

Coupling & Adaptor Installation Torque Recommendation

For DIN 2353 12°, 30° and Universal Inverted Cone

Light Series Tube	Heavy Series Tube	Ft. Lbs.		Newton-meters	
		Min.	Max.	Min.	Max.
-6	-	7	15	10	20
-8	-	15	26	20	35
-10	-8	18	30	25	40
-12	-10	22	33	30	45
-14	-12	26	37	35	50
-15	-14	30	52	40	70
-	-16	30	52	40	70
-18	-	44	74	60	100
-22	-20	59	89	80	120
-28	-25	74	111	100	150
-	-30	74	162	150	220
-35	-	133	184	180	250
-42	-38	148	221	200	300

Maximum Recommended Torque for Dry NPTF (Tapered) Pipe Threads*		
Size	Ft.-Lbs.	Newton-Meters
2	20	25
4	25	35
6	35	45
8	45	60
12	55	75
16	65	90
20	80	110
24	95	130
32	120	160

* Notes:

1. The torque values obtained from tightening pipe threads can vary considerably depending on thread condition. Adequate sealing can occur at values much lower than the maximum values listed above. Only enough torque to achieve adequate sealing should be applied.
2. When using a male tapered pipe thread with a female straight or parallel pipe thread, maximum values are 50% of those listed in the table.
3. If thread sealant is used, maximum values shown should be decreased by 25%.

For BSP 30° Inverted Cone

Dash	Inch	Ft. Lbs.		Newton-meters	
		Min.	Max.	Min.	Max.
-2	1/8	7	9	9	12
-4	1/4	11	18	15	24
-6	3/8	19	28	26	38
-8	1/2	30	36	41	49
-10	5/8	37	44	50	60
-12	3/4	50	60	68	81
-16	1	79	95	107	129
-20	1 1/4	127	152	172	206
-24	1 1/2	167	190	226	258
-32	2	262	314	355	426

For 4-Bolt Flange Connections			
Bolt Size	Line Size	Torque Nm	Torque Lb-Ft
.31	-8	23	17
.38	-12	35	26
.44	-16	58	43
.50	-20	88	65
.63	-24	176	130
.75	-32	298	220

* Notes:

1. The 4-bolt flange seal is a face seal. The shoulder which contains the seal must fit squarely against the mating surface and be held there with even tension on all bolts.
2. Torque values apply to plated bolts and bolts with light engine oil.
3. Lubricate o-ring with a light oil (SAE 10W or 20W) before assembly.
4. Finger tighten all four bolts making sure the flange and fitting shoulder are started square.
5. Tighten all bolts evenly by partially tightening each bolt and repeating the sequence until all bolts are tightened to the specific torque in the table.

For Flat-Face "O" Ring Seal (Steel)

Dash	Inch	Ft. Lbs.		Newton-meters	
		Min.	Max.	Min.	Max.
-4	1/4	10	12	14	16
-6	3/8	18	20	24	27
-8	1/2	32	40	43	54
-10	5/8	46	56	60	75
-12	3/4	65	80	90	110
-14	7/8	65	80	90	110
-16	1	92	105	125	240
-20	1 1/4	125	140	170	190
-24	1 1/2	150	180	200	245

Maximum Recommended Torque for Dry NPTF (Tapered) Pipe Threads*

Size	Ft.-Lbs.	Newton-Meters
2	20	25
4	25	35
6	35	45
8	45	60
12	55	75
16	65	90
20	80	110
24	95	130
32	120	160

* Notes:

1. The torque values obtained from tightening pipe threads can vary considerably depending on thread condition. Adequate sealing can occur at values much lower than the maximum values listed above. Only enough torque to achieve adequate sealing should be applied.
2. When using a male tapered pipe thread with a female straight or parallel pipe thread, maximum values are 50% of those listed in the table.
3. If thread sealant is used, maximum values shown should be decreased by 25%.

For 4-Bolt Flange Connections

Bolt Size	Line Size	Torque Nm	Torque Lb-Ft
.31	-8	23	17
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.75	-32	298	220

* Notes:

1. The 4-bolt flange seal is a face seal. The shoulder which contains the seal must fit squarely against the mating surface and be held there with even tension on all bolts.
2. Torque values apply to plated bolts and bolts with light engine oil.
3. Lubricate o-ring with a light oil (SAE 10W or 20W) before assembly.
4. Finger tighten all four bolts making sure the flange and fitting shoulder are started square.
5. Tighten all bolts evenly by partially tightening each bolt and repeating the sequence until all bolts are tightened to the specific torque in the table.

Coupling & Adaptor Installation Torque Recommendation

For 37° & 45° (Machined or Flared) and MegaSeal®

Size		Steel				Brass			
Dash	Inch	Ft. Lbs.		Newton-meters		Ft. Lbs.		Newton-meters	
		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
-4	1/4	10	11	13	15	5	6	6 3/4	9
-5	5/16	13	15	18	20	7	9	10	13
-6	3/8	17	19	23	26	12	15	17	20
-8	1/2	34	38	47	52	20	24	27 2/3	33
-10	5/8	50	56	69	76	34	40	46 1/3	55
-12	3/4	70	78	96	106	53	60	72 1/3	82
-16	1	94	104	127	141	74	82	100 1/2	111
-20	1 1/4	124	138	169	188	75	83	101 1/2	113
-24	1 1/2	156	173	212	235	79	87	107	118
-32	2	219	243	296	329	158	175	214	237

For SAE O-Ring Boss (Steel) and Gates Adapterless

Size		Ft. Lbs.		Newton-meters		Ft. Lbs.		Newton-meters	
Dash	Inch	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
-3	3/16	-	-	-	-	8	10	11	13
-4	1/4	14	16	20	22	14	16	20	22
-5	5/16	-	-	-	-	18	20	24	27
-6	3/8	24	26	33	35	24	26	33	35
-8	1/2	37	44	50	60	50	60	68	78
-10	5/8	50	60	68	81	72	80	98	110
-12	3/4	75	83	101 1/2	113	125	135	170	183
-14	7/8	-	-	-	-	160	180	215	245
-16	1	111	125	150	170	200	220	270	300
-20	1 1/4	133	152	180	206	210	280	285	380
-24	1 1/2	156	184	212	250	270	360	370	490