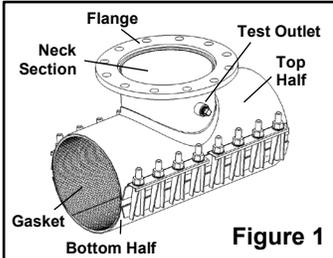
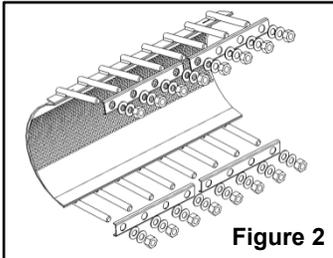


# Installation Instructions

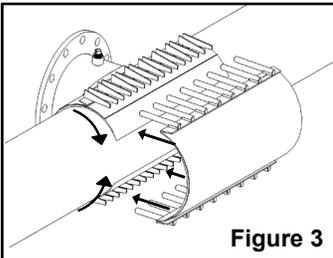
## 662, 663, & 663WR Tapping Sleeve



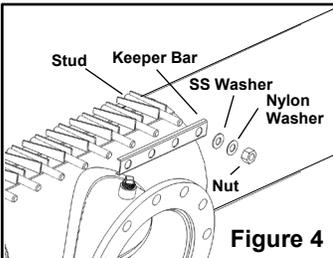
**Figure 1**



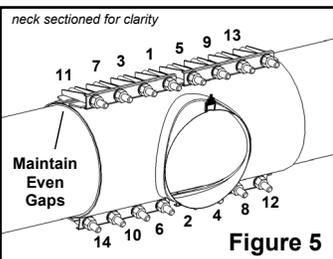
**Figure 2**



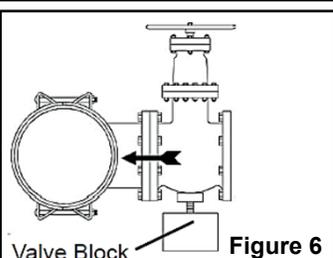
**Figure 3**



**Figure 4**



**Figure 5**



**Figure 6**

**STEP 1**

Inspect the shipment to ensure no damage has occurred during transit or storage and no hardware is missing. Ensure the tapping sleeve is the proper type, tap size, and correct pipe size range for the installation prior to beginning.

**STEP 2**

Clean the pipe surface thoroughly, particularly in the area where the gasket will seat. Remove any scale, dirt, or debris that could affect the gasket seal.

**STEP 3**

Check the pipe outside diameter where the tapping sleeve will be installed to ensure that the appropriate tapping sleeve is being used.

**NOTE: Pipe must be round in the area where the tapping sleeve will be installed (See Roundness Table).**

ROUNDNESS	
Pipe Size	Tolerance
4" thru 24"	± .06"
30" thru 48"	± .12"
above 48"	± .19"

**STEP 4**

Remove the nuts, washers, and keeper bars, then the bottom half of the tapping sleeve (See Figure 2).

**STEP 5**

Lubricate the pipe surface and gasket(s) using a soap and water solution (anti-freeze may be required). All lubricant solutions should meet the requirements of the water and pipe supplier.

**STEP 6**

Mount the sleeve halves on the pipe with the test outlet accessible and the flanged portion of the sleeve facing the connecting pipe. Do not slide or rotate the tapping sleeve. Ensure the gasket flaps are tucked in, to form a uniform gasket profile around the pipe (See Figure 3). For three-piece tapping sleeves, assemble the two bottom segments with a 1½" gap between the lug bars. Treat the bottom assembly as one piece, and install similar to the two-piece design.

**STEP 7**

Install the keeper bars, stainless steel washers, and nylon washers, then hand tighten the nuts while maintaining equal gaps between the sleeve halves (See Figure 4).

**STEP 8**

Tighten the nuts starting from the center outward, alternating from side to side, to create uniform spacing between the sleeve halves (See Figure 5). Continue to tighten the nuts until the sleeve halves form to the contour of the pipe, and all nuts are tightened to the required torque of **90 ft-lb**. For three-piece tapping sleeves, alternate between all three sets of nuts equally. Use of a calibrated torque wrench is recommended.

**STEP 9**

Proper blocking of the valve and/or tapping equipment is required. Improper blocking will cause the sleeve to pull away from the pipe, and proper torque will not be achieved (See Figure 6). On some installations, the valve and/or tapping machine may be installed on the sleeve prior to hoisting into the trench.

**STEP 10**

Following the manufacturer's instructions, install the tapping valve while providing thrust blocking and a permanent support beneath the valve.

**NOTE: Smith-Blair recommends using 1/8" thick, ring style elastomeric valve flange gaskets. For mechanical joint (M.J) outlets use only gaskets, hardware, and installation procedures per AWWA C111.**

**STEP 11**

Hydrostatic pressure test the tapping sleeve, flange gasket, and tapping valve to ensure all joints are tight and that gaskets are properly seated.

**Do Not Air Test! Use Hydrostatic Test Only! Pressure test should not exceed 1.5 times actual line pressure.**

For pipe diameters larger than 36": pressure test to 50 - 75 psi; release pressure; re-torque all nuts; pressure test to full pressure.

**STEP 12**

Using the tapping machine's manufacturer instructions, install the tapping machine to the valve and perform the tap.

**NOTE: For size-on-size applications on I.P.S. size pipe, Smith-Blair recommends a minimum of 1/2" smaller cutter. Example, for a 12" outlet on 12.75" pipe use an 11.5" cutter. Also, do not exceed the maximum cutter size your pipe manufacturer recommends for any given pipe diameter and SDR.**

**STEP 13**

Re-torque all nuts to **90 ft-lb**. If possible, nuts should be checked 12-24 hours after installation.

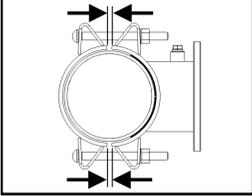


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# Installation Instructions

## 662, 663, & 663WR Tapping Sleeve

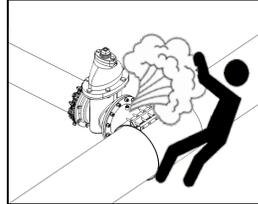
### NOTICE



#### THIS PRODUCT REQUIRES UNIFORM TORQUE TO PROVIDE AN EFFECTIVE SEAL AGAINST THE PIPE SURFACE.

Gap distances between product halves must remain equal while product is installed. The product must be evenly tightened across the sleeve to the required torque. The product will not function properly if the nuts on only the top or bottom side of the tapping sleeve are tightened. Failure to uniformly torque the product may cause damage to the pipe and/or sleeve resulting in product failure.

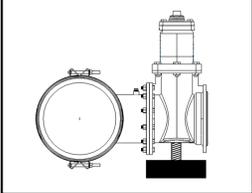
### WARNING



#### DO NOT USE COMPRESSED AIR OR GAS TO PRESSURE TEST THIS PRODUCT.

Testing with compressed air or gas can result in violent pipe content escape resulting in property damage, serious injury, and/or death. Only a hydrostatic (water) pressure test should be used to test the integrity of the product(s) seal(s). Read the product installation instructions prior to installing this product.

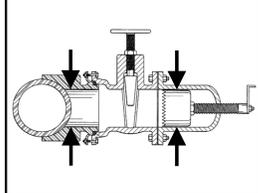
### NOTICE



#### THIS PRODUCT IS NOT DESIGNED TO PROVIDE STRUCTURAL RIGIDITY FOR CONNECTIONS, EQUIPMENT, OR ANY ALTERNATE USE OF THE PRODUCT.

Permanent blocking and/or support for connections, equipment, or any alternate use of the product must be provided. Failure to do so may cause damage to the pipe and/or sleeve resulting in product failure.

### NOTICE



#### SLEEVE NECK/OUTLET INNER DIAMETER AND TAPPING MACHINE'S CUTTING DIAMETER MAY DIFFER.

Ensure proper clearance between cutter outside diameter and neck/outlet inside diameter by measuring. For size-on-size applications on LP S size pipe, Smith-Blair recommends a minimum of 1/2" smaller cutter. Also, do not exceed the maximum cutter size your pipe manufacturer recommends for any given pipe diameter and SDR. Failure to do so may cause damage to the pipe, sleeve, and/or tapping machine resulting in product failure.

### WARRANTY

Smith-Blair, Inc. warrants its products to be free of defects in materials and workmanship for a period of one (1) year from the date of shipment by Smith-Blair, Inc. (the "Warranty Period"). Dated proof of purchase, such as a bill of sale, is required to establish warranty eligibility. If a product fails to perform due to a defect in materials or workmanship during the Warranty Period, Smith-Blair, Inc. will repair or, at Smith Blair, Inc.'s option, replace the product with the same or comparable item. In the event that the product cannot be repaired and a suitable replacement item is not available, Smith-Blair, Inc. will refund the original purchase price shown on the proof of purchase. In all cases, the customer is responsible for returning the allegedly defective product to the factory or warehouse designated by Smith-Blair, Inc.

THIS LIMITED WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ANY EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHER WARRANTY OF QUALITY, OR THOSE ARISING FROM A COURSE OF DEALING, CUSTOM, OR USAGE OF TRADE. THE REMEDIES PROVIDED IN THIS LIMITED WARRANTY STATEMENT ARE THE CUSTOMER'S SOLE AND EXCLUSIVE REMEDIES. IN NO EVENT SHALL SMITH-BLAIR, INC. BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, WHETHER BASED ON CONTRACT, TORT, OR ANY OTHER LEGAL THEORY, AND WHETHER ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

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### CORROSION & PRODUCT SELECTION NOTICE

Metal products are subject to corrosion, particularly when used outdoors and/or underground. A large number of factors and local conditions affect the rate of corrosion. Consult a local corrosion expert to determine the life expectancy of this product when used with your pipeline content, soil, and environment. Also, consult your system designer to determine the suitability of this product in your piping system. Failure to determine the suitability of this product in your application, soil, and/or environment can result in premature product failure. Smith-Blair will provide additional information about this product's material specifications at your request. You may also obtain product information at [www.smith-blair.com](http://www.smith-blair.com).

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