

## JCM 432 All Stainless Steel Tapping Sleeve

## JCM 462 Stainless Steel Tapping Sleeve with Carbon Steel Flange

**EXTRA BOLTING POWER...**The true tapping sleeve design of this sleeve incorporates replaceable, self-aligning bolts, which facilitate conversion of high bolt torques to high gasket pressure, can be torqued to 150 ft. lbs. This increases gasket sealing pressure and pressure holding capability.

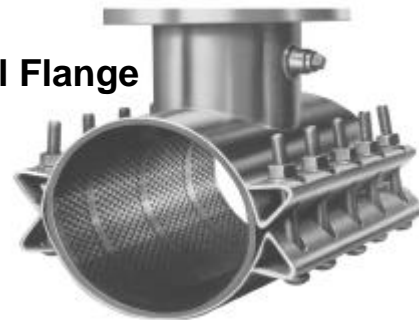
**FULL CIRCUMFERENTIAL SEAL...**The extra bolting power assures the gasket will seal the full circumference of the pipe. This provides insurance against beam breaks in size on size taps. Molded in recessed bridge plate assures even gasket pressure throughout the range of the sleeve.

**STRONGER YET LIGHTER THAN CAST SLEEVES...**Extra strength eliminates possible cracking of the sleeve or flange. Reduced weight speeds installation and reduces the load placed 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 432** - All stainless construction provides extra corrosion resistance. The stainless steel flange, outlet and body join as one unit of similar metals for highest structural strength and corrosion resistance.

**JCM 462** - Stainless steel body/neck construction joins with a strong, economical carbon steel flange. Coated steel flange is to AWWA C207, Class D standard with recess for tapping alignment.



Patent #4,708,373

### JCM 432 and 462 Material Specifications:

**Body:** Stainless Steel, 18-8 Type 304

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

**462 Flange:** AWWA C207 Class D, ANSI 150lb. Drilling, recessed for tapping valve MSS-SP60.

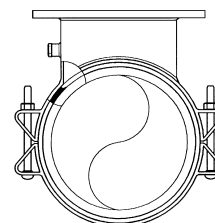
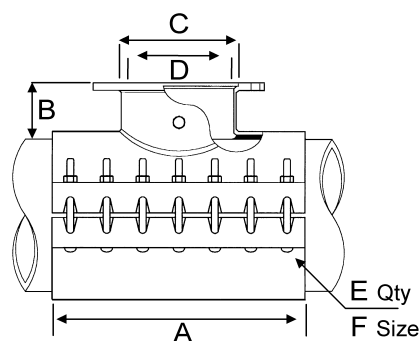
**Bolts:** Stainless Steel, Type 304

**Branch Outlet:** Heavy Stainless Steel Pipe

**Gasket:** Full circumferential gasket compounded for use water, salt solutions, mild acids, bases and sewage.

JCM 432 & 462 STAINLESS STEEL TAPPING SLEEVE DIMENSIONS

FLANGE SIZE	A	B	C	D	E	F
4	15	5	5-1/32	4.26	10	5/8
6	15	5	7-1/32	6.35	10	5/8
8	21	5-1/8	9-1/32	8.32	14	5/8
10	27	5-1/2	11-1/16	10.42	18	5/8
12	30	5-3/4	13-1/16	12.39	20	5/8



## JCM 432 All Stainless Steel Tapping Sleeve

### JCM 462 Stainless Steel Tapping Sleeve with Carbon Steel Flange

NOM. PIPE SIZE (IN.)	SLEEVE O.D. RANGE (IN.)	Model 432 Stainless Steel Flange	Model 462 Carbon Steel Flange	OUTLET SIZES AVAILABLE	WIDTH OF SLEEVE	NUMBER OF BOLTS	APPR. WT. EACH (LBS.)
4	4.40 - 4.60	432-0450	462-0450	X 4	15	10	40
	4.74 - 5.00	432-0480	462-0480				
	5.10 - 5.30	432-0520	462-0520				
6	6.56 - 6.90	432-0663	462-0663	X 2	12	8	42
	6.83 - 7.16	432-0690	462-0690	X 4	15	10	47
	7.05 - 7.40	432-0720	462-0720	X 6	15	10	49
	7.40 - 7.73	432-0745	462-0745	X 6	15	10	49
8	8.54 - 8.74	432-0863	462-0863	X 2	12	8	45
	8.98 - 9.37	432-0905	462-0905	X 4	15	10	51
	9.27 - 9.69	432-0940	462-0940	X 6	15	10	54
				X 8	21	14	78
10	9.83 - 10.25	432-1000+	462-1000+	X 2	12	8	46
	10.64 - 10.86	432-1075	462-1075	X 4	15	10	55
	11.00 - 11.40	432-1110	462-1110	X 6	15	10	60
	11.36 - 11.80	432-1140	462-1140	X 8	21	14	82
	11.76 - 12.24	432-1200	462-1200	X 10**	27	18	125
				X 10**	27	18	125
12	12.62 - 12.88	432-1275	462-1275	X 2	12	8	47
	13.10 - 13.50	432-1320	462-1320	X 4	15	10	60
				X 6	15	10	64
	13.70 - 14.09	432-1392	462-1392	X 8	21	14	90
	14.08 - 14.40	432-1420	462-1420	X 10**	27	18	138
				X 12**	30	20	161
14	15.20 - 15.60 15.80 - 16.20 16.38 - 16.78	432-1530 432-1600 432-1650	462-1530 462-1600 462-1650	X 2	12	8	74
				X 4	15	10	80
				X 6	15	10	85
				X 8	21	14	114
				X 10**	27	18	150
				X 12**	30	20	171
16	17.40 - 17.80 17.75 - 18.15 18.58 - 18.98	432-1740 432-1800 432-1875	462-1740 462-1800 462-1875	X 2	12	8	84
				X 4	15	10	90
				X 6	15	10	94
				X 8	21	14	126
				X 10**	27	18	163
				X 12**	30	20	182
18	19.30 - 19.70	432-1950	462-1950	X 4	15	10	128
	19.80 - 20.20	432-1990	462-1990	X 6	15	10	132
	21.20 - 21.40	432-2130	462-2130	X 8	21	14	162
20	21.40 - 21.80	432-2160	462-2160	X 4	15	10	146
	21.90 - 22.30	432-2206	462-2206	X 6	15	10	150
	22.30 - 22.70	432-2250	462-2250	X 8	21	14	182
24	23.45 - 23.85	432-2360	462-2360	X 4	15	10	175
	25.60 - 26.00	432-2580	462-2580	X 6	15	10	180
	26.20 - 26.60	432-2632	462-2632	X 8	21	14	212

+NOTE: THIS SIZE NOT AVAILABLE WITH A SIZE ON SIZE OUTLET.

\*\*NOTE: MAXIMUM WORKING PRESSURE 150 PSI, MAXIMUM TEST PRESSURE 200 PSI.

For larger sizes and outlets, see JCM 412 Tapping Sleeve or JCM 452 All Stainless Steel Tapping Sleeve.

### How To Order - JCM 432 & 462 Stainless Steel Tapping Sleeves

1. Determine O.D. of Pipe.	3. Specify sleeve number and outlet size.	EXAMPLE For A/C pipe with 14.20 O.D. with 6" outlet For stainless steel flange order: 432-1420 x 6 For carbon steel flange order: 462-1420 X 6
2. Select proper Sleeve O.D. range.		



## JCM 432 All Stainless Steel Tapping Sleeve Typical Specifications

Tapping sleeve shall be fabricated from 304 Stainless Steel or its equivalent, CF8 Cast Stainless Steel. They shall have a pass through bolt design and provide 360° seal around the pipe. The 432 is fully passivated to return the stainless steel to its highest corrosion resistance. Sleeves shall be manufactured to meet the following minimum specifications.

**Body Construction:** To provide the proper strength, support and safety factor for the valve, drilling machine operation and load forces, the body construction shall be a minimum of:

**Outlet Half (load bearing half):**

Sleeve Sizes 0450 through 1392, Outlet sizes 2" - 8"	12 gauge Stainless Steel
Sleeve Sizes 1075 through 1392, Outlet sizes 10" and 12"	10 gauge Stainless Steel
Sleeve Sizes 1420 and larger, all outlets	10 gauge Stainless Steel

**Back Half (conforming half):**

14 gauge Stainless Steel

Length:	Outlet Size	Length
	2" - 6"	15"
	8"	21"
	10"	27"
	12"	30"

**Outlet Construction:** For proper strength, support and rigidity for the valve, drilling machine operation and load forces, the outlet construction shall be minimum of:

**Outlet:** Schedule 10 Stainless Steel pipe sized to accept full size cutter.

**Flange:** CF8 Cast Stainless Steel or equivalent 304 Stainless Steel. Flange outlets shall be indexed per MSS-SP60 to accept tapping valve.

**Bolting System:** The lugs shall have a pass-through bolt design, to avoid alignment problems and allow tightening from either side of the pipe. Bolts shall not be integrally welded to the sleeve.

**Lug:** Of triangular design with a maximum of 3" bolt center spacing.

**Bolts, Nuts & Washers:**

304 Stainless Steel, the bolts shall be track head type and furnished with permanently lubricated heavy-hex nuts and stainless washers.

**Gasket:** The full circumferential gasket shall be molded of synthetic rubber compounded for use with water salt solutions, mild acids, bases and sewage. The gasket shall have a gridded surface, be a full 1/4" thick with 304 stainless steel bridge plates molded flush into the gasket and have a raised hydromechanical outlet seal to seal against line surges and water hammer.

**Pressure Rating:** The sleeves shall be rated at 150 PSI hydrostatic with a test pressure of 200 PSI on pipe with a full circumferential break.

Tapping Sleeves shall be JCM 432 or approved equal. JCM 400 Series Tapping Sleeves are ANSI/NSF Standard 61 Certified.



## JCM 432 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 of pipe where tapping sleeve will be installed to make certain pipe is free of flaws, gouges and extreme irregularities.
- \* Lubricate pipe and face of gaskets with water or soap-water. **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.
- \* Make certain the tapered edges of the gaskets are smooth.
- \* Position back half of body over tapered gasket edges extending from outlet half of body and install bolts.
- \* Tighten outside bolts first, working toward the center.
- \* Tighten both top and bottom bolts evenly. Alternate from one side of sleeve to the other. Tighten to the following torque levels:

**Rigid pipe (DI, CI, A/C, Steel), C-900/905 PVC, HDPE SDR11 - SDR17**

**4" - 8" Nominal Pipe Sizes, 10" Size 4" - 8" outlets 85 ft. lbs. minimum - 125 ft. lbs. maximum**

**10 x 10 Sizes and Larger Nominal Pipe Sizes 100 ft. lbs. minimum - 125 ft. lbs. maximum**

**Thin wall, flexible, class PVC (SDR 21, 26) pipe 50 ft. lbs. minimum - 55 ft. lbs. maximum**

- \* 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.**

**Note: For care of stainless steel bolts and nuts, see reverse side.**

**INT432-0499**

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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.**

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