

5. Routing

5.1 Sizing and grooving

5.1.2 Shank cutters HW-solid spiral design



Spiral roughing/finishing router cutter Marathon

Application:

Router cutter for sizing and grooving in roughing/finishing quality.

Machine:

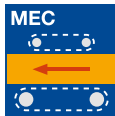
Stationary routers with/without CNC control, machining centres, milling machines with spindles to mount shank tools.

Workpiece material:

Softwood and hardwood, chipboard and fibre materials (MDF, HDF etc.), uncoated, laminated veneer lumber (plywood, multiplex plywood etc.), decorative laminates (HPL-compact laminate, Trespa etc.), duromers, plastomers, solid surface material (Corian, Varicor etc.).

Technical information:

Solid tungsten carbide. Tungsten carbide grade and Marathon coating for increased performance time, particularly in abrasive materials. Recommended for abrasive materials such as HPL/CPL.

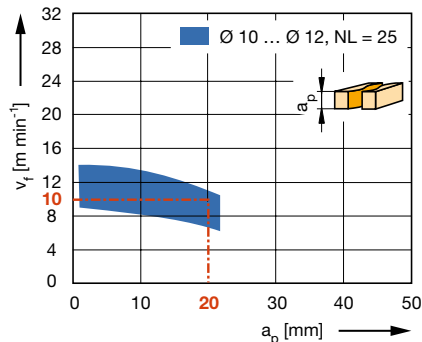


HW, Z 2, short design

WO 160 2 15

D	D	GL	GL	NL	NL	S	S	Z	Twist	DRI	ID
mm	in	mm	in	mm	in	mm	in				
12.7	1/2"	88.9	3 1/2"	38.1	1 1/2"	12.7x40	1/2"x1 1/2"	2	RD	RH	240515 ●

Feed speed v_f depending on cutting depth a_p



Workpiece material: Softwood

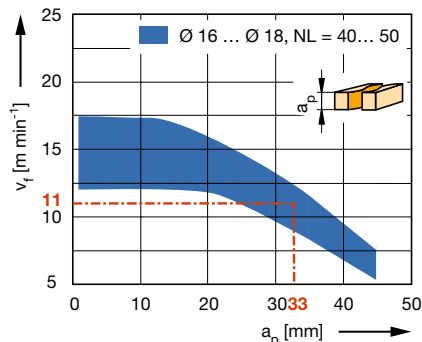
Operation: Sizing

Speed: $n = 18000 \text{ min}^{-1}$

Correction factor for v_f :

Hardwood = 0.8; Chipboard = 1.3;

Glulam = 0.9



HW, Z 2, short design, for abrasive materials

WO 160 2 15

D	GL	NL	S	Z	Twist	DRI	ID
mm	mm	mm	mm				
10	70	25	10x40	2	RD	RH	240200 ●
12	70	25	12x40	2	RD	RH	240201 ●
16	100	40	16x50	2	RD	RH	240202 ●

RPM: $n_{\text{max}} = 24000 \text{ min}^{-1}$

Workpiece material: Softwood

Operation: Sizing

Speed: $n = 18000 \text{ min}^{-1}$

Correction factor for v_f :

Hardwood = 0.8; Chipboard = 1.2;

Glulam = 0.9

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5. Routing

5.1 Sizing and grooving

5.1.2 Shank cutters HW-solid spiral design

Spiral roughing/finishing router cutter Marathon alternate twist



Application:

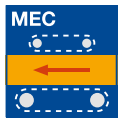
Routers for sizing and grooving in roughing/finishing quality and tear-free cutting edges on both sides.

Machine:

Stationary routers with/without CNC control, machining centres, milling machines with spindles to mount shank tools.

Workpiece material:

Softwood and hardwood, chipboard and fibre materials (MDF, HDF etc.), uncoated, laminated veneer lumber (plywood, multiplex plywood etc.), plastomers, solid surface material (Corian, Varicor etc.).



Technical information:

Solid tungsten carbide. Marathon coating for increased performance time. Alternate twist for tear-free cut edges on both sides. Higher feed speeds possible than with conventional roughing cutters. Extremely smooth running.

Z 2+2

WO 160 2 16

D	GL	NL	S	DRI	ID
mm	mm	mm	mm		
16	100	40	16x50	RH	240402 ●
16	110	55	16x50	RH	240408 ●
20	120	45	20x50	RH	240400 ●
20	140	75	20x50	RH	240403 ●

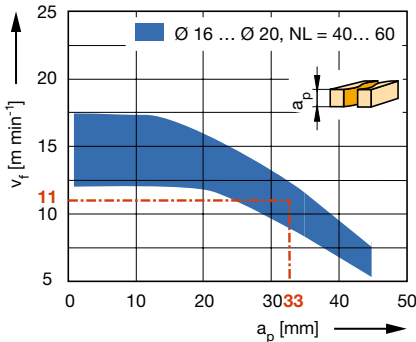
Z 2+2, Nesting types

WO 160 2 16

D	D	GL	GL	NL	NL	S	S	$a_{p \min}$	DRI	ID
mm	in	mm	in	mm	in	mm	in	mm		
12		80		25		12x40		6	RH	240404 ●
12		90		35		12x40		12	RH	240405 ●
12.7	1/2"	76.2	3"	25	1"	12.7x40	1/2"x1 1/2"	6	RH	240406 ●
12.7	1/2"	88.9	3 1/2"	35	1 3/8"	12.7x40	1/2"x1 1/2"	12	RH	240407 ●

RPM: $n_{\max} = 24000 \text{ min}^{-1}$

Feed speed v_f depending on cutting depth a_p



Workpiece material: Softwood

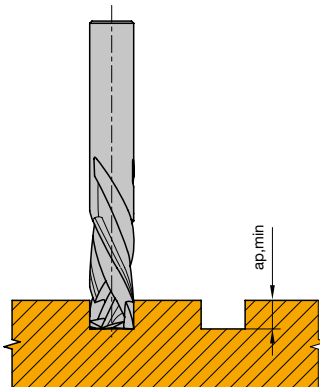
Operation: Sizing

Speed: $n = 18000 \text{ min}^{-1}$

Correction factor for v_f :

Hardwood = 0.8; Chipboard = 1.2;

Glulam = 0.9



Minimum grooving depth $a_{p \min}$ for tear-free cut



Edge trimming cutter

Application:

Router for edge trimming or chamfering of protruding veneer, laminates or edgeband materials. Tool guided on the workpiece by ball bearing guide ring.

Machine:

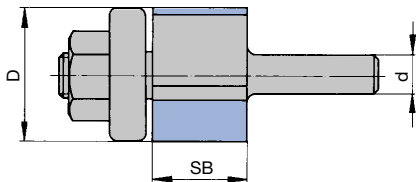
Portable routers.

Workpiece material:

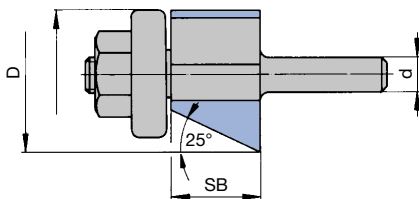
Softwood and hardwood, chipboard and fibre materials (MDF, HDF etc.), uncoated, plastic coated, veneered etc., laminated veneer lumber (plywood, multiplex plywood etc.).

Technical information:

Ball bearing guide ring for use with templates or guided by the workpiece edge.



Edge trimming cutter with guide ring on bottom



Square bevel trimming cutter with guide ring on bottom

Edge trimming cutter, HW, Z 2 with guide ring

WO 203 1, WO 203 1 01

D	SB	S	BEM	DRI	ID
mm	mm	mm			
21	15	6x30	Guide ring on bottom	RH	039440 ●
12.7	25	8x30	Guide ring on bottom	RH	072509 □
19	25	8x30	Guide ring on shank side	RH	072572 □

RPM: n = 18000 - 27000 min⁻¹

Spare parts:

BEZ	BEM	ABM	ID
		mm	
Ball bearing	to ID 072509	12.7x4.97x4.76	008088 ●
Ball bearing	to ID 072572	19.05x12.7x4.97	008105 ●
Ball bearing guide	to ID 039440	21x7.2x15.88	072157 ●

Square bevel trimming cutter, HW, Z 1+1 / bevel 45°

WO 314 1 01

D	D1	SB	S	FAW	DRI	ID
mm	mm	mm	mm	°		
24	18	11	8x30	45°	RH	070477 □

RPM: n = 18000 - 27000 min⁻¹

Spare parts:

BEZ	BEM	ABM	ID
		mm	
Ball bearing guide	to ID 070477	18x8x15.88	070828 ●



Panel pilot router cutter

Application:

Router cutter for edge trimming of protruding veneer or laminates and for plunging and cutting apertures into veneered or laminated panels.

Machine:

Portable routers.

Workpiece material:

Chipboard and fibre materials (MDF, HDF etc.), uncoated, plastic coated, veneered etc., glulam (HPL, CPL etc.).

Technical information:

Straight cut with V-point plunging tip.



HW, Z 1, with guide pin

WO 250 0 01

D	GL	NL	S	DRI	ID
mm	mm	mm	mm		
6	65	19	6x27	RH	039610 ●
8	65	19	8x30	RH	041586 ●

RPM: n = 18000 - 30000 min⁻¹

5. Routing

5.3 Face milling and finishing 5.3.2 V-groove and finishing cutters



DP V-grooving cutter for composite panels

Application:

Routers for cutting V-grooves in composite panels for folding works.

Machine:

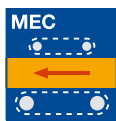
Stationary routers with/without CNC control, machining centres, milling machines with spindles to mount shank tools.

Workpiece material:

Composite panels based on thermoplastic cores with aluminium coverage on both sides (e.g. Alucobond®, Dibond® etc.).

Technical information:

DP edge with shear angle. Resharpenable 3 to 5 times with normal wear.



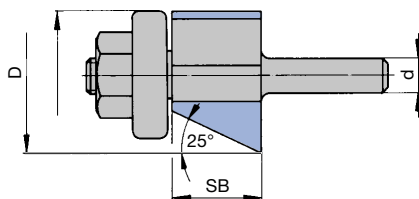
DP, Z 1

WO 311 2

D	d	NL	S	FAW	DRI	ID
mm	mm	mm	mm	°		
18	3	7.5	16x55	90°	RH	191100
20	2	3.7	16x55	135°	RH	191106

RPM: n = 18000 - 24000 min⁻¹

Application example:



Square bevel trimming cutter with guide ring on bottom

Square bevel trimming cutter, HW, Z 1+1 / bevel 45°

WO 314 1 01

D	D1	SB	S	FAW	DRI	ID
mm	mm	mm	mm	°		
24	18	11	8x30	45°	RH	070477 □

RPM: n = 18000 - 27000 min⁻¹

Spare parts:

BEZ	BEM	ABM	ID
		mm	
Ball bearing guide	to ID 070477	18x8x15.88	070828 ●

5. Routing

5.5 Portable routers 5.5.2 Tools for profiling



Bevel cutter

Application:

Router cutter for bevelling workpiece edges. Tool guided along workpiece by ball bearing guide.

Machine:

Portable routers.

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:

Ball bearing guide ring on bottom for use with templates or guided by the workpiece edge.



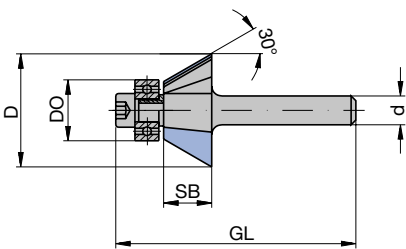
Bevel cutter, HW, Z 2, shank 8 mm

WO 314 1, WO 315 1

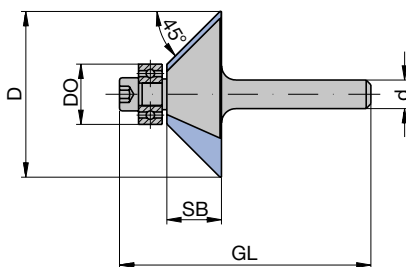
D	D ₀	GL	SB	FAW	S	DRI	ID
mm	mm	mm	mm	°	mm		
25.7	12.7	70	25.1	15°	8x30	RH	072522 □
25	12.7	50.3	12	30°	8x30	RH	072774 □
38.5	12.7	64.5	23	30°	8x30	RH	072523 □
26	12.7	47.8	7	45°	8x30	RH	072775 ●

Spare parts:

BEZ	ABM	for D ₀	ID
	mm	mm	
Ball bearing	12.7x4.97x4.76	12.7	008088 ●
Ball bearing	15.88x5x6.35	15.88	008081 ●
Cap screw	M4x10		005846 ●



WO 314 1 02 bevel cutter 30°



WO 314 1 03 bevel cutter 45°

Bevel cutter, HW, Z 2, shank 12 mm

WO 315 1

D	D ₀	GL	SB	FAW	S	DRI	ID
mm	mm	mm	mm	°	mm		
55	12.7	74	26	45°	12x40	RH	072517 ●

RPM: n = 18000 - 27000 min⁻¹

Spare parts:

BEZ	ABM	for D ₀	ID
	mm	mm	
Ball bearing	12.7x4.97x4.76	12.7	008088 ●
Cap screw	M4x10		005846 ●

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