

UNSERE PRÄZISION IST IHR ERFOLG  
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# GEWINDETABELLEN

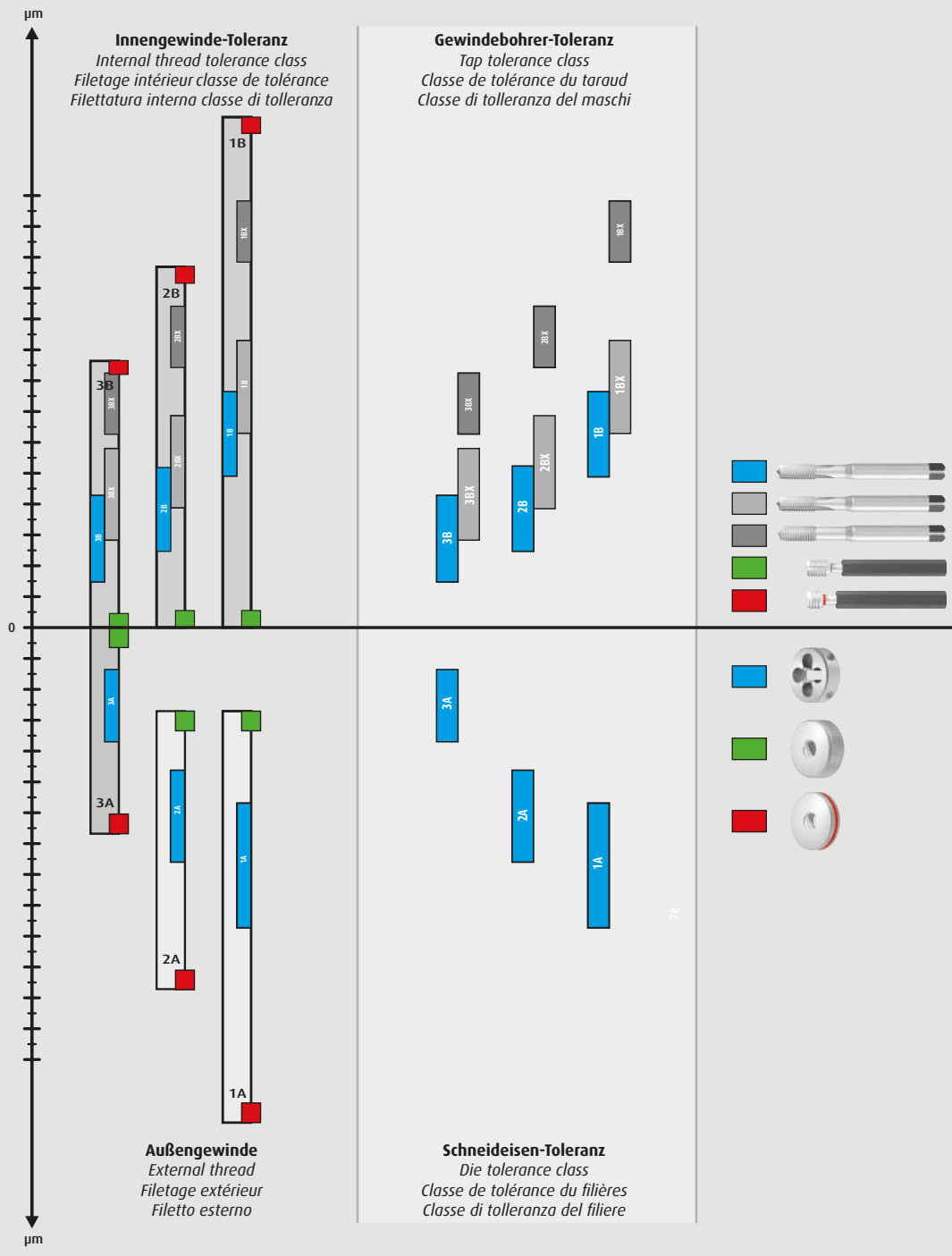
Threadtables  
Tableaux de filets  
Tabelle di filetti





# ANWENDUNGSKLASSEN UN

Application classes / Classes d'application / Classi di applicazione



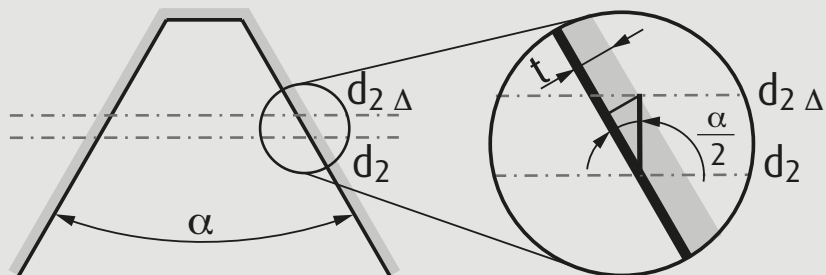
# EMPFOHLENE HERSTELLTOLERANZEN

Recommended manufacturing tolerances / Tolérances de fabrication / Tolleranze di costruzione raccomandati

D		P	T <sub>D2(5)</sub>	ISO 1			ISO 2			ISO 3			7G		
> mm	< mm			d <sub>2</sub>	d	d	d <sub>2</sub>	d	d	d <sub>2</sub>	d	d	d <sub>2</sub>	d	
				min.	max.	min.	min.	max.	min.	min.	max.	min.	min.	max.	min.
0,99	1,4	0,2	50	+5	+15	+15	-	-	-	-	-	-	-	-	-
0,99	1,4	0,25	56	+6	+17	+17	-	-	-	-	-	-	-	-	-
0,99	1,4	0,3	60	+6	+18	+18	+18	+30	+30	-	-	-	-	-	-
1,4	2,8	0,2	53	+5	+16	+16	-	-	-	-	-	-	-	-	-
1,4	2,8	0,25	60	+6	+18	+18	-	-	-	-	-	-	-	-	-
1,4	2,8	0,35	67	+7	+20	+20	+20	+34	+34	-	-	-	-	-	-
1,4	2,8	0,4	71	+7	+21	+21	+21	+36	+36	-	-	-	-	-	-
1,4	2,8	0,45	75	+8	+23	+23	+23	+38	+38	-	-	-	-	-	-
2,8	5,6	0,35	71	+7	+21	+21	+21	+36	+36	+36	+50	+50	+50	+64	+64
2,8	5,6	0,5	80	+8	+24	+24	+24	+40	+40	+40	+56	+56	+56	+72	+72
2,8	5,6	0,6	90	+9	+27	+27	+27	+45	+45	+45	+63	+63	+63	+81	+81
2,8	5,6	0,7	95	+10	+29	+29	+29	+48	+48	+48	+67	+67	+67	+86	+86
2,8	5,6	0,75	95	+10	+29	+29	+29	+48	+48	+48	+67	+67	+67	+86	+86
2,8	5,6	0,8	100	+10	+30	+30	+30	+50	+50	+50	+70	+70	+70	+90	+90
5,6	11,2	0,75	106	+11	+32	+32	+32	+53	+53	+53	+74	+74	+74	+95	+95
5,6	11,2	1	118	+12	+35	+35	+35	+59	+59	+59	+83	+83	+83	+106	+106
5,6	11,2	1,25	125	+13	+38	+38	+38	+63	+63	+63	+88	+88	+88	+113	+113
5,6	11,2	1,5	140	+14	+42	+42	+42	+70	+70	+70	+98	+98	+98	+126	+126
11,2	22,4	1	125	+13	+38	+38	+38	+63	+63	+63	+88	+88	+88	+113	+113
11,2	22,4	1,25	140	+14	+42	+42	+42	+70	+70	+70	+98	+98	+98	+126	+126
11,2	22,4	1,5	150	+15	+45	+45	+45	+75	+75	+75	+105	+105	+105	+135	+135
11,2	22,4	1,75	160	+16	+48	+48	+48	+80	+80	+80	+112	+112	+112	+144	+144
11,2	22,4	2	170	+17	+51	+51	+51	+85	+85	+85	+119	+119	+119	+153	+153
11,2	22,4	2,5	180	+18	+54	+54	+54	+90	+90	+90	+126	+126	+126	+162	+162
22,4	45	1	132	+13	+40	+40	+40	+66	+66	+66	+92	+92	+92	+119	+119
22,4	45	1,5	160	+16	+48	+48	+48	+80	+80	+80	+112	+112	+112	+144	+144
22,4	45	2	180	+18	+54	+54	+54	+90	+90	+90	+126	+126	+126	+162	+162
22,4	45	3	212	+21	+64	+64	+64	+106	+106	+106	+148	+148	+148	+191	+191
22,4	45	3,5	224	+22	+67	+67	+67	+112	+112	+112	+157	+157	+157	+202	+202
22,4	45	4	236	+24	+71	+71	+71	+118	+118	+118	+165	+165	+165	+212	+212
22,4	45	4,5	250	+25	+75	+75	+75	+125	+125	+125	+175	+175	+175	+225	+225
45	90	1,5	170	+17	+51	+51	+51	+85	+85	+85	+119	+119	+119	+153	+153
45	90	2	190	+19	+57	+57	+57	+95	+95	+95	+133	+133	+133	+171	+171
45	90	3	224	+22	+67	+67	+67	+112	+112	+112	+157	+157	+157	+202	+202
45	90	4	250	+25	+75	+75	+75	+125	+125	+125	+175	+175	+175	+225	+225
45	90	5	265	+27	+80	+80	+80	+133	+133	+133	+186	+186	+186	+239	+239
45	90	5,5	280	+28	+84	+84	+84	+140	+140	+140	+196	+196	+196	+252	+252
45	90	6	300	+30	+90	+90	+90	+150	+150	+150	+210	+210	+210	+270	+270
90	180	2	200	+20	+60	+60	+60	+100	+100	+100	+140	+140	+140	+180	+180
90	180	3	236	+24	+71	+71	+71	+118	+118	+118	+165	+165	+165	+212	+212
90	180	4	265	+27	+80	+80	+80	+133	+133	+133	+186	+186	+186	+239	+239
90	180	6	315	+32	+95	+95	+95	+158	+158	+158	+221	+221	+221	+284	+284
90	180	8	355	+36	+107	+107	+107	+178	+178	+178	+249	+249	+249	+320	+320

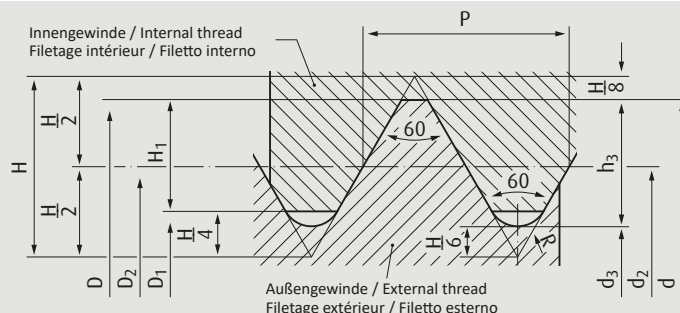
Δ - Änderung durch Beschichtung  
 Δ - Change due to coating  
 Δ - Modification du revêtement  
 Δ - Cambio del passo grazie al rivestimento

$$\Delta = 2x \frac{t}{\sin\left(\frac{\alpha}{2}\right)}$$



# GEWINDE-TABELLEN

Thread tolerances / Tolérances de taraudage / Tolleranze dei filetti



## METRISCHES ISO-GEWINDE (REGELGEWINDE)

Grenzmaße – Innengewinde  
DIN 13-20 (Auszug)  
Toleranzfeld 4H, 5H, 6H, 7H

## ISO METRIC THREADS (COARSE THREADS)

Limit dimensions – Internal thread  
DIN 13-20 (Excerpt)  
Tolerance zone 4H, 5H, 6H, 7H

## FILETAGE MÉTRIQUE ISO (FILETAGE À PAS NORMAUX)

Dimensions limitées – Filetage intérieur  
DIN 13-20 (Extrait)  
Champ de tolérance 4H, 5H, 6H, 7H

## FILETTATURA ISO METRICA (FILETTATURA GROSSA)

Dimensione, limite – Filettatura interna  
DIN 13-20 (Estratto)  
Campo di tolleranza 4H, 5H, 6H, 7H

Gewinde- Nenndurchm. Nominal thread diameter Diamètre nominal du filet Dia. nominale del filetto	Steigung Pitch Pas Passo	Außen- durchmesser Major diameter Diamètre extérieur Diametro esterno	Flankendurchmesser					Kerndurchmesser				
			D <sub>2</sub> min.	D <sub>2</sub> max.				D <sub>1</sub> min.	D <sub>1</sub> max.			
				4H	5H	6H	7H		4H	5H	6H	7H
M 1	0,25	1,000	0,838	0,883	0,894	-	-	0,729	0,774	0,785	-	-
M 1,1	0,25	1,100	0,938	0,983	0,994	-	-	0,829	0,874	0,885	-	-
M 1,2	0,25	1,200	1,038	1,083	1,094	-	-	0,929	0,974	0,985	-	-
M 1,4	0,3	1,400	1,205	1,253	1,265	1,280	-	1,075	1,128	1,142	1,160	-
M 1,6	0,35	1,600	1,373	1,426	1,440	1,458	-	1,221	1,284	1,301	1,321	-
M 1,8	0,35	1,800	1,573	1,626	1,640	1,658	-	1,421	1,484	1,501	1,521	-
M 2	0,4	2,000	1,740	1,796	1,811	1,830	-	1,567	1,638	1,657	1,679	-
M 2,2	0,45	2,200	1,908	1,968	1,983	2,003	-	1,713	1,793	1,813	1,838	-
M 2,5	0,45	2,500	2,208	2,268	2,283	2,303	-	2,013	2,093	2,113	2,138	-
M 3	0,5	3,000	2,675	2,738	2,755	2,775	2,800	2,459	2,549	2,571	2,599	2,639
M 3,5	0,6	3,500	3,110	3,181	3,200	3,222	3,250	2,850	2,950	2,975	3,010	3,050
M 4	0,7	4,000	3,545	3,620	3,640	3,663	3,695	3,242	3,354	3,382	3,422	3,466
M 4,5	0,75	4,500	4,013	4,088	4,108	4,131	4,163	3,688	3,806	3,838	3,878	3,924
M 5	0,8	5,000	4,480	4,560	4,580	4,605	4,640	4,134	4,259	4,294	4,334	4,384
M 6	1	6,000	5,350	5,445	5,468	5,500	5,540	4,917	5,067	5,107	5,153	5,217
M 7	1	7,000	6,350	6,445	6,468	6,500	6,540	5,917	6,067	6,107	6,153	6,217
M 8	1,25	8,000	7,188	7,288	7,313	7,348	7,388	6,647	6,817	6,859	6,912	6,982
M 9	1,25	9,000	8,188	8,288	8,313	8,348	8,388	7,647	7,817	7,859	7,912	7,982
M 10	1,5	10,000	9,026	9,138	9,166	9,206	9,250	8,376	8,566	8,612	8,676	8,751
M 11	1,5	11,000	10,026	10,138	10,166	10,206	10,250	9,376	9,566	9,612	9,676	9,751
M 12	1,75	12,000	10,863	10,988	11,023	11,063	11,113	10,106	10,318	10,371	10,441	10,531
M 14	2	14,000	12,701	12,833	12,871	12,913	12,966	11,835	12,071	12,135	12,210	12,310
M 16	2	16,000	14,701	14,833	14,871	14,913	14,966	13,835	14,071	14,135	14,210	14,310
M 18	2,5	18,000	16,376	16,516	16,556	16,600	16,656	15,294	15,574	15,649	15,744	15,854
M 20	2,5	20,000	18,376	18,516	18,556	18,600	18,656	17,294	17,574	17,649	17,744	17,854
M 22	2,5	22,000	20,376	20,516	20,556	20,600	20,656	19,294	19,574	19,649	19,744	19,854
M 24	3	24,000	22,051	22,221	22,263	22,316	22,386	20,752	21,067	21,152	21,252	21,382
M 27	3	27,000	25,051	25,221	25,263	25,316	25,386	23,752	24,067	24,152	24,252	24,382
M 30	3,5	30,000	27,727	27,907	27,951	28,007	28,082	26,211	26,566	26,661	26,771	26,921
M 33	3,5	33,000	30,727	30,907	30,951	31,007	31,082	29,211	29,566	29,661	29,771	29,921
M 36	4	36,000	33,402	33,592	33,638	33,702	33,777	31,670	32,045	32,145	32,270	32,420
M 39	4	39,000	36,402	36,592	36,638	36,702	36,777	34,670	35,045	35,145	35,270	35,420
M 42	4,5	42,000	39,077	39,277	39,327	39,392	39,477	37,129	37,554	37,659	37,799	37,979
M 45	4,5	45,000	42,077	42,277	42,327	42,392	42,477	40,129	40,554	40,659	40,799	40,979
M 48	5	48,000	44,752	44,964	45,017	45,087	45,177	42,587	43,037	43,147	43,297	43,487
M 52	5	52,000	48,752	48,964	49,017	49,087	49,177	46,587	47,037	47,147	47,297	47,487
M 56	5,5	56,000	52,428	52,652	52,708	52,783	52,878	50,046	50,521	50,646	50,796	50,996
M 60	5,5	60,000	56,428	56,652	56,708	56,783	56,878	54,046	54,521	54,646	54,796	54,996

Maße in mm / Dimensions in mm / Dimensions en mm / Dimensioni in mm

# GEWINDE-TABELLEN

Thread tolerances / Tolérances de taraudage / Tolleranze dei filetti

## METRISCHES

### ISO-FEINGEWINDE

Grenzmaße – Innengewinde  
DIN 13-21, 13-22, 13-23 (Auszug)  
Toleranzfeld 4H, 5H, 6H, 7H

## ISO METRIC FINE THREADS

Limit dimensions – Internal thread  
DIN 13-21, 13-22, 13-23 (Excerpt)  
Tolerance zone 4H, 5H, 6H, 7H

## FILETAGE MÉTRIQUE ISO À PAS FIN

Dimensions limitées – Filetage intérieur  
DIN 13-21, 13-22, 13-23 (Extrait)  
Champ de tolérance 4H, 5H, 6H, 7H

## FILETTATURA ISO METRICA A PASSO FINE

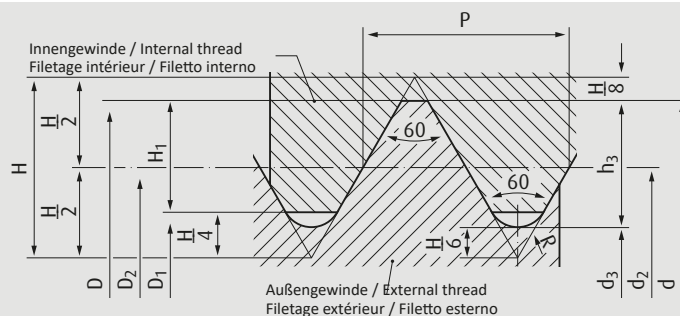
Dimensione, limite – Filettatura interna  
DIN 13-21, 13-22, 13-23 (Estratto)  
Campo di tolleranza 4H, 5H, 6H, 7H

Gewinde- Nenndurchm. Nominal thread diameter Diamètre nominal du filet Dia. nominale del filetto	Steigung Pitch Pas Passo	Außen- durchmesser Major diameter Diamètre extérieur Diametro esterno	Flankendurchmesser					Kerndurchmesser				
			Pitch diameter					Minor diameter				
			Diamètre sur flanc					Diamètre de noyau				
D	P	D min.	D <sub>2</sub> min.	D <sub>2</sub> max.				D <sub>1</sub> min.	D <sub>1</sub> max.			
				4H	5H	6H	7H		4H	5H	6H	7H
M 2,5 x 0,35	0,35	2,500	2,273	2,326	2,340	2,358	-	2,121	2,184	2,201	2,221	-
M 3 x 0,35	0,35	3,000	2,773	2,829	2,844	2,863	-	2,621	2,684	2,701	2,721	-
M 3,5 x 0,35	0,35	3,500	3,273	3,329	3,344	3,363	-	3,121	3,184	3,201	3,221	-
M 4 x 0,35	0,35	4,000	3,773	3,829	3,844	3,863	-	3,621	3,684	3,701	3,721	-
M 4 x 0,5	0,5	4,000	3,675	3,738	3,755	3,775	3,800	3,459	3,549	3,571	3,599	3,639
M 4,5 x 0,5	0,5	4,500	4,175	4,238	4,255	4,275	4,300	3,959	4,049	4,071	4,099	4,139
M 5 x 0,5	0,5	5,000	4,675	4,738	4,755	4,775	4,800	4,459	4,549	4,571	4,599	4,639
M 6 x 0,5	0,5	6,000	5,675	5,746	5,765	5,787	-	5,459	5,549	5,571	5,599	5,639
M 6 x 0,75	0,75	6,000	5,513	5,598	5,619	5,645	5,683	5,188	5,306	5,338	5,378	5,424
M 7 x 0,75	0,75	7,000	6,513	6,598	6,619	6,645	6,683	6,188	6,306	6,338	6,378	6,424
M 8 x 0,5	0,5	8,000	7,675	7,746	7,765	7,787	-	7,459	7,549	7,571	7,599	7,639
M 8 x 0,75	0,75	8,000	7,513	7,598	7,619	7,645	7,683	7,188	7,306	7,338	7,378	7,424
M 8 x 1	1	8,000	7,350	7,445	7,468	7,500	7,540	6,917	7,067	7,107	7,153	7,217
M 9 x 1	1	9,000	8,350	8,445	8,468	8,500	8,540	7,917	8,067	8,107	8,153	8,217
M 10 x 0,75	0,75	10,000	9,513	9,598	9,619	9,645	9,683	9,188	9,306	9,338	9,378	9,424
M 10 x 1	1	10,000	9,350	9,445	9,468	9,500	9,540	8,917	9,067	9,107	9,153	9,217
M 10 x 1,25	1,25	10,000	9,188	9,288	9,313	9,348	9,388	8,647	8,817	8,859	8,912	8,982
M 11 x 1	1	11,000	10,350	10,445	10,468	10,500	10,540	9,917	10,067	10,107	10,153	10,217
M 12 x 1	1	12,000	11,350	11,450	11,475	11,510	11,550	10,917	11,067	11,107	11,153	11,217
M 12 x 1,25	1,25	12,000	11,188	11,300	11,328	11,368	11,412	10,647	10,817	10,859	10,912	10,982
M 12 x 1,5	1,5	12,000	11,026	11,144	11,176	11,216	11,262	10,376	10,566	10,612	10,676	10,751
M 13 x 1	1	13,000	12,350	12,450	12,475	12,510	12,550	11,917	12,067	12,107	12,153	12,217
M 14 x 1	1	14,000	13,350	13,450	13,475	13,510	13,550	12,917	13,067	13,107	13,153	13,217
M 14 x 1,25	1,25	14,000	13,188	13,300	13,328	13,368	13,412	12,647	12,817	12,859	12,912	12,982
M 14 x 1,5	1,5	14,000	13,026	13,144	13,176	13,216	13,262	12,376	12,566	12,612	12,676	12,751
M 15 x 1	1	15,000	14,350	14,450	14,475	14,510	14,550	13,917	14,068	14,108	14,154	14,218
M 15 x 1,5	1,5	15,000	14,026	14,144	14,176	14,216	14,262	13,376	13,566	13,612	13,676	13,751
M 16 x 1	1	16,000	15,350	15,450	15,475	15,510	15,550	14,918	15,068	15,108	15,154	15,218
M 16 x 1,5	1,5	16,000	15,026	15,144	15,176	15,216	15,262	14,376	14,566	14,612	14,676	14,751
M 18 x 1	1	18,000	17,350	17,450	17,475	17,510	17,550	16,918	17,068	17,108	17,154	17,218
M 18 x 1,5	1,5	18,000	17,026	17,144	17,176	17,216	17,262	16,376	16,566	16,612	16,676	16,751
M 18 x 2	2	18,000	16,701	16,833	16,871	16,913	16,966	15,835	16,071	16,135	16,210	16,310
M 20 x 1	1	20,000	19,350	19,450	19,475	19,510	19,550	18,918	19,068	19,108	19,154	19,218
M 20 x 1,5	1,5	20,000	19,026	19,144	19,176	19,216	19,262	18,376	18,566	18,612	18,676	18,751
M 20 x 2	2	20,000	18,701	18,833	18,871	18,913	18,966	17,835	18,071	18,135	18,210	18,310
M 22 x 1	1	22,000	21,350	21,450	21,475	21,510	21,550	20,918	21,068	21,108	21,154	21,218
M 22 x 1,5	1,5	22,000	21,026	21,144	21,176	21,216	21,262	20,376	20,566	20,612	20,676	20,751
M 22 x 2	2	22,000	20,701	20,833	20,871	20,913	20,966	19,835	20,071	20,135	20,210	20,310
M 24 x 1	1	24,000	23,350	23,456	23,482	23,520	23,562	22,918	23,068	23,108	23,154	23,218
M 24 x 1,5	1,5	24,000	23,026	23,151	23,186	23,226	23,276	22,376	22,566	22,612	22,676	22,751
M 24 x 2	2	24,000	22,701	22,841	22,881	22,925	22,981	21,835	22,071	22,135	22,210	22,310
M 25 x 1,5	1,5	25,000	24,026	24,151	24,186	24,226	24,276	23,376	23,566	23,612	23,676	23,751
M 26 x 1,5	1,5	26,000	25,026	25,151	25,186	25,226	25,276	24,376	24,566	24,612	24,676	24,751
M 27 x 1,5	1,5	27,000	26,026	26,151	26,186	26,226	26,276	25,376	25,566	25,612	25,676	25,751
M 27 x 2	2	27,000	25,701	25,841	25,881	25,925	25,981	24,835	25,071	25,135	25,210	25,310
M 28 x 1,5	1,5	28,000	27,026	27,151	27,186	27,226	27,276	26,376	26,566	26,612	26,676	26,751
M 30 x 1	1	30,000	29,350	29,456	29,482	29,520	29,562	28,918	29,068	29,108	29,154	29,218
M 30 x 1,5	1,5	30,000	29,026	29,151	29,186	29,226	29,276	28,376	28,566	28,612	28,676	28,751
M 30 x 2	2	30,000	28,701	28,841	28,881	28,925	28,981	27,835	28,071	28,135	28,210	28,310

Maße in mm / Dimensions in mm / Dimensions en mm / Dimensioni in mm

# GEWINDE-TABELLEN

Thread tolerances / Tolérances de taraudage / Tolleranze dei filetti

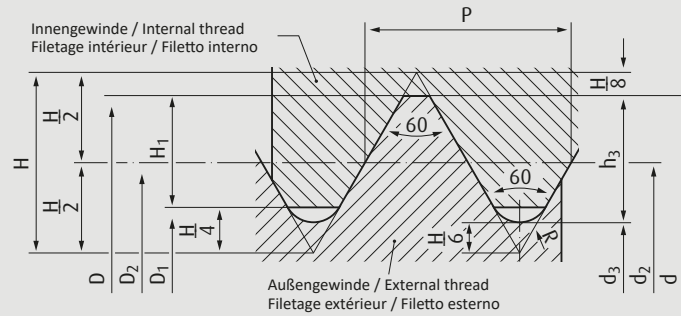


Gewinde- Nennndurchm. Nominal thread diameter Diamètre nominal du filet Dia. nominale del filetto	Steigung Pitch Pas Passo	Außen- durchmesser Major diameter Diamètre extérieur Diametro esterno	Flankendurchmesser Pitch diameter Diamètre sur flanc Diametro medio					Kerndurchmesser Minor diameter Diamètre de noyau Diametro del nocciolo				
			$D_2$ min.	$D_2$ max.				$D_1$ min.	$D_1$ max.			
				4H	5H	6H	7H		4H	5H	6H	7H
M 32 x 1,5	1,5	32,000	31,026	31,151	31,186	31,226	31,276	30,376	30,566	30,612	30,676	30,751
M 33 x 1,5	1,5	33,000	32,026	32,151	32,186	32,226	32,276	31,376	31,566	31,612	31,676	31,751
M 33 x 2	2	33,000	31,701	31,841	31,881	31,925	31,981	30,835	31,071	31,135	31,210	31,310
M 34 x 1,5	1,5	34,000	33,026	33,151	33,186	33,226	33,276	32,376	32,566	32,612	32,676	32,751
M 35 x 1,5	1,5	35,000	34,026	34,151	34,186	34,226	34,276	33,376	33,566	33,612	33,676	33,751
M 36 x 1,5	1,5	36,000	35,026	35,151	35,186	35,226	35,276	34,376	34,566	34,612	34,676	34,751
M 36 x 2	2	36,000	34,701	34,841	34,881	34,925	34,981	33,835	34,071	34,135	34,210	34,310
M 36 x 3	3	36,000	34,051	34,221	34,263	34,316	34,386	32,753	33,068	33,153	33,253	33,383
M 38 x 1,5	1,5	38,000	37,026	37,151	37,186	37,226	37,276	36,376	36,566	36,612	36,676	36,751
M 39 x 2	2	39,000	37,701	37,841	37,881	37,925	37,981	36,835	37,071	37,135	37,210	37,310
M 39 x 3	3	39,000	37,051	37,221	37,263	37,316	37,386	35,753	36,068	36,153	36,253	36,383
M 40 x 1,5	1,5	40,000	39,026	39,151	39,186	39,226	39,276	38,376	38,566	38,612	38,676	38,751
M 40 x 2	2	40,000	38,701	38,841	38,881	38,925	38,981	37,835	38,071	38,135	38,210	38,310
M 40 x 3	3	40,000	38,051	38,221	38,263	38,316	38,386	36,753	37,068	37,153	37,253	37,383
M 42 x 1,5	1,5	42,000	41,026	41,151	41,186	41,226	41,276	40,376	40,566	40,612	40,676	40,751
M 42 x 2	2	42,000	40,701	40,841	40,881	40,925	40,981	39,835	40,071	40,135	40,210	40,310
M 42 x 3	3	42,000	40,051	40,221	40,263	40,316	40,386	38,753	39,068	39,153	39,253	39,383
M 45 x 1,5	1,5	45,000	44,026	44,151	44,186	44,226	44,276	43,376	43,566	43,612	43,676	43,751
M 45 x 2	2	45,000	43,701	43,841	43,881	43,925	43,981	42,835	43,071	43,135	43,210	43,310
M 45 x 3	3	45,000	43,051	43,221	43,263	43,316	43,386	41,752	42,067	42,152	42,252	42,382
M 48 x 1,5	1,5	48,000	47,026	47,151	47,186	47,226	47,276	46,376	46,566	46,612	46,676	46,751
M 48 x 2	2	48,000	46,701	46,841	46,881	46,925	47,001	45,835	46,071	46,135	46,210	46,310
M 48 x 3	3	48,000	46,051	46,221	46,275	46,331	46,406	44,752	45,067	45,152	45,252	45,382
M 50 x 1,5	1,5	50,000	49,026	49,151	49,186	49,226	49,276	48,376	48,566	48,612	48,676	48,751
M 50 x 2	2	50,000	48,701	48,841	48,881	48,925	48,981	47,835	48,071	48,135	48,210	48,310
M 50 x 3	3	50,000	48,051	48,231	48,275	48,331	48,406	46,752	47,067	47,152	47,252	47,382
M 52 x 1,5	1,5	52,000	51,026	51,151	51,186	51,226	51,276	50,376	50,566	50,612	50,676	50,751
M 52 x 2	2	52,000	50,701	50,851	50,891	50,937	51,001	49,835	50,071	50,135	50,210	50,310
M 52 x 3	3	52,000	50,051	50,231	50,275	50,331	50,406	48,753	49,068	49,153	49,253	49,383
M 56 x 2	2	56,000	54,701	54,851	54,891	54,937	55,001	53,835	54,071	54,135	54,210	54,310
M 56 x 3	3	56,000	54,051	54,231	54,275	54,331	54,406	52,753	53,068	53,153	53,253	53,383
M 56 x 4	4	56,000	53,402	53,602	53,652	53,717	53,802	51,670	52,045	52,145	52,270	52,420
M 60 x 4	4	60,000	57,402	57,602	57,652	57,717	57,802	55,670	56,045	56,145	56,270	56,420
M 64 x 3	3	64,000	62,051	62,231	62,275	62,331	62,406	60,753	61,068	61,153	61,253	61,383
M 64 x 4	4	64,000	61,402	61,602	61,652	61,717	61,802	59,670	60,045	60,145	60,270	60,420
M 68 x 4	4	68,000	65,402	65,602	65,652	65,717	65,802	63,670	64,045	64,145	64,270	64,420
M 72 x 3	3	72,000	70,051	70,231	70,275	70,331	70,406	68,753	69,068	69,153	69,253	69,383
M 72 x 4	4	72,000	69,402	69,602	69,652	69,717	69,802	67,670	68,045	68,145	68,270	68,420
M 72 x 6	6	72,000	68,103	68,339	68,403	68,478	68,578	65,505	66,005	66,135	66,305	66,505
M 76 x 3	3	76,000	74,051	74,231	74,275	74,331	74,406	72,753	73,068	73,153	73,253	73,383
M 76 x 4	4	76,000	73,402	73,602	73,652	73,717	73,802	71,670	72,045	72,145	72,270	72,420
M 76 x 6	6	76,000	72,103	72,339	72,403	72,478	72,578	69,505	70,005	70,135	70,305	70,505
M 80 x 2	2	80,000	78,701	78,851	78,891	78,937	79,001	77,835	78,071	78,135	78,210	78,310
M 80 x 4	4	80,000	77,402	77,602	77,652	77,717	77,802	75,670	76,045	76,145	76,270	76,420
M 80 x 6	6	80,000	76,103	76,339	76,403	76,478	76,578	73,505	74,005	74,135	74,305	74,505
M 85 x 4	4	85,000	82,402	82,602	82,652	82,717	82,802	80,670	81,045	81,145	81,270	81,420
M 85 x 6	6	85,000	81,103	81,339	81,403	81,478	81,578	78,505	79,005	79,135	79,305	79,505
M 90 x 4	4	90,000	87,402	87,602	87,652	87,717	87,802	85,670	86,045	86,145	86,270	86,420
M 90 x 6	6	90,000	86,103	86,339	86,403	86,478	86,578	83,505	84,005	84,135	84,305	84,505



# GEWINDE-TABELLEN

Thread tolerances / Tolérances de taraudage / Tolleranze dei filetti



## UNIFIED GROBGEWINDE UNC

Grenzmaße – Innengewinde  
ASME-B1.1 (Auszug)  
Toleranzfeld 1B, 2B, 3B

## UNIFIED COARSE THREADS UNC

Limit dimensions – Internal thread  
ASME-B1.1 (Excerpt)  
Tolerance zone 1B, 2B, 3B

## FILETAGE AMÉRICAIN UNIFIED UNC

Dimensions limitées – Filetage intérieur  
ASME-B1.1 (Extrait)  
Champ de tolérance 1B, 2B, 3B

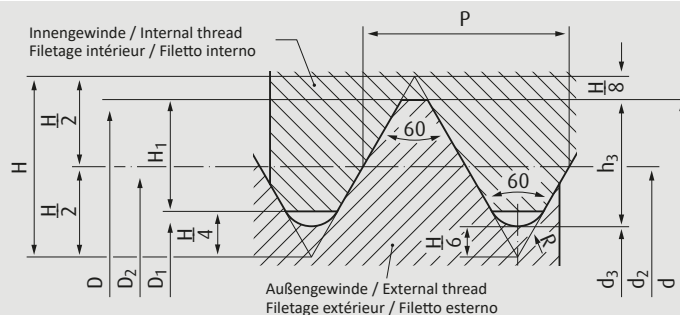
## FILETTATURA UNIFIED A PASSO GROSSO UNC

Dimensione, limite – Filettatura interna  
ASME-B1.1 (Estratto)  
Campo di tolleranza 1B, 2B, 3B

Gewinde-Nenndurchm. Nominal thread diameter Diamètre nominal du filet Dia. nominale del filetto	Steigung Pitch Pas Passo	Außendurchmesser Major diameter Diamètre extérieur Diametro esterno	Flankendurchmesser Pitch diameter Diamètre sur flanc Diametro medio				Kerndurchmesser Minor diameter Diamètre de noyau Diametro del nocciolo		
			D <sub>2</sub> min.	D <sub>2</sub> max.			D <sub>1</sub> min.	D <sub>1</sub> max.	
				3B	2B	1B		3B	2B, 1B
Nr. 1 - 64	0,397	1,854	1,598	1,646	1,664	-	1,425	1,582	1,582
Nr. 2 - 56	0,454	2,184	1,890	1,943	1,961	-	1,694	1,872	1,872
Nr. 3 - 48	0,529	2,515	2,172	2,228	2,248	-	1,941	2,146	2,146
Nr. 4 - 40	0,635	2,845	2,433	2,494	2,517	-	2,156	2,385	2,385
Nr. 5 - 40	0,635	3,175	2,764	2,827	2,847	-	2,487	2,697	2,697
Nr. 6 - 32	0,794	3,505	2,990	3,058	3,084	-	2,647	2,896	2,896
Nr. 8 - 32	0,794	4,166	3,650	3,721	3,746	-	3,307	3,528	3,531
Nr. 10 - 24	1,058	4,826	4,138	4,219	4,247	-	3,680	3,950	3,962
Nr. 12 - 24	1,058	5,486	4,798	4,882	4,910	-	4,341	4,590	4,597
1/4 - 20	1,27	6,350	5,524	5,616	5,648	5,710	4,976	5,250	5,258
5/16 - 18	1,411	7,938	7,021	7,120	7,155	7,221	6,411	6,680	6,731
3/8 - 16	1,588	9,525	8,494	8,603	8,639	8,710	7,805	8,082	8,153
7/16 - 14	1,814	11,112	9,934	10,051	10,089	10,168	9,149	9,441	9,550
1/2 - 13	1,954	12,700	11,430	11,552	11,595	11,676	10,584	10,881	11,024
9/16 - 12	2,117	14,288	12,913	13,043	13,086	13,172	11,996	12,301	12,446
5/8 - 11	2,309	15,875	14,376	14,514	14,559	14,648	13,376	13,693	13,868
3/4 - 10	2,54	19,050	17,399	17,544	17,595	17,691	16,299	16,624	16,840
7/8 - 9	2,822	22,225	20,391	20,546	20,599	20,703	19,169	19,520	19,761
1 - 8	3,175	25,400	23,338	23,505	23,561	23,673	21,963	22,344	22,606
1 1/8 - 7	3,629	28,575	26,218	26,398	26,457	26,576	24,648	25,082	25,349
1 1/4 - 7	3,629	31,750	29,393	29,576	29,637	29,759	27,823	28,258	28,524
1 3/8 - 6	4,233	34,925	32,174	32,372	32,438	32,568	30,343	30,851	31,115
1 1/2 - 6	4,233	38,100	35,349	35,550	35,616	35,750	33,518	34,026	34,290
1 3/4 - 5	5,08	44,450	41,151	41,372	41,445	41,592	38,951	39,560	39,827
2 - 4,5	5,645	50,800	47,135	47,371	47,450	47,607	44,689	45,367	45,593

# GEWINDE-TABELLEN

Thread tolerances / Tolérances de taraudage / Tolleranze dei filetti



## UNIFIED FEINGEWINDE UNF

Grenzmaße – Innengewinde  
ASME-B1.1 (Auszug)  
Toleranzfeld 1B, 2B, 3B

## UNIFIED FINE THREADS UNF

Limit dimensions – Internal thread  
ASME-B1.1 (Excerpt)  
Tolerance zone 1B, 2B, 3B

## FILETAGE AMÉRICAIN À PAS FIN UNIFIED UNF

Dimensions limitées – Filetage intérieur  
ASME-B1.1 (Extrait)  
Champ de tolérance 1B, 2B, 3B

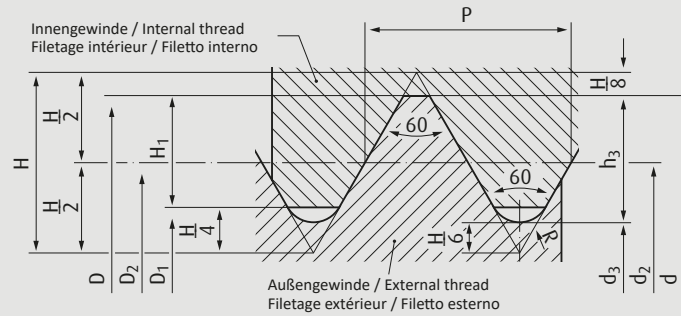
## FILETTATURA UNIFIED A PASSO FINE UNF

Dimensione, limite – Filettatura interna  
ASME-B1.1 (Estratto)  
Campo di tolleranza 1B, 2B, 3B

Gewinde-Nenndurchm. Nominal thread diameter Diamètre nominal du filet Dia. nominale del filetto	Steigung Pitch Pas Passo	Außen-durchmesser Major diameter Diamètre extérieur Diametro esterno	Flankendurchmesser Pitch diameter Diamètre sur flanc Diametro medio				Kerndurchmesser Minor diameter Diamètre de noyau Diametro del nocciolo		
			D <sub>2</sub> min.	D <sub>1</sub> max.			D <sub>1</sub> min.	D <sub>1</sub> max.	
				3B	2B	1B		3B	2B, 1B
Nr. 1 - 72	0,353	1,854	1,626	1,674	1,689	-	1,473	1,613	1,613
Nr. 2 - 64	0,397	2,184	1,928	1,979	1,996	-	1,755	1,913	1,913
Nr. 3 - 56	0,454	2,515	2,220	2,273	2,291	-	2,024	2,197	2,197
Nr. 4 - 48	0,529	2,845	2,502	2,560	2,581	-	2,271	2,459	2,459
Nr. 5 - 44	0,577	3,175	2,799	2,860	2,880	-	2,550	2,741	2,741
Nr. 6 - 40	0,635	3,505	3,094	3,157	3,180	-	2,817	3,012	3,023
Nr. 8 - 36	0,706	4,166	3,708	3,777	3,800	-	3,401	3,597	3,607
Nr. 10 - 32	0,794	4,826	4,310	4,384	4,409	-	3,967	4,168	4,168
Nr. 12 - 28	0,907	5,486	4,897	4,976	5,004	-	4,503	4,717	4,724
1/4 - 28	0,907	6,350	5,761	5,842	5,870	5,926	5,367	5,563	5,588
5/16 - 24	1,058	7,938	7,249	7,341	7,371	7,430	6,792	6,995	7,036
3/8 - 24	1,058	9,525	8,837	8,931	8,961	9,025	8,379	8,565	8,636
7/16 - 20	1,27	11,112	10,287	10,391	10,424	10,493	9,738	9,947	10,033
1/2 - 20	1,27	12,700	11,874	11,981	12,017	12,088	11,326	11,524	11,608
9/16 - 18	1,411	14,288	13,371	13,482	13,520	13,597	12,761	12,969	13,081
5/8 - 18	1,411	15,875	14,958	15,072	15,110	15,189	14,348	14,554	14,681
3/4 - 16	1,588	19,050	18,019	18,143	18,184	18,268	17,330	17,546	17,678
7/8 - 14	1,814	22,225	21,046	21,181	21,224	21,316	20,262	20,493	20,676
1 - 12	2,117	25,400	24,026	24,171	24,219	24,315	23,109	23,363	23,571
1 1/8 - 12	2,117	28,575	27,201	27,351	27,399	27,498	26,284	26,538	26,746
1 1/4 - 12	2,117	31,750	30,376	30,528	30,579	30,681	29,459	29,713	29,921
1 3/8 - 12	2,117	34,925	33,551	33,706	33,759	33,863	32,634	32,888	33,096
1 1/2 - 12	2,117	38,100	36,726	36,886	36,937	37,043	35,809	36,063	36,271

# GEWINDE-TABELLEN

Thread tolerances / Tolérances de taraudage / Tolleranze dei filetti



## UNIFIED EXTRA FEINGEWINDE UNEF

Grenzmaße – Innengewinde  
ASME-B1.1 (Auszug)  
Toleranzfeld 2B, 3B

## UNIFIED EXTRA FINE THREAD UNEF

Limit dimensions – Internal thread  
ASME-B1.1 (Excerpt)  
Tolerance zone 2B, 3B

## FILETAGE AMÉRICAIN À PASS EXTRA-FIN UNIFIED UNEF

Dimensions limitées – Filetage intérieur  
ASME-B1.1 (Extrait)  
Champ de tolérance 2B, 3B

## FILETTATURA UNIFIED A PASSO EXTRA FINE UNEF

Dimensione, limite – Filettatura interna  
ASME-B1.1 (Estratto)  
Campo di tolleranza 2B, 3B

Gewinde-Nenndurchm. Nominal thread diameter Diamètre nominal du filet Dia. nominale del filetto	Steigung Pitch Pas Passo	Außendurchmesser Major diameter Diamètre extérieur Diametro esterno	Flankendurchmesser Pitch diameter Diamètre sur flanc Diametro medio			Kerndurchmesser Minor diameter Diamètre de noyau Diametro del nocciolo		
			D <sub>2</sub> min.	D <sub>2</sub> max.		D <sub>1</sub> min.	D <sub>1</sub> max.	
				3B	2B		3B	2B
D - P/1"	P	D min.	D <sub>2</sub> min.	D <sub>2</sub> max.	D <sub>2</sub> max.	D <sub>1</sub> min.	D <sub>1</sub> max.	D <sub>1</sub> max.
Nr. 12 - 32	0,794	5,486	4,971	5,050	5,075	4,628	4,813	4,826
1/4 - 32	0,794	6,350	5,834	5,913	5,941	5,491	5,662	5,690
5/16 - 32	0,794	7,938	7,422	7,501	7,529	7,079	7,231	7,264
3/8 - 32	0,794	9,525	9,009	9,093	9,121	8,666	8,811	8,865
7/16 - 28	0,907	11,112	10,523	10,612	10,640	10,130	10,290	10,338
1/2 - 28	0,907	12,700	12,111	12,202	12,233	11,717	11,877	11,938
9/16 - 24	1,058	14,288	13,599	13,696	13,729	13,142	13,320	13,386
5/8 - 24	1,058	15,875	15,187	15,286	15,319	14,729	14,907	14,986
3/4 - 20	1,27	19,050	18,224	18,334	18,369	17,676	17,874	17,958
7/8 - 20	1,27	22,225	21,400	21,509	21,544	20,851	21,049	21,133
1 - 20	1,27	25,400	24,574	24,686	24,724	24,026	24,224	24,308

# VERGLEICHSTABELLE INCH - MM

## Steigung in Gang pro inch

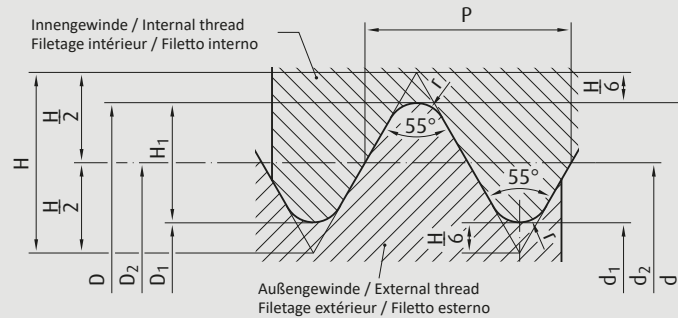
Comparison INCH- MM / Tableau comparatif INCH- MM / Tabella comparativa INCH- MM  
 Pitch in threads per inch / Graduation en pas par inch / Passo nella spira per ogni 1 inch

Nennmaß Nominal size Dimension nominal Dimensione nominale  inch / Nr.	Nenndurchm. Nominal diameter Diamètre nominal Diametro nominale  ≈ [mm]	UNC	UNF	UNEF	UN-4	UN-6	UN-8	UN-12	UN-16	UN-20	UN-28	UN-32	W (BSW)	BSF	G Rp	Nenndurchm. Nominal diameter Diamètre nominal Diametro nominale  [mm]	
Nr. 0	1,52		80														
1/16	1,59												60		28	7,72	
Nr. 1	1,85	64	72														
Nr. 2	2,18	56	64														
3/32	2,38												48				
Nr. 3	2,51	48	56														
Nr. 4	2,84	40	48														
Nr. 5	3,17	40	44														
1/8	3,17												40		28	9,72	
Nr. 6	3,50	32	40														
5/32	3,96												32				
Nr. 8	4,16	32	36														
3/16	4,76												24	32			
Nr. 10	4,82	24	32														
Nr. 12	5,48	24	28	32													
7/32	5,55												24	28			
1/4	6,35	20	28	32									20	26	19	13,15	
9/32	7,14													26			
5/16	7,93	18	24	32						20	28						
3/8	9,52	16	24	32						20	28		16	20	19	16,66	
7/16	11,11	14	20	28					16				32	14	18		
1/2	12,70	13	20	28					16				32	12	16	14	20,95
9/16	14,28	12	18	24					16	20	28		32	12	16		
5/8	15,87	11	18	24					12	16	20	28	32	11	14	14	22,91
11/16	17,46			24					12	16	20	28	32		14		
3/4	19,05	10	16	20					12	16	20	28	32	10	12	14	26,44
13/16	20,64			20					12	16	20	28	32		12		
7/8	22,22	9	14	20					12	16	20	28	32	9	11	14	30,20
15/16	23,81			20					12	16	20	28	32				
1	25,40	8	12	20					16	20	28	32		8	10	11	33,24
1 1/16	26,99			18			8	12	16	20	28						
1 1/8	28,57	7	12	18			8	12	16	20	28			7	9	11	37,89
1 3/16	30,16			18			8	12	16	20	28						
1 1/4	31,75	7	12	18			8	12	16	20	28			7	9	11	41,91
1 5/16	33,34			18			8	12	16	20	28						
1 3/8	34,92	6	12	18			8	12	16	20	28			6	8	11	44,32
1 7/16	36,51			18	6	8	12	16	20	28							
1 1/2	38,10	6	12	18			8	12	16	20	28			6	8	11	47,80
1 9/16	39,69			18	6	8	12	16	20	28							
1 5/8	41,28			18	6	8	12	16	20	28				5	8		
1 11/16	42,86			18	6	8	12	16	20	28							
1 3/4	44,45	5			6	8	12	16	20	28				5	7	11	53,74
1 13/16	46,04				6	8	12	16	20	28							
1 7/8	47,63				6	8	12	16	20	28				4 1/2			
1 15/16	49,21				6	8	12	16	20	28							
2	50,80	4 1/2			6	8	12	16	20	28				4 1/2	7	11	59,61
2 1/8	53,97				6	8	12	16	20	28							
2 1/4	57,15	4 1/2			6	8	12	16	20	28				4	6	11	65,71
2 3/8	60,32				6	8	12	16	20	28							
2 1/2	63,50	4			6	8	12	16	20	28				4	6	11	75,18
2 5/8	66,67			4	6	8	12	16	20	28							
2 3/4	69,85	4			6	8	12	16	20	28				3 1/2	6	11	81,53
2 7/8	73,02			4	6	8	12	16	20	28							
3	76,20	4			6	8	12	16	20	28				3 1/2	5	11	87,88
3 1/8	79,37			4	6	8	12	16	20	28							
3 1/4	82,55	4			6	8	12	16	20	28				3 1/4	5	11	93,98
3 3/8	85,72			4	6	8	12	16	20	28							
3 1/2	88,90	4			6	8	12	16	20	28				3 1/4	4 1/2	11	100,33
3 5/8	92,07			4	6	8	12	16	20	28							
3 3/4	95,25	4			6	8	12	16	20	28				3	4 1/2	11	106,68
3 7/8	98,42			4	6	8	12	16	20	28							
4	101,60	4			6	8	12	16	20	28				3	4 1/2	11	113,03



# GEWINDE-TABELLEN

Thread tolerances / Tolérances de taraudage / Tolleranze dei filetti



## WHITWORTH-GEWINDE BSW

Grenzmaße – Innengewinde  
BS 84 (Auszug)  
Toleranzfeld med. class

## WHITWORTH THREAD BSW

Limit dimensions – Internal thread  
BS 84 (Excerpt)  
Tolerance zone med. class

## FILETAGE WHITWORTH BSW

Dimensions limitee – Filetage intérieur  
BS 84 (Extrait)  
Champ de tolérance med. class

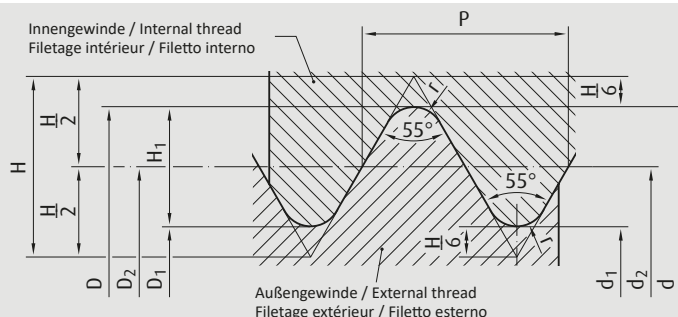
## FILETTATURA WHITWORTH A PASSO GROSSO BSW

Dimensione, limite – Filettatura interna  
BS 84 (Estratto)  
Campo di tolleranza med. class

Gewinde- Nenndurchm. Nominal thread diameter Diamètre nominal du filet Dia. nominale del filetto	Steigung Pitch Pas Passo	Außen- durchmesser Major diameter Diamètre extérieur Diametro esterno	Flankendurchmesser		Kerndurchmesser	
			Pitch diameter		Minor diameter	
			Diamètre sur flanc		Diamètre de noyau	
D - P/1"	P	D min.	D <sub>2</sub> min.	D <sub>2</sub> max.	D <sub>1</sub> min.	D <sub>1</sub> max.
			med. class	3B	med. class	
1/16 - 60	0,423	1,588	1,316	1,372	1,045	1,230
3/32 - 48	0,529	2,381	2,042	2,106	1,704	1,912
1/8 - 40	0,635	3,175	2,768	2,842	2,362	2,591
5/32 - 32	0,794	3,969	3,460	3,539	2,952	3,214
3/16 - 24	1,058	4,763	4,085	4,174	3,407	3,745
7/32 - 24	1,058	5,556	4,879	4,970	4,201	4,539
1/4 - 20	1,27	6,350	5,537	5,636	4,724	5,156
5/16 - 18	1,411	7,938	7,034	7,141	6,130	6,590
3/8 - 16	1,588	9,525	8,508	8,622	7,492	7,987
7/16 - 14	1,814	11,113	9,951	10,073	8,789	9,330
1/2 - 12	2,117	12,700	11,345	11,477	9,989	10,591
9/16 - 12	2,117	14,288	12,932	13,067	11,577	12,179
5/8 - 11	2,309	15,875	14,396	14,538	12,918	13,558
3/4 - 10	2,54	19,050	17,424	17,576	15,797	16,483
7/8 - 9	2,822	22,225	20,418	20,581	18,611	19,353
1 - 8	3,175	25,400	23,367	23,540	21,334	22,147
1 1/8 - 7	3,629	28,575	26,252	26,435	23,928	24,832
1 1/4 - 7	3,629	31,750	29,427	29,615	27,103	28,007
1 3/8 - 6	4,233	34,925	32,214	32,412	29,504	30,528
1 1/2 - 6	4,233	38,100	35,389	35,592	32,679	33,703
1 5/8 - 5	5,08	41,275	38,022	38,235	34,769	35,963
1 3/4 - 5	5,08	44,450	41,197	41,415	37,944	39,138
1 7/8 - 4,5	5,644	47,625	44,011	44,237	40,396	41,702
2 - 4,5	5,644	50,800	47,186	47,417	43,571	44,877

# GEWINDE-TABELLEN

Thread tolerances / Tolérances de taraudage / Tolleranze dei filetti



## WHITWORTH-ROHRGEWINDE G

Grenzmaße – Innengewinde  
DIN EN ISO 228 (Auszug)

## WHITWORTH PIPE THREAD G

Limit dimensions – Internal thread  
DIN EN ISO 228 (Excerpt)

## FILETAGE PAS DU GAZ WHITWORTH G

Dimensions limitees – Filetage intérieur  
DIN EN ISO 228 (Extrait)

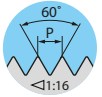
## FILETTATURA GAS CILINDRICA WHITWORTH G

Dimensione, limite – Filettatura interna  
DIN EN ISO 228 (Estratto)

Gewinde- Nenndurchm. Nominal thread diameter Diamètre nominal du filet Dia. nominale del filetto	Steigung Pitch Pas Passo	Außen- durchmesser Major diameter Diamètre extérieur Diametro esterno	Flankendurchmesser Pitch diameter Diamètre sur flanc Diametro medio		Kerndurchmesser Minor diameter Diamètre de noyau Diametro del nocciolo	
			$D_2$ min.	$D_2$ max.	$D_1$ min.	$D_1$ max.
D - P/1"	P	D min.				
G 1/16 - 28	0,907	7,723	7,142	7,249	6,561	6,843
G 1/8 - 28	0,907	9,728	9,147	9,254	8,566	8,848
G 1/4 - 19	1,337	13,157	12,301	12,426	11,445	11,89
G 3/8 - 19	1,337	16,662	15,806	15,931	14,950	15,395
G 1/2 - 14	1,814	20,955	19,793	19,935	18,631	19,172
G 5/8 - 14	1,814	22,911	21,749	21,891	20,587	21,128
G 3/4 - 14	1,814	26,441	25,279	25,421	24,117	24,658
G 7/8 - 14	1,814	30,201	29,039	29,181	27,877	28,418
G 1" - 11	2,309	33,249	31,770	31,95	30,291	30,931
G 1 1/8 - 11	2,309	37,897	36,418	36,598	34,939	35,579
G 1 1/4 - 11	2,309	41,910	40,431	40,611	38,952	39,592
G 1 1/2 - 11	2,309	47,803	46,324	46,504	44,845	45,485
G 1 3/4 - 11	2,309	53,746	52,267	52,447	50,788	51,428
G 2" - 11	2,309	59,614	58,135	58,315	56,656	57,296

# GEWINDE-KERNLOCHDURCHMESSER FÜR KEGELIGES ROHRGEWINDE NPT, KEGEL 1:16

Thread core hole diameter for tapered / Diamètre de noyau pour filetage / Diametro nocciolo filettatura per filettatura  
 pipe threads NPT, taper 1:16 / pas du gaz NPT, conicité 1:16 / gas conica NPT, conicità 1:16



## ANSI/ASME B 1.20.1

REIME NPT-Gewindebohrer sind für die Lochformen A bis C geeignet. Für Gewinde mit höheren Anforderungen, z.B. NPT-Gewinde für die Luftfahrt, empfehlen wir, das Kernloch nach Form B bzw. C auszuführen

REIME NPT taps are suited for the hole forms A to C. For threads with higher demands, e.g. NPT threads for the aircraft industry, we recommend preparing the thread hole to form B, resp. C.

Les tarauds NPT d'REIME sont appropriés pour les formes A, B et C. Pour taraudages destinés à de hautes exigences techniques, p.ex. le filetage NPT pour l'industrie aéronautique, nous recommandons de percer l'avant-trou selon forme B ou C.

I maschi NPT REIME sono appropriati per le forme di foro A fino a C. Per filettature per elevate esigenze, p.es. filettature NPT per l'aviazione, raccomandiamo realizzare il preforo secondo forma B o C.

A	Zylindrisch vorbohren ohne Verwendung einer Reibahle Drill cylindrically without using a reamer Perçage cylindrique sans utilisation d'alésoir Perforare cilindrico senza l'utilizzo di alesatore					
	Nenngröße. Nom. size Taille nom. Grand. nom.	Steigung Pitch Pas Passo	$\varnothing D_1$	$t_1^{1)}$	$t_{4 \text{ Bohren}}^{1)}$	$t_{4 \text{ Fräsen}}$
	$\varnothing d_1$	P Gg/1" (tpi)	$\varnothing D_1$	$t_1^{1)}$	$t_{4 \text{ Bohren}}^{1)}$	$t_{4 \text{ Fräsen}}$
	1/16	27	6,15	11,8	9,7	8,3
	1/8	27	8,5	11,9	9,75	8,3
	1/4	18	11	17,4	14,25	12,15
	3/8	18	14,4	17,7	14,55	12,45
	1/2	14	17,8	23,1	19	16,3
	3/4	14	23,15	23,6	19,5	16,3
	1"	11 1/2	29,05	28,4	23,4	19,55
	1 1/4	11 1/2	37,8	28,9	23,9	20,05
	1 1/2	11 1/2	43,85	28,9	23,9	20,05
2"	11 1/2	55,85	29,3	24,35	20,45	

B	Zylindrisch vorbohren und kegelig aufreiben Drill cylindrically and prepare tapered hole with reamer Perçage cylindrique et alésage conique Perforare cilindrico alesare conico						
	Nenngröße. Nom. size Taille nom. Grand. nom.	Steigung Pitch Pas Passo	$\varnothing D_2$	$\varnothing D_3$ (+0,05)	$t_1^{1)}$	$t_{4 \text{ Bohren}}^{1)}$	$t_{4 \text{ Fräsen}}$
	$\varnothing d_1$	P Gg/1" (tpi)	$\varnothing D_2$	$\varnothing D_3$ (+0,05)	$t_1^{1)}$	$t_{4 \text{ Bohren}}^{1)}$	$t_{4 \text{ Fräsen}}$
	1/16	27	5,95	6,39	11,8	9,7	8,3
	1/8	27	8,3	8,74	11,9	9,75	8,3
	1/4	18	10,75	11,36	17,4	14,25	12,15
	3/8	18	14,15	14,80	17,7	14,55	12,45
	1/2	14	17,45	18,32	23,1	19	16,3
	3/4	14	22,8	23,67	23,6	19,5	16,3
	1"	11 1/2	28,65	29,69	28,4	23,4	19,55
	1 1/4	11 1/2	37,35	38,45	28,9	23,9	20,05
	1 1/2	11 1/2	43,45	44,52	28,9	23,9	20,05
2"	11 1/2	55,45	56,56	29,3	24,35	20,45	

1) Die Vorbohrtiefe  $t_1$  berücksichtigt die Längen  $L_1$  und  $L_3$  nach ASME-Norm, sowie die Anschnittlänge des Gewindebohrers und 1 bis 2 Gewindegänge Sicherheit. Tiefbohren ist erforderlich, wenn Gewindebohrer mit Maximal-Gewindelängen nach ASME B94.9 angewendet werden sollen.

1) The drill depth  $t_1$  takes into account the lengths  $L_1$  and  $L_3$  acc. ASME standards, the chamfer length of the tap and 1-2 threads safety margin. Deep drilling is necessary whenever taps with maximum thread length acc. ASME B94.9 are to be used

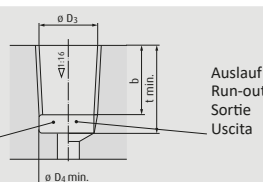
1) La profondeur d'avant-trou  $t_1$  tient compte des longueurs  $L_1$  et  $L_3$  selon norme ASME ainsi que de la longueur d'entrée du taraud et de 1 à 2 filets de sécurité. Le perçage profond est nécessaire pour les cas où les tarauds avec longueurs de peignes maximales selon ASME B94.9 sont utilisés.

1) La profondità del preforo  $t_1$  tiene conto delle lunghezze  $L_1$  e  $L_3$  secondo norma ASME ed anche la lunghezza d'imbocco del maschio da 1 a 2 filetti di sicurezza. La foratura profonda è necessaria se vengono utilizzati maschi con lunghezze filetto massime secondo ASME B94.9.

Maße in mm / Dimensions in mm / Dimensions en mm / Dimensioni in mm

# GEWINDE-KERNLOCHDURCHMESSER FÜR KEGELIGES ROHRGEWINDE NPT, KEGEL 1:16

Thread core hole diameter for tapered / Diamètre de noyau pour filetage / Diametro nocciolo filettatura per filettatura  
pipe threads NPT, taper 1:16 / pas du gaz NPT, conicité 1:16 / gas conica NPT, conicità 1:16

C	Empfehlung für das Vorarbeiten von Grundlöchern Recommended preparation of blind holes Recommandation pour préparation des trous borgnes Raccomandazione per la preparazione di fori ciechi					
	Nenngröße. Nom. size Taille nom. Grand. nom.	Steigung Pitch Pas Passo	$\varnothing D_3$	b	t	$\varnothing D_4$
	$\varnothing d_1$	P Gg/1" (tpi)	(+0,05)		min. <sup>2)</sup>	min.
 <p>Ausführung mit Einstich bevorzugt anwenden We recommend using a recessed design wherever possible Nous recommandons la version avec entaille Utilizzare preferibilmente versione con gola</p>	1/16	27	6,39	7	10	7,6
	1/8	27	8,74	7	10	10
	1/4	18	11,36	10,2	14,5	13,1
	3/8	18	14,80	10,6	15	16,5
	1/2	14	18,32	13,8	19	20,5
	3/4	14	23,67	14,2	20	25,8
	1"	11 1/2	29,69	17	24	32,2
	1 1/4	11 1/2	38,45	17,5	24,5	41
	1 1/2	11 1/2	44,52	17,5	24,5	47,2
	2"	11 1/2	56,56	18	25	59,2

2) Die Kernlochmaße sind auf Minimal-längen nach ASME-Norm aufgebaut. Für Grundlöcher, welche die angegebenen Mindesttiefen t nicht zulassen, sind Sondergewindebohrer erforderlich. Eine bemafte Grundlochskizze ist zur Beurteilung notwendig.

2) The thread hole dimensions are based on minimal lengths acc. ASME standards. For blind holes which do not permit the indicated minimal depth t, special taps are necessary. A thread hole sketch with full dimensional specifications is necessary for making a decision.

2) Les dimensions d'avant-trou sont calculées à partir des longueurs minimales selon norme ASME. Pour les trous borgnes dont les profondeurs mini ne correspondent pas aux valeurs t indiquées, des tarauds spéciaux sont nécessaires. Dans ce cas nous vous prions de nous envoyer un croquis coté du trou borgne.

2) Le misure del preforo sono calcolate partendo dalle lunghezze minime secondo norma ASME. Per fori ciechi, le cui profondità minime t non sono previste nella tabella, sono necessari maschi speciali. In questo caso Vi preghiamo di inviarci uno schizzo quotato del foro cieco.



# GEWINDE-KERNLOCHDURCHMESSER FÜR KEGELIGES ROHRGEWINDE NPTF, KEGEL 1:16

Thread core hole diameter for tapered / Diamètre de noyau pour filetage / Diametro nocciolo filettatura per filettatura  
 pipe threads NPTF, taper 1:16 / pas du gaz NPTF, conicité 1:16 / gas conica NPTF, conicità 1:16



## ANSI B 1.20.3

REIME NPTF-Gewindebohrer sind für die Lochformen A bis C geeignet. Für Gewinde mit höheren Anforderungen, z.B. NPTF-Gewinde für die Luftfahrt, empfehlen wir, das Kernloch nach Form B bzw. C auszuführen.

REIME NPTF taps are suited for the hole forms A to C. For threads with higher demands, e.g. NPTF threads for the aircraft industry, we recommend preparing the thread hole to form B, resp. C.

Les tarauds NPTF d'REIME sont appropriés pour les formes A, B et C. Pour taraudages destinés à de hautes exigences techniques, p.ex. le filetage NPTF pour l'industrie aéronautique, nous recommandons de percer l'avant-trou selon forme B ou C.

I maschi NPTF REIME sono appropriati per le forme di foro A fino a C. Per filettature per elevate esigenze, p.es. filettature NPTF per l'aviazione, raccomandiamo realizzare il preforo secondo forma B o C.

A	Zylindrisch vorbohren ohne Verwendung einer Reibahle Drill cylindrically without using a reamer Perçage cylindrique sans utilisation d'alésoir Perforare cilindrico senza l'utilizzo di alesatore				
	Nenngröße. Nom. size Taille nom. Grand. nom.	Steigung Pitch Pas Passo	$\varnothing D_1$	$t_1^{1)}$	$t_4$
	$\varnothing d_1$	P Gg/1" (tpi)	$\varnothing D_1$	$t_1^{1)}$	$t_4$
	1/16	27	6,1	13	10,6
	1/8	27	8,45	13	10,7
	1/4	18	10,9	19,2	15,6
	3/8	18	14,3	19,5	16
	1/2	14	17,6	25,4	20,8
	3/4	14	23	25,9	21,3
	1"	11 1/2	28,75	31,1	25,6
	1 1/4	11 1/2	37,5	31,7	26,1
	1 1/2	11 1/2	43,75	31,7	26,1
	2"	11 1/2	55,75	32,1	26,5

B	Zylindrisch vorbohren und kegelig aufreiben Drill cylindrically and prepare tapered hole with reamer Perçage cylindrique et alésage conique Perforare cilindrico alesare conico					
	Nenngröße. Nom. size Taille nom. Grand. nom.	Steigung Pitch Pas Passo	$\varnothing D_2$	$\varnothing D_3$ (+0,05)	$t_1^{1)}$	$t_4$
	$\varnothing d_1$	P Gg/1" (tpi)	$\varnothing D_2$	$\varnothing D_3$ (+0,05)	$t_1^{1)}$	$t_4$
	1/16	27	5,95	6,41	13	10,65
	1/8	27	8,3	8,76	13	10,7
	1/4	18	10,75	11,4	19,2	15,85
	3/8	18	14,15	14,84	19,5	16
	1/2	14	17,45	18,33	25,4	20,85
	3/4	14	22,8	23,68	25,9	21,3
	1"	11 1/2	28,65	29,72	31,1	25,6
	1 1/4	11 1/2	37,35	38,48	31,7	26,1
	1 1/2	11 1/2	43,45	44,55	31,7	26,1
	2"	11 1/2	55,45	56,59	32,1	26,5

1) Die Vorbohrtiefe  $t_1$  berücksichtigt die Längen  $L_1$  und  $L_3$  nach ASME-Norm, sowie die Anschnittlänge des Gewindebohrers und 1 bis 2 Gewindegänge Sicherheit. Tiefbohren ist erforderlich, wenn Gewindebohrer mit Maximal-Gewindelängen nach ASME B94.9 angewendet werden sollen.

1) The drill depth  $t_1$  takes into account the lengths  $L_1$  and  $L_3$  acc. ASME standards, the chamfer length of the tap and 1-2 threads safety margin. Deep drilling is necessary whenever taps with maximum thread length acc. ASME B94.9 are to be used.

1) La profondeur d'avant-trou  $t_1$  tient compte des longueurs  $L_1$  et  $L_3$  selon norme ASME ainsi que de la longueur d'entrée du taraud et de 1 à 2 filets de sécurité. Le perçage profond est nécessaire pour les cas où les tarauds avec longueurs de peignes maximales selon ASME B94.9 sont utilisés.

1) La profondità del preforo  $t_1$  tiene conto delle lunghezze  $L_1$  e  $L_3$  secondo norma ASME ed anche la lunghezza d'imbocco del maschio da 1 a 2 filetti di sicurezza. La foratura profonda è necessaria se vengono utilizzati maschi con lunghezze filetto massime secondo ASME B94.9.

Maße in mm / Dimensions in mm / Dimensions en mm / Dimensioni in mm

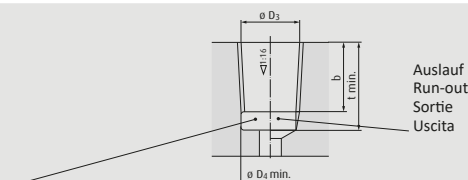
# GEWINDE-KERNLOCHDURCHMESSER FÜR KEGELIGES ROHRGEWINDE NPTF, KEGEL 1:16

Thread core hole diameter for tapered / Diamètre de noyau pour filetage / Diametro nocciolo filettatura per filettatura  
 pipe threads NPTF, taper 1:16 / pas du gaz NPTF, conicité 1:16 / gas conica NPTF, conicità 1:16

C

Empfehlung für das Vorarbeiten von Grundlöchern  
 Recommended preparation of blind holes  
 Recommandation pour préparation des trous borgnes  
 Raccomandazione per la preparazione di fori ciechi

Nenngröße. Nom. size Taille nom. Grand. nom.	Steigung Pitch Pas Passo	$\varnothing D_3$ (+0,05)	b	t min. <sup>2)</sup>	$\varnothing D_4$ min.
1/16	27	6,41	8	11	7,4
1/8	27	8,76	8	11	9,8
1/4	18	11,4	11,6	15,5	12,9
3/8	18	14,84	12	16	16,3
1/2	14	18,33	15,6	20,5	20,3
3/4	14	23,68	16	21,5	25,6
1"	11 1/2	29,72	19,2	26	32
1 1/4	11 1/2	38,48	19,7	26,5	40,8
1 1/2	11 1/2	44,55	19,7	26,5	47
2"	11 1/2	56,59	20,2	27	59



Ausführung mit Einstich bevorzugt anwenden  
 We recommend using a recessed design wherever possible  
 Nous recommandons la version avec entaille  
 Utilizzare preferibilmente versione con gola

2) Die Kernlochmaße sind auf Mini-  
 mallängen nach ASME-Norm aufge-  
 baut. Für Grundlöcher, welche die  
 angegebenen Mindesttiefen t nicht  
 zulassen, sind Sondergewinde-  
 bohrer erforderlich. Eine bemaßte  
 Grundlochskizze ist zur Beurteilung  
 notwendig.

2) The thread hole dimensions are based  
 on minimal lengths acc. ASME  
 standards. For blind holes which do  
 not permit the indicated minimal  
 depth t, special taps are necessa-  
 ry. A thread hole sketch with full  
 dimensional specifications is neces-  
 sary for making a decision.

2) Les dimensions d'avant-trou sont  
 calculées à partir des longueurs  
 minimales selon norme ASME.  
 Pour les trous borgnes dont les  
 profondeurs mini ne correspon-  
 dent pas aux valeurs t indiquées,  
 des tarauds spéciaux sont nécessai-  
 res. Dans ce cas nous vous prions  
 de nous envoyer un croquis coté  
 du trou borgne.

2) Le misure del preforo sono cal-  
 colate partendo dalle lunghezze  
 minime secondo norma ASME. Per  
 fori ciechi, le cui profondità minime  
 t non sono previste nella tabella,  
 sono necessari maschi speciali.  
 In questo caso Vi preghiamo di  
 inviarci uno schizzo quotato del  
 foro cieco.

# GEWINDE-KERNLOCHDURCHMESSER FÜR KEGELIGES ROHRGEWINDE RC (BSPT), KEGEL 1:16

Thread core hole diameter for tapered pipe threads Rc (BSPT), taper 1:16 / Diamètre de noyau pour filetage pas du gaz Rc (BSPT), conicité 1:16 / Diametro nocciolo filettatura per filettatura gas conica Rc (BSPT), conicità 1:16



## DIN EN 10226-2, ISO 7-1

REIME Rc-Gewindebohrer sind für die Lochformen A bis C geeignet. Die Lochform A kann angewendet werden, wenn keine Dichtprobleme zu befürchten sind.

REIME Rc taps are suited for the hole forms A to C. Hole type A can be used when there is no reason to worry about sealing problems.

Les tarauds Rc d'REIME sont appropriés pour les formes A, B et C. Le type de trou A peut être utilisé quand des problèmes d'étanchéité peuvent être exclus.

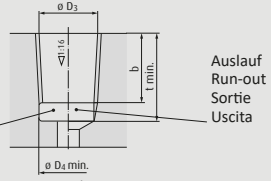
I maschi Rc REIME sono appropriati per le forme di foro A fino a C. La forma di foro A può essere utilizzata se sono esclusi i problemi di tenuta.

A	Zylindrisch vorbohren ohne Verwendung einer Reibahle Drill cylindrically without using a reamer Perçage cylindrique sans utilisation d'álesoir Perforare cilindrico senza l'utilizzo di alesatore				
	Nenngröße. Nom. size Taille nom. Grand. nom.	Steigung Pitch Pas Passo	$\varnothing D_1$	$t_1^{(1)}$	$t_4$
	$\varnothing d_1$	P Gg/1" (tpi)			
	Rc 1/16	28	6,15	11,1	9,5
	1/8	28	8,15	11,1	9,5
	1/4	19	10,85	16,3	14
	3/8	19	14,3	16,7	14,4
	1/2	14	17,8	22,3	19,1
	3/4	14	23,2	23,6	20,4
	1"	11	29,2	28,3	24,3

B	Zylindrisch vorbohren und kegelig aufreiben Drill cylindrically and prepare tapered hole with reamer Perçage cylindrique et álésage conique Perforare cilindrico alesare conico					
	Nenngröße. Nom. size Taille nom. Grand. nom.	Steigung Pitch Pas Passo	$\varnothing D_2$	$\varnothing D_3$ (JS11)	$t_1^{(1)}$	$t_4$
	$\varnothing d_1$	P Gg/1" (tpi)				
	Rc 1/16	28	6,1	6,56	11,1	9,5
	1/8	28	8,1	8,57	11,1	9,5
	1/4	19	10,75	11,45	16,3	14
	3/8	19	14,25	14,95	16,7	14,4
	1/2	14	17,7	18,63	22,3	19,1
	3/4	14	23,1	24,12	23,6	20,4
	1"	11	29,1	30,29	28,3	24,3

# GEWINDE-KERNLOCHDURCHMESSER FÜR KEGELIGES ROHRGEWINDE RC (BSPT), KEGEL 1:16

Thread core hole diameter for tapered / Diamètre de noyau pour filetage pas / Diametro nocciolo filettatura per filettatura  
 pipe threads Rc (BSPT), taper 1:16 / du gaz Rc (BSPT), conicité 1:16 / gas conica Rc (BSPT), conicità 1:16

C	Empfehlung für das Vorarbeiten von Grundlöchern Recommended preparation of blind holes Recommandation pour préparation des trous borgnes Raccomandazione per la preparazione di fori ciechi					
	Nenngröße. Nom. size Taille nom. Grand. nom.  $\varnothing d_1$	Steigung Pitch Pas Passo  P  Gg/1" (tpi)	$\varnothing D_3$  (JS11)	b  min.	t  min. <sup>2)</sup>	$\varnothing D_4$  min.
	 <p>Ausführung mit Einstich bevorzugt anwenden                      We recommend using a recessed design wherever possible                      Nous recommandons la version avec entaille                      Utilizzare preferibilmente versione con gola</p>	Rc 1/16 1/8 1/4 3/8 1/2 3/4 1"	28 28 19 19 14 14 11	6,56 8,57 11,45 14,95 18,63 24,12 30,29	5,6 5,6 8,4 8,8 11,4 12,7 14,5	9,9 9,9 14,6 15 20 21,3 25,4

2) Für Grundlöcher, welche die angegebenen Mindesttiefen t nicht zulassen, sind Sondergewindebohrer erforderlich.  
 Eine bemaßte Grundlochskizze ist zur Beurteilung notwendig.

2) For blind holes which do not permit the indicated minimal depth t, special taps are necessary.  
 A thread hole sketch with full dimensional specifications is necessary for making a decision.

2) Pour les trous borgnes dont les profondeurs mini ne correspondent pas aux valeurs t indiquées, des tarauds spéciaux sont nécessaires.  
 Dans ce cas nous vous prions de nous envoyer un croquis coté du trou borgne.

2) Per fori ciechi, le cui profondità minime t non sono previste nella tabella, sono necessari maschi speciali.  
 In questo caso Vi preghiamo di inviarcì uno schizzo quotato del foro cieco.

