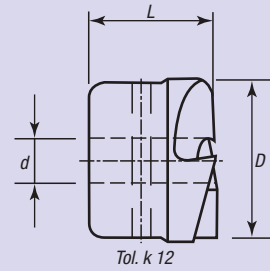




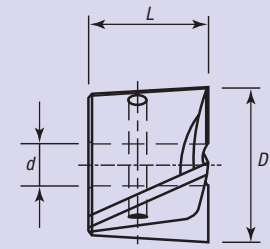
Grösse d mm			U	UD	UH	UDH
	D mm	L mm	HSS Tol. k12	HSS Tol. p8	Hartmetall K40 Tol. p8	Hartmetall K40 Tol. p8
			Bestell Nr.	Bestell Nr.	Bestell Nr.	Bestell Nr.
6	12,0	17	U-06/12	UD-06/12	UH-06/12	UDH-06/12
	13,0	17	U-06/13	UD-06/13	UH-06/13	UDH-06/13
	13,5	17	U-06/13,5		UH-06/13,5	
	14,0	17	U-06/14	UD-06/14	UH-06/14	UDH-06/14
	14,5	17	U-06/14,5	UD-06/14,5		UDH-06/14,5
	15,0	17	U-06/15	UD-06/15	UH-06/15	UDH-06/15
	16,0	17	U-06/16	UD-06/16	UH-06/16	UDH-06/16
	17,0	17	U-06/17	UD-06/17	UH-06/17	UDH-06/17
	18,0	17	U-06/18	UD-06/18	UH-06/18	UDH-06/18
	19,0	17	U-06/19		UH-06/19	
	20,0	17	U-06/20	UD-06/20	UH-06/20	UDH-06/20
	22,0	17	U-06/22	UD-06/22	UH-06/22	UDH-06/22
	24,0	17	U-06/24			
	26,0	17	U-06/26			
9	16,0	21	U-09/16		UH-09/16	
	17,0	21	U-09/17		UH-09/17	
	17,5	21		UD-09/17,5		UDH-09/17,5
	18,0	21	U-09/18	UD-09/18	UH-09/18	UDH-09/18
	19,0	21	U-09/19	UD-09/19	UH-09/19	UDH-09/19
	20,0	21	U-09/20	UD-09/20	UH-09/20	UDH-09/20
	21,0	21	U-09/21	UD-09/21	UH-09/21	UDH-09/21
	22,0	21	U-09/22	UD-09/22	UH-09/22	UDH-09/22
	23,0	21	U-09/23	UD-09/23	UH-09/23	UDH-09/23
	24,0	21	U-09/24	UD-09/24	UH-09/24	UDH-09/24
	25,0	21	U-09/25	UD-09/25	UH-09/25	UDH-09/25
	26,0	21	U-09/26	UD-09/26	UH-09/26	UDH-09/26
	28,0	21	U-09/28	UD-09/28	UH-09/28	UDH-09/28
	30,0	21	U-09/30	UD-09/30	UH-09/30	UDH-09/30
32,0	21	U-09/32	UD-09/32	UH-09/32	UDH-09/32	
33,0	21	U-09/33				
34,0	21	U-09/34	UD-09/34	UH-09/34	UDH-09/34	
14	24,0	27	U-14/24	UD-14/24	UH-14/24	UDH-14/24
	25,0	27	U-14/25	UD-14/25		UDH-14/25
	26,0	27	U-14/26	UD-14/26	UH-14/26	UDH-14/26
	27,0	27	U-14/27		UH-14/27	
	28,0	27	U-14/28	UD-14/28	UH-14/28	UDH-14/28
	30,0	27	U-14/30	UD-14/30	UH-14/30	UDH-14/30
	32,0	27	U-14/32	UD-14/32	UH-14/32	UDH-14/32
	33,0	27	U-14/33	UD-14/33	UH-14/33	UDH-14/33
	34,0	27	U-14/34	UD-14/34	UH-14/34	UDH-14/34
	35,0	27	U-14/35	UD-14/35	UH-14/35	UDH-14/35
	36,0	27	U-14/36	UD-14/36	UH-14/36	UDH-14/36
	38,0	27	U-14/38	UD-14/38	UH-14/38	UDH-14/38
	40,0	27	U-14/40	UD-14/40	UH-14/40	UDH-14/40
	41,0	27	U-14/41	UD-14/41	UH-14/41	UDH-14/41
20	32,0	31	U-20/32		UH-20/32	
	32,0	31	U-20/33		UH-20/33	
	34,0	31	U-20/34		UH-20/34	
	35,0	31	U-20/35	UD-20/35	UH-20/35	UDH-20/35
	36,0	31	U-20/36	UD-20/36	UH-20/36	UDH-20/36
	38,0	31	U-20/38	UD-20/38	UH-20/38	UDH-20/38
	40,0	31	U-20/40	UD-20/40	UH-20/40	UDH-20/40
	42,0	31	U-20/42	UD-20/42	UH-20/42	UDH-20/42
	43,0	31	U-20/43			
	44,0	31	U-20/44	UD-20/44		UDH-20/44
	45,0	31	U-20/45	UD-20/45	UH-20/45	UDH-20/45
	46,0	31	U-20/46	UD-20/46	UH-20/46	UDH-20/46
	48,0	31	U-20/48	UD-20/48	UH-20/48	UDH-20/48
	50,0	31	U-20/50	UD-20/50	UH-20/50	UDH-20/50
52,0	31	U-20/52	UD-20/52	UH-20/52	UDH-20/52	
55,0	31	U-20/55	UD-20/55	UH-20/55	UDH-20/55	
57,0	31	U-20/57	UD-20/57	UH-20/57	UDH-20/57	
30	60,0	38	U-30/60	UD-30/60	UH-30/60	UDH-30/60
	62,0	38	U-30/62	UD-30/62	UH-30/62	UDH-30/62
	64,0	38	U-30/64	UD-30/64		UDH-30/64
	65,0	38	U-30/65	UD-30/65	UH-30/65	UDH-30/65
	68,0	38	U-30/68	UD-30/68	UH-30/68	UDH-30/68
	70,0	38	U-30/70	UD-30/70	UH-30/70	UDH-30/70
	71,0	38	U-30/71			
	72,0	38	U-30/72	UD-30/72	UH-30/72	UDH-30/72
	75,0	38	U-30/75	UD-30/75	UH-30/75	UDH-30/75
	76,0	38		UD-30/76	UH-30/76	UDH-30/76
	80,0	38	U-30/80	UD-30/80	UH-30/80	UDH-30/80
	82,0	38	U-30/82			
	83,0	38	U-30/83			

Typ U, UD, UH und UDH



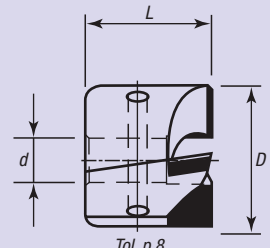
Tol. k 12

Typ U



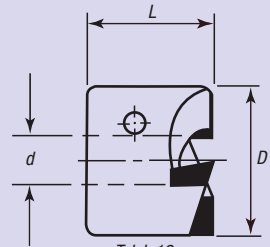
Tol. p 8

Typ UD



Tol. p 8

Typ UDH



Tol. k 12

Typ UH

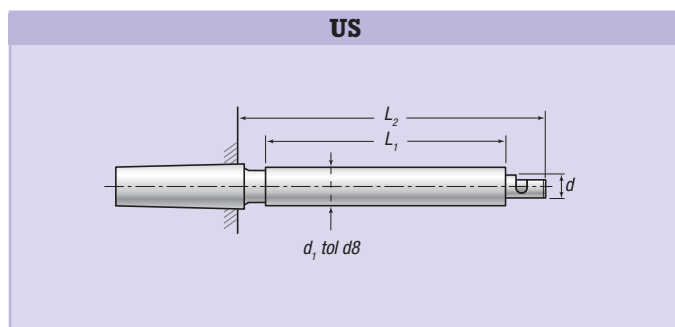
Sonderabmessungen auf Anfrage.



Größe d mm	US MK				
	d ₁ mm	L ₁ mm	L ₂ mm	Schaft	Typ US
	Bestell Nr.				
6	6,0*	55	92	MK1	US-06/06,0-MK1
	6,5*	55	92	MK1	US-06/06,5-MK1
	7,0*	55	92	MK1	US-06/07,0-MK1
	7,5	55	92	MK1	US-06/07,5-MK1
	8,0	55	92	MK1	US-06/08,0-MK1
	8,5	55	92	MK1	US-06/08,5-MK1
	9,0	55	92	MK1	US-06/09,0-MK1
	9,5	55	92	MK1	US-06/09,5-MK1
	10,0	55	92	MK1	US-06/10,0-MK1
	9	9,0*	75	116	MK2
9,5*		75	116	MK2	US-09/09,5-MK2
10,0*		75	116	MK2	US-09/10,0-MK2
10,5		75	116	MK2	US-09/10,5-MK2
11,0		75	116	MK2	US-09/11,0-MK2
11,5		75	116	MK2	US-09/11,5-MK2
12,0		75	116	MK2	US-09/12,0-MK2
12,5		75	116	MK2	US-09/12,5-MK2
13,0		75	116	MK2	US-09/13,0-MK2
13,5		75	116	MK2	US-09/13,5-MK2
14,0		75	116	MK2	US-09/14,0-MK2
14,5		75	116	MK2	US-09/14,5-MK2
15,0		75	116	MK2	US-09/15,0-MK2
14		14,0*	90	143	MK3
	14,5*	90	143	MK3	US-14/14,5-MK3
	15,0*	90	143	MK3	US-14/15,0-MK3
	16,0	90	143	MK3	US-14/16,0-MK3
	17,0	90	143	MK3	US-14/17,0-MK3
	18,0	90	143	MK3	US-14/18,0-MK3
	19,0	90	143	MK3	US-14/19,0-MK3
	20,0	90	143	MK3	US-14/20,0-MK3
	21,0	90	143	MK3	US-14/21,0-MK3
	22,0	90	143	MK3	US-14/22,0-MK3
20	20,0*	90	147	MK3	US-20/20,0-MK3
	21,0*	90	147	MK3	US-20/21,0-MK3
	22,0	90	147	MK3	US-20/22,0-MK3
	23,0	90	147	MK3	US-20/23,0-MK3
	24,0	90	147	MK3	US-20/24,0-MK3
	25,0	110	169	MK4	US-20/25,0-MK4
	26,0	110	169	MK4	US-20/26,0-MK4
	27,0	110	169	MK4	US-20/27,0-MK4
	28,0	110	169	MK4	US-20/28,0-MK4
	30,0	110	169	MK4	US-20/30,0-MK4
30	30,0*	130	205	MK4	US-30/30,0-MK4
	32,0	130	205	MK4	US-30/32,0-MK4
	33,0	130	205	MK4	US-30/33,0-MK4
	34,0	130	205	MK4	US-30/34,0-MK4
	35,0	130	205	MK4	US-30/35,0-MK4
	36,0	130	205	MK4	US-30/36,0-MK4
	38,0	130	205	MK4	US-30/38,0-MK4
	39,0	130	205	MK4	US-30/39,0-MK4
	40,0	130	205	MK4	US-30/40,0-MK4
	43,0	130	205	MK4	US-30/42,0-MK4
45,0	130	205	MK4	US-30/45,0-MK4	

Größe d mm	US Weldon					
	d ₁ mm	L ₁ mm	L ₂ mm	Schaft	Typ US	
	Bestell Nr.					
6	6,0*	55	99	Weldon 12	US-06/06,0-W12	
	6,5*	55	99	Weldon 12	US-06/06,5-W12	
	7,0*	55	99	Weldon 12	US-06/07,0-W12	
	8,0	55	99	Weldon 12	US-06/08,0-W12	
	8,5	55	99	Weldon 12	US-06/08,5-W12	
	9,0	55	99	Weldon 12	US-06/09,0-W12	
	9,5	55	99	Weldon 12	US-06/09,5-W12	
	10,0	55	99	Weldon 12	US-06/10,0-W12	
	9	9,0*	75	128	Weldon 16	US-09/09,0-W16
		9,5*	75	128	Weldon 16	US-09/09,5-W16
10,0*		75	128	Weldon 16	US-09/10,0-W16	
10,5		75	128	Weldon 16	US-09/10,5-W16	
11,0		75	128	Weldon 16	US-09/11,0-W16	
11,5		75	128	Weldon 16	US-09/11,5-W16	
12,0		75	128	Weldon 16	US-09/12,0-W16	
12,5		75	128	Weldon 16	US-09/12,5-W16	
13,0		75	128	Weldon 16	US-09/13,0-W16	
14,0		75	128	Weldon 16	US-09/14,0-W16	
15,0		75	128	Weldon 16	US-09/15,0-W16	
14		14,0*	90	143	Weldon 20	US-14/14,0-W20
		14,5*	90	143	Weldon 20	US-14/14,5-W20
		15,0*	90	143	Weldon 20	US-14/15,0-W20
	16,0	90	143	Weldon 20	US-14/16,0-W20	
	17,0	90	143	Weldon 20	US-14/17,0-W20	
	18,0	90	143	Weldon 20	US-14/18,0-W20	
	19,0	90	143	Weldon 20	US-14/19,0-W20	
	20,0	90	143	Weldon 20	US-14/20,0-W20	
	20	20,0*	90	147	Weldon 20	US-20/20,0-W20
		21,0*	90	147	Weldon 20	US-20/21,0-W20
22,0		90	147	Weldon 20	US-20/22,0-W20	
23,0		90	147	Weldon 20	US-20/23,0-W20	
24,0		90	147	Weldon 20	US-20/24,0-W20	
25,0		110	169	Weldon 20	US-20/25,0-W20	
26,0		110	169	Weldon 20	US-20/26,0-W20	
27,0		110	169	Weldon 20	US-20/27,0-W20	
28,0		110	169	Weldon 20	US-20/28,0-W20	
30,0		110	169	Weldon 20	US-20/30,0-W20	
30	30,0*	130	205	Weldon 25	US-30/30,0-W25	
	32,0	130	205	Weldon 25	US-30/32,0-W25	
	33,0	130	205	Weldon 25	US-30/33,0-W25	
	34,0	130	205	Weldon 25	US-30/34,0-W25	
	35,0	130	205	Weldon 25	US-30/35,0-W25	
	36,0	130	205	Weldon 25	US-30/36,0-W25	
	38,0	130	205	Weldon 25	US-30/38,0-W25	
	39,0	130	205	Weldon 25	US-30/39,0-W25	
	40,0	130	205	Weldon 25	US-30/40,0-W25	
	42,0	130	205	Weldon 25	US-30/42,0-W25	
45,0	130	205	Weldon 25	US-30/45,0-W25		

* Nicht für hartmetallbestückte Senker verwendbar!



Austreibblappen

Für Schaft	Gewinde	Bestell Nr.
MK3	M12	GR1801-12-2
MK4	M16	GR1801-12-1

CNC Rückwärtssenker und Rückwärtsanfaser



BV Rückwärtssenker						
Schaft Weldon						
D mm	d _{min} mm	Bestell Nr.	Schaft Weldon	L ₁ mm	L ₂ mm	E* mm
18,0	10,5	BV-18,0/10,5	16	35	13	4,10
20,0	13,0	BV-20,0/13,0	16	40	13	3,85
24,0	15,0	BV-24,0/15,0	20	50	13	4,65
26,0	17,0	BV-26,0/17,0	20	50	13	4,85
30,0	19,0	BV-30,0/19,0	25	60	16	5,65
33,0	21,0	BV-33,0/21,0	25	70	16	6,40
36,0	23,0	BV-36,0/23,0	25	70	16	6,65
40,0	25,0	BV-40,0/25,0	25	80	16	7,90
48,0	31,0	BV-48,0/31,0	32	90	16	8,90

* = Positionierungslage

BFV 90° Rückwärtssenker						
Schaft Weldon						
D mm	d _{min} mm	Bestell Nr.	Schaft Weldon	L ₁ mm	L ₂ mm	E* mm
15,0	10,0	BFV-15,0/10,0	16	35	13	2,70
20,0	14,0	BFV-20,0/14,0	16	40	13	3,20
23,0	17,0	BFV-23,0/17,0	20	50	13	3,20
27,0	21,0	BFV-27,0/21,0	25	70	13	3,20
31,0	24,0	BFV-31,0/24,0	25	80	13	3,70

* = Positionierungslage

DFV 90° Vor- und Rückwärtssenker						
Schaft Weldon						
D mm	d _{min} mm	Bestell Nr.	Schaft Weldon	L ₁ mm	L ₂ mm	E* mm
15,0	10,0	DFV-15,0/10,0	16	35	13	2,70
20,0	14,0	DFV-20,0/14,0	16	40	13	3,20
23,0	17,0	DFV-23,0/17,0	25	50	13	3,20
27,0	21,0	DFV-27,0/21,0	32	70	13	3,20
31,0	24,0	DFV-31,0/24,0	32	80	13	3,70

* = Positionierungslage

Sonderabmessungen wird auf Anfrage angeboten.

Wendepplatten für BV, BFV, DFV und FV					
Typ					
Typ von Werkzeug D mm	Grösse	Bestell Nr.	Bestell Nr.	Radius mm	Anv. område
BV 18,0 - 27,0 DFV 15,0 - 31,0 BFV 15,0 - 31,0	07	TPMT-07T	TPMR-07T	0,4	Universal
	07		TPGR-07T	0,4	Universal
	07		TPMR-07H	0,4	HARDOX
	07	TPMT-07M		0,4	Rostfritt
	07	TPMT-07K		0,4	Aluminium
BV >27,0 - 48,0	10	TPMT-10T	TPMR-10T	0,4	Universal
	10		TPGR-10T	0,4	Universal
	10		TPMR-10H	0,4	HARDOX
	10	TPMT-10M		0,4	Rostfritt
	10	TPMT-10K		0,4	Aluminium

- Hartmetallqualität PK40. Alle Wendepplatten sind 7-fach beschichtet (TiCN-TiC-TiN).
- Die Wendepplatten sind stärker als ISO-Platten und haben ein eigenes Spanbrecherprofil für optimalen Spanablauf.

Zerspanungsrichtwerte für BV, BFV und DFV					
Werkstoff	V	Vorschub	Werkstoff	V	Vorschub
Stahl <450 N/mm ²	80 - 120 m/min	0,05 - 0,15 mm/U	Grauguss	80 - 110 m/min	0,05 - 0,15 mm/U
Stahl <600 N/mm ²	60 - 110 m/min	0,05 - 0,15 mm/U	Aluminiumguss	80 - 150 m/min	0,05 - 0,15 mm/U
Stahl <1000 N/mm ²	50 - 100 m/min	0,05 - 0,15 mm/U			

