

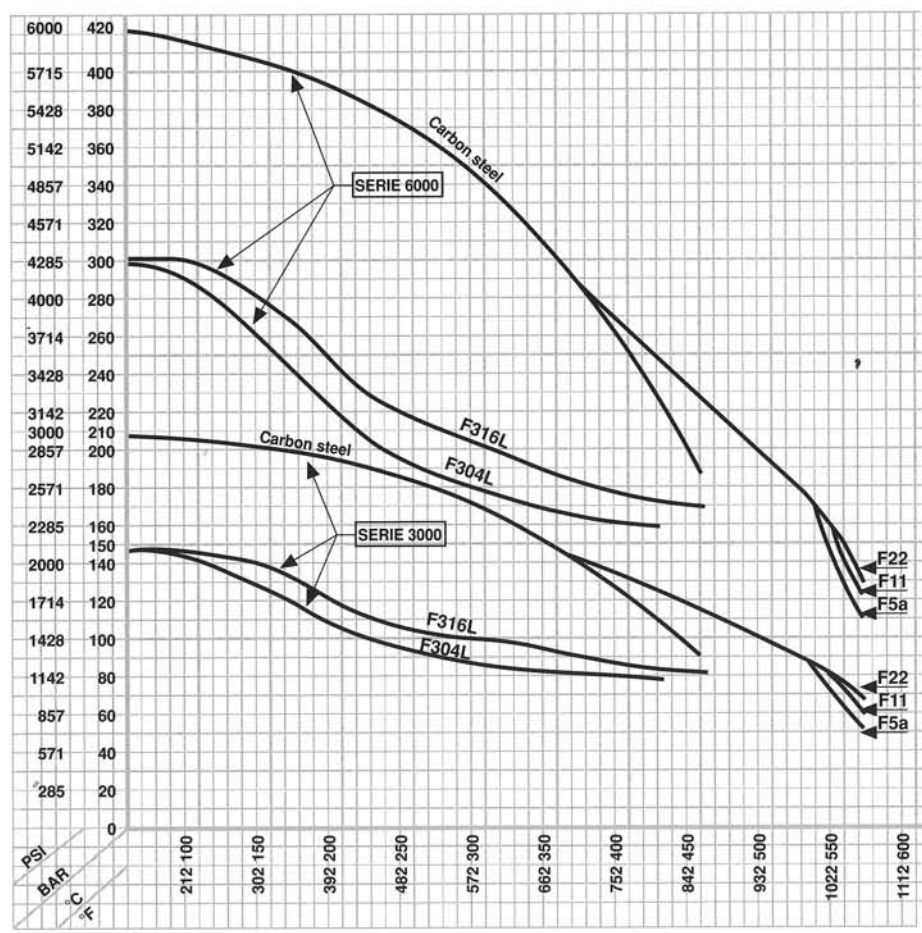
Pressioni di servizio
Pressure rating

RACCORDI / FITTINGS		Tubo Pipe
Serie / Class	Tipo / Type	
2000 lb	Threaded	Sch. 80
3000 lb	Threaded	Sch. 160
6000 lb	Threaded	XXS
3000 lb	Socket-welding	Sch. 80
6000 lb	Socket-welding	Sch. 160
9000 lb	Socket-welding	XXS

Correlazione tra la serie dei raccordi ed i tubi in accordo alle ASME B16.11

Correlation of fittings class with wall designation of pipe according to ASME B16.11

Pressioni e temperature di servizio secondo ASME B16.11
Pressure – temperatures ratings according to ASME B16.11



- Acciaio al carbonio
Carbon steel ASTM A 105
- Acciaio legato
Alloy steel ASTM A 182 F 5a
- Acciaio legato
Alloy steel ASTM A 182 F 22
- Acciaio legato
Alloy steel ASTM A 182 F 11
- Acciaio inox
Stainless steel ASTM A 182 F 304 L
- Acciaio inox
Stainless steel ASTM A 182 F 316 L

NORME ASTM / ASTM STANDARDS

Riassunto delle principali norme ASTM, generalmente utilizzate nelle industrie petrolifere.
Summary of the main ASTM standards generally used in the petroleum industries.

ASTM	Grado Grade	Designazione UNS Designation	COMPOSIZIONE CHIMICA % - CHEMICAL REQUIREMENTS %									CARATTERISTICHE MECCANICHE - MECHANICAL REQUIREMENTS								
			C	Mn	Pmax	Smax	Si	Ni	Cr	Mo	Altri Others	Resistenza Tensile strenght		Snervamento Yield strenght		Allung. min.% Elongat. min. %	Contraz. min.% Red. of area min. %	Durezza Hardness	Resilienza a Impact test at	
												min. MPa	min. ksi	min. MPa	min. ksi				°C	°F
A105			0,35 max	0,60-1,05	0,040	0,050	0,35 max	0,40 max	0,30 max	0,12 max	Cu<0,40-V<0,03 Cb<0,02	485	70	250	36	22	30	137-187HB		
A106	B		0,30 max	0,29-1,06	0,035	0,035	0,10 min	0,40 max	0,40 max	0,15 max	Cu<0,40-V<0,08	415	60	240	35	L30T16,5				
A182	F5a	K42544	0,25 max	0,60 max	0,040	0,030	0,50 max	0,50 max	4,0-6,0	0,44-0,55		620	90	450	65	22	50	187-248HB		
	F11	K11572	0,10-0,20	0,30-0,8	0,040	0,040	0,50-1,00		1,0-1,50	0,44-0,65		485	70	275	40	20	30	143-207HB		
	F22	K21590	0,05-0,15	0,30-0,6	0,040	0,040	0,50 max		2,0-2,50	0,87-1,13		515	75	310	45	20	30	156-207HB		
	F304	S30400	0,08 max	2,00 max	0,040	0,030	1,00 max	8,0-11,0	18,0-20,0			515	75	205	30	30	50			
	F304L	S30403	0,035 max	2,00 max	0,040	0,030	1,00 max	8,0-13,0	18,0-20,0			485	70	170	25	30	50			
	F316	S31600	0,08 max	2,00 max	0,040	0,030	1,00 max	10,0-14,0	16,0-18,0	2,00-3,00		515	75	205	30	30	50			
	F316L	S31603	0,035 max	2,00 max	0,040	0,030	1,00 max	10,0-15,0	16,0-18,0	2,00-3,00		485	70	170	25	30	50			
	F321	S32100	0,08 max	2,00 max	0,040	0,030	1,00 max	9,0-12,0	17,0 min		5C<Ti<0,70%	515	75	205	30	30	50			
	F347	S34700	0,08 max	2,00 max	0,040	0,030	1,00 max	9,0-13,0	17,0-20,0		10C<Cb+Ta<1,10%	515	75	205	30	30	50			
F51	S31803	0,03 max	2,00 max	0,030	0,020	1,00 max	4,5-6,5	21,0-23,0	2,5-3,5	N 0,08-0,20	620	90	450	65	25	45				
A312	TP304	S30400	0,08 max	2,00 max	0,040	0,030	0,75 max	8,0-11,0	18,0-20,0			515	75	205	30	L35T25				
	TP304L	S30403	0,035 max	2,00 max	0,040	0,030	0,75 max	8,0-13,0	18,0-20,0			485	70	170	25	L35T25				
	TP316	S31600	0,08 max	2,00 max	0,040	0,030	0,75 max	11,0-14,0	16,0-18,0	2,00-3,00		515	75	205	30	L35T25				
	TP316L	S31603	0,035 max	2,00 max	0,040	0,030	0,75 max	10,0-15,0	16,0-18,0	2,00-3,00		485	70	170	25	L35T25				
	TP321	S32100	0,08 max	2,00 max	0,040	0,030	0,75 max	9,0-13,0	17,0-20,0		5C<Ti<0,70%	515	75	205	30	L35T25				
	TP347	S34700	0,08 max	2,00 max	0,040	0,030	0,75 max	9,0-13,0	17,0-20,0		10C<Cb+Ta<1%	515	75	205	30	L35T25				
A333	6		0,30 max	0,29-1,06	0,025	0,025	0,10 min				415	60	240	35	L30T16,5			-45	-50	
A335	P5	K41545	0,15 max	0,30-0,60	0,025	0,025	0,50 max		4,00-6,00	0,45-0,65		415	60	205	30	L30T20				
	P11	K11597	0,05-0,15	0,30-0,60	0,025	0,025	0,50-1,00		1,00-1,50	0,44-0,65		415	60	205	30	L30T20				
	P22	K21590	0,05-0,15	0,30-0,60	0,025	0,025	0,50 max		1,90-2,60	0,87-1,13		415	60	205	30	L30T20			max197HB	
A350	LF2		0,30 max	1,35 max	0,035	0,040	0,15-0,30	0,40 max	0,30 max	0,12 max	Cu<0,40 Cb<0,02 V<0,03	485-655	70-95	250	36	22	30		-45,6	-50
A420	WPL6		0,30 max	0,39-1,06	0,030	0,030	0,10 min				415-585	60-85	240	35	L30T16,5			-45	-50	
A403	WP304		0,08 max	2,00 max	0,045	0,030	1,00 max	8,0-11,00	18,0-20,0			515	75	205	30	L28T20				
	WP304L		0,035 max	2,00 max	0,045	0,030	1,00 max	8,0-13,00	18,0-20,0			485	70	170	25	L28T20				
	WP347		0,08 max	2,00 max	0,045	0,030	1,00 max	9,0-13,00	17,0-20,0		a)	515	75	205	30	L28T20				
	WP316		0,08 max	2,00 max	0,045	0,030	1,00 max	10,0-14,00	16,0-18,0	2,00-3,00		515	75	205	30	L28T20				
	WP316L		0,035 max	2,00 max	0,045	0,030	1,00 max	10,0-15,00	16,0-18,0	2,00-3,00		485	70	170	25	L28T20				
	WP321		0,08 max	2,00 max	0,045	0,030	1,00 max	9,0-13,00	17,0-20,0		b)	515	75	205	30	L28T20				

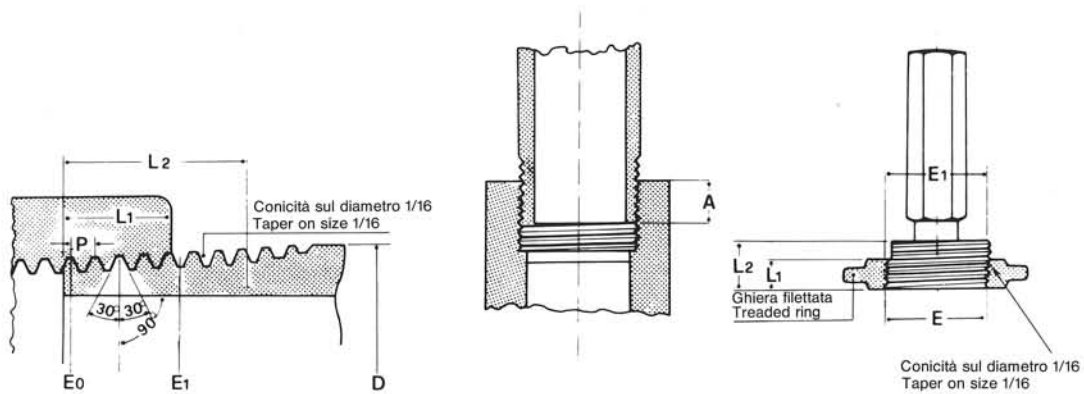
- a) Devono avere un contenuto di Niobio + Tantalio di non meno 10 volte il contenuto di Carbonio e non più del 1,10%.
 Niobium + Tantalium content must be: not 10 times minus than Carbon content and not 1,10% more.
- b) Devono avere un contenuto di Titanio di non meno 5 volte il contenuto di Carbonio e non più dello 0,70%.
 Titanium content must be: not 5 times minus than Carbon content and not 0,70% more.

03XXXXB 2/21



Filettatura conica per tubi (NPT) Standard taper pipe thread (NPT)

ANSI/ASME B1.20.1



Ø NOMIN. PIPE SIZE	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
D mm.	10.29	13.72	17.14	21.34	26.67	33.40	42.16	48.26	60.32	73.02	88.90	114.30
n *	27	18	18	14	14	11 1/2	11 1/2	11 1/2	11 1/2	8	8	8
P mm.	0.940	1.411	1.411	1.814	1.814	2.209	2.209	2.209	2.109	3.175	3.175	3.175
E0 mm.	9.233	12.126	15.545	19.264	24.579	30.826	39.551	45.621	57.633	69.076	84.852	110.093
E1 mm.	9.489	12.487	15.926	19.772	25.117	31.461	40.218	46.287	58.325	70.159	86.068	111.433
L2 mm.	6.703	10.205	10.358	13.556	13.860	17.343	17.952	18.377	19.215	28.892	30.480	33.020
L1 mm.	4.102	5.786	6.096	8.128	8.610	10.160	10.668	10.668	11.074	17.322	19.456	21.437
mm.	0.0586	0.0881	0.0881	0.1132	0.1132	0.1379	0.1379	0.1379	0.1379	0.1982	0.1983	0.1983
A mm.	6.9	10	10.3	13.6	14.1	16.8	17.3	17.3	17.7	23.7	25.8	27.8

* n = Numero di filetti per 25,4 mm / Number of threads for 25,4 mm

Filettatura conica ISO 7-1 - Standard taper pipe thread ISO 7-1

Dimensioni nominali
Nominal dimensions

Filettatura interna cilindrica
Cylindrical inside thread

Dimensioni in mm.
Dimensions in mm.

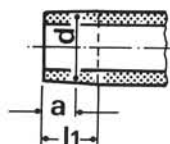
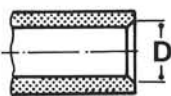
Filettatura esterna conica
Conical outside thread

$$P = \frac{25,4}{z}$$

$$H = 0,960\ 491\ P$$

$$H_1 = 0,640\ 327\ P$$

$$r = 0,137\ 329\ P$$



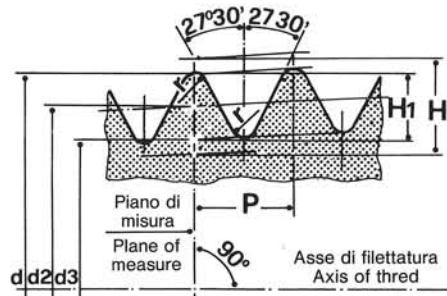
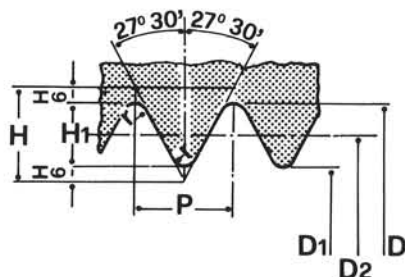
$$P = \frac{25,4}{z}$$

$$H = 0,960\ 237\ P$$

$$H_1 = 0,640\ 327\ P$$

$$r = 0,137\ 278\ P$$

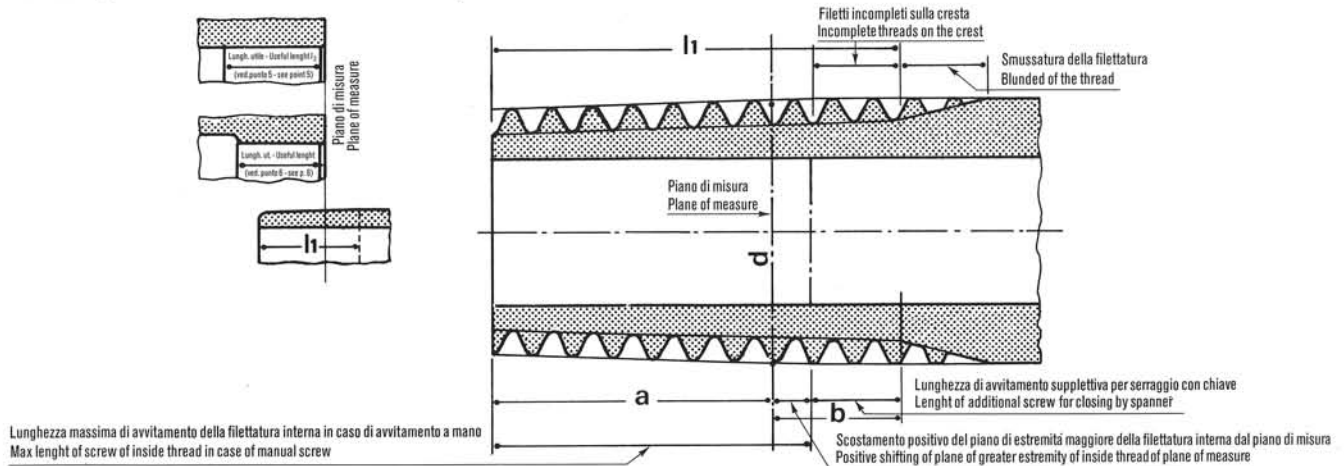
Conicità 1:16



Ø NOMINALE PIPE SIZE	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5	6
Diametro di filettatura Size of thread d = D	9.728	13.157	16.662	20.955	26.441	33.249	41.910	47.803	59.614	75.184	87.884	100.330	113.030	138.430	163.830
Distanza tra il piano di estremità del tubo ed il piano di misura a Distanza between the plane of extrem. of pipe and plane of measure a	4.0	6.0	6.4	8.2	9.5	10.4	12.7	12.7	15.9	17.5	20.6	22.2	25.4	28.6	28.6
Passo P Pitch P	0.907	1.337	1.337	1.814	1.814	2.309	2.309	2.309	2.309	2.309	2.309	2.309	2.309	2.309	2.309
Numero di filetti per 25.4 mm Z Number of threads for 25.4 mm Z	28	19	19	14	14	11	11	11	11	11	11	11	11	11	11
Diametro medio Middle size d2 = D2	9.147	12.301	15.806	19.793	25.279	31.770	40.431	46.324	58.135	73.705	86.405	98.851	111.551	136.951	162.351
Diam. di nocciolo Size of stone d3 = D1	8.566	11.445	14.950	18.631	24.117	30.291	38.952	44.845	56.656	72.226	84.926	97.372	110.072	135.472	160.872
H1	0.581	0.856	0.856	1.162	1.162	1.479	1.479	1.479	1.479	1.479	1.479	1.479	1.479	1.479	1.479
r	0.125	0.184	0.184	0.249	0.249	0.317	0.317	0.317	0.317	0.317	0.317	0.317	0.317	0.317	0.317
Lungh. di filettatura utile L1 Length of useful thread L1	6.5	9.7	10.1	13.2	14.5	16.8	19.1	19.1	23.4	26.7	29.8	31.4	35.8	40.1	40.1

Lunghezze di filettatura, tolleranze e dimensioni limite - Dimensions and lengths of thread

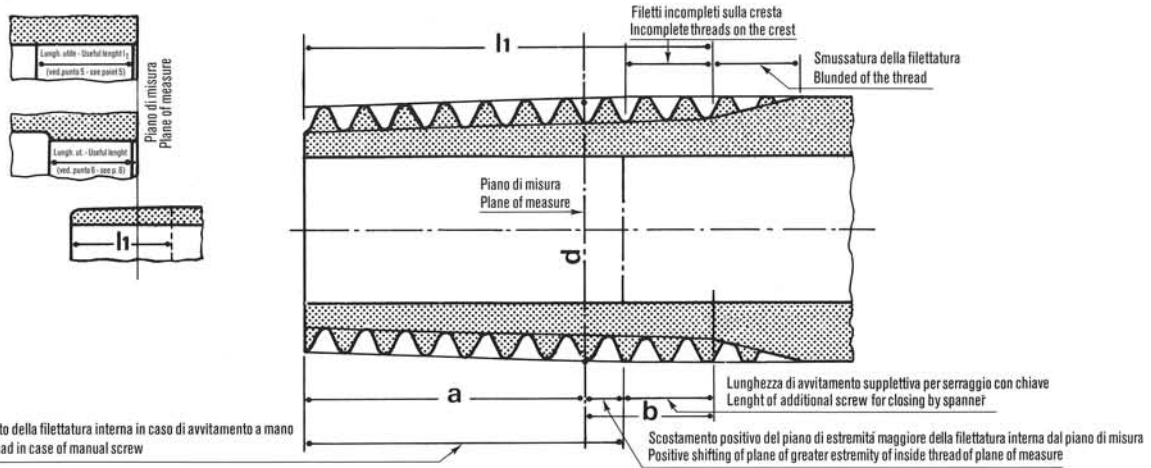
Accoppiamento filettatura esterna conica con filettatura interna cilindrica
 Matching conical outside thread with cylindrical inside thread



Ø NOMINALE - PIPE SIZE			1/8	1/4	3/8	1/2	3/4	
FILETTATURA ESTERNA OUTSIDE THREAD	Diametro di filettatura nel piano di misura d Size of thread in plane of measure		9.728	13.157	16.662	20.955	26.441	
	Lunghezza di misura a Lenght of measure a	Dimensione nominale Nominal dimension	4.0	6.0	6.4	8.2	9.5	
		Scostamenti Shiftings	mm ≈	± 0.9	± 1.3	± 1.3	± 1.8	± 1.8
			Filetti Threads	± 1	± 1	± 1	± 1	± 1
		Dimensione Dimension	Massima Max. ≈	4.9	7.3	7.7	10.0	11.3
	Minima Min. ≈		3.1	4.7	5.1	6.4	7.7	
	Tolleranza di avvitamento b Tolerance of screw b	mm ≈	2.5	3.7	3.7	5.0	5.0	
		Filetti Threads	2 ³ / ₄	2 ³ / ₄	2 ³ / ₄	2 ³ / ₄	2 ³ / ₄	
	Lungh. min. di filettatura utile l1 Lenght min. of useful thread l1	Per a nominale For a nominal	6.5	9.7	10.1	13.2	14.5	
		Per a massima For a max.	7.4	11.0	11.4	15.0	16.3	
Per a minima For a min.		5.6	8.4	8.8	11.4	12.7		
FILETTATURA INTERNA INSIDE THREAD	Lunghezza di filettatura utile l2 Lenght of useful thread l2		7.4	11.0	11.4	15.0	16.3	
	Scostamenti del piano di estremità dal piano di misura Shifting of plane of extremity on the plane of measure	mm ≈	± 1.1	± 1.7	± 1.7	± 2.3	± 2.3	
		Filetti Threads	± 1 ¹ / ₄	± 1 ¹ / ₄	± 1 ¹ / ₄	± 1 ¹ / ₄	± 1 ¹ / ₄	
	Scostamenti sui diametri di filettatura medio e di nocciolo Shiftings on sizes of middle thread and of stone		± 0.071	± 0.104	± 0.104	± 0.142	± 0.142	

Lunghezze di filettatura, tolleranze e dimensioni limite - Dimensions and lengths of thread

Accoppiamento filettatura esterna conica con filettatura interna cilindrica Matching conical outside thread with cylindrical inside thread



1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5	6
33.249	41.910	47.803	59.614	75.184	87.884	100.330	113.030	138.430	163.830
10.4	12.7	12.7	15.9	17.5	20.6	22.2	25.4	28.6	28.6
± 2.3	± 2.3	± 2.3	± 2.3	± 3.5	± 3.5	± 3.5	± 3.5	± 3.5	± 3.5
± 1	± 1	± 1	± 1	± 1 1/2	± 1 1/2	± 1 1/2	± 1 1/2	± 1 1/2	± 1 1/2
12.7	15.0	15.0	18.2	21.0	24.1	25.7	28.9	32.1	32.1
8.1	10.4	10.4	13.6	14.0	17.1	18.7	21.9	25.1	25.1
6.4	6.4	6.4	7.5	9.2	9.2	9.2	10.4	11.5	11.5
2 3/4	2 3/4	2 3/4	3 1/4	4	4	4	4 1/2	5	5
16.8	19.1	19.1	23.4	26.7	29.8	31.4	35.8	40.1	40.1
19.1	21.4	21.4	25.7	30.2	33.3	34.9	39.3	43.6	43.6
14.5	16.8	16.8	21.1	23.2	26.3	27.9	32.3	36.6	36.6
19.1	21.4	21.4	25.7	30.2	33.3	34.9	39.3	43.6	43.6
± 2.9	± 2.9	± 2.9	± 2.9	± 3.5	± 3.5	± 3.5	± 3.5	± 3.5	± 3.5
± 1 1/4	± 1 1/4	± 1 1/4	± 1 1/4	± 1 1/2	± 1 1/2	± 1 1/2	± 1 1/2	± 1 1/2	± 1 1/2
± 0.180	± 0.180	± 0.180	± 0.180	± 0.217	± 0.217	± 0.217	± 0.217	± 0.217	± 0.217



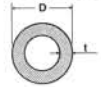
Dimensioni dei tubi secondo **NORMA ANSI B 36.10**

Pipe dimensions in accordance to

Diametro tubi Size pipes		Spessori nominali e pesi - Nominal thickness and weights																																
		NUMERO DI «SCHEDULE» - NUMBER OF «SCHEDULES»																																
		Standard		Extra-Strong		Double Extra-Strong		10		20		30		40		60		80		100		120		140		160		5 S*		10 S*				
nominal in inches	esterno in mm outside in mm	mm	kg/m	mm	kg/m	mm	kg/m	mm	kg/m	mm	kg/m	mm	kg/m	mm	kg/m	mm	kg/m	mm	kg/m	mm	kg/m	mm	kg/m	mm	kg/m	mm	kg/m	mm	kg/m	mm	kg/m			
1/8	10,3	1,73	0,36	2,41	0,46	-	-	-	-	-	-	-	-	1,73	0,36	-	-	2,41	0,46	-	-	-	-	-	-	-	-	-	-	-	-	1,28	0,28	
1/4	13,7	2,24	0,63	3,02	0,80	-	-	-	-	-	-	-	-	2,24	0,63	-	-	3,02	0,80	-	-	-	-	-	-	-	-	-	-	-	-	1,65	0,49	
3/8	17,1	2,31	0,85	3,20	1,10	-	-	-	-	-	-	-	-	2,31	0,85	-	-	3,20	1,10	-	-	-	-	-	-	-	-	-	-	-	-	1,65	0,63	
1/2	21,3	2,77	1,26	3,73	1,62	7,47	2,54	-	-	-	-	-	-	2,77	1,26	-	-	3,73	1,62	-	-	-	-	-	-	4,78	1,95	1,65	0,80	2,11	1,00	2,11	1,28	
3/4	26,7	2,87	1,68	3,91	2,19	7,82	3,63	-	-	-	-	-	-	2,87	1,68	-	-	3,91	2,19	-	-	-	-	-	-	5,56	2,89	1,65	1,03	2,11	1,28	2,77	2,08	
1	33,4	3,38	2,50	4,55	3,23	9,09	5,45	-	-	-	-	-	-	3,38	2,50	-	-	4,55	3,23	-	-	-	-	-	-	6,35	4,23	1,65	1,29	2,77	2,08	2,77	2,69	
1 1/4	42,2	3,56	3,38	4,85	4,46	9,70	7,75	-	-	-	-	-	-	3,56	3,38	-	-	4,85	4,46	-	-	-	-	-	-	6,35	5,60	1,65	1,65	2,77	2,69	2,77	3,12	
1 1/2	48,3	3,68	4,05	5,08	5,40	10,16	9,54	-	-	-	-	-	-	3,68	4,05	-	-	5,08	5,40	-	-	-	-	-	-	7,14	7,23	1,65	1,90	2,77	3,12	3,94	3,94	
2	60,3	3,91	5,43	5,54	7,47	11,07	13,44	-	-	-	-	-	-	3,91	5,43	-	-	5,54	7,47	-	-	-	-	-	-	8,74	11,10	1,65	2,38	2,77	3,94	3,94	3,94	
2 1/2	73,0	5,16	8,62	7,01	11,40	14,02	20,39	-	-	-	-	-	-	5,16	8,62	-	-	7,01	11,40	-	-	-	-	-	-	9,52	14,90	2,11	3,70	3,05	5,26	5,26	5,26	
3	88,9	5,49	11,28	7,62	15,25	15,24	27,65	-	-	-	-	-	-	5,49	11,28	-	-	7,62	15,25	-	-	-	-	-	-	11,13	21,30	2,11	4,50	3,05	6,45	6,45	6,45	
3 1/2	101,6	5,74	13,56	8,08	18,62	-	-	-	-	-	-	-	-	5,74	13,56	-	-	8,08	18,62	-	-	-	-	-	-	-	-	-	2,11	5,20	3,05	7,40	7,40	7,40
4	114,3	6,02	16,06	8,56	22,29	17,12	40,99	-	-	-	-	-	-	6,02	16,06	-	-	8,56	22,29	-	-	11,13	28,25	-	-	13,49	33,51	2,11	5,81	3,05	8,34	8,34	8,34	
5	141,3	6,55	21,76	9,52	30,92	19,05	57,37	-	-	-	-	-	-	6,55	21,76	-	-	9,52	30,92	-	-	12,70	40,24	-	-	15,88	49,05	2,77	9,45	3,40	11,56	11,56	11,56	
6	168,3	7,11	28,23	10,97	42,52	21,95	79,11	-	-	-	-	-	-	7,11	28,23	-	-	10,97	42,52	-	-	14,27	54,20	-	-	18,26	67,47	2,77	11,31	3,40	13,82	13,82	13,82	
8	219,1	8,18	42,49	12,70	64,57	22,22	107,78	-	-	6,35	33,28	7,04	36,76	8,18	42,49	10,31	53,07	12,70	64,57	15,09	75,79	18,26	90,32	20,62	100,89	23,01	111,18	2,77	14,78	3,76	19,94	19,94	19,94	
10	273,0	9,27	60,24	12,70	81,46	25,40	154,97	-	-	6,35	41,73	7,80	50,96	9,27	60,24	12,70	81,46	15,09	95,84	18,26	114,59	21,44	132,85	25,40	154,97	28,58	172,11	3,40	22,62	4,19	27,83	27,83	27,83	
12	323,9	9,52	73,76	12,70	97,36	25,40	186,75	-	-	6,35	49,68	8,38	65,14	10,31	79,71	14,27	108,97	17,48	131,81	21,44	159,67	25,40	186,75	28,58	207,87	33,32	238,60	3,96	33,00	4,57	36,00	36,00	36,00	
14	355,6	9,52	81,21	12,70	107,28	-	-	6,35	54,63	7,92	67,98	9,52	81,21	11,13	94,31	15,09	126,51	19,05	157,94	23,83	194,64	27,79	224,36	31,75	253,32	35,71	281,49	3,96	34,23	4,78	41,18	41,18	41,18	
16	406,4	9,52	93,13	12,70	123,18	-	-	6,35	62,58	7,92	77,92	9,52	93,13	12,70	123,18	16,66	160,04	21,44	203,26	26,19	245,34	30,96	286,33	36,53	332,72	40,49	364,94	4,19	41,60	4,78	47,33	47,33	47,33	
18	457,2	9,52	105,05	12,70	139,07	-	-	6,35	70,53	7,92	87,85	11,13	122,12	14,27	155,90	19,05	205,62	23,83	254,24	29,36	309,55	34,92	363,33	39,67	408,21	45,24	459,18	4,19	46,83	4,78	53,18	53,18	53,18	
20	508,0	9,52	116,97	12,70	154,97	-	-	6,35	78,47	9,52	116,97	12,70	154,97	15,09	183,14	20,62	247,79	26,19	310,91	32,54	381,20	38,10	441,06	44,45	507,63	50,01	564,24	4,78	59,22	5,54	68,50	68,50	68,50	
22	558,8	9,52	128,89	12,70	170,86	-	-	6,35	86,42	9,52	128,89	12,70	170,86	-	-	22,22	293,80	28,58	373,27	34,92	450,75	41,28	526,24	47,62	599,76	53,98	671,28	4,78	63,75	5,54	73,81	73,81	73,81	
24	609,6	9,52	140,81	12,70	186,75	-	-	6,35	94,37	9,52	140,81	14,27	209,54	17,48	254,74	24,61	354,62	30,96	441,30	38,89	546,84	46,02	639,18	52,37	719,16	59,54	806,74	5,54	82,60	6,35	94,37	94,37	94,37	
26	660,4	9,52	152,73	12,70	202,65	-	-	7,92	127,58	12,70	202,65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	711,2	9,52	164,65	12,70	218,54	-	-	7,92	137,52	12,70	218,54	15,88	271,94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	762,0	9,52	176,57	12,70	234,44	-	-	7,92	147,45	12,70	234,44	15,88	291,81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	812,8	9,52	188,50	12,70	250,33	-	-	7,92	157,39	12,70	250,33	15,88	311,67	17,48	342,17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	863,6	9,52	200,42	12,70	266,22	-	-	7,92	167,32	12,70	266,22	15,88	331,54	17,48	364,01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	914,4	9,52	212,34	12,70	282,12	-	-	7,92	177,26	12,70	282,12	15,88	351,41	19,05	420,21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

N.B. - Gli spessori ed i pesi «Standard», «Extra-Strong» e «Double Extra-Strong» entro i bordi ingrossati, hanno un corrispondente valore in una «schedula».
Per spessori diversi da quelli indicati il peso può essere ricavato tramite la seguente

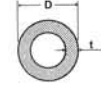
formula: $\frac{24.66 (D-t) t}{1000}$



* Secondo NORMA ANSI B 36.19

N.B. - Thickness and weights «Standard», «Extra-Strong» and «Double Extra-Strong» within swell edges have a correspondent value in a «schedule».
For different thickness that suitable the weights can proceeds by following formula:

la: $\frac{24.66 (D-t) t}{1000}$

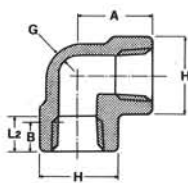


* In accordance to ANSI B 36.19

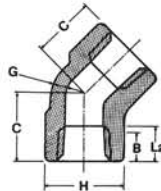
Raccordi filettati - Threaded fittings



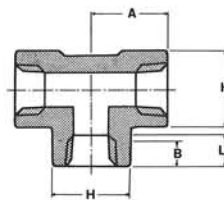
Gomiti 90°
90° Elbows



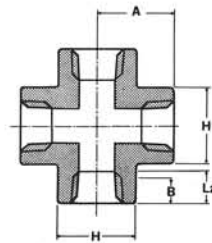
Gomiti 45°
45° Elbows



Tee
Equal tees



Croci
Crosses

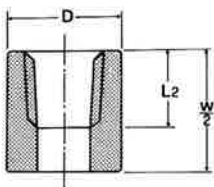


Ø NOMINALE PIPE SIZE		1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
LUNGHEZZA MINIMA FILETTATURA	B	6.5	8	9	11	12.5	14.5	17	18	19	23.5	26	27.5
LENGTH OF THREAD. MIN.	L2	6.5	10	10.5	13.5	14	17.5	18	18.5	19	29	30.5	33
2000 LBS	A	21	21	25	29	33	38	44	51	60	76	86	106
	C	17	17	19	22	25	29	33	35	43	52	64	79
	H	22	22	25	33	38	46	56	62	75	92	110	146
	G	3	3	3	3	3	3.5	4	4	4.5	5.5	6	6.5
3000 LBS	A	21	25	29	33	38	44	51	60	64	83	95	114
	C	17	19	22	25	29	33	35	43	45	52	64	79
	H	22	25	33	38	46	56	62	75	84	102	121	152
	G	3	3.5	3.5	4	4.5	5	5.5	5.5	7	7.5	9	11
6000 LBS	A	25	29	33	38	44	51	60	64	83	95	106	114
	C	19	22	25	29	33	35	43	44	52	64	79	79
	H	25	33	38	46	56	62	75	84	102	121	146	152
	G	6.5	6.5	7	8	8.5	10	10.5	11	12	15.5	16.5	18.5

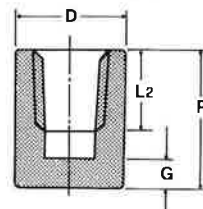
Raccordi filettati - Threaded fittings



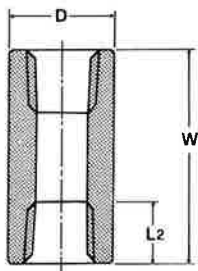
Mezzi manicotti
Half couplings



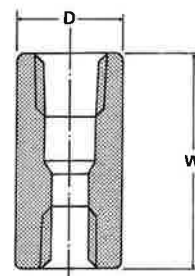
Tappi femmina
Caps



Manicotti
Full couplings



Manicotti ridotti
Reducing couplings

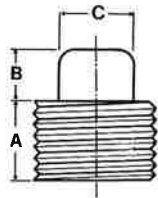


Ø NOMINALE PIPE SIZE		1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
LUNG. FILETTO	B	6.5	8	9	11	12.5	14.5	17	18	19	23.5	26	27.5
LENGTH OF THREADED MIN.	L2	6.5	10	10.5	13.5	14	17.5	18	18.5	19	29	30.5	33
3000 LBS	W	32	35	38	48	51	60	67	79	86	92	108	121
	P	19	25	25	32	37	41	44	44	48	60	65	68
	D	16	19	22	29	35	44	57	64	76	92	108	140
	G MIN.	5.0	5.0	5.0	6.5	6.5	9.5	9.5	11	12.5	16.0	19.0	22.0
6000 LBS	W	32	35	38	48	51	60	67	79	86	92	108	121
	P	—	27	27	33	38	43	46	48	51	64	68	75
	D	22	25	32	38	44	57	64	76	92	108	127	159
	G MIN.	—	6.5	6.5	8.0	8.0	11.0	11.0	12.5	16.0	19.0	22.0	28.5

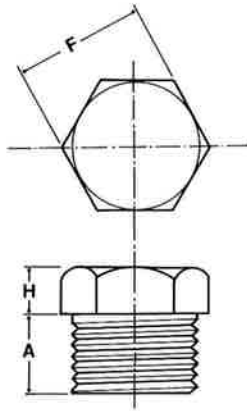
Raccordi filettati - Threaded fittings



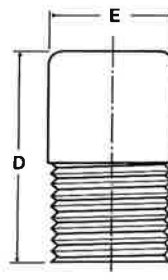
Tappi T. quadra
Square H. plugs



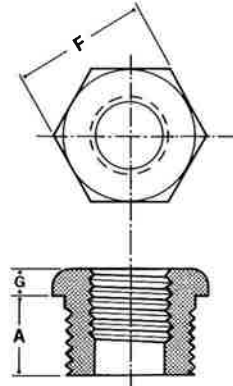
Tappi T. esag.
Hex. H. plugs



Tappi T. tonda
Round H. plugs



Riduz. esag. M/F
Bushings



Ø NOMINALE PIPE SIZE	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
A MIN.	9.5	11.0	12.5	14.5	16.0	19.0	20.5	20.5	22.0	27.0	28.5	32.0
B MIN.	6	6	8	10	11	13	14	16	17	19	21	25
C MIN.	7.0	9.5	11.0	14.5	16.0	20.5	24.0	28.5	33.5	38.0	43.0	63.5
D MIN.	35	41	41	44	44	51	51	51	64	70	70	76
E NOM.	10	13	17	21	27	33	43	48	60	73	89	114
F NOM.	11.0	16.0	17.5	22.0	27.0	35.0	44.5	51.0	63.5	76.0	89.0	117.5
G MIN.	—	3	4	5	6	6	7	8	9	10	10	13
H MIN.	6	6	8	8	10	10	14	16	17	19	21	25

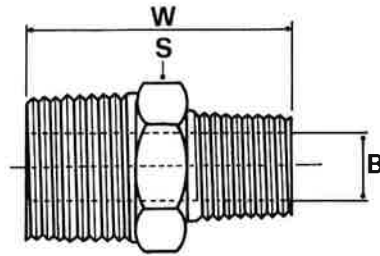
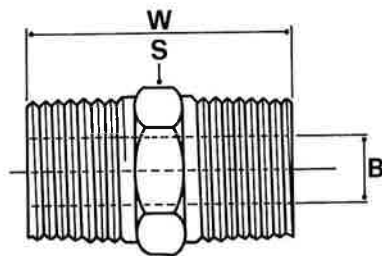
Raccordi filettati - Threaded fittings



Nippli esagonali
Hex. nipples



Nippli esagonali ridotti
Reducing hex. nipples



Nota: Per i nippli ridotti la quota "B" è quella del \varnothing minore.

Notes: For reducing nipples the dimension B is for small size.

DIMENS.	SERIE CLASS	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
W	3000 LBS	24	36	40	48	52	60	66	68	71	84	94	125
	6000 LBS	24	36	40	48	52	60	66	68	71	84	94	125
S	3000 LBS	11	15	19	22	27	35	45	50	65	80	90	120
	6000 LBS	11	15	19	22	27	35	45	50	65	80	90	120
B	3000 LBS	4.5	6.3	9	11.5	16	21	29	34	43	54	67	87
	6000 LBS	—	6	8	11	13	17	23	30	39	45	58	80

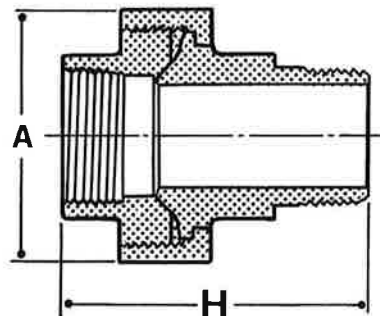
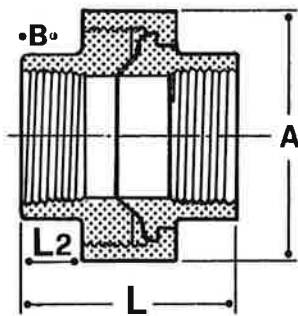
Raccordi filettati - Threaded fittings



Bocchettoni femmina-femmina
Female-female unions

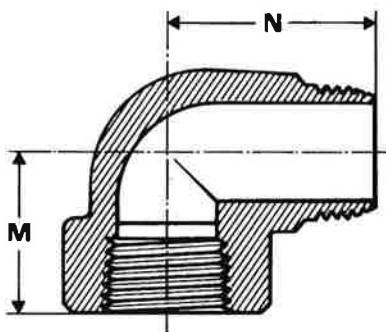


Bocchettoni maschio-femmina
Male-female unions



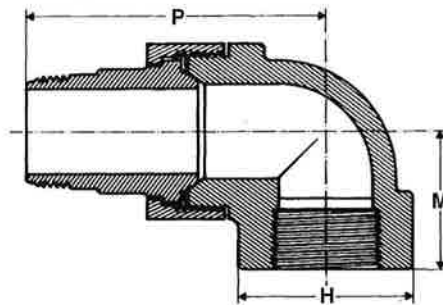
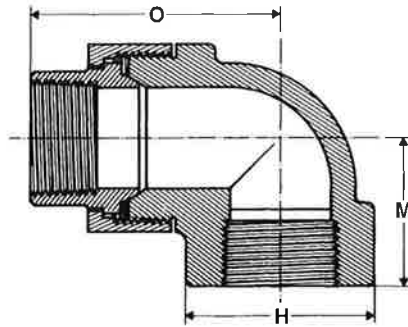
Ø NOMINALE PIPE SIZE		1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
LUNGH. FILETTO	B	6.5	8	9	11	12.5	14.5	17	18	19	23.5	26	27.5
	L2	6.5	10	10.5	13.5	14	17.5	18	18.5	19	29	30.5	33
3000 LBS	A	32	35	41	45	55	65	78	85	100	123	148	180
	L	44	40	47	49	57	62	71	75	84	110	120	157
	H	—	64	69	73	83	92	96	110	130	—	—	—
6000 LBS	A												
	L	Dati fornibili su richiesta - Dimensions on request											
	H												

Raccordi filettati - Threaded fittings
Gomiti 90° M/F - Street elbows



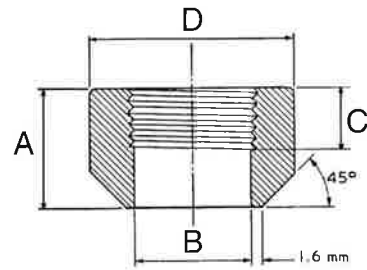
Ø NOMINALE PIPE SIZE		1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
3000 LBS	M	24.6	30	33.5	38	46.5	53	62	68
	N	32	39	44	49	59	65	75	82.5
6000 LBS	M	30	33.5	38	46.5	53	62	68	82.5
	N	39	44	49	59	65	75	82.5	110
		Dimensioni non elencate nella ASME B16.11 - 1991 e BS3799 Dimensions not listed in ASME B16.11 - 1991 and BS3799							

Raccordi filettati - Threaded fittings Gomiti a bocchettone - Union elbows



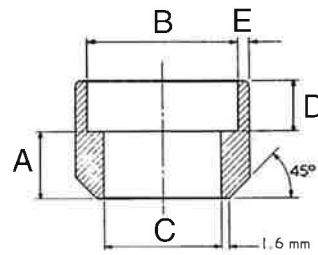
Ø NOMINALE PIPE SIZE		1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
3000 LBS	M	25	30	33	38	45	51	60	64
	H	33	33	38	46	56	62	75	84
	O	45	54	60	65	75	85	98	108
	P	60	70	80	90	100	115	125	140
Dimensioni non elencate nella ASME B16.11 e BS3799, possono variare a discrezione del produttore Dimensions not listed in ASME B16.11 and BS3799, may vary according to the manufacturer									

Raccordi filettati - Dimensioni minime degli Inserti Bosses Threaded fittings - Minimum dimensions of Welding Bosses



DIMENS.	SERIE CLASS	1/8	1/4	3/8	1/2	3/4	1	1 1/2	2	2 1/2	3	4
A MIN.	3/6000 LBS	38	41	45	51	51	51	51	51	51	57	64
B MIN.	3/6000 LBS	8.4	11.1	14.2	18	23	29	44	56	67	82	95
C MIN.	3/6000 LBS	6.70	10.21	10.36	13.56	13.86	17.34	18.38	19.22	28.89	30.48	33.02
D MIN.	3000 LBS 6000 LBS	16 22	19 26	22 32	29 38	35 45	45 60	64 76	76 95	95 -	110 -	140 -

Raccordi a saldare di tasca - Dimensioni degli Inserti Bosses Socket welding fittings - Dimensions of Welding Bosses

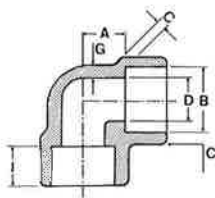


DIMENS.	SERIE CLASS	1/8	1/4	3/8	1/2	3/4	1	1 1/2	2	2 1/2	3
A MIN.	3/6000 LBS	28	32	34	38	38	35	32	29	29	29
B MIN.	3/6000 LBS	10.7	14.1	17.6	21.8	27.4	34.1	49	61	73.8	89.7
C MIN.	3000 LBS 6000 LBS	6.8 -	9.2 -	12.5 -	15.5 11.8	21 15.5	26.5 20.7	40.5 34	52 43	62 54	78 66
D MIN.	3/6000 LBS	10	10	11	13	13	16	19	22	22	22
E MIN.	3000 LBS 6000 LBS	3.2 -	3.3 -	3.5 -	4.1 5.2	4.3 6.1	5 7	5.6 7.8	6.1 9.5	7.7 10.4	8.3 12.2

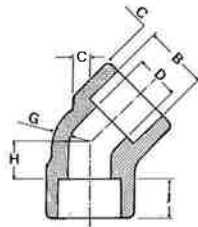
Raccordi a tasca da saldare - Socket welding fittings



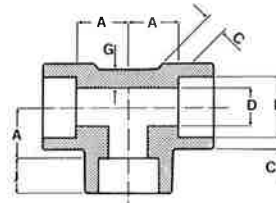
Gomiti 90°
90° Elbows



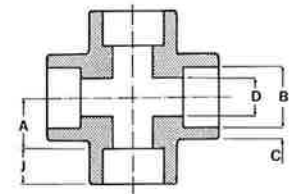
Gomiti 45°
45° Elbows



Tee
Equal tees



Croci
Crosses

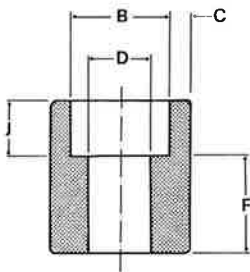


Ø NOMINALE PIPE SIZE		1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
DIAM. TASCA SOCKET BORE	B MAX.	10.90	14.35	17.80	21.95	27.30	34.05	42.80	48.90	61.35	74.20	90.15	115.80
	MIN.	10.65	14.10	17.55	21.70	27.05	33.80	42.55	48.65	61.10	73.80	89.80	115.45
PROF. TASCA DEPTH SOCKET	J MIN.	10	10	10	10	13	13	13	13	16	16	16	19
3000 LBS	D MAX.	7.6	10.0	13.3	16.6	21.7	27.4	35.8	41.7	53.5	64.2	79.5	103.8
	MIN.	6.1	8.5	11.8	15.0	20.2	25.9	34.3	40.1	51.7	61.2	76.4	100.7
	C MAX.	3.2	3.8	4.0	4.65	4.90	5.70	6.05	6.35	6.95	8.75	9.50	10.70
	MIN.	3.2	3.3	3.5	4.10	4.25	5.00	5.3	5.55	6.05	7.65	8.30	9.35
	G MIN.	2.4	3	3.2	3.75	3.90	4.55	4.85	5.10	5.55	7.0	7.60	8.55
A MAX.	12	12	15	17	21	24	29	34	40	44	60	69	
	MIN.	10	10	12	14	18	20	25	30	36	39	55	64
H MAX.	9	9	9	13	14	16	19	23	27	31	34	44	
	MIN.	7	7	7	10	11	12	15	19	23	27	29	39
6000 LBS	D MAX.	4.8	7.1	9.9	12.5	16.3	21.5	30.2	34.7	43.6	—	—	—
	MIN.	3.2	5.6	8.4	11.0	14.8	19.9	28.7	33.2	42.1	—	—	—
	C MAX.	3.95	4.60	5.05	5.95	6.95	7.90	7.90	8.90	10.90	—	—	—
	MIN.	3.45	4.00	4.35	5.20	6.05	6.95	6.95	7.80	9.50	—	—	—
	G MIN.	3.15	3.70	4.0	4.80	5.55	6.35	6.35	7.15	8.75	—	—	—
A MAX.	12	17	17	21	24	29	34	40	43	—	—	—	
	MIN.	10	13	14	18	21	25	30	36	39	—	—	—
H MAX.	9	9	13	14	16	19	23	27	31	—	—	—	
	MIN.	7	7	10	11	13	15	19	23	27	—	—	—

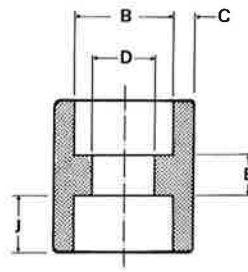
Raccordi a tasca da saldare - Socket weldings fittings



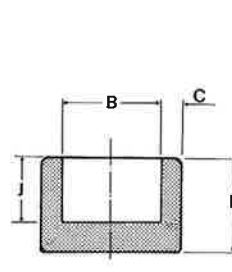
Mezzi manicotti
Half couplings



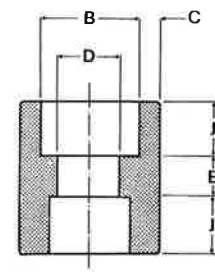
Manicotti
Couplings



Tappi femmina
Caps



Manicotti ridotti
Reducing couplings



Ø NOMINALE PIPE SIZE		1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
DIAM. TASCA SOCKET BORE	B MAX.	10.90	14.35	17.80	21.95	27.30	34.05	42.80	48.90	61.35	74.20	90.15	115.80
	MIN.	10.65	14.10	17.55	21.70	27.05	33.80	42.55	48.65	61.10	73.80	89.80	115.45
PROF. TASCA DEPTH SOCKET	J MIN.	10	10	10	10	13	13	13	13	16	16	16	19
3000 LBS	C MAX.	3.20	3.80	4.00	4.65	4.90	5.70	6.05	6.35	6.95	8.75	9.50	10.7
	MIN.	3.20	3.30	3.50	4.10	4.25	5.00	5.30	5.55	6.05	7.65	8.30	9.35
	D MAX.	7.6	10.0	13.3	16.6	21.7	27.4	35.8	41.7	53.5	64.2	79.5	103.8
	MIN.	6.1	8.5	11.8	15.0	20.2	25.9	34.3	40.1	51.7	61.2	76.4	100.7
	E MAX.	8	8	9	13	13	17	17	17	23	24	24	24
MIN.	5	5	5	6	6	9	9	9	15	14	14	14	
F MAX.	17	17	19	24	25	31	32	34	43	45	47	50	
MIN.	15	15	16	21	22	27	28	30	39	40	42	45	
L NOM.	18	18	19	23	26	28	30	32	39	39	45	48	
6000 LBS	C MAX.	3.95	4.60	5.05	5.95	6.95	7.90	7.90	8.90	10.90	—	—	—
	MIN.	3.45	4.00	4.35	5.20	6.05	6.95	6.95	7.80	9.50	—	—	—
	D MAX.	4.8	7.1	9.9	12.5	16.3	21.5	30.2	34.7	43.6	—	—	—
	MIN.	3.2	5.6	8.4	11.0	14.8	19.9	28.7	33.2	42.1	—	—	—
	E MAX.	8	8	9	13	13	17	17	17	23	24	24	24
MIN.	5	5	5	6	6	9	9	9	15	14	14	14	
F MAX.	17	17	19	24	25	31	32	34	43	45	47	50	
MIN.	15	15	16	21	22	27	28	30	39	40	42	45	
L NOM.	18	18	19	23	26	28	30	32	39	39	45	48	

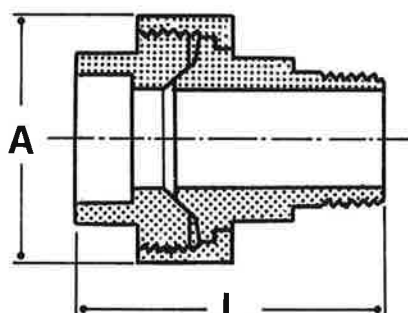
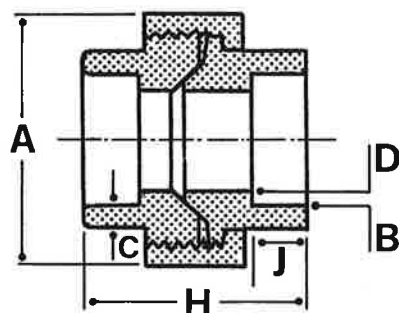
Raccordi a tasca da saldare - Socket welding fittings



Bocchettoni femmina-femmina
Female-female unions



Bocchettoni maschio-femmina
Male-female unions



Nota: Dimensioni dei bocchettoni 6000 LBS a richiesta.

Note: Dimension of union 6000 LBS on request.

Ø NOMINALE PIPE SIZE		1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
DIAM. TASCA SOCKET BORE	B MAX.	10.90	14.35	17.80	21.95	27.30	34.05	42.80	48.90	61.35	74.20	90.15	115.80
	MIN.	10.65	14.10	17.55	21.70	27.05	33.80	42.55	48.65	61.10	73.80	89.80	115.45
PROF. TASCA DEPTH. SOCKET	J MIN.	10	10	10	10	13	13	13	13	16	16	16	19
DIMENSIONE BOCCHETTONE 3000 LBS	H NOM.	44	40	47	49	57	62	71	75	84	110	120	157
DIMENSIONS OF UNION 3000 LBS	A NOM.	32	35	41	45	55	65	78	85	100	123	148	180
3000 LBS	C MAX.	3.20	3.80	4.00	4.65	4.90	5.70	6.05	6.35	6.95	8.75	9.50	10.7
	MIN.	3.20	3.30	3.50	4.10	4.25	5.00	5.30	5.55	6.05	7.65	8.30	9.35
	D MAX.	7.6	10.0	13.3	16.6	21.7	27.4	35.8	41.7	53.5	64.2	79.5	103.8
	MIN.	6.1	8.5	11.8	15.0	20.2	25.9	34.3	40.1	51.7	61.2	76.4	100.7
	L NOM.	—	64	69	73	83	92	96	110	130	—	—	—
6000 LBS	C MAX.	3.95	4.60	5.05	5.95	6.95	7.90	7.90	8.90	10.90	—	—	—
	MIN.	3.45	4.00	4.35	5.20	6.05	6.95	6.95	7.80	9.50	—	—	—
	D MAX.	4.8	7.1	9.9	12.5	16.3	21.5	30.2	34.7	43.6	—	—	—
	MIN.	3.2	5.6	8.4	11.0	14.8	19.9	28.7	33.2	42.1	—	—	—
	L NOM.	Dati fornibili su richiesta - Dimensions on request											

Ø NOMINALE PIPE SIZE	T Y P E	M	N	K	L	J
3/8 x 1/4	1	17.15	9	19	14	10
1/2 x 3/8	1	21.34	12.5	21	16	10
1/2 x 1/4	1	21.34	9	21	16	10
3/4 x 1/2	1	26.67	16	22	17	10
3/4 x 3/8	2	26.67	12.5	16	—	10
1 x 3/4	1	33.4	21	24	19	13
1 x 1/2	2	33.4	16	16	—	10
1 1/4 x 1	1	42.16	26.5	25	21	13
1 1/4 x 3/4	2	42.16	21	18	—	13
1 1/4 x 1/2	2	42.16	16	19	—	10
1 1/2 x 1 1/4	1	48.26	35	28	22	13
1 1/2 x 1	2	48.26	26.5	18	—	13
1 1/2 x 3/4	2	48.26	21	19	—	13
1 1/2 x 1/2	2	48.26	16	21	—	10
2 x 1 1/2	1	60.3	41	32	25	13
2 x 1 1/4	2	60.3	35	21	—	13
2 x 1	2	60.3	26.5	22	—	13
2 x 3/4	2	60.3	21	24	—	13
2 x 1/2	2	60.3	16	25	—	10
2 1/2 x 2	1	73	52.5	46	38	16
2 1/2 x 1 1/2	2	73	41	35	—	13
2 1/2 x 1 1/4	2	73	35	37	—	13
2 1/2 x 1	2	73	26.5	38	—	13
2 1/2 x 3/4	2	73	21	40	—	13
3 x 2 1/2	1	88.9	62.5	38	32	16
3 x 2	2	88.9	52.5	25	—	16
3 x 1 1/2	2	88.9	41	29	—	13
3 x 1 1/4	2	88.9	35	30	—	13
3 x 1	2	88.9	26.5	32	—	13
4 x 3	2	114.3	78	33	—	16
4 x 2 1/2	2	114.3	62.5	38	—	16
4 x 2	2	114.3	52.4	38	—	16

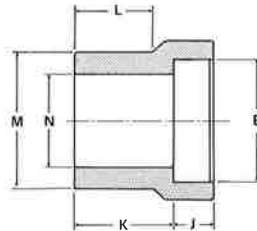
Inserti ridotti Reducer inserts

Raccordi a tasca da saldare Socket welding fittings

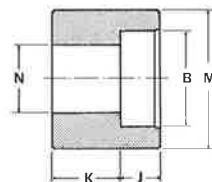
Serie 3000 LBS
Class 3000 LBS



Tipo 1
Type 1



Tipo 2
Type 2



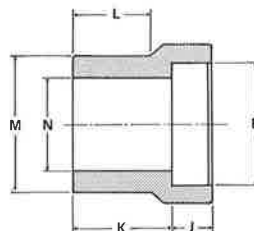
Inserti ridotti - Reducer inserts

Raccordi a tasca da saldare - Socket welding fittings

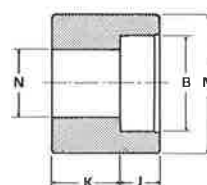
Ø NOMINALE PIPE SIZE	T Y P E	M	N	K	L	J
3/8 x 1/4	1	17.15	6.5	21	16	10
1/2 x 3/8	1	21.34	9	23	16	10
1/2 x 1/4	1	21.34	6.5	21	16	10
3/4 x 1/2	1	26.67	11.5	25	19	10
3/4 x 3/8	1	26.67	9	22	19	10
3/4 x 1/4	2	26.67	6.5	22	—	10
1 x 3/4	1	33.4	15.5	28	21	13
1 x 1/2	1	33.4	11.5	28	21	10
1 x 3/8	2	33.4	9	22	—	10
1 x 1/4	2	33.4	6.5	24	—	10
1 1/4 x 1	1	42.16	20.5	30	22	13
1 1/4 x 3/4	2	42.16	15.5	21	—	13
1 1/4 x 1/2	2	42.16	11.5	22	—	10
1 1/4 x 3/8	2	42.16	9	24	—	10
1 1/4 x 1/4	2	42.16	6.5	25	—	10
1 1/2 x 1 1/4	1	48.26	29.5	35	25	13
1 1/2 x 1	1	48.26	20.5	29	25	13
1 1/2 x 3/4	2	48.26	15.5	25	—	13
1 1/2 x 1/2	2	48.26	11.5	27	—	10
1 1/2 x 3/8	2	48.26	9	28	—	10
2 x 1 1/2	1	60.3	34	39	28	13
2 x 1 1/4	2	60.3	29.5	24	—	13
2 x 1	2	60.3	21	25	—	13
2 x 3/4	2	60.3	15.5	27	—	13
2 x 1/2	2	60.3	11.5	28	—	10
2 1/2 x 2	1	73	43	43	32	16
2 1/2 x 1 1/2	2	73	34	40	—	13
2 1/2 x 1 1/4	2	73	29.5	40	—	13
2 1/2 x 1	2	73	21	40	—	13
2 1/2 x 3/4	2	73	15.5	40	—	13
3 x 2 1/2	1	88.9	54	60	35	16
3 x 2	2	88.9	43	55	—	16

**Serie 6000 LBS
Class 6000 LBS**

**Tipo 1
Type 1**



**Tipo 2
Type 2**



Nippli da tubo a bottiglia
Swage nipples

Nippli da tubo - Pipe nipples

D x d nom.	K nom.	A	L
3/8 x 1/4	64	A Vs. richiesta/On Yr. request: Sch. 80 - 160 - XXS	A Vs. richiesta, lungh./On Yr. request length: close - 2" - 2 1/2" - 3" - 4" - 5" - 6"
1/2 x 3/8	70		
1/2 x 1/4	76		
3/4 x 1/2			
3/4 x 3/8	89		
1 x 3/4			
1 x 1/2	102		
1 1/4 x 1			
1 1/4 x 3/4			
1 1/4 x 1/2			
1 1/2 x 1 1/4	114		
1 1/2 x 1			
1 1/2 x 3/4			
1 1/2 x 1/2			
2 x 1 1/2	165		
2 x 1			
2 x 3/4			
2 x 1/2			
2 1/2 x 2	178		
2 1/2 x 1 1/2			
2 1/2 x 1			
3 x 2 1/2			
3 x 2	203		
3 x 1 1/2			
3 x 1			
4 x 3	229		
4 x 2 1/2			
4 x 2			
4 x 1 1/2			

