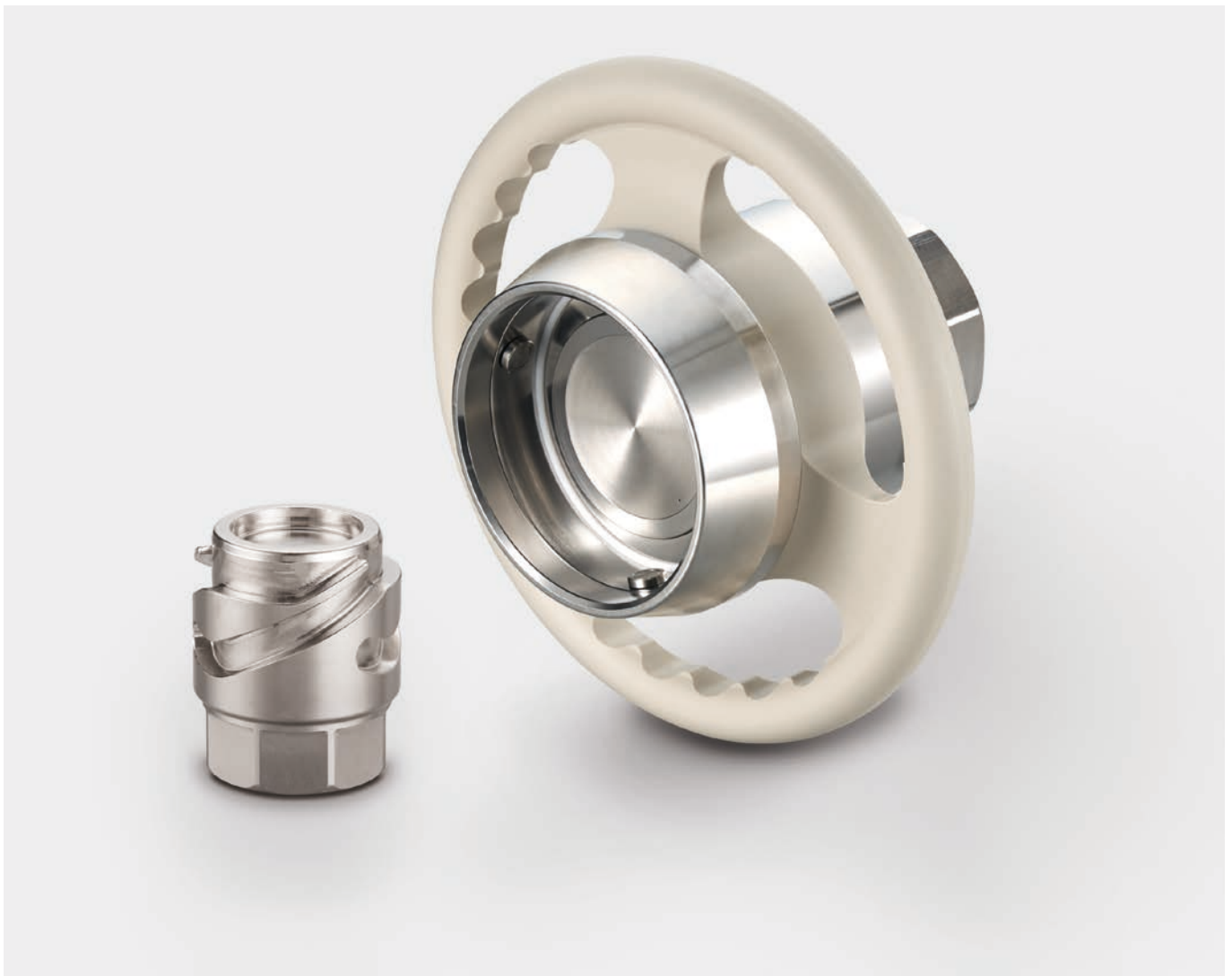


TCB couplings

High-flow anti-pollution transfer | All fluids



Applications

- Fluid processes and transfer systems
- Loading and unloading of railcars, tank trucks, vessels, containers, tanks and drums
- Connections for test benches
- Temperature control

High-flow solutions for safe, reliable, and easy connections in the most demanding environments



How Stäubli's design enhances your performance

Robustness and quality of materials

- Excellent resistance to high-pressure peaks and vibrations
- All our TCB models are 100% silicone free
- Compatible also with demanding fluids such as hazardous or strongly degreasing media

Anti-pollution technology

The flat-face design ensures:

- Limited introduction of air into circuits during connection
- Limited workplace pollution during disconnection
- Operators' protection against contamination
- Easy cleaning

Safe bayonet locking system

- Quick, easy, and reliable connection
- Latching feature allows the operator to feel when the coupling is fully connected and has reached its end position

Ergonomic design

- Handwheel for a fast, convenient, and effortless coupling operation
- The integrated swivel eliminates torsion on the hose
- Intuitive coupling: no need to start at a certain angle
- Major mechanical elements (e.g. cam curves) and many other lubrications do not come into contact with the media: no contamination during operation

Custom-tailored options & flexibility

- Various options are available for adapting the coupling to suit your applications
- The interface design of TCB is identical to TCH. Both series are fully interchangeable

Key advantages



Ensures operator and installation safety



Simplifies connection operations, even under pressure



Improves performance and efficiency



Perfect integration with your applications



Available options

Mechanical coding

A key locking system prevents any circuit inversion, therefore safeguarding the process.

(For tank unit with BSP, NPT thread only)



Colour code

The tank and hose units are available with markings in various colours for easy identification of your circuits.



Stainless steel handwheel

For extreme ambient conditions in highly aggressive environments, a stainless steel handwheel is available.




Extended design

This variant allows the operator to use the hose unit when the space is limited.

(Available in various lengths for TCB40-DN50 only)



Technical specifications

| | TCB20-DN25 | TCB25-DN32 | TCB30-DN40 | TCB40-DN50 | TCB50-DN65 | TCB60-DN80 | TCB80-DN100 |
|---|------------|------------|------------|---|------------|------------|-------------|
| Hose nominal diameter | DN 25 | DN 32 | DN 40 | DN 50 | DN 65 | DN 80 | DN 100 |
| Equivalent flow diameter (mm) | 20 | 25 | 30 | 40 | 50 | 60 | 80 |
| Maximum working pressure (bar) * | | | | | | | |
| - for stainless steel version | | | | 25 | | | |
| - for Hastelloy® version | | | | 25 | | | |
| Operating temperature (°C) depending on O-ring type ** | | | | | | | |
| - with Nitrile (NBR) seal | | | | -15 to +100 | | | |
| - with Ethylene-Propylene (EPDM) seal | | | | -20 to +150 | | | |
| - with Fluorocarbon (FKM) seal | | | | 0 to +150 | | | |
| - with Perfluoroelastomer (FFKM) seal | | | | 0 to +150 | | | |
| Shut-off | double | | |  | | | |

* Designed considering a 5 times safety factor.

** Outside of this range please ask for confirmation.

Sealing

- O-rings
 - Nitrile (NBR)
 - Ethylene-Propylene (EPDM)
 - Fluorocarbon (FKM)
 - Perfluoroelastomer (FFKM)
- Thread gasket (BSP)
 - PTFE

Connection

- Thread: female BSP or NPT
 - Flange: EN 1092-1 PN 16 and PN 40, ASME B16.5 class 150 psi and class 300 psi or tri-clamp DN32676-A
- Other connections are available on request.

Construction

- Predominantly stainless steel or Hastelloy®
Other constructions are available on request
(Please contact us for further details)
- Operating handwheel: polypropylene or stainless steel
- Protective dust caps: polypropylene



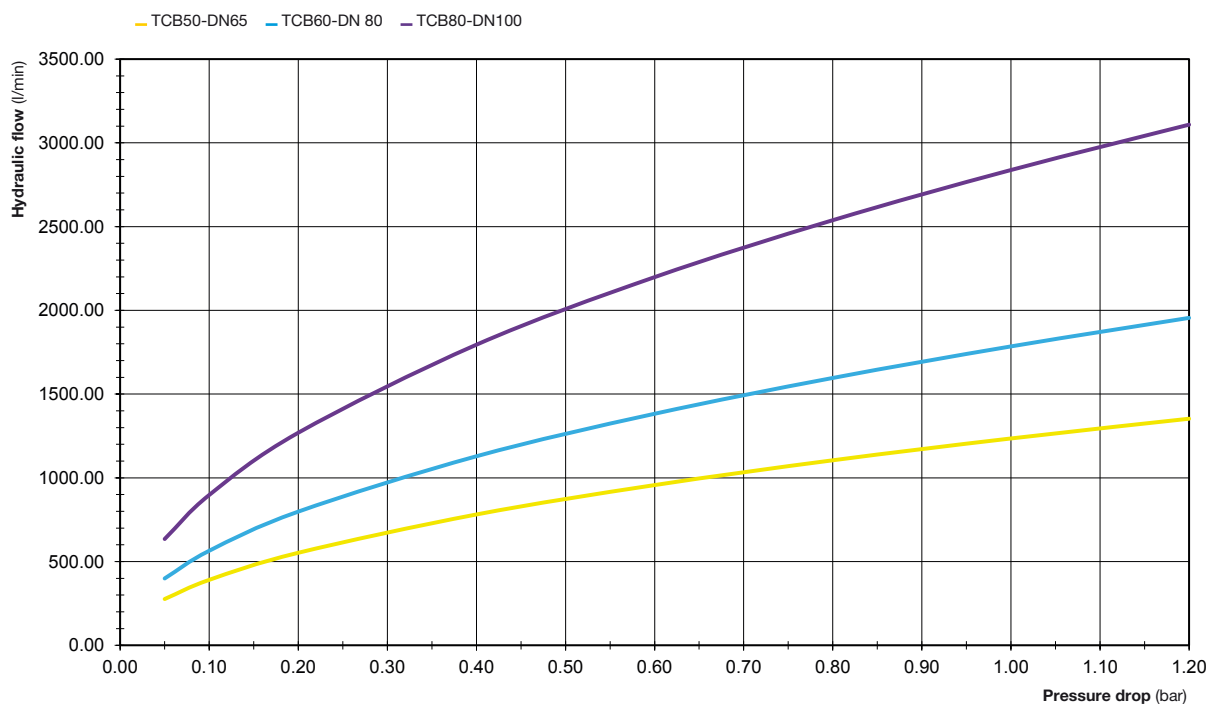
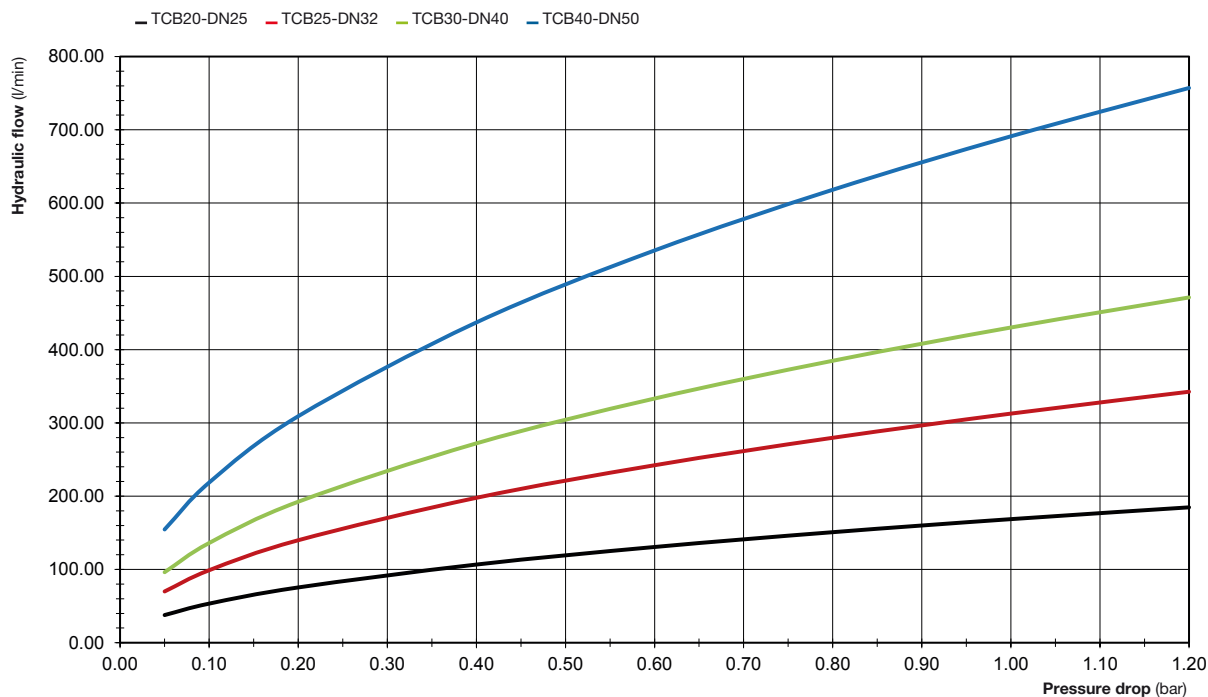
Reminder of product / diameter correspondences

- TCB20-DN25 – 1"
- TCB25-DN32 – 1 ¼"
- TCB30-DN40 – 1 ½"
- TCB40-DN50 – 2"
- TCB50-DN65 – 2 ½"
- TCB60-DN80 – 3"
- TCB80-DN100 – 4"

Hydraulic flow rate / pressure drop charts

Test conditions

Fluid: water, 20 °C / 68 °F



How to build your part number

| | Mandatory elements | Options | | | | | | | | | | |
|----------------------|--|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Hose unit: (plug) | TCB XX-DNXX.XXXX / IC8 / JV / VT / KB / CS3 | | | | | | | | | | | |
| 1 | Standard part number to be chosen → P. 8-9 | | | | | | | | | | | |
| 2 | Material series (predominantly) - Stainless steel IC8 - Hastelloy® B3 NI1 - Hastelloy® C4 NI2 | Code | | | | | | | | | | |
| 3 | Type of seal - Nitrile (NBR) JN - Ethylene-Propylene (EPDM) JE - Ethylene-Propylene (EPDM) with FDA option JE/FDA - Fluorocarbon (FKM) JV - Perfluoroelastomer (FFKM) standard JK1 - Perfluoroelastomer (FFKM) low temp. JK2 - Perfluoroelastomer (FFKM) with FDA option JK3/FDA | Code | | | | | | | | | | |
| 4 | Handwheel (Not available on TCB20-DN25 and TCB25-DN32: knurling instead) - Polypropylene VT - Stainless steel VTS | Code | | | | | | | | | | |
| 5 | Colour code - Red KR - Blue KB - Green KV - Yellow KJ - Orange KO (More colours available upon request) | Code | | | | | | | | | | |
| 6 | Mechanical coding Key-lock CS3 Available codes: 123 to 345 | Code | | | | | | | | | | |
| | <table border="1"> <tr> <td>123</td> <td>124</td> <td>125</td> <td>134</td> <td>135</td> </tr> <tr> <td>145</td> <td>234</td> <td>235</td> <td>245</td> <td>345</td> </tr> </table> | 123 | 124 | 125 | 134 | 135 | 145 | 234 | 235 | 245 | 345 | Please contact us for further details. |
| 123 | 124 | 125 | 134 | 135 | | | | | | | | |
| 145 | 234 | 235 | 245 | 345 | | | | | | | | |

How to build your part number

| | Mandatory elements | Options | | | | | | | | | | |
|------------------------|---|------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Tank unit: (socket) | TCB XX-DNXX.XXXX / IC8 / JV | KB / CS3 | | | | | | | | | | |
| 1 | Standard part number to be chosen → P. 10-11 | | | | | | | | | | | |
| 2 | Material series (predominantly) Code - Stainless steel IC8 - Hastelloy® B3 NI1 - Hastelloy® C4 NI2 | | | | | | | | | | | |
| 3 | Type of seal Code - Nitrile (NBR) JN - Ethylene-Propylene (EPDM)..... JE - Ethylene-Propylene (EPDM) with FDA option JE/FDA - Fluorocarbon (FKM) JV - Perfluoroelastomer (FFKM) standard..... JK1 - Perfluoroelastomer (FFKM) low temp. JK2 - Perfluoroelastomer (FFKM) with FDA option JK3/FDA | | | | | | | | | | | |
| 4 | Colour code Code - Red..... KR - Blue KB - GreenKV - Yellow KJ - Orange KO (More colours available upon request) | | | | | | | | | | | |
| 5 | Mechanical coding Code Key-lock CS3 Available codes: 123 to 345 <table border="1" style="display:inline-table; margin-right: 20px;"> <tr> <td>123</td><td>124</td><td>125</td><td>134</td><td>135</td></tr> <tr> <td>145</td><td>234</td><td>235</td><td>245</td><td>345</td></tr> </table> Please contact us for further details. | | 123 | 124 | 125 | 134 | 135 | 145 | 234 | 235 | 245 | 345 |
| 123 | 124 | 125 | 134 | 135 | | | | | | | | |
| 145 | 234 | 235 | 245 | 345 | | | | | | | | |

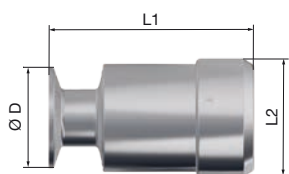
Part numbers

Hose unit (plug)

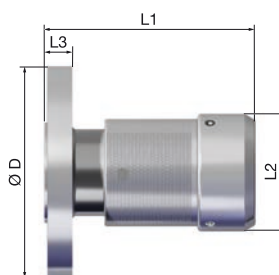
| Designation | Model | Connection | Dimensions (mm) | | | | | Weight (kg) | Part numbers |
|--------------------------------|------------|--------------------------------|-----------------|------|------|-----|-------|-------------------|-----------------|
| | | | L1 | L2 | L3 | L4 | Ø D | | |
| Flanges | TCB20-DN25 | ASME B16.5 (150 psi) 1" | 107 | 59.5 | 14.2 | - | 108 | 1.8 | TCB20-DN25.7B15 |
| | | ASME B16.5 (300 psi) 1" | 110.3 | 59.5 | 17.5 | - | 124 | 2.3 | TCB20-DN25.7B25 |
| | | EN 1092-1 (PN 40 Form B) DN 25 | 110.8 | 59.5 | 18 | - | 115 | 2.2 | TCB20-DN25.7A54 |
| | | DIN32676-A DN 25 | 103.5 | 60 | - | - | 50.5 | 1.2 | TCB20-DN25.7050 |
| | TCB25-DN32 | ASME B16.5 (150 psi) 1 ¼" | 114.2 | 76 | 15.7 | - | 117.3 | 2.6 | TCB25-DN32.7B16 |
| | | ASME B16.5 (300 psi) 1 ¼" | 117.6 | 76 | 19.1 | - | 133.4 | 3.2 | TCB25-DN32.7B26 |
| | | EN 1092-1 (PN 40 Form B) DN 32 | 116.5 | 76 | 18 | - | 140 | 3.3 | TCB25-DN32.7A55 |
| | TCB30-DN40 | ASME B16.5 (150 psi) 1 ½" | 125.4 | 89 | 17.5 | 200 | 127 | 3.5 | TCB30-DN40.7B17 |
| | | ASME B16.5 (300 psi) 1 ½" | 128.5 | 89 | 20.6 | 200 | 155.4 | 4.6 | TCB30-DN40.7B27 |
| | | EN 1092-1 (PN 40 Form B) DN 40 | 125.9 | 89 | 18 | 200 | 150 | 4.0 | TCB30-DN40.7A56 |
| | TCB40-DN50 | ASME B16.5 (150 psi) 2" | 146.6 | 106 | 19.1 | 220 | 152.4 | 5.3 | TCB40-DN50.7B18 |
| | | ASME B16.5 (300 psi) 2" | 149.9 | 106 | 22.4 | 220 | 165.1 | 6.0 | TCB40-DN50.7B28 |
| EN 1092-1 (PN 40 Form B) DN 50 | | 147.5 | 106 | 20 | 220 | 165 | 3.8 | TCB40-DN50.7A57 * | |

Larger versions and Hastelloy® versions upon request

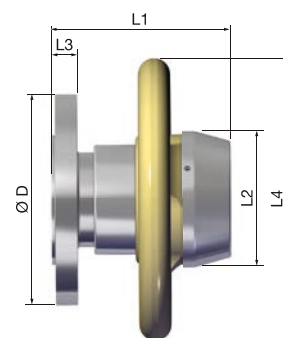
* Compatible to EN 1092-1 (PN 16 Form B) DN50



TCB20-DN25 DIN32676-A



TCB20-DN25 and TCB25-DN32 models, except TCB20-DN25 DIN32676-A



Other models

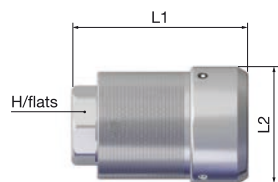
Part numbers

Hose unit (plug)

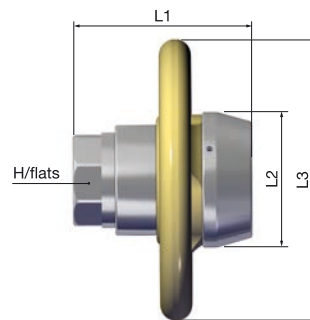
| Designation | Model | Connection | Dimensions (mm) | | | | Weight (kg) | Part numbers |
|---------------|-------------|------------|-----------------|------|-----|---------|-------------|---------------------|
| | | | L1 | L2 | L3 | H/flats | | |
| Female thread | TCB20-DN25 | BSP 1" | 91.8 | 59.5 | - | 38 | 0.9 | TCB20-DN25.7105 |
| | | NPT 1" | 105.8 | 59.5 | - | 38 | 0.7 | TCB20-DN25.7205 |
| | TCB25-DN32 | BSP 1 ¼" | 101.5 | 76 | - | 50 | 1.5 | TCB25-DN32.7106 |
| | | NPT 1 ¼" | 115.5 | 76 | - | 50 | 1.7 | TCB25-DN32.7206 |
| | TCB30-DN40 | BSP 1 ½" | 118.5 | 89 | 200 | 55 | 2.0 | TCB30-DN40.7107 |
| | | NPT 1 ½" | 127 | 89 | 200 | 55 | 2.3 | TCB30-DN40.7207 |
| | TCB40-DN50 | BSP 2" | 143 | 106 | 220 | 70 | 3.2 | TCB40-DN50.7108 |
| | | NPT 2" | 150 | 106 | 220 | 70 | 3.5 | TCB40-DN50.7208 |
| | TCB50-DN65 | BSP 2 ½" | 163.5 | 121 | 240 | 85 | 4.5 | TCB50-DN65.7109 * |
| | | NPT 2 ½" | 178.5 | 121 | 240 | 85 | 5.2 | TCB50-DN65.7209 * |
| | TCB60-DN80 | BSP 3" | 186.2 | 148 | 270 | 95 | 7.0 | TCB60-DN80.710A ** |
| | | NPT 3" | 202.5 | 148 | 270 | 95 | 7.4 | TCB60-DN80.720A * |
| | TCB80-DN100 | BSP 4" | 204.3 | 180 | 319 | 125 | 11.0 | TCB80-DN100.710C ** |
| | | NPT 4" | 220.5 | 180 | 319 | 125 | 12.8 | TCB80-DN100.720C * |

* not available for Hastelloy® B3 and C4 versions

** not available for Hastelloy® B3 version



TCB20-DN25 and TCB25-DN32 models

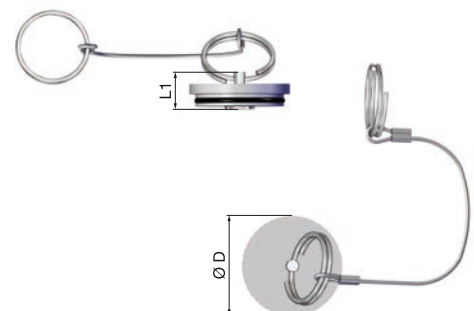


Other models

Polypropylene tank unit caps

Not available for mech coded hose units.

| Model | Dimensions (mm) | | Weight (kg) | Part numbers |
|-------------|-----------------|------|-------------|----------------------|
| | Ø D | L1 | | |
| TCB20-DN25 | 50 | 18.5 | 0.1 | TCB20-DN25.8550/PPR |
| TCB25-DN32 | 61 | 19.5 | 0.2 | TCB25-DN32.8550/PPR |
| TCB30-DN40 | 70 | 24 | 0.2 | TCB30-DN40.8550/PPR |
| TCB40-DN50 | 87 | 25 | 0.2 | TCB40-DN50.8550/PPR |
| TCB50-DN65 | 102 | 25 | 0.2 | TCB50-DN65.8550/PPR |
| TCB60-DN80 | 125 | 25 | 0.2 | TCB60-DN80.8550/PPR |
| TCB80-DN100 | 156 | 25 | 0.2 | TCB80-DN100.8550/PPR |



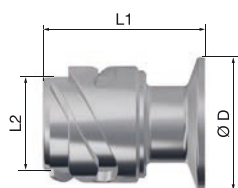
Part numbers

Tank unit (socket)

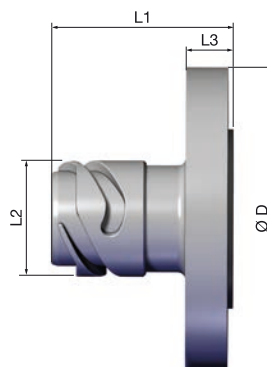
| Designation | Model | Connection | Dimensions (mm) | | | | Weight (kg) | Part numbers |
|--------------------------------|---------------------------------|--------------------------------|-----------------|------|-------|-------|------------------|-------------------|
| | | | L1 | L2 | L3 | Ø D | | |
| Flanges | TCB20-DN25 | ASME B16.5 (150 psi) 1" | 69 | 44 | 14.2 | 108 | 1.1 | TCB20-DN25.1B15 |
| | | ASME B16.5 (300 psi) 1" | 69 | 44 | 17.5 | 124 | 1.6 | TCB20-DN25.1B25 |
| | | EN 1092-1 (PN 40 Form B) DN 25 | 69 | 44 | 18 | 115 | 1.5 | TCB20-DN25.1A54 |
| | | DIN32676-A DN 25 | 61 | 44 | - | 50.5 | 0.3 | TCB20-DN25.1050 |
| | TCB25-DN32 | ASME B16.5 (150 psi) 1 ¼" | 74 | 54 | 15.7 | 117.3 | 1.6 | TCB25-DN32.1B16 |
| | | ASME B16.5 (300 psi) 1 ¼" | 77.4 | 54 | 19.1 | 133.4 | 2.2 | TCB25-DN32.1B26 |
| | | EN 1092-1 (PN 40 Form B) DN 32 | 76.3 | 54 | 18 | 140 | 2.3 | TCB25-DN32.1A55 |
| | TCB30-DN40 | ASME B16.5 (150 psi) 1 ½" | 82.5 | 62.5 | 17.5 | 127 | 2.1 | TCB30-DN40.1B17 |
| | | ASME B16.5 (300 psi) 1 ½" | 85.6 | 62.5 | 20.6 | 155.4 | 3.2 | TCB30-DN40.1B27 |
| | | EN 1092-1 (PN 40 Form B) DN 40 | 83 | 62.5 | 18 | 150 | 2.7 | TCB30-DN40.1A56 |
| | TCB40-DN50 | ASME B16.5 (150 psi) 2" | 95.1 | 79.6 | 19.1 | 152.4 | 3.9 | TCB40-DN50.1B18 |
| | | ASME B16.5 (300 psi) 2" | 98.4 | 79.6 | 22.4 | 165.1 | 4.8 | TCB40-DN50.1B28 |
| | | EN 1092-1 (PN 40 Form B) DN 50 | 96 | 79.6 | 20 | 165 | 3.8 | TCB40-DN50.1A57 * |
| | TCB50-DN65 | ASME B16.5 (150 psi) 2 ½" | 114.4 | 94.2 | 22.4 | 177.8 | 5.4 | TCB50-DN65.1B19 |
| | | ASME B16.5 (300 psi) 2 ½" | 117.4 | 94.2 | 25.4 | 190.5 | 6.2 | TCB50-DN65.1B29 |
| | | EN 1092-1 (PN 16 Form B) DN 65 | 110 | 94.2 | 18 | 185 | 4.8 | TCB50-DN65.1A38 |
| EN 1092-1 (PN 40 Form B) DN 65 | | 114 | 94.2 | 22 | 185 | 5.4 | TCB50-DN65.1A58 | |
| TCB60-DN80 | ASME B16.5 (150 psi) 3" | 128.9 | 118 | 23.9 | 190.5 | 7.4 | TCB60-DN80.1B1A | |
| | ASME B16.5 (300 psi) 3" | 133.4 | 118 | 28.4 | 209.6 | 9.0 | TCB60-DN80.1B2A | |
| | EN 1092-1 (PN 16 Form B) DN 80 | 125 | 118 | 20 | 200 | 6.6 | TCB60-DN80.1A39 | |
| | EN 1092-1 (PN 40 Form B) DN 80 | 129 | 118 | 24 | 200 | 7.6 | TCB60-DN80.1A59 | |
| TCB80-DN100 | ASME B16.5 (150 psi) 4" | 138.4 | 146.2 | 23.9 | 228.6 | 11.1 | TCB80-DN100.1B1C | |
| | ASME B16.5 (300 psi) 4" | 146.3 | 146.2 | 31.8 | 254 | 15.1 | TCB80-DN100.1B2C | |
| | EN 1092-1 (PN 16 Form B) DN 100 | 134.5 | 146.2 | 20 | 220 | 9.6 | TCB80-DN100.1A3A | |
| | EN 1092-1 (PN 40 Form B) DN 100 | 138.5 | 146.2 | 24 | 235 | 11.2 | TCB80-DN100.1A5A | |

Hastelloy® versions upon request

* Compatible to EN 1092-1 (PN 16 Form B) DN50



TCB20-DN25 DIN32676-A



Other models

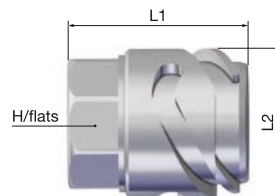
Part numbers

Tank unit (socket)

| Designation | Model | Connection | Dimensions (mm) | | | Weight (kg) | Part numbers |
|---------------|-------------|------------|-----------------|-------|---------|-------------|---------------------|
| | | | L1 | L2 | H/flats | | |
| Female thread | TCB20-DN25 | BSP 1" | 53 | 44 | 38 | 0.3 | TCB20-DN25.1105 |
| | | NPT 1" | 68.5 | 44 | 38 | 0.3 | TCB20-DN25.1205 |
| | TCB25-DN32 | BSP 1 ¼" | 65 | 54 | 50 | 0.5 | TCB25-DN32.1106 |
| | | NPT 1 ¼" | 79 | 54 | 50 | 0.6 | TCB25-DN32.1206 |
| | TCB30-DN40 | BSP 1 ½" | 76 | 62.5 | 55 | 0.8 | TCB30-DN40.1107 |
| | | NPT 1 ½" | 85 | 62.5 | 55 | 0.9 | TCB30-DN40.1207 |
| | TCB40-DN50 | BSP 2" | 85.5 | 79.6 | 70 | 1.3 | TCB40-DN50.1108 |
| | | NPT 2" | 90.5 | 79.6 | 70 | 1.5 | TCB40-DN50.1208 |
| | TCB50-DN65 | BSP 2 ½" | 95 | 94.2 | 85 | 1.8 | TCB50-DN65.1109 * |
| | | NPT 2 ½" | 110 | 94.2 | 85 | 2.4 | TCB50-DN65.1209 * |
| | TCB60-DN80 | BSP 3" | 106.2 | 118 | 95 | 3.1 | TCB60-DN80.110A ** |
| | | NPT 3" | 121 | 118 | 95 | 3.5 | TCB60-DN80.120A * |
| | TCB80-DN100 | BSP 4" | 114.5 | 146.2 | 125 | 5.3 | TCB80-DN100.110C ** |
| | | NPT 4" | 132 | 146.2 | 125 | 6.1 | TCB80-DN100.120C * |

* not available for Hastelloy® B3 and C4 versions

** not available for Hastelloy® B3 version



Polypropylene tank unit caps

| Model | Dimensions (mm) | | Weight (kg) | Part numbers |
|-------------|-----------------|------|-------------|----------------------|
| | Ø D | L1 | | |
| TCB20-DN25 | 52 | 56 | 0.2 | TCB20-DN25.8500/PPR |
| TCB25-DN32 | 63 | 70.5 | 0.2 | TCB25-DN32.8500/PPR |
| TCB30-DN40 | 72.5 | 70 | 0.2 | TCB30-DN40.8500/PPR |
| TCB40-DN50 | 90 | 78.5 | 0.2 | TCB40-DN50.8500/PPR |
| TCB50-DN65 | 106 | 90 | 0.2 | TCB50-DN65.8500/PPR |
| TCB60-DN80 | 130 | 95 | 0.2 | TCB60-DN80.8500/PPR |
| TCB65-DN100 | 159 | 101 | 0.2 | TCB80-DN100.8500/PPR |



Accessories

Assembly and draining tools, park adaptors, service kits.



● Stäubli Units ○ Representatives/Agents

Global presence of the Stäubli Group

www.staubli.com