

# TCH 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

# New generation high flow



## How Stäubli's design enhances your performance

### Robustness and quality of materials

- Excellent resistance to high-pressure peaks and vibrations
- All our TCH 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 TCH is identical to TCB. 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**

# Technical specifications

	TCH20-DN25	TCH25-DN32	TCH30-DN40	TCH40-DN50
<b>Hose nominal diameter</b>	DN 25	DN 32	DN 40	DN 50
<b>Equivalent flow diameter (mm)</b>	20	25	30	40
<b>Maximum working pressure <sup>(1)</sup> (bar):</b>	25			
<b>Operating temperature <sup>(2)</sup> (°C) depending on O-ring type:</b>				
- 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			
<b>Shut-off</b>	double			

<sup>(1)</sup> Designed considering a 5 times safety factor.

<sup>(2)</sup> Outside of this range please ask for confirmation.

## Sealing

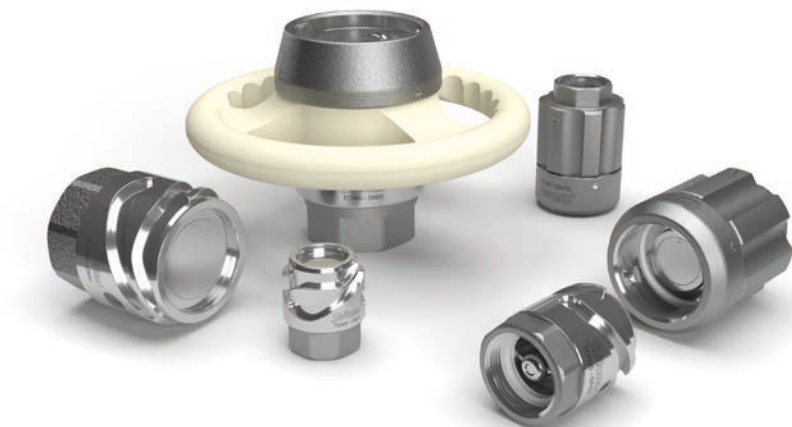
- O-rings
  - Nitrile (NBR)
  - Ethylene-Propylene (EPDM)
  - Fluorocarbon (FKM)
  - Perfluoroelastomer (FFKM)
- Thread gasket (BSP)
  - PTFE

## Connection

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

## Construction

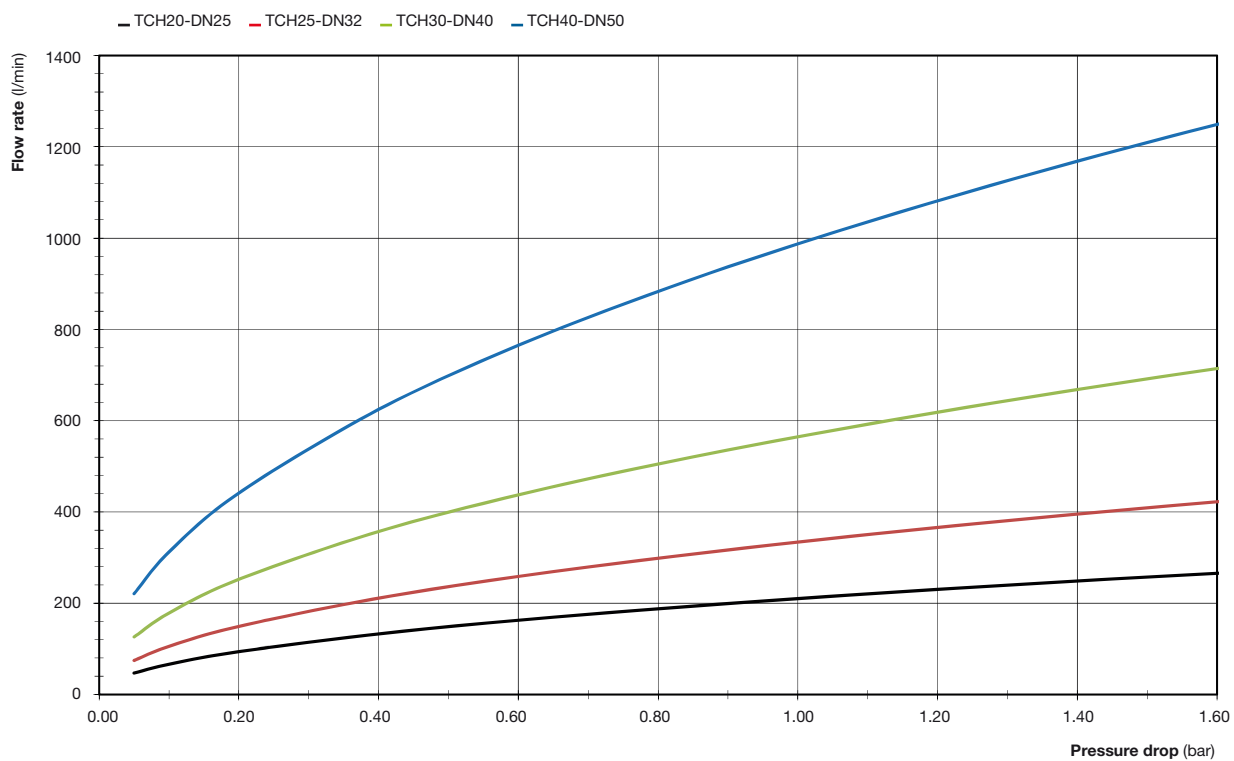
- Predominantly stainless steel  
(Please contact us for further details)
- Operating handwheel: polypropylene
- Protective dust caps: polypropylene



### Reminder of product / diameter correspondences

- TCH20-DN25 – 1"
- TCH25-DN32 – 1 ¼"
- TCH30-DN40 – 1 ½"
- TCH40-DN50 – 2"

## Hydraulic flow rate / pressure drop charts



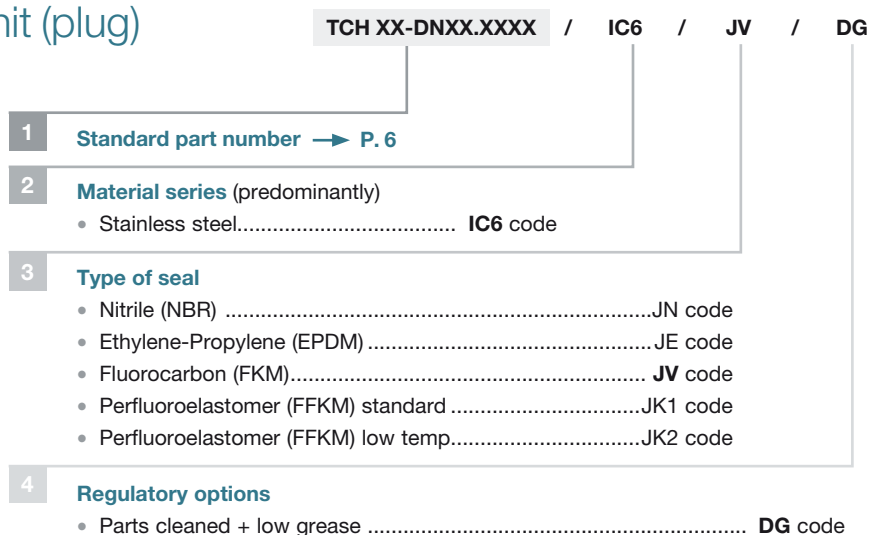
**Test conditions**

Fluid: water, 20 °C / 68 °F

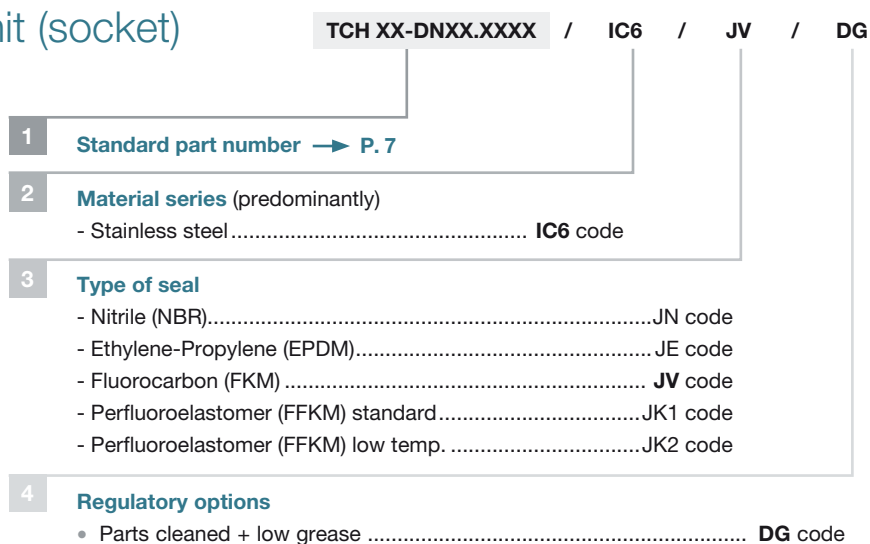
# How to build your part number

To construct your part number, add the type of seal, the material series and any options to the standard part numbers on pages 6 and 7 (in the order shown below).

## Hose unit (plug)



## Tank unit (socket)

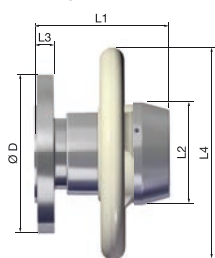


# Part numbers

## Hose unit (plug)

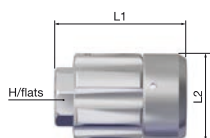
Designation	Model	Connection	Dimensions (mm)					Part numbers
			L1	L2	L3	L4	Ø D	
<b>Flanges</b>	<b>TCH30-DN40</b>	ASME B16.5 (150 psi) 1 ½"	125.5	89	17.5	200	127	<b>TCH30-DN40.7B17</b>
		ASME B16.5 (300 psi) 1 ½"	128.6	89	20.6	200	155.4	<b>TCH30-DN40.7B27</b>
		EN 1092-1 (PN 40 Form B) DN 40	126	89	18	200	150	<b>TCH30-DN40.7A56</b>
	<b>TCH40-DN50</b>	ASME B16.5 (150 psi) 2"	146.6	106	19.1	220	152.4	<b>TCH40-DN50.7B18</b>
		ASME B16.5 (300 psi) 2"	149.9	106	22.4	220	165.1	<b>TCH40-DN50.7B28</b>
		EN 1092-1 (PN 40 Form B) DN 50*	147.5	106	20	220	165	<b>TCH40-DN50.7A57 *</b>

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

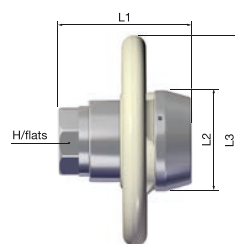


## Hose unit (plug)

Designation	Model	Connection	Dimensions (mm)				Part numbers
			L1	L2	L3	H/flats	
<b>Female thread</b>	<b>TCH20-DN25</b>	BSP 1"	89.5	59.5	-	38	<b>TCH20-DN25.7105</b>
		NPT 1"	102.7	59.5	-	38	<b>TCH20-DN25.7205</b>
	<b>TCH25-DN32</b>	BSP 1 ¼"	98.5	76	-	50	<b>TCH25-DN32.7106</b>
		NPT 1 ¼"	111.5	76	-	50	<b>TCH25-DN32.7206</b>
	<b>TCH30-DN40</b>	BSP 1 ½"	139.7	89	200	55	<b>TCH30-DN40.7107</b>
		NPT 1 ½"	123.5	89	200	55	<b>TCH30-DN40.7207</b>
	<b>TCH40-DN50</b>	BSP 2"	114.5	106	220	70	<b>TCH40-DN50.7108</b>
		NPT 2"	149.7	106	220	70	<b>TCH40-DN50.7208</b>



TCH20-DN25 and TCH25-DN32 models



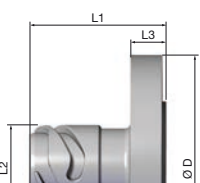
TCH30-DN40 and TCH40-DN50 models

## Hose unit caps

Designation	Model	Dimensions (mm)		Part numbers
		Ø D	L1	
	<b>TCH20-DN25</b>	50	17	<b>TCH20-DN25.8550/PPR</b>
	<b>TCH25-DN32</b>	61	19.5	<b>TCH25-DN32.8550/PPR</b>
	<b>TCH30-DN40</b>	70	24	<b>TCH30-DN40.8550/PPR</b>
	<b>TCH40-DN50</b>	87	25	<b>TCH40-DN50.8550/PPR</b>

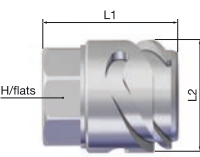
# Part numbers

## Tank unit (socket)

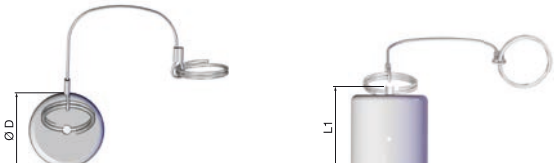
Designation	Model	Connection	Dimensions (mm)				Part numbers
			L1	L2	L3	Ø D	
<b>Flanges</b>	<b>TCH30-DN40</b>	ASME B16.5 (150 psi) 1 ½"	82.5	62.5	17.5	127	<b>TCH30-DN40.1B17</b>
		ASME B16.5 (300 psi) 1 ½"	85.6	62.5	20.6	155.4	<b>TCH30-DN40.1B27</b>
		EN 1092-1 (PN 40 Form B) DN 40	83	62.5	18	150	<b>TCH30-DN40.1A56</b>
	<b>TCH40-DN50</b>	ASME B16.5 (150 psi) 2"	95.1	79.6	19.1	152.4	<b>TCH40-DN50.1B18</b>
		ASME B16.5 (300 psi) 2"	98.4	79.6	22.4	165.1	<b>TCH40-DN50.1B28</b>
		EN 1092-1 (PN 40 Form B) DN 50*	96	79.6	20	165	<b>TCH40-DN50.1A57 *</b>

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

## Hose unit (plug)

Designation	Model	Connection	Dimensions (mm)			Part numbers
			L1	L2	H/flats	
<b>Female thread</b>	<b>TCH20-DN25</b>	BSP 1"	53	44	38	<b>TCH20-DN25.1105</b>
		NPT 1"	68.5	44	38	<b>TCH20-DN25.1205</b>
	<b>TCH25-DN32</b>	BSP 1 ¼"	65	54	50	<b>TCH25-DN32.1106</b>
		NPT 1 ¼"	79.5	54	50	<b>TCH25-DN32.1206</b>
<b>TCH30-DN40</b>		BSP 1 ½"	76	62.5	55	<b>TCH30-DN40.1107</b>
		NPT 1 ½"	85	62.5	55	<b>TCH30-DN40.1207</b>
<b>TCH40-DN50</b>		BSP 2"	85.5	79.6	70	<b>TCH40-DN50.1108</b>
		NPT 2"	90.5	79.6	70	<b>TCH40-DN50.1208</b>

## Tank unit caps

Designation	Model	Dimensions (mm)		Part numbers
		Ø D	L1	
	<b>TCH20-DN25</b>	52	56	<b>TCH20-DN25.8500/PPR</b>
	<b>TCH25-DN32</b>	63	70.5	<b>TCH25-DN32.8500/PPR</b>
	<b>TCH30-DN40</b>	72.5	70	<b>TCH30-DN40.8500/PPR</b>
	<b>TCH40-DN50</b>	90	78.5	<b>TCH40-DN50.8500/PPR</b>

## Accessories

Assembly and draining tools, park adaptors, seal and service kits.



● Stäubli Units    ○ Representatives/Agents

# Global presence of the Stäubli Group

[www.staubli.com](http://www.staubli.com)