Hz, NEMA plug | <b>Part No. 912 45-1</b><br><b>Part No. 912 45-2</b> | <b>Part No. 912 55-1</b><br><b>Part No. 912 55-2</b> |
| with 3-phase motor<br>208-230/460 V, 60 Hz /<br>200-220/380 V, 50 Hz                           | <b>Part No. 912 46-2</b>                             | <b>Part No. 912 56-2</b>                             |