



Drilling

Leitz Lexicon Edition 7



Explanation of abbreviations

A	= dimension A	LL	= left hand rotation
a_e	= cutting thickness (radial)	M	= metric thread
a_p	= cutting depth (axial)	MBM	= minimum order quantity
ABM	= dimension	MC	= multi-purpose steel, coated
APL	= panel raising length	MD	= thickness of knife
APT	= panel raising depth	min^{-1}	= revolutions per minute (RPM)
AL	= working length	MK	= morse taper
AM	= number of knives	m min^{-1}	= metres per minute
AS	= anti sound (low noise design)	m s^{-1}	= metres per second
b	= overhang	n	= RPM
B	= width	n_{max}	= maximum permissible RPM
BDD	= thickness of shoulder	NAL	= position of hub
BEM	= note	ND	= thickness of hub
BEZ	= description	NH	= zero height
BH	= tipping height	NL	= cutting length
BO	= bore diameter	NLA	= pinhole dimensions
CNC	= Computerized Numerical Control	NT	= grooving depth
d	= diameter	P	= profile
D	= cutting circle diameter	POS	= cutter position
D0	= zero diameter	PT	= profile depth
DA	= outside Diameter	PG	= profile group
DB	= diameter of shoulder	QAL	= cutting material quality
DFC	= Dust Flow Control (optimised chip clearance)	R	= radius
DGL	= number of links	RD	= right hand twist
DIK	= thickness	RL	= right hand rotation
DKN	= double keyway	RP	= radius of cutter
DP	= polycrystalline diamond	S	= shank dimension
DRI	= rotation	SB	= cutting width
FAB	= width of rebate	SET	= set
FAT	= depth of rebate	SLB	= slotting width
FAW	= bevel angle	SLL	= slotting length
FLD	= flange diameter	SLT	= slotting depth
f_z	= tooth feed	SP	= tool steel
$f_{z \text{ eff}}$	= effective tooth feed	ST	= Cobalt-basis cast alloys, e.g. Stellite®
GEW	= thread	STO	= shank tolerance
GL	= total length	SW	= cutting angle
GS	= Plunging edge	TD	= diameter of tool body
H	= height	TDI	= thickness of tool
HC	= tungsten carbide, coated	TG	= pitch
HD	= wood thickness (thickness of workpiece)	TK	= reference diameter
HL	= high-alloyed tool steel	UT	= cutting edges with irregular pitch
HS	= high-speed steel (HSS)	V	= number of spurs
HW	= tungsten carbide (TCT)	v_c	= cutting speed
ID	= ident number	v_f	= feed speed
IV	= insulation glazing	VE	= packing unit
KBZ	= abbreviation	VSB	= adjustment range
KLH	= clamping height	WSS	= workpiece material
KM	= edge breaker	Z	= number of teeth
KN	= single keyway	ZA	= number of fingers
KNL	= combination pinhole consists of 2/7/42 2/9/46,35 2/10/60	ZF	= tooth shape (cutting edge shape)
L	= length	ZL	= finger length
l	= clamping length		
LD	= left hand twist		
LEN	= Leitz standard profiles		

Notes to the Lexicon concerning the diagrams and tables

The statements made in the diagrams and tables relate to specific conditions and represent parameters from tests subjected to defined conditions. Variations when using tools in individual case due to special application conditions may be possible. Our support team will provide you with detailed information.



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6. Drilling

6.1 Dowel drilling

6.1.1 Dowel drills



Shank 8 mm

Application:

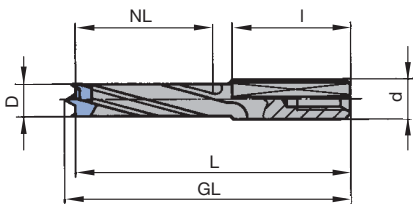
For drilling blind holes, particularly dowel holes in furniture construction. Recommended on drill spindles with limited rigidity.

Machine:

Point-to-point drilling machines, through feed drilling machines, CNC machining centres, hinge boring machines, multi spindle units.

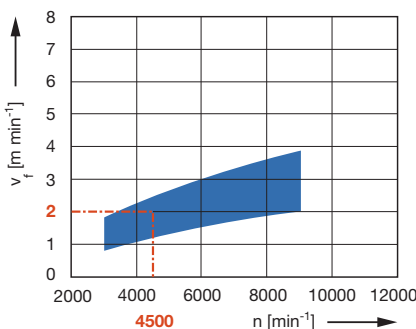
Workpiece material:

Softwood and hardwood, chipboard and fibre materials (MDF, HDF etc.), uncoated, plastic coated, veneered etc., laminated veneer lumber (plywood, multiplex plywood etc.).



Design with heel

Feed speed v_f depending on the spindle RPM n



Workpiece material:

Chipboard plastic coated

Operation:

Drilling

Correction factor for v_f :

Veneered = 0.8

Paper coated = 0.8

MDF, solid wood = 0.7

Chipboard, uncoated = 1.3

Technical information:

Spur geometry with shear cut. Drills can be combined with countersink WB 701 0 03. Countersink fixed on heel. Continuously adjustable boring and countersink depth. Good guidance on return stroke for tear-free holes.

GL 55.5 mm, with heel, Z 2 / V 2

WB 120 0 23

D	GL	L	NL	S	ID	ID
mm	mm	mm	mm	mm	LH	RH
5	55.5	54	30	8x19	042552 ●	042553 ●
6	55.5	54	30	8x19		042555 ●
8	55.5	53.5	30	8x19	042558 ●	042559 ●
10	55.5	53.5	30	8x21		042563 ●

GL 67 mm, with heel, Z 2 / V 2

WB 120 0 24

D	GL	L	NL	S	ID	ID
mm	mm	mm	mm	mm	LH	RH
5	67	65.5	40	8x19	042568 ●	042569 ●
6	67	65.5	40	8x19	042570 ●	042571 ●
7	67	65.5	40	8x19		042573 ●
8	67	65	40	8x19	042574 ●	042575 ●
10	67	65	40	8x21		042579 ●

RPM: $n = 3000 - 9000 \text{ min}^{-1}$

Spare parts:

BEZ	ABM	BEM	ID
	mm		
Allen screw	M5x10	Length adjustment	005802 ●
Anti-twist allen screw	M5x10	Length adjustment	007438 ●

6. Drilling

6.1 Dowel drilling

6.1.1 Dowel drills



Shank 10 mm

Application:

For drilling blind holes, particularly dowel holes in furniture construction.

Machine:

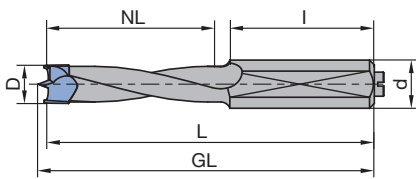
Point-to-point drilling machines, through feed drilling machines, CNC machining centres, hinge boring machines, multi spindle units.

Workpiece material:

Softwood and hardwood, chipboard and fibre materials (MDF, HDF etc.), uncoated, plastic coated, veneered etc., laminated veneer lumber (plywood, multiplex plywood etc.).

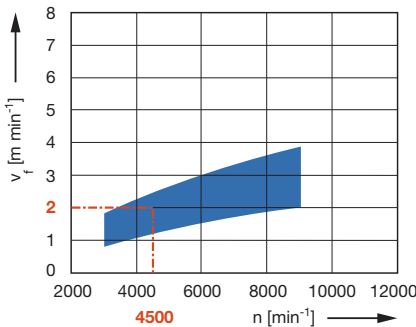
Technical information:

Spur geometry with shear cut. Recessed flute for minimised friction and feed force. Drills can be combined with countersink WB 701 0 02. Countersinks can be clamped on the shank.



Design without heel

Feed speed v_f depending on the spindle RPM n



Workpiece material:

Chipboard plastic coated

Operation:

Drilling

Correction factor for v_f :

Veneered = 0.8

Paper coated = 0.8

MDF, solid wood = 0.7

Chipboard, uncoated = 1.3

GL 57.5 mm, without heel, Z 2 / V 2

WB 120 0 11, WB 120 0 12

D mm	GL mm	L mm	NL mm	S mm	ID	
					LH	RH
3	57.5	56	16	10x34	033610 ●	033611 ●
3.18	57.5	56	25	10x27		033701 ●
4	57.5	56	25	10x27	033670 ●	033671 ●
4.5	57.5	56	25	10x27	033710 ●	033711 ●
5	57.5	56	25	10x27	033672 ●	033673 ●
5.1	57.5	56	25	10x27		033675 ●
5.2	57.5	56	25	10x27		033677 ●
6	57.5	56	25	10x27	033678 ●	033679 ●
7	57.5	56	25	10x27	033680 ●	033681 ●
8	57.5	55.5	25	10x27	033682 ●	033683 ●
8.2	57.5	55.5	25	10x27	033686 ●	033687 ●
9	57.5	55.5	25	10x27	033688 ●	033689 ●
10	57.5	55.5	25	10x27	033690 ●	033691 ●
12	57.5	55.5	30	10x22	033692 ●	033693 ●
15	57.5	55.5	30	10x22	033696 ●	033697 ●
16	57.5	55.5	30	10x22		033699 ●

RPM: $n = 3000 - 9000 \text{ min}^{-1}$

Spare parts:

BEZ	ABM mm	BEM	ID
Allen screw	M5x10	Length adjustment	005802 ●
Anti-twist allen screw	M5x10	Length adjustment	007438 ●
Length adjustment screw Torx® 20	M5x17	for quick-change drill adaptors	009157 ●

6. Drilling

6.1 Dowel drilling

6.1.1 Dowel drills



Shank 10 mm

Application:

For drilling blind holes, particularly dowel holes in furniture construction.

Machine:

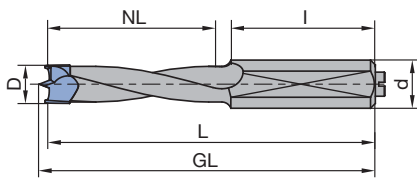
Point-to-point drilling machines, through feed drilling machines, CNC machining centres, hinge boring machines, multi spindle units.

Workpiece material:

Softwood and hardwood, chipboard and fibre materials (MDF, HDF etc.), uncoated, plastic coated, veneered etc., laminated veneer lumber (plywood, multiplex plywood etc.).

Technical information:

Spur geometry with shear cut. Recessed flute for minimised friction and feed force. Drills can be combined with countersink WB 701 0 02. Countersinks can be clamped on the shank.



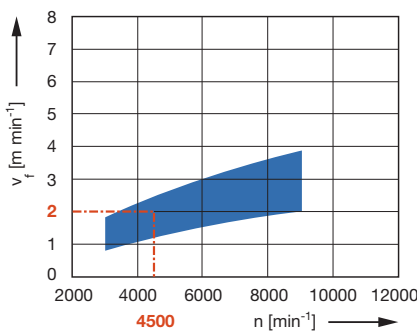
Design without heel

GL 70 mm, without heel, Z 2 / V 2

WB 120 0 10

D mm	GL mm	L mm	NL mm	S mm	ID	
					LH	RH
3	70	68.5	16	10x45	042596 ●	042597 ●
4	70	68.5	35	10x30	033476 ●	033477 ●
5	70	68.5	35	10x30	033440 ●	033441 ●
6	70	68.5	35	10x30	033442 ●	033443 ●
7	70	68.5	35	10x30	033444 ●	033445 ●
8	70	68	35	10x30	033446 ●	033447 ●
9	70	68	35	10x30	033478 ●	033479 ●
10	70	68	35	10x30	033448 ●	033449 ●
11	70	68	35	10x30	033480 ●	033481 ●
12	70	68	35	10x30	033450 ●	033451 ●
13	70	68	35	10x30	033452 ●	033453 ●
14	70	68	35	10x30	033454 ●	033455 ●
16	70	67.5	35	10x30	033456 ●	033457 ●

Feed speed v_f depending on the spindle RPM n



Workpiece material:

Chipboard plastic coated

Operation:

Drilling

Correction factor for v_f :

Veneered = 0.8

Paper coated = 0.8

MDF, solid wood = 0.7

Chipboard, uncoated = 1.3

GL 77 mm, without heel, Z 2 / V 2

WB 120 0 07

D mm	GL mm	L mm	NL mm	S mm	ID	
					LH	RH
5	78.5	77	45	10x30	033370 ●	033371 ●
6	78.5	77	45	10x30	033372 ●	033373 ●
7	78.5	77	45	10x30	033374 ●	033375 ●
8	78.5	77	45	10x30	033376 ●	033377 ●
10	79	77	45	10x30	033378 ●	033379 ●
12	79	77	45	10x30	033380 ●	033381 ●

RPM: $n = 3000 - 9000 \text{ min}^{-1}$

Spare parts:

BEZ	ABM mm	BEM	ID
Allen screw	M5x10	Length adjustment	005802 ●
Anti-twist allen screw	M5x10	Length adjustment	007438 ●
Length adjustment screw Torx® 20	M5x17	for quick-change drill adaptors	009157 ●

6. Drilling

6.1 Dowel drilling

6.1.1 Dowel drills



Shank 10 mm

Application:

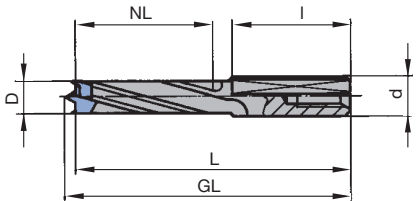
For drilling blind holes, particularly dowel holes in furniture construction. Recommended on drill spindles with limited rigidity.

Machine:

Point-to-point drilling machines, through feed drilling machines, CNC machining centres, hinge boring machines, multi spindle units.

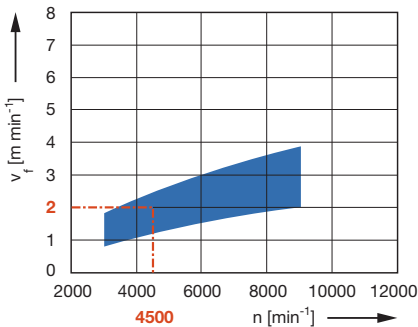
Workpiece material:

Softwood and hardwood, chipboard and fibre materials (MDF, HDF etc.), uncoated, plastic coated, veneered etc., laminated veneer lumber (plywood, multiplex plywood etc.).



Design with heel

Feed speed v_f depending on the spindle RPM n



Workpiece material:

Chipboard plastic coated

Operation:

Drilling

Correction factor for v_f :

Veneered = 0.8

Paper coated = 0.8

MDF, solid wood = 0.7

Chipboard, uncoated = 1.3

Technical information:

Spur geometry with shear cut. Drills can be combined with countersink WB 701 0 03. Countersink fixed on heel. Continuously adjustable boring and countersink depth. Good guidance on return stroke for tear-free holes.

GL 70 mm, with heel, Z 2 / V 2

WB 120 0 25, WB 120 0 26

D	GL	L	NL	S	ID	ID
mm	mm	mm	mm	mm	LH	RH
5	70	68.5	43	10x19	042586 ●	042587 ●
6	70	68.5	43	10x19	042588 ●	042589 ●
8	70	68	43	10x19	042590 ●	042591 ●
10	70	68	43	10x19	042592 ●	042593 ●
12	70	68	43	10x19	042594 ●	042595 ●
25	70	68	40	10x25		042610 ●

RPM: $n = 3000 - 9000 \text{ min}^{-1}$

Note:

ID 042610 for holes in window manufacture.

Spare parts:

BEZ	ABM	BEM	ID
	mm		
Allen screw	M5x10	Length adjustment	005802 ●
Anti-twist allen screw	M5x10	Length adjustment	007438 ●
Length adjustment screw Torx® 20	M5x17	for quick-change drill adaptors	009157 ●

6. Drilling

6.1 Dowel drilling

6.1.1 Dowel drills



Threaded shank

Application:

For drilling blind holes, particularly dowel holes in furniture construction.

Machine:

Point-to-point drilling machines, through feed drilling machines, CNC machining centres, hinge boring machines, multi spindle units.

Workpiece material:

Softwood and hardwood, chipboard and fibre materials (MDF, HDF etc.), uncoated, plastic coated, veneered etc., laminated veneer lumber (plywood, multiplex plywood etc.).

Technical information:

Spur geometry with shear cut. Recessed flute for minimised friction and feed force. Threaded shank for direct mounting in the drilling spindle.

M10, threaded shank with seating 11 mm, without heel, Z 2 / V 2

WB 120 0 17

D	GL	NL	A	S	ID	ID
mm	mm	mm	mm	mm	LH	RH
5	75	40	60	M10	035200 ●	035201 ●
8	75	40	60	M10	035204 ●	035205 ●

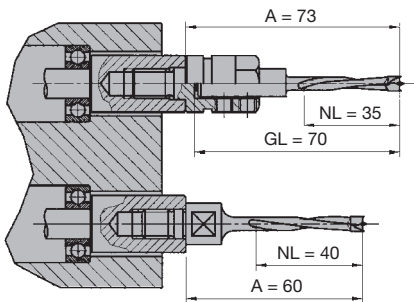
M10, threaded shank, without heel, Z 2 / V 2

WB 120 0 18

D	GL	NL	A	S	ID	ID
mm	mm	mm	mm	mm	LH	RH
5	78	43	63	M10	035260 ●	035261 ●
8	78	43	63	M10	035264 ●	035265 ●

RPM: $n = 3000 - 9000 \text{ min}^{-1}$

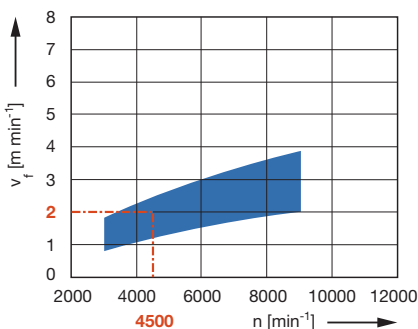
Boring bit mounted in reducing chucks



Boring bit with threaded shank mounted directly in the boring spindle

Length comparison: Dowel drills with threaded shank have a deeper boring depth than a comparable boring bit with cylindrical shank mounted in drill adaptors while having a lower overhang A with regard to the boring spindle.

Feed speed v_f depending on the spindle RPM n



Workpiece material:

Chipboard plastic coated

Operation:

Drilling

Correction factor for v_f :

Veneered = 0.8

Paper coated = 0.8

MDF, solid wood = 0.7

Chipboard, uncoated = 1.3

6. Drilling

6.1 Dowel drilling 6.1.2 Dowel drills - Premium



Shank 10 mm, HW tipped

Application:

For drilling blind holes, particularly dowel holes in furniture construction. Suitable for drilling tear-free blind holes in visible areas and for machining panel materials which are covered with laminations difficult to machine (e.g. thin decorative paper).

Machine:

Point-to-point drilling machines, through feed drilling machines, CNC machining centres, hinge boring machines, multi spindle units.

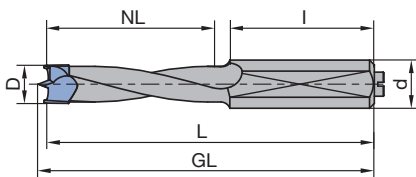
Workpiece material:

Softwood and hardwood, chipboard and fibre materials (MDF, HDF etc.), uncoated, plastic coated, veneered etc., laminated veneer lumber (plywood, multiplex plywood etc.).



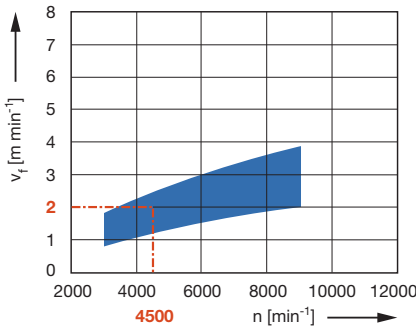
Technical information:

Spur geometry with high shear cut. High wear resistant tungsten carbide grade for maximum life time. Drills can be combined with countersink WB 701 0 02. Countersinks can be clamped on the shank. Recessed flute for minimised friction and feed forces.



Design without heel

Feed speed v_f depending on the spindle RPM n



Workpiece material:

Chipboard plastic coated

Operation:

Drilling

Correction factor for v_f :

Veneered = 0.8

Paper coated = 0.8

MDF, solid wood = 0.7

GL 57.5 mm, Z 2 / V 2

WB 120 0 29

D	GL	L	NL	S	ID	ID
mm	mm	mm	mm	mm	LH	RH
4	57.5	56	25	10x27		033715 ●
5	57.5	56	25	10x27	033716 ●	033717 ●
6	57.5	56	25	10x27	033718 ●	033719 ●
8	57.5	55.5	25	10x27	033720 ●	033721 ●
10	57.5	55.5	25	10x27	033722 ●	033723 ●

GL 70 mm, Z 2 / V 2

WB 120 0 30

D	GL	L	NL	S	ID	ID
mm	mm	mm	mm	mm	LH	RH
4	70	68.5	35	10x30	033482 ●	033483 ●
5	70	68.5	35	10x30	033484 ●	033485 ●
5.1	70	68.5	35	10x30	033492 ●	033493 ●
6	70	68.5	35	10x30	033486 ●	033487 ●
8	70	68.5	35	10x30	033488 ●	033489 ●
8.2	70	68.5	35	10x30	033494 ●	033495 ●
10	70	68.5	35	10x30	033490 ●	033491 ●

RPM: $n = 3000 - 9000 \text{ min}^{-1}$

Spare parts:

BEZ	ABM	BEM	ID
	mm		
Allen screw	M5x10	Length adjustment	005802 ●
Anti-twist allen screw	M5x10	Length adjustment	007438 ●
Length adjustment screw Torx® 20	M5x17	for quick-change drill adaptors	009157 ●

6. Drilling

6.1 Dowel drilling 6.1.3 Dowel drills - *Excellent*



Shank 10 mm, HW solid

Application:

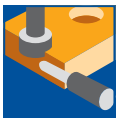
For drilling blind holes, particularly dowel holes in furniture construction. Suitable for drilling tear-free blind holes in visible areas and for machining panel materials which are covered with laminations difficult to machine (e.g. thin decorative paper).

Machine:

Point-to-point drilling machines, through feed drilling machines, CNC machining centres, hinge boring machines, multi spindle units.

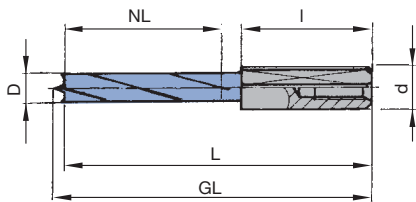
Workpiece material:

Softwood and hardwood, chipboard and fibre materials (MDF, HDF etc.), uncoated, plastic coated, veneered etc., laminated veneer lumber (plywood, multiplex plywood etc.).



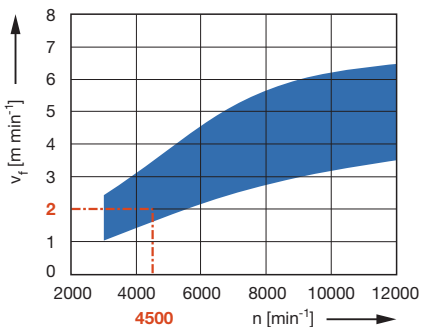
Technical information:

Spur geometry with high shear cut. Solid tungsten carbide design with high wear resistant tungsten carbide grade. High stability and long performance time. Polished gullet for minimum friction and feed forces. Very large resharping area.



Design without heel

Feed speed v_f depending on the spindle RPM n



Workpiece material:

Chipboard plastic coated

Operation:

Drilling

Correction factor for v_f :

Veneered = 0.8

Paper coated = 0.8

MDF, solid wood = 0.7

Chipboard, uncoated = 1.3

GL 57.5 mm, Z 2 / V 2

WB 120 0 11, WB 120 0 32

D	GL	L	NL	S	ID	ID
mm	mm	mm	mm	mm	LH	RH
3	57.5	56	16	10x34	033610 ●	033611 ●
4	57.5	56	25	10x27	033784 ●	033785 ●
5	57.5	56	25	10x27	033728 ●	033729 ●
6	57.5	56	25	10x27	033730 ●	033731 ●
8	57.5	56	25	10x27	033732 ●	033733 ●
10	57.5	55.5	25	10x27	033786 ●	033787 ●

GL 70 mm, Z 2 / V 2

WB 120 0 10, WB 120 0 11, WB 120 0 33

D	GL	L	NL	S	ID	ID
mm	mm	mm	mm	mm	LH	RH
3	70	68.5	16	10x45	042596 ●	042597 ●
4	70	68.5	35	10x27	033542 ●	033543 ●
5	70	68.5	35	10x27	033496 ●	033497 ●
6	70	68.5	35	10x27	033498 ●	033499 ●
7	70	68.5	35	10x27	033548 ●	033549 ●
8	70	68.5	35	10x27	033500 ●	033501 ●
10	70	68	35	10x27	033540 ●	033541 ●

RPM: $n = 3000 - 12000 \text{ min}^{-1}$

Spare parts:

BEZ	for S	ABM	BEM	ID
	mm	mm		
Allen screw	10x27	M5x8	Length adjustment	006378 ●
Allen screw	10x34/45	M5x10	Length adjustment	005802 ●
Anti-twist allen screw		M5x10	Length adjustment	007438 ●
Length adjustment screw		M5x17	for quick-change drill	009157 ●
Torx® 20			adaptors	

6. Drilling

6.1 Dowel drilling 6.1.4 Boring pins, HW solid



Shank 10 mm

Application:

For drilling blind holes, particularly dowel holes on the side of panel furniture parts.

Machine:

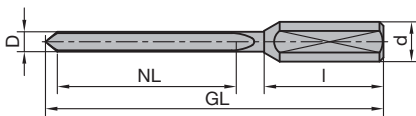
Point-to-point drilling machines, through feed drilling machines, CNC machining centres, hinge boring machines, multi spindle units.

Workpiece material:

Softwood and hardwood, chipboard and fibre materials (MDF, HDF etc.), uncoated, plastic coated, veneered etc., laminated veneer lumber (plywood, multiplex plywood etc.).

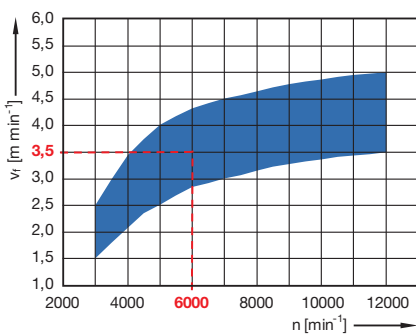
Technical information:

Solid tungsten carbide design for high performance time. Large resharpening area. Tool suitable for RH and LH rotation. Drill design D = 3 mm particularly suitable for pre-drilling screw holes in plastic coated and veneered furniture parts. Infeed depth in hardwood and glulam maximum 2 x D.



Boring pin WB 100 0 01

Feed speed v_f depending on the spindle RPM n



Workpiece material:

Chipboard / MDF

Operation:

Horizontal edge drilling

GL 57.5 / GL 70 mm, Z 1/1

WB 100 0 01

D	GL	NL	S	DRI	ID
mm	mm	mm	mm		
3	57.5	25	10x27	LH, RH	230200 ●
3	70	35	10x27	LH, RH	230201 ●
5	70	35	10x27	LH, RH	230208 ●
6	70	35	10x27	LH, RH	230209 ●
8	70	35	10x27	LH, RH	230210 ●
5	57.5	25	10x27	LH, RH	230211 ●
6	57.5	25	10x27	LH, RH	230212 ●
8	57.5	25	10x27	LH, RH	230213 ●

GL 85 mm, Z 1/1

WB 100 0 01

D	GL	NL	S	DRI	ID
mm	mm	mm	mm		
5	85	45	10x30	LH, RH	230202 ●
8	85	45	10x30	LH, RH	230204 ●

GL 105 mm, Z 1/1

WB 100 0 01

D	GL	NL	S	DRI	ID
mm	mm	mm	mm		
5	105	65	10x30	LH, RH	230205 ●
8	105	65	10x30	LH, RH	230207 ●

RPM: $n = 3000 - 9000 \text{ min}^{-1}$

Note:

When using the bore pins in hardwood and glulam, the potential bore depth is restricted. Interim chip removal (return stroke) then is obligatory.

Boring pins require more power compared to dowel drills. The maximum number of boring pins, used in one drilling unit, depends on the power of the machine.

Spare parts:

BEZ	for S	ABM	BEM	ID
	mm	mm		
Allen screw	10x27	M5x8	Length adjustment	006378 ●
Allen screw	10x30	M5x10	Length adjustment	005802 ●
Anti-twist allen screw		M5x10	Length adjustment	007438 ●
Length adjustment screw		M5x17	for quick-change drill	009157 ●
Torx® 20			adaptors	

● available ex stock

□ available at short notice

Instruction manual visit www.leitz.org

6. Drilling

6.2 Through hole drilling

6.2.1 Through hole drills



Shank 10 mm

Application:

For drilling through holes, particularly in furniture construction.

Machine:

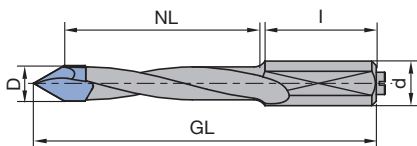
Point-to-point drilling machines, through feed drilling machines, CNC machining centres, hinge boring machines, multi spindle units.

Workpiece material:

Softwood and hardwood, chipboard and fibre materials (MDF, HDF etc.), uncoated, plastic coated, veneered etc., laminated veneer lumber (plywood, multiplex plywood etc.), elastomers.

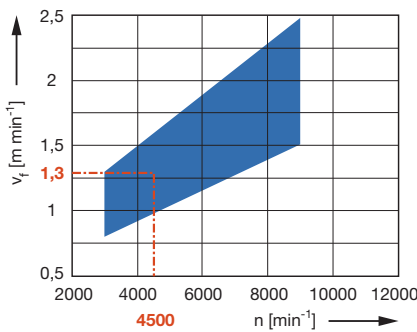
Technical information:

Drills can be combined with countersink WB 701 0 02. Countersinks can be clamped on the shank. Recessed flute for minimised friction and feed forces.



Design without heel

Feed speed v_f depending on the spindle RPM n



Workpiece material:

Chipboard plastic coated

Operation:

Drilling

Correction factor for v_f :

Veneered = 0.8

MDF = 0.7

Chipboard, uncoated = 1.3

GL 57.5 mm, without heel, Z 2

WB 101 0 02

D mm	GL mm	NL mm	S mm	ID LH	ID RH
5	57.5	25	10x24	034000 ●	034001 ●
6	57.5	25	10x24		034009 ●
8	57.5	25	10x24	034002 ●	034003 ●

GL 70 mm, without heel, Z 2

WB 101 0 07

D mm	GL mm	NL mm	S mm	ID LH	ID RH
5	70	35	10x24	034074 ●	034075 ●
7	70	35	10x24	034106 ●	034107 ●
8	70	35	10x24	034076 ●	034077 ●
9	70	35	10x24	034108 ●	034109 ●
10	70	35	10x24	034110 ●	034111 ●

GL 77 mm, without heel, Z 2

WB 101 0 03

D mm	GL mm	NL mm	S mm	ID LH	ID RH
5	77	44	10x24	034060 ●	034061 ●
6	77	44	10x24	034068 ●	034069 ●
8	77	44	10x24	034062 ●	034063 ●
10	77	44	10x24	034070 ●	034071 ●
12	77	44	10x24	034072 ●	034073 ●

RPM: $n = 3000 - 9000 \text{ min}^{-1}$

For diameters below 5 mm use type WB 101 0 04.

Spare parts:

BEZ	ABM mm	BEM	ID
Allen screw	M5x10	Length adjustment	005802 ●
Anti-twist allen screw	M5x10	Length adjustment	007438 ●
Length adjustment screw Torx® 20	M5x17	for quick-change drill adaptors	009157 ●

6. Drilling

6.2 Through hole drilling

6.2.1 Through hole drills



Shank 10 mm

Application:

For drilling through holes, particularly in furniture construction. Recommended on drill spindles with limited rigidity

Machine:

Point-to-point drilling machines, through feed drilling machines, CNC machining centres, hinge boring machines, multi spindle units.

Workpiece material:

Softwood and hardwood, chipboard and fibre materials (MDF, HDF etc.), uncoated, plastic coated, veneered etc., laminated veneer lumber (plywood, multiplex plywood etc.), elastomers.



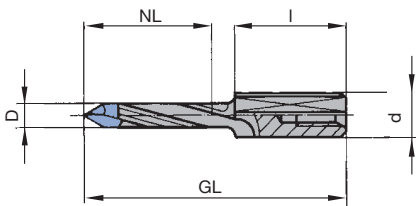
Technical information:

Drills can be combined with countersink WB 701 0 03. Countersinks fixed on heel. Continuously adjustable boring and countersink depth. Good guidance on return stroke for tear-free holes.

GL 57.5 mm, with heel, Z 2

WB 101 0 05

D	GL	NL	S	ID	ID
mm	mm	mm	mm	LH	RH
5	57.5	25	10x24	042630 ●	042631 ●



Design with heel

GL 77 mm, with heel, Z 2

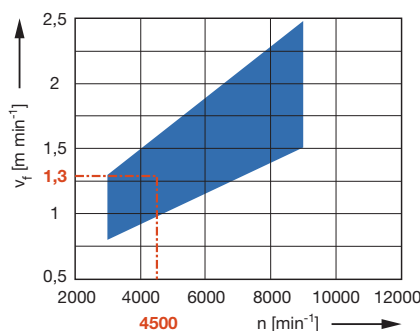
WB 101 0 06

D	GL	NL	S	ID	ID
mm	mm	mm	mm	LH	RH
5	77	44	10x24	042640 ●	042641 ●
5.2	77	44	10x24	042644 ●	042645 ●
6	77	44	10x24		042647 ●
8	77	44	10x24	042648 ●	042649 ●
10	77	44	10x24		042651 ●
12	77	44	10x24		042653 ●

RPM: $n = 3000 - 9000 \text{ min}^{-1}$

For diameters below 5 mm use type WB 101 0 04.

Feed speed v_f depending on the spindle RPM n



Workpiece material:

Chipboard plastic coated

Operation:

Drilling

Correction factor for v_f :

Veneered = 0.8

MDF = 0.7

Chipboard, uncoated = 1.3

Spare parts:

BEZ	ABM	BEM	ID
	mm		
Allen screw	M5x10	Length adjustment	005802 ●
Anti-twist allen screw	M5x10	Length adjustment	007438 ●
Length adjustment screw Torx® 20	M5x17	for quick-change drill adaptors	009157 ●

6. Drilling

6.2 Through hole drilling 6.2.2 Through hole drills - Premium



Shank 10 mm, HW tipped

Application:

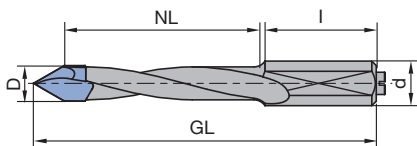
For drilling tear-free through holes, particularly in furniture construction, with maximised quality on the bottom side (exit).

Machine:

Point-to-point drilling machines, through feed drilling machines, CNC machining centres, hinge boring machines, multi spindle units.

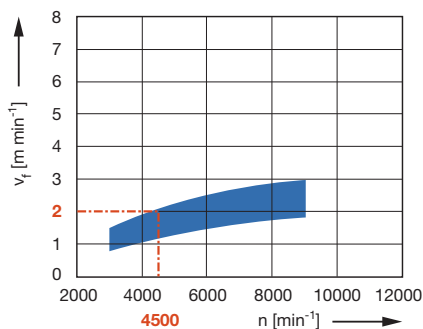
Workpiece material:

Softwood and hardwood, chipboard and fibre materials (MDF, HDF etc.), uncoated, plastic coated, veneered etc., laminated veneer lumber (plywood, multiplex plywood etc.).



Design without heel

Feed speed v_f depending on the spindle RPM n



Workpiece material:

Chipboard plastic coated

Operation:

Drilling

Correction factor for v_f :

Veneered = 0.8

MDF, solid wood = 0.7

Chipboard, uncoated = 1.3

Technical information:

V-point tip with 2 bevels for maximised quality on the bottom side (exit). High wear resistant tungsten carbide grade for maximum lifetime. Drills can be combined with countersink WB 701 0 02. Countersinks can be clamped on the shank. Recessed flute for minimised friction and feed forces.

GL 57.5 mm, Z 2

WB 101 0 10

D	GL	NL	S	ID	ID
mm	mm	mm	mm	LH	RH
5	57.5	25	10x25	033960 ●	033961 ●
8	57.5	25	10x25	033962 ●	033963 ●

GL 70 mm, Z 2

WB 101 0 10

D	GL	NL	S	ID	ID
mm	mm	mm	mm	LH	RH
5	70	35	10x25	033964 ●	033965 ●
8	70	35	10x25	033966 ●	033967 ●

RPM: $n = 3000 - 9000 \text{ min}^{-1}$

(recommended $n = 4500 - 9000 \text{ min}^{-1}$)

Spare parts:

BEZ	ABM	BEM	ID
	mm		
Allen screw	M5x10	Length adjustment	005802 ●
Anti-twist allen screw	M5x10	Length adjustment	007438 ●
Length adjustment screw Torx® 20	M5x17	for quick-change drill adaptors	009157 ●

6. Drilling

6.2 Through hole drilling 6.2.3 Through hole drills - *Excellent*



Shank 10 mm, HW solid

Application:

For drilling tear-free through holes, particularly in furniture construction, with maximised quality on the bottom side (exit).

Machine:

Point-to-point drilling machines, through feed drilling machines, CNC machining centres, hinge boring machines, multi spindle units.

Workpiece material:

Softwood and hardwood, chipboard and fibre materials (MDF, HDF etc.), uncoated, plastic coated, veneered etc., laminated veneer lumber (plywood, multiplex plywood etc.).



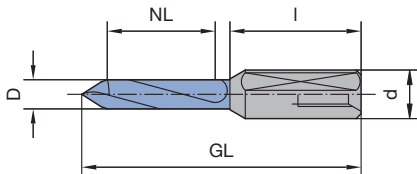
Technical information:

V-point tip with 2 bevels for maximised quality on the bottom side (exit). Solid tungsten carbide design with high wear resistant tungsten carbide grade. High stability and long performance time. Polished gullet for minimum friction and feed forces. Very large reshaping area.

GL 57.5 mm, without heel, Z 2

WB 101 0 02

D	GL	NL	S	ID	ID
mm	mm	mm	mm	LH	RH
5	57.5	25	10x27	034018 ●	034019 ●
6	57.5	25	10x27	034020 ●	034021 ●
8	57.5	25	10x27	034022 ●	034023 ●



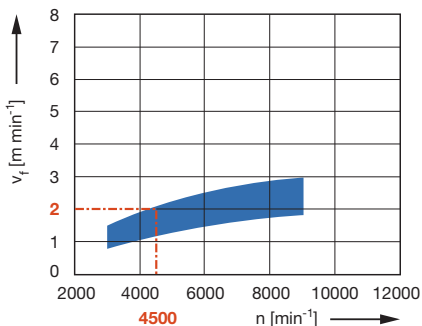
Design without heel

GL 70 mm, without heel, Z 2

WB 101 0 07

D	GL	NL	S	ID	ID
mm	mm	mm	mm	LH	RH
5	70	35	10x27	034100 ●	034101 ●
6	70	35	10x27	034102 ●	034103 ●
7	70	35	10x25	034117 ●	034118 ●
8	70	35	10x25	034104 ●	034105 ●
10	70	35	10x22	034114 ●	034115 ●

Feed speed v_f depending on the spindle RPM n



Workpiece material:

Chipboard plastic coated

Operation:

Drilling

Correction factor for v_f :

Veneered = 0.8

MDF, solid wood = 0.7

Chipboard, uncoated = 1.3

GL 100 mm, without heel, Z 2

WB 101 0 07

D	GL	NL	S	DRI	ID
mm	mm	mm	mm		
6	100	35	10x57	RH	034116 ●

RPM: $n = 3000 - 12000 \text{ min}^{-1}$

For diameters below 5 mm use type WB 101 0 04.

Spare parts:

BEZ	for S	ABM	BEM	ID
	mm	mm		
Allen screw	10x22/25/27	M5x8	Length adjustment	006378 ●
Allen screw	10x57	M5x10	Length adjustment	005802 ●
Anti-twist allen screw		M5x10	Length adjustment	007438 ●
Length adjustment screw		M5x17	for quick-change drill	009157 ●
Torx® 20			adaptors	

6. Drilling

6.2 Through hole drilling 6.2.4 Through hole drills, DP



Shank 10 mm

Application:

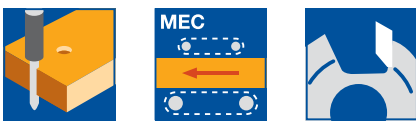
For drilling tear-free through holes. Particularly suitable for drilling panel materials with abrasive components (fire proof material etc.).

Machine:

Point-to-point drilling machines, through feed drilling machines, CNC machining centres, hinge boring machines, multi spindle units.

Workpiece material:

Gypsum bonded particle and fibre materials, cement bonded particle and fibre materials, flame resistant particle and fibre materials, solid resin glulam, fibre reinforced plastics.



Technical information:

DP tipped through hole boring bit for maximum lifetime, particularly in abrasive materials. Large gullet for optimum chip removal.

GL 70 mm, Z 1

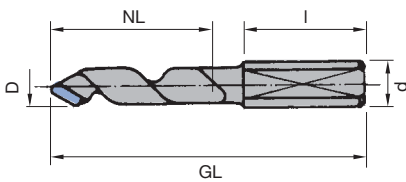
WB 100 0 50

D mm	GL mm	NL mm	S mm	Z	ID LH	ID RH
5	70	30	10x27	1	091186 ●	091185 ●
6	70	30	10x27	1	091188 ●	091187 ●
8	70	30	10x27	1	091192 ●	091191 ●
10	70	30	10x27	1	091194 ●	091193 ●

RPM: $n = 4000 - 9000 \text{ min}^{-1}$

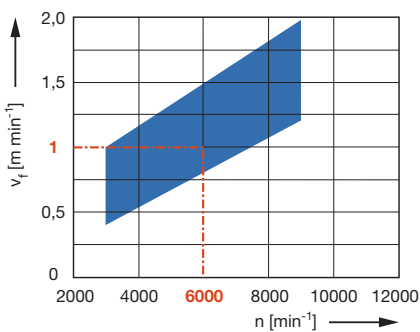
Spare parts:

BEZ	ABM mm	BEM	ID
Allen screw	M5x10	Length adjustment	005802 ●
Anti-twist allen screw	M5x10	Length adjustment	007438 ●
Length adjustment screw Torx® 20	M5x17	for quick-change drill adaptors	009157 ●



WB 100 0 50

Feed speed v_f depending on the spindle RPM n



Workpiece material:

Chipboard plastic coated

Operation:

Drilling

Correction factor for v_f :

MDF = 0.7

Chipboard, uncoated = 1.2

6. Drilling

6.3 Hinge drilling

6.3.1 Hinge drills



Shank 10 mm

Application:

For drilling hinge holes, particularly in furniture construction.

Machine:

Point-to-point drilling machines, through feed drilling machines, CNC machining centres, hinge boring machines, multi spindle units.

Workpiece material:

Softwood and hardwood, chipboard and fibre materials (MDF, HDF etc.), uncoated, plastic coated, veneered etc., laminated veneer lumber (plywood, multiplex plywood etc.).

Technical information:

Good centering in solid wood by protruding centre point.



GL 57 mm, Z 2 / V 2

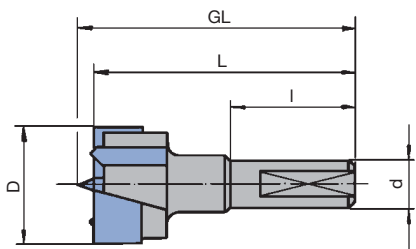
WB 310 0 04

D	GL	L	S	ID	ID
mm	mm	mm	mm	LH	RH
15	57	54.5	10x26	034630 ●	034631 ●
20	57	54.5	10x26		034637 ●
25	57	54.5	10x26		034643 ●
35	57	54.5	10x26		034651 ●
40	57	54.5	10x26		034677 ●

GL 70 mm, Z 2 / V 2

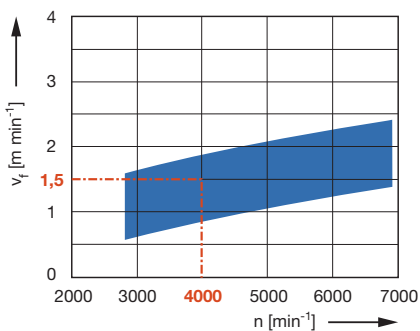
WB 310 0 04

D	GL	L	S	ID	ID
mm	mm	mm	mm	LH	RH
15	72.5	70	10x26	034663 ●	034664 ●
18	72.5	70	10x26		034678 ●
20	72.5	70	10x26	034665 ●	034666 ●
25	72.5	70	10x26		034668 ●
35	72.5	70	10x26	034671 ●	034672 ●



Z 2 / V 2 with centre point

Feed speed v_f depending on the spindle RPM n



RPM: $n = 2800 - 7000 \text{ min}^{-1}$

Spare parts:

BEZ	ABM	BEM	ID
	mm		
Allen screw	M5x10	Length adjustment	005802 ●
Anti-twist allen screw	M5x10	Length adjustment	007438 ●
Length adjustment screw Torx® 20	M5x17	for quick-change drill adaptors	009157 ●

Workpiece material:

Chipboard plastic coated

Operation:

Drilling

Correction factor for v_f :

Veneered = 0.8

Paper coated = 0.8

MDF, solid wood = 0.7

6. Drilling

6.3 Hinge drilling

6.3.1 Hinge drills



Shank 10 mm

Application:

For drilling hinge holes, particularly in furniture construction. Higher feed speed compared to drills with Z 2/V 2.

Machine:

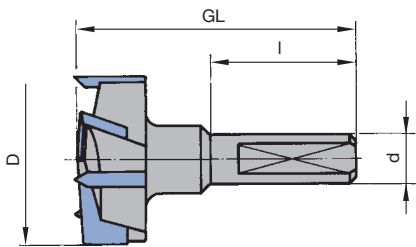
Point-to-point drilling machines, through feed drilling machines, CNC machining centres, hinge boring machines, multi spindle units.

Workpiece material:

Softwood and hardwood, chipboard and fibre materials (MDF, HDF etc.), uncoated, plastic coated, veneered etc., laminated veneer lumber (plywood, multiplex plywood etc.).

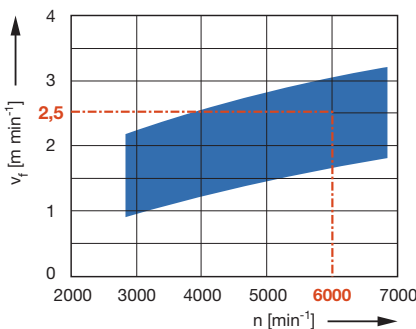
Technical information:

No centre point for drilling holes in thin workpieces close to the bottom cover layer, without marks to the surface. Clamp the workpiece as tight as possible. Good centering for partly open holes near the edge of the panel.



Z 3/V 3 with V shaped cutting edge. No centre point

Feed speed v_f depending on the spindle RPM n



Workpiece material:

Chipboard plastic coated

Operation:

Drilling

Correction factor for v_f :

Veneered = 0.8

Paper coated = 0.8

MDF = 0.7

GL 57 mm, Z 3 / V 3

WB 322 0

D	GL	S	ID	ID
mm	mm	mm	LH	RH
25	57	10x26		034751 ●
26	57	10x26		034753 ●
30	57	10x26		034755 ●
34	57	10x26		034757 ●
35	57	10x26	034758 ●	034759 ●
40	57	10x26		034763 ●

GL 70 mm, Z 3 / V 3

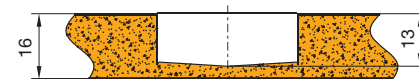
WB 322 0

D	GL	S	ID	ID
mm	mm	mm	LH	RH
20	70	10x26	034777 ●	034778 ●
35	70	10x26	034785 ●	034786 ●

RPM: $n = 2800 - 7000 \text{ min}^{-1}$

Spare parts:

BEZ	ABM	BEM	ID
	mm		
Allen screw	M5x10	Length adjustment	005802 ●
Anti-twist allen screw	M5x10	Length adjustment	007438 ●
Length adjustment screw Torx® 20	M5x17	for quick-change drill adaptors	009157 ●



Application example for Z 3/V 3 design:

Drilling depth up to 13 mm in 16 mm thick workpieces. No marks on the bottom surface layer by special centre point.

6. Drilling

6.3 Hinge drilling 6.3.2 Hinge drills, HW solid



Shank 10 mm

Application:

For drilling hinge holes, particularly in furniture construction, with increased lifetime and high-quality edge.

Machine:

Point-to-point drilling machines, through feed drilling machines, CNC machining centres, hinge boring machines, multi spindle units.

Workpiece material:

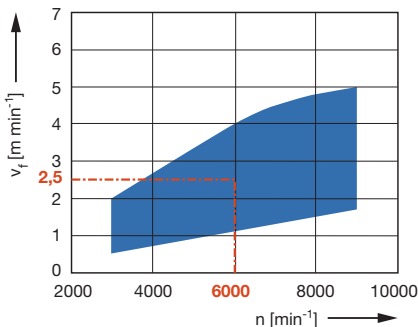
Softwood and hardwood, chipboard and fibre materials (MDF, HDF etc.), uncoated, plastic coated, veneered etc., laminated veneer lumber (plywood, multiplex plywood etc.).

Technical information:

Round spur geometry for increased edge quality. Solid tungsten carbide design. High wear resistant tungsten carbide grade. Tear-free edges in panels with glued plastic edgebanders when used on main spindle or stable drilling units.



Feed speed v_f depending on the spindle RPM n



Workpiece material:

Chipboard plastic coated

Operation:

Drilling

Correction factor for v_f :

Chipboard paper coated = 0.7

Chipboard veneered = 0.7

MDF plastic coated = 1.0

Glulam = 0.6

Solid wood = 1.0

GL 57 mm, Z 2 / V 2

WB 310 0 13

D	GL	L	S	ID	ID
mm	mm	mm	mm	LH	RH
15	57	54.5	10x26	034800 ●	034801 ●
16	57	54.5	10x26	034824 ●	034825 ●
18	57	54.5	10x26	034826 ●	034827 ●
20	57	54.5	10x26	034802 ●	034803 ●
22	57	54.5	10x26	034828 ●	034829 ●
24	57	54.5	10x26		034831 ●
25	57	54.5	10x26	034804 ●	034805 ●
26	57	54.5	10x26	034806 ●	034807 ●
28	57	54.5	10x26		034833 ●
30	57	54.5	10x26	034808 ●	034809 ●
35	57	54.5	10x26	034810 ●	034811 ●

GL 70 mm, Z 2 / V 2

WB 310 0 13

D	GL	L	S	ID	ID
mm	mm	mm	mm	LH	RH
15	70	68	10x26	034812 ●	034813 ●
18	70	68	10x26	034834 ●	034835 ●
20	70	68	10x26	034814 ●	034815 ●
25	70	68	10x26	034816 ●	034817 ●
26	70	68	10x26	034818 ●	034819 ●
30	70	68	10x26	034820 ●	034821 ●
34	70	68	10x26		037215 ●
35	70	68	10x26	034822 ●	034823 ●

RPM: $n = 3000 - 9000 \text{ min}^{-1}$

Spare parts:

BEZ	ABM	BEM	ID
	mm		
Allen screw	M5x10	Length adjustment	005802 ●
Anti-twist allen screw	M5x10	Length adjustment	007438 ●
Length adjustment screw Torx® 20	M5x17	for quick-change drill adaptors	009157 ●

6. Drilling

6.3 Hinge drilling 6.3.2 Hinge drills, HW solid



Shank 10 mm, short centre point

Application:

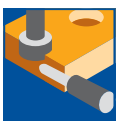
For drilling hinge holes, particularly in furniture construction, with increased lifetime and high-quality edge.

Machine:

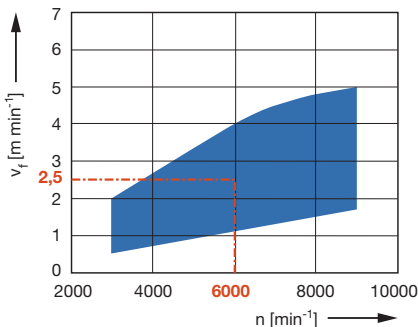
Point-to-point drilling machines, through feed drilling machines, CNC machining centres, hinge boring machines, multi spindle units.

Workpiece material:

Softwood and hardwood, chipboard and fibre materials (MDF, HDF etc.), uncoated, plastic coated, veneered etc., laminated veneer lumber (plywood, multiplex plywood etc.).



Feed speed v_f depending on the spindle RPM n



Workpiece material:

Chipboard plastic coated

Operation:

Drilling

Correction factor for v_f :

Chipboard paper coated = 0.7

Chipboard veneered = 0.7

MDF plastic coated = 1.0

Glulam = 0.6

Solid wood = 1.0

Technical information:

Round spur geometry for increased edge quality. Solid tungsten carbide design. High wear resistant tungsten carbide grade. Tear-free edges in panels with glued plastic edgebanders when used on main spindles or stable drilling units. Design with reduced protrusion of centre point and spurs for deep holes in thin panels.

GL 57 mm, Z 2 / V 2

WB 310 0 13

D	GL	L	S	ID	ID
mm	mm	mm	mm	LH	RH
15	57	54.5	10x26	034841 ●	034842 ●
20	57	54.5	10x26	034843 ●	034844 ●
25	57	54.5	10x26	034845 ●	034846 ●
26	57	54.5	10x26	034847 ●	034848 ●
35	57	54.5	10x26	037201 ●	037202 ●

GL 70 mm, Z 2 / V 2

WB 310 0 13

D	GL	L	S	ID	ID
mm	mm	mm	mm	LH	RH
15	70	68	10x26	037203 ●	037204 ●
20	70	68	10x26	037205 ●	037206 ●
25	70	68	10x26		037208 ●
26	70	68	10x26	037209 ●	037210 ●
30	70	68	10x26	037211 ●	037212 ●
35	70	68	10x26	037213 ●	037214 ●

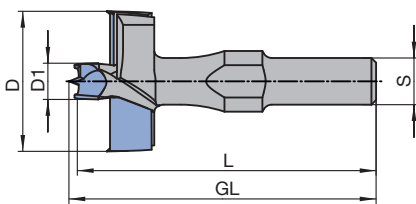
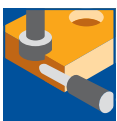
RPM: $n = 3000 - 9000 \text{ min}^{-1}$

Spare parts:

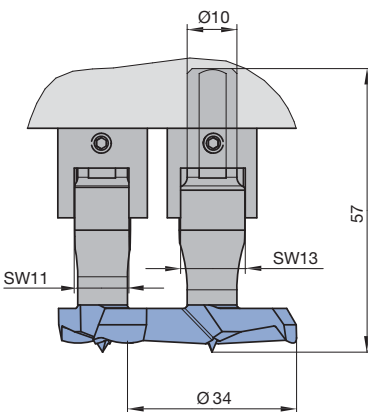
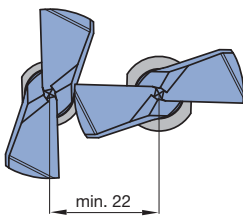
BEZ	ABM	BEM	ID
	mm		
Allen screw	M5x10	Length adjustment	005802 ●
Anti-twist allen screw	M5x10	Length adjustment	007438 ●
Length adjustment screw Torx® 20	M5x17	for quick-change drill adaptors	009157 ●

6. Drilling

6.3 Hinge drilling 6.3.2 Hinge drills, HW solid



Double hinge drill with pre-drill



Double hinge drills in aggregate

Shank 10 mm, double furniture hinge

Application:

For drilling hinges and pivots in window manufacturing in single or twin drill design.

Machine:

Stationary routers with/without CNC control, machining centres, special boring machines for frame production, automatic boring machines, multi spindle units.

Workpiece material:

Softwood and hardwood, modified timber for window construction, laminated veneer lumber (plywood, multiplex plywood etc.), glued lumber.

Technical information:

Round spur geometry for high edge quality. Solid tungsten carbide design (ID **037218** / **037219** TC-tipped). High wear resistant tungsten carbide grade. Minimum distance of drill spindle 22 mm. ID **037218** / **037219** with pre-drill for corner pivots with pilot pin.

Boring bit set, consisting of 1 pc. RH and LH

AB 710 0

D	D1	GL	L	S	QAL	DRI	ID
mm	mm	mm	mm	mm			
34		57	54.5	10x23	HW solid	LH, RH	036784 □
30		57	54.5	10x23	HW solid	LH, RH	036785 □
30	8	66	64	10x23	HW	LH, RH	036786

Universally applicable for drilling hinges and pivots on machines and aggregates of the following manufacturers: Weinig, SCM, Ganner, Götzinger, Striffler etc.

GL 57 mm, Z 2 / V 2, single tool

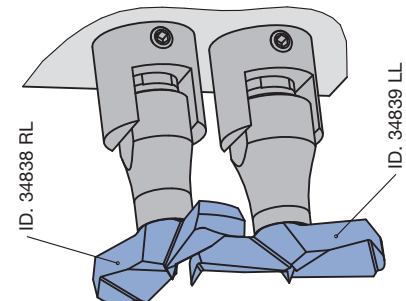
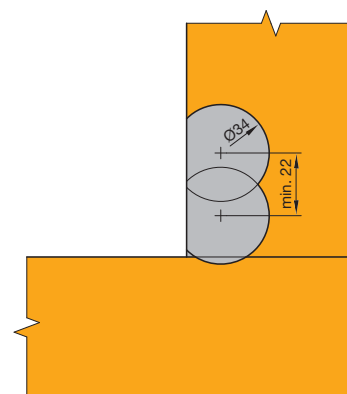
WB 203 0, WB 310 0 13

D	D1	GL	L	S	QAL	ID	ID
mm	mm	mm	mm	mm		LH	RH
34		57	54.5	10x23	HW solid	034839 ●	034838 ●
30		57	54.5	10x23	HW solid	037216 ●	037217 ●
30	8	66	64	10x23	HW	037218	037219

RPM: n = 3000 - 9000 min⁻¹

Spare parts:

BEZ	ABM	BEM	ID
	mm		
Allen screw	M5x10	Length adjustment	005802 ●
Anti-twist allen screw	M5x10	Length adjustment	007438 ●



Application example:
Double hinges for corner pivots.

6. Drilling

6.3 Hinge drilling

6.3.3 Hinge drills, turnblade design



Shank 10 mm

Application:

For drilling hinge holes, particularly in furniture construction.

Machine:

Point-to-point drilling machines, through feed drilling machines, CNC machining centres, hinge boring machines, multi spindle units.

Workpiece material:

Softwood and hardwood, chipboard and fibre materials (MDF, HDF etc.), uncoated, plastic coated, veneered etc., laminated veneer lumber (plywood, multiplex plywood etc.).

Technical information:

Spurs and main cutting edge in turnblade design. Replaceable centre point, resharpenable and adjustable for deep holes near to the bottom surface layer without marks. Diameter constant tool.



GL 57 mm, Z 2 / V 2

WL 920 0

D	GL	L	S	ID
mm	mm	mm	mm	RH
35	57	54.5	10x26	034565 ●

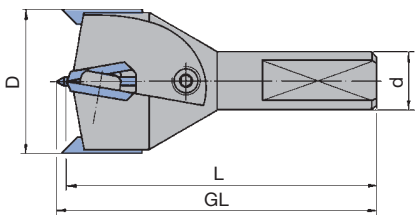
RPM: $n = 2800 - 7000 \text{ min}^{-1}$

Spare knives:

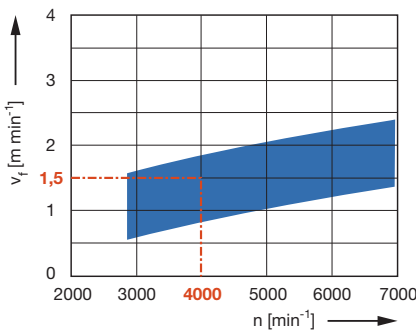
BEZ	ABM	QAL	BEM	ID
	mm			
Turnblade knife	15.7x12x1.5	HW	Ø35	007673 ●
Turnblade spur	18x6x3.5	HW		007669 ●
Centering pin	D3x40			008151 ●

Spare parts:

BEZ	ABM	BEM	ID
	mm		
Screw	M3.5x4 (head D7)		006068 ●
Countersink screw	M3,5x6	Clamping screw for spur	007062 ●
Allen screw	M6x4	Clamping screw for centre point	005837 ●
Torx® key	Torx® 15		005457 ●
Allen screw	M5x10	Length adjustment	005802 ●
Anti-twist allen screw	M5x10	Length adjustment	007438 ●
Length adjustment screw	M5x17	for quick-change drill	009157 ●
Torx® 20		adaptors	



Feed speed v_f depending on the spindle RPM n



Workpiece material:

Chipboard plastic coated

Operation:

Drilling

Correction factor for v_f :

Veneered = 0.8

Paper coated = 0.8

MDF = 0.7

6. Drilling

6.3 Hinge drilling 6.3.4 Hinge drills, DP



Shank 10 mm

Application:

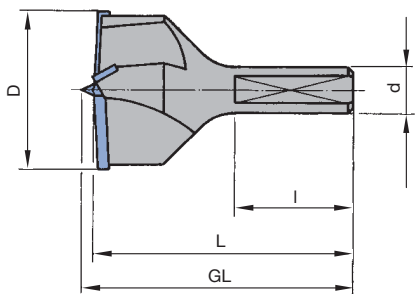
For drilling hinge holes, particularly in furniture construction with maximum durability. Specially for drilling materials with hard and abrasive coatings (e.g. HPL, CPL etc.).

Machine:

Point-to-point drilling machines, through feed drilling machines, CNC machining centres, hinge boring machines, multi spindle units.

Workpiece material:

Chipboard and fibre materials (MDF, HDF etc.), uncoated, plastic coated, veneered etc., fire resistant particle and fibre materials, laminated veneer lumber (plywood, multiplex plywood etc.).



Technical information:

DP tipped for increased performance time compared to tungsten carbide. Suitability for high volume production. Diamaster PRO tipping, resharpenable two/three times with normal wear. Preferred used on automatic machines. Drills can only be used in vertical drilling machines when workpieces are clamped tightly.

GL 57 / GL 70 mm, Z 2 / V 2

WB 310 0 50

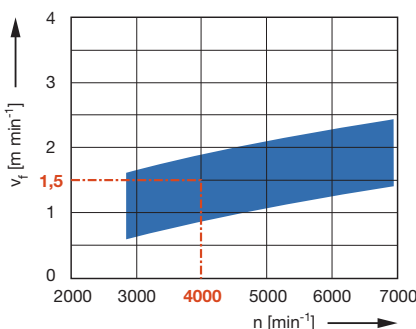
D	GL	L	S	ID	ID
mm	mm	mm	mm	LH	RH
15	70	68.5	10x26		191023 ●
20	57	54.5	10x26		191022 ●
25	70	68.5	10x26		091197 ●
26	70	68.5	10x26		191029 ●
35	57	54.5	10x26		091181 ●
35	70	68.5	10x26	091184 ●	091183 ●

RPM: $n = 2800 - 7000 \text{ min}^{-1}$

Spare parts:

BEZ	ABM	BEM	ID
	mm		
Allen screw	M5x10	Length adjustment	005802 ●
Anti-twist allen screw	M5x10	Length adjustment	007438 ●
Length adjustment screw Torx® 20	M5x17	for quick-change drill adaptors	009157 ●

Feed speed v_f depending on the spindle RPM n



Workpiece material:

Chipboard plastic coated

Operation:

Drilling

Correction factor for v_f :

Veneered = 0.8

Paper coated = 0.8

MDF = 0.7

6. Drilling

6.4 Multi-purpose drilling

6.4.1 Twist drills



HW solid, Z 2

Application:

For multi-purpose drilling of blind and through holes.

Machine:

Point-to-point drilling machines, through feed drilling machines, CNC machining centres, hinge boring machines, multi spindle units, column drilling machines, portable drills.

Workpiece material:

Softwood and hardwood, chipboard and fibre materials (MDF, HDF etc.), uncoated, plastic coated, veneered etc., laminated veneer lumber (plywood, multiplex plywood etc.), plastics (thermoplastic, fibre reinforced etc.), NF-metals (aluminium, copper etc.).



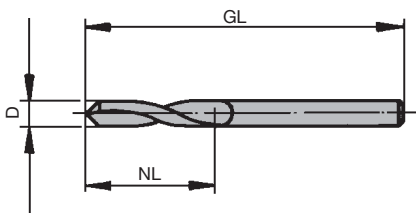
Technical information:

Flat V-point. Shank diameter identical to drill diameter. Convert for shank D 10 mm with reducing sleeve TB 110 0 or PM 320 0 25 (see following pages). Drilling in NF-metal requires suitable lubrication (spray mist or minimal lubrication).

V-point 120°

WB 101 0 04

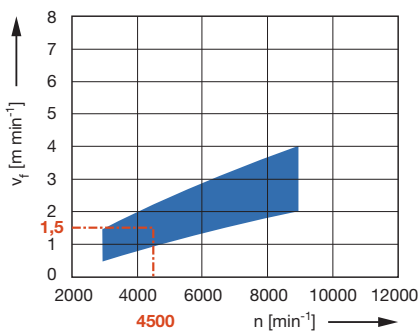
D	GL	NL	QAL	ID LH	ID RH
mm	mm	mm			
2	40	17.5	HW solid	034410 ●	034411 ●
2.5	40	18	HW solid	034412 ●	034413 ●
3	46	16	HW solid	034414 ●	034415 ●
3.2	49	18	HW solid	034420 ●	034421 ●
3.5	52	20	HW solid	034416 ●	034417 ●
4	55	22	HW solid	034418 ●	034419 ●
5	62	26	HW solid	034424 ●	034425 ●



RPM: $n = 3000 - 9000 \text{ min}^{-1}$

WB 101 0 04

Feed speed v_f depending on the spindle RPM n



Workpiece material:

Chipboard plastic coated

Operation:

Drilling

Correction factor for v_f :

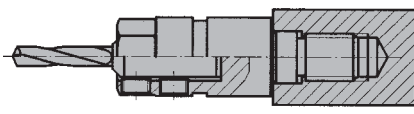
MDF, solid wood = 0.7

Chipboard, uncoated = 1.3

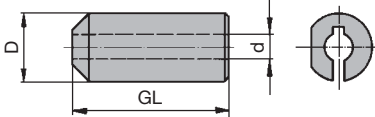
6. Drilling

6.4 Multi-purpose drilling

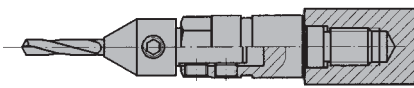
6.4.1 Twist drills



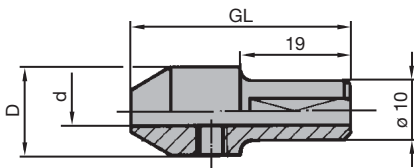
Drill bit clamping using the reducing sleeve TB 110 0 to use the full drill working length



Reducing sleeve with short clamping length



Drill bit clamping with increased stability using reducing sleeve PM 320 0 25



Reducing sleeve with increased clamping length

Application:

For clamping of twist drills WB 101 0 04. This enables the complete utilization of the drill working length.

Technical information:

Adaptor can be used in drilling spindles or adjustable drill chucks with side clamping screw. Not suitable for use in most quick-change drill adaptors such as PM 320 0 55/56/57/58/59.

Reducing sleeves with short clamping length

TB 110 0

D	d	GL	ID
mm	mm	mm	
10	2	23	034520 ●
10	2.5	23	034521 ●
10	3	23	034522 ●
10	3.18 / 3.2	23	034525 ●
10	3.5	23	034523 ●
10	4	23	034524 ●
10	5	23	034526 ●

Application:

For clamping of twist drills WB 101 0 04 with reduced risk of breaking of the clamped drill by reducing the length of the unsupported drill.

Technical information:

Adaptor with shank 10 mm and clamping area. Usable in drilling spindles or drill chucks with side clamping screw. By mounting the length adjustment screw ID 009157 in the shank of the reducing sleeve, easy clamping in the quick-change drill chuck PM 320 0 55/56/57/58/59 is possible.

Reducing sleeves with increased clamping length

PM 320 0 25

D	d	GL	S	ID
mm	mm	mm	mm	
15	2	38	10x19	034490 ●
15	2.5	38	10x19	034491 ●
15	3	38	10x19	034492 ●
15	3.18 / 3.2	38	10x19	034495 ●
15	3.5	38	10x19	034493 ●
15	4	38	10x19	034494 ●
15	5	38	10x19	034496 ●

Spare parts:

BEZ	ABM	BEM	ID
	mm		
Allen key	SW 3		005433 ●
Allen screw	M6x5		005836 ●
Length adjustment screw Torx® 20	M5x17	for quick-change drill adaptors	009157 ●



HS solid, Z 2 / V 2

Application:

For multi-purpose drilling of tear-free blind holes.

Machine:

Column drilling machines, drilling machines, multi spindle units, special purpose drilling machines, portable drills.

Workpiece material:

Softwood and hardwood, laminated veneer lumber (plywood, multiplex plywood etc.), plastics (thermoplastic).

Technical information:

Design in HS solid with long centre point and round spurs. Shank diameter identical to drill diameter. Design with single heel to reduce friction in the hole.



WB 120 0 02/05, with single heel

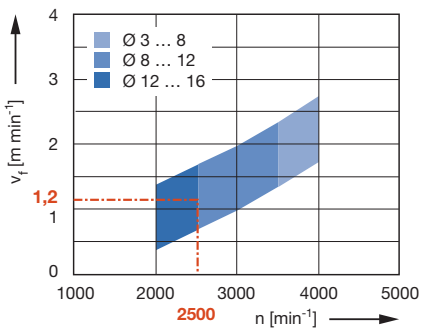
Shank diameter identical to drill diameter

WB 120 0 05

D	GL	NL	S	QAL	DRI	ID
mm	mm	mm	mm			
3	70	35	3x30	HS	RH	035852 ●
4	80	45	4x30	HS	RH	035853 ●
4.5	85	50	4.5x30	HS	RH	035892 ●
5	90	50	5x30	HS	RH	035854 ●
5.5	95	55	5.5x35	HS	RH	035893 ●
6	100	60	6x35	HS	RH	035855 ●
6.5	105	65	6.5x35	HS	RH	035894 ●
7	110	65	7x40	HS	RH	035856 ●
7.5	115	70	7.5x40	HS	RH	035895 ●
8	120	75	8x40	HS	RH	035857 ●
10	140	85	10x50	HS	RH	035859 ●
12	155	95	12x50	HS	RH	035861 ●

RPM: $n = 1500 - 4000 \text{ min}^{-1}$

Feed speed v_f depending on the spindle RPM n



Workpiece material:

Softwood

Operation:

Drilling

Correction factor for v_f :

Hardwood = 0.7

6. Drilling

6.4 Multi-purpose drilling

6.4.1 Twist drills



SP solid, Z 2 / V 2

Application:

For multi-purpose drilling of tear-free blind holes.

Machine:

Column drilling machines, drilling machines, multi spindle units, special purpose drilling machines, portable drills.

Workpiece material:

Softwood and hardwood, laminated veneer lumber (plywood, multiplex plywood etc.), plastics (thermoplastic).

Technical information:

Design in SP solid with long centre point and round spurs. Shank diameter identical to the drill diameter. Design with single heel to reduce friction in the hole.

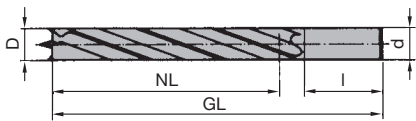


Long design

WB 120 0 02

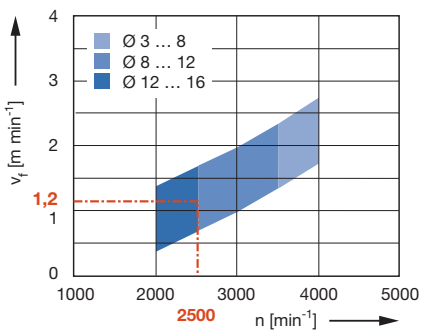
D	GL	NL	S	QAL	DRI	ID
mm	mm	mm	mm			
16	190	125	16x50	SP	RH	035763 ●

RPM: $n = 1500 - 4000 \text{ min}^{-1}$



WB 120 0 02/05, with single heel

Feed speed v_f depending on the spindle RPM n



Workpiece material:

Softwood

Operation:

Drilling

Correction factor for v_f :

Hardwood = 0.7



HW, Z 2 / V 2, with heel

Application:

For multi-purpose drilling of tear-free blind holes.

Machine:

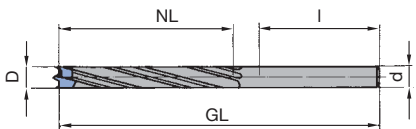
Column drilling machines, drilling machines, multi spindle units, special purpose drilling machines, portable drills.

Workpiece material:

Softwood and hardwood, chipboard and fibre materials (MDF, HDF etc.), uncoated, plastic coated, veneered etc., laminated veneer lumber (plywood, multiplex plywood etc.).

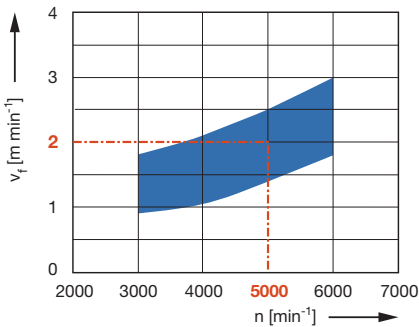
Technical information:

Tungsten carbide tipped design. Shank diameter identical to the drill diameter. Design with double heel for improved guidance during drilling and return stroke from the hole.



WB 120 0 25/27, with double heel

Feed speed v_f depending on the spindle RPM n



Workpiece material:

Chipboard plastic coated

Operation:

Drilling

Correction factor for v_f :

Solid wood = 0.7

Laminated veneer lumber = 0.8

When drilling holes with a depth greater than $4 \times D$ interim clearance stroke is recommended!

Short design

WB 120 0 27

D	GL	NL	S	QAL	DRI	ID
mm	mm	mm	mm			
5	70	35	5x35	HW	RH	035885 ●
6	70	35	6x35	HW	RH	035886 ●
8	70	35	8x35	HW	RH	035888 ●
10	70	35	10x35	HW	RH	035889 ●

Long design

WB 120 0 25

D	GL	NL	S	QAL	DRI	ID
mm	mm	mm	mm			
4	80	55	4x25	HW	RH	035882 ●
5	90	60	5x30	HW	RH	035872 ●
6	100	65	6x35	HW	RH	035874 ●
7	110	70	7x40	HW	RH	035876 ●
8	120	75	8x45	HW	RH	035877 ●
9	130	80	9x50	HW	RH	035878 ●
10	140	90	10x50	HW	RH	035879 ●
12	155	100	12x55	HW	RH	035881 ●

RPM: $n = 3000 - 6000 \text{ min}^{-1}$

6. Drilling

6.4 Multi-purpose drilling

6.4.1 Twist drills



HW solid, Z 2 / V2, with heel

Application:

For drilling deep holes. Particularly suitable for drilling connection and dowel holes in timber frame and window construction.

Machine:

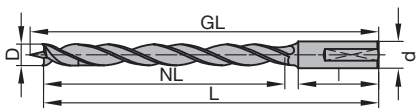
Stationary routers with/without CNC control, machining centres, special cutting machines to machine frame parts, column drilling machines, drilling machines, multi spindle units, portable drills.

Workpiece material:

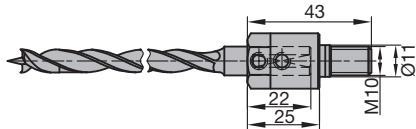
Softwood and hardwood, modified timber for window construction, laminated veneer lumber (plywood, multiplex etc.), glued lumber.

Technical information:

Design in solid tungsten carbide, Z 2/V 2 and centre point. Extra-long centre point for use of the drills at an angle. Design with double heel for improved guidance while drilling and return stroke from the hole. Shank design with reduced clamping area for good centering in shrink and collet chucks.

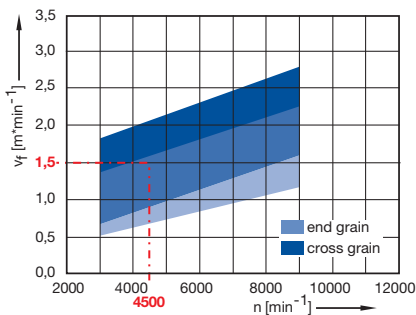


WB 120 0 35, solid tungsten carbide drill



WB 120 0 35, solid tungsten carbide drill with adaptor

Feed speed v_f depending on the spindle RPM n



Workpiece material:

Softwood

Operation:

Drilling

Correction factor for v_f :

Hardwood = 0.8

Laminated veneer lumber = 1.1

GL 105 mm

WB 120 0 35

D mm	GL mm	L mm	NL mm	S mm	QAL	DRI	ID with adaptor	ID without adaptor
6	105	100.5	70	10x25	HW solid	RH	230158 □	230058 ●
6	105	100.5	70	10x25	HW solid	LH	230159 □	230059 ●
8	105	100	70	10x25	HW solid	RH	230160 □	230060 ●
8	105	100	70	10x25	HW solid	LH	230161 □	230061 ●
10	105	99.5	70	10x25	HW solid	RH	230162 □	230062 ●
10	105	99.5	70	10x25	HW solid	LH	230163 □	230063 ●
12	105	99	70	10x25	HW solid	RH	230164 □	230064 ●
12	105	99	70	10x25	HW solid	LH	230165 □	230065 ●

GL 130 mm

WB 120 0 35

D mm	GL mm	L mm	NL mm	S mm	QAL	DRI	ID with adaptor	ID without adaptor
6	130	125.5	90	10x30	HW solid	RH	230150 □	230050 ●
6	130	125.5	90	10x30	HW solid	LH	230151 □	230051 ●
6.5	130	125.5	90	10x30	HW solid	RH	230170 □	230070 ●
8	130	125	90	10x30	HW solid	RH	230152 □	230052 ●
8	130	125	90	10x30	HW solid	LH	230153 □	230053 ●
10	130	124.5	90	10x30	HW solid	RH	230154 □	230054 ●
10	130	124.5	90	10x30	HW solid	LH	230155 □	230055 ●
12	130	124	90	10x30	HW solid	RH	230156 □	230056 ●
12	130	124	90	10x30	HW solid	LH	230157 □	230057 ●

GL 150 mm

WB 120 0 35

D mm	GL mm	L mm	NL mm	S mm	QAL	DRI	ID without adaptor
14	150	143.5	100	10x30	HW solid	RH	230066 ●
16	150	143	100	10x30	HW solid	RH	230068 ●

RPM: $n = 3000 - 9000 \text{ min}^{-1}$

6. Drilling

6.4 Multi-purpose drilling

6.4.1 Twist drills



HW solid, Z 2 / V 2, Marathon

Application:

For drilling very deep holes without interim clearance strokes. Particularly suitable for drilling connection and dowel holes in timber frame and window construction.

Machine:

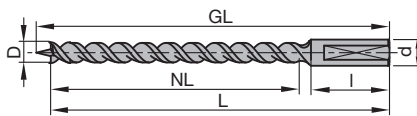
Stationary routers with/without CNC control, machining centres, special cutting machines to machine frame parts, column drilling machines, drilling machines, multi spindle units, portable drills.

Workpiece material:

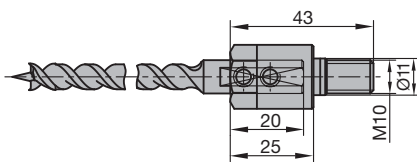
Softwood and hardwood, modified timber for window construction, laminated veneer lumber (plywood, multiplex etc.), glued lumber.

Technical information:

Design in solid tungsten carbide, Z 2/V 2 and centre point. Marathon coating for increased performance time. Extra-long centre point for use of the drills at an angle. Very large gullets for perfect chip removal particularly when drilling in end grain. Shank design with reduced clamping area for good centering in shrink and collet chucks.

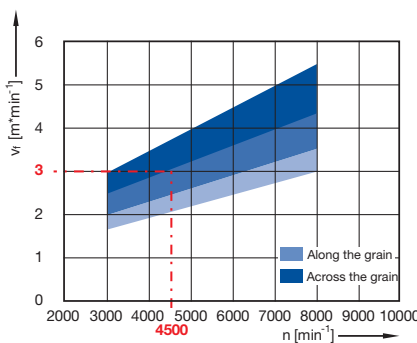


WB 120 0 34, solid tungsten carbide drill



WB 120 0 34, solid tungsten carbide drill with adaptor

Feed speed v_f depending on the spindle RPM n



GL 105 mm

WB 120 0 34

D mm	GL mm	L mm	NL mm	S mm	DRI	ID with adaptor	ID without adaptor
3	105	102	70	10x25	RH	230121 □	230021 ●
3.5	105	102	70	10x25	RH	230122 □	230022 ●
4.5	105	101	70	10x25	RH	230123 □	230023 ●
6	105	100.5	70	10x25	RH	230108 □	230008 ●
6	105	100.5	70	10x25	LH	230109 □	230009 ●
8	105	99.5	70	10x25	RH	230110 □	230010 ●
8	105	99.5	70	10x25	LH	230111 □	230011 ●
10	105	98.5	70	10x25	RH	230112 □	230012 ●
10	105	98.5	70	10x25	LH	230113 □	230013 ●
12	105	97.5	70	10x25	RH	230114 □	230014 ●
12	105	97.5	70	10x25	LH	230115 □	230015 ●

GL 130 mm

WB 120 0 34

D mm	GL mm	L mm	NL mm	S mm	DRI	ID with adaptor	ID without adaptor
6	130	125.5	90	10x30	RH	230100 □	230000 ●
6	130	125.5	90	10x30	LH	230101 □	230001 ●
6.5	130	125.5	90	10x30	RH	230120 □	230020 ●
8	130	124.5	90	10x30	RH	230102 □	230002 ●
8	130	124.5	90	10x30	LH	230103 □	230003 ●
10	130	123.5	90	10x30	RH	230104 □	230004 ●
10	130	123.5	90	10x30	LH	230105 □	230005 ●
12	130	122.5	90	10x30	RH	230106 □	230006 ●
12	130	122.5	90	10x30	LH	230107 □	230007 ●

Diameter:

$D \leq 6$ mm

Workpiece material:

Softwood

Operation:

Drilling

Correction factor for v_f :

Hardwood = 0.8

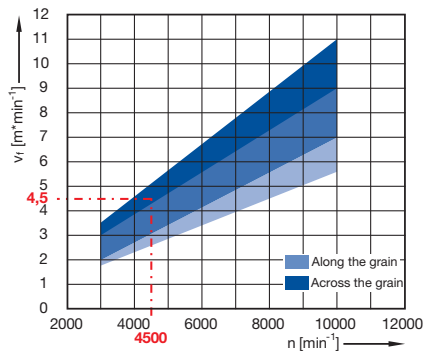
Laminated veneer lumber = 1.2

6. Drilling

6.4 Multi-purpose drilling

6.4.1 Twist drills

Feed speed v_f depending on the spindle RPM n



GL 150 mm

WB 120 0 34

D mm	GL mm	L mm	NL mm	S mm	DRI	ID with adaptor	ID without adaptor
14	150	140.5	100	10x30	RH	230116 □	230016 ●
16	150	140	100	10x30	RH	230118 □	230018 ●

RPM: $n = 3000 - 9000 \text{ min}^{-1}$

Diameter:

$D = 6 - 12 \text{ mm}$

Workpiece material:

Softwood

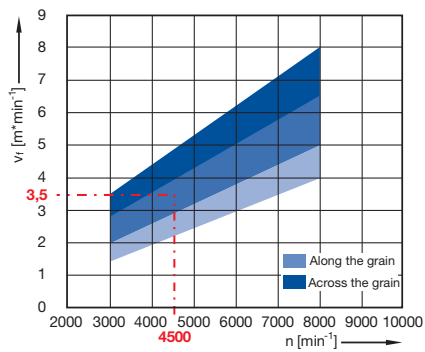
Operation:

Drilling

Correction factor for v_f :

Hardwood = 0.8

Laminated veneer lumber = 1.2



Diameter:

$D > 12 \text{ mm}$

Workpiece material:

Softwood

Operation:

Drilling

Correction factor for v_f :

Hardwood = 0.8

Laminated veneer lumber = 1.2

6. Drilling

6.4 Multi-purpose drilling

6.4.1 Twist drills



HW solid, Z 2, V-point

Application:

For drilling deep holes. Particularly for timber frame and window construction.

Machine:

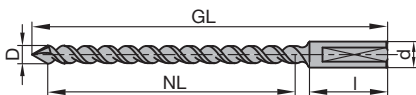
Stationary routers with/without CNC control, machining centres, special cutting machines to machine frame parts, column drilling machines, drilling machines, multi spindle units, portable drills.

Workpiece material:

Softwood and hardwood, modified timber for window construction, laminated veneer lumber (plywood, multiplex etc.), glued lumber.

Technical information:

Solid tungsten carbide design, Z 2 with V-point. Design with double heel for improved guidance while drilling and return stroke from the hole. Shank design with reduced clamping area for good centering in shrink and collet chucks.



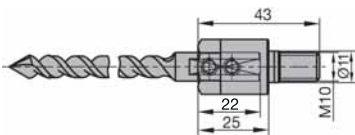
WB 101 0 13, twist drill with V-point

GL 130 / 160 mm

WB 101 0 13

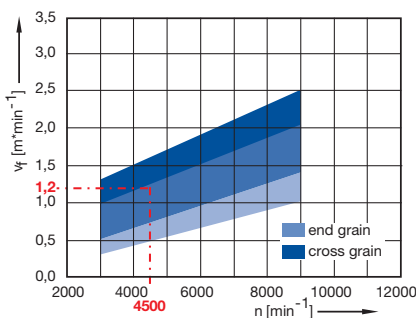
D mm	GL mm	NL mm	S mm	QAL	DRI	ID with adaptor	ID without adaptor
7	130	90	10x30	HW solid	RH	230451 □	230351 ●
8	160	120	10x30	HW solid	RH	230455 □	230355 ●
9	160	120	10x30	HW solid	RH	230452 □	230352 ●
10	160	120	10x30	HW solid	RH	230453 □	230353 ●
12	160	120	10x30	HW solid	RH	230454 □	230354 ●

RPM: $n = 3000 - 9000 \text{ min}^{-1}$



WB 101 0 13, twist drill with V-point, with adaptor

Feed speed v_f depending on the spindle RPM n



Workpiece material:

Softwood

Operation:

Drilling

Correction factor for v_f :

Hardwood = 0.8

Laminated veneer lumber = 1.1

6. Drilling

6.4 Multi-purpose drilling

6.4.1 Twist drills



HW solid, Z 2, V-point, Marathon

Application:

For drilling very deep holes without interim clearance strokes at high feed speed particularly for timber frame and window construction.

Machine:

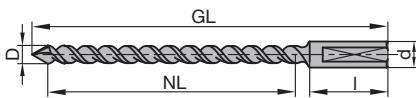
Stationary routers with/without CNC control, machining centres, special cutting machines to machine frame parts, column drilling machines, drilling machines, multi spindle units, portable drills.

Workpiece material:

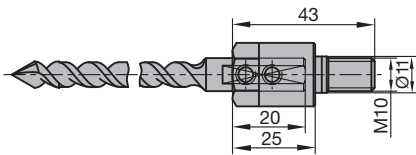
Softwood and hardwood, modified timber for window construction, laminated veneer lumber (plywood, multiplex etc.), glued lumber.

Technical information:

Solid tungsten carbide design, Z 2 with V-point. Marathon coating for increased performance time. Large gullets for perfect chip removal. Shank design with reduced clamping area for good centering in shrink and collet chucks.

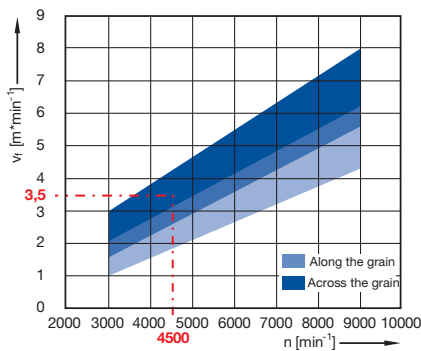


WB 101 0 12,
twist drill with V-point



WB 101 0 12,
twist drill with V-point, with adaptor

Feed speed v_f depending on the spindle
RPM n



GL 130 / 160 mm

WB 101 0 12

D mm	GL mm	NL mm	S mm	DRI	ID with adaptor	ID without adaptor
6	130	90	10x30	RH	230400 □	230300 ●
7	130	90	10x30	RH	230401 □	230301 ●
8	160	120	10x30	RH	230405 □	230305 ●
9	160	120	10x30	RH	230402 □	230302 ●
10	160	120	10x30	RH	230403 □	230303 ●
12	160	120	10x30	RH	230404 □	230304 ●

RPM: $n = 3000 - 9000 \text{ min}^{-1}$

Diameter:

$D = 6 - 12 \text{ mm}$

Workpiece material:

Softwood

Operation:

Drilling, through hole

Correction factor for v_f :

Hardwood = 0.8

Laminated veneer lumber = 1.2

6. Drilling

6.4 Multi-purpose drilling

6.4.2 Levin type drills



HS solid, Z 1

Application:

For drilling deep holes. Suitable for depths up to approx. 4 x D without interim clearance strokes.

Machine:

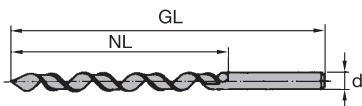
Column drilling machines, drilling machines, multi spindle units, special purpose drilling machines, portable drills.

Workpiece material:

Softwood and hardwood.

Technical information:

Solid HS design, Z 1. V-point for producing tear-free holes on both sides when drilling through holes. Very large gullets for perfect chip removal particularly when drilling in end grain.



V-point for through hole drilling

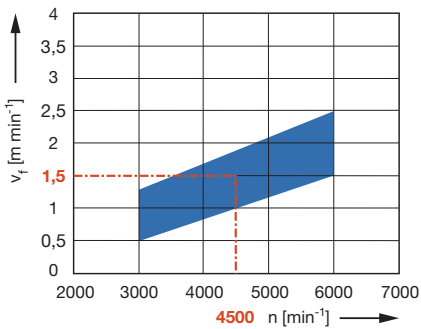
WB 100 0

D	GL	NL	S	QAL	Z	DRI	ID
mm	mm	mm	mm				
5	90	50	5x35	HS	1	RH	036110 ●
6	100	60	6x35	HS	1	RH	036111 ●
8	120	80	8x40	HS	1	RH	036112 ●
10	120	80	10x40	HS	1	RH	036113 ●
12	140	100	12x40	HS	1	RH	036114 ●

RPM: $n = 3000 - 6000 \text{ min}^{-1}$

WB 100 0, with V-point

Feed speed v_f depending on the spindle RPM n



Workpiece material:

Solid wood

Operation:

Drilling

Correction factor for v_f :

Drilling depth $> 4 \times D = 0.8$

6. Drilling

6.4 Multi-purpose drilling

6.4.2 Levin type drills



HW, Z 1 / V 1

Application:

For drilling deep holes. Suitable for depths up to 75 mm without interim clearance strokes. Particularly suitable for producing joint holes in timber frame construction.

Machine:

Column drilling machines, drilling machines, multi spindle units, special purpose drilling machines, portable drills.

Workpiece material:

Softwood and hardwood, laminated veneer lumber (plywood, multiplex plywood etc.), glued lumber.

Technical information:

Tungsten carbide design, Z 1/V 1 and centre point. Very large gullets for good chip removal, particularly when drilling in end grain.



Drill point for blind holes

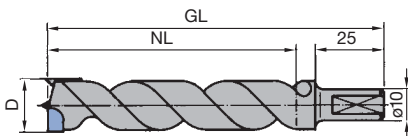
WB 110 0

D	GL	NL	S	QAL	ID	ID
mm	mm	mm	mm		LH	RH
12	110	80	10x25	HW	036174 ●	036175 ●
14	110	80	10x25	HW		036177 ●
16	110	80	10x25	HW	036178 ●	036179 ●

RPM: $n = 3000 - 7500 \text{ min}^{-1}$

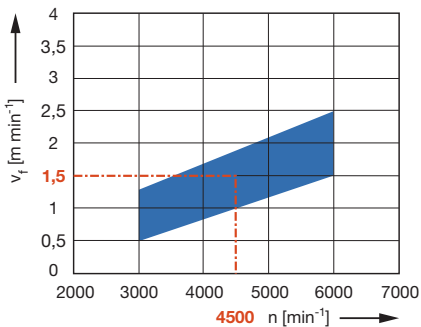
Spare parts:

BEZ	ABM	BEM	ID
	mm		
Allen screw	M5x10	Length adjustment	005802 ●
Anti-twist allen screw	M5x10	Length adjustment	007438 ●



WB 110 0, shank with clamping flat and adjusting screw

Feed speed v_f depending on the spindle RPM n



Workpiece material:

Solid wood

Operation:

Drilling

Correction factor for v_f :

Drilling depth $> 4 \times D = 0.8$

6. Drilling

6.4 Multi-purpose drilling

6.4.3 Cylinder head drills



SP, Z 2 / V 2

Application:

For drilling hinge holes, particularly in furniture construction and for fittings in timber construction.

Machine:

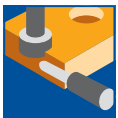
Column drilling machines, special purpose drilling machines, portable drills.

Workpiece material:

Softwood.

Technical information:

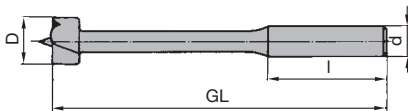
SP solid, Z 2/V 2. Shank 10 mm suitable for stationary boring machines and portable drills.



Shank 10 mm

WB 310 0 03

D mm	GL mm	S mm	DRI	ID
15	90	10x55	RH	036650 ●
20	90	10x55	RH	036655 ●
25	90	10x70	RH	036658 ●
30	90	10x70	RH	036661 ●
35	90	10x65	RH	036664 ●
40	90	10x65	RH	036667 ●

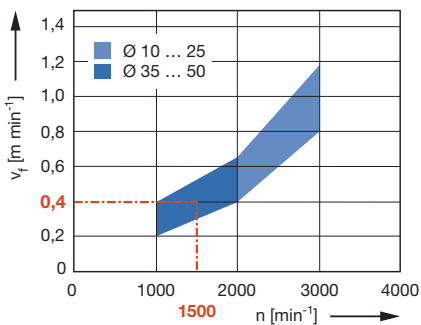


Technical information:

SP solid, Z 2/V 2. Reinforced shank for heavy machining in column drilling machines and powerful portable drills.

WB 310 0 02, reinforced shank
13/16 mm

Feed speed v_f depending on the spindle
RPM n



Shank 13 / 16 mm, reinforced design

WB 310 0 02

D mm	GL mm	S mm	DRI	ID
10	120	13x50	RH	036421 ●
12	120	13x50	RH	036422 ●
15	140	13x50	RH	036424 ●
20	140	13x50	RH	036427 ●
25	140	13x50	RH	036430 ●
30	140	13x50	RH	036433 ●
35	140	16x50	RH	036436 ●

RPM: $n = 1000 - 3000 \text{ min}^{-1}$

Workpiece material:

Softwood

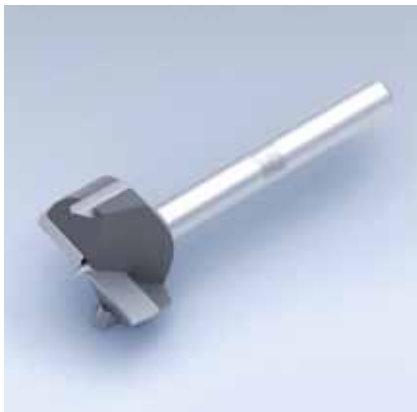
Operation:

Drilling

6. Drilling

6.4 Multi-purpose drilling

6.4.3 Cylinder head drills



HW, Z 2 / V 2

Application:

For drilling hinge holes, particularly in furniture construction.

Machine:

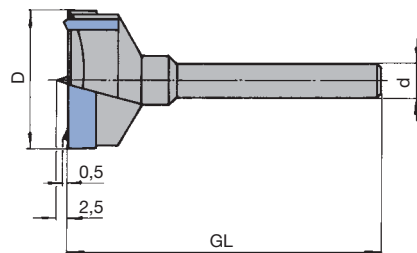
Column drilling machines, drilling machines, special purpose drilling machines, portable drills.

Workpiece material:

Softwood and hardwood.

Technical information:

Tungsten carbide design, Z 2/V 2. Shank 10 mm suitable for stationary drilling machines and portable drills.



Shank 10 mm

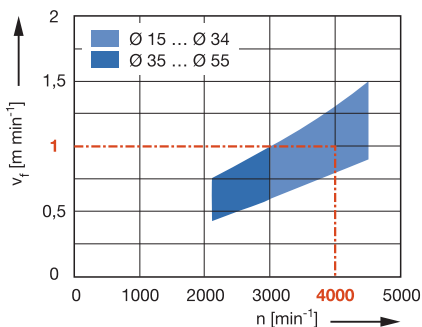
WB 310 0 03

D mm	GL mm	S mm	DRI	ID
15	90	10x55	RH	036668 ●
16	90	10x55	RH	036669 ●
17	90	10x55	RH	036670 ●
18	90	10x55	RH	036671 ●
19	90	10x55	RH	036672 ●
20	90	10x55	RH	036673 ●
22	90	10x55	RH	036674 ●
24	90	10x70	RH	036676 ●
25	90	10x70	RH	036677 ●
26	90	10x70	RH	036678 ●
28	90	10x70	RH	036679 ●
30	90	10x70	RH	036680 ●
34	90	10x65	RH	036682 ●
35	90	10x65	RH	036683 ●
40	90	10x65	RH	036686 ●

RPM: n = 1200 - 4500 min⁻¹

WB 310 0 03, shank 10 mm,
GL = 90 mm

Feed speed v_f depending on the spindle
RPM n



Workpiece material:

Hardwood

Operation:

Drilling

Correction factor for v_f :

Chipboard = 1.2

Laminated veneer lumber = 1.1

6. Drilling

6.4 Multi-purpose drilling

6.4.3 Cylinder head drills



HW, Z 2 / V 2

Application:

For drilling hinge holes, particularly in furniture construction.

Machine:

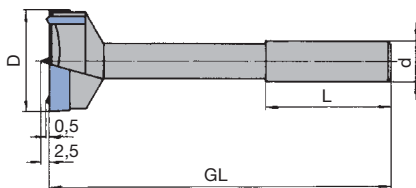
Column drilling machines, drilling machines, special purpose drilling machines, portable drills.

Workpiece material:

Softwood and hardwood.

Technical information:

Tungsten carbide design, Z 2/V 2. Reinforced shank for heavy machining in column drilling machines and powerful portable drills.



Shank 13 / 16 mm, reinforced design

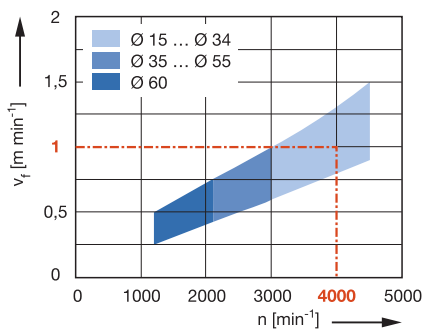
WB 310 0 02

D	GL	S	DRI	ID
mm	mm	mm		
20	140	13x50	RH	036462 ●
22	140	13x50	RH	036463 ●
25	140	13x50	RH	036465 ●
30	140	13x50	RH	036468 ●
35	140	16x50	RH	036471 ●
40	140	16x50	RH	036474 ●
50	150	16x50	RH	036480 ●
55	150	16x50	RH	036483 ●
60	150	16x50	RH	036486 ●

RPM: n = 1200 - 4500 min⁻¹

Tungsten carbide tipping with large resharpening area

Feed speed v_f depending on the spindle RPM n



Workpiece material:

Hardwood

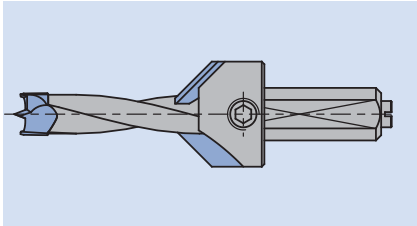
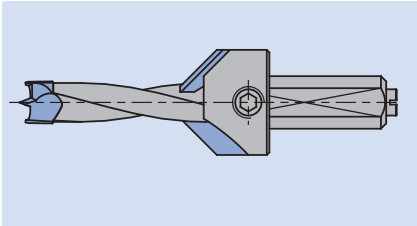
Operation:

Drilling

Correction factor for v_f :

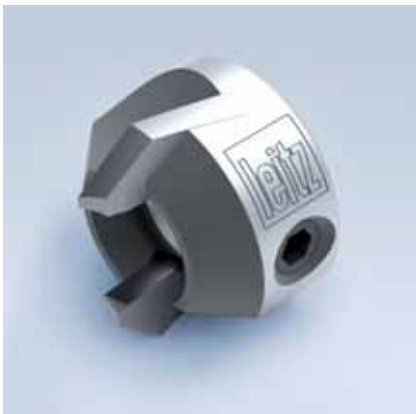
Chipboard = 1.2

Laminated veneer lumber = 1.1

Application	Countersink of holes.
Workpiece material [recommended cutting material]	Softwood and hardwood. Chipboard and fibre materials (MDF, HDF etc.), uncoated, plastic coated, veneered etc. [only HW]. Laminated veneer lumber (plywood, multiplex plywood etc.) [only HW]. Plastomers [only HW]. Duromers [only HW]. Solid surface material (Corian, Varicor, Noblan, etc.) [only HW]. Decorative laminates (HPL-compact laminate, Trespa etc.) [only HW]. Compound materials [only HW]. Non-ferrous metals [only HW].
Machine	Through feed drilling machines, Point-to-point drilling machines, CNC machining centres, Column drilling machines, Drilling machines, Special purpose drilling machines, Portable drills.
Design	<p>1. Loose countersink for mounting on dowel drills. The loose countersink is clamped on the shank or heel (for dowel drills or through hole drills with heel). It allows drilling and countersinking in one operation. It is possible to clamp and adjust the loose countersink on the heel of drills with heel.</p> <div style="display: flex; justify-content: space-around;">   </div> <p>2. Loose countersink for mounting on twist drills. Countersink with a countersink angle of 90° or 180° can be clamped on twist drills.</p> <p>3. Single part countersink. Single part countersinks are used for subsequent countersinking of holes. Nearly all materials can be countersunk with tungsten carbide design. Usually this countersink is used to countersink holes for flush screws.</p>

6. Drilling

6.5 Countersink 6.5.1 Loose countersinks



HW, Z 2

Application:

To countersink and drill in one operation.

Machine:

Point-to-point drilling machines, through feed drilling machines, CNC machining centres, hinge boring machines, multi spindle units, column drilling machines, portable drills.

Workpiece material:

Softwood and hardwood, chipboard and fibre materials (MDF, HDF etc.), uncoated, plastic coated, veneered etc., laminated veneer lumber (plywood, multiplex plywood etc.), plastics (thermoplastic, fibre reinforced etc.), NF-metals (aluminium, copper etc.).



Technical information:

Loose countersink 90°, fixed on the shank of dowel or through hole drills.

Fixed on shank

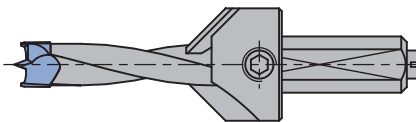
WB 701 0 02

D	GL	d	D _{Drill}	Allan screw	ID	ID
mm	mm	mm	mm	mm	LH	RH
20	17.5	10	6 - 10	M6x5	034350 ●	034351 ●

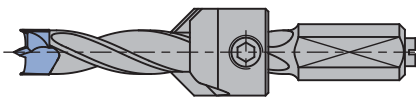
RPM: n = 3000 - 9000 min⁻¹

Spare parts:

BEZ	ABM	for S	ID
	mm	mm	
Allen key	SW 3	M6	005433 ●
Allen screw	M6x5	SW 3	005836 ●



Mounting example fixing on drill shank



Mounting example fixing on heel

Technical information:

Loose countersink 90°. Fixed on heel of dowel and through hole drills with double heel. Stepless axial positioning of countersink on heel for variable drilling and countersink depth.

Fixed on heel

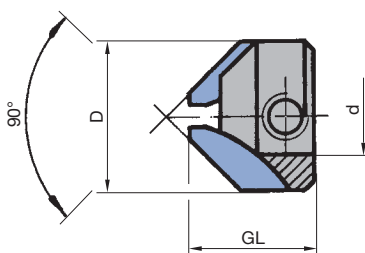
WB 701 0 03

D	GL	d	D _{Drill}	Allan screw	ID	ID
mm	mm	mm	mm	mm	LH	RH
15.5	17.5	4	4	M5x5		034371 ●
15.5	17.5	5	5	M5x5	034372 ●	034373 ●
15.5	17.5	6	6	M6x5	034374 ●	034375 ●
15.5	17.5	8	8	M6x4	034376 ●	034377 ●
20	17.5	10	10	M6x5	034378 ●	034379 ●

RPM: n = 3000 - 9000 min⁻¹

Spare parts:

BEZ	ABM	for S	ID
	mm	mm	
Allen key	SW 2.5	M5	005432 ●
Allen key	SW 3	M6	005433 ●
Allen screw	M5x5	SW 2.5	005805 ●
Allen screw	M6x5	SW 3	005836 ●
Allen screw	M6x4	SW 3	005837 ●



WB 701 0 02

Countersink fixing on drill shank, suitable drill types

WB 120 0 10/11/12/29/30

WB 701 0 03

Countersink fixing on heel, suitable drill types

WB 101 0 05/06

WB 120 0 23/24/26

6. Drilling

6.5 Countersink 6.5.1 Loose countersinks



SP, Z 2

Application:

To countersink and drill in one operation.

Machine:

Multi spindle unit, column drilling machines, portable drills.

Workpiece material:

Softwood and hardwood.

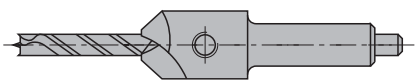
Technical information:

Loose countersink 90°, to mount on drills WB 120 0 05.

Countersink 90°

WB 701 0 01

D	GL	S	d	QAL	DRI	ID
mm	mm	mm	mm			
16	55	10x30	3	SP	RH	036250 ●
16	55	10x30	4	SP	RH	036251 ●
16	55	10x30	5	SP	RH	036252 ●
16	55	10x30	6	SP	RH	036253 ●



Countersink 90°, with drill

SB 204 0

D	d	GL	NL	S	QAL	DRI	ID
mm	mm	mm	mm	mm			
16	3	136	38/15	10x60	SP/HS	RH	036257 □

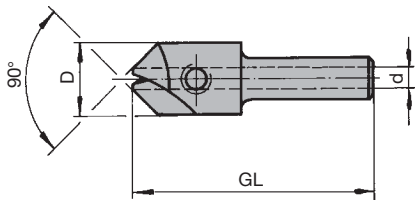
RPM: $n = 3000 - 6000 \text{ min}^{-1}$

Spare parts:

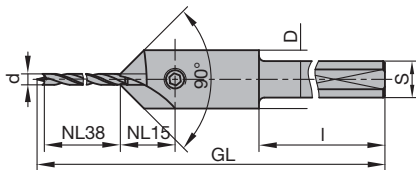
BEZ	ABM	ID
	mm	
Allen key	SW 3	005433 ●
Allen screw	M6x5	005836 ●
Twist drill	D3/S3x30/GL70	035852 ●

Mounting example

Countersink WB 701 0 01 mounted on drill WB 120 0 05



WB 701 0 01, cylindrical shank



SB 204 0, countersink with drill

6. Drilling

6.5 Countersink 6.5.1 Loose countersinks



HS, Z 2

Application:

To countersink and drill in one operation.

Machine:

Multi spindle units, column drilling machines, portable drills.

Workpiece material:

Softwood and hardwood.

Technical information:

Loose countersink 180°, to mount on drills WB 120 2 05.

Countersink 180°

WB 711 0

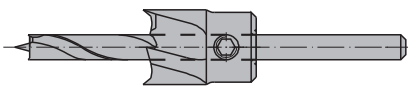


D	GL	NL	d	QAL	DRI	ID
mm	mm	mm	mm			
15	22	10	6	HS	RH	036301 ●
20	25	12	8	HS	RH	036303 ●
25	25	12	10	HS	RH	036305 ●

RPM: n = 3000 - 6000 min⁻¹

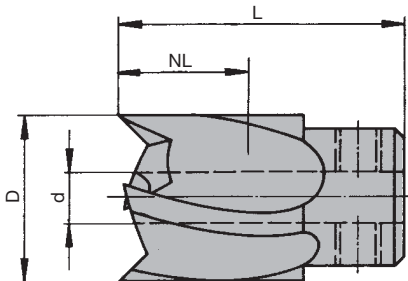
Spare parts:

BEZ	ABM	BEM	ID
	mm		
Allen key	SW 2,5	for D = 15 - 25 mm / 180°	005432 ●
Allen screw	M5x5	for D = 15 - 25 mm / 180°	005805 ●
Allen key	SW 3	for D = 30 mm / 180°	005433 ●
Allen screw	M6x5	for D = 30 mm / 180°	005836 ●

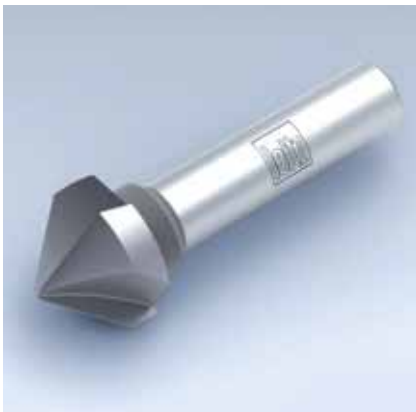


Mounting example

WB 711 0, cylindrical shank



WB 711 0, with 2 clamping screws



Shank 10 mm

Application:

For the additional countersinking of holes.

Machine:

Multi spindle units, column drilling machines, portable drills.

Workpiece material:

Softwood and hardwood, chipboard and fibre materials (MDF, HDF etc.), uncoated, plastic coated, veneered etc., laminated veneer lumber (plywood, multiplex plywood etc.), plastics (thermoplastic, fibre reinforced etc.), NF-metals (aluminium, copper etc.).

Technical information:

Countersink 90° Z 1 solid SP (only for softwood and hardwood).

Countersink 90° Z 3 solid tungsten carbide. Special grinded section for clean and chatter-free cut.

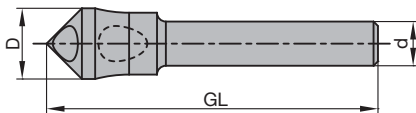


Countersink 90°

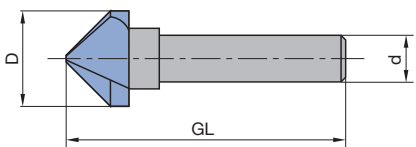
WB 700 0, WB 702 0

D	GL	S	QAL	DRI	ID
mm	mm	mm			
16	75	10x50	SP	RH	036220 ●
20.5	58	10x40	HW solid	RH	036255 ●

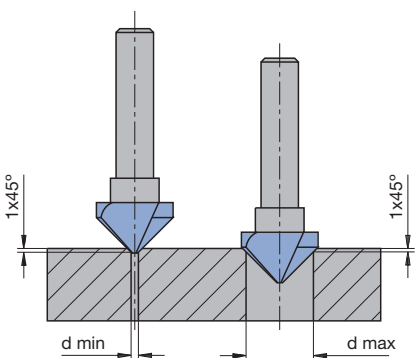
RPM: $n = 2500 - 6000 \text{ min}^{-1}$



WB 700 0 countersink 90° SP, Z1



WB 702 0 countersink 90° solid tungsten carbide, Z 3



The illustrations shows the smallest and largest hole diameters possible, countersink with a 1x45° bevel:

Countersink 90° SP:

$d_{\min} = 4.00 \text{ mm}$, $d_{\max} = 12.00 \text{ mm}$

Countersink 90° HW:

$d_{\min} = 2.00 \text{ mm}$, $d_{\max} = 18.00 \text{ mm}$

6. Drilling

6.6 Step drilling

6.6.1 Step drills



Shank 10 mm

Application:

To produce stepped holes, particularly for screwed hinge holes for doors.

Machine:

Multi spindle units, CNC machining centres, portable drills.

Workpiece material:

Softwood and hardwood, chipboard and fibre materials (MDF, HDF etc.), uncoated, plastic coated, veneered etc., laminated veneer lumber (plywood, multiplex plywood etc.), plastics (thermoplastic).

Technical information:

Tungsten carbide design Z 2, two steps. First step with V-point drill.

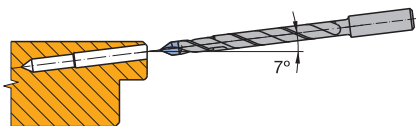
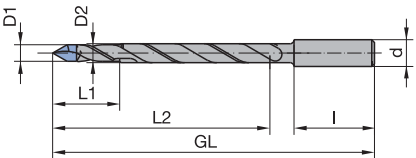


HW, Z 2

WB 201 0

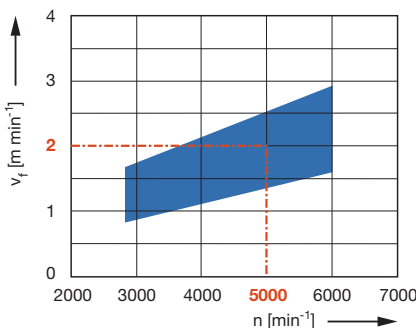
Type	D1 mm	D2 mm	GL mm	L1 mm	L2 mm	S mm	DRI	ID
Anuba 14.5	5.5	7.1	120	25	85	10x30	RH	035800 ●
Anuba 16	6.2	7.7	120	30	85	10x30	RH	035801 ●
Anuba 18	7.5	8.8	120	30	85	10x30	RH	035802 ●
Simons	5.5	6.8	120	25	85	10x30	RH	035803 ●

RPM: $n = 3000 - 6000 \text{ min}^{-1}$



Drilling hole for screwed hinge at an inclined angle of 7° up to 9°

Feed speed v_f depending on the spindle RPM n



Workpiece material:

Chipboard plastic coated

Working step:

Step drilling

Correction factor for v_f :

MDF, solid wood = 0.7

Key to pictograms



Drilling blind holes



Tungsten carbide



Drilling through holes



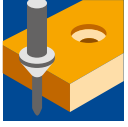
Polycrystalline diamond (PCD)



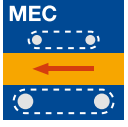
Step drilling



Carbide metal coating



Counter-sinking



Mechanical feed



Manual feed



Solid metal tool



Tipped tool



Mechanical knife clamping, reversible



Alloyed tool steel



High-speed steel

