

## JCM 452 All Stainless Steel Tapping Sleeve with Outlet Seal Gasket

### Heavy all stainless tapping sleeves offer extra benefits.

**All Stainless Construction** - All stainless steel construction provides extra corrosion resistance. The stainless steel flange, outlet and body join as one unit of similar metals to assure the highest structural strength and long term corrosion resistance.

**Heavy Duty Design** - Heavier construction and thicker metal provide extra reinforcement of the pipe and outlet. The extra bolting power and body thickness eliminate problems inherent with light weight sleeves.

**High Pressure Capability - High Safety Factor** - The broad, heavy hydromechanical gasket provides for high working pressure applications. They are also ideal for critical problem prone taps such as pump and lift stations, large diameter mains and large outlets.

**Large Sizes** - The premier sleeve for larger sizes of ductile iron, PVC, PE and steel pipe, these sleeves are capable of working pressure of 1.5 times the valves commonly used with these types of pipe. Higher pressure sleeves are available on request.

**Stronger - Yet Lighter Than Cast Sleeves** - Reduced weight aids in installation and handling as well as reducing load on the pipe.

**Extra Wide for Support and Stability** - Extra width and heavier neck and body material provide extra reinforcement of the outlet and extra stability during the tapping process.

### JCM 452 All Stainless Steel Tapping Sleeve Material Specifications

**Body, Bolts:** Stainless Steel, 18-8 Type 304.  
Optional 316 Stainless Steel available.

**Flange:** CF8 Cast Stainless Steel - equivalent to 18-8 Type 304 Stainless Steel. ANSI 150lb. Drilling, recessed for tapping valve per MSS-SP 60.

**Branch Outlet:** Heavy Stainless Steel Pipe

**Gasket:** Compounded for use with water, salt solutions, mild acids and bases.

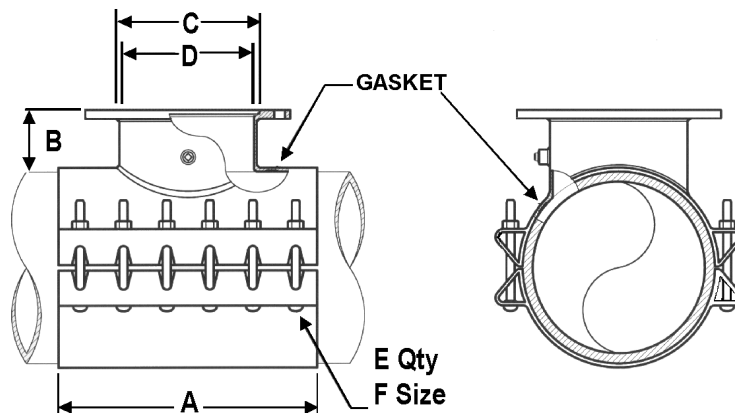


### JCM 452 TAPPING SLEEVE DIMENSIONS

Flange Size*	A	B	C	D	E	F
3	12	5	4-1/32	3-1/2	6	3/4
4	12	5	5-1/32	4-1/2	6	3/4
6	12	5	7-1/32	*6-1/2	6	3/4
8	16	5-1/8	9-1/32	8-1/8	8	3/4
10	20	5-1/2	11-1/16	10-1/4	10	3/4
12	24	5-3/4	13-1/16	12-1/4	12	3/4

For outlets 14" and larger the manufacturer of the tapping valve must be specified to assure proper alignment recess dimension.  
Size on size tapping sleeve requires 1/2" undersize cutter to assure proper cutter clearance and complete severance of the coupon.

\*On nominal pipe size 7.45 and smaller dimension D is 6-1/8".



## JCM 452 All Stainless Steel Tapping Sleeves with Outlet Seal Gasket

NOM. PIPE SIZE (IN.)	SLEEVE O.D. RANGE (IN.)	SLEEVE NUMBER X ANY OUTLET	OUTLET SIZES AVAILABLE	APPROX. WEIGHT EACH
6	6.63	452-0663	X 3	74
	6.83 - 7.16	452-0690	X 4	76
	7.05 - 7.40	452-0720	X 6	82
	7.40 - 7.73	452-0745		
8	8.63	452-0863	X 3	83
	8.98 - 9.37	452-0905	X 4	85
	9.27 - 9.69	452-0940	X 6	88
			X 8	118
10	9.83 - 10.25	*452-1000	X 3	90
	10.64 - 10.86	452-1075	X 4	92
	11.03 - 11.47	452-1110	X 6	96
	11.36 - 11.80	452-1140	X 8	125
	11.76 - 12.24	452-1200	X 10	168
12	12.62 - 12.88	452-1275	X 3	98
	13.13 - 13.60	452-1320	X 4	100
	13.60 - 14.09	452-1392	X 6	104
	14.08 - 14.56	452-1420	X 8	140
			X 10	176
14			X 12	216
	14.59 - 15.08	452-1475	X 3	113
	15.23 - 15.80	452-1530	X 4	115
	15.73 - 16.22	452-1600	X 6	116
	16.30 - 16.73	452-1650	X 8	150
16			X 10	190
			X 12	220
	16.74 - 17.26	452-1684	X 3	113
	17.33 - 17.87	452-1740	X 4	115
	17.88 - 18.43	452-1800	X 6	120
18	18.62 - 19.19	452-1875	X 8	162
			X 10	210
			X 12	230
	18.87 - 19.45	452-1920	X 3	120
	19.41 - 20.01	452-1950	X 4	122
20	20.00 - 20.60	452-2000	X 6	126
	20.29 - 20.94	452-2050	X 8	180
	20.93 - 21.57	452-2130	X 10	240
			X 12	245
	21.51 - 22.15	452-2160	X 3	131
24	22.16 - 22.81	452-2254	X 4	133
	22.78 - 23.45	452-2294	X 6	140
	23.46 - 24.16	452-2400	X 8	185
	24.15 - 24.85	452-2450	X 10	245
	24.82 - 25.52	452-2502	X 12	255
24	25.71 - 26.41	452-2580	X 3	143
	26.55 - 27.25	452-2715	X 4	143
	27.26 - 27.96	452-2746	X 6	160
	28.14 - 28.84	452-2834	X 8	215
			X 10	280
30			X 12	312
	29.78 - 30.48	452-3000	X 3	163
	30.48 - 31.18	452-3075	X 4	165
	31.52 - 32.22	452-3200	X 6	175
			X 8	226
			X 10	295
			X 12	310

\*These sizes not available with size on size outlets. JCM 452 Tapping Sleeves furnished with test plugs unless otherwise specified. For size on size outlets a 1/2" undersize shell cutter is required.

**Larger Sizes: For outlets 14" and larger,** the tapping valve to be used must be specified to assure proper alignment recess dimension.



## **JCM 452 All Stainless Steel Tapping Sleeve with Outlet Seal Gasket Typical Specifications**

### **JCM 452 All Stainless Steel Tapping Sleeve**

Tapping Sleeve shall be of the high-pressure type having a wide body, made of corrosion resistant 304 stainless steel (optional 316 stainless steel), which conforms to and reinforces the pipe. The sleeves shall have a Buna-N gasket with a hydromechanical activated lip captured in a recessed groove around the outlet, replaceable stainless steel bolts (18-8 type 304) nuts and washers. Stainless tapping sleeve shall be furnished with a 3/4" stainless steel test plug in the test outlet. Flanged outlets shall be indexed per MSS-SP60 to accept tapping valve. The 452 is fully passivated to return the stainless steel to its highest corrosion resistance. Tapping sleeve shall be ANSI/NSF Standard 61 Certified. Tapping Sleeve shall be JCM 452 or approved equal.

JCM 400 Series Tapping Sleeves are ANSI/NSF Standard 61 Certified.



## **JCM 452 All Stainless Steel Tapping Sleeve with Outlet Seal Gasket Material Specifications**

### **JCM 452 All Stainless Steel Tapping Sleeve - Material Specification**

BODY:	Stainless Steel 18-8 Type 304. Optional 316 Stainless Steel.
BOLTS:	Stainless Steel 18-8 Type 304. Optional 316 Stainless Steel.
FLANGE:	CF8 Cast Stainless Steel or equivalent 304 Stainless Steel. Flange outlets shall be indexed per MSS-SP60 to accept tapping valve. Optional 316 Stainless Steel.
GASKET:	Compounded for use with water, salt solutions, mild acids and bases.
SERVICE RATING:	4" - 12" Outlets: 175 PSI. Service rating of 250 PSI or higher available with specified flange.



## JCM 452 ALL STAINLESS STEEL TAPPING SLEEVE INSTALLATION INSTRUCTIONS

- \* Thoroughly clean pipe surface. Check the size and range of the tapping sleeve to verify correct size product.
- \* Check surface where gasket will seat to make certain pipe is free of flaws, gouges and extreme irregularities.
- \* Lubricate pipe and face of gasket with soap-water or gasket lubricating solution.  
**Do not** use grease or pipe lubricant.
- \* Position outlet half of body on pipe, making sure outlet is aligned with branch line to be connected. Never position so that rotation is required.
- \* Position back half of body and install bolts.
- \* Tighten outside bolts first, working toward the center.
- \* Tighten bolts evenly. Alternate from one side of sleeve to the other. Tighten bolts to the following torque levels:

**Pipe sizes 6" - 12" - 100 ft. lbs. of torque**

**Pipe sizes 14" & larger - 125 ft. lbs. of torque**

**NOTE:** For test and working pressure above 250 PSI bolts must be tightened to 150 - 170 ft. lbs. of torque. (Contact JCM for proper application.)

**On Thin Wall, PVC (SDR21, 26), and Flexible Pipe**

**50 - 55 ft. lbs. minimum**

**HDPE SDR11, SDR17 - 6" - 12"**

**60 ft. lbs. minimum**

**HDPE SDR11, SDR17 - 14" and Larger**

**90 ft. lbs. minimum**

- \* Check inside of sleeve neck to make certain gasket is properly seated and not protruding where tapping cutter may damage it.
- \* Install tapping valve. JCM recommends adherence to the AWWA M-44 Manual for proper valve installation, support and trenching.
- \* Test assembly seals using test plug provided on sleeve or test connection on tapping machine. Note: No more than 10% above line pressure on HDPE or maximum pipe working pressure rating. When assured that all seals are tight and test is completed, re-check bolt torques after 15 minutes and proceed with tapping operation.

**Note:** Size on size tapping cutter must not be larger than recommended by pipe manufacturer. Also, tapping operation must not force the pipe away from the gasket seal.

INT452-0598

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## RECOMMENDATIONS FOR INSTALLATION OF FITTINGS WITH STAINLESS STEEL BOLTS AND NUTS

This JCM Quality Fitting Is Equipped With 18-8 Stainless Steel Bolts And Nuts For Superior Corrosion resistance. It is the nature of stainless steel fasteners to gall and freeze if not properly handled. This undesirable characteristic is due to the inherent properties of the material.

The galling and freezing action is often triggered by the presence of metal chips, burrs and grains of sand on the threads of the bolts and nuts.

Extra care has been taken by JCM prior to assembly and packing of this fitting to assure a trouble-free installation.

1. The nuts and bolts are made from material of different hardness so that they have different strengths.
2. The nuts are coated with a special (antiseize) coating.
3. Each nut is assembled by hand to be sure that it went on the bolt freely.
4. The bolts and nuts are handled carefully to avoid damage to the threads.
5. The bolts and nuts are made to exacting specifications to assure that the correct material is used and that the thread form is correct.

However, it must be pointed out that during field installation, the threads **MUST BE KEPT CLEAN AND FREE FROM NICKS.**

When a mild steel or bronze bolt is used, the low ultimate strength of the material allows the nut to tear itself free.

Not so with 18-8 Stainless Steel. The ultimate strength of the material is so great, that it increases rapidly with cold work. However, once foreign matter such as a grain of sand wedges the threads, or the thread form is altered by over-torquing, the nuts cannot be removed.

The specially coated nuts supplied by JCM help to eliminate the galling caused by overtightening, but **the bolts must be kept clean and not pitched or thrown into the tool bucket during installation. Should additional lubrication be required, a Molybdenum-Base lubricant is recommended.**

**NOTE:** Installation of this fitting with a pneumatic wrench may cause seizure of the nut. **A JCM 901 Master Wrench or Deep Socket and Ratchet is recommended.**