Installation, Maintenance, and Repair Manual

Series TR/TR2 SS Risers

In-Building Riser

2" – 12"

⚠ WARNING

Read this Manual BEFORE using this equipment.

Failure to read and follow all safety and use information can result in death, serious personal injury, property damage, or damage to the equipment.

Keep this Manual for future reference.

⚠ WARNING

You are required to consult the local building and plumbing codes prior to installation. If the information in this manual is not consistent with local building or plumbing codes, the local codes should be followed. Inquire with governing authorities for additional local requirements.

Watts In-Building Risers are designed for easy installation in standard configurations as outlined using standard construction method.

The floor penetration detail of the In-Building Riser shall be restrained per direction outlined by site plans. Consult Uni-Bell handbook of PVC pipe if instructions are not provided.

SS Riser

WATTS®

Basic Installation Instructions

Instructions for standard AWWA C900 gasket coupler (either ductile iron or PVC), available in sizes 4" to 12". Installation in accordance with the following information (from Uni-Bell handbook).

1. Clean out inside of coupler making certain the beveled spigot end and the gasket groove are free of dirt.
2. Apply lubricant to beveled spigot (male).
3. Insert gasket into coupling groove and seat firmly.
4. Push lubricated end past gasket into the bell housing. (Ames in-building risers are equipped with the lugs placed 180° apart on either side of the unit which can be used to "pull" the pipe into the bell using a come-along tool. Also, the "bar and block" method described in the Uni-Bell handbook can also be used for installation.)
5. The maximum allowable pipe deflection angle between the TR and underground pipe is as follows:

TR Size	Maximum Deflection
4"	1°
6"	1°
8"	1°
10"	1°
12"	1°

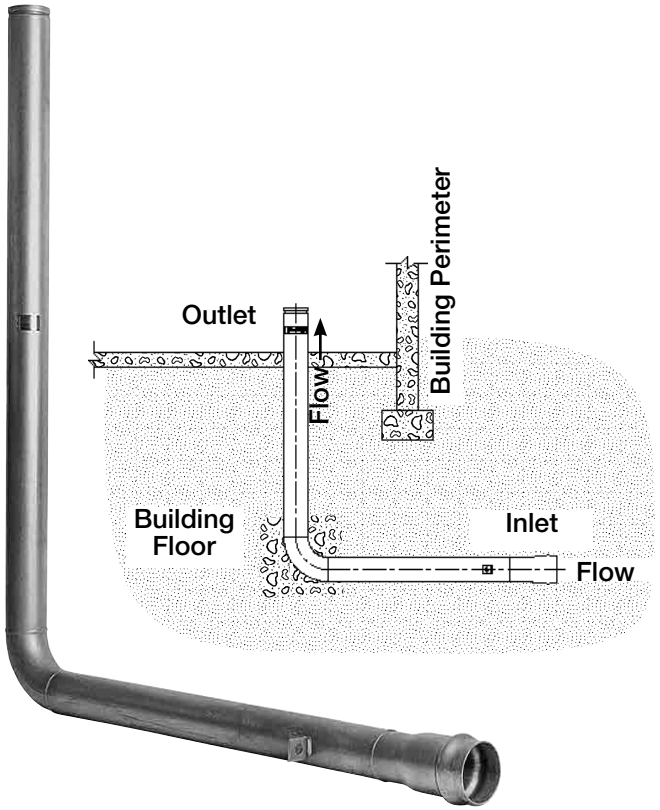
Instructions for the AWWA specification C606 grooved connections. All underwriters Laboratory approved groove couplers made to fit the AWWA C606 grooves can be used to join the connection to the in-building supply line.

1. Check gasket and lubricate it using groove coupler manufacturer's recommended lubricant or approved equal.
2. Install gasket. Place gasket over pipe end being sure gasket lip does not overhang pipe end.
3. Align and bring two pipe ends together and slide gasket into position centered between grooves or each pipe. (No portion of the gasket should extend into the groove of either pipe.)
4. Apply housings. Place housings over gasket, being sure the housing keys engage into the grooves of the pipe. (No portion of the gasket should extend into the groove of either pipe.)
5. If restraint fitting is being used, tighten nuts. Tighten nuts alternately and equally until housing bolt pads are firmly together metal to metal. Uneven tightening will cause gasket to pinch.

Note: 12" Risers are not 3rd Party Approved. Contact your local municipality for State Code and Installation requirements.

⚠ CAUTION

Do not reuse old gaskets.



Instructions for NPT connections, either to connect to the underground supply or the in-building supply line. Also used to install the FNPTxFNPT or FNPTxFlange adapter.

1. Inspect all threads for damage/burrs. Any damaged sealing surfaces may result in a difficult or failed installation.
2. Apply NSF 61 Certified thread sealant paste or tape to male fitting according to the sealant manufacturer's directions. Ensure that the thread sealant is compatible with all materials it may come in contact with.
3. Tighten fittings by hand tightening as far as possible. Then, using a wrench or other appropriate tool that will not damage the fittings or pipe, tighten an additional 1.5-2.5 turns until snug. DO NOT OVERTIGHTEN. Overtightening may result in damage to the female connector and possible failure of the joint.

Instructions for installation using the FNPTxFlange adapter.

1. Install the FNPTxFlange adapter to the appropriate MNPT end of the riser using preceding instructions for NPT connections.
2. Inspect all components to make sure they are free of debris, damage, or defects. This includes flange faces, bolts, nuts, washers, and gasket.
3. Lubricate bolt threads, nut threads, and washer surfaces where they will contact the bolt head or nut.
4. Ensure that both flanges are aligned, install gasket, bolts and washers. Hand tighten nuts.
5. Using an appropriate cross-pattern tightening procedure, tighten bolts.
6. Inspect joint, making sure that the gap between flange faces is even around their circumference.

Installation

Materials

Because the In-Building Riser is buried, the material of construction has been chosen as Type 304L Stainless Steel. This material is generally recognized as a corrosion resistant material which is superior to Cast, Ductile Iron, or Coated Steel pipe for corrosion resistance, and which is superior to engineered plastics for strength and longevity. In general, the stainless steel is the cathode in joints of dissimilar metal, so that any corrosion which may occur will not affect the stainless steel. In addition, an extra protection is provided in that there is no actual metal to metal contact at either joint when using the CIPS bell connection or groove coupler designs.

Installation Practices

Good installation practice for all types of buried pipe often calls for wrapping of the pipe to decrease corrosion due to soil conductivity. Although stainless steel is less susceptible to corrosion. Inquire with local governing authorities for local installation requirements.

Field Test Procedures

Normal field test procedures call for a hydrostatic pressure test of the system before final acceptance. Often, segments of the system will be tested individually prior to the complete system test. Two methods are recommended to hydrostatically test the In-Building Riser based upon the following conditions.

1. Constrained Piping

If the piping installation is essentially complete, the piping restraints may adequately take the thrust loads generated by having a blind end on the pipe system. In these cases, no special actions to restrain thrust or side loads are required, and the fitting installed in the system may be adequate for hydrostatic testing.

2. Free Piping

If just the riser or riser/main connection is to be tested, then the thrust loads from the blind end cap on the riser may need to be restrained. The riser design has been tested in the unrestrained state using a rigid coupler and end cap grooved fitting. Flange adapters, expansion fittings, or other styles of end connectors may result in excessive end thrust which may cause a leak or fitting malfunction. In addition, couplings which are adequately rated for high pressure testing should be used if thrust restraints are not feasible.

NOTICE

All air must be bled from the system before any component is pressurized.

End Connections

Bell End: Mates with Ductile Iron Pipe and AWWA C900 Pipe (PVC Pipe with Cast Iron Pipe Equivalent OD's). Available in sizes 4" to 10".

SIZE	MATING PIPE OD	SEALING GASKET (CIPS – C900)
in.	*in.*	*Spare Part Ordering code*
4	4.80	7014421
6	6.90	7014422
8	9.05	7014423
10	11.10	7014424

MNPT End: Optional adapters to convert the MNPT end(s) of a riser to FNPT or a flanged connection. Available in sizes 2" to 3".

SIZE	ADAPTER	
in.	*Type*	*Spare Part Ordering code*
2	Flange	88008700
2	FNPT	88008703
2½	Flange	88008701
2½	FNPT	88008704
3	Flange	88008702
3	FNPT	88008418

Cathodic Protection

To protect Watts stainless steel Transition Risers from the threat of corrosion, we recommend the following steps.

1. Protect the exterior surface.

a. Check local codes regarding the use and installation of underground piping.

b. If permitted, use an approved polyethylene encasement per AWWA/ANSI standard C-105/A21.5.99.

2. Protect the interior surface.

a. Test source water supply for any potential aggressive substance and mitigate as need per national/local codes or standards.

b. **Comply per NFPA 13, section 24.1.5.1,** 'Water Supplies and environmental conditions shall be evaluated for the existence of microbes and conditions that contribute to microbiologically influenced corrosion (MIC). Where MIC condition are determined, MIC mitigation shall be conducted prior to system operation.'

3. Check if Cathodic Protection is needed or required. Cadwelding on the OD surface is not recommended due to the potential of damaging the pipe from the excessive heat created during the process. The excessive heat generation may also compromise the corrosion resistance of the stainless steel material. We therefore recommend the following as alternative methods.

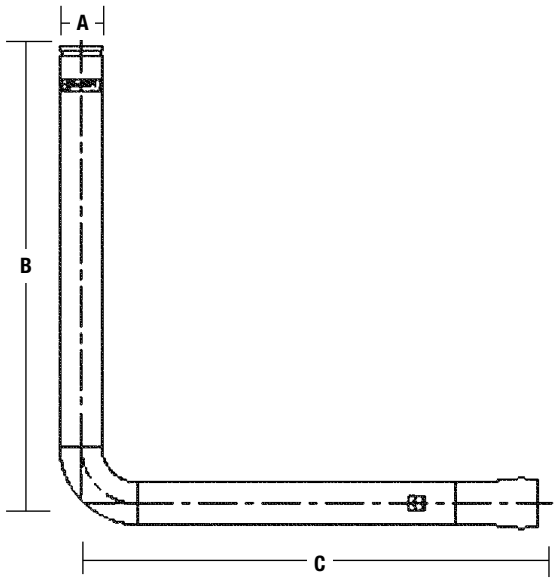
a. Welding a grounding bolt to an accessible location on the Riser, for example on the Bell End [CIPS] or Retaining Angle bracket/s (if installed).

b. Anchoring a grounding strap to the Bell End [CIPS] or Retaining Angle bracket/s (if installed).

c. Using a commercially available ground clamp.

Dimensions/Weights

SIZE	CONNECTIONS		ORDERING CODE	A	B	C	WEIGHT
in.	*inlet*	*outlet*		*in.*	*ft*	*ft*	*lb*
2	MNPT	MNPT	88006375	2⅜	4	4	29
2	Groove	MNPT	88006376	2⅜	4	6	37
2	Groove	Groove	88006377	2⅜	6	6	44
2	MNPT	MNPT	88006378	2⅜	4	4	29
2	Groove	MNPT	88006379	2⅜	4	6	37
2	Groove	Groove	88006380	2⅜	6	6	44
2	MNPT	MNPT	88006381	2⅜	4	4	29
2	Groove	MNPT	88006382	2⅜	4	6	37
2	Groove	Groove	88006383	2⅜	6	6	44
2½	MNPT	MNPT	88006680	2⅞	4	4	46
2½	Groove	MNPT	88006681	2⅞	4	6	58
2½	Groove	Groove	88006682	2⅞	6	6	70
2½	MNPT	MNPT	88006683	2⅞	4	4	46
2½	Groove	MNPT	88006684	2⅞	4	6	58
2½	Groove	Groove	88006685	2⅞	6	6	70
2½	MNPT	MNPT	88006686	2⅞	4	4	46
2½	Groove	MNPT	88006687	2⅞	4	6	58
2½	Groove	Groove	88006688	2⅞	6	6	70
3	MNPT	MNPT	88006698	3½	4	4	61
3	Groove	MNPT	88006699	3½	4	6	76
3	Groove	Groove	88006700	3½	6	6	91
3	MNPT	MNPT	88006701	3½	4	4	61
3	Groove	MNPT	88006702	3½	4	6	76
3	Groove	Groove	88006703	3½	6	6	91
3	MNPT	MNPT	88006704	3½	4	4	61
3	Groove	MNPT	88006705	3½	4	6	76
3	Groove	Groove	88006706	3½	6	6	91
4	CIPS	Groove	0777500	4½	6	6	71
4	CIPS	Flange	0777504	4½	6	6	71
6	CIPS	Groove	0777501	6⅝	6	6	98
6	CIPS	Flange	0777505	6⅝	6	6	98
8	CIPS	Groove	0777502	8⅝	6	6	129
8	CIPS	Flange	0777506	8⅝	6	6	129
10	CIPS	Groove	0777503	10¾	6	6	202
10	CIPS	Flange	0777507	10¾	6	6	202
12	Flange	Flange	0777508	12¾	6	6	329



Limited Warranty: Watts (the "Company") warrants each product to be free from defects in material and workmanship under normal usage for a period of one year from the date of original shipment. In the event of such defects within the warranty period, the Company will, at its option, replace or recondition the product without charge.
THE WARRANTY SET FORTH HEREIN IS GIVEN EXPRESSLY AND IS THE ONLY WARRANTY GIVEN BY THE COMPANY WITH RESPECT TO THE PRODUCT. THE COMPANY MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED. THE COMPANY HEREBY SPECIFICALLY DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.
The remedy described in the first paragraph of this warranty shall constitute the sole and exclusive remedy for breach of warranty, and the Company shall not be responsible for any incidental, special or consequential damages, including without limitation, lost profits or the cost of repairing or replacing other property which is damaged if this product does not work properly, other costs resulting from labor charges, delays, vandalism, negligence, fouling caused by foreign material, damage from adverse water conditions, chemical, or any other circumstances over which the Company has no control. This warranty shall be invalidated by any abuse, misuse, misapplication, improper installation or improper maintenance or alteration of the product.
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USA: T: (978) 689-6066 • Watts.com
Canada: T: (888) 208-8927 • Watts.ca
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