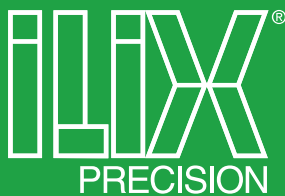
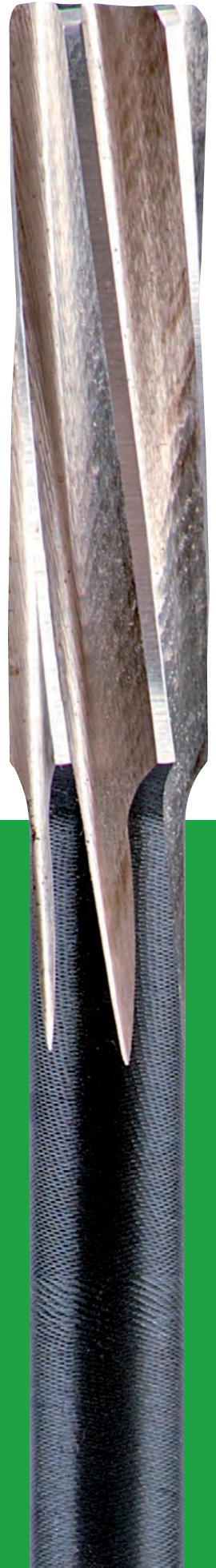


Reibahlen

Reamers



- HSS-CO und VHM
- 1/100 - Abstufung



TECHNISCHE DATEN

TECHNICAL DATA



Typ Type												
ILIX Typ-siehe Seite Ilix Type -See page	662		662		662		664		668		668	
DIN	212				212				ILIX Norm			
Form Form	A		B		B		E		B		B	
Schneidrichtung Cutting direction												
Schneidstoff Material	HSS-CO		HSS-CO		HSS-CO		HSS-CO		VHM		VHM	
Spitzenwinkel Point angle	0°		7/8°		7/8°		45°		12°		12°	
Beschichtung Coating	BL		BL		TN		BL		BL		TN	
Innenliegende Kühlkanäle Internal Coolant	-		-		-		-		-		-	
	6321		6326 6326C		6326 TN		6325		6372 6372C		6372 TN	
	VC	F*	VC	F*	VC	F*	VC	F*	VC	F*	VC	F*
 < 800 N/mm²	12	1.0	12	1.0	12	1.0	12	1.0	20	1.2	20	1.2
 700-1000 N/mm²	8	0.8	8	0.8	8	0.8	8	0.8	15	1.0	15	1.0
 1000-1300 N/mm²	6	0.6	6	0.6	6	0.6	6	0.6	10	0.8	10	0.8
 Austenitisch	5	0.8	5	0.8	5	0.8	5	0.8	10	1.0	10	1.0
 Austenitisch/ ferritisch	3	0.6	3	0.6	3	0.6	3	0.6	7	0.8	7	0.8
 GG	12	1.1	12	1.1	12	1.1	12	1.1	20	1.4	20	1.4
 GGG	8	1.2	8	1.2	8	1.2	8	1.2	15	1.2	15	1.2
 Aluminium	15	1.6	15	1.6	15	1.6	15	1.6	30	1.8	30	1.8
 NE-Metalle	10	1.4	10	1.4	10	1.4	10	1.4	25	1.6	25	1.6
 Titan	2	0.6	2	0.6	2	0.6	2	0.6	5	0.8	5	0.8
 Sonderlegierungen basiert auf Ni	2	0.6	2	0.6	2	0.6	2	0.6	5	0.8	5	0.8
 Gehärteter Stahl 38 / 48 HRC	-	-	-	-	-	-	-	-	-	-	-	-
 Gehärteter Stahl 48 / 58 HRC	-	-	-	-	-	-	-	-	-	-	-	-
 Gehärteter Stahl 58 / 68 HRC	-	-	-	-	-	-	-	-	-	-	-	-



Maschinen-Reibahlen mit Zylinderschaft aus HSS-Co

für Bohrungen mit Passung H7

Machine chucking reamers with straight shank, made of HSS-Co to produce holes with H7 tolerance



Form / Form				A/C	E	B/D	B/D
Typ / Type				Schneiden gerade straight	Schneiden 45° LH	Schneiden 7/8° LH	Schneiden 7/8° LH
Schneidrichtung Cutting direction							
Schneidstoff Material				HSS-Co	HSS-Co	HSS-Co	HSS-Co
Ø mm	l ₁ mm	l ₂ mm	d ₂ h9	6321	6325	6326	6326 TN
1,0	37	5	1,0	●	●	●	●
1,1	40	7	1,1	●	●	●	●
1,2	40	7	1,2	●	●	●	●
1,3	40	7	1,3	●	●	●	●
1,4	40	8	1,4	●	●	●	●
1,5	40	8	1,5	●	●	●	●
1/16"	43	9	1,588	-	-	●	●
1,6	43	9	1,6	●	●	●	●
1,7	43	9	1,7	●	●	●	●
1,8	46	10	1,8	●	●	●	●
1,9	46	10	1,9	●	●	●	●
2,0	49	11	2,0	●	●	●	●
2,1	49	11	2,1	●	●	●	●
2,2	53	12	2,2	●	●	●	●
2,3	53	12	2,3	●	●	●	●
3/32"	57	14	2,382	-	-	●	●
2,4	57	14	2,4	●	●	●	●
2,5	57	14	2,5	●	●	●	●
2,6	57	14	2,6	●	●	●	●
2,7	61	15	2,7	●	●	●	●
7/64"	61	15	2,779	-	-	●	●
2,8	61	15	2,8	●	●	●	●
2,9	61	15	2,9	●	●	●	●
3,0	61	15	3,0	●	●	●	●
3,1	65	16	3,1	●	●	●	●
1/8"	65	16	3,175	-	-	●	●
3,2	65	16	3,2	●	●	●	●
3,3	65	18	3,3	●	●	●	●
3,4	70	18	3,4	●	●	●	●
3,5	70	18	3,5	●	●	●	●
3,6	70	18	3,6	●	●	●	●
3,7	70	18	3,7	●	●	●	●
3,8	75	19	4,0	●	●	●	●
3,9	75	19	4,0	●	●	●	●
4,0	75	19	4,0	●	●	●	●
4,1	75	19	4,0	●	●	●	●
4,2	75	19	4,0	●	●	●	●
4,3	80	21	4,5	●	●	●	●

*ILIXStandard

● Standardartikel / Items available ex stock



Maschinen-Reibahlen mit Zylinderschaft aus HSS-Co

für Bohrungen mit Passung H7

Machine chucking reamers with straight shank, made of HSS-Co
to produce holes with H7 tolerance



Form / Form				A/C	E	B/D	B/D
Typ / Type				Schneiden gerade straight	Schneiden 45° LH	Schneiden 7/8° LH	Schneiden 7/8° LH
Schneidrichtung Cutting direction							
Schneidstoff Material				HSS-Co	HSS-Co	HSS-Co	HSS-Co
Ø mm	l ₁ mm	l ₂ mm	d ₂ h9	6321	6325	6326	6326 TN
4,4	80	21	4,5	●	●	●	●
4,5	80	21	4,5	●	●	●	●
4,6	80	21	4,5	●	●	●	●
4,7	80	21	4,5	●	●	●	●
3/16"	86	23	5,0	-	-	●	●
4,8	86	23	5,0	●	●	●	●
4,9	86	23	5,0	●	●	●	●
5,0	86	23	5,0	●	●	●	●
5,1	86	23	5,0	●	●	●	●
5,2	86	23	5,0	●	●	●	●
5,3	86	23	5,0	●	●	●	●
5,4	93	26	5,6	●	●	●	●
5,5	93	26	5,6	●	●	●	●
5,6	93	26	5,6	●	●	●	●
5,7	93	26	5,6	●	●	●	●
5,8	93	26	5,6	●	●	●	●
5,9	93	26	5,6	●	●	●	●
6,0	93	26	5,6	●	●	●	●
6,1	101	28	6,3	●	●	●	●
6,2	101	28	6,3	●	●	●	●
6,3	101	28	6,3	●	●	●	●
1/4"	101	28	6,3	-	-	●	●
6,4	101	28	6,3	●	●	●	●
6,5	101	28	6,300	●	●	●	●
6,6	101	28	6,300	●	●	●	●
6,7	101	28	6,300	●	●	●	●
6,8	109	31	7,1	●	●	●	●
6,9	109	31	7,1	●	●	●	●
7,0	109	31	7,1	●	●	●	●
7,1	109	31	7,1	●	●	●	●
7,2	109	31	7,1	●	●	●	●
7,3	109	31	7,1	●	●	●	●
7,4	109	31	7,1	●	●	●	●
7,5	109	31	7,1	●	●	●	●
7,6	117	33	8,0	●	●	●	●
7,7	117	33	8,0	●	●	●	●
7,8	117	33	8,0	●	●	●	●
7,9	117	33	8,0	●	●	●	●



Maschinen-Reibahlen mit Zylinderschaft aus HSS-Co

für Bohrungen mit Passung H7

Machine chucking reamers with straight shank, made of HSS-Co
to produce holes with H7 tolerance



Form / Form				A/C	E	B/D	B/D
Typ / Type				Schneiden gerade straight	Schneiden 45° LH	Schneiden 7/8° LH	Schneiden 7/8° LH
Schneidrichtung Cutting direction							
Schneidstoff Material				HSS-Co	HSS-Co	HSS-Co	HSS-Co
Ø mm	l ₁ mm	l ₂ mm	d ₂ h9	6321	6325	6326	6326 TN
5/16"	117	33	8,0	-	-	●	●
8,0	117	33	8,0	●	●	●	●
8,1	117	33	8,0	●	●	●	●
8,2	117	33	8,0	●	●	●	●
8,3	117	33	8,0	●	●	●	●
8,4	117	33	8,0	●	●	●	●
8,5	117	33	8,0	●	●	●	●
8,6	125	36	9,0	●	●	●	●
8,7	125	36	9,0	●	●	●	●
8,8	125	36	9,0	●	●	●	●
8,9	125	36	9,0	●	●	●	●
9,0	125	36	9,0	●	●	●	●
9,1	125	36	9,0	●	●	●	●
9,2	125	36	9,0	●	●	●	●
9,3	125	36	9,0	●	●	●	●
9,4	125	36	9,0	●	●	●	●
9,5	125	36	9,0	●	●	●	●
3/8"	133	38	10,0	-	-	●	●
9,6	133	38	10,0	●	●	●	●
9,7	133	38	10,0	●	●	●	●
9,8	133	38	10,0	●	●	●	●
9,9	133	38	10,0	●	●	●	●
10,0	133	38	10,0	●	●	●	●
10,1	133	38	10,0	●	●	●	●
10,2	133	38	10,0	●	●	●	●
10,3	133	38	10,0	●	●	●	●
10,4	133	38	10,0	●	●	●	●
10,5	133	38	10,0	●	●	●	●
10,6	133	38	10,0	●	●	●	●
10,7	142	41	10,0	●	●	●	●
10,8	142	41	10,0	●	●	●	●
10,9	142	41	10,0	●	●	●	●
11,0	142	41	10,0	●	●	●	●
11,5	142	41	10,0	●	●	●	●
12,0	151	44	10,0	●	●	●	●
12,5	151	44	10,0	●	●	●	●
1/2"	151	44	10,0	-	-	●	●
13,0	151	44	10,0	●	●	●	●



Maschinen-Reibahlen mit Zylinderschaft aus HSS-Co

für Bohrungen mit Passung H7

Machine chucking reamers with straight shank, made of HSS-Co to produce holes with H7 tolerance



Form / Form				A/C	E	B/D	B/D
Typ / Type				Schneiden gerade straight	Schneiden 45° LH	Schneiden 7/8° LH	Schneiden 7/8° LH
Schneidrichtung Cutting direction							
Schneidstoff / Material				HSS-Co	HSS-Co	HSS-Co	HSS-Co
Ø mm	l ₁ mm	l ₂ mm	d ₂ h9	6321	6325	6326	6326 TN
13,5	160	47	12,5	●	●	●	●
14,0	160	47	12,5	●	●	●	●
14,5	162	50	12,5	●	●	●	●
15,0	162	50	12,5	●	●	●	●
15,5	170	52	12,5	●	●	●	●
5/8"	170	52	12,5	-	-	●	●
16,0	170	52	12,5	●	●	●	●
16,5	175	54	14,0	●	●	●	●
17,0	175	54	14,0	●	●	●	●
17,5	182	56	14,0	●	●	●	●
18,0	182	56	14,0	●	●	●	●
18,5	189	58	16,0	●	●	●	●
19,0	189	58	16,0	●	●	●	●
3/4"	195	60	16,0	-	-	●	●
19,5	195	60	16,0	●	●	●	●
20,0	195	60	16,0	●	●	●	●

Durchmesser Diameter range	6321 Anzahl der Schneiden No. of cutting lips	6325 Anzahl der Schneiden No. of cutting lips	6326 Anzahl der Schneiden No. of cutting lips	6326TN Anzahl der Schneiden No. of cutting lips
0,6 mm - 2,4 mm	3	2	3	3
2,5 mm - 3,9 mm	5	3	5	5
4,0 mm - 13,5 mm	6	3	6	6
13,5 mm - 14,5 mm	8	3	8	8
15,0 mm - 20,0 mm	8	4	8	8

**ILIXStandard

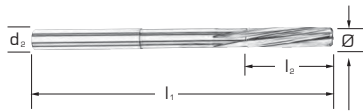
● Standardartikel / Items available ex stock



Ähnlich / similar DIN 8093

Maschinen-Reibahlen mit Zylinderschaft aus VHM
für Bohrungen mit Passung H7

Machine chucking reamers with straight shank, made of solid carbide
to produce holes with H7 tolerance



Form / Form						B	B
Typ / Type						Schneiden 12° LH	Schneiden 12° LH
Schneidrichtung Cutting direction							
Schneidstoff / Material						K10/20	K10/20
Ø mm	l ₁ mm	l ₂ mm	d ₂ h9	Anzahl der Schneiden Cutting lips	6372*	6372* TN	
1,0	34	6	1	3	●	●	
1,1	34	6	1	3	●	●	
1,2	34	6	1	3	●	●	
1,3	40	8	2	3	●	●	
1,4	40	8	2	3	●	●	
1,5	40	8	2	3	●	●	
1,6	43	9	2	3	●	●	
1,7	43	9	2	4	●	●	
1,8	46	10	2	4	●	●	
1,9	46	10	2	4	●	●	
2,0	49	11	2	4	●	●	
2,1	49	11	2	4	●	●	
2,2	53	12	3	4	●	●	
2,3	53	12	3	4	●	●	
2,4	57	14	3	4	●	●	
2,5	57	14	3	4	●	●	
2,6	57	14	3	4	●	●	
2,7	61	15	3	4	●	●	
2,8	61	15	3	6	●	●	
2,9	61	15	3	6	●	●	
3,0	61	15	3	6	●	●	
3,1	65	16	4	6	●	●	
3,2	65	16	4	6	●	●	
3,3	65	16	4	6	●	●	
3,4	70	18	4	6	●	●	
3,5	70	18	4	6	●	●	
3,6	70	18	4	6	●	●	
3,7	70	18	4	6	●	●	
3,8	75	19	4	6	●	●	
3,9	75	19	4	6	●	●	
4,0	75	19	4	6	●	●	
4,1	75	19	4	6	●	●	
4,2	80	21	4	6	●	●	
4,3	80	21	5	6	●	●	
4,4	80	21	5	6	●	●	
4,5	80	21	5	6	●	●	
4,6	80	21	5	6	●	●	
4,7	80	21	5	6	●	●	

Form / Form						B	B
Typ / Type						Schneiden 12° LH	Schneiden 12° LH
Schneidrichtung Cutting direction							
Schneidstoff / Material						K10/20	K10/20
Ø mm	l ₁ mm	l ₂ mm	d ₂ h9	Anzahl der Schneiden Cutting lips	6372*	6372* TN	
4,8	86	23	5	6	●	●	
4,9	86	23	5	6	●	●	
5,0	86	23	5	6	●	●	
5,1	86	23	5	6	●	●	
5,2	86	23	5	6	●	●	
5,3	93	26	6	6	●	●	
5,4	93	26	6	6	●	●	
5,5	93	26	6	6	●	●	
5,6	93	26	6	6	●	●	
5,7	93	26	6	6	●	●	
5,8	93	26	6	6	●	●	
5,9	93	26	6	6	●	●	
6,0	93	26	6	6	●	●	
6,1	101	28	6	6	●	●	
6,2	101	28	6	6	●	●	
6,3	101	28	6	6	●	●	
6,4	101	28	6	6	●	●	
6,5	101	28	6	6	●	●	
6,6	101	28	6	6	●	●	
6,7	109	31	6	6	●	●	
6,8	109	31	8	6	●	●	
6,9	109	31	8	6	●	●	
7,0	109	31	8	6	●	●	
7,1	109	31	8	6	●	●	
7,2	117	33	8	6	●	●	
7,3	117	33	8	6	●	●	
7,4	117	33	8	6	●	●	
7,5	117	33	8	6	●	●	
7,6	117	33	8	6	●	●	
7,7	117	33	8	6	●	●	
7,8	117	33	8	6	●	●	
7,9	117	33	8	6	●	●	
8,0	117	33	8	6	●	●	
8,1	117	33	8	6	●	●	
8,2	117	33	8	6	●	●	
8,3	117	33	8	6	●	●	
8,4	117	33	8	6	●	●	
8,5	117	33	8	6	●	●	

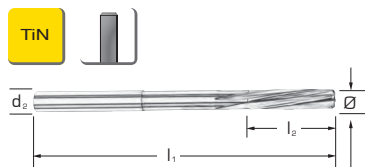
Bis zu 12,20mm Durchmesser aus Vollhartmetall, über Hartmetall bestück / up to Ø 12,20mm made of solid carbide, above carbide tipped

* ab 8,1 mm Ø mit Vollhartmetallkopf / from 8,1 mm Ø onwards with solid carbide head

● Standardartikel / Items available ex stock



Maschinen-Reibahlen mit Zylinderschaft aus VHM
für Bohrungen mit Passung H7

[illegible]

● Standardartikel / Items available ex stock

MASCHINENREIBAHLEN 1/100 ABSTUFUNG

CENTRAL MACHINE REAMERS



Durchmesserbestimmung auf Basis Nenndurchmesser und Toleranzfeld / Tool diameter based on nominal diameter and tolerance

BEI SPIEL
EXAMPLE

Anfrage / Required fit: $d = 4,25 \text{ mm F8}$

Lösung / Solution:

- aus Spalte Nenn-Ø den Durchmesserbereich wählen 3 - 6
choose from column nominal-Ø the diameter range = 3 - 6
- Passung F8 suchen / search fit F8 Zuschlagswert / surcharge = + 0,02

$4,25 \text{ mm} + 0,02 \text{ mm} = d = 4,27 \text{ mm}$

Nenn/nominal Ø(mm) oltre/above – fino a/up to		Zuschlagswerte in mm bezogen auf die Passung/ Table values for required fit in mm														
	A9	A11	B8	B9	B10	B11	C8	C9	C10	C11	D7	D8	D9	D10	D11	
1 - 3	+0,28	+0,31	-	+0,15	+0,17	+0,18	-	+0,07	+0,09	+0,10	-	-	+0,03	+0,05	+0,06	
3 - 6	+0,29	+0,32	+0,15	+0,16	+0,17	+0,19	+0,08	+0,09	+0,10	+0,12	-	+0,04	+0,05	+0,06	+0,08	
6 - 10	+0,30	+0,35	+0,16	+0,17	+0,19	+0,22	+0,09	+0,10	+0,12	+0,15	-	+0,05	+0,06	+0,08	+0,11	
10 - 18	+0,32	+0,37	+0,16	+0,18	+0,20	+0,23	+0,11	+0,12	+0,14	+0,18	+0,06	+0,06	+0,08	+0,10	+0,13	
	E7	E8	E9	F7	F8	F9	F10	G6	G7	H6	H7	H8	H9	H10	H11	
1 - 3	-	+0,02	+0,03	+0,01	+0,01	+0,02	-	-	-	-	-	-	+0,01	+0,03	+0,04	
3 - 6	-	+0,03	+0,04	-	+0,02	+0,03	+0,04	-	+0,01	-	-	+0,01	+0,02	+0,03	+0,05	
6 - 10	+0,03	+0,03	+0,05	+0,02	+0,02	+0,03	+0,05	-	+0,01	-	-	+0,01	+0,02	+0,04	+0,07	
10 - 18	+0,04	+0,04	+0,06	+0,02	+0,03	+0,04	+0,07	+0,01	-	-	+0,01	+0,01	+0,03	+0,05	+0,08	
	H12	H13	J6	J7	J8	JS6	JS7	JS8	JS9	K7	K8	M6	M7	M8	N6	
1 - 3	+0,08	+0,11	-	-	-	-	-	+0,00	+0,00	-	-0,01	-	-	-	-	
3 - 6	+0,09	+0,14	-	+0,00	+0,00	-	+0,00	+0,00	+0,00	-	-	-	-	-0,01	-	
6 - 10	+0,12	+0,18	-	+0,00	+0,00	-	+0,00	+0,00	+0,00	-	-0,01	-0,01	-0,01	-0,01	-	
10 - 18	+0,14	+0,22	-	+0,00	+0,00	-	+0,00	+0,00	+0,00	-	-0,01	-0,01	-0,01	-0,01	-	
	N7	N8	N9	N10	N11	P6	P7	R6	R7	S6	S7	U6	U7	U10	Z10	
1 - 3	-0,01	-0,01	-0,02	-0,02	-0,02	-	-	-	-	-	-0,02	-	-	-	-0,04	
3 - 6	-0,01	-0,01	-0,01	-0,02	-0,02	-	-	-	-0,02	-	-	-	-0,03	-0,04	-0,05	
6 - 10	-	-0,02	-0,01	-0,02	-0,02	-	-0,02	-	-0,02	-	-0,03	-	-0,03	-0,05	-0,06	
10 - 18	-0,01	-0,02	-0,02	-0,02	-0,03	-	-0,02	-	-0,03	-	-0,03	-	-	-0,05	-0,07	

Anwendungshinweis

- Die Tabelle wurde so aufgebaut, dass jeder Reibahle Durchmesser mit einem 1/100 mm Stufensprung bestimmt werden kann. In den Zuschlagswerten wurden die Herstellungstoleranzen berücksichtigt
 - $\leq \varnothing 5,5 \text{ mm} + 0,004 / + 0,0$
 - $> \varnothing 5,5 \text{ mm} + 0,005 / + 0,0$

Notes for use of above table

- This table allows the selection of chucking reamers with diameters within steps of 0,01mm. The given values take the basic manufacturing tolerances as standard into consideration.
 - $\leq \varnothing 5,5 \text{ mm} + 0,004 / + 0,0$
 - $> \varnothing 5,5 \text{ mm} + 0,005 / + 0,0$



Maschinen-Reibahlen mit Zylinderschaft aus HSS-Co

in 1/100 Abstufung

Machine chucking reamers with straight shank, made of HSS-Co
centesimal



Form / Form						B/D
Typ / Type						Schneiden 7-8° LH 
Schneidrichtung Cutting direction						
Schneidstoff Material						HSS-Co
Ø mm	l ₁ mm	l ₂ mm	d ₂ h9	Anzahl der Schneiden Cutting lips	6326 C	
0,95 - 0,96	37	5	-	3	●	
0,97 - 1,00	37	5	-	3	●	
1,01 - 1,32	40	7	-	3	●	
1,33 - 1,39	40	8	-	3	●	
1,40 - 1,49	40	8	-	3	●	
1,50	40	8	-	3	●	
1,51 - 1,70	43	9	-	3	●	
1,71 - 1,90	46	10	-	3	●	
1,91 - 1,99	49	11	-	3	●	
2,00 - 2,09	49	11	-	3	●	
2,10 - 2,12	49	11	-	3	●	
2,13 - 2,36	53	12	-	3	●	
2,37 - 2,49	57	14	-	3	●	
2,50 - 2,59	57	14	-	5	●	
2,60 - 2,65	57	14	-	5	●	
2,66 - 2,99	61	15	-	5	●	
3,00	61	15	-	5	●	
3,01 - 3,09	65	16	-	5	●	
3,10 - 3,35	65	16	-	5	●	
3,36 - 3,49	70	18	-	5	●	
3,50 - 3,59	70	18	-	5	●	
3,60 - 3,75	70	18	-	5	●	
3,76 - 3,81	75	19	4,0	5	●	
3,82 - 3,99	75	19	4,0	5	●	
4,00 - 4,20	75	19	4,0	6	●	
4,21 - 4,25	75	19	4,0	6	●	
4,26 - 4,75	80	21	4,5	6	●	
4,76 - 5,20	86	23	5,0	6	●	
5,21 - 5,30	86	23	5,0	6	●	
5,31 - 6,00	93	26	5,6	6	●	
6,01 - 6,11	101	28	6,3	6	●	
6,12 - 6,70	101	28	6,3	6	●	
6,71 - 7,50	109	31	7,1	6	●	
7,51 - 8,20	117	33	8,0	6	●	
8,21 - 8,50	117	33	8,0	6	●	
8,51 - 9,50	125	36	9,0	6	●	
9,51 - 10,20	133	38	10,0	6	●	
10,21 - 10,60	133	38	10,0	6	●	

Herstellungstoleranzen

Reamer tolerances

- 5,5 mm	+0,004
	0
> 5,5 mm	+0,005
	0

[illegible]



Ähnlich / similar DIN 8093

Maschinen-Reibahle mit Zylinderschaft aus VHMIn 1/100 Abgestuft

Machine chucking reamers with straight shank,
made of solid carbide centesimal

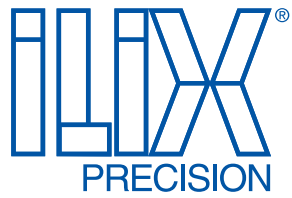


Herstellungstoleranzen
Reamer tolerances

$$+0,004 \text{ mm}$$
[illegible][illegible]

Bis Ø12,20mm aus Vollhartmetall, über Hartmetall bestückt / up to Ø12,20mm made of solid carbide, above carbide tipped

● Standardartikel / Items available ex stock



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