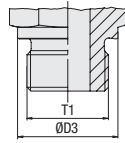
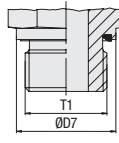


## Port Dimensions for Fittings with Male Threaded Stud



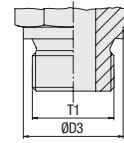
**Metallic Sealing Edge**

Metric Parallel Thread  
DIN 3852-1 (Form B) / ISO 9974-3 (Type B)  
Whitworth Parallel Pipe Thread  
DIN 3852-2 (Form B) / ISO 1179-4 (Type B)



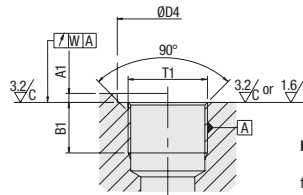
**Profile Sealing Ring**

Metric Parallel Thread  
ISO 9974-2 (Type E)  
Whitworth Parallel Pipe Thread  
ISO 1179-2 (Type E)



**Sealing Surface for Gasket (DIN 7603)**

Metric Parallel Thread  
DIN 3852-1 (Form A)  
Whitworth Parallel Pipe Thread  
DIN 3852-2 (Form A)



**Port (Parallel Thread)**

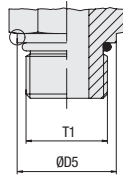
for Male Studs with Metric Parallel Thread  
DIN 3852-1 (Form X) / ISO 9974-1  
for Male Studs with Whitworth Parallel Pipe Thread  
DIN 3852-2 (Form X) / ISO 1179-1

**Dimensions**

Thread T1 <sup>1</sup>	D3	D7 <sub>-0.2</sub>	D4 small <sub>min</sub>	D4 wide <sub>min</sub>	A1 <sub>max</sub>	B1 <sub>min</sub>	W
M 8 x 1	12 .47		13 .51	17 .67	1 .04	8 .31	0,1 .0039
M 10 x 1	14 .55	13,9 .55	15 .59	20 .79	1 .04	8 .31	0,1 .0039
M 12 x 1,5	17 .67	16,9 .67	18 .71	25 .98	1,5 .06	12 .47	0,1 .0039
M 14 x 1,5	19 .75	18,9 .74	20 .79	25 .98	1,5 .06	12 .47	0,1 .0039
M 16 x 1,5	21 .83	21,9 .86	23 .91	28 1.10	1,5 .06	12 .47	0,1 .0039
M 18 x 1,5	23 .91	23,9 .94	25 .98	30 1.18	2 .08	12 .47	0,1 .0039
M 20 x 1,5	24 .94	25,9 1.02	27 1.06	34 1.34	2 .08	14 .55	0,1 .0039
M 22 x 1,5	27 1.06	26,9 1.06	28 1.10	34 1.34	2,5 .10	14 .55	0,1 .0039
M 26 x 1,5	31 1.22	31,9 1.26	33 1.30	42 1.65	2,5 .10	16 .63	0,2 .0079
M 27 x 2	32 1.26	31,9 1.26	33 1.30	42 1.65	2,5 .10	16 .63	0,2 .0079
M 33 x 2	39 1.54	39,9 1.57	41 1.61	47 1.85	2,5 .10	18 .71	0,2 .0079
M 42 x 2	49 1.93	49,9 1.96	51 2.01	58 2.28	2,5 .10	20 .79	0,2 .0079
M 48 x 2	55 2.17	54,9 2.16	56 2.20	65 2.56	2,5 .10	22 .87	0,2 .0079
G 1/8 A	14 .55	13,9 .55	15 .59	19 .75	1 .04	8,5 .33	0,1 .0039
G 1/4 A	18 .71	18,9 .74	20 .79	25 .98	1,5 .06	12,5 .49	0,1 .0039
G 3/8 A	22 .87	21,9 .86	23 .91	28 1.10	2 .08	12,5 .49	0,1 .0039
G 1/2 A	26 1.02	26,9 1.06	28 1.10	34 1.34	2,5 .10	15 .59	0,1 .0039
G 3/4 A	32 1.26	31,9 1.26	33 1.30	42 1.65	2,5 .10	16,5 .65	0,2 .0079
G 1 A	39 1.54	39,9 1.57	41 1.61	47 1.85	2,5 .10	19 .75	0,2 .0079
G 1 1/4 A	49 1.93	49,9 1.96	51 2.01	58 2.28	2,5 .10	21,1 .83	0,2 .0079
G 1 1/2 A	55 2.17	54,9 2.16	56 2.20	65 2.56	2,5 .10	22,5 .89	0,2 .0079

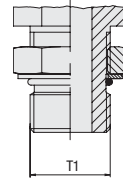
<sup>1</sup> Appendix A in the thread description does not apply to (female) threaded ports.

Identification Groove for Metric Parallel Thread



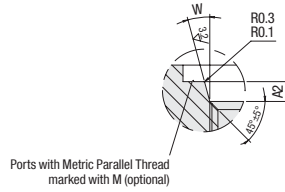
**O-Ring without Retaining Ring (Non-Adjustable)**

Metric Parallel Thread  
ISO 6149-2/-3  
UN/UNF Thread  
ISO 11926-2/-3

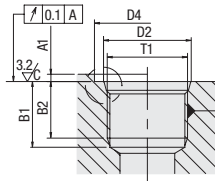


**O-Ring with Retaining Ring (Adjustable)**

Metric Parallel Thread  
ISO 6149-2/-3  
UN/UNF Thread  
ISO 11926-2/-3



Ports with Metric Parallel Thread marked with M (optional)



**Port (Parallel Thread)**

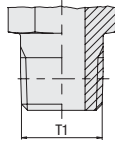
for Male Studs with Metric Parallel Thread  
ISO 6149-1  
for Male Studs with UN/UNF Thread  
ISO 11926-1

**Dimensions**

(mm/in)

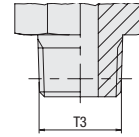
Thread T1 <sup>1</sup>	D5	D4 small <sub>min</sub>	D4 wide <sub>min</sub>	D2 <sub>+0.1 (UN/UNF: ±0.05)</sub>	A1 <sub>max</sub>	A2 <sub>+0.4</sub>	B1 <sub>min</sub>	B2 <sub>min</sub>	W <sub>±.1*</sub>
M 8 x 1	11,8	14	17	9,1	1	1,6	11,5	10	12
	.46	.55	.67	.36	.04	.06	.45	.39	.47
M 10 x 1	13,8	16	20	11,1	1	1,6	11,5	10	12
	.54	.63	.79	.44	.04	.06	.45	.39	.47
M 12 x 1,5	16,8	19	23	13,8	1,5	2,4	14	11,5	15
	.66	.75	.91	.54	.06	.09	.55	.45	.59
M 14 x 1,5	18,8	21	25	15,8	1,5	2,4	14	11,5	15
	.74	.83	.98	.62	.06	.09	.55	.45	.59
M 16 x 1,5	21,8	24	28	17,8	1,5	2,4	15,5	13	15
	.86	.94	1.10	.70	.06	.09	.61	.51	.59
M 18 x 1,5	23,8	26	30	19,8	2	2,4	17	14,5	15
	.94	1.02	1.18	.78	.08	.09	.67	.57	.59
M 22 x 1,5	26,8	29	33	23,8	2	2,4	18	15,5	15
	1.06	1.14	1.30	.94	.08	.09	.71	.61	.59
M 27 x 2	31,8	34	40	29,4	2	3,1	22	19	15
	1.25	1.34	1.57	1.16	.08	.12	.87	.75	.59
M 33 x 2	40,8	43	49	35,4	2,5	3,1	22	19	15
	1.61	1.69	1.93	1.39	.10	.12	.87	.75	.59
M 42 x 2	49,8	52	58	44,4	2,5	3,1	22,5	19,5	15
	1.96	2.05	2.28	1.75	.10	.12	.89	.77	.59
M 48 x 2	54,8	57	63	50,4	2,5	3,1	25	22	15
	2.16	2.24	2.48	1.98	.10	.12	.98	.87	.59
7/16-20 UNF-2A	14,4	21		12,45	1,6	2,4	14	11,5	12
	.57	.83		.49	.06	.09	.55	.45	.47
1/2-20 UNF-2A	16	23		14,05	1,6	2,4	14	11,5	12
	.63	.91		.55	.06	.09	.55	.45	.47
9/16-18 UNF-2A	17,6	25		15,7	1,6	2,5	15,5	12,7	12
	.69	.98		.62	.06	.10	.61	.50	.47
3/4-16 UNF-2A	21,8	30		20,65	2,4	2,5	17,5	14,3	15
	.86	1.18		.81	.09	.10	.69	.56	.59
7/8-14 UNF-2A	25,5	34		24	2,4	2,5	20	16,7	15
	1.00	1.34		.94	.09	.10	.79	.66	.59
1 1/16-12 UN-2A	31,9	41		29,2	2,4	3,3	23	19	15
	1.26	1.61		1.15	.09	.13	.91	.75	.59
1 5/16-12 UN-2A	38,2	49		35,55	3,2	3,3	23	19	15
	1.50	1.93		1.40	.13	.13	.91	.75	.59
1 5/8-12 UN-2A	47,7	58		43,55	3,2	3,3	23	19	15
	1.88	2.28		1.71	.13	.13	.91	.75	.59
1 7/8-12 UN-2A	54,8	65		49,9	3,2	3,3	23	19	15
	2.16	2.56		1.96	.13	.13	.91	.75	.59

<sup>1</sup> Appendix -2B instead of -2A applies for (female) threaded ports.



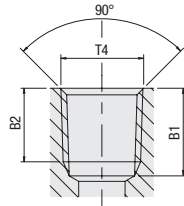
**Taper Thread**

National Pipe Thread (NPT)  
ANSI/ASME B1.20.1-1983



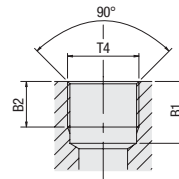
**Taper Thread**

Metric Taper Thread  
DIN 3852-1 (Form C)  
Whitworth Taper Pipe Thread  
DIN 3852-2 (Form C)



**Port (Taper Thread)**

for Male Studs with National Pipe NPT Thread  
ANSI/ASME B1.20.1-1983



**Port (Parallel Thread)**

for Male Studs with Metric Taper Thread  
DIN 3852-1 (Form Z)  
for Male Studs with Whitworth Taper Pipe Thread  
DIN 3852-2 (Form Z)

**Dimensions**

(mm/in)

Thread T1	Thread T3	Thread T4	B1 <sub>min</sub>	B2 <sub>min</sub>
1/8-27 NPT		1/8-27 NPT		6,9 .27
1/4-18 NPT		1/4-18 NPT		10 .39
3/8-18 NPT		3/8-18 NPT		10,3 .41
1/2-14 NPT		1/2-14 NPT		13,6 .54
3/4-14 NPT		3/4-14 NPT		14,1 .56
1-11.5 NPT		1-11.5 NPT		16,8 .66
1 1/4-11.5 NPT		1 1/4-11.5 NPT		17,3 .68
1 1/2-11.5 NPT		1 1/2-11.5 NPT		17,3 .68
	M 8 x 1 keg.	M 8 x 1	10 .39	5,5 .22
	M 10 x 1 keg.	M 10 x 1	10 .39	5,5 .22
	M 12 x 1,5 keg.	M 12 x 1,5	13,5 .53	8,5 .33
	M 14 x 1,5 keg.	M 14 x 1,5	13,5 .53	8,5 .33
	M 16 x 1,5 keg.	M 16 x 1,5	13,5 .53	8,5 .33
	M 18 x 1,5 keg.	M 18 x 1,5	13,5 .53	8,5 .33
	M 20 x 1,5 keg.	M 20 x 1,5	15,5 .61	10,5 .41
	M 22 x 1,5 keg.	M 22 x 1,5	15,5 .61	10,5 .41
	R 1/8 keg.	Rp 1/8	8,5 .33	5,5 .22
	R 1/4 keg.	Rp 1/4	12,5 .49	8,5 .33
	R 3/8 keg.	Rp 3/8	12,5 .49	8,5 .33
	R 1/2 keg.	Rp 1/2	16,5 .65	10,5 .41

Suitable liquid / plastic sealant required to achieve leak-tightness.