



1. Dimension B is unthreaded shank.
2. Dimension D is measured to face of nut run up finger-tight

*Indicates most common sizes stocked in T304 stainless steel.

Nominal Size	A ± 0.05	B + 0.036 - 0.074	C + 0.25 - 0.06	D	F	H	J + 0.15 - 0.03	R Max.
5/8 - 11 x 3	1.50	0.625	3.0	1.50	0.625 + 0.04	1.062 + 0.00	0.625 - 0.04	0.312
*3/4-10 x 3-1/2	1.75	0.750	3.5	1.50	0.750 + 0.06	1.250 + 0.00	0.750 - 0.06	0.375
* 3/4-10 x 4	1.75	0.750	4.0	2.25	0.750 ± 0.06	1.250 + 0.00	0.750 - 0.06	0.375
* 3/4-10 x 4-1/2	1.75	0.750	4.5	2.50	0.750 ± 0.06	1.250 + 0.00	0.750 - 0.06	0.375
3/4-10 x 5	1.75	0.750	5.0	3.00	0.750 ± 0.06	1.250 + 0.00	0.750 - 0.06	0.375
1-8 x 6	2.25	1.000	6.0	3.75	1.000 ± 0.08	1.625 + 0.00	1.000 - 0.08	0.500
1-1/4-7 x 6	2.50	1.250	6.0	3.75	1.000 ± 0.08	1.625 + 0.00	1.000 - 0.08	0.500

Number of threads per inch—Coarse-Thread Series (ANSI B1.1, "Unified Standard for Screw Threads") Class 2A, external fit UNCA2A and Class 2B, UNC2B (ANSI B1.2, "Standard for Gages and Gaging").

Manufactured to specifications of American Water Works Association.

*Source: American Water Works Association



INSTALLATION OF MECHANICAL JOINTS

Notes on Installation of Mechanical Joints

The successful operation of the mechanical joint specified requires that the plain end be centrally located in the bell and that adequate anchorage be provided where abrupt changes in direction and dead ends occur. The rubber gasket will seal more effectively (particularly when sealing gas) if the surfaces with which it comes in contact are cleaned thoroughly (for example, with a wire brush) just prior to assembly in order to remove all loose rust or foreign material. Lubrication and additional cleaning should be provided by brushing both the gasket and the plain end with soapy water or pipe lubricant as per Sec. 11-8.4 just prior to slipping the gasket into the plain end and assembling the joint.

For water and gas service, the normal range of bolt torques to be applied and the lengths of wrenches that should satisfactorily produce the ranges of torques are given in the following table:

Size	Bolt Size		Range of Torque		Length of Wrench*	
	in.	mm	lb•ft	N•m	in.	mm
3	5/8	15.9	45-60	61-81	8	203
4-24	3/4	19.1	75-90	102-122	10	254
30-36	1	25.4	100-120	136-163	14	356
42-48	1-1/4	31.8	120-150	163-203	16	406

*The torque loads may be applied with torque-measuring or torque-indication wrenches, which may also be used to check the application of approximate torque loads applied by a man trained to give an average pull on a definite length of regular socket wrench.

When tightening bolts, it is essential that the gland be brought up toward the pipe flange evenly, maintaining approximately the same distance between the gland and the face of the flange at all points around the socket. This may be achieved by partially tightening the bottom bolt first; then, the top bolt; next, the bolts are within the range of torques shown below. (In larger sizes [30-48 in.], as many as five repetitions may be required.) If effectively disassembled, thoroughly cleaned, and reassembled. **Overstressing of bolts to compensate for poor installation practice is to be avoided.**

NOTE:

In assembling stainless steel T-Head Bolts and Nuts, it is essential that all surfaces are kept extremely clean and that an anti-seize compound is applied to the surfaces of the threads.

ANSI/AWWA C111/A21.11-90 Mechanical Joint T-Bolt Technical Information

Nominal Pipe Size	Qty.	Size	Length	Recommended Torque
3	4	5/8	3	45-60
4	4	3/4	3-1/2	75-90
6	6	3/4	3-1/2	75-90
8	6	3/4	4	75-90
10	8	3/4	4	75-90
12	8	3/4	4	75-90
14	10	3/4	4-1/2	75-90
16	12	3/4	4-1/2	75-90
18	12	3/4	4-1/2	75-90
20	14	3/4	4-1/2	75-90
24	16	3/4	5	75-90
30	20	1	6	100-120
36	24	1	6	100-120

Size and length are in inches. Torque is in ft.-lbs. **Source:** American Water Works Association

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