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Appendice 1: tecnologia di tornitura e fresatura

Tabelle delle filettature

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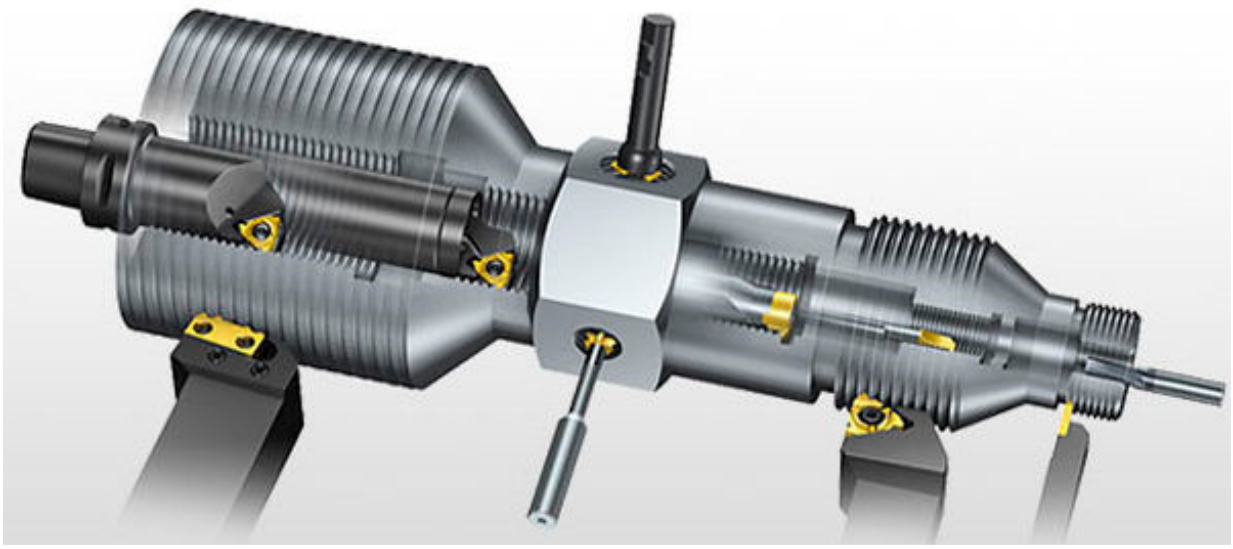

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1 Sigle delle principali filettature

1.1 Filettature cilindriche

M	filettatura metrica ISO a passo grosso
MF	filettatura metrica ISO a passo fine
UNC	filettatura unificata cilindrica a passo grosso
UNF	filettatura unificata cilindrica a passo fine
UNEF	filettatura unificata cilindrica a passo extra fine
UN	filettatura unificata cilindrica con 4 - 6 - 8 - 12 - 16 - 20 - 28 filetti per pollice
UNS	filettatura unificata cilindrica speciale
UNJ	filettatura unificata cilindrica a passo costante con raggio di raccordo sul nocciolo 0.15011P ÷ 0.18042P
UNJC	filettatura unificata cilindrica a passo grosso con raggio di raccordo sul nocciolo 0.15011P ÷ 0.18042P
UNJEF	filettatura unificata cilindrica a passo extra fine con raggio di raccordo sul nocciolo 0.15011P ÷ 0.18042P
UNJF	filettatura unificata cilindrica a passo fine con raggio di raccordo sul nocciolo da 0.15011P ÷ 0.18042P

1.2 Filettature GAS cilindriche

NGO	filettatura nazionale americana cilindrica per scarichi del gas
NGS	filettatura nazionale americana cilindrica per gas
NPS	filettatura americana cilindrica per tubi
NPSC	filettatura gas cilindrica americana per tubi raccordi e tubazioni
NPSF	filettatura gas cilindrica americana per tubi e giunti a tenuta di pressione (tenuta a secco)
NPSH	filettatura gas cilindrica americana per tubi e giunti di tubi flessibili e raccordi (nippli)
NPSI	filettatura gas cilindrica americana per tubi e filettature interne (tenuta a secco)
NPSL	filettatura gas cilindrica americana per tubi e bloccaggio controdadi
NPSM	filettatura gas cilindrica per tubi e giunti meccanici

1.3 Filettature GAS coniche, conicità 1/16 (inclinazione = 0.5/16 = 1.78°)

NPT	filettatura gas conica per tubi
NPTF	filettatura gas conica per tubi e giunti a tenuta di pressione (tenuta a secco)
FPTF	filettatura gas conica a passo fine (tenuta a secco)
NPTR	filettatura gas conica per tubi per equipaggiamenti ferroviari
NPTC	filettatura gas conica per valvole di bombole a gas di cloro
NPTG	filettatura gas conica per valvole di bombole di gas (tutti ad esclusione del cloro)

PTF-SAE SHORT	filettatura SAE conica corta stagna a secco per tubi
PTF-SPL SHORT	filettatura conica corta stagna a secco per tubi
PTF-SPL EXTRASHORT	filettatura conica extra corta stagna a secco per tubi
ANPT	filettatura gas per marina, esercito, aereonautica
NGT	filettatura gas conica nazionale americana
SGT	filettatura conica speciale per gas
API	filettatura conica per tubi American Petroleum Institute

1.4 Filettature trapezie a denti di sega

ACME-C	filettatura trapezioidale americana a dente di sega autocentrante
ACME-G	filettatura trapezioidale americana a dente di sega uso generico
STUB-ACME	filettatura ACME piatta con profondità di filettatura ridotta
60° STUB-ACME	filettatura ACME piatta con inclinazione dei fianchi a 60°
N BUTT	filettatura nazionale americana a dente di sega

1.5 Unificazioni inglesi

BSW	filettatura Whitworth a passo grosso British Standard
BSF	filettatura Whitworth a passo fine British Standard
BSC	filettatura per velocipedi British Standard
BSPT	filettatura gas conica per tubi British Standard
G/BSP	filettatura gas cilindrica per tubi British Standard
WHIT	filettatura speciale Whitworth standard
BA	filettatura Standard British Association
R	filettatura esterna conica per tubi British Standard stagna (tenuta a secco)
Rc	filettatura interna conica per tubi British Standard stagna (tenuta a secco)
Rp	filettatura interna cilindrica per tubi British Standard
CEI	filettatura britannica per velociped

1.6 Altre

NH	filettatura per giunti di tubi flessibili e giunti a manichetta per idranti

2 Tabelle dimensionali

2.1 M - Metrica ISO passo grosso (60°) da M2 a M68

METRICA ISO PASSO GROSSO (60°) Conforme ISO/R 262

Ø Nom.	Passo	MADREVITE 6H				VITE Toll. media 6g				
		medio		nocciolo		esterno		medio		nocciolo
		min.	max	min.	max	max	min.	max	min.	max
M 2	0,4	1,740	1,830	1,567	1,679	1,981	1,886	1,721	1,654	1,548
M 2,2	0,45	1,908	2,003	1,713	1,838	2,180	2,080	1,888	1,817	1,693
M 2,5	0,45	2,208	2,303	2,013	2,138	2,480	2,380	2,188	2,117	1,993
M 3	0,5	2,675	2,775	2,459	2,599	2,980	2,874	2,655	2,580	2,439
M 3,5	0,6	3,110	3,222	2,850	3,010	3,479	3,354	3,089	3,004	2,829
M 4	0,7	3,545	3,663	3,242	3,422	3,978	3,838	3,523	3,433	3,220
M 4,5	0,75	4,013	4,131	3,688	3,878	4,478	4,338	3,991	3,901	3,666
M 5	0,8	4,480	4,605	4,134	4,334	4,976	4,826	4,456	4,361	4,110
M 6	1	5,350	5,500	4,917	5,153	5,974	5,794	5,324	5,212	4,891
M 7	1	6,350	6,500	5,917	6,153	6,974	6,794	6,324	6,212	5,891
M 8	1,25	7,188	7,348	6,647	6,912	7,972	7,760	7,160	7,042	6,619
M 9	1,25	8,188	8,348	7,647	7,912	8,972	8,760	8,160	8,042	7,619
M 10	1,5	9,026	9,206	8,376	8,676	9,968	9,732	8,994	8,862	8,344
M 11	1,5	10,026	10,206	9,376	9,676	10,968	10,732	9,994	9,862	9,344
M 12	1,75	10,863	11,063	10,106	10,441	11,966	11,701	10,829	10,679	10,072
M 14	2	12,701	12,913	11,835	12,210	13,962	13,682	12,663	12,503	11,797
M 16	2	14,701	14,913	13,835	14,210	15,962	15,682	14,663	14,503	13,797
M 18	2,5	16,376	16,600	15,294	15,774	17,958	17,623	16,334	16,164	15,252
M 20	2,5	18,376	18,600	17,294	17,774	19,958	19,623	18,334	18,164	17,252
M 22	2,5	20,376	20,600	19,294	19,774	21,958	21,623	20,334	20,164	19,252
M 24	3	22,051	22,316	20,752	21,252	23,952	23,577	22,003	21,803	20,704
M 27	3	25,051	25,316	23,752	24,252	26,952	26,577	25,003	24,803	23,704
M 30	3,5	27,727	28,007	26,211	26,771	29,947	29,522	27,674	27,462	26,158
M 33	3,5	30,727	31,007	29,211	29,771	32,947	32,522	30,674	30,462	29,158
M 36	4	33,402	33,702	31,670	32,270	35,940	35,465	33,342	33,118	31,610
M 39	4	36,402	36,702	34,670	35,270	38,940	38,465	36,342	36,118	34,610
M 42	4,5	39,077	39,392	37,129	37,799	41,937	41,437	39,014	38,778	37,066
M 45	4,5	42,077	42,392	40,129	40,799	44,937	44,437	42,014	41,778	40,066
M 48	5	44,752	45,087	42,587	43,297	47,929	47,399	44,681	44,431	42,516
M 52	5	48,752	49,087	46,587	47,297	51,929	51,399	48,681	48,431	46,516
M 56	5,5	52,428	52,783	50,046	50,796	55,925	55,365	52,353	52,088	49,971
M 60	5,5	56,428	56,783	54,046	54,796	59,925	59,365	56,353	56,088	53,971
M 64	6	60,103	60,478	57,505	58,305	63,920	63,320	60,023	59,743	57,425
M 68	6	64,103	64,478	61,505	62,305	67,920	67,320	64,023	63,743	61,425

2.2 MF - Metrica ISO passo fine (60°) da M1.8 a M26

METRICA ISO PASSO FINE (60°) Conforme ISO/R 262

Ø Nom.	Passo	MADREVITE 6H				VITE Toll. media 6g				
		medio		nocciolo		esterno		medio		nocciolo
		min.	max	min.	max	max	min.	max	min.	max
M 1,8	0,35	1,573	1,658	1,421	1,521	1,781	1,696	1,554	1,491	1,402
M 2,5	0,35	2,273	2,358	2,121	2,221	2,481	2,396	2,254	2,191	2,102
M 3	0,35	2,773	2,863	2,621	2,721	2,981	2,896	2,754	2,687	2,602
M 3,5	0,35	3,273	3,363	3,121	3,221	3,481	3,396	3,254	3,187	3,102
M 4	0,5	3,675	3,775	3,459	3,599	3,980	3,874	3,655	3,580	3,439
M 4,5	0,5	4,175	4,275	3,959	4,099	4,480	4,374	4,155	4,080	3,939
M 5	0,5	4,675	4,775	4,459	4,599	4,980	4,874	4,655	4,580	4,439
M 5,5	0,5	5,175	5,275	4,959	5,099	5,480	5,374	5,155	5,080	4,939
M 6	0,75	5,513	5,645	5,188	5,378	5,978	5,838	5,491	5,391	5,166
M 7	0,75	6,513	6,645	6,188	6,378	6,978	6,838	6,491	6,391	6,166
M 8	0,75	7,513	7,645	7,188	7,378	7,978	7,838	7,491	7,391	7,166
M 8	1	7,350	7,500	6,917	7,153	7,974	7,794	7,324	7,212	6,891
M 9	0,75	8,513	8,645	8,188	8,378	8,978	8,838	8,491	8,391	8,166
M 9	1	8,350	8,500	7,917	8,153	8,974	8,794	8,324	8,212	7,891
M 10	0,75	9,513	9,645	9,188	9,378	9,978	9,838	9,491	9,391	9,166
M 10	1	9,350	9,500	8,917	9,153	9,974	9,794	9,324	9,212	8,891
M 10	1,25	9,188	9,348	8,647	8,912	9,972	9,760	9,160	9,042	8,619
M 11	0,75	10,513	10,645	10,188	10,378	10,978	10,838	10,491	10,391	10,166
M 11	1	10,350	10,500	9,917	10,153	10,974	10,794	10,324	10,212	9,891
M 12	1	11,350	11,510	10,917	11,153	11,974	11,794	11,324	11,206	10,891
M 12	1,25	11,188	11,368	10,647	10,912	11,972	11,760	11,160	11,028	10,619
M 12	1,5	11,026	11,216	10,376	10,676	11,968	11,732	10,994	10,854	10,344
M 14	1	13,350	13,510	12,917	13,153	13,974	13,794	13,324	13,206	12,891
M 14	1,25	13,188	13,368	12,647	12,912	13,972	13,760	13,160	13,028	12,619
M 14	1,5	13,026	13,216	12,376	12,676	13,968	13,732	12,994	12,854	12,344
M 15	1	14,350	14,510	13,917	14,153	14,974	14,794	14,324	14,206	13,891
M 15	1,5	14,026	14,216	13,376	13,676	14,968	14,732	13,994	13,854	13,344
M 16	1	15,350	15,510	14,917	15,153	15,974	15,794	15,324	15,206	14,891
M 16	1,5	15,026	15,216	14,376	14,676	15,968	15,732	14,994	14,854	14,344
M 17	1	16,350	16,510	15,917	16,153	16,974	16,794	16,324	16,206	15,891
M 17	1,5	16,026	16,216	15,376	15,676	16,968	16,732	15,994	15,854	15,344
M 18	1	17,350	17,510	16,917	17,153	17,974	17,794	17,324	17,206	16,891
M 18	1,5	17,026	17,216	16,376	16,676	17,968	17,732	16,994	16,854	16,344
M 18	2	16,701	16,913	15,835	16,210	17,962	17,682	16,663	16,503	15,797
M 20	1	19,350	19,510	18,917	19,153	19,974	19,794	19,324	19,206	18,891
M 20	1,5	19,026	19,216	18,376	18,676	19,968	19,732	18,994	18,854	18,344
M 20	2	18,701	18,913	17,835	18,210	19,962	19,682	18,663	18,503	17,797
M 22	1	21,350	21,510	20,917	21,153	21,974	21,794	21,324	21,206	20,891
M 22	1,5	21,026	21,216	20,376	20,676	21,968	21,732	20,994	20,854	20,344
M 22	2	20,701	20,913	19,835	20,210	21,962	21,682	20,663	20,503	19,797
M 24	1	23,350	23,520	22,917	23,153	23,974	23,794	23,324	23,199	22,891
M 24	1,5	23,026	23,226	22,376	22,676	23,968	23,732	22,994	22,844	22,344
M 24	2	22,701	22,925	21,835	22,210	23,962	23,682	22,663	22,493	21,797
M 25	1	24,350	24,520	23,917	24,153	24,974	24,794	24,324	24,199	23,891
M 25	1,5	24,026	24,226	23,376	23,676	24,968	24,732	23,994	23,844	23,344
M 25	2	23,701	23,925	22,835	23,210	24,962	24,682	23,663	23,493	22,797
M 26	1,5	25,026	25,226	24,376	24,676	25,968	25,732	24,994	24,844	24,344

2.3 MF - Metrica ISO passo fine (60°) da M27 a M55

M 27	1	26,350	26,520	25,917	26,153	26,974	26,794	26,324	26,199	25,891
M 27	1,5	26,026	26,226	25,376	25,676	26,968	26,732	25,994	25,844	25,344
M 27	2	25,701	25,925	24,835	25,210	26,962	26,682	25,663	25,493	24,797
M 28	1	27,350	27,520	26,917	27,153	27,974	27,794	27,324	27,199	26,891
M 28	1,5	27,026	27,226	26,376	26,676	27,968	27,732	26,994	26,844	26,344
M 28	2	26,701	26,925	25,835	26,210	27,962	27,682	26,663	26,493	25,797
M 30	1	29,350	29,520	28,917	29,153	29,974	29,794	29,324	29,199	28,891
M 30	1,5	29,026	29,226	28,376	28,676	29,968	29,732	28,994	28,844	28,344
M 30	2	28,701	28,925	27,835	28,210	29,962	29,682	28,663	28,493	27,797
M 30	3	28,051	28,316	26,752	27,252	29,952	29,577	28,003	27,803	26,704
M 32	1,5	31,026	31,226	30,376	30,676	31,968	31,732	30,994	30,844	30,344
M 32	2	30,701	30,925	29,835	30,210	31,962	31,682	30,663	30,493	29,797
M 33	1,5	32,026	32,226	31,376	31,676	32,968	32,732	31,994	31,844	31,344
M 33	2	31,701	31,925	30,835	31,210	32,962	32,682	31,663	31,493	30,797
M 33	3	31,051	31,316	29,752	30,252	32,952	32,577	31,003	30,803	29,704
M 35	1,5	34,026	34,226	33,376	33,676	34,968	34,732	33,994	33,844	33,344
M 36	1,5	35,026	35,226	34,376	34,676	35,968	35,732	34,994	34,844	34,344
M 36	2	34,701	34,925	33,835	34,210	35,962	35,682	34,663	34,493	33,797
M 36	3	34,051	34,316	32,752	33,252	35,952	35,577	34,003	33,803	32,704
M 38	1,5	37,026	37,226	36,376	36,676	37,968	37,732	36,994	36,844	36,344
M 39	1,5	38,026	38,226	37,376	37,676	38,968	38,732	37,994	37,844	37,344
M 39	2	37,701	37,925	36,835	37,210	38,962	38,682	37,663	37,493	36,797
M 39	3	37,051	37,316	35,752	36,252	38,952	38,577	37,003	36,803	35,704
M 40	1,5	39,026	39,226	38,376	38,676	39,968	39,732	38,994	38,844	38,344
M 40	2	38,701	38,925	37,835	38,210	39,962	39,682	38,663	38,493	37,797
M 40	3	38,051	38,316	36,752	37,252	39,952	39,577	38,003	37,803	36,704
M 42	1,5	41,026	41,226	40,376	40,676	41,968	41,732	40,994	40,844	40,344
M 42	2	40,701	40,925	39,835	40,210	41,962	41,682	40,663	40,493	39,797
M 42	3	40,051	40,316	38,752	39,252	41,952	41,577	40,003	39,803	38,704
M 42	4	39,402	39,702	37,670	38,270	41,940	41,465	39,342	39,118	37,610
M 45	1,5	44,026	44,226	43,376	43,676	44,968	44,732	43,994	43,844	43,344
M 45	2	43,701	43,925	42,835	43,210	44,962	44,682	43,663	43,493	42,797
M 45	3	43,051	43,316	41,752	42,252	44,952	44,577	43,003	42,803	41,704
M 45	4	42,402	42,702	40,670	41,270	44,940	44,465	42,342	42,118	40,610
M 48	1,5	47,026	47,238	46,376	46,676	47,968	47,732	46,994	46,834	46,344
M 48	2	46,701	46,937	45,835	46,210	47,962	47,682	46,663	46,483	45,797
M 48	3	46,051	46,331	44,752	45,252	47,952	47,577	46,003	45,791	44,704
M 48	4	45,402	45,717	43,670	44,270	47,940	47,465	45,342	45,106	43,610
M 50	1,5	49,026	49,238	48,376	48,676	49,968	49,732	48,994	48,834	48,344
M 50	2	48,701	48,937	47,835	48,210	49,962	49,682	48,663	48,483	47,797
M 50	3	48,051	48,331	46,752	47,252	49,952	49,577	48,003	47,791	46,704
M 52	1,5	51,026	51,238	50,376	50,676	51,968	51,732	50,994	50,834	50,344
M 52	2	50,701	50,937	49,835	50,210	51,962	51,682	50,663	50,483	49,797
M 52	3	50,051	50,331	48,752	49,252	51,952	51,577	50,003	49,791	48,704
M 52	4	49,402	49,717	47,670	48,270	51,940	51,465	49,342	49,106	47,610
M 55	1,5	54,026	54,238	53,376	53,676	54,968	54,732	53,994	53,834	53,344
M 55	2	53,701	53,937	52,835	53,210	54,962	54,682	53,663	53,483	52,797
M 55	3	53,051	53,331	51,752	52,252	54,952	54,577	53,003	52,791	51,704
M 55	4	52,402	52,717	50,670	51,270	54,940	54,465	52,342	52,106	50,610

2.4 GAS cilindrica (55°)

GAS CILINDRICA (55°) Conforme UNI - ISO 228

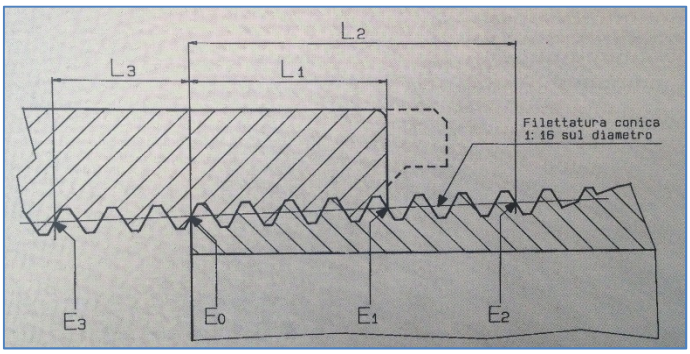
dimensioni	Passo F x 1"	MADREVITE					VITE classe A					
		esterno	medio		nocciolo		esterno		medio		nocciolo	
		min.	min.	max.	min.	max	max	min.	max	min.	max	min.
G 1/8"	28	9,728	9,147	9,254	8,566	8,848	9,728	9,514	9,147	9,040	8,566	8,432
G 1/4"	19	13,157	12,301	12,426	11,445	11,890	13,157	12,907	12,301	12,176	11,445	11,289
G 3/8"	19	16,662	15,806	15,933	14,950	15,395	16,662	16,418	15,806	15,679	14,950	14,791
G 1/2"	14	20,955	19,793	19,935	18,631	19,172	20,955	20,671	19,793	19,651	18,631	18,453
G 5/8"	14	22,911	21,749	21,891	20,587	21,128	22,911	22,627	21,749	21,607	20,587	20,409
G 3/4"	14	26,441	25,279	25,421	24,117	24,658	26,441	26,157	25,279	25,137	24,117	23,939
G 7/8"	14	30,201	29,039	29,181	27,877	28,418	30,201	29,917	29,039	28,897	27,877	27,699
G 1"	11	33,249	31,770	31,950	30,291	30,931	33,249	32,889	31,770	31,590	30,291	30,066
G 1 1/8"	11	37,897	36,418	36,598	34,939	35,579	37,897	37,537	36,418	36,238	34,939	34,714
G 1 1/4"	11	41,910	40,431	40,611	38,952	39,592	41,910	41,550	40,431	40,251	38,952	38,727
G 1 3/8"	11	44,323	42,844	43,024	41,365	42,005	44,223	43,963	42,844	42,664	41,365	41,140
G 1 1/2"	11	47,803	46,324	46,504	44,845	45,485	47,803	47,443	46,324	46,144	44,845	44,620
G 1 3/4"	11	53,746	52,267	52,447	50,788	51,428	53,746	53,386	52,267	52,087	50,788	50,563
G 2"	11	59,614	58,135	58,315	56,656	57,296	59,614	59,254	58,135	57,955	56,656	56,431
G 2 1/4"	11	65,710	64,231	64,448	62,752	63,392	65,710	65,276	64,231	64,014	62,752	62,481
G 2 1/2"	11	75,184	73,705	73,922	72,226	72,866	75,184	74,750	73,705	73,488	72,226	71,955
G 2 3/4"	11	81,534	80,055	80,272	78,576	79,216	81,534	81,100	80,055	79,838	78,576	78,305
G 3"	11	87,884	86,405	86,622	84,926	85,566	87,884	87,450	86,405	86,188	84,926	84,655

2.5 GAS conica (55°), conicità 1/16

GAS - CONICA (55°) (Conforme UNI-ISO 7)

			Diametri (di base) nel piano di misura			Lunghezza di misura			Posizione piano di misura su filettatura interna		Lunghezza della filettatura utile del tubo almeno uguale a		
							tolleranza + e - $T_1/2$		tolleranza + e - $T_2/2$				
		P mm	d mm	d_2 mm	d_1 mm	mm	≈ mm	numero di passi	mm	numero di passi	mm	mm	mm
1/16	28	0,907	7,723	7,142	6,561	4,0	0,9	1	1,1	1 1/4	6,5	7,4	5,6
1/8	28	0,907	9,728	9,147	8,566	4,0	0,9	1	1,1	1 1/4	6,5	7,4	5,6
1/4	19	1,337	13,157	12,301	11,445	6,0	1,3	1	1,7	1 1/4	9,7	11,0	8,4
3/8	19	1,337	16,662	15,806	14,950	6,4	1,3	1	1,7	1 1/4	10,1	11,4	8,8
1/2	14	1,814	20,955	19,793	18,631	8,2	1,8	1	2,3	1 1/4	13,2	15,0	11,4
3/4	14	1,814	26,441	25,279	24,117	9,5	1,8	1	2,3	1 1/4	14,5	16,3	12,7
1	11	2,309	33,249	31,770	30,291	10,4	2,3	1	2,9	1 1/4	16,8	19,1	14,5
1 1/4	11	2,309	41,910	40,431	38,952	12,7	2,3	1	2,9	1 1/4	19,1	21,4	16,8
1 1/2	11	2,309	47,803	46,324	44,845	12,7	2,3	1	2,9	1 1/4	16,1	21,4	16,8
2	11	2,309	59,614	58,135	56,656	15,9	2,3	1	2,9	1 1/4	23,4	25,7	21,1
2 1/2	11	2,309	75,184	73,705	72,226	17,5	3,5	1 1/2	3,5	1 1/2	26,7	30,2	23,2
3	11	2,309	87,884	86,405	84,926	20,6	3,5	1 1/2	3,5	1 1/2	29,8	33,3	26,3
4	11	2,309	113,030	111,551	110,072	25,4	3,5	1 1/2	3,5	1 1/2	35,8	39,3	32,3
5	11	2,309	138,430	136,951	135,472	28,6	3,5	1 1/2	3,5	1 1/2	40,1	43,6	36,6
6	11	2,309	163,830	162,351	160,872	28,6	3,5	1 1/2	3,5	1 1/2	40,1	43,6	36,6

2.6 NPT (60°), conicità 1/16



N.P.T. (60°) (Conforme ANSI-ASME B1-20)

Nominal Pipe Size	Passo F x 1"	Diametro medio inizio filettatura esterna	Lunghezza di accoppiamento		Lunghezza di filettature esterna		Lunghezza di filettatura utile interna	
				Diametro medio		Diametro medio		Diametro medio
1	P	E0	L1	E1	L2	E2	L3	E3
1/16	27	6,888	4,064	7,142	6,632	7,302	2,822	6,712
1/8	27	9,233	4,102	9,489	6,703	9,652	2,822	9,057
1/4	18	12,126	5,786	12,487	10,206	12,763	4,234	11,861
3/8	18	15,545	6,096	15,926	10,358	16,192	4,234	15,281
1/2	14	19,264	8,128	19,772	13,556	20,111	5,443	18,924
3/4	14	24,579	8,611	25,117	13,861	25,445	5,443	24,239
1	11,5	30,826	10,16	31,461	17,343	31,910	6,629	30,412
1 1/4	11,5	39,551	10,668	40,218	17,953	40,673	6,629	39,137
1 1/2	11,5	45,621	10,668	46,287	18,377	46,769	6,629	45,206
2	11,5	57,633	11,074	58,325	19,215	58,834	6,629	57,219
2 1/2	8	69,076	17,323	70,159	28,892	70,882	6,35	68,679
3	8	84,852	19,456	86,068	30,480	86,757	6,35	84,455
3 1/2	8	97,472	20,853	98,776	31,750	99,457	6,35	97,076
4	8	110,093	21,438	111,433	33,02	112,157	6,35	109,696
5	8	136,924	23,800	138,412	35,720	139,157	6,35	136,528
6	8	163,731	24,333	165,252	38,417	166,132	6,35	163,334

2.7 UNC – UNF - UNEF (60°)

AMERICANA UNC - UNF - UNEF (60°) Conforme ANSI B 1.1 - 1982

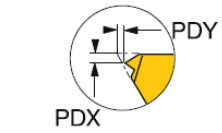
Ø nominale e passo	MADREVITE 2B					VITE Toll. media 2A				
	Ø esterno	Ø medio		Ø nocciolo		Ø esterno		Ø medio		Ø nocciolo
	min.	min.	max	min.	max	max	min.	max	min.	max
10-24 UNC	4,826	4,137	4,239	3,683	3,962	4,801	4,618	4,113	4,028	3,541
10-32 UNF	4,826	4,310	4,409	3,962	4,166	4,803	4,651	4,287	4,211	3,858
12-24 UNC	5,486	4,798	4,910	4,343	4,597	5,461	5,278	4,773	4,686	4,201
12-28 UNF	5,486	4,897	5,003	4,496	4,724	5,461	5,296	4,872	4,791	4,379
12-32 UNEF	5,486	4,971	5,075	4,623	4,826	5,464	5,311	4,948	4,869	4,518
1/ 4-20 UNC	6,35	5,524	5,649	4,978	5,258	6,322	6,116	5,497	5,403	4,810
1/ 4-28 UNF	6,35	5,761	5,870	5,359	5,588	6,325	6,160	5,735	5,652	5,243
1/ 4-32 UNEF	6,35	5,834	5,941	5,486	5,689	6,325	6,172	5,809	5,728	5,379
5/16-18 UNC	7,937	7,021	7,155	6,401	6,731	7,907	7,686	6,990	6,888	6,228
5/16-24 UNF	7,937	7,249	7,371	6,782	7,036	7,910	7,727	7,221	7,127	6,650
5/16-32 UNEF	7,937	7,422	7,529	7,087	7,264	7,912	7,759	7,396	7,315	6,967
3/ 8-16 UNC	9,525	8,494	8,639	7,798	8,153	9,492	9,253	8,461	8,349	7,60
3/ 8-24 UNF	9,525	8,837	8,961	8,382	8,636	9,497	9,314	8,809	8,712	8,237
3/ 8-32 UNEF	9,525	9,009	9,121	8,661	8,865	9,499	9,347	8,984	8,897	8,555
7/16-14 UNC	11,113	9,934	10,089	9,144	9,550	11,077	10,815	9,898	9,779	8,918
7/16-20 UNF	11,113	10,287	10,424	9,728	10,033	11,079	10,874	10,254	10,147	9,568
7/16-28 UNEF	11,113	10,523	10,640	10,134	10,338	11,084	10,919	10,495	10,404	10,003
1/ 2-13 UNC	12,7	11,430	11,595	10,592	11,024	12,662	12,385	11,392	11,265	10,265
1/ 2-20 UNF	12,7	11,874	12,017	11,328	11,608	12,667	12,461	11,841	11,732	11,155
1/ 2-28 UNEF	12,7	12,110	12,232	11,709	11,938	12,672	12,507	12,082	11,989	11,59
9/16-12 UNC	14,288	12,913	13,086	11,989	12,446	14,247	13,957	12,873	12,741	11,727
9/16-18 UNF	14,288	13,371	13,520	12,751	13,081	14,252	14,031	13,335	13,221	12,573
9/16-24 UNEF	14,288	13,599	13,728	13,131	13,385	14,257	14,074	13,568	13,469	12,997
5/ 8-11 UNC	15,875	14,376	14,559	13,386	13,868	15,834	15,527	14,336	14,196	13,086
5/ 8-18 UNF	15,875	14,958	15,110	14,351	14,681	15,839	15,618	14,922	14,803	14,161
5/ 8-24 UNEF	15,875	15,186	15,318	14,732	14,986	15,844	15,661	15,156	15,054	14,585
3/ 4-10 UNC	19,05	17,399	17,595	16,307	16,840	19,004	18,677	17,353	17,203	15,979
3/ 4-16 UNF	19,05	18,019	18,184	17,323	17,678	19,012	18,773	17,981	17,854	17,120
3/ 4-20 UNEF	19,05	18,224	18,369	17,678	17,958	19,017	18,811	18,191	18,080	17,506
7/8- 9 UNC	22,225	20,391	20,599	19,177	19,761	22,177	21,824	20,343	20,183	18,816
7/ 8-14 UNF	22,225	21,046	21,224	20,269	20,676	22,184	21,923	21,006	20,869	20,025
7/ 8-20 UNEF	22,225	21,399	21,544	20,853	21,133	22,192	21,986	21,366	21,255	20,681
1"- 8 UNC	25,4	23,338	23,561	21,971	22,606	25,349	24,968	23,287	23,114	21,570
1"-12 UNF	25,4	24,026	24,219	23,114	23,571	25,354	25,065	23,980	23,830	22,835
1"-20 UNEF	25,4	24,574	24,724	24,028	24,307	25,364	25,158	24,539	24,424	23,853
1"1/8- 7 UNC	28,575	26,218	26,457	24,638	25,349	28,519	28,103	26,162	25,979	24,199
1"1/8-12 UNF	28,575	27,201	27,399	26,289	26,746	28,529	28,240	27,155	27,003	26,010
1"1/8-18 UNEF	28,575	27,658	27,815	27,051	27,381	28,539	28,318	27,622	27,503	26,853
1"1/4- 7 UNC	31,75	29,393	29,637	27,813	28,524	31,694	31,278	29,337	29,149	27,374
1"1/4-12 UNF	31,75	30,376	30,579	29,464	29,921	31,704	31,415	30,330	30,173	29,185
1"1/4-18 UNEF	31,75	30,833	30,993	30,226	30,556	31,712	31,491	30,795	30,670	30,033
1"3/8- 6 UNC	34,925	32,174	32,438	30,353	31,115	34,864	34,402	32,113	31,910	29,825
1"3/8-12 UNF	34,925	33,551	33,759	32,639	33,096	34,877	34,587	33,503	33,343	32,357
1"3/8-18 UNEF	34,925	34,008	34,168	33,401	33,731	34,887	34,666	33,970	33,845	33,208
1"1/2- 6 UNC	38,10	35,349	35,616	33,528	34,290	38,039	37,577	35,288	35,082	33,00
1"1/2-12 UNF	38,10	36,726	36,937	35,814	36,271	38,052	37,762	36,678	36,515	35,532
1"1/2-18 UNEF	38,10	37,183	37,348	36,576	36,880	38,062	37,841	37,145	37,018	36,383

3 Distribuzione delle profondità di passata

3.1 Introduzione

I cicli di filettatura calcolano autonomamente la profondità delle varie passate in base ai parametri che il programmatore imposta all'interno del ciclo. Nel caso si programmasse manualmente ogni singola passata è utile avere un riferimento che indichi quante passate eseguire e la profondità di ognuna di esse.

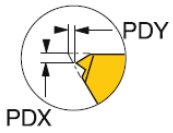
3.2 Metrica ISO esterna



mm
pollici

	Passo, mm														
	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00
PDY	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.67	1.67	1.67	1.38	1.08	0.88
	.052	.052	.052	.052	.052	.052	.052	.052	.052	.066	.066	.066	.054	.043	.035
PDX	0.50	0.50	0.80	0.80	1.00	1.20	1.40	1.40	1.80	2.50	2.50	2.50	2.50	2.50	2.80
	.020	.020	.031	.031	.039	.047	.055	.055	.071	.098	.098	.098	.098	.098	.110
No. di incrementi	Incremento radiale per passata														
1	0.10	0.16	0.16	0.17	0.20	0.17	0.20	0.20	0.20	0.24	0.24	0.27	0.29	0.27	0.30
	.004	.006	.006	.007	.008	.007	.008	.008	.008	.009	.009	.011	.011	.011	.012
2	0.09	0.15	0.15	0.15	0.19	0.17	0.19	0.19	0.19	0.23	0.22	0.25	0.28	0.26	0.29
	.004	.006	.006	.006	.007	.007	.007	.007	.007	.009	.009	.010	.011	.010	.011
3	0.08	0.12	0.14	0.14	0.18	0.16	0.18	0.18	0.19	0.22	0.22	0.24	0.27	0.26	0.29
	.003	.005	.006	.006	.007	.006	.007	.007	.007	.009	.009	.009	.011	.010	.011
4	0.07	0.07	0.12	0.13	0.16	0.15	0.17	0.17	0.18	0.21	0.21	0.23	0.26	0.25	0.28
	.003	.003	.005	.005	.006	.006	.007	.007	.007	.008	.008	.009	.010	.010	.011
5			0.08	0.12	0.14	0.14	0.16	0.17	0.17	0.21	0.21	0.23	0.25	0.25	0.27
			.003	.005	.006	.006	.006	.007	.007	.008	.008	.009	.010	.010	.011
6				0.08	0.08	0.13	0.15	0.16	0.17	0.20	0.20	0.22	0.25	0.24	0.26
				.003	.003	.005	.006	.006	.007	.008	.008	.009	.010	.009	.010
7						0.11	0.13	0.15	0.16	0.18	0.19	0.21	0.24	0.23	0.26
						.004	.005	.006	.006	.007	.007	.008	.009	.009	.010
8						0.08	0.08	0.14	0.15	0.17	0.18	0.20	0.23	0.23	0.25
						.003	.003	.006	.006	.007	.007	.008	.009	.009	.010
9								0.12	0.14	0.16	0.17	0.19	0.22	0.22	0.24
								.005	.006	.006	.007	.007	.009	.009	.009
10								0.08	0.13	0.15	0.16	0.18	0.20	0.21	0.23
								.003	.005	.006	.006	.007	.008	.008	.009
11									0.12	0.13	0.15	0.17	0.19	0.20	0.22
									.005	.005	.006	.007	.007	.008	.009
12									0.08	0.08	0.14	0.16	0.17	0.19	0.20
									.003	.003	.006	.006	.007	.007	.008
13											0.12	0.14	0.15	0.18	0.19
											.005	.006	.006	.007	.007
14											0.08	0.10	0.10	0.16	0.17
											.003	.004	.004	.006	.007
15														0.14	0.15
														.006	.006
16														0.10	0.10
														.004	.004
Incremento totale	**0.34**	**0.50**	**0.65**	**0.79**	**0.95**	**1.11**	**1.26**	**1.56**	**1.88**	**2.18**	**2.49**	**2.79**	**3.10**	**3.39**	**3.70**
	.013	**.020**	**.026**	**.031**	**.037**	**.044**	**.050**	**.061**	**.074**	**.086**	**.098**	**.110**	**.122**	**.133**	**.145**

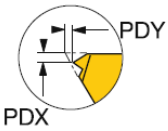
3.3 Metrica ISO interna



mm
pollici

	Passo, mm														
	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00
PDY	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.64	1.64	1.64	1.35	1.06	0.87
	.051	.051	.051	.051	.051	.051	.051	.051	.051	.065	.065	.065	.053	.042	.034
PDX	0.50	0.50	0.80	0.80	1.00	1.20	1.40	1.40	1.80	2.50	2.50	2.50	2.50	2.50	2.40
	.020	.020	.031	.031	.039	.047	.055	.055	.071	.098	.098	.098	.098	.098	.094
No. di incrementi	Incremento radiale per passata														
1	0.10	0.15	0.15	0.16	0.20	0.16	0.19	0.19	0.19	0.22	0.21	0.23	0.26	0.25	0.28
	.004	.006	.006	.006	.008	.006	.007	.007	.007	.009	.008	.009	.010	.010	.011
2	0.09	0.14	0.14	0.15	0.18	0.15	0.18	0.18	0.18	0.21	0.21	0.23	0.26	0.25	0.27
	.004	.005	.006	.006	.007	.006	.007	.007	.007	.008	.008	.009	.010	.010	.011
3	0.08	0.12	0.13	0.14	0.17	0.15	0.17	0.17	0.18	0.20	0.20	0.22	0.25	0.24	0.26
	.003	.005	.005	.006	.007	.006	.007	.007	.007	.008	.008	.009	.010	.010	.010
4	0.07	0.07	0.12	0.13	0.15	0.14	0.16	0.17	0.17	0.20	0.19	0.22	0.24	0.24	0.26
	.003	.003	.005	.005	.006	.006	.006	.007	.007	.008	.008	.009	.010	.009	.010
5			0.08	0.11	0.13	0.13	0.15	0.16	0.16	0.19	0.19	0.21	0.24	0.23	0.25
			.003	.005	.005	.005	.006	.006	.006	.007	.007	.008	.009	.009	.010
6				0.08	0.08	0.12	0.14	0.15	0.16	0.18	0.18	0.20	0.23	0.22	0.24
				.003	.003	.005	.005	.006	.006	.007	.007	.008	.009	.009	.010
7						0.11	0.12	0.14	0.15	0.17	0.18	0.20	0.22	0.22	0.24
						.004	.005	.006	.006	.007	.007	.008	.009	.009	.009
8						0.08	0.08	0.13	0.14	0.16	0.17	0.19	0.21	0.21	0.23
						.003	.003	.005	.006	.006	.007	.007	.008	.008	.009
9								0.12	0.14	0.15	0.16	0.18	0.20	0.20	0.22
								.005	.005	.006	.006	.007	.008	.008	.009
10								0.08	0.12	0.14	0.15	0.17	0.19	0.20	0.21
								.003	.005	.005	.006	.007	.007	.008	.008
11									0.11	0.12	0.14	0.16	0.18	0.19	0.20
									.004	.005	.006	.006	.007	.007	.008
12									0.08	0.08	0.13	0.15	0.16	0.18	0.19
									.003	.003	.005	.006	.006	.007	.008
13											0.12	0.14	0.15	0.17	0.18
											.005	.005	.006	.007	.007
14											0.08	0.10	0.10	0.16	0.16
											.003	.004	.004	.006	.006
15														0.14	0.15
														.005	.006
16														0.10	0.10
														.004	.004
Incremento totale	**0.34**	**0.48**	**0.63**	**0.77**	**0.92**	**1.05**	**1.20**	**1.48**	**1.78**	**2.03**	**2.31**	**2.61**	**2.88**	**3.19**	**3.44**
	.013	**.019**	**.025**	**.030**	**.036**	**.041**	**.047**	**.058**	**.070**	**.080**	**.091**	**.103**	**.113**	**.126**	**.135**

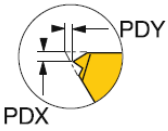
3.4 Pollici ISO (UN) esterna



mm
pollici

	Passo, TPI																	
	32	28	24	20	18	16	14	13	12	11	10	9	8	7	6	5	4.5	4
PDY	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.67	1.67	1.38	1.09	0.79
	.052	.052	.052	.052	.052	.052	.052	.052	.052	.052	.052	.052	.052	.066	.066	.054	.043	.031
PDX	0.50	0.80	0.80	0.80	1.00	1.00	1.20	1.40	1.40	1.40	1.40	1.80	1.80	2.50	2.50	2.50	2.65	2.90
	.020	.031	.031	.031	.039	.039	.047	.055	.055	.055	.055	.071	.071	.098	.098	.098	.104	.114
No. di incrementi	Incremento radiale per passata																	
1	0.17	0.15	0.18	0.18	0.20	0.19	0.18	0.20	0.22	0.21	0.21	0.21	0.22	0.25	0.24	0.29	0.28	0.32
	.007	.006	.007	.007	.008	.007	.007	.008	.009	.008	.008	.008	.009	.010	.009	.012	.011	.013
2	0.16	0.14	0.16	0.17	0.18	0.18	0.18	0.19	0.21	0.20	0.20	0.20	0.21	0.24	0.23	0.29	0.28	0.32
	.006	.005	.006	.007	.007	.007	.007	.007	.008	.008	.008	.008	.008	.009	.009	.011	.011	.012
3	0.13	0.13	0.15	0.15	0.17	0.17	0.17	0.18	0.20	0.19	0.19	0.19	0.20	0.23	0.23	0.28	0.27	0.31
	.005	.005	.006	.006	.007	.007	.007	.007	.008	.008	.008	.008	.008	.009	.009	.011	.011	.012
4	0.08	0.11	0.13	0.14	0.15	0.16	0.16	0.17	0.19	0.18	0.18	0.19	0.20	0.22	0.22	0.27	0.26	0.30
	.003	.004	.005	.006	.006	.006	.006	.007	.007	.007	.007	.007	.008	.009	.009	.011	.010	.012
5		0.08	0.08	0.12	0.13	0.14	0.15	0.16	0.17	0.17	0.17	0.18	0.19	0.21	0.21	0.26	0.26	0.29
		.003	.003	.005	.005	.006	.006	.006	.007	.007	.007	.007	.007	.008	.008	.010	.010	.011
6				0.08	0.08	0.12	0.14	0.14	0.15	0.16	0.16	0.17	0.18	0.20	0.21	0.25	0.25	0.28
				.003	.003	.005	.005	.006	.006	.006	.006	.007	.007	.008	.008	.010	.010	.011
7						0.08	0.12	0.12	0.13	0.15	0.15	0.16	0.17	0.19	0.20	0.24	0.24	0.27
						.003	.005	.005	.005	.006	.006	.006	.007	.008	.008	.010	.010	.011
8							0.08	0.08	0.08	0.13	0.14	0.15	0.16	0.18	0.19	0.23	0.23	0.26
							.003	.003	.003	.005	.006	.006	.006	.007	.008	.009	.009	.010
9										0.08	0.12	0.14	0.15	0.17	0.18	0.22	0.22	0.25
										.003	.005	.005	.006	.007	.007	.009	.009	.010
10											0.08	0.12	0.14	0.15	0.18	0.21	0.22	0.24
											.003	.005	.005	.006	.007	.008	.008	.010
11												0.08	0.12	0.13	0.17	0.19	0.21	0.23
												.003	.005	.005	.007	.008	.008	.009
12													0.08	0.08	0.15	0.18	0.19	0.22
													.003	.003	.006	.007	.008	.008
13															0.14	0.15	0.18	0.20
															.005	.006	.007	.008
14															0.10	0.10	0.17	0.18
															.004	.004	.007	.007
15																	0.15	0.16
																	.006	.006
16																	0.10	0.10
																	.004	.004
Incremento totale	0.54	0.60	0.70	0.84	0.92	1.04	1.17	1.24	1.35	1.47	1.62	1.79	2.02	2.26	2.64	3.17	3.51	3.94
	.021	.024	.028	.033	.036	.041	.046	.049	.053	.058	.064	.070	.080	.089	.104	.125	.138	.155

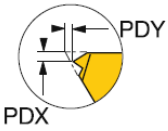
3.5 Pollici ISO (UN) interna



mm
pollici

	Passo, TPI																	
	32	28	24	20	18	16	14	13	12	11	10	9	8	7	6	5	4,5	4
PDY	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.64	1.64	1.35	1.06	0.87
	.051	.051	.051	.051	.051	.051	.051	.051	.051	.051	.051	.051	.051	.065	.065	.053	.042	.034
PDX	0.50	0.80	0.80	0.80	1.00	1.00	1.20	1.40	1.40	1.40	1.40	1.80	1.80	2.50	2.50	2.50	2.50	2.60
	.020	.031	.031	.031	.039	.039	.047	.055	.055	.055	.055	.071	.071	.098	.098	.098	.098	.102
No. di incrementi	Incremento radiale per passata																	
1	0.16	0.14	0.16	0.16	0.18	0.17	0.16	0.18	0.20	0.19	0.19	0.19	0.22	0.21	0.23	0.26	0.25	0.28
	.006	.005	.006	.006	.007	.007	.006	.007	.008	.007	.007	.007	.009	.008	.009	.010	.010	.011
2	0.14	0.13	0.15	0.16	0.17	0.16	0.16	0.16	0.19	0.18	0.18	0.18	0.21	0.21	0.23	0.26	0.25	0.27
	.006	.005	.006	.006	.007	.006	.006	.006	.007	.007	.007	.007	.008	.008	.009	.010	.010	.011
3	0.13	0.12	0.14	0.14	0.16	0.15	0.15	0.15	0.18	0.18	0.17	0.18	0.20	0.20	0.22	0.25	0.24	0.26
	.005	.005	.006	.006	.006	.006	.006	.006	.007	.007	.007	.007	.008	.008	.009	.010	.010	.010
4	0.08	0.11	0.12	0.13	0.14	0.14	0.14	0.14	0.17	0.17	0.17	0.17	0.20	0.19	0.22	0.24	0.24	0.26
	.003	.004	.005	.005	.006	.006	.006	.006	.007	.007	.007	.007	.008	.007	.009	.010	.009	.010
5		0.08	0.08	0.12	0.13	0.13	0.14	0.14	0.16	0.16	0.16	0.16	0.19	0.19	0.21	0.24	0.23	0.25
		.003	.003	.005	.005	.005	.006	.006	.006	.006	.006	.006	.007	.007	.008	.009	.009	.010
6				0.08	0.08	0.12	0.13	0.13	0.14	0.15	0.15	0.16	0.18	0.18	0.20	0.23	0.22	0.24
				.003	.003	.005	.005	.005	.006	.006	.006	.006	.007	.007	.008	.009	.009	.010
7						0.08	0.11	0.11	0.13	0.14	0.14	0.15	0.17	0.18	0.20	0.22	0.22	0.24
						.003	.005	.005	.005	.005	.006	.006	.007	.007	.008	.009	.009	.009
8							0.08	0.08	0.08	0.12	0.13	0.14	0.16	0.17	0.19	0.21	0.21	0.23
							.003	.003	.003	.005	.005	.006	.006	.007	.007	.008	.008	.009
9										0.08	0.12	0.14	0.15	0.16	0.18	0.20	0.20	0.22
										.003	.005	.005	.006	.006	.007	.008	.008	.009
10											0.08	0.12	0.14	0.15	0.17	0.19	0.20	0.21
											.003	.005	.005	.006	.007	.007	.008	.008
11												0.11	0.12	0.14	0.16	0.18	0.19	0.20
												.004	.005	.006	.006	.007	.007	.008
12												0.08	0.08	0.13	0.15	0.16	0.18	0.19
												.003	.003	.005	.006	.006	.007	.008
13														0.12	0.14	0.15	0.17	0.18
														.005	.005	.006	.007	.007
14														0.08	0.10	0.10	0.16	0.16
														.003	.004	.004	.006	.006
15																	0.14	0.15
																	.005	.006
16																	0.10	0.10
																	.004	.004
Incremento totale	0.51	0.58	0.66	0.78	0.86	0.96	1.07	1.15	1.25	1.36	1.48	1.78	2.03	2.31	2.61	2.88	3.19	3.44
	.020	.023	.026	.030	.034	.038	.042	.045	.049	.053	.058	.070	.080	.091	.103	.113	.126	.135

3.6 Whitworth (WH) esterna ed interna



mm
pollici

		Passo, TPI																
		28	26	20	19	18	16	14	12	11	10	9	8	7	6	5	4.5	4
Esterna	PDY	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.67	1.67	1.38	0.99	0.59
		.052	.052	.052	.052	.052	.052	.052	.052	.052	.052	.052	.052	.066	.066	.054	.039	.023
	PDX	0.80	0.80	0.80	0.80	1.00	1.00	1.40	1.40	1.40	1.40	1.80	1.80	2.50	2.50	2.50	2.65	2.75
		.031	.031	.031	.031	.039	.039	.055	.055	.055	.055	.071	.071	.098	.098	.098	.104	.108
Interno	PDY				1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.64	1.64	1.35	0.96	0.67
					.051	.051	.051	.051	.051	.051	.051	.051	.051	.065	.065	.053	.038	.026
	PDX				0.80	0.80	1.00	1.20	1.40	1.40	1.40	1.80	1.80	2.50	2.50	2.50	2.65	2.75
					.031	.031	.039	.047	.055	.055	.055	.071	.071	.098	.098	.098	.104	.108
No. di incrementi		Incremento radiale per passata																
1		0.16	0.17	0.19	0.20	0.17	0.17	0.20	0.23	0.22	0.22	0.22	0.23	0.26	0.25	0.31	0.30	0.34
		.006	.007	.007	.008	.007	.007	.008	.009	.009	.009	.009	.009	.010	.010	.012	.012	.013
2		0.15	0.16	0.18	0.18	0.16	0.16	0.19	0.22	0.21	0.21	0.21	0.22	0.26	0.25	0.30	0.29	0.33
		.006	.006	.007	.007	.006	.006	.007	.009	.008	.008	.008	.009	.010	.010	.012	.012	.013
3		0.14	0.14	0.16	0.17	0.16	0.15	0.18	0.21	0.20	0.20	0.20	0.21	0.25	0.24	0.29	0.29	0.32
		.005	.006	.006	.007	.006	.006	.007	.008	.008	.008	.008	.008	.010	.009	.012	.011	.013
4		0.12	0.13	0.15	0.15	0.15	0.15	0.17	0.20	0.19	0.19	0.20	0.21	0.24	0.23	0.28	0.28	0.31
		.005	.005	.006	.006	.006	.006	.007	.008	.008	.008	.008	.008	.009	.009	.011	.011	.012
5		0.08	0.08	0.13	0.13	0.13	0.14	0.16	0.18	0.18	0.18	0.19	0.20	0.23	0.23	0.28	0.27	0.30
		.003	.003	.005	.005	.005	.005	.006	.007	.007	.007	.007	.008	.009	.009	.011	.011	.012
6				0.08	0.08	0.12	0.13	0.14	0.16	0.17	0.17	0.18	0.19	0.22	0.22	0.27	0.26	0.29
				.003	.003	.005	.005	.006	.006	.007	.007	.007	.007	.008	.009	.010	.010	.012
7						0.08	0.11	0.12	0.14	0.15	0.16	0.17	0.18	0.20	0.21	0.25	0.25	0.28
						.003	.004	.005	.005	.006	.006	.007	.007	.008	.008	.010	.010	.011
8							0.08	0.08	0.08	0.13	0.15	0.16	0.17	0.19	0.20	0.24	0.25	0.27
							.003	.003	.003	.005	.006	.006	.007	.008	.008	.010	.010	.011
9										0.08	0.13	0.14	0.16	0.18	0.19	0.23	0.24	0.26
										.003	.005	.006	.006	.007	.008	.009	.009	.010
10											0.08	0.12	0.14	0.16	0.18	0.22	0.23	0.25
											.003	.005	.006	.006	.007	.009	.009	.010
11												0.08	0.12	0.14	0.17	0.20	0.22	0.24
												.003	.005	.005	.007	.008	.008	.009
12													0.08	0.08	0.16	0.18	0.20	0.22
													.003	.003	.006	.007	.008	.009
13															0.14	0.16	0.19	0.21
															.006	.006	.007	.008
14															0.10	0.10	0.17	0.19
															.004	.004	.007	.007
15																	0.15	0.16
																	.006	.006
16																	0.10	0.10
																	.004	.004
Incremento totale		**0.64**	**0.68**	**0.88**	**0.92**	**0.97**	**1.08**	**1.23**	**1.42**	**1.54**	**1.70**	**1.87**	**2.10**	**2.39**	**2.78**	**3.32**	**3.69**	**4.06**
		.025	**.027**	**.035**	**.036**	**.038**	**.043**	**.048**	**.056**	**.061**	**.067**	**.074**	**.083**	**.094**	**.109**	**.131**	**.145**	**.160**

4 Prefori di maschiatura per maschi a tagliare

4.1 M - Metrica ISO a passo grosso / MF - Metrica ISO a passo fine

FILETTATURA METRICA ISO A PASSO GROSSO

Maschiatura		Dia interno max mm	Punta MD
M	Passo mm		Dia mm
1	0.25	0,785	0,75
1,2	0,25	0,985	0,95
1,4	0,3	1,142	1,1
1,6	0,35	1,321	1,3
1,8	0,35	1,521	1,5
2	0,4	1,679	1,6
2,2	0,45	1,838	1,8
2,3	0,4	1,979	1,9
2,5	0,45	2,138	2,1
2,6	0,45	2,238	2,2
3	0,5	2,599	2,5
3,5	0,6	3,010	3
4	0,7	3,422	3,4
4,5	0,75	3,878	3,8
5	0.8	4,334	4,3
6	1	5,153	5,1
7	1	6,153	6,1
8	1,25	6,912	6,9
9	1,25	7,912	7,9
10	1,5	8,676	8,6
11	1,5	9,676	9,6
12	1,75	10,441	10,4
14	2	12,210	12,2
16	2	14,210	14,2
18	2,5	15,744	15,7
20	2,5	17,744	17,7
22	2,5	19,744	19,7
24	3	21,252	21
27	3	24,252	24
30	3,5	26,771	26,5
33	3,5	29,771	29
36	4	32,270	32
39	4	35,270	35
42	4,5	37,799	37,5
45	4,5	40,799	40,5
48	5	43,297	43
52	5	47,297	47
56	5,5	50,796	50,5
64	6	58,305	58

FILETTATURA METRICA ISO A PASSO FINE

Maschiatura		Dia interno max mm	Punta MD
MF	Passo mm		Dia mm
3	0,35	2,721	2,7
4	0,5	3,599	3,5
5	0,5	4,599	4,5
6	0,75	5,378	5,3
7	0,75	6,378	6.3
8	0,75	7,378	7,3
8	1	7,153	7.1
9	1	8,153	8,1
10	0,75	9,378	9,3
10	1	9,153	9,1
10	1,25	8,912	8,9
11	1	10,153	10,1
12	1	11,153	11,1
12	1,25	10,912	10,9
12	1,5	10,676	10,6
14	1	13,153	13,1
14	1,25	12,912	12,9
14	1,5	12,676	12,6
15	1	14,153	14,1
15	1,5	13,676	13,6
16	1	15,153	15,1
16	1,5	14,676	14,6
18	1	17,153	17,1
18	1,5	16,676	16,6
18	2	16,210	16,2
20	1	19,153	19,1
20	1,5	18,676	18,6
20	2	18,210	18,2
22	1	21,153	21
22	1,5	20,676	20,5
22	2	20,210	20
24	1	23,153	23
24	1,5	22,676	22,5
24	2	22,210	22

25	1	24,153	24
25	1,5	23,676	23,5
26	1,5	24,676	24,5
27	1,5	25,676	25,5
27	2	25,210	25
28	1,5	26,676	26,5
30	1,5	28,676	28,5
30	2	28,210	28
32	1,5	30,676	30,5
33	2	31,210	31
35	1,5	33,676	33,5
36	1,5	34,676	34,5
36	2	34,210	34
36	3	33,252	33
38	1,5	36,676	36,5
39	3	36,252	36
40	1,5	38,676	38,5
42	1,5	40,676	40,5
45	1,5	43,676	43,5
50	1,5	48,676	48,5

4.2 G - GAS cilindrica / RC – GAS conica

FILETTATURA GAS CILINDRICA			
Maschiatura		Dia interno max mm	Punta MD
G	Filetti per pollice		Dia mm
1/8	28	8,848	8,8
1/4	19	11,890	11,8
3/8	19	15,395	15,3
1/2	14	19,172	19,1
5/8	14	21,128	21
3/4	14	24,658	24,5
7/8	14	28,418	28,3
1"	11	30,931	30,8
1" 1/4	11	39,592	39,5
1" 1/2	11	45,485	45
1" 3/4	11	51,428	51
2"	11	57,296	57

FILETTATURA GAS CONICA		
Maschiatura		Diametro Punta MD (foro cilindrico)
RC	Filetti per pollice	
1/8	28	8,4
1/4	19	11,2
3/8	19	14,75
1/2	14	18,25
3/4	14	23,75
1"	11	30
1" 1/4	11	38,5
1" 1/2	11	44,5
2"	11	56

4.3 UNC - Americana a passo grosso / UNF - Americana a passo fine

FILETTATURA AMERICANA A PASSO GROSSO			
Maschiatura		Dia interno max mm	Punta MD
UNC			Dia mm
Nr.	4 - 40	2,385	2,35
Nr.	5 - 40	2,697	2,65
Nr.	6 - 32	2,896	2,85
Nr.	8 - 32	3,531	3,5
Nr.	10 - 24	3,962	3,9
Nr.	12 - 24	4,597	4,5
	1/4 - 20	5,268	5,2
	5/16 - 18	6,734	6,7
	3/8 - 16	8,164	8,1
	7/16 - 14	9,550	9,5
	1/2 - 13	11,013	11
	9/16 - 12	12,456	12,4
	5/8 - 11	13,868	13,8
	3/4 - 10	16,833	16,8
	7/8 - 9	19,748	19,7
	1" - 8	22,598	22,5
	1" 1/8 - 7	25,349	25
	1" 1/4 - 7	28,524	28,5
	1" 3/8 - 6	31,120	31
	1" 1/2 - 6	34,295	34
	1" 3/4 - 5	39,814	39,5
	2" - 4 1/2	45,595	45

FILETTATURA AMERICANA A PASSO FINE			
Maschiatura		Dia interno max mm	Punta MD
UNF			Dia mm
Nr.	4 - 48	2,459	2,4
Nr.	5 - 44	2,741	2,7
Nr.	6 - 40	3,023	3
Nr.	8 - 36	3,607	3,6
Nr.	10 - 32	4,166	4,1
Nr.	12 - 28	4,724	4,7
	1/4 - 28	5,580	5,5
	5/16 - 24	7,038	7
	3/8 - 24	8,626	8,6
	7/16 - 20	10,030	10
	1/2 - 20	11,618	11,6
	9/16 - 18	13,084	13
	5/8 - 18	14,671	14,6
	3/4 - 16	17,689	17,6
	7/8 -14	20,663	20,5
	1" - 12	23,569	23,5
	1" 1/8 - 12	26,744	26,7
	1" 1/4 - 12	29,919	29,5
	1" 3/8 - 12	33,094	33
	1" 1/2 - 12	36,269	36

4.4 W - Withworth

FILETTATURA WITHWORTH			
Maschiatura		Dia interno max mm	Punta MD
W	Filetti per pollice		Dia mm
3/32	48	1,910	1,9
1/8	40	2,590	2,55
5/32	32	3,211	3,2
3/16	24	3,744	3,7
7/32	24	4,538	4,5
1/4	20	5,224	5,2
5/16	18	6,661	6,6
3/8	16	8,052	8
7/16	14	9,379	9,3
1/2	12	10,610	10,6
9/16	12	12,176	12,1
5/8	11	13,598	13,5
3/4	10	16,538	16,5
7/8	9	19,411	19,4
1"	8	22,185	22
1" 1/8	7	24,879	24,75
1" 1/4	7	28,054	28
1" 3/8	6	30,555	30,5
1" 1/2	6	33,730	33,5
1" 5/8	5	35,921	35,5
1" 3/4	5	39,096	39
1" 7/8	4 1/2	41,648	41,5
2"	4 1/2	44,823	44,5

4.5 NPT – Conica americana

FILETTATURA CONICA AMERICANA		
Maschiatura		Diametro Punta MD (foro cilindrico)
NPT	Filetti per pollice	
1/8	27	8,5
1/4	18	11
3/8	18	14,5
1/2	14	18
3/4	14	23
1"	11 1/2	29
1" 1/4	11 1/2	38
1" 1/2	11 1/2	44
2"	11 1/2	56

5 Prefori di maschiatura per maschi a rullare

(il diametro del preforo è calcolato sul 65% dell'altezza teorica del profilo dei filetti)

5.1 M - Metrica ISO a passo grosso / MF - Metrica ISO a passo fine

FILETTATURA METRICA ISO A PASSO GROSSO

Maschiatura		Dia interno max mm	Punta MD
M	Passo mm		Dia mm
1	0,25	0,785	0,90
1,2	0,25	0,985	1,1
1,4	0,3	1,142	1,25
1,6	0,35	1,321	1,45
1,7	0,35	1,421	1,55
1,8	0,35	1,521	1,65
2	0,4	1,679	1,8
2,2	0,45	1,838	2,0
2,3	0,4	1,979	2,1
2,5	0,45	2,138	2,3
2,6	0,45	2,238	2,4
3	0,5	2,599	2,8
3,5	0,6	3,010	3,2
4	0,7	3,422	3,7
5	0,8	4,334	4,6
6	1	5,153	5,5
7	1	6,153	6,5
8	1,25	6,912	7,4
10	1,5	8,676	9,3
12	1,75	10,441	11,2
14	2	12,210	13,1
16	2	14,210	15,1
18	2,5	15,744	16,9
20	2,5	17,744	18,9
24	3	21,252	22,7

FILETTATURA METRICA ISO A PASSO FINE

Maschiatura		Dia interno max mm	Punta MD
MF	Passo mm		Dia mm
4	0,50	3,599	3,8
5	0,50	4,599	4,8
6	0,75	5,378	5,7
8	0,75	7,378	7,7
8	1,00	7,158	7,5
10	1,00	9,153	9,5
10	1,25	8,912	9,4
12	1,00	11,153	11,5
12	1,25	10,912	11,4
12	1,50	10,676	11,3
14	1,00	13,153	13,5
14	1,25	12,912	13,4
14	1,50	12,676	13,3
16	1,00	15,153	15,5
16	1,50	14,676	15,3

5.2 UNC - Americana a passo grosso / UNF - Americana a passo fine

FILETTATURA AMERICANA A PASSO GROSSO

Maschiatura UNC		Dia interno max mm	Punta MD Dia mm
nr. 1	- 64	1,582	1,7
nr. 2	- 56	1,872	2
nr. 3	- 48	2,148	2,3
nr. 4	- 40	2,385	2,6
nr. 5	- 50	2,697	2,9
nr. 6	- 32	2,896	3,2
nr. 8	- 32	3,531	3,8
nr. 10	- 24	3,962	4,4
nr. 12	- 24	4,597	5
1/4	- 20	5,268	5,8
6/16	- 18	6,734	7,3
3/8	- 16	8,164	8,8
7/16	- 14	9,550	10,3
1/2	- 13	11,013	11,9

FILETTATURA AMERICANA A PASSO FINE

Maschiatura UNF		Dia interno max mm	Punta MD Dia mm
nr. 1	- 72	1,613	1,7
nr. 2	- 64	1,913	2
nr. 3	- 56	2,197	2,3
nr. 4	- 48	2,459	2,6
nr. 5	- 44	2,741	2,9
nr. 6	- 40	3,023	3,2
nr. 8	- 36	3,607	3,9
nr. 10	- 32	4,166	4,5
nr. 12	- 28	4,724	5,1
1/4	- 28	5,588	6
6/16	- 24	7,038	7,5
3/8	- 24	8,626	9,1
7/16	- 20	10,030	10,6
1/2	- 20	11,618	12,1

5.3 G - GAS cilindrica / RC – GAS conica

FILETTATURA GAS CILINDRICA

Maschiatura G	Filetti per pollice	Dia interno max mm	Punta MD Dia mm
1/8	28	8,848	9,25
1/4	19	11,890	12,5
3/8	19	15,395	16
1/2	14	19,172	20
3/4	14	24,658	25,5
1"	11	30,931	32