



HANDGEWINDEBOHRER HAND TAPS



Nr. 1

Vorschneider, 6-8 Gang Anschnitt Rougher, 6-8 Threads Lead



Nr. 2

Mittelschneider, 4-5 Gang Anschnitt Intermediate, 4-5 Threads Lead



Nr. 3

Fertigschneider, 2-3 Gang Anschnitt Finisher, 2-3 Threads Lead



KONISCHE AUSFÜHRUNG NON-SERIAL FORM

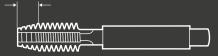
Nr. 1 - Form A

Fertigschneider, 6-8 Gang Anschnitt Finisher, 6-8 Threads Lead



Nr. 2 - Form D

Fertigschneider, 4-5 Gang Anschnitt Finisher, 4-5 Threads Lead



Nr. 3 - Form C

Fertigschneider, 2-3 Gang Anschnitt Finisher, 2-3 Threads Lead







HANDGEWINDEBOHRER HAND TAPS

	HSS-G	HSS-E	HSS-G Links / Left Hand
M	16	35	39
Mf	20	37	40
BSW	26		41
BSF	27		
ВА	28		
UNC	29		42
UNF	30		42
UNEF	31		
G (BSP)	32	38	43
PG	33		
Tr	34		

Anwendung HSS-G:

- für allgemeinen Einsatz
- gut zerspanbare Werkstoffe bis 900 N/mm²
 unlegierte und niedriglegierte Stähle

Application HSS-G:

- for general use
- non abrasive material up to 900 N/mm²
- unalloyed and low alloyed steel

Anwendung HSS-E:

- hohe Schneidhaltigkeit
- schwer zerspanbare Werkstoffe
- Stähle bis 1200 N/mm²
- sowie für allgemeinen Einsatz

Application HSS-E:

- high cutting ability
- abrasive material
- steels up to 1200 N/mm²
- and general use







metrisches ISO-Gewinde DIN 13

Hand Taps

metric ISO-thread DIN 13



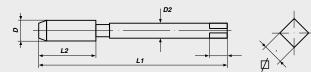
HSS-G Tol. ISO2/6H **DIN 352**

M

Nor	minal Diameter	L 1	L 2	D 2	Ø	ArtNo.	<u>I</u>	13/3/3
D							€	000€
М	1 x 0.25	32	5.5	2.5	2.1	27302	6,60	19,80
М	1.1 x 0.25	32	5.5	2.5	2.1	27304	6,60	19,80
М	1.2 x 0.25	32	5.5	2.5	2.1	27306	6,60	19,80
М	1.4 x 0.3	32	7.0	2.5	2.1	27308	6,60	19,80
M	1.6 x 0.35	32	8.0	2.5	2.1	27310	6,60	19,80
М	1.7 x 0.35	32	8.0	2.5	2.1	27312	6,60	19,80
M	1.8 x 0.35	32	8.0	2.5	2.1	27314	6,60	19,80
М	2 x 0.4	36	8.0	2.8	2.1	27316	4,70	14,10
M	2.2 x 0.45	36	9.0	2.8	2.1	27318	4,70	14,10
М	2.3 x 0.4	36	9.0	2.8	2.1	27320	4,70	14,10
M	2.5 x 0.45	40	9.0	2.8	2.1	27322	4,70	14,10
М	2.6 x 0.45	40	9.0	2.8	2.1	27324	4,70	14,10
M	3 x 0.5	40	11.0	3.5	2.7	27326	2,40	7,20
М	3.5 x 0.6	45	13.0	4.0	3.0	27328	3,50	10,50
M	4 x 0.7	45	13.0	4.5	3.4	27330	2,40	7,20
М	4.5 x 0.75	50	16.0	6.0	4.9	27332	3,50	10,50
M	5 x 0.8	50	16.0	6.0	4.9	27334	2,70	8,10
М	5.5 x 0.9	50	18.0	6.0	4.9	27336	4,40	13,20
М	6 x 1.0	50	19.0	6.0	4.9	27338	2,70	8,10
М	7 x 1.0	50	19.0	6.0	4.9	27340	4,40	13,20
М	8 x 1.25	56	22.0	6.0	4.9	27342	3,80	11,40
М	9 x 1.25	63	22.0	7.0	5.5	27344	5,90	17,70
М	10 x 1.5	70	24.0	7.0	5.5	27346	4,90	14,70
М	11 x 1.5	70	24.0	8.0	6.2	27348	7,50	22,50
M	12 x 1.75	75	29.0	9.0	7.0	27350	6,60	19,80
М	14 x 2.0	80	30.0	11.0	9.0	27354	7,20	21,60
М	15 x 2.0	80	32.0	12.0	9.0	27356	8,80	26,40
М	16 x 2.0	80	32.0	12.0	9.0	27358	9,30	27,90
М	18 x 2.5	95	40.0	14.0	11.0	27362	12,70	38,10
М	20 x 2.5	95	40.0	16.0	12.0	27366	14,30	42,90
M	22 x 2.5	100	40.0	18.0	14.5	27370	17,50	52,50
М	24 x 3.0	110	50.0	18.0	14.5	27374	22,80	68,40
М	27 x 3.0	110	50.0	20.0	16.0	27376	37,80	113,40
М	30 x 3.5	125	56.0	22.0	18.0	27378	49,30	147,90
М	33 x 3.5	125	56.0	25.0	20.0	27380	54,00	162,00
М	36 x 4.0	150	63.0	28.0	22.0	27382	64,00	192,00
М	39 x 4.0	150	63.0	32.0	24.0	27384	82,00	246,00
М	42 x 4.5	150	63.0	32.0	24.0	27386	92,00	276,00
М	45 x 4.5	160	70.0	36.0	29.0	27388	112,00	336,00
М	48 x 5.0	180	75.0	36.0	29.0	27390	157,00	471,00
М	52 x 5.0	180	75.0	40.0	32.0	27392	157,00	471,00
М	56 x 5.5	200	85.0	45.0	35.0	27394	239,00	717,00
М	60 x 5.5	200	85.0	45.0	35.0	27396	290,00	870,00
М	64 x 6.0	220	90.0	50.0	39.0	27398	325,00	975,00
М	68 x 6.0	220	90.0	50.0	39.0	27399	397,00	1.191,00

Bestellbeispiel / How to order:

M3, No. 1 = 27326-1 M3, No. 2 = 27326-2 M3, No. 3 = 27326-3









Hand Taps

metric ISO-thread DIN 13



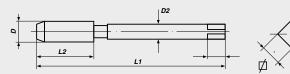
HSS-G Tol. ISO2/6H **DIN 352**

	V

Nor	ninal Diameter	L 1	L 2	D 2	Ø	ArtNo.	B	19 (9) (9)
D							€	<i>\(\text{\tint{\text{\tint{\text{\tin}\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\tex{\tex</i>
М	72 x 6.0	240	80.0	50.0	39.0	28130	832,00	2.496,00
М	76 x 6.0	240	80.0	50.0	39.0	28131	950,00	2.850,00
М	80 x 6.0	260	85.0	50.0	39.0	28132	1.060,00	3.180,00
М	84 x 6.0	260	85.0	50.0	39.0	28133	1.180,00	3.540,00
М	88 x 6.0	260	85.0	50.0	39.0	28134	1.560,00	4.680,00
М	90 x 6.0	260	85.0	50.0	39.0	28135	1.680,00	5.040,00
M	92 x 6.0	280	90.0	56.0	44.0	28136	1.800,00	5.400,00
М	96 x 6.0	280	90.0	56.0	44.0	28137	2.200,00	6.600,00
М	100 x 6.0	280	90.0	56.0	44.0	28138	2.470,00	7.410,00

Bestellbeispiel / How to order:

= 27326 МЗ M3, No. 1 = 27326-1 M3, No. 2 = 27326-2 M3, No. 3 = 27326-3









Handgewindebohrer, konische Ausführung

metrisches ISO-Gewinde DIN 13

Hand Taps, non-serial form

metric ISO-thread DIN 13



Tol. ISO2/6H **DIN 352 HSS-G**

No	minal Diameter	L 1	L 2	D 2	Ø	ArtNo.		13.3.3
D							€	<i> </i> €
М	2 x 0.4	36	8	2.8	2.1	27616	4,70	14,10
M	2.5 x 0.45	40	9	2.8	2.1	27622	4,70	14,10
М	3 x 0.5	40	11	3.5	2.7	27626	2,40	7,20
М	4 x 0.7	45	13	4.5	3.4	27630	2,40	7,20
M	5 x 0.8	50	16	6.0	4.9	27634	2,70	8,10
М	6 x 1.0	50	19	6.0	4.9	27638	2,70	8,10
M	8 x 1.25	56	22	6.0	4.9	27642	3,80	11,40
М	9 x 1.25	63	22	7.0	5.5	27644	5,90	17,70
M	10 x 1.5	70	24	7.0	5.5	27646	4,90	14,70
М	11 x 1.5	70	24	8.0	6.2	27648	7,50	22,50
М	12 x 1.75	75	29	9.0	7.0	27650	6,60	19,80
М	13 x 1.75	75	29	9.0	7.0	27652	8,30	24,90
M	14 x 2.0	80	30	11.0	9.0	27654	7,20	21,60
М	16 x 2.0	80	32	12.0	9.0	27658	9,30	27,90
M	18 x 2.5	95	40	14.0	11.0	27662	12,70	38,10
М	19 x 2.5	95	40	14.0	11.0	27664	15,50	46,50
M	20 x 2.5	95	40	16.0	12.0	27666	14,30	42,90
М	22 x 2.5	100	40	18.0	14.5	27670	17,50	52,50
M	24 x 3.0	110	50	18.0	14.5	27674	22,80	68,40
М	27 x 3.0	110	50	20.0	16.0	27676	37,80	113,40
M	30 x 3.5	125	56	22.0	18.0	27678	49,30	147,90
М	33 x 3.5	125	56	25.0	20.0	27680	54,00	162,00
M	36 x 4.0	150	63	28.0	22.0	27682	64,00	192,00
М	39 x 4.0	150	63	32.0	24.0	27684	82,00	246,00
М	42 x 4.5	150	63	32.0	24.0	27686	92,00	276,00
М	3 x 0.6	40	11	3.5	2.7	27627	4,70	14,10
М	4 x 0.75	45	13	4.5	3.4	27631	4,70	14,10
М	5 x 0.9	50	16	6.0	4.9	27635	4,80	14,40

Anwendung:

für allgemeinen Einsatz

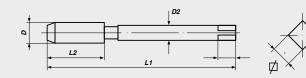
- gut zerspanbare Werkstoffe bis 900 N/mm²
- unlegierte und niedriglegierte Stähle
- für Durchgangs- und Sacklöcher
- für den Handeinsatz

Bestellbeispiel / How to order:

МЗ = 27626 = 27626-1 M3, No. 1 M3, No. 2 = 27626-2 M3, No. 3 = 27626-3

Application:

- non abrasive material up to 900 N/mm²
- unalloyed and low alloyed steel
- for through and blind holesfor thread cutting by hand









Handgewindebohrer, konische Ausführung

L 2

metrisches ISO-Gewinde DIN 13

Hand Taps, non-serial form

L 1

metric ISO-thread DIN 13

Nominal Diameter



ISO 529 HSS-G Tol. ISO2/6H

D 2

,
8,70
8,70
9,60
9,60
12,90
17,70
22,50
24,60
32,10

М	3 x 0.5	48	11	3.15	2.5	80426	2,90	8,70
M	4 x 0.7	53	13	4.0	3.15	80430	2,90	8,70
M	5 x 0.8	58	16	5.0	4.0	80434	3,20	9,60
M	6 x 1.0	66	19	6.3	5.0	80438	3,20	9,60
M	8 x 1.25	72	22	8.0	6.3	80442	4,30	12,90
M	10 x 1.5	80	24	10.0	8.0	80446	5,90	17,70
M	12 x 1.75	89	29	9.0	7.1	80450	7,50	22,50
M	14 x 2.0	95	30	11.2	9.0	80454	8,20	24,60
M	16 x 2.0	102	32	12.5	10.0	80458	10,70	32,10
M	18 x 2.5	110	37	14.0	11.2	80462	15,00	45,00
M	20 x 2.5	112	37	14.0	11.2	80466	16,60	49,80
M	22 x 2.5	118	38	16.0	12.5	80470	19,00	57,00
M	24 x 3.0	130	45	18.0	14.0	80474	23,50	70,50

Ø

Art.-No.

Anwendung:

für allgemeinen Einsatz

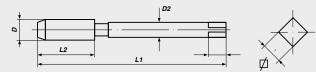
- gut zerspanbare Werkstoffe bis 900 N/mm²
- unlegierte und niedriglegierte Stähle
- für Durchgangs- und Sacklöcher
- für den Handeinsatz

Bestellbeispiel / How to order:

М3 = 80426 M3, No. 1 = 80426-1 = 80426-2 M3, No. 2 M3, No. 3 = 80426-3

Application:

- non abrasive material up to 900 N/mm²
- unalloyed and low alloyed steel
- for through and blind holes
- for thread cutting by hand









metrisches ISO-Feingewinde DIN 13

Hand Taps

metric-fine ISO-thread DIN 13



DIN 2181 HSS-G Tol. ISO2/6H

Mf

Nominal Diameter	L 1	L 2	D 2	Ø	ArtNo.	ß	33
D						€	II €
M 2.5 x 0.35	40	9	2.8	2.1	26304	7,20	14,40
M 2.6 x 0.35	40	9	2.8	2.1	26305	7,20	14,40
M 3 x 0.35	40	9	3.5	2.7	26308	7,20	14,40
M 3.5 x 0.35	45	10	4.0	3.0	26309	7,20	14,40
M 4 x 0.35	45	10	4.5	3.4	26310	7,20	14,40
M 4 x 0.5	45	10	4.5	3.4	26312	7,20	14,40
M 4.5 x 0.5	50	12	6.0	4.9	26313	7,20	14,40
M 5 x 0.5	50	12	6.0	4.9	26314	7,20	14,40
M 5 x 0.75	50	12	6.0	4.9	26316	7,20	14,40
M 5.5 x 0.5	50	12	6.0	4.9	26315	7,20	14,40
M 6 x 0.5	50	14	6.0	4.9	26317	7,20	14,40
M 6 x 0.75	50	14	6.0	4.9	26318	6,40	12,80
M 7 x 0.5	50	14	6.0	4.9	26319	6,40	12,80
M 7 x 0.75	50	14	6.0	4.9	26320	6,40	12,80
M 8 x 0.5	50	19	6.0	4.9	26322	6,40	12,80
M 8 x 0.75	50	19	6.0	4.9	26324	6,40	12,80
M 8 x 1.0	56	22	6.0	4.9	26326	6,40	12,80
M 9 x 0.5	56	19	7.0	5.5	26327	7,20	14,40
M 9 x 0.75	56	19	7.0	5.5	26328	7,20	14,40
M 9 x 1.0	63	20	7.0	5.5	26330	7,20	14,40
M 10 x 0.5	63	20	7.0	5.5	26331	7,20	14,40
M 10 x 0.75	63	20	7.0	5.5	26332	7,20	14,40
M 10 x 1.0	63	20	7.0	5.5	26336	6,40	12,80
M 10 x 1.25	70	24	7.0	5.5	26338	7,20	14,40
M 11 x 0.75	63	20	8.0	6.2	26339	9,30	18,60
M 11 x 1.0	63	20	8.0	6.2	26340	9,30	18,60
M 11 x 1.25	63	22	8.0	6.2	26342	9,30	18,60
M 12 x 0.5	70	22	9.0	7.0	26345	9,30	18,60
M 12 x 0.75	70	22	9.0	7.0	26343	9,30	18,60
M 12 x 1.0	70	22	9.0	7.0	26344	9,30	18,60
M 12 x 1.25	70	22	9.0	7.0	26346	9,30	18,60
M 12 x 1.5	70	22	9.0	7.0	26348	8,50	17,00
M 13 x 0.5	70	22	11.0	9.0	26347	14,20	28,40
M 13 x 0.75	70	22	11.0	9.0	26349	14,20	28,40
M 13 x 1.0	70	22	11.0	9.0	26350	14,20	28,40
M 13 x 1.5	70	22	11.0	9.0	26351	14,20	28,40
M 14 x 0.5	70	22	11.0	9.0	26355	14,20	28,40

Anwendung:

für allgemeinen Einsatz

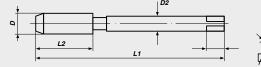
- gut zerspanbare Werkstoffe bis 900 N/mm²
- unlegierte und niedriglegierte Stähle
- für Durchgangs- und Sacklöcher
- für den Handeinsatz

Bestellbeispiel / How to order:

M3 x 0.35 = 26308 M3 x 0.35, No. 1 = 26308-1 M3 x 0.35, No. 2 = 26308-2

Application:

- non abrasive material up to 900 N/mm²
- unalloyed and low alloyed steel
- for through and blind holes
- for thread cutting by hand













DIN 2181 HSS-G Tol. ISO2/6H	DIN 2181	HSS-G	Tol. ISO2/6H	
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No	minal Diameter	L 1	L 2	D 2	Ø	ArtNo.		do do
D							€	<i>\(\ell\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</i>
М	14 x 0.75	70	22	11.0	9.0	26352	14,20	28,40
M	14 x 1.0	70	22	11.0	9.0	26353	14,20	28,40
М	14 x 1.25	70	22	11.0	9.0	26354	10,70	21,40
M	14 x 1.5	70	22	11.0	9.0	26356	9,20	18,40
М	15 x 0.75	70	22	12.0	9.0	26357	15,70	31,40
M	15 x 1.0	70	22	12.0	9.0	26358	15,70	31,40
М	15 x 1.5	70	22	12.0	9.0	26360	15,70	31,40
M	16 x 0.5	70	22	12.0	9.0	26361	15,70	31,40
M	16 x 0.75	70	22	12.0	9.0	26363	15,70	31,40
M	16 x 1.0	70	22	12.0	9.0	26362	15,70	31,40
М	16 x 1.25	70	22	12.0	9.0	26364	15,70	31,40
М	16 x 1.5	70	22	12.0	9.0	26366	11,20	22,40
М	17 x 1.0	70	22	12.0	9.0	26368	17,20	34,40
М	17 x 1.5	70	22	12.0	9.0	26369	17,20	34,40
М	18 x 0.5	80	22	14.0	11.0	26367	17,20	34,40
М	18 x 0.75	80	22	14.0	11.0	26373	17,20	34,40
М	18 x 1.0	80	22	14.0	11.0	26370	17,20	34,40
М	18 x 1.25	80	22	14.0	11.0	26371	17,20	34,40
M	18 x 1.5	80	22	14.0	11.0	26372	12,90	25,80
M	18 x 2.0	80	22	14.0	11.0	26374	17,20	34,40
M	19 x 1.0	80	22	14.0	11.0	26375	21,60	43,20
M	19 x 1.5	80	22	14.0	11.0	26376	21,60	43,20
M	20 x 0.5	80	22	16.0	12.0	26377	21,60	43,20
М	20 x 0.75	80	22	16.0	12.0	26379	21,60	43,20
M	20 x 1.0	80	22	16.0	12.0	26378	21,60	43,20
М	20 x 1.25	80	22	16.0	12.0	26380	21,60	43,20
М	20 x 1.5	80	22	16.0	12.0	26384	15,70	31,40
М	20 x 2.0	80	22	16.0	12.0	26386	21,60	43,20
М	21 x 1.0	80	22	16.0	12.0	26387	22,40	44,80
М	-	80	22	16.0	12.0	26388	22,40	44,80
М	22 x 0.5	80	22	18.0	14.5	26389	22,40	44,80
M	22 x 0.75	80	22	18.0	14.5	26391	22,40	44,80
М	22 x 1.0	80	22	18.0	14.5	26390	22,40	44,80
M	22 x 1.25	80	22	18.0	14.5	26392	22,40	44,80
М	22 x 1.5	80	22	18.0	14.5	26394	22,40	44,80
М	22 x 2.0	80	22	18.0	14.5	26396	22,40	44,80
М	23 x 1.0	80	22	18.0	14.5	26397	30,00	60,00
	23 x 1.5	80	22	18.0	14.5	26398	30,00	60,00
	24 x 0.5	90	22	18.0	14.5	26501	30,00	60,00
	24 x 0.75	90	22	18.0	14.5	26503	30,00	60,00
	24 x 1.0	90	22	18.0	14.5	26500	30,00	60,00
	24 x 1.25	90	22	18.0	14.5	26502	30,00	60,00
	24 x 1.5	90	22	18.0	14.5	26504	24,00	48,00
	24 x 2.0	90	22	18.0	14.5	26506	30,00	60,00
М	25 x 1.0	90	22	18.0	14.5	26507	44,00	88,00
М		90	22	18.0	14.5	26508	44,00	88,00
М		90	22	18.0	14.5	26510	44,00	88,00
	26 x 1.5	90	22	18.0	14.5	26512	44,00	88,00
	26 x 2.0	90	22	18.0	14.5	26514	44,00	88,00
M	27 x 1.0	90	22	20.0	16.0	26516	44,00	88,00







metrisches ISO-Feingewinde DIN 13



DIN 2181	HSS-G	Tol. ISO2/6H
DIN Z 10 I	поо-и	101. 1302/0

M	ŀ

Nominal Diameter	L 1	L 2	D 2	Ø	ArtNo.	 €	Ű/ _€
M 27 x 1.5	90	22	20.0	16.0	26517	44,00	88,00
M 27 x 2.0	90	22	20.0	16.0	26518	52,00	104,00
M 28 x 1.0	90	22	20.0	16.0	26520	52,00	104,00
M 28 x 1.5	90	22	20.0	16.0	26522	52,00	104,00
M 28 x 2.0	90	22	20.0	16.0	26524	52,00	104,00
M 29 x 1.5	90	22	22.0	18.0	26526	52,00	104,00
M 30 x 1.0	90	22	22.0	18.0	26528	61,00	122,00
M 30 x 1.5	90	22	22.0	18.0	26530	61,00	122,00
M 30 x 2.0	90	22	22.0	18.0	26532	61,00	122,00
M 30 x 2.5	125	56	22.0	18.0	26533	61,00	122,00
M 30 x 3.0	125	56	22.0	18.0	26534	61,00	122,00
M 32 x 1.0	90	22	22.0	18.0	26539	61,00	122,00
M 32 x 1.5	90	22	22.0	18.0	26536	61,00	122,00
M 32 x 2.0	90	22	22.0	18.0	26535	61,00	122,00
M 32 x 3.0	125	56	22.0	18.0	26537	61,00	122,00
M 33 x 1.5	100	25	25.0	20.0	26538	61,00	122,00
M 33 x 2.0	100	25	25.0	20.0	26540	75,00	150,00
M 33 x 3.0	125	56	25.0	20.0	26542	75,00	150,00
M 34 x 1.0	100	25	28.0	22.0	26543	75,00	150,00
M 34 x 1.5	100	25	28.0	22.0	26544	75,00	150,00
M 34 x 2.0	125	40	28.0	22.0	26546	75,00	150,00
M 35 x 1.0	100	25	28.0	22.0	26547	75,00	150,00
M 35 x 1.5	100	25	28.0	22.0	26548	75,00	150,00
M 35 x 2.0	125	40	28.0	22.0	26549	75,00	150,00
M 36 x 1.0	100	25	28.0	22.0	26551	78,50	157,00
M 36 x 1.5	100	25	28.0	22.0	26550	78,50	157,00
M 36 x 2.0	125	40	28.0	22.0	26552	78,50	157,00
M 36 x 3.0	125	40	28.0	22.0	26554	78,50	157,00
M 37 x 1.5	100	25	28.0	22.0	26553	98,00	196,00
M 38 x 1.0	100	25	28.0	22.0	26555	98,00	196,00
M 38 x 1.5	100	25	28.0	22.0	26556	98,00	196,00
M 38 x 2.0	125	40	28.0	22.0	26557	98,00	196,00
M 38 x 3.0	125	40	28.0	22.0	26559	98,00	196,00
M 39 x 1.5	110	25	32.0	24.0	26558	98,00	196,00
M 39 x 2.0	125	40	32.0	24.0	26560	98,00	196,00
M 39 x 3.0	125	40	32.0	24.0	26562	98,00	196,00
M 40 x 1.0	110	25	32.0	24.0	26563	98,00	196,00
M 40 x 1.5	110	25	32.0	24.0	26564	98,00	196,00
M 40 x 2.0	125	40	32.0	24.0	26566	98,00	196,00
M 40 x 3.0	125	40	32.0	24.0	26568	98,00	196,00
M 42 x 1.0	110	25	32.0	24.0	26569	98,00	196,00
M 42 x 1.5	110	25	32.0	24.0	26570	98,00	196,00
M 42 x 2.0	125	40	32.0	24.0	26572	102,00	204,00
M 42 x 3.0	125	40	32.0	24.0	26574	102,00	204,00
M 44 x 1.5	110	25	36.0	29.0	26571	115,00	230,00
M 44 x 2.0	125	40	36.0	29.0	26573	115,00	230,00
M 45 x 1.0	110	25	36.0	29.0	26575	115,00	230,00
M 45 x 1.5	110	25	36.0	29.0	26576	115,00	230,00
M 45 x 2.0	125	40	36.0	29.0	26578	115,00	230,00
M 45 x 3.0	125	40	36.0	29.0	26580	115,00	230,00









M 58 x 1.5 160 32 45 35.0 28013 M 58 x 2.0 160 36 45 35.0 28014 M 58 x 3.0 160 40 45 35.0 28015 M 58 x 4.0 200 55 45 35.0 28016 M 60 x 1.5 160 34 45 35.0 28017 M 60 x 2.0 160 36 45 35.0 28018	115,00 137,00 137,00 137,00 137,00	230,00 274,00 274,00 274,00 274,00
M 48 x 1.0 140 40 36 29.0 26583 M 48 x 2.0 140 40 36 29.0 26582 M 48 x 3.0 140 40 36 29.0 26584 M 48 x 3.0 140 40 36 29.0 26586 M 50 x 1.5 140 40 36 29.0 26588 M 50 x 2.0 140 40 36 29.0 26588 M 50 x 2.0 140 40 36 29.0 26590 M 50 x 3.0 140 40 36 29.0 26590 M 50 x 3.0 140 40 36 29.0 26592 M 52 x 1.5 140 40 40 32.0 26594 M 52 x 2.0 140 40 40 32.0 26596 M 52 x 3.0 140 40 40 32.0 26598 M 54 x 1.0 140 32 40 32.0 28118 M 54 x 1.5 140 32 40 32.0 28001 M 54 x 2.0 140 36 40 32.0 28002 M 54 x 3.0 140 40 40 32.0 28003 M 55 x 5.5 140 32 40 32.0 28001 M 55 x 5.0 140 36 40 32.0 28002 M 55 x 3.0 140 40 40 32.0 28002 M 55 x 3.0 140 40 40 32.0 28002 M 55 x 3.0 140 36 40 32.0 28005 M 55 x 4.0 180 50 40 32.0 28006 M 55 x 3.0 140 36 40 32.0 28006 M 55 x 3.0 140 36 40 32.0 28005 M 55 x 4.0 180 50 40 32.0 28006 M 55 x 3.0 140 36 40 32.0 28006 M 55 x 3.0 140 36 40 32.0 28006 M 55 x 3.0 140 36 40 32.0 28006 M 55 x 3.0 140 36 40 32.0 28006 M 55 x 3.0 140 36 40 32.0 28006 M 55 x 3.0 140 36 40 32.0 28006 M 55 x 3.0 140 36 40 32.0 28007 M 56 x 4.0 180 50 40 32.0 28007 M 56 x 1.5 140 32 40 32.0 28010 M 56 x 1.5 140 32 40 32.0 28010 M 56 x 1.5 140 32 40 32.0 28010 M 56 x 3.0 140 40 40 32 40 32.0 28011 M 56 x 4.0 180 50 40 32.0 28011 M 56 x 4.0 180 50 40 32.0 28011 M 56 x 4.0 180 50 40 32.0 28011 M 56 x 4.0 180 50 40 32.0 28011 M 56 x 4.0 180 50 40 32.0 28011 M 56 x 4.0 180 50 40 32.0 28011 M 56 x 4.0 180 50 40 32.0 28011 M 56 x 4.0 180 50 40 32.0 28011 M 58 x 1.5 160 32 45 35.0 28014 M 58 x 4.0 200 55 45 35.0 28016 M 58 x 4.0 200 55 45 35.0 28016 M 58 x 4.0 200 55 45 35.0 28016 M 58 x 4.0 200 55 45 35.0 28016 M 60 x 1.5 160 34 45 35.0 28018	137,00 137,00 137,00	274,00 274,00
M 48 x 1.5	137,00 137,00	274,00
M 48 x 2.0 140 40 36 29.0 26584 M 48 x 3.0 140 40 36 29.0 26586 M 50 x 1.5 140 40 36 29.0 26588 M 50 x 2.0 140 40 36 29.0 26599 M 50 x 3.0 140 40 36 29.0 26592 M 52 x 1.5 140 40 40 32.0 26594 M 52 x 2.0 140 40 40 32.0 26596 M 52 x 3.0 140 40 40 32.0 26598 M 54 x 1.0 140 32 40 32.0 28011 M 54 x 1.5 140 32 40 32.0 28006 M 55 x 3.0 140 40 40 32.0 28001 M 54 x 3.0 140 36 40 32.0 28001 M 54 x 2.0 140 36 40 32.0 28002 M 54 x 3.0 140 40 40 32.0 28002 M 55 x 3.0 140 40 40 32.0 28001 M 55 x 2.0 140 36 40 32.0 28002 M 56 x 3.0 140 40 40 32.0 28002 M 56 x 3.0 140 40 40 32.0 28005 M 55 x 3.0 140 40 40 32.0 28006 M 55 x 3.0 140 36 40 32.0 28006 M 55 x 3.0 140 36 40 32.0 28006 M 55 x 3.0 140 36 40 32.0 28006 M 55 x 3.0 140 36 40 32.0 28006 M 55 x 3.0 140 36 40 32.0 28006 M 55 x 3.0 140 36 40 32.0 28006 M 56 x 3.0 140 30 40 32.0 28006 M 56 x 3.0 140 32 40 32.0 28008 M 56 x 1.0 140 32 40 32.0 28008 M 56 x 1.0 140 32 40 32.0 28009 M 56 x 2.0 140 36 40 32.0 28010 M 56 x 3.0 140 40 40 32.0 28011 M 56 x 3.0 140 40 40 32.0 28011 M 56 x 3.0 140 36 40 32.0 28011 M 58 x 1.0 160 32 45 35.0 28012 M 58 x 1.5 160 32 45 35.0 28013 M 58 x 4.0 200 55 45 35.0 28016 M 58 x 4.0 200 55 45 35.0 28017 M 60 x 2.0 160 36 45 35.0 28017	137,00	
M 48 x 3.0 140 40 36 29.0 26586 M 50 x 1.5 140 40 36 29.0 26588 M 50 x 2.0 140 40 36 29.0 26590 M 50 x 3.0 140 40 36 29.0 26592 M 52 x 1.5 140 40 40 32.0 26594 M 52 x 2.0 140 40 40 32.0 26596 M 52 x 3.0 140 40 40 32.0 26598 M 52 x 3.0 140 40 40 32.0 28598 M 54 x 1.0 140 32 40 32.0 28001 M 54 x 1.5 140 32 40 32.0 28002 M 54 x 2.0 140 36 40 32.0 28002 M 54 x 3.0 140 40 40 32.0 28002 M 55 x 1.5 140 32 40 32.0 28005 <t< td=""><td></td><td>274.00</td></t<>		274.00
M 50 x 1.5 140 40 36 29.0 26588 M 50 x 2.0 140 40 36 29.0 26590 M 50 x 3.0 140 40 36 29.0 26592 M 52 x 1.5 140 40 40 32.0 26594 M 52 x 2.0 140 40 40 32.0 26596 M 52 x 3.0 140 40 40 32.0 26598 M 52 x 3.0 140 40 40 32.0 26598 M 54 x 1.0 140 32 40 32.0 28001 M 54 x 1.5 140 32 40 32.0 28001 M 54 x 2.0 140 36 40 32.0 28002 M 54 x 3.0 140 40 40 32.0 28003 M 55 x 1.5 140 32 40 32.0 28005 M 55 x 2.0 140 36 40 32.0 28005 <t< td=""><td>137,00</td><td>-,</td></t<>	137,00	-,
M 50 x 2.0 140 40 36 29.0 26590 M 50 x 3.0 140 40 36 29.0 26592 M 52 x 1.5 140 40 40 32.0 26594 M 52 x 2.0 140 40 40 32.0 26596 M 52 x 3.0 140 40 40 32.0 26598 M 54 x 1.0 140 32 40 32.0 28118 M 54 x 1.5 140 32 40 32.0 28001 M 54 x 2.0 140 36 40 32.0 28002 M 54 x 3.0 140 40 40 32.0 28003 M 54 x 4.0 180 50 40 32.0 28003 M 55 x 1.5 140 32 40 32.0 28005 M 55 x 2.0 140 36 40 32.0 28005 M 55 x 3.0 140 40 40 32.0 28006 <t< td=""><td></td><td>274,00</td></t<>		274,00
M 50 x 3.0 140 40 36 29.0 26592 M 52 x 1.5 140 40 40 32.0 26594 M 52 x 2.0 140 40 40 32.0 26596 M 52 x 3.0 140 40 40 32.0 26598 M 54 x 1.0 140 32 40 32.0 28118 M 54 x 1.5 140 32 40 32.0 28001 M 54 x 2.0 140 36 40 32.0 28002 M 54 x 3.0 140 40 40 32.0 28003 M 54 x 3.0 140 40 40 32.0 28003 M 55 x 1.5 140 32 40 32.0 28004 M 55 x 1.5 140 32 40 32.0 28005 M 55 x 3.0 140 40 40 32.0 28006 M 55 x 4.0 180 50 40 32.0 28019 <t< td=""><td>150,00</td><td>300,00</td></t<>	150,00	300,00
M 52 x 1.5 140 40 40 32.0 26594 M 52 x 2.0 140 40 40 32.0 26596 M 52 x 3.0 140 40 40 32.0 26598 M 54 x 1.0 140 32 40 32.0 28118 M 54 x 1.5 140 32 40 32.0 28001 M 54 x 2.0 140 36 40 32.0 28002 M 54 x 3.0 140 40 40 32.0 28003 M 54 x 4.0 180 50 40 32.0 28003 M 55 x 1.5 140 32 40 32.0 28005 M 55 x 2.0 140 36 40 32.0 28006 M 55 x 3.0 140 40 40 32.0 28007 M 55 x 4.0 180 50 40 32.0 28008 M 56 x 1.5 140 32 40 32.0 28019 <t< td=""><td>150,00</td><td>300,00</td></t<>	150,00	300,00
M 52 x 2.0 140 40 40 32.0 26596 M 52 x 3.0 140 40 40 32.0 26598 M 54 x 1.0 140 32 40 32.0 28118 M 54 x 1.5 140 32 40 32.0 28001 M 54 x 2.0 140 36 40 32.0 28002 M 54 x 3.0 140 40 40 32.0 28003 M 54 x 4.0 180 50 40 32.0 28004 M 55 x 1.5 140 32 40 32.0 28005 M 55 x 2.0 140 36 40 32.0 28006 M 55 x 3.0 140 40 40 32.0 28007 M 55 x 4.0 180 50 40 32.0 28008 M 56 x 1.0 140 32 40 32.0 28019 M 56 x 1.5 140 32 40 32.0 28019 <t< td=""><td>150,00</td><td>300,00</td></t<>	150,00	300,00
M 52 x 3.0 140 40 40 32.0 26598 M 54 x 1.0 140 32 40 32.0 28118 M 54 x 1.5 140 32 40 32.0 28001 M 54 x 2.0 140 36 40 32.0 28002 M 54 x 3.0 140 40 40 32.0 28003 M 54 x 4.0 180 50 40 32.0 28004 M 55 x 1.5 140 32 40 32.0 28005 M 55 x 2.0 140 36 40 32.0 28006 M 55 x 3.0 140 40 40 32.0 28007 M 55 x 4.0 180 50 40 32.0 28008 M 56 x 1.0 140 32 40 32.0 28019 M 56 x 1.5 140 32 40 32.0 28019 M 56 x 2.0 140 36 40 32.0 28010 <t< td=""><td>180,00</td><td>360,00</td></t<>	180,00	360,00
M 54 x 1.0 140 32 40 32.0 28118 M 54 x 1.5 140 32 40 32.0 28001 M 54 x 2.0 140 36 40 32.0 28002 M 54 x 3.0 140 40 40 32.0 28003 M 54 x 4.0 180 50 40 32.0 28004 M 55 x 1.5 140 32 40 32.0 28005 M 55 x 2.0 140 36 40 32.0 28006 M 55 x 3.0 140 40 40 32.0 28007 M 55 x 4.0 180 50 40 32.0 28008 M 56 x 1.0 140 32 40 32.0 28019 M 56 x 1.5 140 32 40 32.0 28019 M 56 x 2.0 140 36 40 32.0 28010 M 56 x 2.0 140 40 40 32.0 28011 <t< td=""><td>180,00</td><td>360,00</td></t<>	180,00	360,00
M 54 x 1.5 140 32 40 32.0 28001 M 54 x 2.0 140 36 40 32.0 28002 M 54 x 3.0 140 40 40 32.0 28003 M 54 x 4.0 180 50 40 32.0 28004 M 55 x 1.5 140 32 40 32.0 28005 M 55 x 2.0 140 36 40 32.0 28006 M 55 x 3.0 140 40 40 32.0 28007 M 55 x 4.0 180 50 40 32.0 28008 M 56 x 1.0 140 32 40 32.0 28119 M 56 x 1.5 140 32 40 32.0 28009 M 56 x 2.0 140 36 40 32.0 28010 M 56 x 2.0 140 36 40 32.0 28010 M 56 x 3.0 140 40 40 32.0 28011 <t< td=""><td>180,00</td><td>360,00</td></t<>	180,00	360,00
M 54 x 2.0 140 36 40 32.0 28002 M 54 x 3.0 140 40 40 32.0 28003 M 54 x 4.0 180 50 40 32.0 28004 M 55 x 1.5 140 32 40 32.0 28005 M 55 x 2.0 140 36 40 32.0 28006 M 55 x 3.0 140 40 40 32.0 28007 M 55 x 4.0 180 50 40 32.0 28008 M 56 x 1.0 140 32 40 32.0 28119 M 56 x 1.5 140 32 40 32.0 28009 M 56 x 2.0 140 36 40 32.0 28010 M 56 x 3.0 140 40 40 32.0 28011 M 56 x 4.0 180 50 40 32.0 28011 M 58 x 1.5 160 32 45 35.0 28120 <t< td=""><td>330,00</td><td>660,00</td></t<>	330,00	660,00
M 54 x 3.0 140 40 40 32.0 28003 M 54 x 4.0 180 50 40 32.0 28004 M 55 x 1.5 140 32 40 32.0 28005 M 55 x 2.0 140 36 40 32.0 28006 M 55 x 3.0 140 40 40 32.0 28007 M 55 x 4.0 180 50 40 32.0 28008 M 56 x 1.0 140 32 40 32.0 28119 M 56 x 1.5 140 32 40 32.0 28009 M 56 x 2.0 140 36 40 32.0 28010 M 56 x 2.0 140 36 40 32.0 28010 M 56 x 3.0 140 40 40 32.0 28011 M 56 x 4.0 180 50 40 32.0 28012 M 58 x 1.5 160 32 45 35.0 28120 <t< td=""><td>195,00</td><td>390,00</td></t<>	195,00	390,00
M 54 x 4.0 180 50 40 32.0 28004 M 55 x 1.5 140 32 40 32.0 28005 M 55 x 2.0 140 36 40 32.0 28006 M 55 x 3.0 140 40 40 32.0 28007 M 55 x 4.0 180 50 40 32.0 28008 M 56 x 1.0 140 32 40 32.0 28119 M 56 x 1.5 140 32 40 32.0 28009 M 56 x 2.0 140 36 40 32.0 28010 M 56 x 3.0 140 40 40 32.0 28010 M 56 x 3.0 140 40 40 32.0 28011 M 56 x 4.0 180 50 40 32.0 28012 M 58 x 1.0 160 32 45 35.0 28120 M 58 x 1.5 160 32 45 35.0 28013 <t< td=""><td>195,00</td><td>390,00</td></t<>	195,00	390,00
M 55 x 1.5 140 32 40 32.0 28005 M 55 x 2.0 140 36 40 32.0 28006 M 55 x 3.0 140 40 40 32.0 28007 M 55 x 4.0 180 50 40 32.0 28008 M 56 x 1.0 140 32 40 32.0 28119 M 56 x 1.5 140 32 40 32.0 28009 M 56 x 2.0 140 36 40 32.0 28010 M 56 x 2.0 140 36 40 32.0 28010 M 56 x 3.0 140 40 40 32.0 28011 M 56 x 3.0 140 40 40 32.0 28011 M 56 x 4.0 180 50 40 32.0 28012 M 58 x 1.0 160 32 45 35.0 28120 M 58 x 1.5 160 32 45 35.0 28013 <t< td=""><td>195,00</td><td>390,00</td></t<>	195,00	390,00
M 55 x 2.0 140 36 40 32.0 28006 M 55 x 3.0 140 40 40 32.0 28007 M 55 x 4.0 180 50 40 32.0 28008 M 56 x 1.0 140 32 40 32.0 28119 M 56 x 1.5 140 32 40 32.0 28009 M 56 x 2.0 140 36 40 32.0 28010 M 56 x 2.0 140 40 40 32.0 28011 M 56 x 3.0 140 40 40 32.0 28011 M 56 x 4.0 180 50 40 32.0 28012 M 58 x 1.0 160 32 45 35.0 28120 M 58 x 1.5 160 32 45 35.0 28013 M 58 x 2.0 160 36 45 35.0 28014 M 58 x 3.0 160 40 45 35.0 28015 <t< td=""><td>195,00</td><td>390,00</td></t<>	195,00	390,00
M 55 x 3.0 140 40 40 32.0 28007 M 55 x 4.0 180 50 40 32.0 28008 M 56 x 1.0 140 32 40 32.0 28119 M 56 x 1.5 140 32 40 32.0 28009 M 56 x 2.0 140 36 40 32.0 28010 M 56 x 3.0 140 40 40 32.0 28011 M 56 x 4.0 180 50 40 32.0 28012 M 58 x 1.0 160 32 45 35.0 28120 M 58 x 1.5 160 32 45 35.0 28013 M 58 x 2.0 160 36 45 35.0 28014 M 58 x 3.0 160 40 45 35.0 28015 M 58 x 4.0 200 55 45 35.0 28016 M 60 x 2.0 160 36 45 35.0 28017 <t< td=""><td>223,00</td><td>446,00</td></t<>	223,00	446,00
M 55 x 4.0 180 50 40 32.0 28008 M 56 x 1.0 140 32 40 32.0 28119 M 56 x 1.5 140 32 40 32.0 28009 M 56 x 2.0 140 36 40 32.0 28010 M 56 x 3.0 140 40 40 32.0 28011 M 56 x 4.0 180 50 40 32.0 28012 M 58 x 1.0 160 32 45 35.0 28120 M 58 x 1.5 160 32 45 35.0 28013 M 58 x 2.0 160 36 45 35.0 28014 M 58 x 3.0 160 40 45 35.0 28015 M 58 x 4.0 200 55 45 35.0 28016 M 60 x 2.0 160 36 45 35.0 28017 M 60 x 2.0 160 36 45 35.0 28018 <td>223,00</td> <td>446,00</td>	223,00	446,00
M 56 x 1.0 140 32 40 32.0 28119 M 56 x 1.5 140 32 40 32.0 28009 M 56 x 2.0 140 36 40 32.0 28010 M 56 x 3.0 140 40 40 32.0 28011 M 56 x 4.0 180 50 40 32.0 28012 M 58 x 1.0 160 32 45 35.0 28120 M 58 x 1.5 160 32 45 35.0 28013 M 58 x 2.0 160 36 45 35.0 28014 M 58 x 3.0 160 40 45 35.0 28015 M 58 x 4.0 200 55 45 35.0 28016 M 60 x 2.0 160 36 45 35.0 28017 M 60 x 2.0 160 36 45 35.0 28018	223,00	446,00
M 56 x 1.0 140 32 40 32.0 28119 M 56 x 1.5 140 32 40 32.0 28009 M 56 x 2.0 140 36 40 32.0 28010 M 56 x 3.0 140 40 40 32.0 28011 M 56 x 4.0 180 50 40 32.0 28012 M 58 x 1.0 160 32 45 35.0 28120 M 58 x 1.5 160 32 45 35.0 28013 M 58 x 2.0 160 36 45 35.0 28014 M 58 x 3.0 160 40 45 35.0 28015 M 58 x 4.0 200 55 45 35.0 28016 M 60 x 2.0 160 36 45 35.0 28017 M 60 x 2.0 160 36 45 35.0 28018	223,00	446,00
M 56 x 2.0 140 36 40 32.0 28010 M 56 x 3.0 140 40 40 32.0 28011 M 56 x 4.0 180 50 40 32.0 28012 M 58 x 1.0 160 32 45 35.0 28120 M 58 x 1.5 160 32 45 35.0 28013 M 58 x 2.0 160 36 45 35.0 28014 M 58 x 3.0 160 40 45 35.0 28015 M 58 x 4.0 200 55 45 35.0 28016 M 60 x 1.5 160 34 45 35.0 28017 M 60 x 2.0 160 36 45 35.0 28018	360,00	720,00
M 56 x 2.0 140 36 40 32.0 28010 M 56 x 3.0 140 40 40 32.0 28011 M 56 x 4.0 180 50 40 32.0 28012 M 58 x 1.0 160 32 45 35.0 28120 M 58 x 1.5 160 32 45 35.0 28013 M 58 x 2.0 160 36 45 35.0 28014 M 58 x 3.0 160 40 45 35.0 28015 M 58 x 4.0 200 55 45 35.0 28016 M 60 x 1.5 160 34 45 35.0 28017 M 60 x 2.0 160 36 45 35.0 28018	272,00	544,00
M 56 x 3.0 140 40 40 32.0 28011 M 56 x 4.0 180 50 40 32.0 28012 M 58 x 1.0 160 32 45 35.0 28120 M 58 x 1.5 160 32 45 35.0 28013 M 58 x 2.0 160 36 45 35.0 28014 M 58 x 3.0 160 40 45 35.0 28015 M 58 x 4.0 200 55 45 35.0 28016 M 60 x 1.5 160 34 45 35.0 28017 M 60 x 2.0 160 36 45 35.0 28018	272,00	544,00
M 56 x 4.0 180 50 40 32.0 28012 M 58 x 1.0 160 32 45 35.0 28120 M 58 x 1.5 160 32 45 35.0 28013 M 58 x 2.0 160 36 45 35.0 28014 M 58 x 3.0 160 40 45 35.0 28015 M 58 x 4.0 200 55 45 35.0 28016 M 60 x 1.5 160 34 45 35.0 28017 M 60 x 2.0 160 36 45 35.0 28018	272,00	544,00
M 58 x 1.0 160 32 45 35.0 28120 M 58 x 1.5 160 32 45 35.0 28013 M 58 x 2.0 160 36 45 35.0 28014 M 58 x 3.0 160 40 45 35.0 28015 M 58 x 4.0 200 55 45 35.0 28016 M 60 x 1.5 160 34 45 35.0 28017 M 60 x 2.0 160 36 45 35.0 28018	272,00	544,00
M 58 x 1.5 160 32 45 35.0 28013 M 58 x 2.0 160 36 45 35.0 28014 M 58 x 3.0 160 40 45 35.0 28015 M 58 x 4.0 200 55 45 35.0 28016 M 60 x 1.5 160 34 45 35.0 28017 M 60 x 2.0 160 36 45 35.0 28018	410,00	820,00
M 58 x 2.0 160 36 45 35.0 28014 M 58 x 3.0 160 40 45 35.0 28015 M 58 x 4.0 200 55 45 35.0 28016 M 60 x 1.5 160 34 45 35.0 28017 M 60 x 2.0 160 36 45 35.0 28018	276,00	552,00
M 58 x 3.0 160 40 45 35.0 28015 M 58 x 4.0 200 55 45 35.0 28016 M 60 x 1.5 160 34 45 35.0 28017 M 60 x 2.0 160 36 45 35.0 28018	276,00	552,00
M 58 x 4.0 200 55 45 35.0 28016 M 60 x 1.5 160 34 45 35.0 28017 M 60 x 2.0 160 36 45 35.0 28018	276,00	552,00
M 60 x 1.5 160 34 45 35.0 28017 M 60 x 2.0 160 36 45 35.0 28018	276,00	552,00
M 60 x 2.0 160 36 45 35.0 28018	294,00	588,00
	294,00	588,00
M 60 x 3.0 160 40 45 35.0 28019	294,00	588,00
M 60 x 4.0 200 55 45 35.0 28020	294,00	588,00
M 62 x 1.5 160 34 50 39.0 28021	340,00	680,00
M 62 x 2.0 160 36 50 39.0 28022	340,00	680,00
M 62 x 3.0 180 45 50 39.0 28023	340,00	680,00
M 62 x 4.0 220 55 50 39.0 28024	340,00	680,00
M 63 x 1.5 160 32 50 39.0 28025	350,00	700,00
M 64 x 1.5 160 34 50 39.0 28026	350,00	700,00
M 64 x 2.0 160 36 50 39.0 28027	350,00	700,00
M 64 x 3.0 180 45 50 39.0 28028	350,00	700,00
M 64 x 4.0 220 60 50 39.0 28029	369,00	738,00
M 65 x 1.5 160 34 50 39.0 28030	369,00	738,00
M 65 x 2.0 160 36 50 39.0 28031	369,00	738,00
M 65 x 3.0 180 45 50 39.0 28032	369,00	738,00
M 65 x 4.0 220 60 50 39.0 28033	369,00	738,00
M 68 x 1.5 160 36 50 39.0 28034	381,00	762,00
M 68 x 2.0 160 40 50 39.0 28035	381,00	762,00
M 68 x 3.0 180 50 50 39.0 28036	381,00	762,00







Hand Taps metric-fine ISO-thread DIN 13



DIN 2181 HSS-G Tol. ISO2/6H

M	ŀ

Nominal Diameter D	L 1	L 2	D 2	Ø	ArtNo.	 €	
M 68 x 4.0	220	60	50	39.0	28037	381,00	762,00
M 70 x 1.5	160	36	50	39.0	28038	672,00	1.344,00
M 70 x 2.0	160	40	50	39.0	28039	676,00	1.352,00
M 70 x 3.0	200	50	50	39.0	28040	762,00	1.524,00
M 70 x 4.0	240	60	50	39.0	28041	762,00	1.524,00
M 72 x 1.5	160	36	50	39.0	28042	743,00	1.486,00
M 72 x 2.0	160	40	50	39.0	28043	752,00	1.504,00
M 72 x 3.0	200	50	50	39.0	28044	775,00	1.550,00
M 72 x 4.0	240	60	50	39.0	28045	800,00	1.600,00
M 74 x 1.5	160	36	50	39.0	28046	760,00	1.520,00
M 74 x 2.0	160	40	50	39.0	28047	770,00	1.540,00
M 74 x 3.0	200	50	50	39.0	28048	876,00	1.752,00
M 74 x 4.0	240	60	50	39.0	28049	876,00	1.752,00
M 75 x 1.5	160	36	50	39.0	28050	773,00	1.546,00
M 75 x 2.0	160	40	50	39.0	28051	783,00	1.566,00
M 75 x 3.0	200	50	50	39.0	28052	882,00	1.764,00
M 75 x 4.0	240	60	50	39.0	28053	882,00	1.764,00
M 76 x 1.5	160	36	50	39.0	28054	800,00	1.600,00
M 76 x 2.0	160	40	50	39.0	28055	810,00	1.620,00
M 76 x 3.0	220	50	50	39.0	28056	942,00	1.884,00
	260	60	50	39.0	28057	942,00	1.884,00
M 76 x 4.0						850,00	1.700,00
M 78 x 1.5	160	36	50	39.0	28058		
M 78 x 2.0	160	40	50	39.0	28059	860,00	1.720,00
M 78 x 3.0	220	55	50	39.0	28060	942,00	1.884,00
M 78 x 4.0	260	65	50	39.0	28061	942,00	1.884,00
M 80 x 1.5	160	36	50	39.0	28062	876,00	1.752,00
M 80 x 2.0	160	40	50	39.0	28063	890,00	1.780,00
M 80 x 3.0	220	55	50	39.0	28064	1.032,00	2.064,00
M 80 x 4.0	260	65	50	39.0	28065	1.032,00	2.064,00
M 82 x 1.5	160	36	50	39.0	28066	930,00	1.860,00
M 82 x 2.0	160	40	50	39.0	28067	940,00	1.880,00
M 82 x 3.0	220	55	50	39.0	28068	1.032,00	2.064,00
M 82 x 4.0	260	65	50	39.0	28069	1.032,00	2.064,00
M 84 x 1.5	160	36	50	39.0	28070	966,00	1.932,00
M 84 x 2.0	160	40	50	39.0	28071	980,00	1.960,00
M 84 x 3.0	220	55	50	39.0	28072	1.167,00	2.334,00
M 84 x 4.0	260	65	50	39.0	28073	1.167,00	2.334,00
M 85 x 1.5	160	36	50	39.0	28074	1.260,00	2.520,00
M 85 x 2.0	160	40	50	39.0	28075	1.260,00	2.520,00
M 85 x 3.0	220	55	50	39.0	28076	1.560,00	3.120,00
M 85 x 4.0	260	65	50	39.0	28077	1.560,00	3.120,00
M 86 x 1.5	160	36	50	39.0	28078	1.260,00	2.520,00
M 86 x 2.0	160	40	50	39.0	28079	1.260,00	2.520,00
M 86 x 3.0	220	55	50	39.0	28080	1.536,00	3.072,00
M 86 x 4.0	260	65	50	39.0	28081	1.536,00	3.072,00
M 88 x 1.5	160	38	50	39.0	28082	1.380,00	2.760,00
M 88 x 2.0	160	40	50	39.0	28083	1.380,00	2.760,00
M 88 x 3.0	220	55	50	39.0	28084	1.584,00	3.168,00
M 88 x 4.0	260	65	50	39.0	28085	1.584,00	3.168,00
M 90 x 1.5	160	38	50	39.0	28086	1.440,00	2.880,00









DIN 2181	Tol. ISO2/6H	M 1
DIN 2181	Tol. ISO2/6H	

Nominal Diameter	L 1	L 2	D 2	Ø	ArtNo.		16.10
D						€	// €
M 90 x 2.0	160	40	50	39.0	28087	1.416,00	2.832,00
M 90 x 3.0	220	55	50	39.0	28088	1.692,00	3.384,00
M 90 x 4.0	260	65	50	39.0	28089	1.692,00	3.384,00
M 92 x 1.5	180	40	56	44.0	28090	1.440,00	2.880,00
M 92 x 2.0	180	45	56	44.0	28091	1.440,00	2.880,00
M 92 x 3.0	240	60	56	44.0	28092	1.824,00	3.648,00
M 92 x 4.0	280	70	56	44.0	28093	1.824,00	3.648,00
M 95 x 1.5	180	40	56	44.0	28094	1.548,00	3.096,00
M 95 x 2.0	180	45	56	44.0	28095	1.548,00	3.096,00
M 95 x 3.0	240	60	56	44.0	28096	2.040,00	4.080,00
M 95 x 4.0	280	70	56	44.0	28097	1.992,00	3.984,00
M 96 x 1.5	180	40	56	44.0	28098	1.800,00	3.600,00
M 96 x 2.0	180	45	56	44.0	28099	1.800,00	3.600,00
M 96 x 3.0	240	60	56	44.0	28100	2.040,00	4.080,00
M 96 x 4.0	280	70	56	44.0	28101	2.200,00	4.400,00
M 98 x 1.5	180	40	56	44.0	28102	1.850,00	3.700,00
M 98 x 2.0	180	45	56	44.0	28103	1.850,00	3.700,00
M 98 x 3.0	240	60	56	44.0	28104	2.220,00	4.440,00
M 98 x 4.0	280	70	56	44.0	28105	2.250,00	4.500,00
M 100 x 1.5	180	45	56	44.0	28106	2.020,00	4.040,00
M 100 x 2.0	180	50	56	44.0	28107	2.020,00	4.040,00
M 100 x 3.0	240	65	56	44.0	28108	2.340,00	4.680,00
M 100 x 4.0	280	75	56	44.0	28109	2.460,00	4.920,00
M 105 x 1.5	180	45	56	44.0	28110	2.200,00	4.400,00
M 105 x 2.0	180	50	56	44.0	28111	2.200,00	4.400,00
M 105 x 3.0	240	65	56	44.0	28112	2.520,00	5.040,00
M 105 x 4.0	280	75	56	44.0	28113	2.680,00	5.360,00
M 110 x 1.5	180	45	56	44.0	28114	2.390,00	4.780,00
M 110 x 2.0	180	50	56	44.0	28115	2.390,00	4.780,00
M 110 x 3.0	240	65	56	44.0	28116	2.820,00	5.640,00
M 110 x 4.0	280	75	56	44.0	28117	2.920,00	5.840,00







Whitworth-Gewinde BS 84

Hand Taps

Whitworth-thread BS 84



pprox DIN 352 HSS-G Tol. med

BSW

Nomir	nal Diameter	L 1	L 2	D 2	\square	ArtNo.		<u>eee</u>
D		- '	L Z	D 2	<u> </u>	741140.	€	<i>1000</i> €
BSW	1/16 x 60	36	10	2.5	2.1	22302	6,60	19,80
BSW	3/32 x 48	36	10	2.8	2.1	22304	5,10	15,30
BSW	1/8 x 40	40	12	3.5	2.7	22306	4,60	13,80
BSW	5/32 x 32	45	14	4.5	3.4	22308	4,60	13,80
BSW	3/16 x 24	50	18	6.0	4.9	22310	4,50	13,50
BSW	7/32 x 24	50	18	6.0	4.9	22312	4,50	13,50
BSW	1/4 x 20	50	19	6.0	4.9	22314	4,50	13,50
BSW	5/16 x 18	56	22	6.0	4.9	22316	5,00	15,00
BSW	3/8 x 16	70	24	7.0	5.5	22318	5,60	16,80
BSW	7/16 x 14	70	24	8.0	6.2	22320	7,10	21,30
BSW	1/2 x 12	75	29	9.0	7.0	22322	8,60	25,80
BSW	9/16 x 12	80	30	11.0	9.0	22324	11,20	33,60
BSW	5/8 x 11	80	32	12.0	9.0	22326	12,60	37,80
BSW	3/4 x 10	95	40	14.0	11.0	22330	16,90	50,70
BSW	7/8 x 9	100	40	18.0	14.5	22334	22,50	67,50
BSW	1" x 8	110	50	18.0	14.5	22338	25,90	77,70
BSW	1.1/8 x 7	132	56	22.0	18.0	22342	39,90	119,70
BSW	1.1/4 x 7	132	56	22.0	18.0	22346	44,90	134,70
BSW	1.3/8 x 6	150	63	28.0	22.0	22350	58,40	175,20
BSW	1.1/2 x 6	150	63	32.0	24.0	22354	67,40	202,20
BSW	1.5/8 x 5	160	70	32.0	24.0	22358	134,80	404,40
BSW	1.3/4 x 5	160	70	36.0	29.0	22362	134,80	404,40
BSW	1.7/8 x 4.1/2	190	80	36.0	29.0	22366	175,50	526,50
BSW	2" x 4.1/2	190	80	40.0	32.0	22370	175,50	526,50
BSW	2.1/4 x 4	220	80	45.0	35.0	22372	417,30	1.251,90
BSW	2.1/2 x 4	220	80	50.0	39.0	22374	665,00	1.995,00
BSW	2.3/4 x 3.1/2	240	80	50.0	39.0	22376	1.391,00	4.173,00
BSW	3" x 3.1/2	260	80	50.0	39.0	22378	1.712,00	5.136,00

Anwendung:

für allgemeinen Einsatz

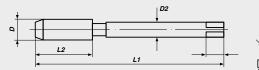
- gut zerspanbare Werkstoffe bis 900 N/mm²
- unlegierte und niedriglegierte Stähle
- für Durchgangs- und Sacklöcher
- für den Handeinsatz

Bestellbeispiel / How to order:

BSW 1/8 = 22306 BSW 1/8, No. 1 = 22306-1 BSW 1/8, No. 2 = 22306-2 BSW 1/8, No. 3 = 22306-3

Application:

- non abrasive material up to 900 N/mm²
- unalloyed and low alloyed steel
- for through and blind holes
- for thread cutting by hand











Britisch-Standard-Feingewinde BS 84

Hand Taps

British-Standard-Fine-thread BS 84



pprox DIN 2181 HSS-G Tol. med

BSF

Nominal Diameter	L1	L 2	D 2	Ø	ArtNo.	B	
D						€	<i></i>
BSF 3/16 x 32	50	14	6.0	4.9	22710	4,50	9,00
BSF 1/4 x 26	50	18	6.0	4.9	22714	4,50	9,00
BSF 5/16 x 22	56	22	6.0	4.9	22716	5,00	10,00
BSF 3/8 x 20	63	22	7.0	5.5	22718	5,60	11,20
BSF 7/16 x 18	63	22	8.0	6.2	22720	7,10	14,20
BSF 1/2 x 16	75	24	9.0	7.0	22722	8,60	17,20
BSF 9/16 x 16	80	28	11.0	9.0	22724	11,20	22,40
BSF 5/8 x 14	80	28	12.0	9.0	22726	12,60	25,20
BSF 3/4 x 12	95	32	14.0	11.0	22730	16,90	33,80
BSF 7/8 x 11	100	36	18.0	14.5	22734	22,50	45,00
BSF 1" x 10	110	40	18.0	14.5	22738	25,90	51,80

Anwendung:

für allgemeinen Einsatz

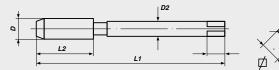
- gut zerspanbare Werkstoffe bis 900 N/mm²
- unlegierte und niedriglegierte Stähle
- für Durchgangs- und Sacklöcher
- für den Handeinsatz

Bestellbeispiel / How to order:

BSF 1/4 = 22714 BSF 1/4, No. 1 = 22714-1 BSF 1/4, No. 3 = 22714-3

Application:

- non abrasive material up to 900 N/mm²
- unalloyed and low alloyed steel
- for through and blind holes
- for thread cutting by hand











Handgewindebohrer, konische Ausführung

BA-Gewinde BS 93

Hand Taps, non-serial form

BA-thread BS 93



ISO 529 HSS-G Tol. med.

BA

Nominal Diameter	L 1	L 2	D 2	Ø	ArtNo.		6/6/6
D						€	<i>\\\\\</i> €
BA 0	66	19	6.3	5.0	89400	6,20	18,60
BA 1	62	17	5.6	4.5	89401	6,20	18,60
BA 2	58	16	5.0	4.0	89402	6,20	18,60
BA 3	53	13	4.5	3.55	89403	6,20	18,60
BA 4	50	13	3.55	2.8	89404	6,20	18,60
BA 5	48	11	3.15	2.5	89405	6,20	18,60
BA 6	45	9.5	2.8	2.24	89406	6,20	18,60

Anwendung:

für allgemeinen Einsatz

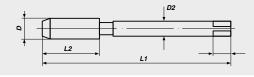
- gut zerspanbare Werkstoffe bis 900 N/mm²
- unlegierte und niedriglegierte Stähle
- für Durchgangs- und Sacklöcher
- für den Handeinsatz

Bestellbeispiel / How to order:

BA 6 = 89406 BA 6, No. 1 = 89406-1 BA 6, No. 2 = 89406-2 BA 6, No. 3 = 89406-3

Application:

- non abrasive material up to 900 N/mm²
- unalloyed and low alloyed steel
- for through and blind holes
- for thread cutting by hand











amerikanisches Grobgewinde ANSI B 1.1

Hand Taps

Unified Coarse thread ANSI B 1.1



pprox DIN 352 HSS-G Tol. 2B

UNC

D	Nomin	al Diameter	L 1	L 2	D 2	Ø	ArtNo.		and the second
UNC Nr. 2 x 56 36 11 2.8 2.1 23302 6,40 19,20 UNC Nr. 3 x 48 36 11 2.8 2.1 23303 6,40 19,20 UNC Nr. 4 x 40 40 12 3.5 2.7 23304 5,40 16,20 UNC Nr. 5 x 40 40 12 3.5 2.7 23305 4,50 13,50 UNC Nr. 6 x 32 45 14 4.0 3.0 23306 4,50 13,50 UNC Nr. 6 x 32 45 14 4.5 3.4 23308 4,50 13,50 UNC Nr. 10 x 24 50 16 6.0 4.9 23310 4,50 13,50 UNC Nr. 10 x 24 50 16 6.0 4.9 23310 4,50 13,50 UNC Nr. 12 x 24 50 18 6.0 4.9 23310 4,50 13,50 UNC Nr. 12 x 24 50 18 6.0 4.9 23312 4,50 13,50 UNC Nr. 12 x 24 50 18 6.0 4.9 23314 4,50 13,50 UNC 1/4 x 20 50 19 6.0 4.9 23316 5,00 15,00 UNC 5/16 x 18 56 22 6.0 4.9 23316 5,00 15,00 UNC 3/8 x 16 70 24 7.0 5.5 23318 5,60 16,80 UNC 7/16 x 14 70 24 8.0 6.2 23320 7.10 21,30 UNC 1/2 x 13 75 29 9.0 7.0 23322 8,60 25,80 UNC 0/16 x 12 80 30 11.0 9.0 23324 11,20 33,60 UNC 5/8 x 11 80 32 12.0 9.0 23326 12,60 37,80 UNC 5/8 x 11 80 32 12.0 9.0 23326 12,60 37,80 UNC 5/8 x 11 80 32 12.0 9.0 23326 12,60 37,80 UNC 7/78 x 9 100 40 18.0 14.5 23334 22,50 67,50 UNC 1/2 x 8 110 50 18.0 14.5 23334 22,50 67,50 UNC 1/2 x 8 110 50 18.0 14.5 23334 22,50 67,50 UNC 1/2 x 8 110 50 18.0 14.5 23334 22,50 67,50 UNC 1/3 x 8 110 50 18.0 14.5 23334 22,50 67,50 UNC 1/4 x 8 110 50 18.0 14.5 23334 22,50 67,50 UNC 1/4 x 8 110 50 18.0 14.5 23334 22,50 67,50 UNC 1/4 x 8 110 50 18.0 14.5 23334 22,50 67,50 UNC 1/4 x 8 110 50 18.0 14.5 23334 22,50 67,50 UNC 1/4 x 8 110 50 18.0 14.5 23334 22,50 67,50 UNC 1/4 x 8 110 50 18.0 14.5 23334 22,50 67,50 UNC 1/4 x 8 110 50 18.0 14.5 23334 22,50 67,50 UNC 1/4 x 8 100 50 18.0 2340 23342 39,90 119,70 UNC 1.1/4 x 7 132 56 22.0 18.0 23342 39,90 119,70 UNC 1.1/4 x 7 132 56 22.0 18.0 23342 39,90 119,70 UNC 1.1/4 x 7 132 56 22.0 18.0 23346 44,90 134,70 20,20 UNC 1.1/4 x 1/2 190 80 36.0 29.0 23366 175,50 526,50 UNC 2.1/4 x 4.1/2 190 80 36.0 29.0 23366 175,50 526,50 UNC 2.1/4 x 4.1/2 190 80 36.0 29.0 23366 175,50 526,50 UNC 2.1/4 x 4.1/2 190 80 36.0 29.0 23376 1360,00 1926,00 UNC 2.1/4 x 4.1/2 20 80 50.0 39.0 23376 1.560,00 4.680,00 UNC 2.3/4 x 4 240 80 50.0 39.0 23376 1.560,00 4.680,00 UNC 2.3/4 x 4 240 80 50.0	D							€	000€
UNC Nr. 3 x 48 36 11 2.8 2.1 23303 6,40 19,20 UNC Nr. 4 x 40 40 12 3.5 2.7 23304 5,40 16,20 UNC Nr. 5 x 40 40 12 3.5 2.7 23305 4,50 13,50 UNC Nr. 6 x 32 45 14 4.0 3.0 23306 4,50 13,50 UNC Nr. 6 x 32 45 14 4.0 3.0 23306 4,50 13,50 UNC Nr. 10 x 24 50 16 6.0 4.9 23310 4,50 13,50 UNC Nr. 10 x 24 50 18 6.0 4.9 23310 4,50 13,50 UNC Nr. 11 x 2 x 24 50 18 6.0 4.9 23312 4,50 13,50 UNC Nr. 12 x 24 50 19 6.0 4.9 23314 4,50 13,50 UNC Nr. 14 x 20 50 19 6.0 4.9 23314 4,50 13,50 UNC 5/16 x 18 56 22 6.0 4.9 23316 5,00 15,00 UNC 3/8 x 16 70 24 7.0 5.5 23318 5,60 16,80 UNC 7/16 x 14 70 24 8.0 6.2 23320 7,10 21,30 UNC 1/2 x 13 75 29 9.0 7.0 23322 8,60 25,80 UNC 9/16 x 12 80 30 11.0 9.0 23324 11,20 33,60 UNC 9/16 x 12 80 30 11.0 9.0 23324 11,20 33,60 UNC 5/8 x 11 80 32 12.0 9.0 23324 11,20 33,60 UNC 5/8 x 11 80 32 12.0 9.0 23326 12,60 37,80 UNC 7/8 x 9 100 40 18.0 14.5 23334 22,50 67,50 UNC 1/2 x 8 110 50 18.0 14.5 23334 22,50 67,50 UNC 1/2 x 8 110 50 18.0 14.5 23334 22,50 67,50 UNC 1/3 x 8 110 50 18.0 14.5 23334 22,50 67,50 UNC 1/3 x 8 110 50 18.0 14.5 23334 22,50 67,50 UNC 1/3 x 8 110 50 18.0 14.5 23334 22,50 67,50 UNC 1/3 x 8 110 50 18.0 14.5 23334 22,50 67,50 UNC 1/3 x 8 110 50 18.0 14.5 23334 22,50 67,50 UNC 1/3 x 8 110 50 18.0 14.5 23334 22,50 67,50 UNC 1/3 x 8 110 50 18.0 14.5 23334 22,50 67,50 UNC 1/3 x 8 110 50 18.0 14.5 23334 22,50 67,50 UNC 1.1/4 x 7 132 56 22.0 18.0 23342 39,90 119,70 UNC 1.1/4 x 7 132 56 22.0 18.0 23346 44,90 134,70 UNC 1.1/8 x 5 160 70 32.0 24.0 23356 134,80 404,40 UNC 1.3/8 x 5 160 70 32.0 24.0 23356 134,80 404,40 UNC 1.5/8 x 5 160 70 32.0 24.0 23356 134,80 404,40 UNC 1.5/8 x 5 160 70 32.0 24.0 23366 175,50 526,50 UNC 2.1/4 x 4.1/2 20 80 45.0 35.0 23372 501,00 1.503,00 UNC 2.1/2 x 4 20 80 50.0 39.0 23376 1.560,00 4.680,00 UNC 2.3/4 x 4 240 80 50.0 39.0 23376 1.560,00 4.680,00 UNC 2.3/4 x 4 240 80 50.0 39.0 23376 1.560,00 4.680,00 UNC 2.3/4 x 4 240 80 50.0 39.0 23376 1.560,00 4.680,00 UNC 2.3/4 x 4 240 80 50.0 39.0 23376 1.560,00 4.680,00 UNC 2.3/4 x 4 240 80 50.0 39.0 23376 1.560,00 4.680,00 UNC 2.3	UNC N	lr. 1 x 64	32	10	2.5	2.1	23301	6,60	19,80
UNC Nr. 4 x 40 40 12 3.5 2.7 23304 5,40 16,20 UNC Nr. 5 x 40 40 12 3.5 2.7 23305 4,50 13,50 UNC Nr. 6 x 32 45 14 4.0 3.0 23306 4,50 13,50 UNC Nr. 8 x 32 45 14 4.5 3.4 23308 4,50 13,50 UNC Nr. 10 x 24 50 16 6.0 4.9 23310 4,50 13,50 UNC Nr. 12 x 24 50 18 6.0 4.9 23312 4,50 13,50 UNC Nr. 12 x 24 50 19 6.0 4.9 23312 4,50 13,50 UNC Nr. 12 x 24 50 19 6.0 4.9 23314 4,50 13,50 UNC 1/4 x 20 50 19 6.0 4.9 23316 5,00 15,00 UNC 5/16 x 18 56 22 6.0 4.9 23316 5,00 15,00 UNC 3/8 x 16 70 24 7.0 5.5 23318 5,60 16,80 UNC 7/16 x 14 70 24 8.0 6.2 23320 7,10 21,30 UNC 1/2 x 13 75 29 9.0 7.0 23322 8,60 25,80 UNC 9/16 x 12 80 30 11.0 9.0 23324 11,20 33,60 UNC 5/8 x 11 80 32 12.0 9.0 23324 11,20 33,60 UNC 5/8 x 11 80 32 12.0 9.0 23326 12,60 37,80 UNC 5/8 x 11 80 32 12.0 9.0 23326 12,60 37,80 UNC 7/8 x 9 100 40 18.0 14.5 23334 22,50 67,50 UNC 1/8 x 8 110 50 18.0 14.5 23334 22,50 67,50 UNC 1/8 x 8 110 50 18.0 14.5 23334 22,50 67,50 UNC 1/8 x 7 132 56 22.0 18.0 23346 44,90 134,70 UNC 1.1/8 x 7 132 56 22.0 18.0 23346 44,90 134,70 UNC 1.1/8 x 7 132 56 22.0 18.0 23346 44,90 134,70 UNC 1.1/8 x 6 150 63 32.0 24.0 23350 58,40 175,20 UNC 1.5/8 x 5 160 70 32.0 24.0 23358 134,80 404,40 UNC 1.5/8 x 5 160 70 32.0 24.0 23358 134,80 404,40 UNC 1.5/8 x 5 160 70 32.0 24.0 23356 175,50 526,50 UNC 2"x 4.1/2 190 80 40.0 32.0 23370 175,50 526,50 UNC 2.1/2 x 4 220 80 45.0 39.0 23376 1.560,00 4.680,00 UNC 2.1/2 x 4 20 80 50.0 39.0 23376 1.560,00 4.680,00	UNC N	Ir. 2 x 56	36	11	2.8	2.1	23302	6,40	19,20
UNC Nr. 5 x 40 40 12 3.5 2.7 23305 4,50 13,50 UNC Nr. 6 x 32 45 14 4.0 3.0 23306 4,50 13,50 UNC Nr. 8 x 32 45 14 4.5 3.4 23308 4,50 13,50 UNC Nr. 10 x 24 50 16 6.0 4.9 23310 4,50 13,50 UNC Nr. 12 x 24 50 18 6.0 4.9 23312 4,50 13,50 UNC Nr. 12 x 24 50 18 6.0 4.9 23312 4,50 13,50 UNC Nr. 1/4 x 20 50 19 6.0 4.9 23316 5,00 15,00 UNC S/16 x 18 56 22 6.0 4.9 23316 5,00 15,00 UNC S/16 x 18 56 22 6.0 4.9 23318 5,60 16,80 UNC 7/16 x 14 70 24 8.0 6.2 23320 7,10 21,30 UNC 1/2 x 13 75 29 9.0 7.0 23322 8,60 25,80 UNC 9/16 x 12 80 30 11.0 9.0 23324 11,20 33,60 UNC 9/16 x 12 80 30 11.0 9.0 23324 11,20 33,60 UNC 5/8 x 11 80 32 12.0 9.0 23326 12,60 37,80 UNC 5/8 x 11 80 32 12.0 9.0 23326 12,60 37,80 UNC 7/8 x 9 100 40 18.0 14.5 23334 22,50 67,50 UNC 1/8 x 9 100 40 18.0 14.5 23334 22,50 67,50 UNC 1/8 x 9 100 40 18.0 14.5 23334 22,50 67,50 UNC 1/8 x 9 100 40 18.0 14.5 23334 23,990 119,70 UNC 1.1/8 x 7 132 56 22.0 18.0 23346 44,90 134,70 UNC 1.1/4 x 7 132 56 22.0 18.0 23346 44,90 134,70 UNC 1.1/4 x 6 150 63 28.0 22.0 23350 58,40 175,20 UNC 1.1/4 x 6 150 63 28.0 22.0 23350 58,40 175,20 UNC 1.5/8 x 5 160 70 32.0 24.0 23354 67,40 20,22 UNC 1.5/8 x 5 160 70 32.0 24.0 23354 67,40 20,22 UNC 1.5/8 x 5 160 70 32.0 24.0 23354 67,40 20,22 UNC 1.5/8 x 5 160 70 32.0 24.0 23356 134,80 404,40 UNC 1.7/8 x 4.1/2 190 80 36.0 29.0 23366 175,50 526,50 UNC 2"x 4.1/2 190 80 40.0 32.0 23370 175,50 526,50 UNC 2"x 4.1/2 190 80 40.0 32.0 23376 1.560,00 4.680,00 UNC 2.1/4 x 4.1/2 20 80 45.0 39.0 23376 1.560,00 4.680,00	UNC N	Ir. 3 x 48	36	11	2.8	2.1	23303	6,40	19,20
UNC Nr. 6 x 32	UNC N	Ir. 4 x 40	40	12	3.5	2.7	23304	5,40	16,20
UNC Nr. 8 x 32	UNC N	Ir. 5 x 40	40	12	3.5	2.7	23305	4,50	13,50
UNC Nr. 10 x 24 50 16 6.0 4.9 23310 4,50 13,50 UNC Nr. 12 x 24 50 18 6.0 4.9 23312 4,50 13,50 UNC 1/4 x 20 50 19 6.0 4.9 23314 4,50 13,50 UNC 5/16 x 18 56 22 6.0 4.9 23316 5,00 15,00 UNC 3/8 x 16 70 24 7.0 5.5 23318 5,60 16,80 UNC 7/16 x 14 70 24 8.0 6.2 23320 7,10 21,30 UNC 1/2 x 13 75 29 9.0 7.0 23322 8,60 25,80 UNC 9/16 x 12 80 30 11.0 9.0 23324 11,20 33,60 UNC 5/8 x 11 80 32 12.0 9.0 23326 12,60 37,80 UNC 3/8 x 10 95 40 14.0 11.0 23330 16,90 50,70 UNC 3/8 x 9 100 40 18.0 14.5 23334 22,50 67,50 UNC 1/8 x 9 100 40 18.0 14.5 23334 22,50 67,50 UNC 1/8 x 7 132 56 22.0 18.0 23342 39,90 119,70 UNC 1.1/8 x 7 132 56 22.0 18.0 23346 44,90 134,70 UNC 1.1/4 x 7 132 56 22.0 18.0 23346 44,90 134,70 UNC 1.1/4 x 7 132 56 22.0 18.0 23346 44,90 134,70 UNC 1.1/4 x 7 132 56 22.0 18.0 23346 44,90 134,70 UNC 1.1/4 x 7 132 56 22.0 18.0 23346 44,90 134,70 UNC 1.1/4 x 7 132 56 22.0 18.0 23346 44,90 134,70 UNC 1.1/4 x 7 132 56 22.0 18.0 23346 44,90 134,70 UNC 1.1/4 x 7 132 56 32.0 24.0 23350 58,40 175,20 UNC 1.1/2 x 6 150 63 28.0 22.0 23350 58,40 175,20 UNC 1.1/2 x 6 150 63 32.0 24.0 23358 134,80 404,40 UNC 1.3/4 x 5 160 70 32.0 24.0 23358 134,80 404,40 UNC 1.3/4 x 5 160 70 32.0 24.0 23358 134,80 404,40 UNC 1.5/8 x 5 160 70 32.0 24.0 23356 175,50 526,50 UNC 2" x 4.1/2 190 80 40.0 32.0 23370 175,50 526,50 UNC 2.1/4 x 4.1/2 20 80 45.0 35.0 23372 501,00 1.503,00 UNC 2.1/2 x 4 220 80 45.0 35.0 23376 1.560,00 4.680,00	UNC N	Ir. 6 x 32	45	14	4.0	3.0	23306	4,50	13,50
UNC Nr. 12 x 24 50 18 6.0 4.9 23312 4,50 13,50 UNC 1/4 x 20 50 19 6.0 4.9 23314 4,50 13,50 UNC 5/16 x 18 56 22 6.0 4.9 23316 5,00 15,00 UNC 3/8 x 16 70 24 7.0 5.5 23318 5,60 16,80 UNC 7/16 x 14 70 24 8.0 6.2 23320 7,10 21,30 UNC 1/2 x 13 75 29 9.0 7.0 23322 8,60 25,80 UNC 9/16 x 12 80 30 11.0 9.0 23324 11,20 33,60 UNC 5/8 x 11 80 32 12.0 9.0 23326 12,60 37,80 UNC 3/4 x 10 95 40 14.0 11.0 23330 16,90 50,70 UNC 7/8 x 9 100 40 18.0 14.5 23334 22,50 67,50 UNC 1/18 x 7 132 56 22.0 18.0 23342 39,90 119,70 UNC 1.1/8 x 7 132 56 22.0 18.0 23342 39,90 119,70 UNC 1.1/4 x 7 132 56 22.0 18.0 23346 44,90 134,70 UNC 1.1/2 x 6 150 63 28.0 22.0 23356 17,60 20,20 UNC 1.5/8 x 5 160 70 32.0 24.0 23358 134,80 404,40 UNC 1.5/8 x 5 160 70 36.0 29.0 23366 175,50 526,50 UNC 1.7/8 x 4.1/2 190 80 36.0 29.0 23362 134,80 404,40 UNC 1.3/8 x 4.1/2 190 80 36.0 29.0 23362 175,00 1.560,00 4.680,00 UNC 2.1/2 x 4.1/2 190 80 45.0 39.0 23374 642,00 1.926,00 UNC 2.1/2 x 4.1/2 20 80 45.0 39.0 23374 642,00 1.926,00 UNC 2.1/2 x 4 220 80 50.0 39.0 23376 1.560,00 4.680,00	UNC N	Ir. 8 x 32	45	14	4.5	3.4	23308	4,50	13,50
UNC 1/4 x 20 50 19 6.0 4.9 23314 4,50 13,50 UNC 5/16 x 18 56 22 6.0 4.9 23316 5,00 15,00 UNC 3/8 x 16 70 24 7.0 5.5 23318 5,60 16,80 UNC 7/16 x 14 70 24 8.0 6.2 23320 7,10 21,30 UNC 1/2 x 13 75 29 9.0 7.0 23322 8,60 25,80 UNC 9/16 x 12 80 30 11.0 9.0 23324 11,20 33,60 UNC 5/8 x 11 80 32 12.0 9.0 23326 12,60 37,80 UNC 3/4 x 10 95 40 14.0 11.0 23330 16,90 50,70 UNC 7/8 x 9 100 40 18.0 14.5 23334 22,50 67,50 UNC 1/8 x 110 50 18.0 14.5 23334 22,50 67,50 UNC 1/8 x 7 132 56 22.0 18.0 23346 39,90 119,70 UNC 1.1/4 x 7 132 56 22.0 18.0 23346 34,90 134,70 UNC 1.3/8 x 6 150 63 28.0 22.0 23350 58,40 175,20 UNC 1.3/8 x 5 160 70 32.0 24.0 23354 67,40 202,20 UNC 1.5/8 x 5 160 70 32.0 24.0 23356 13,80 404,40 UNC 1.3/8 x 6 150 63 32.0 24.0 23356 13,80 404,40 UNC 1.3/8 x 5 160 70 32.0 24.0 23356 134,80 404,40 UNC 1.3/8 x 4.1/2 190 80 36.0 29.0 23366 175,50 526,50 UNC 2.1/4 x 4.1/2 190 80 40.0 32.0 23372 501,00 1.503,00 UNC 2.1/2 x 4 220 80 45.0 39.0 23374 642,00 1.926,00 UNC 2.1/2 x 4 220 80 50.0 39.0 23374 642,00 1.926,00 UNC 2.1/2 x 4 220 80 50.0 39.0 23376 1.560,00 4.680,00	UNC N	Ir. 10 x 24	50	16	6.0	4.9	23310		
UNC 5/16 x 18 56 22 6.0 4.9 23316 5,00 15,00 UNC 3/8 x 16 70 24 7.0 5.5 23318 5,60 16,80 UNC 7/16 x 14 70 24 8.0 6.2 23320 7,10 21,30 UNC 1/2 x 13 75 29 9.0 7.0 23322 8,60 25,80 UNC 9/16 x 12 80 30 11.0 9.0 23324 11,20 33,60 UNC 5/8 x 11 80 32 12.0 9.0 23326 12,60 37,80 UNC 3/4 x 10 95 40 14.0 11.0 23330 16,90 50,70 UNC 7/8 x 9 100 40 18.0 14.5 23334 22,50 67,50 UNC 1" x 8 110 50 18.0 14.5 23334 22,50 67,50 UNC 1.1/8 x 7 132 56 22.0 18.0 23342 39,90 119,70 UNC 1.1/4 x 7 132 56 22.0 18.0 23346 44,90 134,70 UNC 1.3/8 x 6 150 63 28.0 22.0 23350 58,40 175,20 UNC 1.3/8 x 5 160 70 32.0 24.0 23354 67,40 202,20 UNC 1.5/8 x 5 160 70 36.0 29.0 23366 175,50 526,50 UNC 2" x 4.1/2 190 80 36.0 29.0 23366 175,50 526,50 UNC 2." x 4.1/2 190 80 40.0 32.0 23374 642,00 1.926,00 UNC 2.1/2 x 4 220 80 45.0 39.0 23374 642,00 1.926,00 UNC 2.1/2 x 4 220 80 50.0 39.0 23376 1.560,00 4.680,00 UNC 2.3/4 x 4 240 80 50.0 39.0 23376 1.560,00 4.680,00		Ir. 12 x 24	50	18	6.0	4.9	23312		
UNC 3/8 x 16 70 24 7.0 5.5 23318 5,60 16,80 UNC 7/16 x 14 70 24 8.0 6.2 23320 7,10 21,30 UNC 1/2 x 13 75 29 9.0 7.0 23322 8,60 25,80 UNC 9/16 x 12 80 30 11.0 9.0 23324 11,20 33,60 UNC 5/8 x 11 80 32 12.0 9.0 23326 12,60 37,80 UNC 3/4 x 10 95 40 14.0 11.0 23330 16,90 50,70 UNC 7/8 x 9 100 40 18.0 14.5 23334 22,50 67,50 UNC 1" x 8 110 50 18.0 14.5 23338 25,90 77,70 UNC 1.1/8 x 7 132 56 22.0 18.0 23342 39,90 119,70 UNC 1.1/4 x 7 132 56 22.0 18.0 23346 44,90 134,70 UNC 1.3/8 x 6 150 63 28.0 22.0 23350 58,40 175,20 UNC 1.1/2 x 6 150 63 32.0 24.0 23358 134,80 404,40 UNC 1.3/8 x 5 160 70 32.0 24.0 23358 134,80 404,40 UNC 1.3/8 x 5 160 70 36.0 29.0 23366 175,50 526,50 UNC 2" x 4.1/2 190 80 40.0 32.0 23372 501,00 1.503,00 UNC 2.1/2 x 4 220 80 45.0 39.0 23374 642,00 1.926,00 UNC 2.1/2 x 4 220 80 50.0 39.0 23374 642,00 1.926,00 UNC 2.1/2 x 4 220 80 50.0 39.0 23376 1.560,00 4.680,00	UNC	1/4 x 20	50	19	6.0	4.9	23314	4,50	13,50
UNC 7/16 x 14 70 24 8.0 6.2 23320 7,10 21,30 UNC 1/2 x 13 75 29 9.0 7.0 23322 8,60 25,80 UNC 9/16 x 12 80 30 11.0 9.0 23324 11,20 33,60 UNC 5/8 x 11 80 32 12.0 9.0 23326 12,60 37,80 UNC 3/4 x 10 95 40 14.0 11.0 23330 16,90 50,70 UNC 7/8 x 9 100 40 18.0 14.5 23334 22,50 67,50 UNC 1" x 8 110 50 18.0 14.5 23338 25,90 77,70 UNC 1.1/8 x 7 132 56 22.0 18.0 23342 39,90 119,70 UNC 1.1/4 x 7 132 56 22.0 18.0 23346 44,90 134,70 UNC 1.3/8 x 6 150 63 28.0 22.0 23350 58,40 175,20 UNC 1.1/2 x 6 150 63 32.0 24.0 23354 67,40 202,20 UNC 1.5/8 x 5 160 70 32.0 24.0 23356 134,80 404,40 UNC 1.3/4 x 5 160 70 36.0 29.0 23366 175,50 526,50 UNC 2" x 4.1/2 190 80 45.0 35.0 23372 501,00 1.503,00 UNC 2.1/2 x 4 220 80 45.0 39.0 23374 642,00 1.926,00 UNC 2.1/2 x 4 220 80 50.0 39.0 23376 1.560,00 4.680,00	UNC	5/16 x 18	56	22	6.0	4.9	23316	5,00	15,00
UNC 1/2 x 13 75 29 9.0 7.0 23322 8,60 25,80 UNC 9/16 x 12 80 30 11.0 9.0 23324 11,20 33,60 UNC 5/8 x 11 80 32 12.0 9.0 23326 12,60 37,80 UNC 3/4 x 10 95 40 14.0 11.0 23330 16,90 50,70 UNC 7/8 x 9 100 40 18.0 14.5 23334 22,50 67,50 UNC 1" x 8 110 50 18.0 14.5 23338 25,90 77,70 UNC 1.1/8 x 7 132 56 22.0 18.0 23342 39,90 119,70 UNC 1.1/4 x 7 132 56 22.0 18.0 23346 44,90 134,70 UNC 1.3/8 x 6 150 63 28.0 22.0 23350 58,40 175,20 UNC 1.1/2 x 6 150 63 32.0 24.0 23354 67,40 202,20 UNC 1.3/4 x 5 160 70 32.0 24.0 23358 134,80 404,40 UNC 1.3/4 x 5 160 70 36.0 29.0 23362 134,80 404,40 UNC 1.7/8 x 4.1/2 190 80 36.0 29.0 23360 175,50 526,50 UNC 2" x 4.1/2 190 80 40.0 32.0 2372 501,00 1.503,00 UNC 2.1/2 x 4 220 80 45.0 39.0 23374 642,00 1.926,00 UNC 2.3/4 x 4 240 80 50.0 39.0 23376 1.560,00 4.680,00	UNC	3/8 x 16	70	24	7.0	5.5	23318	5,60	16,80
UNC 9/16 x 12 80 30 11.0 9.0 23324 11,20 33,60 UNC 5/8 x 11 80 32 12.0 9.0 23326 12,60 37,80 UNC 3/4 x 10 95 40 14.0 11.0 23330 16,90 50,70 UNC 7/8 x 9 100 40 18.0 14.5 23334 22,50 67,50 UNC 1" x 8 110 50 18.0 14.5 23338 25,90 77,70 UNC 1.1/8 x 7 132 56 22.0 18.0 23342 39,90 119,70 UNC 1.1/4 x 7 132 56 22.0 18.0 23346 44,90 134,70 UNC 1.3/8 x 6 150 63 28.0 22.0 23350 58,40 175,20 UNC 1.1/2 x 6 150 63 32.0 24.0 23354 67,40 202,20 UNC 1.5/8 x 5 160 70 32.0 24.0 23358 134,80 404,40 UNC 1.3/4 x 5 160 70 36.0 29.0 23362 134,80 404,40 UNC 1.7/8 x 4.1/2 190 80 36.0 29.0 23366 175,50 526,50 UNC 2" x 4.1/2 190 80 40.0 32.0 23370 175,50 526,50 UNC 2.1/4 x 4.1/2 220 80 45.0 39.0 23374 642,00 1.560,00 UNC 2.1/2 x 4 220 80 50.0 39.0 23376 1.560,00 4.680,00	UNC	7/16 x 14	70	24	8.0	6.2	23320	7,10	21,30
UNC 5/8 x 11 80 32 12.0 9.0 23326 12,60 37,80 UNC 3/4 x 10 95 40 14.0 11.0 23330 16,90 50,70 UNC 7/8 x 9 100 40 18.0 14.5 23334 22,50 67,50 UNC 1" x 8 110 50 18.0 14.5 23338 25,90 77,70 UNC 1.1/8 x 7 132 56 22.0 18.0 23342 39,90 119,70 UNC 1.1/4 x 7 132 56 22.0 18.0 23342 39,90 119,70 UNC 1.1/4 x 7 132 56 22.0 18.0 23346 44,90 134,70 UNC 1.3/8 x 6 150 63 28.0 22.0 23350 58,40 175,20 UNC 1.5/8 x 5 160 70 32.0 24.0 23358 134,80 404,40 UNC 1.3/4 x 5	UNC	1/2 x 13	75	29	9.0	7.0	23322	8,60	25,80
UNC $3/4 \times 10$ 95 40 14.0 11.0 23330 16,90 50,70 UNC $7/8 \times 9$ 100 40 18.0 14.5 23334 22,50 67,50 UNC 1" x 8 110 50 18.0 14.5 23338 25,90 77,70 UNC 1.1/8 x 7 132 56 22.0 18.0 23342 39,90 119,70 UNC 1.1/4 x 7 132 56 22.0 18.0 23346 44,90 134,70 UNC 1.3/8 x 6 150 63 28.0 22.0 23350 58,40 175,20 UNC 1.1/2 x 6 150 63 32.0 24.0 23354 67,40 202,20 UNC 1.5/8 x 5 160 70 32.0 24.0 23358 134,80 404,40 UNC 1.3/4 x 5 160 70 36.0 29.0 23362 134,80 404,40 UNC 2.7/8 x	UNC	9/16 x 12	80		11.0	9.0	23324		
UNC 7/8 x 9 100 40 18.0 14.5 23334 22,50 67,50 UNC 1" x 8 110 50 18.0 14.5 23338 25,90 77,70 UNC 1.1/8 x 7 132 56 22.0 18.0 23342 39,90 119,70 UNC 1.1/4 x 7 132 56 22.0 18.0 23346 44,90 134,70 UNC 1.3/8 x 6 150 63 28.0 22.0 23350 58,40 175,20 UNC 1.1/2 x 6 150 63 32.0 24.0 23354 67,40 202,20 UNC 1.5/8 x 5 160 70 32.0 24.0 23358 134,80 404,40 UNC 1.3/4 x 5 160 70 36.0 29.0 23362 134,80 404,40 UNC 1.7/8 x 4.1/2 190 80 36.0 29.0 23366 175,50 526,50 UNC 2.1/	UNC	5/8 x 11	80	32	12.0	9.0	23326	12,60	37,80
UNC 1" x 8 110 50 18.0 14.5 23338 25,90 77,70 UNC 1.1/8 x 7 132 56 22.0 18.0 23342 39,90 119,70 UNC 1.1/4 x 7 132 56 22.0 18.0 23346 44,90 134,70 UNC 1.3/8 x 6 150 63 28.0 22.0 23350 58,40 175,20 UNC 1.1/2 x 6 150 63 32.0 24.0 23354 67,40 202,20 UNC 1.5/8 x 5 160 70 32.0 24.0 23358 134,80 404,40 UNC 1.3/4 x 5 160 70 36.0 29.0 23362 134,80 404,40 UNC 1.7/8 x 4.1/2 190 80 36.0 29.0 23366 175,50 526,50 UNC 2" x 4.1/2 190 80 40.0 32.0 23370 175,50 526,50 UNC 2.1/4 x 4.1/2 220 80 45.0 35.0 23374 642,00 1.503,00 UNC 2.1/2 x 4 240 80 50.0 39.0 23376 1.560,00 4.680,00	UNC	3/4 x 10	95	40	14.0	11.0	23330	16,90	50,70
UNC 1.1/8 x 7 132 56 22.0 18.0 23342 39,90 119,70 UNC 1.1/4 x 7 132 56 22.0 18.0 23346 44,90 134,70 UNC 1.3/8 x 6 150 63 28.0 22.0 23350 58,40 175,20 UNC 1.1/2 x 6 150 63 32.0 24.0 23354 67,40 202,20 UNC 1.5/8 x 5 160 70 32.0 24.0 23358 134,80 404,40 UNC 1.3/4 x 5 160 70 36.0 29.0 23362 134,80 404,40 UNC 1.7/8 x 4.1/2 190 80 36.0 29.0 23366 175,50 526,50 UNC 2"x 4.1/2 190 80 40.0 32.0 23370 175,50 526,50 UNC 2.1/4 x 4.1/2 220 80 45.0 35.0 23372 501,00 1.503,00 UNC 2.1/2 x 4 220 80 50.0 39.0 23374 642,00	UNC	7/8 x 9	100	40	18.0	14.5	23334	22,50	67,50
UNC 1.1/4 x 7 132 56 22.0 18.0 23346 44,90 134,70 UNC 1.3/8 x 6 150 63 28.0 22.0 23350 58,40 175,20 UNC 1.1/2 x 6 150 63 32.0 24.0 23354 67,40 202,20 UNC 1.5/8 x 5 160 70 32.0 24.0 23358 134,80 404,40 UNC 1.3/4 x 5 160 70 36.0 29.0 23362 134,80 404,40 UNC 1.7/8 x 4.1/2 190 80 36.0 29.0 23366 175,50 526,50 UNC 2" x 4.1/2 190 80 40.0 32.0 23370 175,50 526,50 UNC 2.1/4 x 4.1/2 220 80 45.0 35.0 23372 501,00 1.503,00 UNC 2.1/2 x 4 220 80 50.0 39.0 23374 642,00 1.926,00 UNC 2.3/4 x 4 240 80 50.0 39.0 23376 1.560,00			110	50	18.0		23338	,	,
UNC 1.3/8 x 6 150 63 28.0 22.0 23350 58,40 175,20 UNC 1.1/2 x 6 150 63 32.0 24.0 23354 67,40 202,20 UNC 1.5/8 x 5 160 70 32.0 24.0 23358 134,80 404,40 UNC 1.3/4 x 5 160 70 36.0 29.0 23362 134,80 404,40 UNC 1.7/8 x 4.1/2 190 80 36.0 29.0 23366 175,50 526,50 UNC 2" x 4.1/2 190 80 40.0 32.0 23370 175,50 526,50 UNC 2.1/4 x 4.1/2 220 80 45.0 35.0 23372 501,00 1.503,00 UNC 2.1/2 x 4 220 80 50.0 39.0 23374 642,00 1.926,00 UNC 2.3/4 x 4 240 80 50.0 39.0 23376 1.560,00 4.680,00	UNC	1.1/8 x 7			22.0	18.0	23342		
UNC 1.1/2 x 6 150 63 32.0 24.0 23354 67,40 202,20 UNC 1.5/8 x 5 160 70 32.0 24.0 23358 134,80 404,40 UNC 1.3/4 x 5 160 70 36.0 29.0 23362 134,80 404,40 UNC 1.7/8 x 4.1/2 190 80 36.0 29.0 23366 175,50 526,50 UNC 2" x 4.1/2 190 80 40.0 32.0 23370 175,50 526,50 UNC 2.1/4 x 4.1/2 220 80 45.0 35.0 23372 501,00 1.503,00 UNC 2.1/2 x 4 220 80 50.0 39.0 23374 642,00 1.926,00 UNC 2.3/4 x 4 240 80 50.0 39.0 23376 1.560,00 4.680,00	UNC	1.1/4 x 7	132	56	22.0	18.0	23346	44,90	134,70
UNC 1.5/8 x 5 160 70 32.0 24.0 23358 134,80 404,40 UNC 1.3/4 x 5 160 70 36.0 29.0 23362 134,80 404,40 UNC 1.7/8 x 4.1/2 190 80 36.0 29.0 23366 175,50 526,50 UNC 2" x 4.1/2 190 80 40.0 32.0 23370 175,50 526,50 UNC 2.1/4 x 4.1/2 220 80 45.0 35.0 23372 501,00 1.503,00 UNC 2.1/2 x 4 220 80 50.0 39.0 23374 642,00 1.926,00 UNC 2.3/4 x 4 240 80 50.0 39.0 23376 1.560,00 4.680,00	UNC	1.3/8 x 6	150	63	28.0	22.0	23350	58,40	175,20
UNC 1.3/4 x 5 160 70 36.0 29.0 23362 134,80 404,40 UNC 1.7/8 x 4.1/2 190 80 36.0 29.0 23366 175,50 526,50 UNC 2" x 4.1/2 190 80 40.0 32.0 23370 175,50 526,50 UNC 2.1/4 x 4.1/2 220 80 45.0 35.0 23372 501,00 1.503,00 UNC 2.1/2 x 4 220 80 50.0 39.0 23374 642,00 1.926,00 UNC 2.3/4 x 4 240 80 50.0 39.0 23376 1.560,00 4.680,00	UNC	1.1/2 x 6	150	63	32.0	24.0	23354	67,40	202,20
UNC 1.7/8 x 4.1/2 190 80 36.0 29.0 23366 175,50 526,50 UNC 2" x 4.1/2 190 80 40.0 32.0 23370 175,50 526,50 UNC 2.1/4 x 4.1/2 220 80 45.0 35.0 23372 501,00 1.503,00 UNC 2.1/2 x 4 220 80 50.0 39.0 23374 642,00 1.926,00 UNC 2.3/4 x 4 240 80 50.0 39.0 23376 1.560,00 4.680,00	UNC	1.5/8 x 5	160	70	32.0	24.0	23358	134,80	404,40
UNC 2" x 4.1/2 190 80 40.0 32.0 23370 175,50 526,50 UNC 2.1/4 x 4.1/2 220 80 45.0 35.0 23372 501,00 1.503,00 UNC 2.1/2 x 4 220 80 50.0 39.0 23374 642,00 1.926,00 UNC 2.3/4 x 4 240 80 50.0 39.0 23376 1.560,00 4.680,00	UNC	1.3/4 x 5	160	70	36.0	29.0	23362	134,80	404,40
UNC 2.1/4 x 4.1/2 220 80 45.0 35.0 23372 501,00 1.503,00 UNC 2.1/2 x 4 220 80 50.0 39.0 23374 642,00 1.926,00 UNC 2.3/4 x 4 240 80 50.0 39.0 23376 1.560,00 4.680,00	UNC	1.7/8 x 4.1/2	190	80	36.0	29.0	23366	175,50	526,50
UNC 2.1/2 x 4 220 80 50.0 39.0 23374 642,00 1.926,00 UNC 2.3/4 x 4 240 80 50.0 39.0 23376 1.560,00 4.680,00	UNC	2" x 4.1/2	190	80	40.0		23370	,	
UNC 2.3/4 x 4 240 80 50.0 39.0 23376 1.560,00 4.680,00	UNC	2.1/4 x 4.1/2	220	80	45.0	35.0	23372	501,00	1.503,00
		2.1/2 x 4	220	80	50.0	39.0	23374	642,00	1.926,00
	UNC	2.3/4 x 4	240	80	50.0	39.0	23376	1.560,00	4.680,00
UNC 3" x 4 260 80 50.0 39.0 23378 1.920,00 5.760,00	UNC	3" x 4	260	80	50.0	39.0	23378	1.920,00	5.760,00

Anwendung:

für allgemeinen Einsatz

- gut zerspanbare Werkstoffe bis 900 N/mm²
- unlegierte und niedriglegierte Stähle
- für Durchgangs- und Sacklöcher
- für den Handeinsatz

Bestellbeispiel / How to order:

UNC 1/4, No. 1 = 23314-1 UNC 1/4, No. 2 = 23314-2 UNC 1/4, No. 3 = 23314-3

Application:

- non abrasive material up to 900 N/mm²
- unalloyed and low alloyed steel
- for through and blind holes
- for thread cutting by hand







D 2



Handgewindebohrer

amerikanisches Feingewinde ANSI B 1.1

Hand Taps

Nominal Diameter

Unified Fine thread ANSI B 1.1



≈ **DIN 2181** Tol. 2B HSS-G

L 2

L 1

	Oiti
€	
6,60	13,20
6,60	13,20
6,40	12,80
6,40	12,80
5,40	10,80
4,50	9,00
4,50	9,00
4,50	9,00
4,50	9,00
4,50	9,00
4,50	9,00
5,00	10,00
5,60	11,20
7,10	14,20
8,60	17,20
44.00	00.40

_								
UNF I	Nr. 0 x 80	28	8	2.5	2.1	24300	6,60	13,20
UNF I	Nr. 1 x 72	32	9	2.8	2.1	24301	6,60	13,20
UNF I	Nr. 2 x 64	32	10	2.8	2.1	24302	6,40	12,80
UNF N	Nr. 3 x 56	32	10	2.8	2.1	24303	6,40	12,80
UNF I	Nr. 4 x 48	36	11	3.5	2.7	24304	5,40	10,80
UNF I	Nr. 5 x 44	36	11	3.5	2.7	24305	4,50	9,00
UNF I	Nr. 6 x 40	40	12	4.5	3.4	24306	4,50	9,00
UNF I	Nr. 8 x 36	40	12	4.5	3.4	24308	4,50	9,00
UNF I	Nr. 10 x 32	45	14	6.0	4.9	24310	4,50	9,00
UNF N	Nr. 12 x 28	50	14	6.0	4.9	24312	4,50	9,00
UNF	1/4 x 28	50	18	6.0	4.9	24314	4,50	9,00
UNF	5/16 x 24	56	22	6.0	4.9	24316	5,00	10,00
UNF	3/8 x 24	63	22	7.0	5.5	24318	5,60	11,20
UNF	7/16 x 20	63	22	8.0	6.2	24320	7,10	14,20
UNF	1/2 x 20	75	24	9.0	7.0	24322	8,60	17,20
UNF	9/16 x 18	80	28	11.0	9.0	24324	11,20	22,40
UNF	5/8 x 18	80	28	12.0	9.0	24326	12,60	25,20
UNF	3/4 x 16	95	32	14.0	11.0	24330	16,90	33,80
UNF	7/8 x 14	100	36	18.0	14.5	24334	22,50	45,00
UNF	1" x 12	110	40	18.0	14.5	24338	25,90	51,80
UNF	1" x 14	110	40	18.0	14.5	24340	28,00	56,00
UNF	1.1/8 x 12	110	50	22.0	18.0	24342	39,90	79,80
UNF	1.1/4 x 12	132	56	22.0	18.0	24346	44,90	89,80
UNF	1.3/8 x 12	132	56	28.0	22.0	24350	58,40	116,80
UNF	1.1/2 x 12	150	63	32.0	24.0	24354	67,40	134,80

Ø

Art.-No.

Anwendung:

für allgemeinen Einsatz

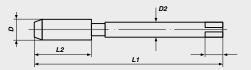
- gut zerspanbare Werkstoffe bis 900 N/mm²
- unlegierte und niedriglegierte Stähle
- für Durchgangs- und Sacklöcher
- für den Handeinsatz

Bestellbeispiel / How to order:

UNF 1/4 = 24314 UNF 1/4, No. 1 = 24314-1 UNF 1/4, No. 3 = 24314-3

Application:

- non abrasive material up to 900 N/mm²
- unalloyed and low alloyed steel
- for through and blind holes
- for thread cutting by hand











Handgewindebohrer, konische Ausführung

amerikanisches Extra-Feingewinde ANSI B 1.1

Hand Taps, *non-serial form* Unified Extra Fine thread ANSI B 1.1



ISO 529 HSS-G Tol. 2B	UNEF
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Nominal Diameter	L 1	L 2	D 2	Ø	ArtNo.		distribution of the second
D						€	<i>\\\\\\</i> €
UNEF 1/4 x 32	66	19	6.3	5.0	83821	5,50	16,50
UNEF 5/16 x 32	72	22	8.0	6.3	83822	6,00	18,00
UNEF 3/8 x 32	80	24	10.0	8.0	83823	7,00	21,00
UNEF 7/16 x 28	85	25	8.0	6.3	83824	8,80	26,40
UNEF 1/2 x 28	89	29	9.0	7.1	83825	9,60	28,80
UNEF 9/16 x 24	95	30	11.2	9.0	83826	13,50	40,50
UNEF 5/8 x 24	102	32	12.5	10.0	83827	18,00	54,00
UNEF 3/4 x 20	112	37	14.0	11.2	83829	21,00	63,00
UNEF 7/8 x 20	118	38	16.0	12.5	83831	28,20	84,60
UNEF 1" x 20	130	45	16.0	14.0	83833	32,00	96,00

Anwendung:

für allgemeinen Einsatz

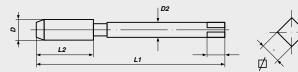
- gut zerspanbare Werkstoffe bis 900 N/mm²
- unlegierte und niedriglegierte Stähle
- für Durchgangs- und Sacklöcher
- für den Handeinsatz

Bestellbeispiel / How to order:

UNEF 1/4 = 83821 UNEF 1/4, No. 1 = 83821-1 UNEF 1/4, No. 2 = 83821-2 UNEF 1/4, No. 3 = 83821-3

Application:

- non abrasive material up to 900 N/mm²
- unalloyed and low alloyed steel
- for through and blind holes
- for thread cutting by hand











Rohrgewinde DIN ISO 228

Hand Taps

Pipe-thread DIN ISO 228



HSS-G DIN 5157

G (BSP)

No	minal Diameter	L 1	L 2	D 2	Ø	ArtNo.	B	
D							€	<i>\(\epsilon\)</i> €
G	1/8 x 28	63	20	7	5.5	25312	5,90	11,80
G	1/4 x 19	70	22	11	9.0	25314	6,60	13,20
G	3/8 x 19	70	22	12	9.0	25316	9,60	19,20
G	1/2 x 14	80	22	16	12.0	25318	14,80	29,60
G	5/8 x 14	80	22	18	14.5	25320	19,40	38,80
G	3/4 x 14	90	22	20	16.0	25322	19,40	38,80
G	7/8 x 14	90	22	22	18.0	25324	32,60	65,20
G	1" x 11	100	25	25	20.0	25326	32,60	65,20
G	1.1/8 x 11	125	40	28	22.0	25330	71,50	143,00
G	1.1/4 x 11	125	40	32	24.0	25334	71,50	143,00
G	1.3/8 x 11	140	40	36	29.0	25338	96,00	192,00
G	1.1/2 x 11	140	40	36	29.0	25342	96,00	192,00
G	1.5/8 x 11	140	40	40	32.0	25346	156,00	312,00
G	1.3/4 x 11	140	40	40	32.0	25350	156,00	312,00
G	2" x 11	160	40	45	35.0	25354	180,00	360,00
G	2.1/4 x 11	160	40	50	39.0	25358	453,00	906,00
G	2.1/2 x 11	160	40	50	39.0	25362	644,00	1.288,00
G	2.3/4 x 11	160	40	50	39.0	25366	922,00	1.844,00
G	3" x 11	160	40	50	39.0	25370	1.074,00	2.148,00
G	3.1/2 x 11	180	45	56	44.0	25374	1.790,00	3.580,00
G	4" x 11	180	45	56	44.0	25378	2.475,00	4.950,00

Anwendung:

für allgemeinen Einsatz

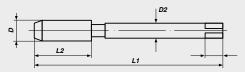
- gut zerspanbare Werkstoffe bis 900 N/mm²
- unlegierte und niedriglegierte Stähle
- für Durchgangs- und Sacklöcher
- für den Handeinsatz

Bestellbeispiel / How to order:

G 1/4 = 25314 G 1/4, No. 1 = 25314-1 G 1/4, No. 2 = 25314-2

Application:

- non abrasive material up to 900 N/mm²
- unalloyed and low alloyed steel
- for through and blind holes
- for thread cutting by hand











Stahlpanzerrohr-Gewinde DIN 40 430

Hand Taps

armoured tube thread DIN 40 430



DIN 40432 HSS-G

PG

Non	ninal Diameter	L 1	L 2	D 2	Ø	ArtNo.	B	
D							€	// /€
PG	7 x 20	70	22	9.0	7.0	25707	11,20	22,40
PG	9 x 18	70	22	12.0	9.0	25709	15,00	30,00
PG	11 x 18	80	22	14.0	11.0	25711	24,70	49,40
PG	13.5 x 18	80	22	16.0	12.0	25713	29,20	58,40
PG	16 x 18	80	22	18.0	14.5	25716	35,40	70,80
PG	21 x 16	90	22	22.0	18.0	25721	54,20	108,40
PG	29 x 16	100	25	28.0	22.0	25729	90,00	180,00
PG	36 x 16	140	40	36.0	29.0	25736	144,00	288,00
PG	42 x 16	140	40	40.0	32.0	25742	228,00	456,00
PG	48 x 16	160	40	45.0	35.0	25748	290,00	580,00

Anwendung:

für allgemeinen Einsatz

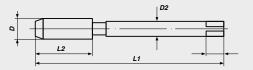
- gut zerspanbare Werkstoffe bis 900 N/mm²
- unlegierte und niedriglegierte Stähle
- für Durchgangs- und Sacklöcher
- für den Handeinsatz

Bestellbeispiel / How to order:

PG 7 = 25707 PG 7, No. 1 = 25707-1 PG 7, No. 2 = 25707-2

Application:

- non abrasive material up to 900 N/mm²
- unalloyed and low alloyed steel
- for through and blind holes
- for thread cutting by hand











metrisches ISO-Trapezgewinde DIN 103

Hand Taps

trapezoidal thread DIN 103



HSS-G Tol. 7H

	I	r
2/3/	Ø	

Non	ninal Diameter	L 1	L 2	D 2	Ø	ArtNo.	J.	13/3/9
D							€	<i>III</i> €
Tr	10 x 2	90	34	7	5.5	25108	118,00	354,00
Tr	10 x 3	100	40	7	5.5	25112	118,00	354,00
Tr	12 x 3	110	40	8	6.2	25116	123,00	369,00
Tr	14 x 3	130	45	10	8.0	25120	156,00	468,00
Tr	14 x 4	130	55	10	8.0	25124	160,00	480,00
Tr	16 x 4	140	55	11	9.0	25128	169,00	507,00
Tr	18 x 4	150	55	12	9.0	25132	226,00	678,00
Tr	20 x 4	160	55	14	11.0	25136	249,00	747,00
Tr	22 x 5	175	65	16	12.0	25140	298,00	894,00
Tr	24 x 5	190	65	18	14.5	25144	342,00	1.026,00
Tr	26 x 5	210	70	20	16.0	25148	375,00	1.125,00
Tr	28 x 5	220	70	22	18.0	25152	438,00	1.314,00
Tr	30 x 6	240	80	22	18.0	25156	464,00	1.392,00
Tr	32 x 6	255	80	25	20.0	25160	585,00	1.755,00

Anwendung:

für allgemeinen Einsatz

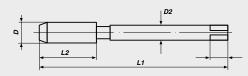
- gut zerspanbare Werkstoffe bis 900 N/mm²
- unlegierte und niedriglegierte Stähle
- für Durchgangs- und Sacklöcher
- für den Handeinsatz

Bestellbeispiel / How to order:

Tr 10x2 = 25108 Tr 10x2, No. 1 = 25108-1 Tr 10x2, No. 2 = 25108-2 Tr 10x2, No. 3 = 25108-3

Application:

- non abrasive material up to 900 N/mm²
- unalloyed and low alloyed steel
- for through and blind holes
- for thread cutting by hand











metrisches ISO-Gewinde DIN 13

Hand Taps

metric ISO-thread DIN 13



DIN 352 HSS-E Tol. ISO2/6H

M

Nor	minal Diameter	L 1	L 2	D 2	Ø	ArtNo.		13/3/3
D							€	<i>\\\\\</i> €
М	3 x 0.5	40	11	3.5	2.7	57326	4,60	13,80
М	4 x 0.7	45	13	4.5	3.4	57330	4,70	14,10
М	5 x 0.8	50	16	6.0	4.9	57334	4,90	14,70
M	6 x 1.0	50	19	6.0	4.9	57338	4,90	14,70
М	8 x 1.25	56	22	6.0	4.9	57342	6,70	20,10
М	10 x 1.5	70	24	7.0	5.5	57346	8,80	26,40
М	12 x 1.75	75	29	9.0	7.0	57350	10,90	32,70
M	14 x 2.0	80	30	11.0	9.0	57354	12,40	37,20
М	16 x 2.0	80	32	12.0	9.0	57358	16,10	48,30
М	18 x 2.5	95	40	14.0	11.0	57362	22,80	68,40
М	20 x 2.5	95	40	16.0	12.0	57366	25,60	76,80
М	22 x 2.5	100	40	18.0	14.5	57370	31,00	93,00
М	24 x 3.0	110	50	18.0	14.5	57374	42,60	127,80
М	27 x 3.0	110	50	20.0	16.0	57376	74,00	222,00
М	30 x 3.5	125	56	22.0	18.0	57378	80,00	240,00

Anwendung:

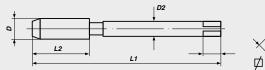
- hohe Schneidhaltigkeit
- schwer zerspanbare Werkstoffe
- Stähle bis 1200 N/mm²
- sowie für allgemeinen Einsatz

Bestellbeispiel / How to order:

M3 = 57326 M3, No. 1 = 57326-1 M3, No. 2 = 57326-2 M3, No. 3 = 57326-3

Application:

- high cutting ability
- abrasive material
- steels up to 1200 N/mm²
- and general use









Tol. ISO2/6H



Handgewindebohrer

metrisches ISO-Gewinde DIN 13

Vorschneider mit Führungszapfen

HSS-E

Hand Taps

DIN 352

metric ISO-thread DIN 13

Rougher piloted



M

Nominal Diameter	L 1	L 2	D 2		ArtNo.		333
D						€	<i>III</i> €
M 3 x 0.5	40	11	3.5	2.7	57726	8,30	24,90
M 4 x 0.7	45	13	4.5	3.4	57730	8,40	25,20
M 5 x 0.8	50	16	6.0	4.9	57734	8,90	26,70
M 6 x 1.0	50	19	6.0	4.9	57738	8,90	26,70
M 8 x 1.25	56	22	6.0	4.9	57742	12,10	36,30
M 10 x 1.5	70	24	7.0	5.5	57746	15,80	47,40
M 12 x 1.75	75	29	9.0	7.0	57750	19,60	58,80
M 10 x 1.5 M 12 x 1.75	-		-				

Anwendung: verschleißfeste Stähle bis 1400 N/mm²

- hochlegierte Stähle
- hitzebeständige Stähle
- rostfreie Stähle
- legierte Werkzeugstähle
- Grauguss

Oberfläche: vaporisiert

Bestellbeispiel / How to order:

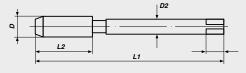
M 3 = 57726 M 3, No. 1 = 57726-1 M 3, No. 2 = 57726-2 M 3, No. 3 = 57726-3

Application:

wear resistant steel up to 1400 N/mm²

- high alloy steel
- heat resistant steel
- stainless steel
- alloy tool steel
- cast iron

Surface treatment: steam tempered











metrisches ISO-Feingewinde DIN 13

Hand Taps

metric-fine ISO-thread DIN 13



DIN 2181 HSS-E Tol. ISO2/6H

Mf

No	minal Diameter	L 1	L 2	D 2	Ø	ArtNo.	B	636
D							€	// /€
М	6 x 0.75	50	14	6.0	4.9	56318	8,60	17,20
М	8 x 0.75	50	19	6.0	4.9	56324	8,60	17,20
M	8 x 1.0	56	22	6.0	4.9	56326	8,60	17,20
M	10 x 1.0	63	20	7.0	5.5	56336	9,30	18,60
М	10 x 1.25	70	24	7.0	5.5	56338	10,70	21,40
М	12 x 1.0	70	22	9.0	7.0	56344	12,90	25,80
М	12 x 1.25	70	22	9.0	7.0	56346	12,90	25,80
М	12 x 1.5	70	22	9.0	7.0	56348	12,90	25,80
М	14 x 1.25	70	22	11.0	9.0	56354	15,00	30,00
M	14 x 1.5	70	22	11.0	9.0	56356	13,60	27,20
M	16 x 1.5	70	22	12.0	9.0	56366	17,20	34,40
М	18 x 1.5	80	22	14.0	11.0	56372	19,80	39,60
M	18 x 2.0	80	22	14.0	11.0	56374	24,00	48,00
М	20 x 1.5	80	22	16.0	12.0	56384	22,50	45,00
М	20 x 2.0	80	22	16.0	12.0	56386	30,00	60,00
М	22 x 1.5	80	22	18.0	14.5	56394	28,00	56,00
М	22 x 2.0	80	22	18.0	14.5	56396	30,00	60,00
М	24 x 1.5	90	22	18.0	14.5	56504	37,50	75,00

Anwendung:

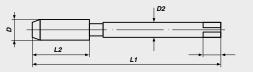
- hohe Schneidhaltigkeit
- schwer zerspanbare Werkstoffe
- Stähle bis 1200 N/mm²
- sowie für allgemeinen Einsatz

Bestellbeispiel / How to order:

M 6 x 0.75 = 56318 M 6 x 0.75, No. 1 = 56318-1 M 6 x 0.75, No. 2 = 56318-2

Application:

- high cutting ability
- abrasive material
- steels up to 1200 N/mm²
- and general use











Rohrgewinde DIN ISO 228

Hand Taps

Pipe-thread DIN ISO 228



DIN 5157 HSS-E

G (BSP)

No	minal Diameter	L 1	L 2	D 2	Ø	ArtNo.	B	1319
D							€	<i>\(\ell\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</i>
G	1/8 x 28	63	20	7.0	5.5	55312	8,60	17,20
G	1/4 x 19	70	22	11.0	9.0	55314	10,70	21,40
G	3/8 x 19	70	22	12.0	9.0	55316	15,20	30,40
G	1/2 x 14	80	22	16.0	12.0	55318	23,50	47,00
G	3/4 x 14	90	22	20.0	16.0	55322	28,60	57,20
G	1" x 11	100	25	25.0	20.0	55326	49,20	98,40

Anwendung:

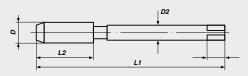
- hohe Schneidhaltigkeit
- schwer zerspanbare Werkstoffe
- Stähle bis 1200 N/mm²
- sowie für allgemeinen Einsatz

Application:

- high cutting ability
- abrasive material
- steels up to 1200 N/mm^2
- and general use

Bestellbeispiel / How to order:

G 1/4 = 55314 G 1/4, No. 1 = 55314-1 G 1/4, No. 2 = 55314-2











metrisches ISO-Gewinde DIN 13

Hand Taps, Left Hand

metric ISO-thread DIN 13



DIN 352 HSS-G Tol. ISO2/6H

M

$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	No	minal Diameter	L 1	L 2	D 2	Ø	ArtNo.	B	6366
M 4 x 0.7 45 13 4.5 3.4 27030 4,20 12,60 M 5 x 0.8 50 16 6.0 4.9 27034 4,80 14,40 M 6 x 1.0 50 19 6.0 4.9 27038 5,00 15,00 M 8 x 1.25 56 22 6.0 4.9 27042 5,70 17,10 M 10 x 1.5 70 24 7.0 5.5 27046 7,80 23,40 M 12 x 1.75 75 29 9.0 7.0 27050 10,20 30,60 M 14 x 2.0 80 30 11.0 9.0 27054 11,30 33,90	D							€	<i>\\\\\\</i> €
M 5 x 0.8 50 16 6.0 4.9 27034 4,80 14,40 M 6 x 1.0 50 19 6.0 4.9 27038 5,00 15,00 M 8 x 1.25 56 22 6.0 4.9 27042 5,70 17,10 M 10 x 1.5 70 24 7.0 5.5 27046 7,80 23,40 M 12 x 1.75 75 29 9.0 7.0 27050 10,20 30,60 M 14 x 2.0 80 30 11.0 9.0 27054 11,30 33,90	М	3 x 0.5	40	11	3.5	2.7	27026	4,20	12,60
M 6 x 1.0 50 19 6.0 4.9 27038 5,00 15,00 M 8 x 1.25 56 22 6.0 4.9 27042 5,70 17,10 M 10 x 1.5 70 24 7.0 5.5 27046 7,80 23,40 M 12 x 1.75 75 29 9.0 7.0 27050 10,20 30,60 M 14 x 2.0 80 30 11.0 9.0 27054 11,30 33,90	M	4 x 0.7	45	13	4.5	3.4	27030	4,20	12,60
M 8 x 1.25 56 22 6.0 4.9 27042 5,70 17,10 M 10 x 1.5 70 24 7.0 5.5 27046 7,80 23,40 M 12 x 1.75 75 29 9.0 7.0 27050 10,20 30,60 M 14 x 2.0 80 30 11.0 9.0 27054 11,30 33,90	M	5 x 0.8	50	16	6.0	4.9	27034	4,80	14,40
M 10 x 1.5 70 24 7.0 5.5 27046 7,80 23,40 M 12 x 1.75 75 29 9.0 7.0 27050 10,20 30,60 M 14 x 2.0 80 30 11.0 9.0 27054 11,30 33,90	M	6 x 1.0	50	19	6.0	4.9	27038	5,00	15,00
M 12 x 1.75 75 29 9.0 7.0 27050 10,20 30,60 M 14 x 2.0 80 30 11.0 9.0 27054 11,30 33,90	M	8 x 1.25	56	22	6.0	4.9	27042	5,70	17,10
M 14 x 2.0 80 30 11.0 9.0 27054 11,30 33,90	М	10 x 1.5	70	24	7.0	5.5	27046	7,80	23,40
	M	12 x 1.75	75	29	9.0	7.0	27050	10,20	30,60
M 16 x 2.0 80 32 12.0 9.0 27058 14,10 42,30	M	14 x 2.0	80	30	11.0	9.0	27054	11,30	33,90
	M	16 x 2.0	80	32	12.0	9.0	27058	14,10	42,30
M 18 x 2.5 95 40 14.0 11.0 27062 18,30 54,90	M	18 x 2.5	95	40	14.0	11.0	27062	18,30	54,90
M 20 x 2.5 95 40 16.0 12.0 27066 20,50 61,50	M	20 x 2.5	95	40	16.0	12.0	27066	20,50	61,50
M 22 x 2.5 100 40 18.0 14.5 27070 25,00 75,00	M	22 x 2.5	100	40	18.0	14.5	27070	25,00	75,00
M 24 x 3.0 110 50 18.0 14.5 27074 35,00 105,00	M	24 x 3.0	110	50	18.0	14.5	27074	35,00	105,00
M 27 x 3.0 110 50 20.0 16.0 27076 58,00 174,00	M	27 x 3.0	110	50	20.0	16.0	27076	58,00	174,00
M 30 x 3.5 125 56 22.0 18.0 27078 71,00 213,00	M	30 x 3.5	125	56	22.0	18.0	27078	71,00	213,00
M 33 x 3.5 125 56 25.0 20.0 27080 84,00 252,00	М	33 x 3.5	125	56	25.0	20.0	27080	84,00	252,00
M 36 x 4.0 150 63 28.0 22.0 27082 101,00 303,00	M	36 x 4.0	150	63	28.0	22.0	27082	101,00	303,00
M 39 x 4.0 150 63 32.0 24.0 27084 130,00 390,00	М	39 x 4.0	150	63	32.0	24.0	27084	130,00	390,00
M 42 x 4.5 150 63 32.0 24.0 27086 147,00 441,00	М	42 x 4.5	150	63	32.0	24.0	27086	147,00	441,00
M 45 x 4.5 160 70 36.0 29.0 27088 177,00 531,00	М	45 x 4.5	160	70	36.0	29.0	27088	177,00	531,00
M 48 x 5.0 180 75 36.0 29.0 27090 251,00 753,00	M	48 x 5.0	180	75	36.0	29.0	27090	251,00	753,00
M 52 x 5.0 180 75 40.0 32.0 27092 251,00 753,00	М	52 x 5.0	180	75	40.0	32.0	27092	251,00	753,00

Anwendung:

für allgemeinen Einsatz

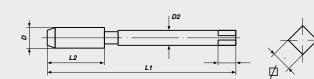
- gut zerspanbare Werkstoffe bis 900 N/mm²
- unlegierte und niedriglegierte Stähle
- für Durchgangs- und Sacklöcher
- für den Handeinsatz

Bestellbeispiel / How to order:

M3 = 27026 M3, No. 1 = 27026-1 M3, No. 2 = 27026-2 M3, No. 3 = 27026-3

Application:

- non abrasive material up to 900 N/mm²
- unalloyed and low alloyed steel
- for through and blind holes
- for thread cutting by hand









metrisches ISO-Feingewinde DIN 13

Hand Taps, Left Hand

metric-fine ISO-thread DIN 13



DIN 2181 HSS-G Tol. ISO2/6H Mf

No	minal Diameter	L 1	L 2	D 2	Ø	ArtNo.	B	636
D							€	// /€
М	6 x 0.75	50	14	6.0	4.9	26007	9,50	19,00
M	8 x 0.75	50	19	6.0	4.9	26010	9,50	19,00
М	8 x 1.0	56	22	6.0	4.9	26011	9,50	19,00
М	10 x 1.0	63	20	7.0	5.5	26015	9,50	19,00
M	10 x 1.25	70	24	7.0	5.5	26016	10,70	21,40
M	12 x 1.0	70	22	9.0	7.0	26020	14,10	28,20
M	12 x 1.25	70	22	9.0	7.0	26021	14,10	28,20
М	12 x 1.5	70	22	9.0	7.0	26022	12,90	25,80
M	14 x 1.25	70	22	11.0	9.0	26027	15,70	31,40
M	14 x 1.5	70	22	11.0	9.0	26028	14,10	28,20
M	16 x 1.0	70	22	12.0	9.0	26031	23,50	47,00
M	16 x 1.5	70	22	12.0	9.0	26033	16,90	33,80
M	18 x 1.5	80	22	14.0	11.0	26036	19,80	39,60
M	20 x 1.5	80	22	16.0	12.0	26040	23,50	47,00
M	22 x 1.5	80	22	18.0	14.5	26045	31,00	62,00
M	24 x 1.5	90	22	18.0	14.5	26050	34,20	68,40
M	24 x 2.0	90	22	18.0	14.5	26051	44,90	89,80
М	30 x 1.5	90	22	22.0	18.0	26063	91,00	182,00
М	30 x 2.0	90	22	22.0	18.0	26064	91,00	182,00

Anwendung:

für allgemeinen Einsatz

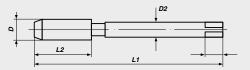
- gut zerspanbare Werkstoffe bis 900 N/mm²
- unlegierte und niedriglegierte Stähle
- für Durchgangs- und Sacklöcher
- für den Handeinsatz

Bestellbeispiel / How to order:

M 6 x 0.75 = 26007 M 6 x 0.75, No. 1 = 26007-1 M 6 x 0.75, No. 2 = 26007-2

Application:

- non abrasive material up to 900 N/mm²
- unalloyed and low alloyed steel
- for through and blind holes
- for thread cutting by hand











Whitworth-Gewinde BS 84

Hand Taps, Left Hand

Whitworth-thread BS 84



≈ DIN 352	HSS-G	Tol. med.
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BSW

Nomir	al Diameter	L 1	L 2	D 2	Ø	ArtNo.	B	
D							€	<i>\\\\\</i> €
BSW	1/8 x 40	40	12	3.5	2.7	22006	7,40	22,20
BSW	5/32 x 32	45	14	4.5	3.4	22008	7,40	22,20
BSW	3/16 x 24	50	18	6.0	4.9	22010	7,40	22,20
BSW	1/4 x 20	50	19	6.0	4.9	22014	7,40	22,20
BSW	5/16 x 18	56	22	6.0	4.9	22016	7,70	23,10
BSW	3/8 x 16	70	24	7.0	5.5	22018	9,00	27,00
BSW	7/16 x 14	70	24	8.0	6.2	22020	11,00	33,00
BSW	1/2 x 12	75	29	9.0	7.0	22022	13,20	39,60
BSW	9/16 x 12	80	30	11.0	9.0	22024	17,10	51,30
BSW	5/8 x 11	80	32	12.0	9.0	22026	19,50	58,50
BSW	3/4 x 10	95	40	14.0	11.0	22030	26,00	78,00
BSW	7/8 x 9	100	40	18.0	14.5	22034	32,40	97,20
BSW	1" x 8	110	50	18.0	14.5	22038	38,90	116,70

Anwendung:

für allgemeinen Einsatz

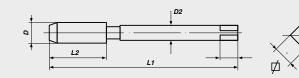
- gut zerspanbare Werkstoffe bis 900 N/mm²
- unlegierte und niedriglegierte Stähle
- für Durchgangs- und Sacklöcher
- für den Handeinsatz

Bestellbeispiel / How to order:

BSW 1/8 = 22006 BSW 1/8, No. 1 = 22006-1 BSW 1/8, No. 2 = 22006-2 BSW 1/8, No. 3 = 22006-3

Application:

- non abrasive material up to 900 N/mm²
- unalloyed and low alloyed steel
- for through and blind holes
- for thread cutting by hand









amerikanisches Gewinde ANSI B 1.1

Hand Taps, Left Hand

Unified thread ANSI B 1.1



pprox DIN 352 HSS-G Tol. 2B

UNC / UNF

Nomir	nal Diameter	L 1	L 2	D 2	Ø	ArtNo.		ariaria)
D							€	###
LINC	3-tlg							
UNC	Nr. 6 x 32	45	14	4.0	3.0	23006	11,70	35,10
UNC	Nr. 8 x 32	45	14	4.5	3.4	23008	11,70	35,10
UNC	Nr. 10 x 24	50	16	6.0	4.9	23010	11,70	35,10
UNC	Nr. 12 x 24	50	18	6.0	4.9	23012	11,70	35,10
UNC	1/4 x 20	50	19	6.0	4.9	23014	7,40	22,20
UNC	5/16 x 18	56	22	6.0	4.9	23016	7,70	23,10
UNC	3/8 x 16	70	24	7.0	5.5	23018	9,00	27,00
UNC	7/16 x 14	70	24	8.0	6.2	23020	11,00	33,00
UNC	1/2 x 13	75	29	9.0	7.0	23022	13,20	39,60
UNC	9/16 x 12	80	30	11.0	9.0	23024	17,10	51,30
UNC	5/8 x 11	80	32	12.0	9.0	23026	19,50	58,50
UNC	3/4 x 10	95	40	14.0	11.0	23030	26,00	78,00
UNC	7/8 x 9	100	40	18.0	14.5	23034	32,40	97,20
UNC	1" x 8	110	50	18.0	14.5	23038	38,90	116,70
UNF	2-tlg							
UNF	Nr. 10 x 32	45	14	6.0	4.9	24010	11,70	23,40
UNF	1/4 x 28	50	18	6.0	4.9	24014	7,40	14,80
UNF	5/16 x 24	56	22	6.0	4.9	24016	7,70	15,40
UNF	3/8 x 24	63	22	7.0	5.5	24018	9,00	18,00
UNF	7/16 x 20	63	22	8.0	6.2	24020	11,00	22,00
UNF	1/2 x 20	75	24	9.0	7.0	24022	13,20	26,40
UNF	9/16 x 18	80	28	11.0	9.0	24024	17,10	34,20
UNF	5/8 x 18	80	28	12.0	9.0	24026	19,50	39,00
UNF	3/4 x 16	95	32	14.0	11.0	24030	26,00	52,00
UNF	7/8 x 14	100	36	18.0	14.5	24034	32,40	64,80
UNF	1" x 12	110	40	18.0	14.5	24038	38,90	77,80

Anwendung:

für allgemeinen Einsatz

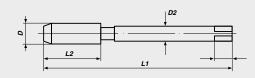
- gut zerspanbare Werkstoffe bis 900 N/mm²
- unlegierte und niedriglegierte Stähle
- für Durchgangs- und Sacklöcher
- für den Handeinsatz

Bestellbeispiel / How to order:

UNC 1/4 = 23014 UNC 1/4, No. 1 = 23014-1 UNC 1/4, No. 2 = 23014-2 UNC 1/4, No. 3 = 23014-3

Application:

- non abrasive material up to 900 N/mm²
- unalloyed and low alloyed steel
- for through and blind holes
- for thread cutting by hand











Rohrgewinde DIN ISO 228

Hand Taps, Left Hand

Pipe-thread DIN ISO 228



DIN 5157 HSS-G

G (BSP)

Nominal	Diameter L 1	L 2	D 2	Ø	ArtNo.	B	66
D						€	I II€
G 1/8 x	28 63	20	7.0	5.5	25012	9,00	18,00
G 1/4 x	(19 70	22	11.0	9.0	25014	10,20	20,40
G 3/8 x	(19 70	22	12.0	9.0	25016	14,70	29,40
G 1/2 x	c 14 80	22	16.0	12.0	25018	22,30	44,60
G 5/8 x	14 80	22	18.0	14.5	25020	29,20	58,40
G 3/4 x	(14 90	22	20.0	16.0	25022	29,20	58,40
G 1" x	11 100	25	25.0	20.0	25026	49,40	98,80
G 1.1/8 x	(11 125	40	28.0	22.0	25030	97,50	195,00
G 1.1/4 x	(11 125	40	32.0	24.0	25034	108,00	216,00
G 1.3/8 x	(11 140	40	36.0	29.0	25038	130,00	260,00
G 1.1/2 x	11 140	40	36.0	29.0	25042	143,00	286,00
G 1.3/4 x	11 140	40	40.0	32.0	25050	233,30	466,60
G 2" x	11 160	40	45.0	35.0	25054	268,00	536,00

Anwendung:

für allgemeinen Einsatz

- gut zerspanbare Werkstoffe bis 900 N/mm²
- unlegierte und niedriglegierte Stähle
- für Durchgangs- und Sacklöcher
- für den Handeinsatz

Bestellbeispiel / How to order:

G 1/4 = 25014 G 1/4, No. 1 = 25014-1 G 1/4, No. 2 = 25014-2

Application:

- non abrasive material up to 900 N/mm²
- unalloyed and low alloyed steel
- for through and blind holes
- for thread cutting by hand

