

TOTAL PIPING SOLUTIONS, INC.

TRIPLE-TAP[®]

**Extended Range Stainless Steel
Technical Specification**

Controlled Document: ENGTS-01/10032017

October 2017

TRIPLE TAP® Extended Range Stainless Steel Tapping Sleeve Specifications

1. Pressure Rating:

The pressure rating of a tapping sleeve assembly is limited by the pressure rating of the flange assembled to the tapping sleeve and/or the pressure rating of the pipe on which the tapping sleeve is installed. Hence, there are different pressure ratings depending upon the installation conditions. Below is a guide for the maximum pressure rating based on flange type and installation conditions.

4" to 30" IPS Diameter with AWWA C207 or C228 Class D Flange - 175 PSI maximum working pressure, 265 PSI test pressure for full circumferential seal. Provides a 1.5x safety factor.

4" to 30" IPS Diameter with AWWA C111 Mechanical Joint Mating Flange – 200 PSI maximum working pressure, 300 PSI for aperture seal test pressure. 4"-18" IPS with branch size up to 12" diameter. For 19.37"-30.35" diameter Tapping Sleeves, maximum working pressure is 175 psi, test pressure is 265 psi. Provides 1.5x safety factor.

4" to 12" Diameter with optional ANSI Class 150 flange - 260 PSI maximum working pressure, 390 psi test pressure for outlet/branch seal only. Provides 1.5x safety factor.

14" to 18" IPS Diameter with optional ANSI Class 150 flange - 225 PSI working pressure, 350 PSI test pressure. Provides 1.5x safety factor.
2. Temperature Rating:

Maximum continuous working temperature range is 180° F.
Please contact factory if higher temperature service is required.
3. Gasket:

NSF-61 Approved NBR Rubber – For water service
4. Shell:

18-8 Stainless Steel, Passivated for Corrosion Protection.
4 to 8-inch diameters - 12 gage thickness
10 to 30-inch diameters – 10 gage thickness
5. Conductor Pipe:

TPS Triple Tap® Stainless Steel Tapping Sleeves are designed to be a universal product for use with Steel, Cast Iron, Ductile Iron, PVC, High Density Polyethylene, Asbestos Cement, and copper main conductor pipe materials. 4"-16" Dia. Tapping sleeves with up to 12" Branch are approved for use on all pipe materials including HDPE.
Tapping sleeves with 14" & 16" Outlets as well as all 19.37"-30.35" diameter tapping sleeves are not qualified for use on High Density Polyethylene pipe at this time.
6. Sealing Compatibility:

TPS Triple Tap® Stainless Tapping Sleeves are designed to seal on the pipe branch and are designed to accommodate a pipeline full break occurring typically in ductile or cast-iron pipe at the point where the maximum material has been circumferentially removed from the drilled hole in size-on-size line taps.

NOTE: 19.37"-30.35" Dia. Tapping Sleeves are only rated for outlet sealing only. Beam break test not required as outlets/branches are smaller than conductor pipe.

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TRIPLE TAP® Extended Range Stainless Steel Tapping Sleeve Benefits

1. Accommodates up to a maximum of 0.9 inch of diameter range.
2. No special tools required to install the sleeve.
3. Seals on the branch aperture and seals 360° around the pipe in case of a beam break.
(See appropriate pressure ratings in specification section)
4. AWWA C207 & C228 Flanged outlets are recessed per MSS SP-60 to accept tapping valve.
5. Design features are similar to cast ductile iron sleeves.
6. 3/4" NPT test outlet to allow hydrostatic pressure test before tapping the pipe.
7. Available with carbon steel flanges upon request.
8. Available with Mechanical Joint, or Line-Stop Outlet with Completion Plug, upon request
9. Larger diameter tapping sleeves incorporate shell tightening assembly per
US Patents No. 8,857,858, and unique sealing features per US Patent No. 9,217,530.
10. Fluoropolymer coated Stainless Steel fasteners for torque and tension control.
11. Nitrile Butadiene Rubber (NBR) gaskets comply with NSF-61 specifications
12. Note: See Materials of Construction diagram for additional information

This product is proudly made in the USA.



Triple Tap® Extended Range Stainless Steel Tapping Sleeve

Nominal Diameter	Lower Diameter	Upper Diameter	Available Branch Sizes	CTS	IPS	DIP	Pit Cast	AC 100	AC 150	AC 200
4"	4.45	5.10	2,3,4		4.50	4.80	5.00			
4" os	4.74	5.36	2,3,4			4.80	5.00	5.26	5.32	
5"	5.50	6.20	4	6.13	5.56					5.57
6"	6.55	7.42	4,6		6.63	6.90	7.10	7.40	7.37	
6" os	6.84	7.65	4,6			6.90	7.10	7.40	7.37	7.60
8"	8.54	9.44	4,6,8		8.63	9.05	9.30			
8" os	8.98	9.84	4,6,8			9.05	9.30	9.57	9.62	9.79
10"	10.64	11.46	4,6,8,10		10.75	11.10	11.40			
10" os	11.34	12.16	4,6,8,10				11.40	11.77	12.12	12.12
12"	12.62	13.56	4,6,8,10,12		12.75	13.20	13.50			
12" os	13.65	14.42	4,6,8,10,12		14.00			14.04	14.38	14.38
14"	15.22	16.16	4,6,8,10,12, **14		16.00	15.30	15.65	15.80		
14" os	16.18	16.92	4,6,8,10,12, **14						16.73	16.88
16"	17.25	18.18	4,6,8,10,12 **14,**16		18.00	17.40	17.80	17.94		
16" os	18.42	19.23	4,6,8,10,12 **14,**16						18.97	19.19
18"	19.37	20.25	4,6,8,10,12 **14,**16		20.00	19.50	19.92			
20"	21.40	22.22	4,6,8,10,12 **14,**16			21.60	22.06			
24"	23.38	24.25	4,6,8,10,12 **14,**16		24.00					
24" os	25.60	26.40	4,6,8,10,12 **14,**16			25.80	26.32			
30"	29.50	30.35	4,6,8,10,12 **14,**16		30.00					

** Designated Flanges have ANSI/ASME B16.5 drilling pattern

Applicable Standards:

ASTM A380-06 Standard Practice for Cleaning Descaling and Passivation of Stainless Steel Parts Equipment and Systems

ASTM A967-05 Standard Specification for Chemical Passivation Treatments for Stainless Steel Parts.

ANSI/AWWA C223-07 Fabricated Steel and Stainless-Steel Tapping Sleeves

MSS SP-60-2004 Connecting Flange Joint Between Tapping Sleeves and Tapping Valves

NSF/ANSI STANDARD 61 - Drinking Water System Components

ASTM D2000 - 12 Standard Classification System for Rubber Products...

MSS SP-113-2012 Connecting Joints between Tapping Machines and Tapping Valves

MSS SP-124-2012 Fabricated Tapping Sleeves

ASTM D 2241 – 04a Standard Specification for Poly (Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series)

ANSI/AWWA C900-07 Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings 4 In.

Through 12 In. for Water Transmission and Distribution

ANSI/AWWA C906-07 Polyethylene (PE) Pressure Pipe and Fittings, 4 In.

Through 63 In. for Water Transmission and Distribution

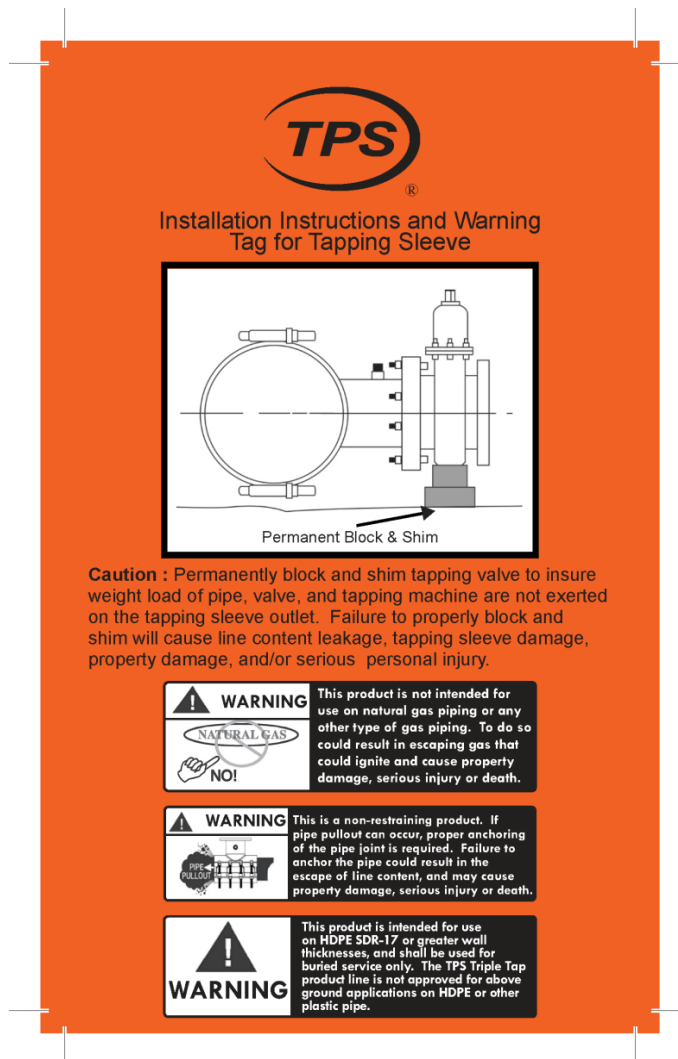
ANSI/AWWA C110/A21.10-08 Ductile Iron and Gray-iron Fittings

ANSI/AWWA C111/A21.11-07 Rubber Gasketed Joints for Ductile Iron Pressure Pipe and Fittings

ANSI/AWWA C207-13 Steel Pipe Flanges for Waterworks Service

ANSI/AWWA C228-14 Stainless-Steel Pipe Flange Joints for Water Service

Product Warnings:



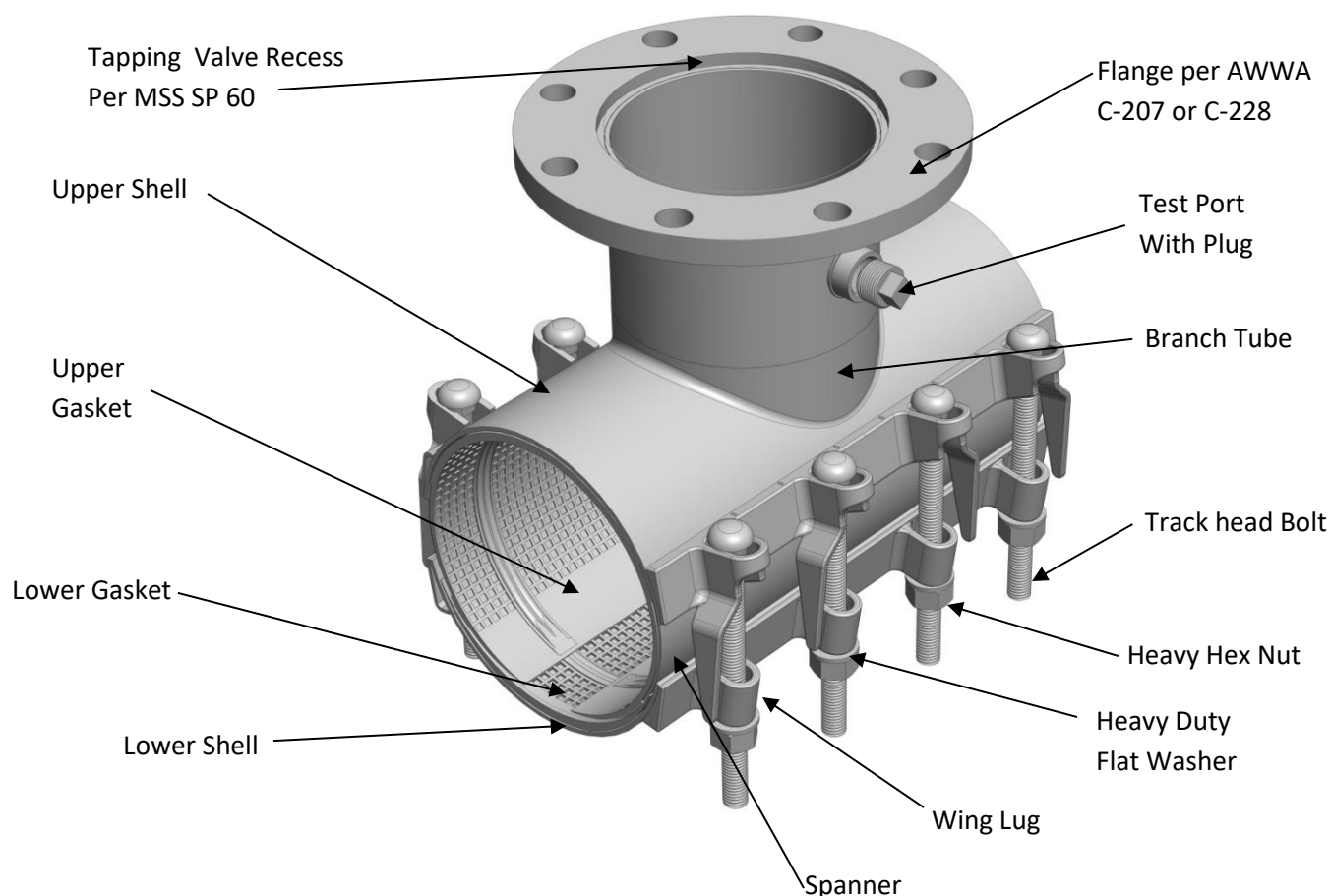
Note on Tapping Sleeve Reuse:

Due to spanner forming (creasing) and other permanent set deformations incurred in installation, tapping sleeves must not be reused until refurbished with new bolts and new gaskets at TPS.

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Triple Tap® Extended Range Stainless Steel Tapping Sleeve Specifications



Flange: Provided with 18-8 Type 304 Stainless Steel standard flange or optional Fusion Bonded Epoxy (FBE) Coated Carbon Steel flange, ANSI B16.1 drilling with machined center recess for tapping valves in accordance with MSS SP-60. Flanges in accordance with ANSI/AWWA C207 & C228

Branch Tube: 18-8 Stainless Steel Schedule 5 or Schedule 10 wall thickness.

Upper Shell: 10, 11 or 12 Gage 18-8 Stainless Steel depending on diameter.

Lower Shell: 10, 11 or 12 Gage 18-8 Stainless Steel depending on diameter

Upper Gasket Patent pending one piece matte gasket with integrated aperture seal and circumferential seal beads for a 360 degree seal.

Lower Gasket Matte gasket with matching circumferential seal beads for a 360 degree seal.

Alignment Lugs: 18-8 Stainless Steel.

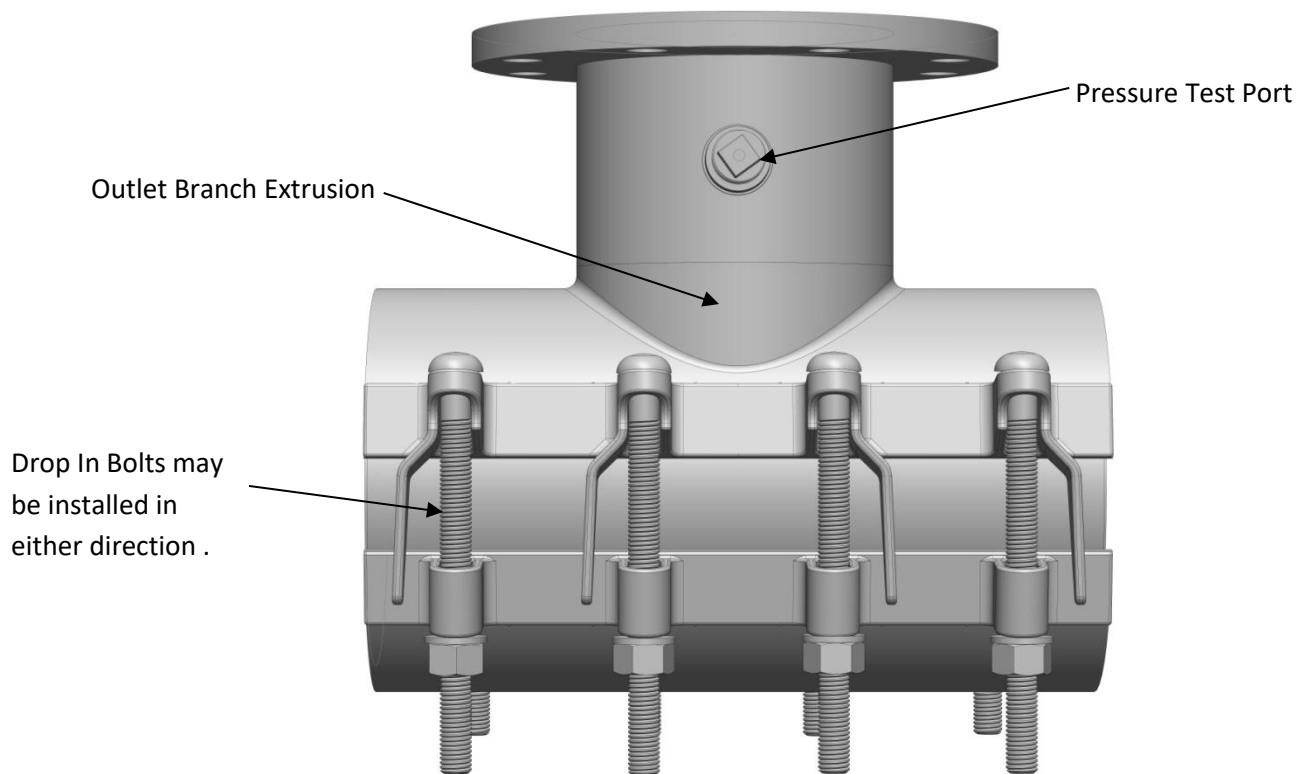
Gaskets: Material: Nitrile Butadiene Rubber (NBR) Approved NSF-61,

Spanners: 18-8 Stainless Steel bridging spanner integrally molded into gasket,

Test Port: 18-8 Stainless Steel ¾ Inch NPT Female Vent Port With 18-8 Stainless Steel Pipe Plug.



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Bolts: Oval Neck Track head per ANSI/ASME B18.10
5/8-11 UNC Rolled Thread
18-8 Type 304 Stainless Steel per ASTM A-193 Grade B8
Finish: Double Fluoropolymer coating. Bolts installable in either direction.

Nuts: Heavy Hex Nut 5/8-11 UNC Rolled Thread
Type 316 High Temp Stainless Steel per ASTM A-194 Grade 8
Finish: Double Fluoropolymer coated to prevent galling & retain torque

Washers: Heavy Duty 5/8 Inch Washer
Material 18-8 Type 304 Stainless Steel
Double Fluoropolymer coated to prevent galling & retain torque

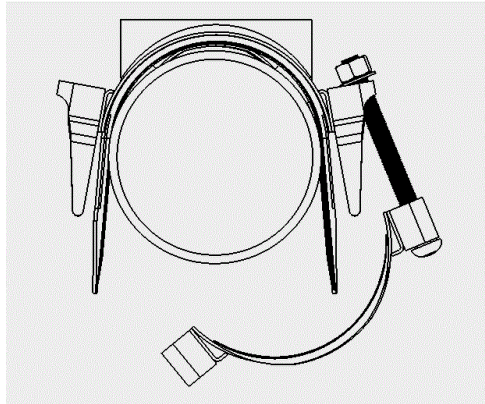
Test Port: 3/4 Inch NPT Welded 18-8 Stainless Steel Test Port with 3/4 Inch IPS Pipe Plug Installed

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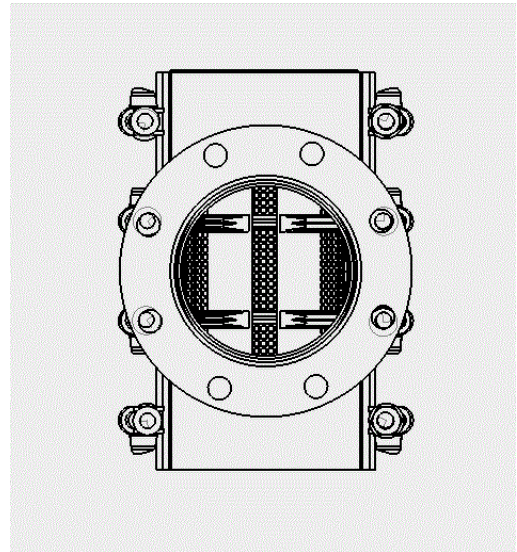


Triple Tap® Extended Range Stainless Steel Tapping Sleeve Specifications

Features:



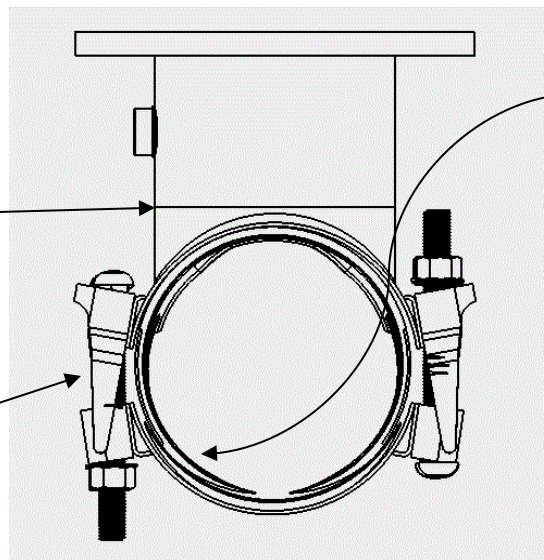
Hinge geometry provides extra opening/spreading range



Opposing seal beads in upper and lower gaskets provide secure sealing against full break pipe. Shell, Aperture Seal and Seal Bead Geometry are Patent Pending.

Butt Weld 100 %
Penetration for
Fatigue Resistance

Note: Fasteners may be installed in either direction.



Specially contoured seal beads and molded aperture seal provide for extended range capabilities. Patent applied for.

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