THREADED AND FLANGED JOINTS

THREADED JOINTS

To obtain a watertight joint on fittings and valves with a threaded female end:

1. Wind PTFE sealing tape on the outside of the threaded male end, taking care not to obstruct the bore of the pipe, fitting or valve (Fig. 1).
2. Complete the first layer by winding the tape clockwise up to the root of the thread, keeping the tape taut throughout (Fig. 2).
3. Press on the crests of the thread so that the tape adheres fully.
4. Build up the PTFE layer by continuing to wind the taut tape clockwise until the required thickness is reached (Fig. 3).
5. Offer the sealed male end to the female end and screw the two parts together by hand.
6. Make sure the PTFE layer is not removed during screwing, as this would compromise the seal.
7. Complete the screwing over the full length of the thread with a strap wrench or similar tool.
8. Do not overtighten: this could damage the threads or stress the parts.



Fig. 1



Fig. 2



Fig. 3

Recommendations. Use only non-sintered PTFE sealing tape. Never use hemp, lint or the paints normally used to seal metal threads. Avoid threaded joints for highly critical applications such as chemically aggressive or toxic fluids; at medium or high pressures (use solvent welded, hot welded or flanged joints instead); in systems subject to mechanical and/or thermal stress such as water hammer, strong temperature variations, bends, misalignment and cross tension, which could cause the threaded joint to fail early; and where the parts to be coupled are too far apart.

THREADED AND FLANGED JOINTS

FLANGED JOINTS

1. Slide the backing ring, if any, onto the pipe before fitting the stub.
2. With a fixed flange, check that the drilling is aligned with that of the counter flange.
3. Check that the position of the counter flange allows for the face-to-face dimension of the components.
4. Insert the flat gasket between the stubs (not needed for butterfly valves), making sure the sealing faces are not too far apart, since this would compress the gasket unevenly.
5. Solvent weld or weld the fixed flanges or the stub (in the case of backing rings), following the applicable welding instructions.
6. Insert all the bolts, washers and nuts.
7. When the joint has set, tighten the bolts in a cross-wise sequence (Fig. 1).
8. Finish tightening with a torque wrench to the torque values in the table.

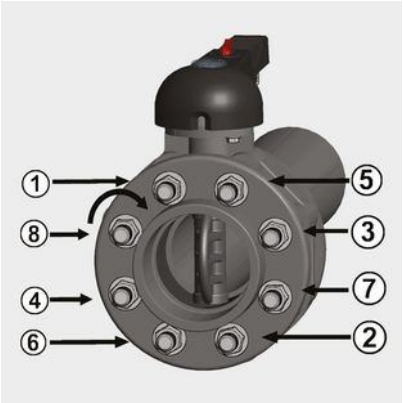


Fig. 1 – tightening sequence

Tightening torque

Tightening torques for nuts and bolts to achieve the seal with flanges in PVC-U or PVC-C with gaskets in EPDM/FKM/NBR during the pressure test (1.5 x NP and water at 20 °C).

DN	40	50	65	80	100	125	150	200	250	300	350	400
Nm	9	12	15	18	20	35	40	55	70	70	75	75

- Flanges in coated metal or fibreglass may allow higher tightening torques, provided the elastoplastic limit of the material is not exceeded.
- Elastomeric seal materials other than those listed may require slightly higher tightening torques.
- Suitably sized washers are recommended for every bolt used in the flange coupling.

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MINIMUM LENGTH OF BOLTS

Flanged butterfly valves

DN	L min
40	M 16x150
50	M 16x150
65	M 16x170
80	M 16x180
100	M 16x180
125	M 16x210
150	M 20x240
200	M 20x260
250	M 20x310
300	M 20x340
350	M 20x360
400	M 24x420

Flanged joints on pipes using backing rings

d	DN	L min
20	15	M 12x70
25	20	M 12x70
32	25	M 12x70
40	32	M 16x85
50	40	M 16x85
63	50	M 16x95
75	65	M 16x95
90	80	M 16x105
110	100	M 16x105
125	125	M 16x115
140	125	M 16x120
160	150	M 20x135
200	200	M 20x140
225	200	M 20x140
250	250	M 20x150
280	250	M 20x160
315	300	M 20x180
355	350	M 20x180
400	400	M 22x180

Specifications are subject to change without notice.