

Metric (ISO Thread M) Port Assembly (ISO 9974-1 / DIN 3852-1)

Series	Tube O.D.	Metric Thread M Size	Assembly Torque Nm +10% -0							
			Straight Male Stud Fittings			Non-Return Valves RHV / RHZ	Banjo Fittings		Plugs VSTI-ED	Straight and Adjustable Fittings
			Form A for Sealing Washer	Form B with Cutting Face	Form E with ED-Sealing	Form E with ED-Sealing	WH / TH	SWVE	Form E with ED-Sealing	O-Ring with Retaining Ring
L	6	M 10 x 1	9	18	18	18	18	18	12	15
	8	M 12 x 1.5	20	30	25	25	45	35	25	25
	10	M 14 x 1.5	35	45	45	35	55	50	35	35
	12	M 16 x 1.5	45	65	55	50	80	60	55	40
	15	M 18 x 1.5	55	80	70	70	100	80	65	45
	18	M 22 x 1.5	65	140	125	125	140	120	90	60
	22	M 27 x 2	90	190	180	145	320	130	135	100
	28	M 33 x 2	150	340	310	210	360		225	160
S	35	M 42 x 2	240	500	450	360	540		360	210
	42	M 48 x 2	290	630	540	540	700		360	260
	6	M 12 x 1.5	20	35	35	35	45	35		35
	8	M 14 x 1.5	35	55	55	45	55	50		55
	10	M 16 x 1.5	45	70	70	55	80	60		70
	12	M 18 x 1.5	55	110	90	70	100	80		90
	14	M 20 x 1.5	55	150	125	100	125	110	80	125
	16	M 22 x 1.5	65	170	135	125	135	120		135
	20	M 27 x 2	90	270	180	135	320	135		180
	25	M 33 x 2	150	410	310	210	360			310
30	M 42 x 2	240	540	450	360	540			450	
38	M 48 x 2	290	700	540	540	700			540	

Note: Lubricate threads before assembly! Values in chart are for steel fittings in steel ports. For stainless steel fittings, please use the upper limit of torque range. For brass (and other soft metals), decrease torque value by 35%.

Table T3 – Assembly Torques for ISO 9974-1 / DIN 3852-1 Port

Metric ISO Port Assembly (ISO 6149/DIN 3852-3)

Metric Thread M Size	Assembly Torque (+10% -0) ³⁾			
	ISO 6149-2 Stud Ends (S-Series) (Seal-Lok, EO & VSTI-OR Plugs)		ISO 6149-3 Stud Ends (L-Series) (Triple-Lok, EO, Ferulok & Pipe Adapters)	
	N.m.	ft. lbs.	N.m.	ft. lbs.
M8x1	10	7.5	8	6
M10x1	20	15	15	11
M12x1.5	35	26	25	18
M14x1.5	45	33	35	26
M16x1.5	55	41	40	30
M18x1.5	70	52	45	33
M20x1.5 ⁴⁾	80	59	—	—
M22x1.5	100	74	60	44
M27x2	170	125	100	74
M30x2 ¹⁾	235	175	130	95
M33x2	310	230	160	120
M38x2 ²⁾	320	235	185	135
M42x2	330	245	210	155
M48x2	420	310	260	190
M60x2	500	370	315	230

- 1) M30X2 will be added to ISO 6149 standards at next revision.
- 2) M38X2 is not covered in ISO 6149 standards.
- 3) These torques are for steel fittings, assembled lubricated, for brass (and other soft metals), decrease torque value by 35%.
- 4) For cartridge valves only.

Table T4 – ISO 6149 / DIN 3852-3 Port Assembly Torques

Tapered Thread Ports

Tapered thread ports include NPTF, BSPT and metric taper. The tapered threads in these ports serve two functions: 1) to hold the fitting in place while under pressure and 2) to serve as the primary seal. The seal for NPTF threads is created by the metal-to-metal contact between the mating roots and crests of the male and female threads. With all other tapered threads, there is not always a contact at the roots and crests, but the spiral gap there is small enough for a sealant to fill and provide a seal.

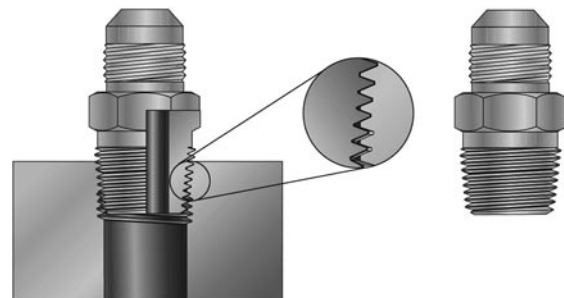


Fig. T8 – Tapered Thread Port

Dimensions and pressures for reference only, subject to change.