

TTX couplings

High-flow transfer | STANAG 3756



Applications

- Fluid distribution and transfer systems
- Loading and unloading of rail tank wagons, tank trucks, containers, tanks and drums
- Temperature control on double-wall reactors
- Connections for test benches

Summary

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Part numbers	8

Perfect connection solution for optimum and minimum pressure drop



Key advantages



Ensures operator and installation safety



High-flow rate saves time and energy



Quick maintenance reduces downtime



Simplifies connection operations, even under pressure



Modular design ensures perfect integration in your system



ADR/RID certified

How Stäubli design enhances your performance

Robustness and quality of materials

- Excellent resistance to high-pressure peaks and vibrations
- Optimum high flow

Non-spill technology

With the flat-face design:

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

Safe bayonet locking system

- Quick, easy, and reliable connection

Ergonomic design

- Low force coupling operation
- Strong handles made of forged aluminum with improved grip for effortless operation
- Integrated swivel avoids torsion of the hose line even under pressure
- Double bearing swivel for a better ergonomics under pressure and a better stability against lateral forces

Shock protection ring

- To optimize product durability on the hose unit

Easy maintenance

- Replacement of o-rings on hose unit within seconds
- Excellent tightness with less o-rings

Custom-tailored options & flexibility

- Various options are available for adapting the coupling to suit your applications (see details on page 4)
- Optimized product for an easy integration into your installation without extra adapters as the valve shaft never protrudes from the fitting

Based on NATO STANAG 3756 standard



Available options



Safety locking system

This safety lever, actionable with one hand, makes disconnection impossible unless it is activated. It therefore prevents any untimely interruption during fluid transfers and reduces accident risks.



Proximity sensor

The sensor monitors that the hose unit is coupled and in its end position. When integrated into the customer's system, these sensors provide an additional level of safety, for example by authorizing or not authorizing pump start-up.



Mechanical coding

This key-lock system prevents any circuit inversion thereby safeguarding the process.



Color coding

Powder coating on tank unit.



Coloured handles

For easy circuit location, different colours are available for your hose unit handles.



Quick maintenance

Our unique TTX design allows easy removal of the hose unit valve with a special tool. This allows o-rings to be replaced within seconds.




Technical specifications

	TTX20-DN25	TTX30-DN50	TTX45-DN65	TTX60-DN80	TTX65-DN100
Hose nominal diameter	DN 25	DN 50	DN 65	DN 80	DN 100
Equivalent flow diameter (mm)	20	30	45	60	65
Interface diameter (mm)	56	70	105	119	164

Maximum working pressure ⁽¹⁾ (bar):

- for aluminum version	16	16	10	10	10
- for stainless steel version	25				

Operating temperature ⁽²⁾ (°C) depending on material series and seal type:

	Stainless steel version	Aluminum version
- with Nitrile (NBR) seal	-15 to +100	-15 to +80
- with Ethylene-Propylene (EPDM) seal	-20 to +150	-20 to +80
- with Fluorocarbon (FKM) seal	0 to +180	0 to +80
- with Perfluoroelastomer (FFKM) seal	0 to +180	0 to +80
Shut-off	double	

(1) Designed considering a 5 times safety factor.

(2) Outside of this range please ask for confirmation.

Sealing

- Nitrile (NBR)
- Ethylene-Propylene (EPDM)
- Fluorocarbon (FKM)
- Perfluoroelastomer (FFKM)

Thread gasket BSP

- PTFE (for stainless steel version)
- PUR (for aluminium version)

Material

- Predominantly austenitic stainless steel or aluminum
- Forged aluminum handles
- Protective dust caps:
 - Nitrile
 - Polyethylene
 - Stainless steel
 - Aluminum
- Elastomer protective ring

Fitting

- Thread: female BSP or NPT
- Flange: EN 1092-1 or ASME B16.5

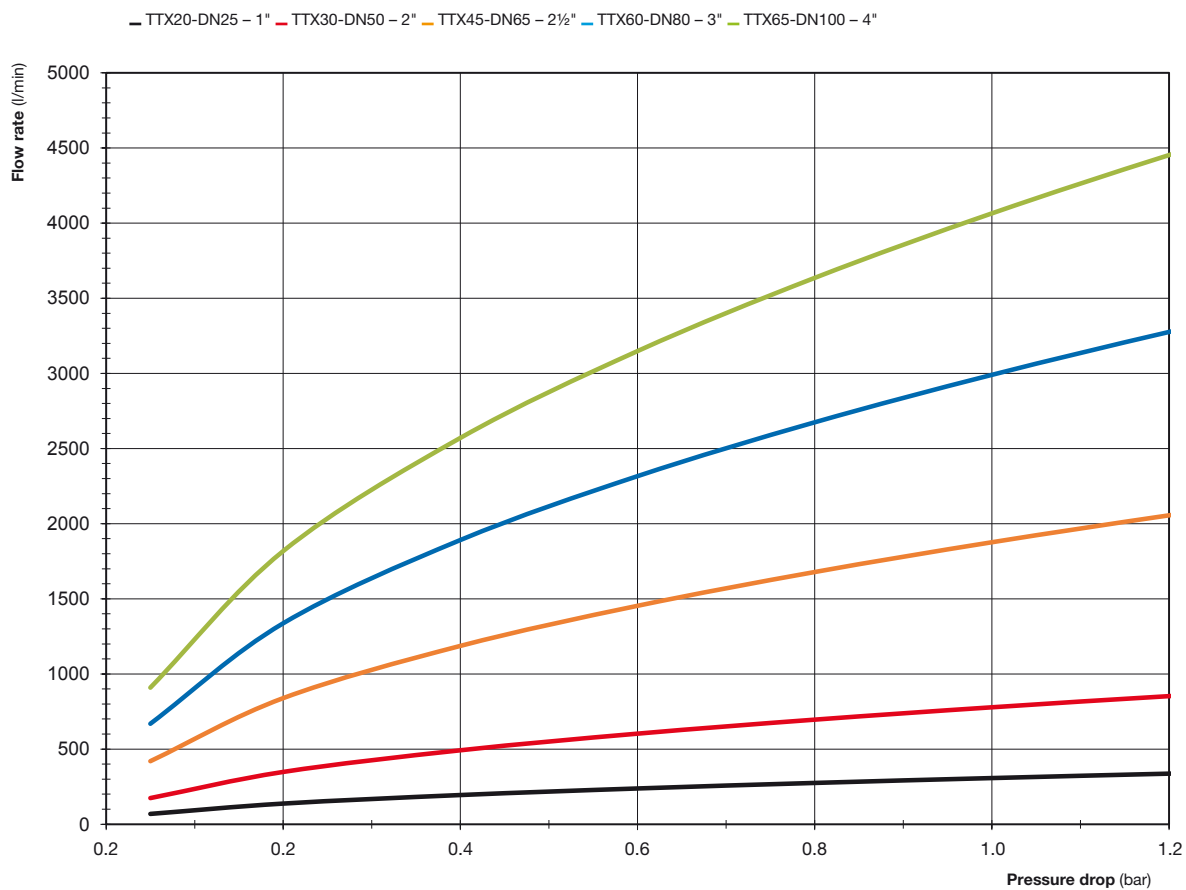
Others available on request.

Reminder of product / diameter correspondences

- TTX20–DN25 – 1"
- TTX30–DN50 – 2"
- TTX45–DN65 – 2 ½"
- TTX60–DN80 – 3"
- TTX65–DN100 – 4"



Flow rate / pressure drop hydraulic charts



Test conditions

Fluid: n-Parafin 20 °C
 Density: 0.75 kg/m³
 Viskosity: 1.75 mm²/s



How to build your part number

To create your hose unit part number, add the following elements and options to the standard part number:

	Mandatory elements	Options																															
Hose unit: (plug)	TTX XX-DNXX.XXXX / IC6 / JV / VT / VS / KW / CS2 / DP																																
1 Standard part number to be chosen page 8	1																																
2 Material series (predominantly) Code - Stainless steel..... IC6 - Aluminum..... L1	2																																
3 Type of seal Code - Nitrile (NBR) JN - Ethylene-Propylene (EPDM)..... JE - Fluorocarbon (FKM) JV - Perfluoroelastomer (FFKM) standard..... JK1 - Perfluoroelastomer (FFKM) low temp..... JK2	3																																
4 Handles Code - Standard handles (black) VT TTX20-DN25 : only this diameter can be delivered without handles: in this case do not put any code. - Narrow handles (alternative design available for TTX65-DN100 only) VTE	4																																
5 Safety locking system Code - With locking pins..... VS - By locking plate (only for TTX65-DN100)..... VSF	5																																
6 Coloured handles Code - Red KR - Blue KB - Green..... KV - Yellow..... KJ - Orange..... KO - Purple..... KW (For TTX20-DN25 only in combination with handle option /VT - see point 4)	6																																
7 Mechanical coding Code Key-lock CS2 Selectivity: TTX20-DN25: 10 options / 12 to 45 TTX30-DN50 to TTX65-DN100: 21 options / 12 to 67 <table border="1"> <tr> <td>12</td><td>13</td><td>14</td><td>15</td><td>23</td> <td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td> </tr> <tr> <td>24</td><td>25</td><td>34</td><td>35</td><td>45</td> <td>34</td><td>35</td><td>36</td><td>37</td><td>45</td><td>46</td><td>47</td><td>56</td><td>57</td><td>67</td> </tr> </table>	12	13	14	15	23	12	13	14	15	16	17	23	24	25	26	27	24	25	34	35	45	34	35	36	37	45	46	47	56	57	67	7	
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24	25	34	35	45	34	35	36	37	45	46	47	56	57	67																			
8 Sensors Code Proximity sensor DP	8																																



How to build your part number

To create your tank unit part number, add the following elements and options to the standard part number:

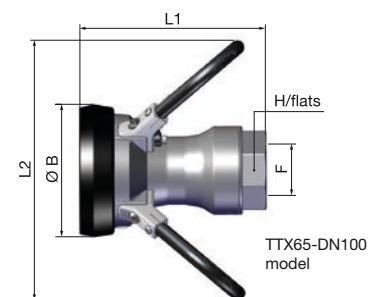
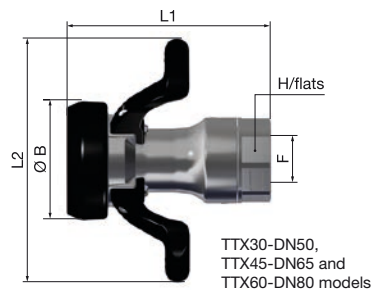
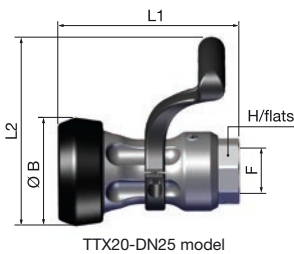
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Tank unit: (socket)	TTX XX-DNXX.XXXX / IC6 / JV / KW / CS2																																	
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Part numbers

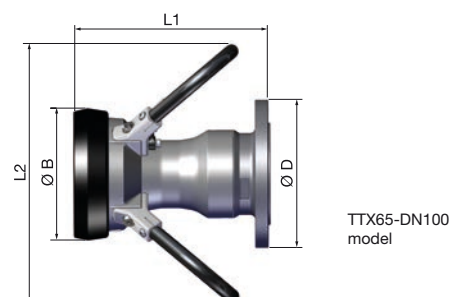
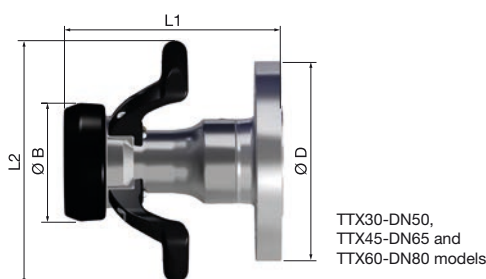
Hose unit (plug)

Designation	Model	Connection F	Dimensions (mm)				Part numbers
			L1	L2	ØB	H/flats or ØD	
Female thread	TTX20-DN25	BSP 1"	135.5	140	81	46	TTX20-DN25.7105
		NPT 1"	135.5	140	81	46	TTX20-DN25.7205
	TTX30-DN50	BSP 2"	164	200	98	65	TTX30-DN50.7108
		NPT 2"	168	200	98	65	TTX30-DN50.7208
	TTX45-DN65	BSP 2 1/2"	220	245	146	85	TTX45-DN65.7109
		NPT 2 1/2"	225	245	146	85	TTX45-DN65.7209
	TTX60-DN80	BSP 3"	232.5	258	160	100	TTX60-DN80.710A
		NPT 3"	242	258	160	100	TTX60-DN80.720A
	TTX65-DN100	BSP 4"	295	410	210	125	TTX65-DN100.710C
		NPT 4"	295	410	210	125	TTX65-DN100.720C

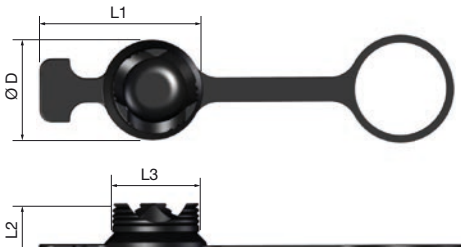
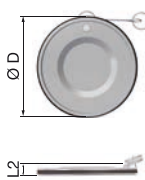
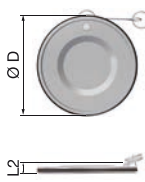
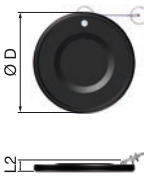


Flanges	Model	ASME B16.5 (150 psi)	ASME B16.5 (300 psi)	EN 1092-1 (PN 16 Form B)	EN 1092-1 (PN 40 Form B)	Dimensions (mm)		Part numbers
						L1	L2	
TTX30-DN50	ASME B16.5 (150 psi) 2"	175	200	98	152.4	TTX30-DN50.7B18		
		179	200	98	165.1	TTX30-DN50.7B28 *		
		174	200	98	165	TTX30-DN50.7A37		
		176	200	98	165	TTX30-DN50.7A57 *		
TTX45-DN65	ASME B16.5 (150 psi) 2 1/2"	236	245	146	177.8	TTX45-DN65.7B19		
		239	245	146	190.5	TTX45-DN65.7B29 *		
		232	245	146	185	TTX45-DN65.7A38		
		236	245	146	185	TTX45-DN65.7A58 *		
TTX60-DN80	ASME B16.5 (150 psi) 3"	258.5	258	160	190.5	TTX60-DN80.7B1A		
		258.5	258	160	209.6	TTX60-DN80.7B2A *		
		250	258	160	200	TTX60-DN80.7A39		
		254	258	160	200	TTX60-DN80.7A59 *		
TTX65-DN100	ASME B16.5 (150 psi) 4"	310	410	210	228.6	TTX65-DN100.7B1C		
		318	410	210	254	TTX65-DN100.7B2C *		
		306	410	210	220	TTX65-DN100.7A3A		
		310	410	210	235	TTX65-DN100.7A5A *		

* not available for aluminum version



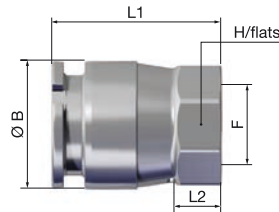
Hose unit caps

Designation	Model	Dimensions (mm)				Part numbers
		ØD	L1	L2	L3	
Nitrile cap 	TTX20-DN25	56	108	32.5	66	TTX20-DN25.8550/NBR
	TTX30-DN50	70	117.5	26	77	TTX30-DN50.8550/NBR
	TTX60-DN80	119	171.5	40	129	TTX60-DN80.8550/NBR
	TTX65-DN100	164	223	37.2	180	TTX65-DN100.8550/NBR
Aluminum cap 	TTX30-DN50	70		15.8		TTX30-DN50.8550/L1
	TTX60-DN80	119		15.8		TTX60-DN80.8550/L1
	TTX65-DN100	164		17.8		TTX65-DN100.8550/L1
Stainless steel cap 	TTX30-DN50	70		15.8		TTX30-DN50.8550/IC6
	TTX45-DN65	105		15.8		TTX45-DN65.8550/IC6
	TTX60-DN80	119		15.8		TTX60-DN80.8550/IC6
	TTX65-DN100	164		17.8		TTX65-DN100.8550/IC6
Polyethylene cap 	TTX30-DN50	70		15.8		TTX30-DN50.8550/PEH
	TTX60-DN80	119		15.8		TTX60-DN80.8550/PEH
	TTX65-DN100	164		17.8		TTX65-DN100.8550/PEH

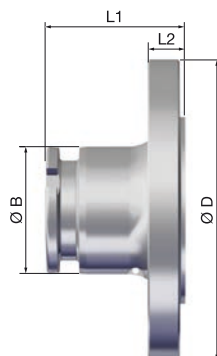
Part numbers

Tank unit (socket)

Designation	Model	Connection F	Dimensions (mm)				Part numbers
			L1	L2	ØB	H/flats or ØD	
Female thread	TTX20-DN25	BSP 1"	68.5	11	56	46	TTX20-DN25.1105
		NPT 1"	77.5	22	56	46	TTX20-DN25.1205
	TTX30-DN50	BSP 2"	92.5	20	70	65	TTX30-DN50.1108
		NPT 2"	94	21.5	70	65	TTX30-DN50.1208
	TTX45-DN65	BSP 2 1/2"	134	22	105	85	TTX45-DN65.1109
		NPT 2 1/2"	144	31	105	85	TTX45-DN65.1209
	TTX60-DN80	BSP 3"	134	34	119	100	TTX60-DN80.110A
		NPT 3"	144	34	119	100	TTX60-DN80.120A
	TTX65-DN100	BSP 4"	156	34	164	125	TTX65-DN100.110C
		NPT 4"	166	35	164	125	TTX65-DN100.120C



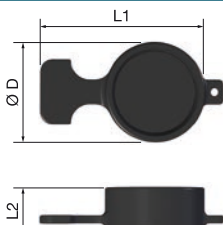
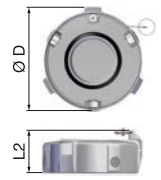
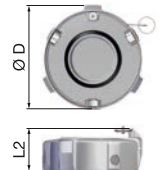
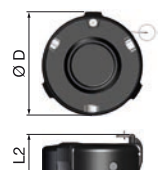
Designation	Model	Connection F	Dimensions (mm)				Part numbers
			L1	L2	ØB	H/flats or ØD	
Flanges	TTX20-DN25	ASME B16.5 (150 psi) 1"	68	14.2	56	108	TTX20-DN25.1B15
		ASME B16.5 (300 psi) 1"	71	17.5	56	124	TTX20-DN25.1B25 *
		EN 1092-1 (PN 40 Form B) DN 25	71	18	56	115	TTX20-DN25.1A54
	TTX30-DN50	ASME B16.5 (150 psi) 2"	75	19.1	70	152.4	TTX30-DN50.1B18
		ASME B16.5 (300 psi) 2"	75	22.4	70	165.1	TTX30-DN50.1B28 *
		EN 1092-1 (PN 16 Form B) DN 50	75	18	70	165	TTX30-DN50.1A37
		EN 1092-1 (PN 40 Form B) DN 50	75	20	70	165	TTX30-DN50.1A57 *
	TTX45-DN65	ASME B16.5 (150 psi) 2 1/2"	114	22.2	105	177.8	TTX45-DN65.1B19
		ASME B16.5 (300 psi) 2 1/2"	114	25.4	105	190.5	TTX45-DN65.1B29 *
		EN 1092-1 (PN 16 Form B) DN 65	114	18	105	185	TTX45-DN65.1A38
		EN 1092-1 (PN 40 Form B) DN 65	114	22	105	185	TTX45-DN65.1A58 *
	TTX60-DN80	ASME B16.5 (150 psi) 3"	112	23.9	119	190.5	TTX60-DN80.1B1A
		ASME B16.5 (300 psi) 3"	112	28.4	119	209.6	TTX60-DN80.1B2A *
		EN 1092-1 (PN 16 Form B) DN 80	112	20	119	200	TTX60-DN80.1A39
		EN 1092-1 (PN 40 Form B) DN 80	112	24	119	200	TTX60-DN80.1A59 *
	TTX65-DN100	ASME B16.5 (150 psi) 4"	134	23.9	164	228.6	TTX65-DN100.1B1C
		ASME B16.5 (300 psi) 4"	134	31.8	164	254	TTX65-DN100.1B2C *
		EN 1092-1 (PN 16 Form B) DN 100	134	20	164	220	TTX65-DN100.1A3A
		EN 1092-1 (PN 40 Form B) DN 100	134	24	164	235	TTX65-DN100.1A5A *



* not available for aluminum version



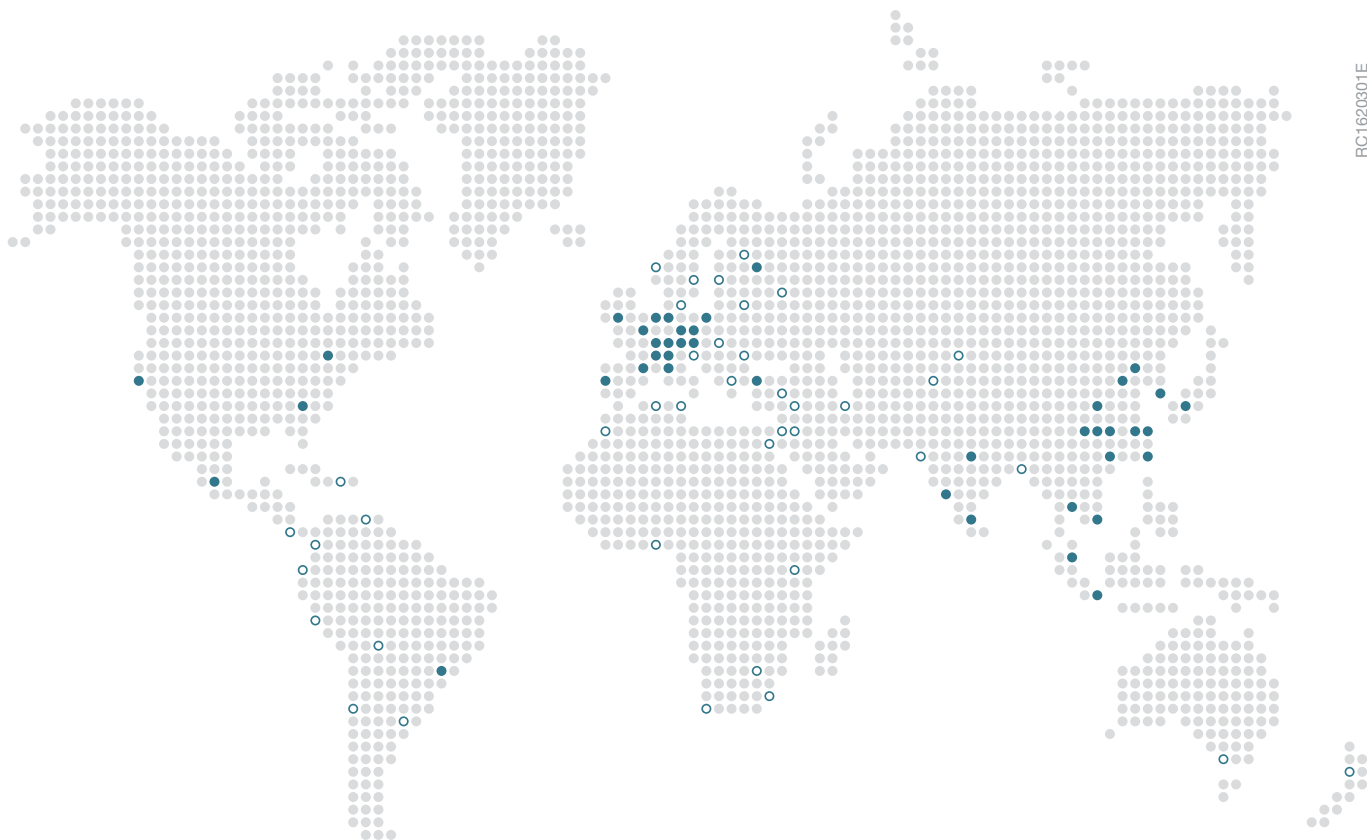
Tank unit caps

Designation	Model	Dimensions (mm)			Part numbers
		ØD	L1	L2	
Nitrile cap 	TTX20-DN25	65	120	30	TTX20-DN25.8500/NBR
	TTX30-DN50	80	136	36	TTX30-DN50.8500/NBR
	TTX60-DN80	133	184	50	TTX60-DN80.8500/NBR
	TTX65-DN100	179.5	234	57	TTX65-DN100.8500/NBR
Aluminum cap 	TTX30-DN50	89		57	TTX30-DN50.8500/L1
	TTX45-DN65	127		62.5	TTX45-DN65.8500/L1
	TTX60-DN80	141		62.5	TTX60-DN80.8500/L1
	TTX65-DN100	186		76.5	TTX65-DN100.8500/L1
Stainless steel cap 	TTX30-DN50	89		57	TTX30-DN50.8500/IC6
	TTX45-DN65	127		62.5	TTX45-DN65.8500/IC6
	TTX60-DN80	141		62.5	TTX60-DN80.8500/IC6
	TTX65-DN100	186		76.5	TTX65-DN100.8500/IC6
Polyethylene cap 	TTX30-DN50	89		57	TTX30-DN50.8500/PEH
	TTX60-DN80	141		62.5	TTX60-DN80.8500/PEH
	TTX65-DN100	186		76.5	TTX65-DN100.8500/PEH

Accessories

Quick maintenance tool, assembly and draining tools, park adaptors, seal and service kits.





● Stäubli Units ○ Representatives/Agents

Global presence of the Stäubli Group

www.staubli.com