



**CNC ROUTER CUTTERS
& CHUCKS
INDUSTRIAL DOWEL DRILLS**
ENGLISH EDITION 2026

www.cmtorangetools.com

What work parameters are best when routing?

Answering the following questions will provide you with the answer!

- **What equipment are you using?** Using brand new equipment of high quality is not the same as using outdated machinery! It is important to understand that vibration is the direct result of wear and tear, which can lead to a poor quality finish. Feed rate should be chosen in order to dampen vibration, and quite often, higher feed rates are associated with better finishing results.
- **What factors influence the performance of the bit I am using?** Many factors affect performance and the ultimate finish of the workpiece: the power of the collet chuck, the rigidity and eccentricity of the couplings, conditions and quality of the collets, reverse locking system, sharpened tool edge, the dust-collection system in use and even the relative humidity of the workplace environment.
- **What bit should I use?** The number of cutting edges as well as the cutting diameter significantly affect work parameters. In general, the more cutting edges and the wider the blade diameter, the higher the feed rate.
- **What is the cutting depth I hope to carry out?** In order to increase cutting depth, it is necessary to reduce the feed rate and vice versa for shallower cuts.
- **At what speed does my machine run?** By increasing the spindle speed (rpm), the quality of the finished edge improves. However, at the same time friction also increases between the tool and the workpiece. As a result, tool longevity is compromised. Ideally, the objective is to select the slowest rotation speed possible compatible with the quality of finishing you hope to achieve.
- **What edge finish am I looking to achieve?** Coarse routing and fine routing are definitely not the same thing! You need to figure out what is more important: quality or quantity. In order to prolong the life of your cutting tool, its best to choose the highest feed rate possible best suited to achieve the finish you want.
- **Above all....what materials am I working with?** Wood is a good example of natural fiber composite. It is made up of a natural fibrous material, both elastic and flexible (cellulose: long molecular polymer chains), bound together by a very rigid substance (lignin: cross-linked polymer) as well as a compatibilizer (hemicellulose: a polysaccharide). It is an anisotropic material, that is, directionally dependent, changing with direction along the object. How many types of wood and wood derivatives are you familiar with? Remember, no two pieces of wood are the same! In fact, the same work parameters carried out on two different pieces of wood will provide two very different results.

Feed rate is dependent of several factors, like the ones mentioned above - and these are just a few examples. It is important to weigh all factors in order to select an optimum feed rate suitable for the tools and work objectives involved. CMT is synonymous with quality and to produce high quality cuts you just can't randomly shoot off a bunch of numbers. Be wary of those who provide you with random numbers.

I get it....but where do I start? *The best way to go forward is step-by-step using reliable test data.* To quickly achieve the results best suited for your specific work expectations, you can always turn to theory!

One rule of thumb, which may prove advantageous, is to use a simple gauge to measure chipload wherever possible. On the one hand, it should be noted that when chips that are too thick, breakage will occur, resulting in a poor, rough finish. On the other hand, when chips are too thin, it will negatively affect tool longevity and cause rapid wear and tear of the cutting edge because the teeth of the tool are rubbing more than removing material.

The next time you experiment, you need to properly assess the specific demands of the work involved, assess chipload measurements and try to orient yourself towards a different thickness by taking into account the aforementioned factors. Then, with the aid of the formulas listed below, proceed to establish the appropriate feed rate for your next test. This will help you to achieve better results faster and you will have the essential information you will need for the next work project.

PARAMETERS:

V = Feed rate (m/min)

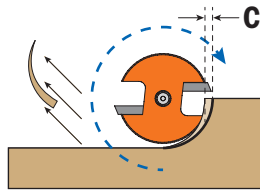
Z = Cutting edges

C = Chipload (mm)

FORMULAS:

$V = (RPM \times Z \times C) / 1000$

$RPM = V \times 1000 / (Z \times C)$



EXAMPLE:

with caliper take measurement of a good result chipload (**C=0.2mm**).

Z=2

RPM=18000

$V = (RPM \times Z \times C) / 1000 = (18000 \times 2 \times 0.2) / 1000 = 7.2 \text{ m/min}$

PROBLEM SOLVING

PROBLEM

BAD FINISHING

CUTTING EDGE WEAR

CUTTING EDGE BURNS

CUTTING EDGE DEBRIS

VIBRATIONS

CUTTER BREAKAGE

SOLUTIONS

- CUTTING DEPTH
- VIBRATIONS

- ROTATION SPEED
- VIBRATIONS

- ROTATION SPEED
- NUMBER OF CUTTING-EDGES

- CUTTING DEPTH

- ROTATION SPEED
- CUTTING DEPTH

- FEED SPEED
- CUTTING DEPTH
- VIBRATIONS

INCREASE

- ROTATION SPEED
- DUST EXTRACTION
- NUMBER OF CUTTING EDGES
- CLAMPING CUTTER/CHUCK

- FEED SPEED

- FEED SPEED

- ROTATION SPEED
- FEED SPEED
- DUST EXTRACTION

- MACHINE FIRMNESS
- WORKPIECE FIRMNESS

- SHANK DIAMETER
- COLLET CLAMPING
- CHANGE TOOL MATERIAL (solid carbide or DENSIMET®)

DECREASE



CNC ROUTER CUTTERS & CHUCKS

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Kinetic Dust Extractor



992 REMOVES MDF & CHIPBOARD DUST FROM THE WORKPIECE

DESCRIPTION	D mm		ORDER NO.
Kinetic Dust Extractor for chucks with ER20	80	1	992.081.ER20
Kinetic Dust Extractor for chucks with ER25	80	1	992.081.ER25
Kinetic Dust Extractor for chucks with DIN6388/EOC25 collets	100	1	992.101.EOC25
Kinetic Dust Extractor for chucks with ER32 collets	100	1	992.101.ER32
Kinetic Dust Extractor for chucks with ER40 collets	100	1	992.101.ER40

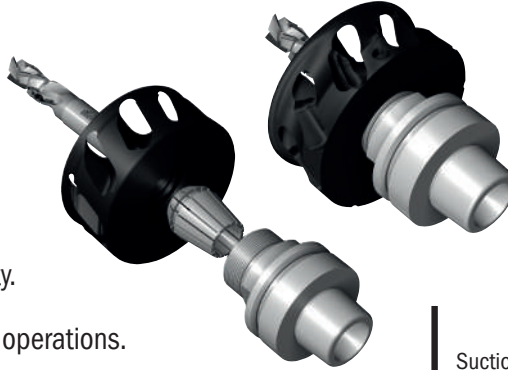
Spare parts: **991.285.00** C-Spanner 80-90mm for KINETIC ER20/ER25
991.284.00 C-Spanner 95-100mm (17112) for KINETIC ER32/ER40

Optional:
 (required for installation, not included)

EASY TO USE!

Installation and removal just like a clamping nut

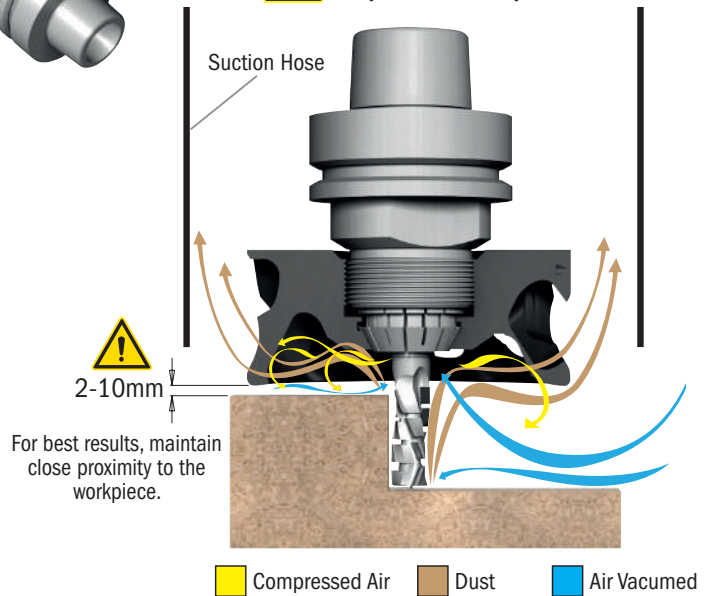
- Better health & safety on the worksite.
- Better air quality on the worksite.
- Improves tool performance & cut quality.
- Longer tool life & reduced labor costs.
- Recommended for Nesting and routing operations.
- No wasted time throughout operation.
- Replaces the standard clamping nut.
- Suitable for any collet chucks with standard router bits.
- Available for ER32 - ER40 - EOC25 (DIN6388) collets.
- Tough ceramic coating offers anti-corrosion, anti-friction and anti-static protection.
- Tool body in light alloy.
- Lightweight and quiet.
- Performs even at low RPM: from 6.000 up to 20.000 RPM.
- Materials: chipboard, coated chipboard, MDF, CORIAN®, plasterboard, OSB, HPL.



SAFETY TIPS

The **TW-200** Torque Wrench is recommended for the proper fastening of clamping nuts (see page 421).

Always use vacuum system.

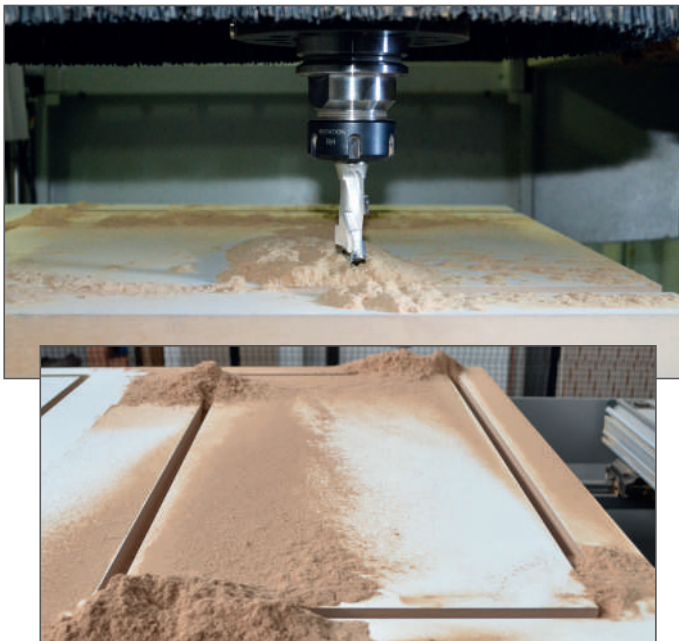


Download instructions sheets from our website



Watch the video on **YouTube**

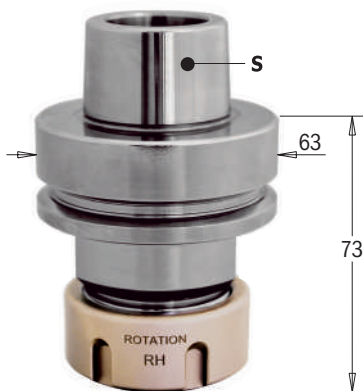
WORKING WITHOUT KINETIC DUST EXTRACTOR



WORKING WITH KINETIC DUST EXTRACTOR



HSK-63F Chucks for "ER32" Precision Collets



183.300 X-TREME



S	TO BE USED WITH COLLET	ORANGE CHROME	NOTE	Box	ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
HSK-63F	ER32	✓	Clamping nut without bearing	1	183.300.01	183.300.02
HSK-63F	ER32	✓	Clamping nut with bearing	1	183.300.11*	
HSK-63F	ER32		Clamping nut without bearing	1	183.300.91	
HSK-63F	ER32		Clamping nut with bearing	1	183.300.93*	

Optional: 990.118.00 M6x10mm screw with blue threadlocker

* Suitable for right-hand and left-hand rotation.

For HOMAG®, EIMA®, IMA® FROM 9/94, WEEKE®, BIESSE®, SCM®, MORBIDELLI® and MASTERWOOD® machines.



ORANGE CHROME® COATING

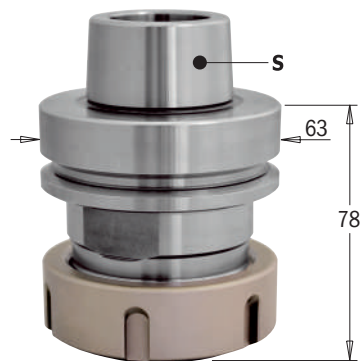
- Protects the tool against corrosion, rust and accumulation of resin and residues.
- Guarantees longer tool life.
- Lower power absorption by motor.
- Smoother blade movement throughout cutting operation.
- Tool maintenance is fast and easy.

SAFETY TIPS



The **TW-200** Torque Wrench is recommended for the proper fastening of clamping nuts (see page 421).

HSK-63F Chucks for "ER40" Precision Collets



183.310 X-TREME



S	TO BE USED WITH COLLET	ORANGE CHROME	NOTE	Box	ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
HSK-63F	ER40	✓	Clamping nut without bearing	1	183.310.01	183.310.02
HSK-63F	ER40	✓	Clamping nut with bearing	1	183.310.11*	
HSK-63F	ER40		Clamping nut without bearing	1	183.310.91	
HSK-63F	ER40		Clamping nut with bearing	1	183.310.93*	

Optional: 990.117.00 M6x6mm screw with blue threadlocker

* Suitable for right-hand and left-hand rotation.

For HOMAG®, EIMA®, IMA® FROM 9/94, WEEKE®, BIESSE®, SCM®, MORBIDELLI® and MASTERWOOD® machines.



ORANGE CHROME® COATING

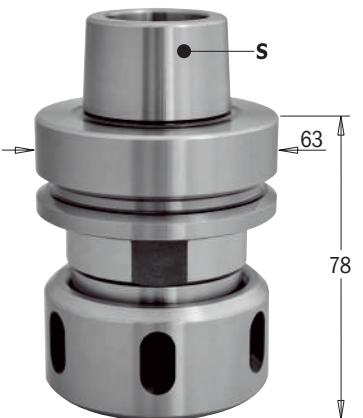
- Protects the tool against corrosion, rust and accumulation of resin and residues.
- Guarantees longer tool life.
- Lower power absorption by motor.
- Smoother blade movement throughout cutting operation.
- Tool maintenance is fast and easy.

SAFETY TIPS



The **TW-200** Torque Wrench is recommended for the proper fastening of clamping nuts (see page 421).

HSK-63F Chucks for "EOC25" Precision Collets "DIN6388"



183.320



S	TO BE USED WITH COLLET	NOTE	Box	ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
HSK-63F	EOC25	Clamping nut with bearing	1	183.320.01*	
HSK-63F	EOC25	Clamping nut without bearing	1	183.320.03	

Spare parts: 992.283.01 Clamping nut without bearing

992.283.11 Clamping nut with bearing

* Suitable for left-hand rotation too.

For HOMAG®, EIMA®, IMA® FROM 9/94, WEEKE®, BIESSE®, SCM®, MORBIDELLI® e MASTERWOOD® machines.



ORANGE CHROME® COATING

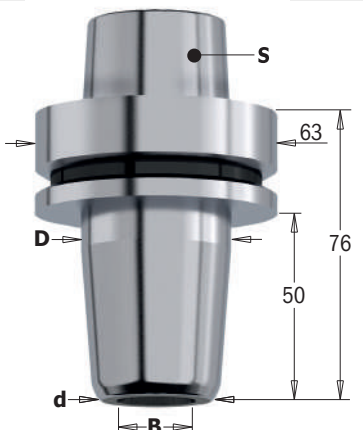
- Protects the tool against corrosion, rust and accumulation of resin and residues.
- Guarantees longer tool life.
- Lower power absorption by motor.
- Smoother blade movement throughout cutting operation.
- Tool maintenance is fast and easy.

SAFETY TIPS



The **TW-200** Torque Wrench is recommended for the proper fastening of clamping nuts (see page 421).

HSK-63F Chucks for Shrink Fit Holders



183.075

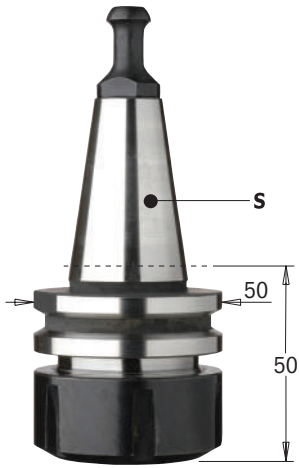


S	B mm	d mm	D mm	Box	ORDER NO.
HSK-63F	12	24	32	1	183.075.12
HSK-63F	16	27	34	1	183.075.16
HSK-63F	20	33	42	1	183.075.20
HSK-63F	25	44	53	1	183.075.25

SPECIAL STEEL UNI 1.2344


- Prevents overheating.
- Protects against corrosion and rust.
- Longer life and greater tool performance.

ISO30 Chucks for “ER32” Precision Collets



183.200

RH LH


S	TO BE USED WITH COLLET	RETAINING STUD mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
ISO30	ER32	Ø12-8	 1	183.200.01	183.200.02

995.200 For BIESSE® machines.



183.210

RH LH


S	TO BE USED WITH COLLET	RETAINING STUD mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
ISO30	ER32	Ø13-9	 1	183.210.01	183.210.02

995.201 For BIESSE® machines with OMLAT® engine, NUOVA BULLERI BREVETTI®, BUSELLATO®, CMS® and IMA® machines.



183.220

RH LH

S	TO BE USED WITH COLLET	RETAINING STUD mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
ISO30	ER32	Ø12.8-9	 1	183.220.01	183.220.02

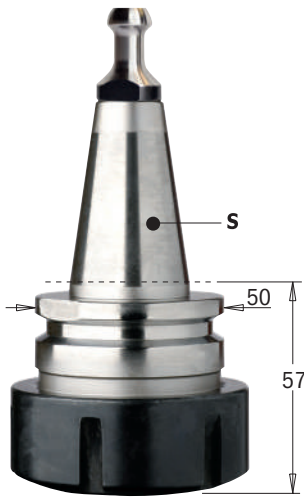
995.202 For ALBERTI® and MASTERWOOD® machines.

SAFETY TIPS




The **TW-200** Torque Wrench is recommended for the proper fastening of clamping nuts (see page 421).

ISO30 Chucks for “ER40” Precision Collets



183.201

RH


S	TO BE USED WITH COLLET	RETAINING STUD mm		ORDER NO. Right-hand rotation	
ISO30	ER40	Ø12-8	 1	183.201.01	

995.200 For BIESSE® machines.



183.211

RH


S	TO BE USED WITH COLLET	RETAINING STUD mm		ORDER NO. Right-hand rotation	
ISO30	ER40	Ø13-9	 1	183.211.01	

995.201 For BIESSE® machines with OMLAT® engine, NUOVA BULLERI BREVETTI®, BUSELLATO®, CMS® and IMA® machines.



183.221

RH

S	TO BE USED WITH COLLET	RETAINING STUD mm		ORDER NO. Right-hand rotation	
ISO30	ER40	Ø12.8-9	 1	183.221.01	

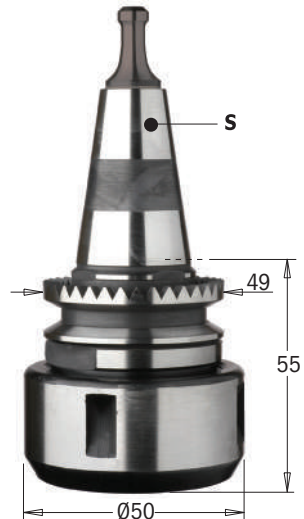
995.202 For ALBERTI® and MASTERWOOD® machines.

SAFETY TIPS



The **TW-200** Torque Wrench is recommended for the proper fastening of clamping nuts (see page 421).

ISO30 Chucks for “ER32” Precision Collets



183.250

RH LH

S	TO BE USED WITH COLLET	RETAINING STUD mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
ISO30	ER32	Ø8.5	 1	183.250.01	183.250.02

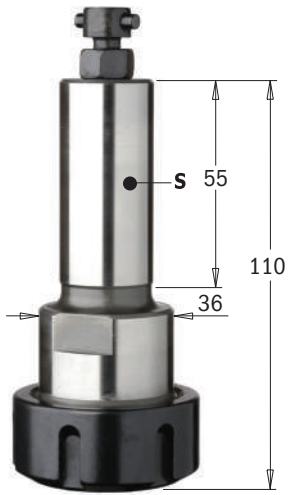
995.250 For MORBIDELLI® and SCM® machines.

SAFETY TIPS



The **TW-200** Torque Wrench is recommended for the proper fastening of clamping nuts (see page 421).

Chucks for "ER32" Precision Collets



183.400 WITH PARALLEL SHANK Ø25MM

RH

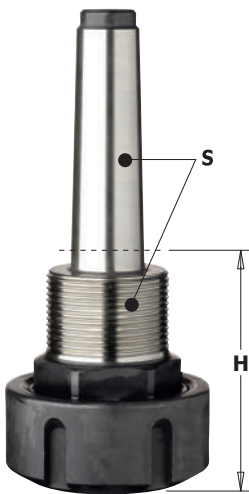
S mm	TO BE USED WITH COLLET	RETAINING STUD		ORDER NO. Right-hand rotation	
Ø25x55	ER32	LEUCO® P-SYSTEM®	1	183.400.01	

For machines with LEUCO® P-SYSTEM®.

SAFETY TIPS



The **TW-200** Torque Wrench is recommended for the proper fastening of clamping nuts (see page 421).



183.000/100 WITH MK2/MK3 TAPERED SHANK

RH LH

S mm	TO BE USED WITH COLLET	H mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
MK2/M30x1.5	ER32	62	1	183.000.01	183.000.02
MK3/M30x1.5	ER32	70	1	183.100.01	

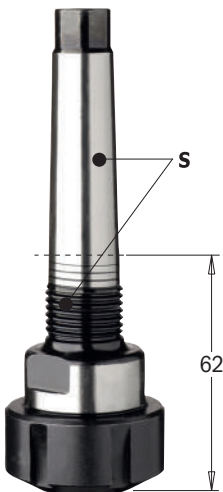
MK2/MK3 tapered shank

SAFETY TIPS



The **TW-200** Torque Wrench is recommended for the proper fastening of clamping nuts (see page 421).

Chucks for Biconical Collets with MK2 Tapered Shank



123

RH LH

S		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
MK2/Ø20x14Fx1"	1	123.000.01	123.000.02

Spare parts: **992.123.01** Clamping nut RH
992.123.02 Clamping nut LH
991.123.00 C-spanner

SAFETY TIPS



The **TW-200** Torque Wrench is recommended for the proper fastening of clamping nuts (see page 421).
 The **TW-2836** Hook Insert can be used with this item (see page 421).



124 BICONICAL COLLETS

mm	B inches		ORDER NO.	mm	B inches		ORDER NO.
6		1	124.060.00	10		1	124.100.00
6.35	1/4	1	124.064.00	12		1	124.120.00
8	5/16	1	124.080.00	12.7	1/2	1	124.127.00
9.5	3/8	1	124.095.00	14		1	124.140.00

Precision Collets "DIN6499"

184 TECHNICAL DETAILS:

Replaceable **Standard Precision 0.015** collets. 0; -0.7mm wide clamping tolerance.
 Replaceable **High Precision 0.005** collets. 0; -1mm wide clamping tolerance.
 Suitable for most conical chucks.
Special dimensions available on request.



RUN-OUT
 This tolerance is guaranteed only on the nominal diameter



ER11

B mm	ORDER NO. STANDARD
2	184.020.11
3	184.030.11
4	184.040.11
5	184.050.11
6	184.060.11

BULK PACK 10 PCS.



ER16

B mm	B inches	ORDER NO. STANDARD	B mm	B inches	ORDER NO. STANDARD
2		184.020.16	7		184.070.16
3		184.030.16	8 5/16		184.080.16
4		184.040.16	9		184.090.16
5		184.050.16	10		184.100.16
6		184.060.16			

BULK PACK 10 PCS.



ER20

B mm	B inches	ORDER NO. STANDARD	B mm	B inches	ORDER NO. STANDARD
2		184.020.20	8 5/16		184.080.20
3		184.030.20	9		184.090.20
4		184.040.20	10		184.100.20
5		184.050.20	11		184.110.20
6		184.060.20	12		184.120.20
6.35	1/4	184.064.20	12.7	1/2	184.127.20
7		184.070.20			

BULK PACK 10 PCS.



ER25

B mm	B inches	ORDER NO. STANDARD
3		184.030.25
4		184.040.25
5		184.050.25
6		184.060.25
6.35	1/4	184.064.25
8	5/16	184.080.25
9		184.090.25
10		184.100.25
12		184.120.25
12.7	1/2	184.127.25
14		184.140.25
16	5/8	184.160.25

BULK PACK 10 PCS.



ER32



B mm	B inches	ORDER NO. STANDARD	ORDER NO. HIGH	B mm	B inches	ORDER NO. STANDARD	ORDER NO. HIGH
3		184.030.00		11		184.110.00	
4		184.040.00	184.040.00H	12		184.120.00	184.120.00H
5		184.050.00		12.7	1/2	184.127.00	
6		184.060.00	184.060.00H	14		184.140.00	
6.35	1/4	184.065.00		15		184.150.00	
7		184.070.00		16	5/8	184.160.00	184.160.00H
8	5/16	184.080.00	184.080.00H	17		184.170.00	
9		184.090.00		18		184.180.00	
9.53	3/8	184.095.00		19	3/4	184.190.00	
10		184.100.00	184.100.00H	20		184.200.00	184.200.00H

For chucks:

183.000/100/200/250/300/400

BULK PACK 10 PCS.



ER40



B mm	B inches	ORDER NO. STANDARD	ORDER NO. HIGH	B mm	B inches	ORDER NO. STANDARD	ORDER NO. HIGH
3		184.032.00		12		184.122.00	184.122.00H
4		184.042.00		12.7	1/2	184.128.00	
5		184.052.00		14		184.142.00	
6		184.062.00	184.062.00H	16	5/8	184.162.00	184.162.00H
6.35	1/4	184.064.00		18		184.182.00	
7		184.072.00		19	3/4	184.192.00	
8	5/16	184.082.00	184.082.00H	20		184.202.00	184.202.00H
9.53	3/8	184.096.00		25		184.252.00	184.252.00H
10		184.102.00					

For chucks:

183.201/211/221/310

BULK PACK 10 PCS.

Precision Collets "DIN6388"

185 TECHNICAL DETAILS:

Replaceable **Standard Precision 0.015** collets. 0; -0.7mm wide clamping tolerance.
Suitable for most conical chucks.

Special dimensions available on request.



EOC25

mm	B inches		ORDER NO.	mm	B inches		ORDER NO.
3		10	185.030.00	12		10	185.120.00
4		10	185.040.00	12.7	1/2	10	185.127.00
5		10	185.050.00	14		10	185.140.00
6		10	185.060.00	16	5/8	10	185.160.00
6.35	1/4	10	185.064.00	18		10	185.180.00
8	5/16	10	185.080.00	19	3/4	10	185.191.00
9.5	3/8	10	185.095.00	20		10	185.200.00
10		10	185.100.00	25		10	185.250.00

EOC16

mm	B inches		ORDER NO.	mm	B inches		ORDER NO.
6		10	185.060.16	12		10	185.120.16
8	5/16	10	185.080.16	14		10	185.140.16
10		10	185.100.16	16	5/8	10	185.160.16

Clamping Nuts



992.583 FOR «ER25»

RH LH

DESCRIPTION	D mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
Clamping nut without bearing	42	M32x1.5	1	992.583.01	992.583.02

992.183 FOR «ER32»

RH LH

DESCRIPTION	D mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
Clamping nut without bearing					
For 183.000/100/200/250/300/400 chucks	50	M40x1.5	1	992.183.01	992.183.02
Clamping nut with bearing					
For 183.000/100/200/250/300/400 chucks	50	M40x1.5	1	992.183.11	992.183.12

992.383 FOR «ER40»

RH LH

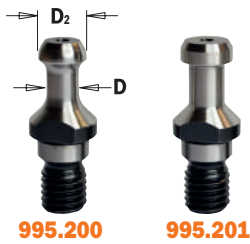
DESCRIPTION	D mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
Clamping nut without bearing					
For 183.201/211/221/310 chucks	63	M50x1.5	1	992.383.01	992.383.02
Clamping nut with bearing					
For 183.201/211/221/310 chucks	63	M50x1.5	1	992.383.11	

992.283 FOR «EOC25»

RH

DESCRIPTION	D mm	S mm		ORDER NO. Right-hand rotation	
Clamping nut without bearing for chuck 183.320	60	M48x2	1	992.283.01	
Clamping nut with bearing for chuck 183.320	60	M48x2	1	992.283.11	

ISO30 Retaining Studs



995.200

995.201



995.202

995.250

995.400

995

	DESCRIPTION	D mm	D ₂ mm	ORDER NO.
For 183.200/201	BIESSE® chucks	8	12.8	995.200.00
For 183.210/211	BIESSE®, OMLAT®, NUOVA BULLERI BREVETTI®, BUSELLATO®, WEEKE®, IMA® chucks	9	13	995.201.00
For 183.220/221	ALBERTI® - MASTERWOOD® chucks	9	12.8	995.202.00
For 183.250/251	SCM® - MORBIDELLI® chucks	6.5	8.5	995.250.00
For 183.400	LEUCO® P-SYSTEM® chucks	M8		995.400.00

C-Spanner



991.183/184

DESCRIPTION	ORDER NO.
C-Spanner for "ER32" (M40x1.5mm)	1 991.183.00
C-Spanner for "ER40" (M50x1.5mm)	1 991.184.00



991.283 FOR «DIN6388» AND «ER40»

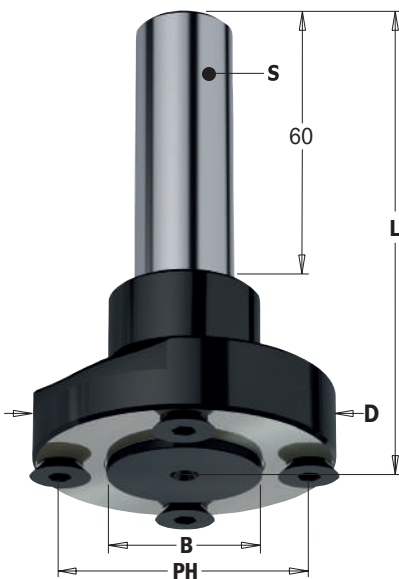
DESCRIPTION	ORDER NO.
C-Spanner for 58-62-65mm	1 991.283.00



991.284/285 FOR KINETIC

DESCRIPTION	ORDER NO.
C-Spanner 80-90mm for KINETIC ER20/ER25	1 991.285.00
C-Spanner 95-100mm (17112) for KINETIC ER32/ER40	1 991.284.00

Saw Blade Arbor with Parallel Shank



183.410

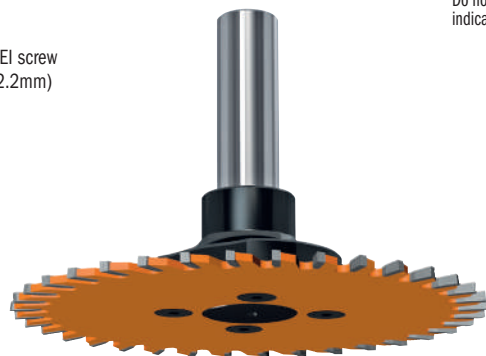
S mm	D mm	B mm	PIN HOLE	L mm	ORDER NO.
20	59	30	4/M6/48	97.5	1 183.410.30

Spare parts: 990.116.00 M6x8.7x12mm TSPEI screw (to use with Plate Thickness ≥ 2.2mm)
 991.067.00 3mm hex key
 991.064.00 4mm hex key

Optional: 990.083.00 M6x8x10mm TSPEI screw (to use with Plate Thickness < 2.2mm)



Max saw blade Ø250mm for chuck 183.410.30
 Do not exceed maximum RPM indicated on the blade.

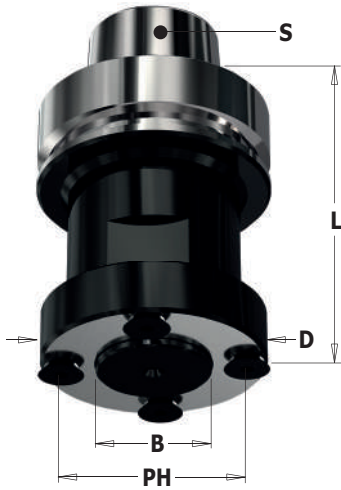


Grooving saw blades available at page 58 on request.

SAFETY TIPS



The **TW-006** Torque Screwdriver is recommended for the proper fastening of screws (see page 421).



183.420

LH RH

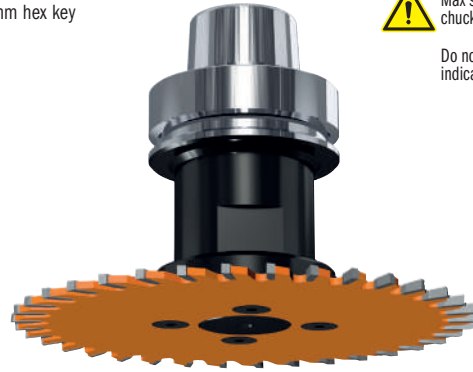
S	D mm	B mm	PIN HOLE	L mm		ORDER NO.
HSK-63F	59	30	4/M6/48	78	1	183.420.30

Spare parts: 990.116.00 M6x8.7x12mm TSPEI screw
991.064.00 4mm hex key



Max saw blade \varnothing 250mm for chuck 183.420.30

Do not exceed maximum RPM indicated on the blade.

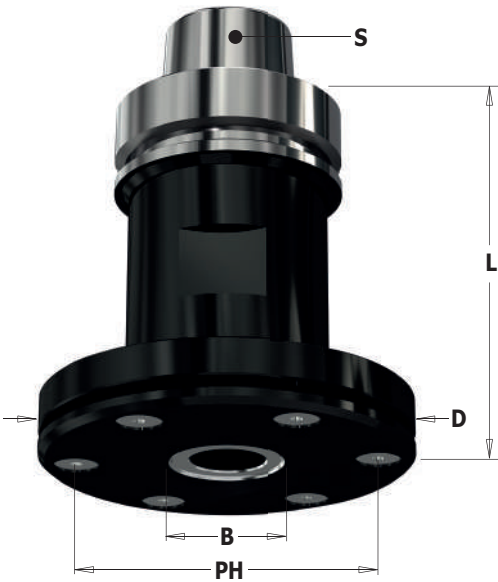


Grooving saw blades available at page 58 on request.

SAFETY TIPS



The **TW-006** Torque Screwdriver is recommended for the proper fastening of screws (see page 421).



183.421

LH RH

S	D mm	B mm	PIN HOLE	L mm		ORDER NO.
HSK-63F	98	30	6/M6/80	94	1	183.421.30

Spare parts: 990.119.00 M6x12x16mm TSPEI screw
991.064.00 4mm hex key



Max saw blade \varnothing 300mm for chuck 183.421.30

Do not exceed maximum RPM indicated on the blade.

WITH FLANGE \varnothing 98mm

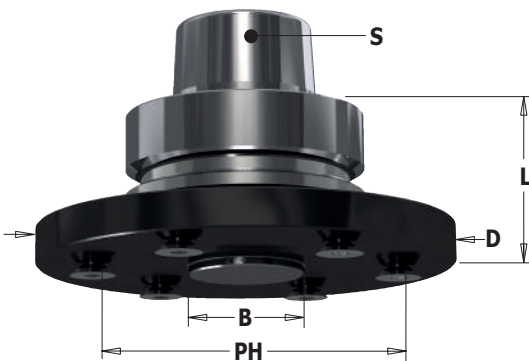


Grooving saw blades available on request.

SAFETY TIPS



The **TW-006** Torque Screwdriver is recommended for the proper fastening of screws (see page 421).



183.422

LH RH

S	D mm	B mm	PIN HOLE	L mm		ORDER NO.
HSK-63F	110	30	6/M6/80	40	1	183.422.30

Spare parts: 990.116.00 M6x8.7x12mm TSPEI screw
991.064.00 4mm hex key



Max saw blade \varnothing 350mm for chuck 183.422.30

Do not exceed maximum RPM indicated on the blade.

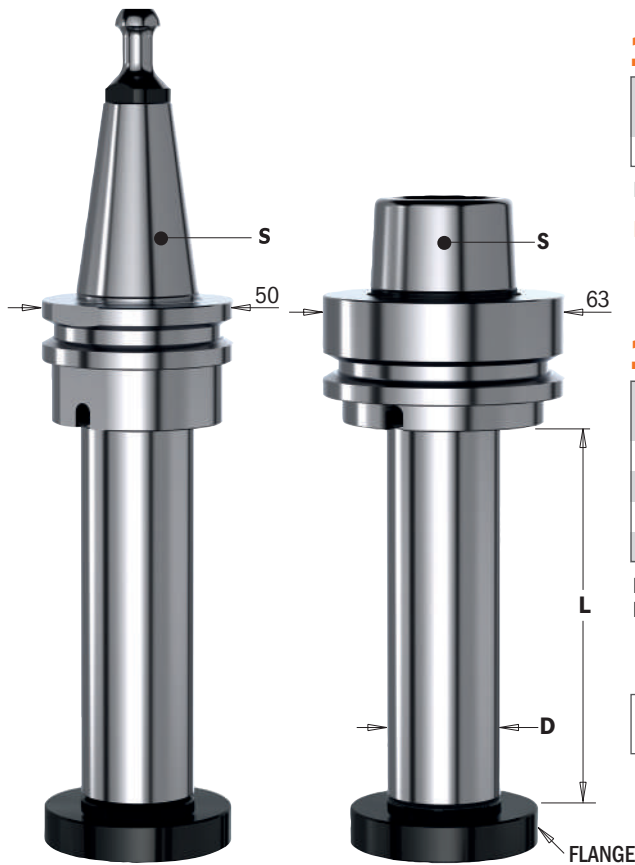


Grooving saw blades available on request.

SAFETY TIPS



The **TW-006** Torque Screwdriver is recommended for the proper fastening of screws (see page 421).



183.260



S	DESCRIPTION	D x L mm		ORDER NO.
ISO30	Cutter arbor with ISO30 tapered shank	30x100	1	183.260.00

For BIESSE® machines.

REMARK: special dimensions available on request.

183.360



S	DESCRIPTION	D x L mm		ORDER NO.
HSK-63F	Cutter arbor with HSK tapered shank	30x100	1	183.360.00
HSK-63F	Cutter arbor with HSK tapered shank	30x150	1	183.360.10
HSK-63F	Cutter arbor with HSK tapered shank	35x100	1	183.361.00
HSK-63F	Cutter arbor with HSK tapered shank	40x100	1	183.362.00

For HOMAG®, EIMA®, IMA® FROM 9/94, WEEKE®, BIESSE®, SCM®, MORBIDELLI® and MASTERWOOD® machines.

SAFETY TIPS



The **TW-006** Torque Screwdriver is recommended for the proper fastening of screws (see page 421).

Spare Parts for Cutter Arbor Chucks

Standard



Optional



DESCRIPTION	ORDER NO.	DESCRIPTION	ORDER NO.
M6x25 TCEI screw	990.098.00	Optional Steel Flange	
Steel flange for with Ø30mm arbors - Male	992.560.30M	For with Ø30mm arbors - Female	992.560.30F
Steel flange for with Ø35mm arbors - Male	992.560.35M	For with Ø35mm arbors - Female	992.560.35F
Steel flange for with Ø40mm arbors - Male	992.560.40M	For with Ø30mm arbors - Female	992.560.40F

Universal Assembly Supports for Chucks

183

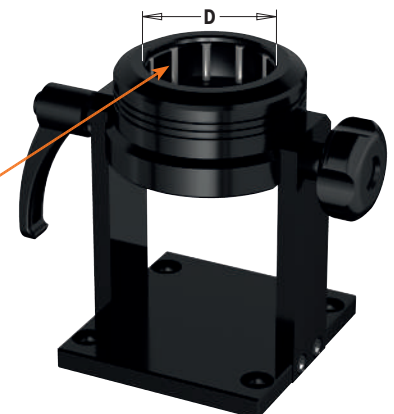


SUITABLE FOR	D mm		ORDER NO.
HSK-63, BT40, ISO40 DIN 2080, SK40 DIN 69871, CAPTO® C6	63	1	183-HSK
ISO30, DIN 2080, SK30 DIN 69871, HSK50, CAPTO® C5	50	1	183-ISO*

*Not compatible with chucks **183.250** and **183.251**

CMT now offers new universal assembly supports for HSK-63F and ISO30 chucks. Thanks to the bi-directional roller bearings, which clamp the Left-hand rotation to the flange, the system offers the highest protection to the tool taper and clamps are no longer needed.

Nm Max = 300 Nm





XTREME COATING

THE ULTIMATE TECHNOLOGY FOR INDUSTRIAL CNC TOOLS

DLCS is a modified diamond-like carbon coating that delivers outstanding performance. Chromium Nitride reinforced with layered carbon ensure durability and hardness, enhancing surface resilience and improving tribological properties. The coating shields against excessive overheating, which could otherwise jeopardize tool performance over time.

<p>EXTREME COATING HARDNESS >2.500 HV</p> <p>Offers impressive hardness on cutting edges as well as outstanding protection against wear and tear.</p>	<p>ULTRA-THIN COATING 2-4 µm</p> <p>The micron thin finish maintains perfect sharpness for excellent cutting quality.</p>	<p>REDUCED FRICTION COEFFICIENT (0,1-0,2)</p> <p>Very good running-in and low friction losses. Reduction of sticking. Ideal for high speeds in Nesting applications.</p>	<p>OPTIMAL RESISTANCE TO HEAT BUILD UP</p> <p>Reduced overheating. Cutting edges resist excessive wear even up to 400°C.</p>
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BENEFITS



3X
LONGER LIFE
THAN UNCOATED

DLCS CHROME COATING

PROVIDES 3 TIMES LONGER LIFE THAN UNCOATED TOOLS!



Test performed in U.S. with 1/2" solid carbide compression spiral bit

- MACHINE:** FELDER® Profit H10 (Nested Base/Overhead CNC Router)
- WORKING PARAMETERS:** RPM = 18.000 - Feed = 20 mts/minute
- MATERIAL:** 19mm Melamine Chipboard
- APPLICATION:** Nesting Full Dimensioning
- PERFORMANCE:** DLCS coated bit cut 165 melamine panels
Uncoated bit cut 56 melamine panels

FELDER® PROFIT H10



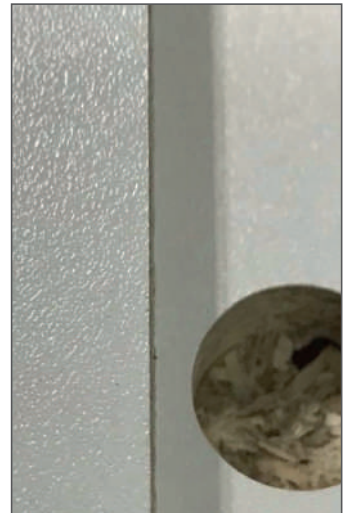
DLCS COATED BIT



MELAMINE CHIPBOARD



CUT QUALITY AFTER 165 PANELS





190.41 DLCS CHROME COATING



D mm	I mm	I ₁ mm	L mm	S mm	Z	Box	ORDER NO. Right-hand rotation
8	32	7	80	8	2+2	10	190.080.41
9.53	28.6	7	76.2	9.53	2+2	10	190.504.41
10	32	7	80	10	2+2	10	190.100.41
10	42	7	90	10	2+2	10	190.101.41
12	42	7	90	12	2+2	10	190.120.41
12	52	7	100	12	2+2	10	190.121.41
12.7	25.4	12	76.2	12.7	2+2	10	190.505.41
12.7	28.6	12	76.2	12.7	2+2	10	190.506.41
12.7	34.9	12	88.9	12.7	2+2	10	190.507.41
12.7	41.3	12	101.6	12.7	2+2	10	190.508.41

...UP & DOWNCUT MORTISING BITS

9.53	22.2	4.8	76.2	9.53	2+2	10	190.513.41
9.53	25.4	5.2	76.2	9.53	3+3	10	190.813.41
12	25	5.2	83	12	3+3	10	190.320.41
12.7	22.2	5.2	76.2	12.7	2+2	10	190.515.41
12.7	34.9	5.2	88.9	12.7	2+2	10	190.517.41
12.7	28.5	6	76.2	12.7	3+3	10	190.815.41



190



D mm	I mm	I ₁ mm	L mm	S mm	Z	Box	ORDER NO. Right-hand rotation
4	15	5	50	4	1+1	10	190.040.11
5	22	8	60	5	1+1	10	190.050.11
6	22	8	60	6	1+1	10	190.060.11
6.35	22.2	7	63.5	6.35	2+2	10	190.008.11
8	32	7	80	8	2+2	10	190.080.11
9.53	28.6	7	76.2	9.53	2+2	10	190.504.11
10	32	7	80	10	2+2	10	190.100.11
10	42	7	90	10	2+2	10	190.101.11
12	42	7	90	12	2+2	10	190.120.11
12	52	7	100	12	2+2	10	190.121.11
12.7	25.4	12	76.2	12.7	2+2	10	190.505.11
12.7	28.6	12	76.2	12.7	2+2	10	190.506.11
12.7	34.9	12	88.9	12.7	2+2	10	190.507.11
12.7	41.3	12	101.6	12.7	2+2	10	190.508.11
16	55	24	110	16	2+2	10	190.160.11
18	55	30	110	18	2+2	10	190.180.11

...UP & DOWNCUT MORTISING BITS

9.53	22.2	4.8	76.2	9.53	2+2	10	190.513.11
9.53	25.4	5.2	76.2	9.53	3+3	10	190.813.11
12	25	5.2	83	12	3+3	10	190.320.11
12.7	22.2	5.2	76.2	12.7	2+2	10	190.515.11
12.7	34.9	5.2	88.9	12.7	2+2	10	190.517.11
12.7	28.5	6	76.2	12.7	3+3	10	190.815.11

TECHNICAL DETAILS:

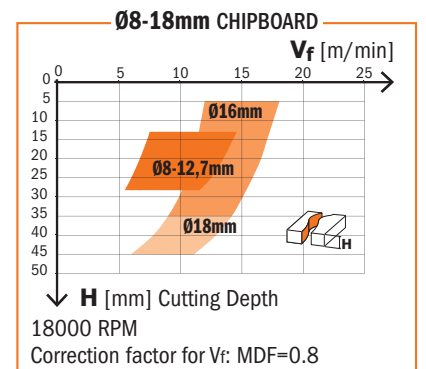
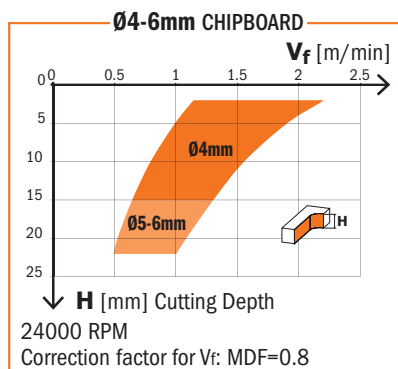
- Premium quality HWM.
- 1+1 spiral cutting edges [Z1+1].
- 2+2 spiral cutting edges [Z2+2].
- 3+3 spiral cutting edges [Z3+3].
- Provide an excellent finish on both the upper and the lower side of the workpiece.

APPLICATION:

used for efficient contour cutting, end-trimming and panel sizing on solid wood, wood composites, plastic materials and laminates at high feed speed. Ensure to properly clamp workpieces. Can be used on machining centres, point-to-point boring machines, CNC routers and hand-held routers equipped with chucks or adaptors.



Results shown in this diagram are purely empirical, based merely on informative and hypothetical calculation. Each application may require different parameters in consideration of materials in use and machining conditions. CMT is not responsible for direct, indirect, incidental or consequential damages resulting from any defect, error or failure due to this diagram.





198 UPCUT SPIRAL



D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation
3	12	50	3	10	198.030.11
3.18	12.7	50.8	6.35	10	198.001.11
4	15	50	4	10	198.040.11
4.76	15.88	50.8	6.35	10	198.005.11
5	17	50	5	10	198.050.11
6	22	60	6	10	198.060.11
6.35	19.05	50.8	6.35	10	198.007.11
6.35	25.4	63.5	6.35	10	198.008.11
8	22	70	8	10	198.080.11
8	32	80	8	10	198.081.11
9.53	28.57	76.2	9.53	10	198.504.11
10	32	70	10	10	198.100.11
10	42	80	10	10	198.101.11
10	52	90	10	10	198.102.11
12	32	83	12	10	198.120.11

TECHNICAL DETAILS:

- Premium quality HWM.
- 1 spiral cutting edge [Z1].
- **Provide an excellent finish on the lower side of the workpiece.**
- Upward chip ejection.

APPLICATION:

used for efficient contour cutting, end-trimming and panel sizing on solid wood, wood composites, plastic materials and laminates at high feed speed. Ensure to properly clamp workpieces.
Can be used on machining centres, point-to-point boring machines, CNC routers and hand-held routers equipped with chucks or adaptors.



198 DOWNCUT SPIRAL



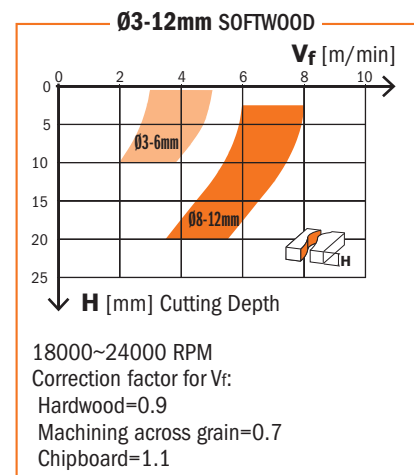
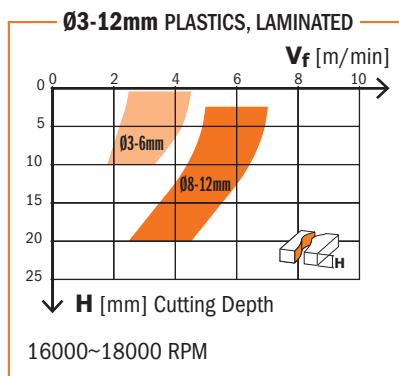
D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation
6	27	60	6	10	198.660.11

TECHNICAL DETAILS:

- Premium quality HWM.
- 1 spiral cutting edge [Z1].
- **Provide an excellent finish on the top side of the workpiece.**
- Downward chip ejection.

APPLICATION:

used for efficient contour cutting, end-trimming and panel sizing on solid wood, wood composites, plastic materials and laminates at high feed speed. Ensure to properly clamp workpieces.
Can be used on machining centres, point-to-point boring machines, CNC routers and hand-held routers equipped with chucks or adaptors.



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Z2 - Solid Carbide Upcut Spiral Bits

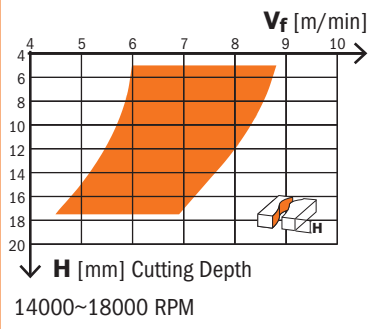


191

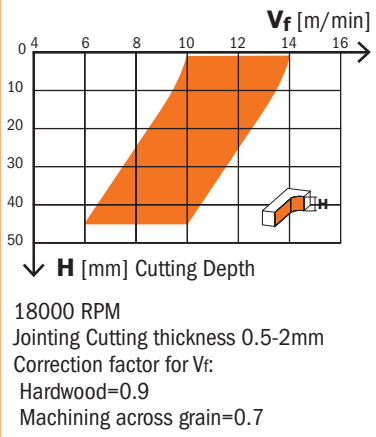


D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation
3	12	50	3	10	191.030.11
3	12	60	6	10	191.630.11
3	12	60	8	10	191.830.11
3.18	12.7	50.8	6.35	10	191.001.11
3.5	12	60	6	10	191.635.11
3.97	12.7	50.8	6.35	10	191.003.11
4	15	50	4	10	191.040.11
4	15	60	6	10	191.640.11
4	15	60	8	10	191.840.11
4.76	19.05	50.8	6.35	10	191.005.11
5	17	50	5	10	191.050.11
5	17	60	6	10	191.650.11
5	17	60	8	10	191.850.11
6	27	70	6	10	191.060.11
6	27	70	8	10	191.860.11
6.35	19.05	50.8	6.35	10	191.007.11
6.35	25.4	63.5	6.35	10	191.008.11
7	32	80	8	10	191.870.11
7.94	25.4	76.2	12.7	10	191.501.11
8	22	70	8	10	191.080.11
8	32	80	8	10	191.081.11
8	42	90	8	10	191.082.11
9	32	83	12	10	191.890.11
9.53	31.75	82.5	12.7	10	191.503.11
10	32	80	8	10	191.800.11
10	32	80	10	10	191.100.11
10	32	83	12	10	191.900.11
10	42	90	10	10	191.101.11
10	42	90	12	10	191.901.11
12	35	83	8	10	191.820.11
12	35	83	12	10	191.120.11
12	42	90	12	10	191.121.11
12	52	100	12	10	191.122.11
12.7	31.75	76.2	12.7	10	191.505.11
12.7	38.1	88.9	12.7	10	191.506.11
12.7	50.8	101.6	12.7	10	191.507.11
14	50	110	14	1	191.140.11
16	55	110	16	1	191.160.11
16	35	90	16	1	191.161.11
16	72	120	16	1	191.165.11
20	72	120	20	1	191.200.11

Ø12-14mm PLASTICS, LAMINATED



Ø12-20mm SOFTWOOD



TECHNICAL DETAILS:

- Premium quality HWM.
- 2 spiral cutting edges [Z2].
- **Provide an excellent finish on the lower side of the workpiece.**
- Upward chip ejection.

APPLICATION:

used for efficient contour cutting, end-trimming and panel sizing on solid wood, wood composites, plastic materials and laminates at high feed speed. Ensure to properly clamp workpieces.
 Can be used on machining centres, point-to-point boring machines, CNC routers and hand-held routers equipped with chucks or adaptors.



Results shown in this diagram are purely empirical, based merely on informative and hypothetical calculation. Each application may require different parameters in consideration of materials in use and machining conditions. CMT is not responsible for direct, indirect, incidental or consequential damages resulting from any defect, error or failure due to this diagram.

Z2 - Solid Carbide Downcut Spiral Bits - LONG LIFE



192.41 DLCS CHROME COATING



D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation
6.35	19.05	50.8	6.35	10	192.007.41
6.35	25.4	63.5	6.35	10	192.008.41
9.53	31.75	82.5	12.7	10	192.503.41
12.7	31.75	76.2	12.7	10	192.505.41
12.7	38.1	88.9	12.7	10	192.506.41
12.7	50.8	101.6	12.7	10	192.507.41



192



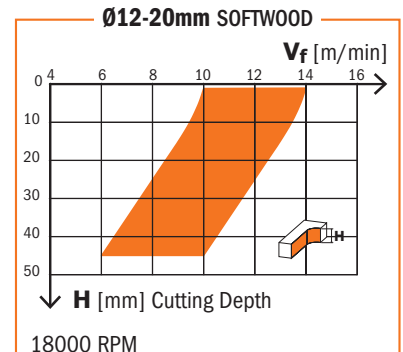
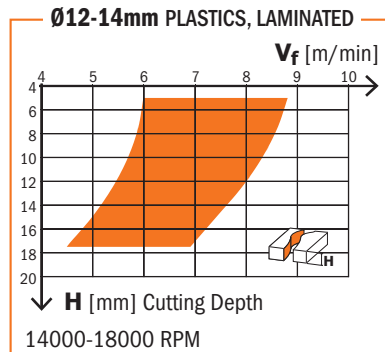
D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation
3	12	50	3	10	192.030.11
3	12	60	6	10	192.630.11
3	12	60	8	10	192.830.11
3.18	12.7	50.8	6.35	10	192.001.11
3.97	12.7	50.8	6.35	10	192.003.11
4	15	50	4	10	192.040.11
4	15	60	6	10	192.640.11
4	15	60	8	10	192.840.11
4.76	19.05	50.8	6.35	10	192.005.11
5	17	50	5	10	192.050.11
5	17	60	6	10	192.650.11
5	17	60	8	10	192.850.11
6	27	70	6	10	192.060.11
6	27	70	8	10	192.860.11
6.35	19.05	50.8	6.35	10	192.007.11
6.35	25.4	63.5	6.35	10	192.008.11
7.94	25.4	76.2	12.7	10	192.501.11
8	22	70	8	10	192.080.11
8	32	80	8	10	192.081.11
8	42	90	8	10	192.082.11
9.53	31.75	82.5	12.7	10	192.503.11
10	32	80	8	10	192.800.11
10	32	80	10	10	192.100.11
10	42	90	10	10	192.101.11
10	32	83	12	10	192.900.11
12	35	83	8	10	192.820.11
12	35	83	12	10	192.120.11
12.7	31.75	76.2	12.7	10	192.505.11
12.7	38.1	88.9	12.7	10	192.506.11
12.7	50.8	101.6	12.7	10	192.507.11
14	52	110	14	1	192.140.11
16	55	110	16	1	192.160.11

TECHNICAL DETAILS:

- Premium quality HWM.
- 2 spiral edges [Z2].
- Provide an excellent finish on the upper side of the workpiece.
- Downward chip ejection.

APPLICATION:

used for efficient contour cutting, end-trimming and panel sizing on solid wood, wood composites, plastic materials and laminates at high feed speed. Ensure to properly clamp workpieces. Can be used on machining centres, point-to-point boring machines, CNC routers and hand-held routers equipped with chucks or adaptors.

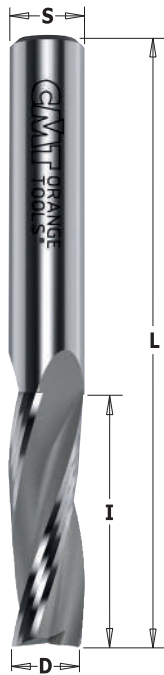


Jointing Cutting thickness 0.5-2mm
Correction factor for Vf:
Hardwood=0.9
Machining across grain=0.7



Results shown in this diagram are purely empirical, based merely on informative and hypothetical calculation. Each application may require different parameters in consideration of materials in use and machining conditions. CMT is not responsible for direct, indirect, incidental or consequential damages resulting from any defect, error or failure due to this diagram.

Z3 - Solid Carbide Upcut Spiral Bits



193



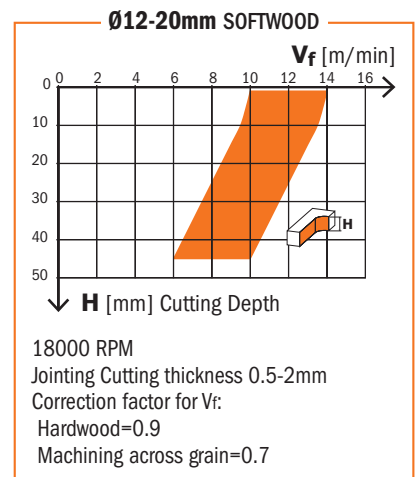
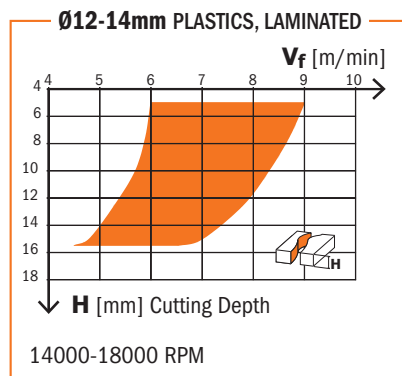
D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
8	32	80	8	10	193.081.11	193.081.12
10	32	80	10	10	193.100.11	193.100.12
10	42	90	10	10	193.101.11	
12	35	83	12	10	193.120.11	193.120.12
12	42	90	12	10	193.121.11	
12	52	100	12	10	193.122.11	
14	58	110	14	1	193.140.11	
16	55	110	16	1	193.160.11	193.160.12
16	35	90	16	1	193.161.11	
16	72	120	16	1	193.165.11	
18	55	110	18	1	193.180.11	
20	60	120	20	1	193.200.11	193.200.12
20	70	120	20	1	193.201.11	
20	102	165	20	1	193.202.11	

TECHNICAL DETAILS:

- Premium quality HWM.
- 3 spiral cutting edges [Z3].
- **Provide an excellent finish on the lower side of the workpiece.**
- Upward chip ejection.

APPLICATION:

used for efficient contour cutting, end-trimming and panel sizing on solid wood, wood composites, plastic materials and laminates at high feed speed. Ensure to properly clamp workpieces. Can be used on machining centres, point-to-point boring machines, CNC routers and hand-held routers equipped with chucks or adaptors.



Results shown in this diagram are purely empirical, based merely on informative and hypothetical calculation. Each application may require different parameters in consideration of materials in use and machining conditions. CMT is not responsible for direct, indirect, incidental or consequential damages resulting from any defect, error or failure due to this diagram.

Z3 - Solid Carbide Downcut Spiral Bits



194



new

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
8	32	80	8	10	194.081.11	
10	32	80	10	10	194.100.11	
10	42	90	10	10	194.101.11	
12	35	83	12	10	194.120.11	194.120.12
12	42	90	12	10	194.121.11	
14	50	110	14	1	194.140.11	
16	55	110	16	1	194.160.11	194.160.12
16	35	90	16	1	194.161.11	
18	55	110	18	1	194.180.11	
20	60	120	20	1	194.200.11	194.200.12
20	72	140	20	1	194.201.11	
20	102	165	20	1	194.202.11	

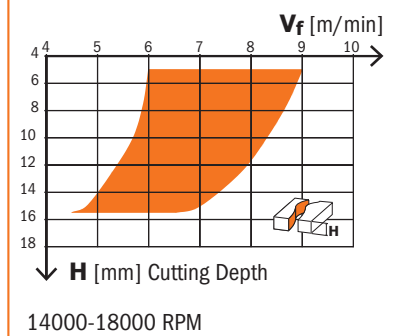
TECHNICAL DETAILS:

- Premium quality HWM.
- 3 spiral cutting edges [Z3].
- **Provide an excellent finish on the upper side of the workpiece.**
- Downward chip ejection.

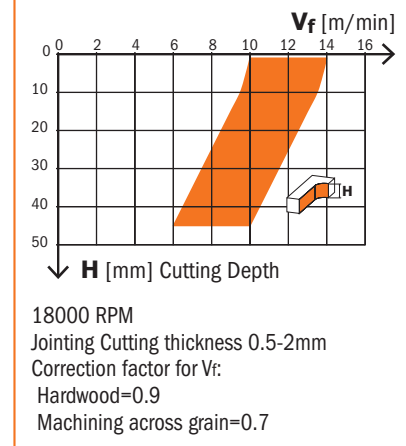
APPLICATION:

used for efficient contour cutting, end-trimming and panel sizing on solid wood, wood composites, plastic materials and laminates at high feed speed. Ensure to properly clamp workpieces. Can be used on machining centres, point-to-point boring machines, CNC routers and hand-held routers equipped with chucks or adaptors.

Ø12-14mm PLASTICS, LAMINATED

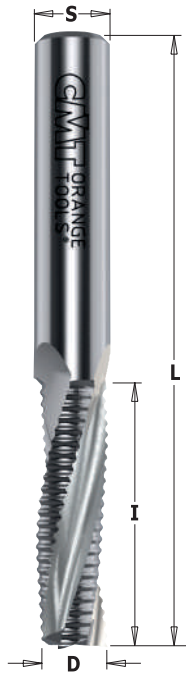


Ø12-20mm SOFTWOOD



Results shown in this diagram are purely empirical, based merely on informative and hypothetical calculation. Each application may require different parameters in consideration of materials in use and machining conditions. CMT is not responsible for direct, indirect, incidental or consequential damages resulting from any defect, error or failure due to this diagram.

Z3R - Solid Carbide Upcut Spiral Bits with Chipbreaker



195



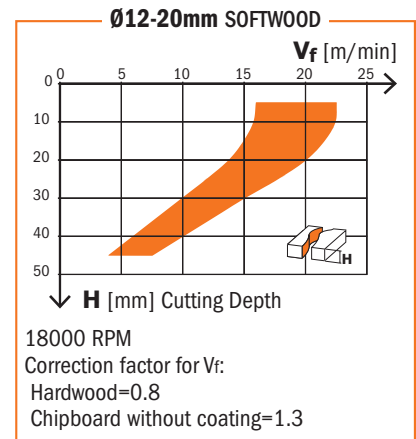
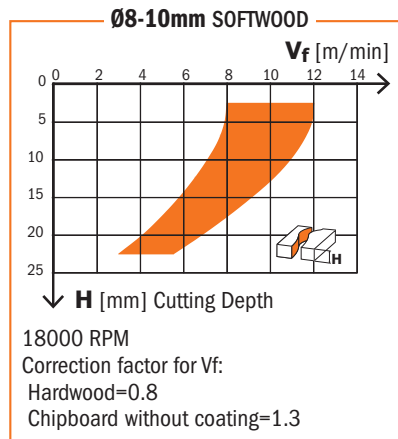
D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
8	32	80	8	10	195.081.11	195.081.12
8	42	90	8	10	195.082.11	
10	32	80	10	10	195.100.11	195.100.12
10	42	90	10	10	195.101.11	
12	35	83	12	10	195.120.11	195.120.12
12	42	90	12	10	195.121.11	
12	52	100	12	10	195.122.11	
12.7	38.1	88.9	12.7	10	195.506.11	
14	58	110	14	1	195.140.11	
16	55	110	16	1	195.160.11	195.160.12
16	35	90	16	1	195.161.11	
16	72	120	16	1	195.165.11	
18	55	110	18	1	195.180.11	
20	60	120	20	1	195.200.11	195.200.12
20	72	120	20	1	195.201.11	
20	102	165	20	1	195.202.11	

TECHNICAL DETAILS:

- Premium quality HWM.
- 3 spiral cutting edges [Z3R].
- Chipbreaker teeth.
- Max 0.3mm tooth depth.
- **Provide an excellent finish on the lower side of the workpiece.**
- Upward chip ejection.

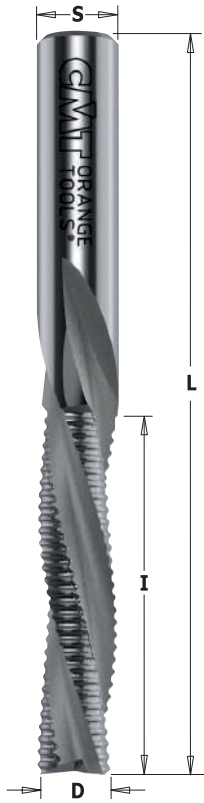
APPLICATION:

used for efficient contour cutting, end-trimming and panel sizing on solid wood, wood composites, plastic materials and laminates at high feed speed. Ensure to properly clamp workpieces. Can be used on machining centres, point-to-point boring machines, CNC routers and hand-held routers equipped with chucks or adaptors.



Results shown in this diagram are purely empirical, based merely on informative and hypothetical calculation. Each application may require different parameters in consideration of materials in use and machining conditions. CMT is not responsible for direct, indirect, incidental or consequential damages resulting from any defect, error or failure due to this diagram.

Z3R - Solid Carbide Downcut Spiral Bits with Chipbreaker



196



D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
8	32	80	8	10	196.081.11	
10	42	90	10	10	196.101.11	
12	35	83	12	10	196.120.11	196.120.12
12	42	90	12	10	196.121.11	
12	52	100	12	10	196.122.11	
12.7	38.1	88.9	12.7	10	196.506.11	
14	50	110	14	1	196.140.11	
16	55	120	16	1	196.160.11	196.160.12
18	55	110	18	1	196.180.11	
20	60	140	20	1	196.200.11	
20	72	140	20	1	196.201.11	

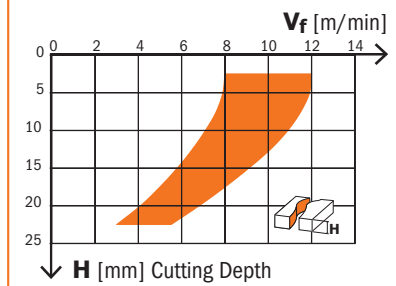
TECHNICAL DETAILS:

- Premium quality HWM.
- 3 spiral cutting edges [Z3R].
- Chipbreaker teeth.
- Max 0.3mm tooth depth.
- **Provide excellent finish on the upper side of the workpiece.**
- Downward chip ejection.

APPLICATION:

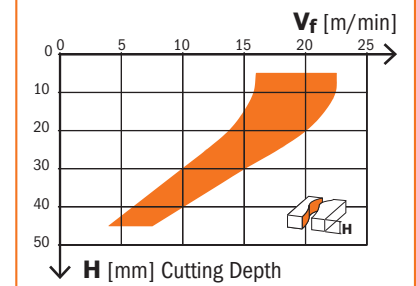
used for efficient contour cutting, end-trimming and panel sizing on solid wood, wood composites, plastic materials and laminates at high feed speed. Ensure to properly clamp workpieces. Can be used on machining centres, point-to-point boring machines, CNC routers and hand-held routers equipped with chucks or adaptors.

Ø8-10mm SOFTWOOD



18000 RPM
Correction factor for V_r :
Hardwood=0.8
Chipboard without coating=1.3

Ø12-20mm SOFTWOOD



18000 RPM
Correction factor for V_r :
Hardwood=0.8
Chipboard without coating=1.3



Results shown in this diagram are purely empirical, based merely on informative and hypothetical calculation. Each application may require different parameters in consideration of materials in use and machining conditions. CMT is not responsible for direct, indirect, incidental or consequential damages resulting from any defect, error or failure due to this diagram.

Z4R - Solid Carbide Upcut Spiral Bits



197



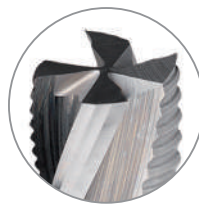
D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation
12	42	90	12	10	197.121.11
14	50	110	14	1	197.140.11
16	55	110	16	1	197.160.11
16	35	90	16	1	197.161.11
18	55	110	18	1	197.180.11
20	60	120	20	1	197.200.11
20	72	120	20	1	197.201.11

TECHNICAL DETAILS:

- Premium quality HWM.
- 4 spiral cutting edges (2 with chipbreaker) [Z2+2R].
- Max 0.1mm tooth depth.
- **Provide excellent finish on the lower side of the workpiece.**
- Upward chip ejection.

APPLICATION:

used for efficient contour cutting, end-trimming and panel sizing on solid wood and wood composites. Can be used on machining centres, point-to-point boring machines, CNC routers and hand-held routers equipped with chucks or adaptors.

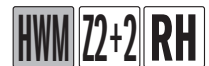


The special 4 flute design (Z2 finishing + Z2R with chipbreaker) allows high speed with excellent finish on the workpiece.

Solid Carbide Upcut & Downcut Spiral Bit - LONG LIFE



190.04 DLCS CHROME COATING



D mm	d mm	I mm	L mm	S mm	Z		ORDER NO. Right-hand rotation
9.8	7	25	83	12	2+2	10	190.001.04

LAMELLO® P-SYSTEM® components can be crafted on a CNC machining center. Groovework is carried out along the edge workpiece with a spiral cutter coated with DLCS for long life.



FOR USE ONLY ON 5 AXIS CNC MACHINES.



1



2

3



4



Solid Carbide Upcut 2D/3D Carving Tapered Ball Nose Spiral Bits



152



D mm	R mm	A	I mm	L mm	S mm	Z		ORDER NO. Right-hand rotation
0.8	0.4	5.5°	25	70	6	3	10	152.060.082
0.8	0.4	6.2°	25.4	76.2	6.35	3	10	152.064.082
1.6	0.8	4.5°	25	70	6	3	10	152.060.162
1.6	0.8	5.4°	25.4	76.2	6.35	3	10	152.064.162
1.6	0.8	5.5°	30	80	8	3	10	152.080.163
2	1	3°	80	120	12	2	10	152.120.208
3.2	1.6	2.5°	30	70	6	3	10	152.060.323
3.2	1.6	3.6°	25.4	76.2	6.35	3	10	152.064.322
3.2	1.6	2.5°	50	90	8	3	10	152.080.325
6	3	3°	50	100	12	2	10	152.120.605
6.4	3.2	3°	50.8	101.6	12.7	2	10	152.127.635

TECHNICAL DETAILS:

- Premium quality HWM.
- Upcut spiral cutting edges [Z2/Z3].
- **Excellent finish on the lower side of the work piece.**
- Upward chip ejection.

APPLICATION:

- especially designed for 2D and 3D CNC profiling and carving in plastic, aluminum & wood for several uses like:
- A perfect bit for 3D carving
 - Precision 2D and 3D large scale carving
 - Great for deep profiling
 - Dimensional signage
 - 3D millwork
 - 2D and 3D contouring, profiling, modeling and pattern making for cabinetry, sign making, furniture making and jewelry mold making
 - Perfect for model-makers on large 3D milling profiles in abrasive EPS foam and other materials.
 - **Ideal on aluminum, plastic and wood-based materials.**

EXCELLENT FOR CUTTING

- Acrylonitrile-Butadiene-Styrene (ABS)
- Acrylic
- Acrylic Stone
- Aluminum
- Brass
- Bronze
- Composite
- Copper
- Ethylene-vinyl Acetate Foam (EVA)
- Expanded Polypropylene (EPP)
- Expanded Polystyrene Foam (EPS)
- Extruded Polystyrene Foam (XPS)
- Fiberglass
- Fiberglass PCB Board
- Foam Board
- Graphite
- HDPE
- HDU
- 20lbs High Density Urethane
- MDF/HDF
- Phenolics
- Phenolic Composites
- Plastics
- Poly (methyl methacrylate) (PMMA)
- Polyethylene Foam
- Polyurethane Foam
- PVC
- PVC Foam Board
- Sign Board
- Sign Foam

- Titanium
- Tooling Board
- Wood
- XPE (Cross Linked Polyethylene) Foam

TIPS FOR MILLING PLASTICS

- pay attention to heat input
- pay attention to chip-loads when using small diameters
- use air-blast to keep chip away and cooling the tool

ALSO EXCELLENT FOR

- CORIAN®
- COROPLAST®
- DIBOND®
- ETHAFOAM®
- LEXAN®
- PALFOAM®
- POLYLAM®

Round Nose Solid Carbide Upcut Spiral Bits



199



D mm	R mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation
3.18	1.6	12.7	50.8	6.35	10	199.001.11
6	3	27	70	6	10	199.060.11
6.35	3.18	25.4	63.5	6.35	10	199.008.11
8	4	32	80	8	10	199.081.11
9.53	4.76	28.57	76.2	9.53	10	199.504.11
10	5	32	80	10	10	199.100.11
12	6	35	80	12	10	199.120.11
12.7	6.35	31.75	76.2	12.7	10	199.505.11
15.88	7.94	57.15	109.5	15.88	1	199.509.11
16	8	55	110	16	1	199.160.11
19.05	9.53	57.15	109.5	19.05	1	199.511.11

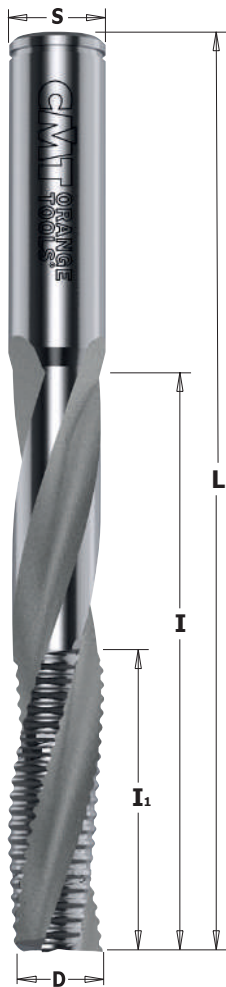
TECHNICAL DETAILS:

- Premium quality HWM.
- 2 upcut spiral cutting edges [Z2].
- Excellent finish on the lower side of the work piece.
- Upward chip ejection.

APPLICATION:

- used for efficient contour cutting, end-trimming and panel sizing on solid wood, wood composites, plastic materials and laminates at high feed speed. Ensure to properly clamp workpieces. Can be used on machining centres, point-to-point boring machines, CNC routers and hand-held routers equipped with chucks or adaptors. Cost-effective solution with respect to brazed and spiral in tungsten carbide.

Solid Carbide Upcut Spiral Bits for Locksets



193-195



D mm	I mm	I ₁ mm	L mm	S mm		ORDER NO. Right-hand rotation
WITH CHIPBREAKER						
14	95*	45	150	14	1	195.142.11
14	125*	45	170	14	1	195.144.11
16	95*	45	150	16	1	195.162.11
16	120*	50	170	16	1	195.164.11
18	95*	45	150	18	1	195.182.11
WITHOUT CHIPBREAKER						
16	95*	45	150	16	1	193.162.11

* The maximum cutting length is achieved in 2-3 passes.

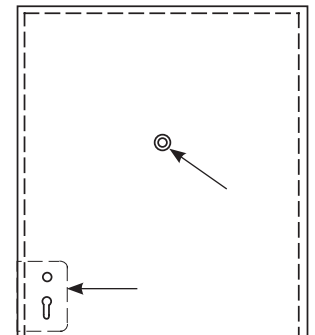
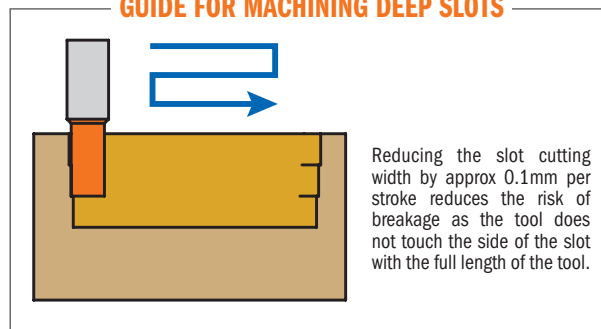
TECHNICAL DETAILS:

- Premium quality HWM.
- 3 spiral cutting edges [Z3] and [Z3R].
- Max 0.3mm tooth depth.
- **Provide an excellent finish on the lower side of the workpiece.**
- Seat for seeger ring (*not included*).
- Upward chip ejection.

APPLICATION:

used for efficient contour cutting, end-trimming and panel sizing on solid wood, wood composites, plastic materials and laminates at high feed speed. Ensure to properly clamp workpieces. Can be used on machining centres, point-to-point boring machines, CNC routers and hand-held routers equipped with chucks or adaptors.

GUIDE FOR MACHINING DEEP SLOTS



Solid Carbide Upcut Spiral Bits for 60° V-Point Locksets



191-195



D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation
WITH CHIPBREAKER					
14	58	110	14	1	195.143.11
16	55	110	16	1	195.163.11
WITHOUT CHIPBREAKER					
14	50	110	14	1	191.143.11
16	55	110	16	1	191.163.11

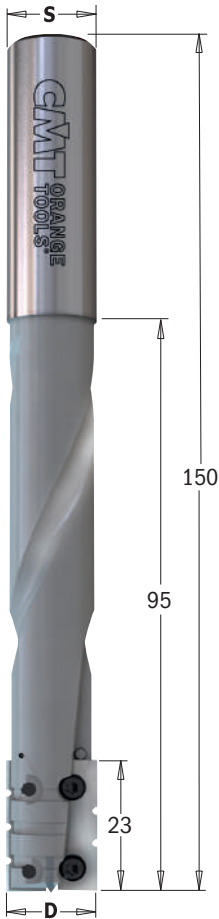
TECHNICAL DETAILS:

- Premium quality HWM.
- 3 spiral cutting edges [Z3].
- **Provide an excellent finish on the lower side of the workpiece.**
- Upward chip ejection.

APPLICATION:

used for efficient contour cutting, end-trimming and panel sizing on solid wood, wood composites, plastic materials and laminates at high feed speed. Ensure to properly clamp workpieces. Can be used on machining centres, point-to-point boring machines, CNC routers and hand-held routers equipped with chucks or adaptors.

Spiral Bits with Insert Knives & Chipbreaker for Locksets



662

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation
16	23/95*	150	16	1	662.160.11



Spare Parts		
790.230.2R - 790.230.3R	990.082.00	991.063.00

Spare parts: **790.230.2R** 23x7x1.5mm 2-RT HWM K2020 knives (Minimum 10 pieces or multiple)
790.230.3R 23x7x1.5mm 3-RT HWM K2020 knives (Minimum 10 pieces or multiple)

* The 95mm length is achieved in 4-5 passes.

TECHNICAL DETAILS:

- DENSIMET® high density tungsten alloy for low-vibration.
- 2 cutting edges [Z2R] with chipbreakers.

APPLICATION:

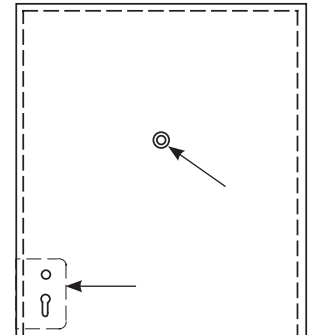
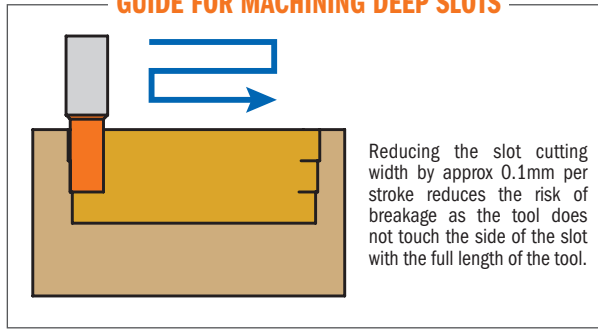
used for efficient contour cutting, end-trimming and panel sizing on solid wood, wood composites, plastic materials and laminates at high feed speed. Ensure to properly clamp workpieces. Can be used on machining centres, point-to-point boring machines, CNC routers and hand-held routers equipped with chucks or adaptors. Cost-effective solution with respect to brazed and spiral in tungsten carbide.

SAFETY TIPS



The **TW-006** Torque Screwdriver is recommended for the proper fastening of screws (see page 421).

GUIDE FOR MACHINING DEEP SLOTS

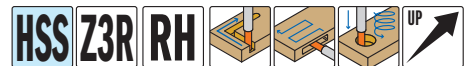


Upcut Spiral Bits with Chipbreaker for Glue-Laminated Wooden Beams



195

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation
□ 30	170	235	30	1	Y195.300.51
40	165	235	30	1	195.400.51
50	215	295	30	1	195.500.51



□ On request

Available by special request bits without chipbreaker, with left-hand rotation and/or custom dimensions.

TECHNICAL DETAILS:

- High speed cobalt steel.
- 3 upcut spiral cutting edges with chipbreaker [Z3R].
- Resharpenable cutters.
- Max 6000~10000 RPM.
- Maximum feed speed 2m/minute.
- Upward chip ejection.

APPLICATION:

used for cutting, copying, and routing on glue-laminated wooden beams. For use on HUNDEGGER® machines.

Z2 - Solid Carbide Upcut Spiral Bits for Aluminium and PVC



186

MIRROR FINISH **HWM** **Z2** **RH**

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation
4	10	60	6	10	186.640.11
5	12	60	6	10	186.650.11
6	15	60	6	10	186.060.11
8	20	60	8	10	186.080.11
10	22	72	10	10	186.100.11
12*	25	83	12	10	186.120.11
14*	25	82	14	10	186.140.11
16*	25	82	16	10	186.160.11



Download working parameters for **186** bits

* with seat for seeger retention ring (not included)

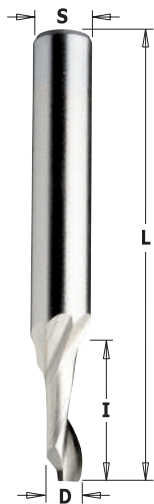
TECHNICAL DETAILS:

- Premium quality HWM.
- 2 spiral cutting edges [Z2].
- Extra-fine finish.
- Upward chip ejection.

APPLICATION: used for **plunging, routing and trimming** on plastic and aluminum at high feed speed.

Can be used on machining centers, point to point machines, CNC routers and **hand held routers** equipped with chucks.

Z1 - Spiral Bits POSITIVE for Aluminium and PVC

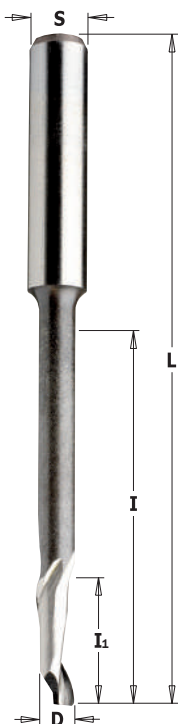


188 5% CO HSS SPIRAL BITS

HSS **Z1** **RH**

D mm	I mm	L mm		ORDER NO. S=Ø8mm
3	12	60	50	188.030.51
4	12	60	50	188.040.51
4	40	100	1	188.041.51
5	14	60	50	188.050.51
5	40	100	1	188.051.51
6	14	60	50	188.060.51
6	40	100	1	188.061.51
7	14	60	50	188.070.51
8	14	80	50	188.080.51
8	40	100	1	188.081.51
9	14	80	50	188.090.51
10	14	80	50	188.100.51
12	14	80	50	188.120.51

Suggested **MAX RPM 12.000**



189 5% CO HSS SPIRAL BITS FOR HIGH CUTTING DEPTH

HSS **Z1** **RH**

D mm	I mm	I ₁ mm	L mm	S mm		ORDER NO.
4	45	16	90	8	1	189.040.51
5	35	18	80	8	50	189.050.51
5	35	14	120	8	1	189.051.51
5	55	16	90	8	1	189.052.51
6	45	16	90	8	1	189.060.51
8	68	14	100	8	1	189.080.51
8	55	14	80	8	50	189.081.51
10	95	14	120	10	1	189.100.51
10	70	30	100	10	1	189.101.51

Suggested **MAX RPM 12.000**

TECHNICAL DETAILS:

- 5% Co premium solid HSS.
- 1 upcut spiral cutting edge.
- Upward chip ejection.

APPLICATION: for **plunging, routing and trimming** aluminium profiles, plastics with superb efficiency and high feed speed. Can be used on machining centres, **aluminium copy routers, CNC and hand-held routers** equipped with chucks or adaptors.



151 DLCS CHROME COATING



D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation
6	19	60	6	10	151.060.19E
6.35	25.4	63.5	6.35	10	151.064.25E
8	25	60	8	10	151.080.25E
12	25	75	12	10	151.120.25E
12.7	38	89	12.7	10	151.127.38E

TECHNICAL DETAILS:

- Premium quality HWM.
- Special positively ground cutting edge sharpening for excellent finish.

APPLICATION:

used for efficient contour cutting, end-trimming and panel sizing on glass fiber and fiberglass, phenolic and composite material.

For use on machining centres, point-to-point boring machines, CNC routers and hand-held routers equipped with chucks or adaptors.



DLCS CHROME COATING:

- Superb wear resistance
- Better chip clearance
- Superior cutting quality
- Less overheating
- More productivity



DLCS CHROME COATING
PROVIDES 3 TIMES LONGER LIFE THAN UNCOATED TOOLS!



151 DLCS CHROME COATING



D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation
6	19	60	6	10	151.060.19D
6.35	25.4	63.5	6.35	10	151.064.25D
8	25	60	8	10	151.080.25D
12	25	75	12	10	151.120.25D
12.7	38	89	12.7	10	151.127.38D

TECHNICAL DETAILS:

- Premium quality HWM.
- Special positively ground cutting edge sharpening for excellent finish.

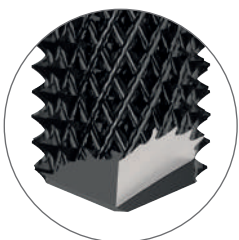
APPLICATION:

used for efficient contour cutting, end-trimming and panel sizing on fiberglass, glass fiber phenolic and composite material. The 135° tooth geometry allows vertical feeding minimizing the bending of the work-piece. To be used on machining centres, point-to-point boring machines, CNC routers and hand-held routers equipped with chucks or adaptors.



DLCS CHROME COATING:

- Superb wear resistance
- Better chip clearance
- Superior cutting quality
- Less overheating
- More productivity



SHARPENING
135°



DLCS CHROME COATING
PROVIDES 3 TIMES LONGER LIFE THAN UNCOATED TOOLS!



40X
LONGER LIFE
THAN CARBIDE

141



D mm	I mm	L mm	S mm	Z		ORDER NO. Right-hand rotation
6	8	65	12x40	1	1	141.060.61
8	12	65	12x40	1	1	141.080.61
10*	22	75	12x40	1+1	1	141.101.61

TECHNICAL DETAILS:

- Strength steel.
- DP cutting edge (H2.5).
- HW plunging tip for diagonal plunge-cutting.
- Resharpenable cutter (max 3 times).
- Max feed speed 4 m/min.

APPLICATION:

for boring, contour cutting and panel sizing on veneered and wood-based materials. For use on machining centers, point to point boring machines and CNC pantographs equipped with adaptors and chucks.



* CONSTRUCTION Z1+1
FOR 141.101.61 ITEM



40X
LONGER LIFE
THAN CARBIDE

141 (HWM TOOL BODY)



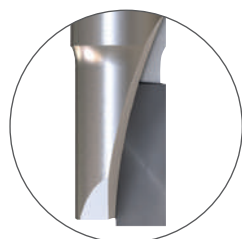
D mm	I mm	L mm	S mm	Z		ORDER NO. Right-hand rotation
6	10	60	6	1 Neg.	1	141.260.61
8	15	65	8	1 Neg.	1	141.280.61
10	15	65	10	1 Neg.	1	141.300.61
12	20	70	12	1 Neg.	1	141.320.61

TECHNICAL DETAILS:

- Special micrograin carbide formulation.
- Straight cutting edge.
- DP cutting edge (H3).
- Resharpenable cutter (max 3 times).
- Feed speed on MDF 3-4 m/min for cutter Ø6 and Ø8mm and 4-5m/minute for Ø10and Ø12mm.

APPLICATION:

for boring, contour cutting and panel sizing on veneered and wood-based materials. For use on machining centers, point to point boring machines and CNC pantographs equipped with adaptors and chucks.



NEGATIVE CUTTING EDGE



40X
LONGER LIFE
THAN CARBIDE

140

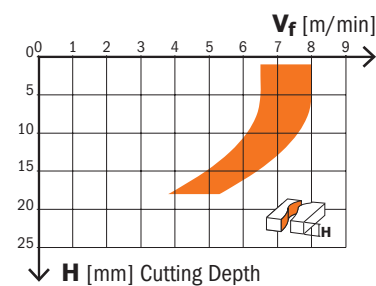
D mm	I mm	L mm	S mm	Z		ORDER NO. Right-hand rotation
10	25	72	12x40	1+1 (3 DP+1 HW)	1	140.03956
12	27	75	12x40	1+1 (3 DP+1 HW)	1	140.120.61
12	35	85	12x40	1+1 (4 DP+1 HW)	1	140.121.61
12.7	27	75	12.7x40	1+1 (3 DP+1 HW)	1	140.127.61
12.7	35	85	12.7x40	1+1 (4 DP+1 HW)	1	140.128.61
15.88	27	85	15.88x50	1+1 (3 DP+1 HW)	1	140.158.61
15.88	45	103	15.88x50	1+1 (5 DP+1 HW)	1	140.159.61
16	27	85	16x50	1+1 (3 DP+1 HW)	1	140.160.61
16	35	93	16x50	1+1 (4 DP+1 HW)	1	140.161.61
18	27	85	20x50	1+1 (3 DP+1 HW)	1	140.180.61
18	35	95	20x50	1+1 (4 DP+1 HW)	1	140.181.61
18	45	105	20x50	1+1 (5 DP+1 HW)	1	140.182.61
19	27	85	19.05x50	1+1 (3 DP+1 HW)	1	140.190.61
19	45	105	19.05x50	1+1 (5 DP+1 HW)	1	140.192.61
20	27	85	20x50	1+1 (3 DP+1 HW)	1	140.200.61
20	35	95	20x50	1+1 (4 DP+1 HW)	1	140.201.61
20	45	105	20x50	1+1 (5 DP+1 HW)	1	140.202.61
20	55	115	20x50	1+1 (6 DP+1 HW)	1	140.203.61

TECHNICAL DETAILS:

- Strength steel.
- Shear angle.
- DP cutting edge (H2.5).
- HW plunging tip for diagonal plunge-cutting.
- Resharpeable (max 3 times).
- Max feed speed 5 m/min.

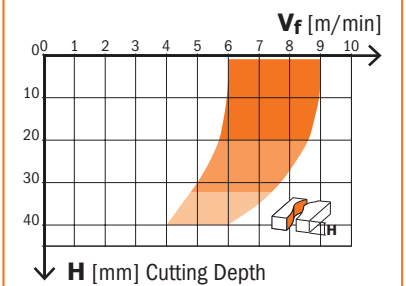
APPLICATION: for contour cutting and panel sizing on hard and abrasive materials such as laminates, MDF and melamine. For use on machining centers, point to point boring machines and CNC pantographs equipped with adaptors and chucks.

Ø10-12.7mm PLASTIC COATED CHIPBOARD



24000 RPM
Correction factor for Vr: MDF=0.8
Veneer across grain=0.7
Chipboard without coating=1.1

Ø15.88-20mm PLASTIC COATED CHIPBOARD



18000 RPM
Correction factor for Vr: MDF=0.8
Veneer across grain=0.7
Chipboard without coating=1.1



40X
LONGER LIFE
THAN CARBIDE

140

D mm	I mm	L mm	S mm	Z		ORDER NO. Right-hand rotation
20	25	85	20x50	1+1 (6 DP+1 HW)	1	140.720.61
20	35	95	20x50	1+1 (8 DP+1 HW)	1	140.721.61
20	45	105	20x50	1+1 (9 DP+1 HW)	1	140.722.61

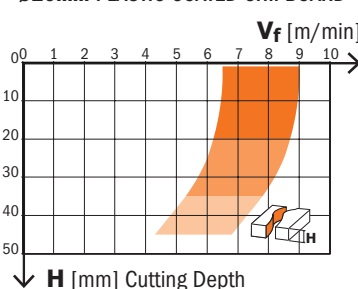
TECHNICAL DETAILS:

- Strength steel.
- DP cutting edge (H4) featuring 45° shear angle.
- HW plunging tip for plunge cutting.
- Resharpenable cutters (max 8-9 times).
- Max feed speed 5 m/min.

APPLICATION:

for contour cutting and panel sizing on hard and abrasive materials such as laminates, MDF and melamine. For use on machining centers, point to point boring machines and CNC pantographs equipped with adaptors and chucks.

Ø20mm PLASTIC COATED CHIPBOARD



18000 RPM
Correction factor for Vr: MDF=0.8
Veneer across grain=0.7
Chipboard without coating=1.1



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DP - Router Cutters with Shear Angle - LONG LIFE



40X
LONGER LIFE
THAN CARBIDE

142



D mm	I mm	L mm	S mm	Z		ORDER NO. Right-hand rotation
20	27	85	20x50	2+2 (6 DP+1 HW)	1	142.200.61
20	36	95	20x50	2+2 (8 DP+1 HW)	1	142.201.61
20	45	105	20x50	2+2 (10 DP+1 HW)	1	142.202.61
20	55	115	20x50	2+2 (12 DP+1 HW)	1	142.203.61
25	27	90	25x55	2+2 (6 DP+1 HW)	1	142.250.61
25	36	100	25x55	2+2 (8 DP+1 HW)	1	142.251.61
25	45	110	25x55	2+2 (10 DP+1 HW)	1	142.252.61
25	55	120	25x55	2+2 (12 DP+1 HW)	1	142.253.61

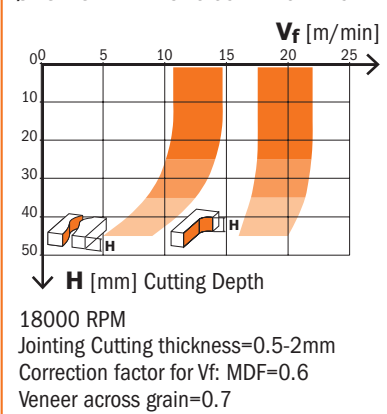
TECHNICAL DETAILS:

- Strength steel.
- DP cutting edge (H2.5).
- HW plunging tip for diagonal plunge-cutting (Z-axis tool entrance).
- Resharpenable cutter (max 3 times).
- Feed speed: max 10m/min

APPLICATION:

for use on CNC routers for jointing, rabbeting, grooving, on laminates, MDF, HPL, veneer and melamine-faced panels.

Ø20-25mm PLASTIC COATED CHIPBOARD



DP - Router Cutters with 20° Shear Angle - LONG LIFE



40X
LONGER LIFE
THAN CARBIDE

142



D mm	I mm	L mm	S mm	Z		ORDER NO. Right-hand rotation
20	25	85	20x45	2+2 (8 DP+1 HW)	1	142.720.61
20	30	90	20x45	2+2 (10 DP+1 HW)	1	142.721.61
20	35	95	20x45	2+2 (12 DP+1 HW)	1	142.722.61
20	40	100	20x45	2+2 (14 DP+1 HW)	1	142.723.61
20	45	105	20x45	2+2 (16 DP+1 HW)	1	142.724.61
20	50	110	20x45	2+2 (18 DP+1 HW)	1	142.725.61
20	55	115	20x45	2+2 (20 DP+1 HW)	1	142.726.61

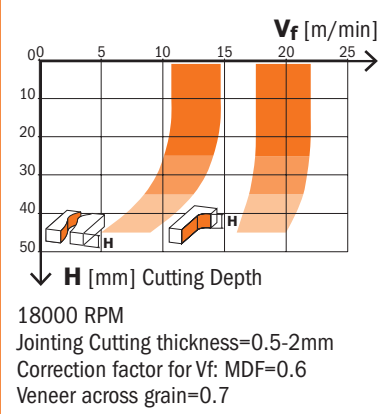
TECHNICAL DETAILS:

- Strength steel.
- DP cutting edge (H4) featuring 20° shear angle.
- HW plunging tip for diagonal plunge-cutting (Z-axis tool entrance).
- Resharpenable cutters (max 8-10 times).
- Max feed speed 20 m/min.

APPLICATION:

for use on CNC routers for jointing, rabbeting, grooving, on laminates, MDF, HPL, veneer and melamine-faced panels.

Ø20-25mm PLASTIC COATED CHIPBOARD



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DP - Router Cutters with Shear Angle for Nesting - LONG LIFE (DENSIMET® Tungsten Heavy Metal Alloys)



40X
LONGER LIFE
THAN CARBIDE

143



D mm	I mm	L mm	S mm	Z		ORDER NO. Right-hand rotation
12	25	70	12x40	3 (9 DP)	1	143.120.61
12	31	80	12x40	3 (10 DP)	1	143.121.61

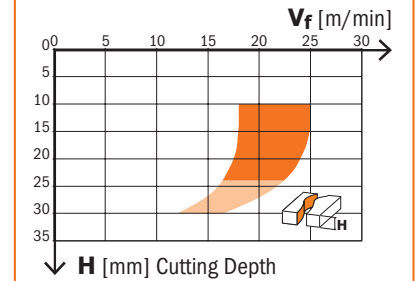
TECHNICAL DETAILS:

- DENSIMET® tungsten heavy metal alloys for low-vibration.
- DP cutting edge (H3).
- Resharpenable cutter (max 6 times).
- Max feed speed 25 m/min.

APPLICATION:

for use on CNC routers for jointing, rabbeting, grooving, on laminates, MDF, HPL, veneer and melamine-faced panels. High performance pre-finishing and finish-routing.

Ø12mm PLASTIC COATED CHIPBOARD



24000 RPM
Correction factor for Vf: MDF=0.8
Pre-finishing MDF=1.2
Uncoated Chipboard=1.1
Veneer across grain=0.7

DP - Spiral Router Cutters with Shear Angle - LONG LIFE



40X
LONGER LIFE
THAN CARBIDE

143



D mm	I mm	L mm	S mm	Z		ORDER NO. Right-hand rotation
18	25	85	20x50	3 (10+1 DP)	1	143.180.61
18	30	90	20x50	3 (13+1 DP)	1	143.181.61
18	35	95	20x50	3 (16+1 DP)	1	143.182.61
20	25	85	20x50	3 (10+1 DP)	1	143.200.61
20	30	90	20x50	3 (13+1 DP)	1	143.201.61
20	35	95	20x50	3 (16+1 DP)	1	143.202.61
20	40	100	20x50	3 (18+1 DP)	1	143.203.61
20	45	105	20x50	3 (21+1 DP)	1	143.204.61
20	50	110	20x50	3 (23+1 DP)	1	143.205.61
20	55	115	20x50	3 (26+1 DP)	1	143.206.61
20	60	120	20x50	3 (29+1 DP)	1	143.207.61
20	65	125	20x50	3 (32+1 DP)	1	143.208.61
22	30	95	25x50	3 (13+1 DP)	1	143.220.61
□ 22	35	100	25x50	3 (16+1 DP)	1	143.221.61
22	40	105	25x50	3 (18+1 DP)	1	143.222.61
□ 22	45	110	25x50	3 (21+1 DP)	1	143.223.61
22	50	115	25x50	3 (23+1 DP)	1	143.224.61
□ 22	55	120	25x50	3 (26+1 DP)	1	143.225.61
22	60	125	25x50	3 (29+1 DP)	1	143.226.61
□ 22	65	130	25x50	3 (32+1 DP)	1	143.227.61
□ 22	70	135	25x50	3 (35+1 DP)	1	143.228.61

□ On request

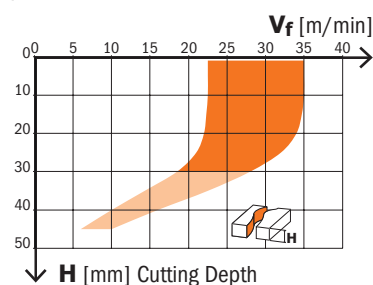
TECHNICAL DETAILS:

- Strength steel.
- DP cutting edge (H4).
- HW plunging tip for diagonal plunge-cutting (Z-axis tool entrance).
- Resharpenable cutter (max 8-10 times).

APPLICATION:

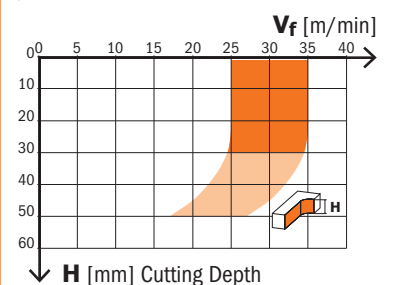
for use on CNC routers for jointing, rabbeting, grooving, on laminates, MDF, HPL, veneer and melamine-faced panels. High performance pre-finishing and finish-routing.

Ø18-20mm PLASTIC COATED CHIPBOARD



24000 RPM
Correction factor for Vf: MDF=0.8
Melamine=0.8

Ø20-22mm PLASTIC COATED CHIPBOARD



24000 RPM
Jointing Cutting thickness=0.5-6mm
Correction factor for Vf: MDF=0.9
Melamine=0.8
Veneer across grain=0.8

Results shown in this diagram are purely empirical, based merely on informative and hypothetical calculation. Each application may require different parameters in consideration of materials in use and machining conditions. CMT is not responsible for direct, indirect, incidental or consequential damages resulting from any defect, error or failure due to this diagram.

DP - Router Cutters with 40° Shear Angle - LONG LIFE



145 FOR ROUGHING



D mm	I mm	L mm	S mm	Z		ORDER NO. Right-hand rotation
50	23	80	25x55	3+3 (9 DP)	1	145.501.61
50	23	80	25x55	4+4 (12 DP)	1	145.511.61
50	28	85	25x55	3+3 (12 DP)	1	145.502.61
50	28	85	25x55	4+4 (16 DP)	1	145.512.61
50	38	95	25x55	3+3 (18 DP)	1	145.503.61
50	38	95	25x55	4+4 (24 DP)	1	145.513.61

TECHNICAL DETAILS:

- Strength steel.
- DP cutting edge (H4) featuring 40° shear angle.
- Resharpenable cutters (max 10 times).
- Maximum feed speed 30m/minute.

APPLICATION:

used on all CNC routers for jointing, rabbeting, grooving, copying and dividing raw material, melamine, laminated, MDF, HPL and veneered panels. High performance routing.



DP - Profile Cutter for Nesting applications



146.663



D mm	I mm	L mm	S mm	Z	ORDER NO. Right-hand rotation
40	14	75	20x50	2+2	146.663.40
50	14	75	20x50	2+2	146.663.50
80	8	70	20x50	3 Neg.	146.663.80

TECHNICAL DETAILS:

- Made of special high-strength steel.
- Axial cutting edges.
- DP: H4 and H6 resharpenable (max 6 times).

APPLICATION: for contouring, sectioning, grooving on laminated/melamine panels, MDF, HDF, and wood derivatives. To be mounted on chucks or adapters for machining centers, point-to-point machines, CNC pantographs.



146.663.80



146.915

D mm	d mm	I mm	L mm	S mm	A	Z	ORDER NO. Right-hand rotation
22	-	11	75	16x50	45°	1	146.915.22
30	-	15	95	20x50	45°	2	146.915.30
33	3	15	71	20x50	45°	2	146.915.33
38	-	9	75	20x50	25°	2	146.915.38
50	-	25	90	20x50	45°	2+2+1	146.915.50



146.915.33



TECHNICAL DETAILS:

- Made of special high-strength steel.
- Axial cutting edges.
- DP: H4 resharpenable (max 6 times).

APPLICATION: for contouring, sectioning, grooving on laminated/melamine panels, MDF, HDF, and wood derivatives. To be mounted on chucks or adapters for machining centers, point-to-point machines, CNC pantographs.



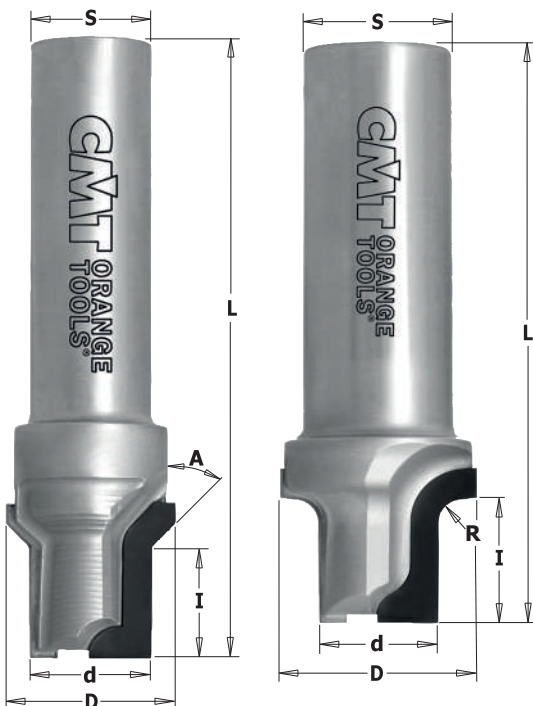
146.965

D mm	d mm	I mm	L mm	S mm	A	R mm	Z	ORDER NO. Right-hand rotation
20	12	20	80	20x50		2	2+2	146.965.20
22	16	17	80	16x50	45°		2	146.965.22
26	16	16	75	20x50		3	2+1	146.965.28

TECHNICAL DETAILS:

- Made of special high-strength steel.
- Axial cutting edges.
- DP: H4 resharpenable (max 6 times).

APPLICATION: for contouring, sectioning, grooving on laminated/melamine panels, MDF, HDF, and wood derivatives. To be mounted on chucks or adapters for machining centers, point-to-point machines, CNC pantographs.





146.914



D mm	I mm	L mm	S mm	R mm	Z	ORDER NO. Right-hand rotation
52	10	75	16x50	40	2	146.914.52

TECHNICAL DETAILS:
 - Made of special high-strength steel.
 - Axial cutting edges.
 - DP: H4 resharpenable (max 6 times).

APPLICATION: for contouring, sectioning, grooving on laminated/melamine panels, MDF, HDF, and wood derivatives. To be mounted on chucks or adapters for machining centers, point-to-point machines, CNC pantographs.

DP - Finger Pull Bit



146.955

D mm	d mm	I mm	L mm	S mm	R mm	R1 mm	Z	ORDER NO. Right-hand rotation
40	16.8	15	80	20x50	4	1.5	2	146.955.40

TECHNICAL DETAILS:
 - Made of special high-strength steel.
 - Axial cutting edges.
 - DP: H4 resharpenable (max 6 times).

APPLICATION: for contouring, sectioning, grooving on laminated/melamine panels, MDF, HDF, and wood derivatives. To be mounted on chucks or adapters for machining centers, point-to-point machines, CNC pantographs.



174

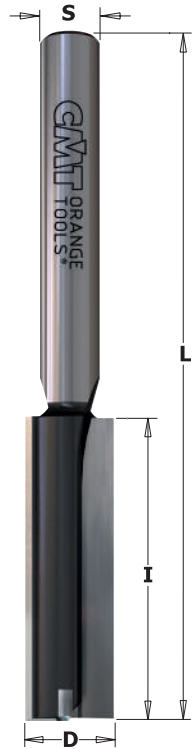


D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation
3	10	55	8	10	174.030.11
4	10	55	8	10	174.040.11
5	12	55	8	10	174.050.11
6	14	55	8	10	174.060.11
7	20	55	8	10	174.070.11

TECHNICAL DETAILS:

- Premium quality HWM.
- 2 radial relief cutting edges [Z2].
- 1 HW [Z1] plunge cutting edge.

Router Cutters



174



D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation
8	20	55	8	10	174.080.11
8	30	70	8	10	174.081.11
8	40	90	8	10	174.082.11
9	20	55	8	10	174.090.11
10	20	60	8	10	174.100.11
10	30	70	8	10	174.102.11
10	40	90	8	10	174.101.11
11	20	60	8	10	174.110.11
12	20	60	8	10	174.120.11
12	30	70	8	10	174.122.11
12	40	90	8	10	174.121.11
13	20	60	8	10	174.130.11
14	20	60	8	10	174.140.11
14	30	70	8	10	174.142.11
14	40	90	8	10	174.141.11
15	20	60	8	10	174.150.11
16	20	70	8	10	174.160.11
16	30	70	8	10	174.162.11
16	40	90	8	10	174.161.11
18	20	70	8	10	174.180.11
18	30	70	8	10	174.181.11
18	40	80	8	10	174.182.11
19	20	70	8	10	174.190.11
20	20	70	8	10	174.200.11
20	30	70	8	10	174.201.11
20	40	90	8	10	174.202.11
22	20	70	8	10	174.220.11
22	30	70	8	10	174.221.11
22	40	90	8	10	174.222.11
23.5	20	70	8	10	174.235.11
24	20	70	8	10	174.240.11
24	30	70	8	10	174.241.11
24	40	90	8	10	174.242.11
25	20	70	8	10	174.250.11
26	20	70	8	10	174.260.11
26	30	70	8	10	174.261.11
28	20	70	8	10	174.280.11
28	30	70	8	10	174.281.11
29	20	70	8	10	174.290.11
30	20	70	8	10	174.300.11
32	20	70	8	10	174.320.11



TECHNICAL DETAILS:

- Strength steel.
- 2 precision ground HW cutting edges and 1 HW plunge centre tip [Z2+1].

APPLICATION:

used for drilling, grooving or jointing on solid wood and wood composites. Can be used on machining centres, CNC routers and hand-held routers equipped with chucks or adaptors.



8/912 DLCS CHROME COATING

HWM Z3 RH

D mm	I mm	L mm		ORDER NO. S=Ø10mm	ORDER NO. S=Ø12mm	ORDER NO. S=Ø12.7mm
6	21	73	10		912.561.11	
6	26	73	10		912.560.11	
6.35	26	73	10			812.564.11
8	21	73	10		912.582.11	
8	28.7	76	10		912.581.11	
8	28.7	76	10			812.581.11
8	32	76	10		912.583.11	
10	21	75	10	912.610.11		
10	32	75	10	912.611.11		

TECHNICAL DETAILS:

- Premium quality HWM.
- Special positively ground cutting edge sharpening for excellent finish.



DLCS CHROME COATING:

- Superb wear resistance.
- Better chip clearance.
- Superior cutting quality.
- Less overheating.
- More productivity.

Router Cutters



112 SOLID CARBIDE ROUTER CUTTERS

HWM Z2+1 RH

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation
• 3	10	48	9.5	50	112.030.11
• 4	10	48	9.5	50	112.040.11
• 5	12	48	9.5	50	112.050.11
• 6	14	41	9.5	50	112.060.11
• 7	16	43	9.5	50	112.070.11
• 8	18	48	9.5	50	112.080.11
• 8	30	60	9.5	50	112.081.11
• 9	20	55	9.5	50	112.090.11

TECHNICAL DETAILS:

- Premium quality HWM.
- 2 radial relief cutting edges [Z2]. - 1 HW [Z1] plunge cutting edge.

• HWM

112-113 ROUTER CUTTERS

HWM Z2+1 RH

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation
10	22	52	9.5	50	112.100.11
10	35	65	9.5	50	112.101.11
11	26	52	9.5	10	112.110.11
12	26	52	9.5	10	112.120.11
12	26	52	12	10	113.120.11
12	40	70	12	10	113.121.11
13	26	52	12	10	113.130.11
14	28	56	12	10	113.140.11
14	40	72	12	10	113.141.11
15	32	60	12	10	113.150.11
16	32	60	12	10	113.160.11
16	40	72	12	10	113.161.11
18	35	64	12	10	113.180.11
19	38	68	12	1	113.190.11
20	38	68	12	1	113.200.11
22	40	72	12	1	113.220.11
24	40	72	12	1	113.240.11
25	40	72	12	1	113.250.11
26	42	74	12	1	113.260.11
28	42	74	12	1	113.280.11
30	42	74	12	1	113.300.11

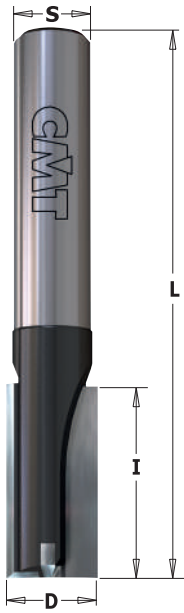


TECHNICAL DETAILS:

- Strength steel.
- 2 precision ground HW cutting edges
- 1 HW plunge centre tip [Z2+1].

APPLICATION:

used for plunging cutting and grooving on solid wood and wood derivatives as well as laminates and plastic materials. For use on CNC machining centres, CNC routers, hand-held routers and point-to-point machines equipped with chucks or adaptors.



TECHNICAL DETAILS:

- Premium quality HWM.
- 2 radial relief cutting edges [Z2].
- 1 HW [Z1] plunge centre tip.



175



D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation
• 4	10	65	10	50	175.040.11
• 5	12	65	10	50	175.050.11
• 6	14	65	10	50	175.060.11
• 7	16	65	10	50	175.070.11
8	20	65	10	50	175.080.11
10	25	70	10	50	175.100.11
12	25	70	10	10	175.120.11
14	25	70	10	10	175.140.11
15	25	70	10	10	175.150.11
16	25	70	10	10	175.160.11
18	25	70	10	10	175.180.11
20	25	70	10	10	175.200.11
22	25	70	10	10	175.220.11
24	25	70	10	10	175.240.11
25	25	70	10	10	175.250.11
26	25	70	10	10	175.260.11
30	25	70	10	10	175.300.11
35	25	70	10	10	175.350.11

• HWM

176



D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation
10	40	90	10	10	176.100.11
12	40	87	10	10	176.120.11
14	40	87	10	10	176.140.11
15	40	87	10	10	176.150.11
16	40	87	10	10	176.160.11
18	40	87	10	10	176.180.11
20	40	87	10	10	176.200.11

177



D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation
10	35	90	12	10	177.100.11
12	35	90	12	10	177.120.11
12	50	100	12	10	177.121.11
14	35	90	12	10	177.140.11
16	35	90	12	10	177.160.11
16	60	110	12	10	177.161.11
18	35	90	12	10	177.180.11
18	60	110	12	10	177.181.11
20	35	90	12	10	177.200.11
22	35	90	12	10	177.220.11
24	35	90	12	10	177.240.11
25	35	90	12	10	177.250.11
26	35	90	12	10	177.260.11
28	35	90	12	10	177.280.11
30	35	90	12	10	177.300.11
35	35	90	12	10	177.350.11

TECHNICAL DETAILS:

- Strength steel.
- 2 precision ground HW cutting edges.
- 1 HW plunge centre tip [Z2+1].

APPLICATION:

used for plunge cutting and grooving on solid wood, wood derivatives as well as laminates and plastic materials. For use on CNC machining centres, CNC routers and hand-held routers.

XTREME Plunge CNC Cutters with Insert Knives



653 XTREME



D mm	I mm	L mm	S mm	Box	ORDER NO. Right-hand rotation	Spare Parts	
40	29.5	100	20	10	653.001.11		
						790.295.12	790.120.00

Spare parts: **990.075.00** M4x6mm TORX® screw
991.061.00 T15 TORX® key
990.036.00 M8x25mm TE screw
990.020.00 Hex nut for threaded arbors M8

TECHNICAL DETAILS:

- Strength steel.
- 4 cutting edges [Z2+2].

APPLICATION:

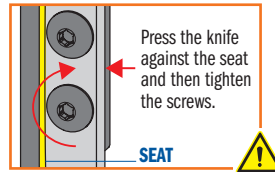
the new CNC cutter is designed with 2 plunging knives and two-sided knives fixed by special TORX® screws. It is ideal for direct plunge into the material and fast removal over a large surface area leaving an improved finish at the bottom of the cut. For cutting soft/hard wood, chipboard, melamine, MDF. For use on pantograph CNC machines.

SAFETY TIPS

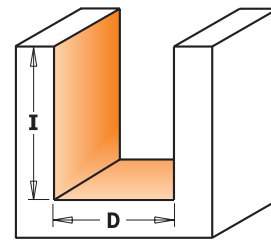


The **TW-006** Torque Screwdriver is recommended for the proper fastening of screws (see page 421).

CORRECT KNIFE POSITIONING



Press the knife against the seat and then tighten the screws.



Straight Cutters with Insert Knives



653



D mm	I mm	L mm	S mm	Box	ORDER NO. Right-hand rotation	Spare Parts	
16	28.3	92	20	10	653.661.11		
16	48.3	111.5	20	10	653.662.11	790.283.12	790.075.00
18	48.3	111.5	20	10	653.681.11	790.483.12	790.075.00
20	48.3	111.5	20	10	653.701.11	790.483.12	790.075.00

Spare parts: **990.072.00** M3.5x3.5mm TORX® screw
990.074.00 M4x3.5mm TORX® screw
990.075.00 M4x6mm TORX® screw
991.061.00 T15 TORX® key

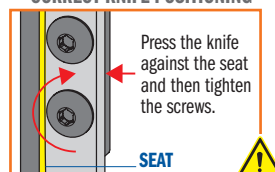
TECHNICAL DETAILS:

- Strength steel.
- 2 cutting edges [Z1+1].

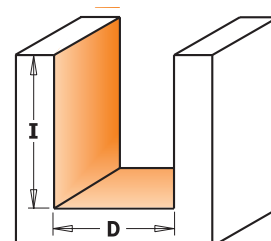
APPLICATION:

straight router bits with on replaceable plunging knife and side knife fixed by a special TORX® screw. The tool bodies are precisely balanced. For finishing, routing, plunging and grooving on board materials (laminated chipboards and MDF) and hardwood. For use on portable routers or CNC machining centres.

CORRECT KNIFE POSITIONING



Press the knife against the seat and then tighten the screws.

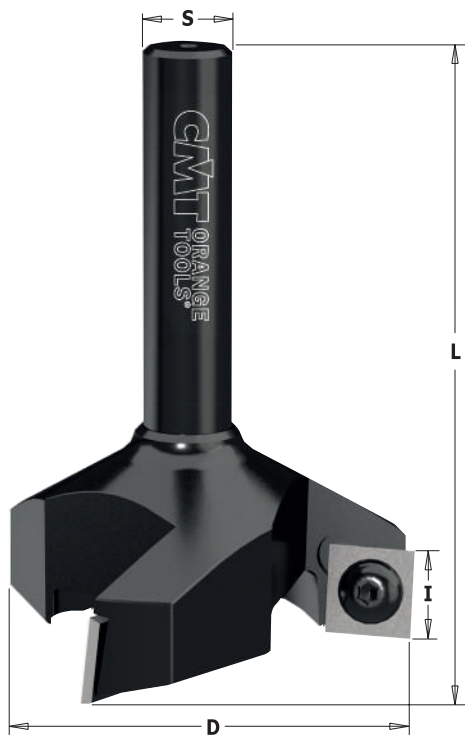


SAFETY TIPS



The **TW-006** Torque Screwdriver is recommended for the proper fastening of screws (see page 421).

Spoilboard Surfacing Cutters with Insert Knives



663.0

INSERT CARBIDE
MEC
Z3
Z4
RH
NO HAND
NO OIL
NO DIRT
4X CUTTING

D mm	I mm	L mm	Z	S mm	Box	ORDER NO. Right-hand rotation	Spare Parts	
35	10.5	60	3	8x38	10	663.007.11	790.105.03*	990.078.00
38	12	60	3	12x38	10	663.005.11	790.120.03*	990.075.00
38	12	60	3	12.7x38	10	663.015.11	790.120.03*	990.075.00
60	12	80	3	12x50	10	663.004.11	790.120.03*	990.075.00
60	12	80	3	12.7x50	10	663.014.11	790.120.03*	990.075.00
80	12	90	3	20x60	10	663.003.11	790.120.03*	990.075.00
100	12	90	4	20x50	1	663.006.11	790.120.03*	990.075.00

Spare parts: **991.061.00** T15 TORX® key
990.036.00 M8x25mm TE screw (for 663.003.11 and 663.006.11)
990.020.00 Hex nut for threaded arbors M8 (for 663.003.11 and 663.006.11)

*Minimum 10 pieces or multiple

TECHNICAL DETAILS:

- Strength steel.
- 3 cutting edges [Z3].
- 4 cutting edges [Z4].

APPLICATION:

the new router bit for CNC routers is ideal for fast removal of material over a large surface area leaving an improved finish at the bottom of the cut. Used on soft and hardwood, particle board and MDF. The cutter uses 4-sided inserts in super micrograin carbide.

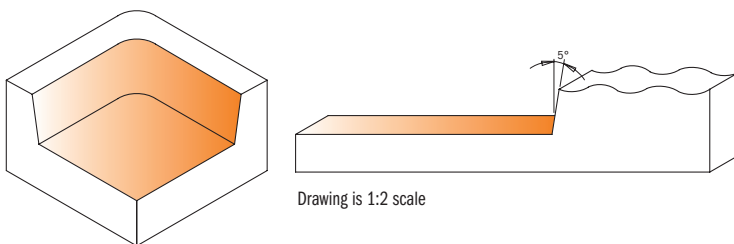
A cost effective solution compared to brazed router bits and solid carbide spiral bits.

Optional

790.105.20
 10.5x10.5x1.5mm
790.120.20
 12x12x1.5mm

SAFETY TIPS

The **TW-006** Torque Screwdriver is recommended for the proper fastening of screws (see page 421).



Spoilboard Surfacing Cutters



178

HW
Z3
Z4
RH

D mm	I mm	L mm	Z	S mm	Box	ORDER NO. Right-hand rotation
25.4	6.35	41	3	6.35	1	178.701.11
34.9	9.5	57	3	8	1	178.702.11
50.8	12.7	63.5	4	12	1	178.703.11
50.8	12.7	63.5	4	12.7	1	178.704.11

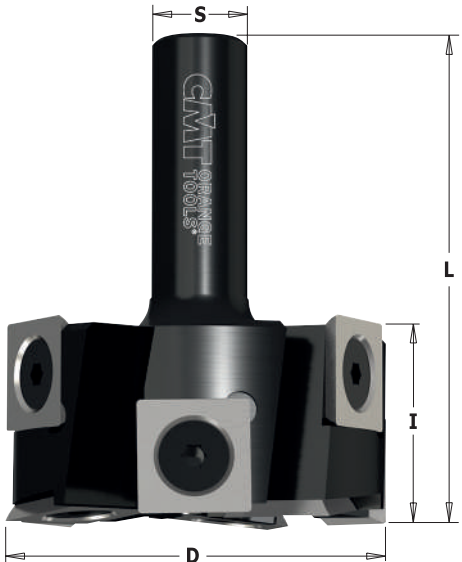
TECHNICAL DETAILS:

- Strength steel.
- 3 cutting edge [Z3].
- 4 cutting edge [Z4].

APPLICATION:

The new router bit for CNC routers is ideal for fast removal of material over a large surface area leaving an improved finish at the bottom of the cut. Used on soft and hardwood, particle board and MDF. The cutter uses 4-sided inserts in super micrograin carbide. A cost effective solution compared to brazed router bits and solid carbide spiral bits.

XTREME Spoilboard Surfacing Cutter with Insert Knives



663.5 XTREME

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	Spare Parts	
50.8	25.4	63.5	12	10	663.502.11		
50.8	25.4	63.5	12.7	10	663.501.11	790.140.20*	990.080.00
						790.140.20*	990.080.00

TECHNICAL DETAILS:

- Strength steel.
- 6+3 cutting edges [Z6+V3].

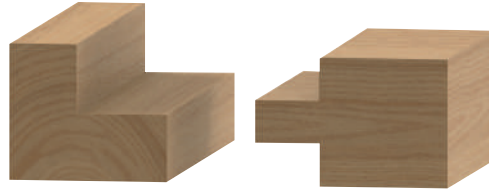
APPLICATION: this new router bit designed for CNC router machines and stationary router machine work centers are ideal for rabbeting joints and for quick chip removal on large surface areas and leaves a good finish at the bottom of the cut. Ideal for soft and hard wood, particle board and MDF. This bit is equipped with 4 sided insert knives in super micrograin carbide – an economical solution for brazed and solid carbide spiral bits.



*Minimum 10 pieces or multiple

NOTE: for optimum finish, radius inserts **790.140.20** are recommended.

790.140.20
14x14x2mm



SAFETY TIPS

The **TW-006** Torque Screwdriver is recommended for the proper fastening of screws (see page 421).

Universal Profile Cutter for CNC Machines



KNIVES NOT INCLUDED

663.301

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
65	40-50	93	20	1	663.301.11	S663.301.12

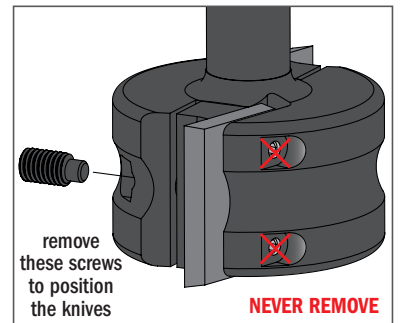
Spare parts: **692.999.01** 38x15x16mm wedge for cutter
990.064.00 M8x16mm STEI screw
991.064.00 Hex key 4mm

TECHNICAL DETAILS:

- Strength steel.
- 2 cutting edges [Z2] for knives 40x4mm and 50x4mm.

APPLICATION: for universal profiling of solid wood on CNC router machines. For cutting width 40mm and 50mm (serie **690**). Profile knives may only be ordered and used in pairs. For router machines with mechanical feed.

USEFUL TIPS: for enhanced safety, when using 50mm knives, it is recommended to carry out the cut in several passes.

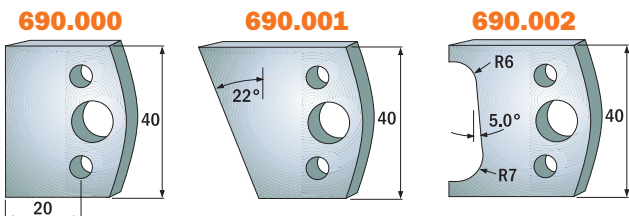


SAFETY TIPS

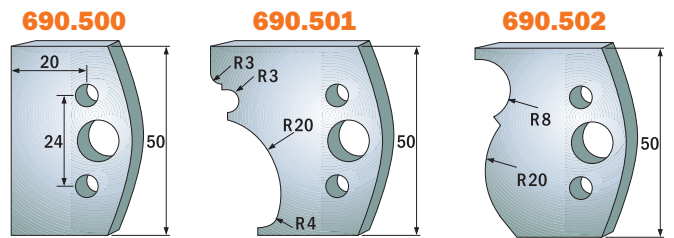
The **TW-006** Torque Screwdriver is recommended for the proper fastening of screws (see page 421).

Suggested **MAX RPM 12.000**

TO BE USED WITH SP KNIVES SERIES **690** (SEE PAGE 158~170)

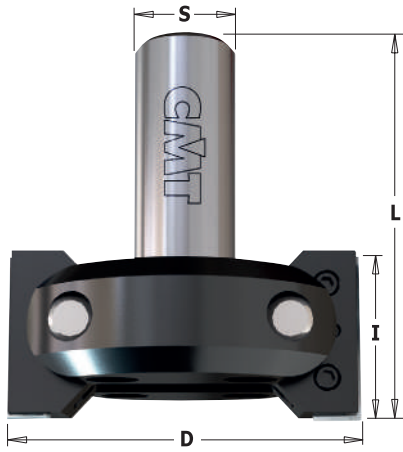


PROFILE KNIVES CUTTING LENGTH=40mm (SERIE **690**)



PROFILE KNIVES CUTTING LENGTH=50mm (SERIE **690.5**)

Adjustable Chamfering CNC Cutter



663.201



D mm	D_Max 45° mm	I mm	A	L mm	S mm	ORDER NO.
85	102	39.5	0°-45° - 0°+90°	92	20	663.201.11

- Spare parts:**
- 790.395.12 39.5x12x1.5mm knife (Minimum 10 pcs. or multiple)
 - 663.999.01 38x6x12mm wedge
 - 990.087.00 M6x8mm STEI screw (4x2mm threaded pin)
 - 991.067.00 3mm hex key
 - 663.999.02 Kit with 2 wedges and 1 screw for blocking rotation
 - 990.099.00 M8x25mm TCEI screw
 - 990.023.00 M8 (4mm) nut
 - 991.081.00 4mm "T" hex key

SAFETY TIPS

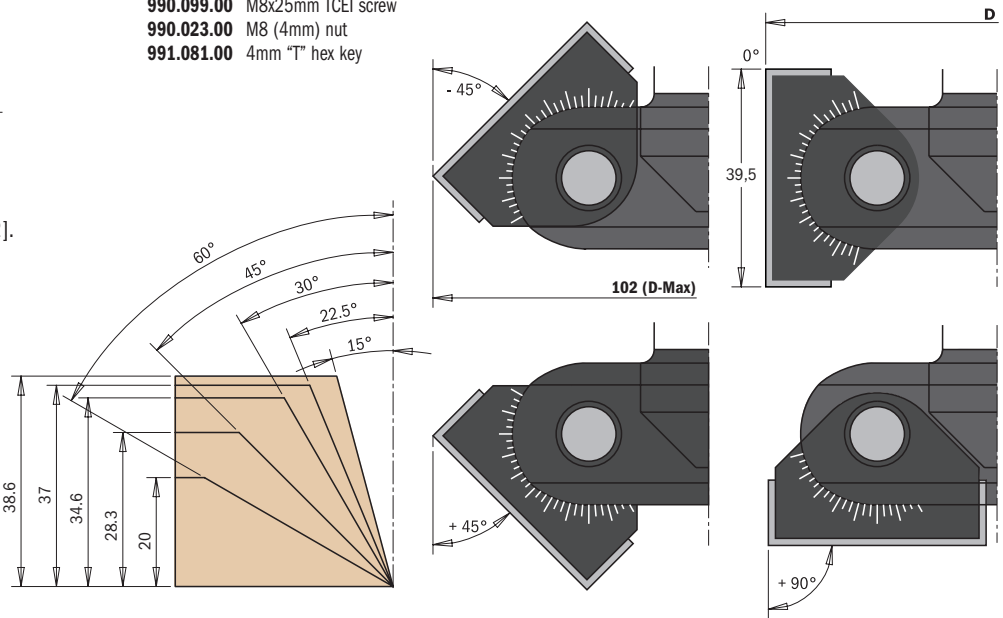
The **TW-006** Torque Screwdriver is recommended for the proper fastening of screws (see page 421).

TECHNICAL DETAILS:

- Tool body in steel.
- 2 reversible HWM knives 39.5x12x1.5mm [Z2].
- Peripheral cutting on both sides.
- Adjustable swivelling blade (Rotates at 7.5° intervals; Precision = 7.5°).
- Swivelling range 0-45° towards top, and 0-90° towards bottom.

APPLICATION:

for jointing, rebating and chamfering of solid wood and wooden boards. Suitable for CNC router machines and stationary router machine with manual or mechanical feed. **Never modify the chamfering angle whilst changing the knives. RH rotation.**



V-Groove - Folding - Signmaking CNC Cutters with Insert Knives



663.1



D mm	I mm	L mm	A	S mm	Z	ORDER NO.
34	40	115	45°	20	1	663.103.11
44	38	115	60°	20	1	663.102.11
52	25	102	91°	20	1	663.101.11
60	21	95	110°	20	1	663.110.11
87.5	24	95	120°	20	2	663.120.11
91	20	95	130°	20	2	663.130.11
96.5	12.4	95	150°	20	2	663.150.11

Spare Parts

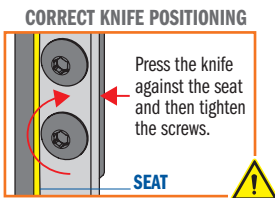
790.580.01*	
790.580.01*	
790.360.01*	
790.360.01*	
790.496.01*	
790.496.01*	
790.496.01*	

- Spare parts:**
- 990.073.00 M3.5x5x7.2mm TORX® T15 screw (for 790.580.01 and 790.360.01)
 - 990.075.00 M4x6x8.2mm TORX® T15 screw (for 790.496.01)
 - 991.061.00 T15 TORX® key
 - 990.036.00 M8x25mm TE screw
 - 990.020.00 Hex nut for threaded arbors M8

Optional: S790.360.03* 36x12x1.5mm HW-SMG replaceable knife (4 cutting edges 35°)

SAFETY TIPS

The **TW-006** Torque Screwdriver is recommended for the proper fastening of screws (see page 421).

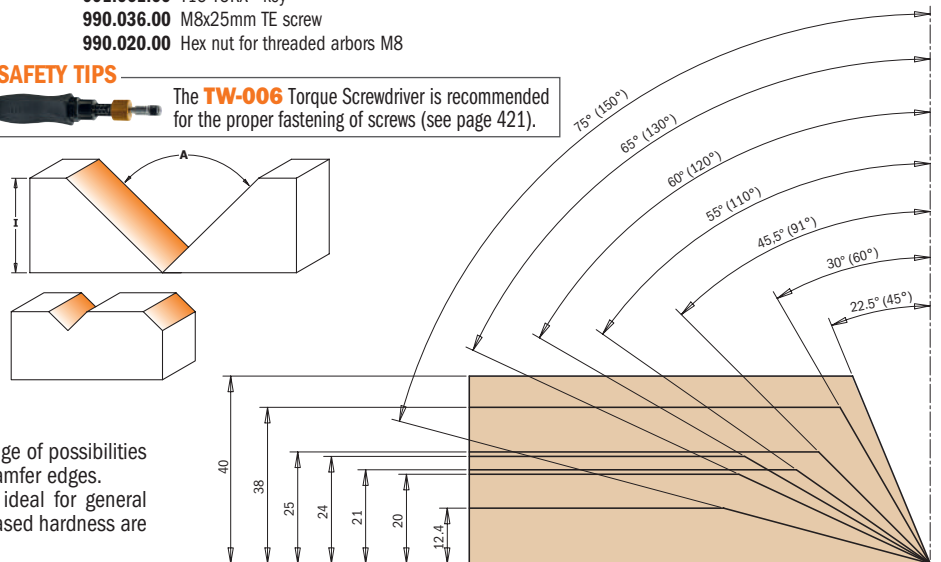


TECHNICAL DETAILS:

- Strength steel.
- 1 cutting edge [Z1].
- 2 cutting edges [Z2].

APPLICATION:

this innovative CNC router bit offers you an endless range of possibilities for V-Groove, miter folds, signmaking, lettering and chamfer edges. The tool mounts a high grade HWM reversible knife ideal for general purpose, chipboard and plywood, but knives with increased hardness are available for laminated and MDF material.





300.023.01 BASIC CNC KIT

DESCRIPTION	Q.TY	ORDER NO.
CHUCK -XTREME- HSK-63F (H73) "ER32" PRECISION COLLET RH	1	183.300.01
C-SPANNER FOR "ER32" PRECISION COLLET	1	991.183.00
PRECISION COLLET DIN6499 "ER32" (33x40mm) D=12mm	1	184.120.00
PRECISION COLLET DIN6499 "ER32" (33x40mm) D=20mm	1	184.200.00
STRAIGHT ROUTER CUTTER WITH INSERT KNIVES HW Z1+1 S=20 D=18x48.3mm RH	1	653.681.11
HWM REVERSIBLE KNIVES STD (4/35°) 48.3x12x1.5mm RH	10	790.483.12
HWM REVERSIBLE KNIVES STD (2/35°) 7.5x12x1.5mm	10	790.075.00
KEY TORX® T15	1	991.061.00
SOLID CARBIDE UPCUT SPIRAL BITS Z3 POS. HWM D=12x42x90mm RH	1	193.121.11
2 FLUTE DOWEL DRILL HW S=10x30mm D=5x35x70mm RH	2	311.050.11
2 FLUTE DOWEL DRILL HW S=10x30mm D=5x35x70mm LH	2	311.050.12
2 FLUTE DOWEL DRILL HW S=10x30mm D=8x35x70mm RH	4	311.080.11
2 FLUTE DOWEL DRILL HW S=10x30mm D=8x35x70mm LH	4	311.080.12
HINGE BORING BITS HW Z2+2 S=10x26mm D=15x70mm RH	1	369.150.11
HINGE BORING BITS HW Z2+2 S=10x26mm D=35x70mm RH	1	369.350.11

WHILE SUPPLIES LAST



300.025.01 EXPERT FOR "NESTING" CNC KIT

DESCRIPTION	Q.TY	ORDER NO.
CHUCK -XTREME- HSK-63F (H73) "ER32" PRECISION COLLET RH	2	183.300.01
C-SPANNER FOR "ER32" PRECISION COLLET	1	991.183.00
PRECISION COLLET DIN6499 "ER32" (33x40mm) D=12mm	1	184.120.00
PRECISION COLLET DIN6499 "ER32" (33x40mm) D=20mm	1	184.200.00
KINETIC DUST EXTRACTOR FOR CHUCK WITH "ER32" D=100mm RH	1	992.101.ER32
C-SPANNER 95-100mm FOR KINETIC "ER32"/"ER40"	1	991.284.00
SPOILBOARD SURFACING ROUTER CUTTER W/INSERT KNIVES HW Z3 S=20x50mm D=80x12x90mm	1	663.003.11
HWM REVERSIBLE KNIVES STD (4/35°) 12x12x1.5mm	10	790.120.03
KEY TORX® T15	1	991.061.00
ROUTER CUTTERS WITH SHEAR ANGLE FOR NESTING Z3 9DP S=12mm D=12x25x70mm RH	1	143.120.61
2 FLUTE DOWEL DRILL HW S=10x30mm D=5x35x70mm RH	2	311.050.11
2 FLUTE DOWEL DRILL HW S=10x30mm D=5x35x70mm LH	2	311.050.12
2 FLUTE DOWEL DRILL HW S=10x30mm D=8x35x70mm RH	4	311.080.11
2 FLUTE DOWEL DRILL HW S=10x30mm D=8x35x70mm LH	4	311.080.12
HINGE BORING BITS HW Z2+2 S=10x26mm D=15x70mm RH	1	369.150.11
HINGE BORING BITS HW Z2+2 S=10x26mm D=35x70mm RH	1	369.350.11

WHILE SUPPLIES LAST

Includes:
KINETIC
 DUST EXTRACTOR



616.000.01

This unique system includes a tool body with 22 profile knives designed for multiple applications on your CNC routers. Ideal for MDF, laminates, veneers, plastic, wood and solid surface materials.

TECHNICAL DETAILS:

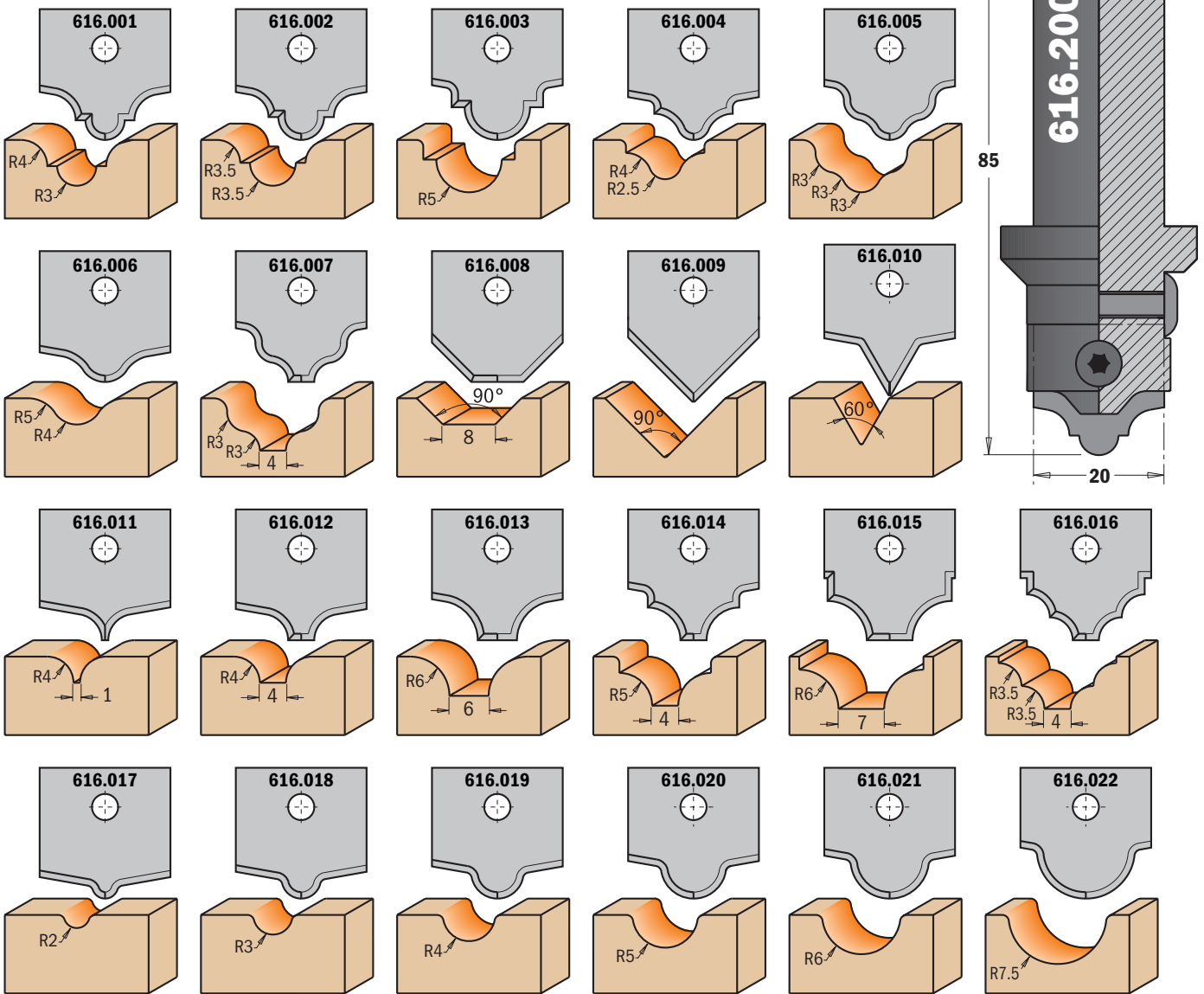
Knives 20x20x2mm.

We recommend re-sharpening the knives on profile cutting edge.

SAFETY TIPS



The **TW-006** Torque Screwdriver is recommended for the proper fastening of screws (see page 421).



Drawing is 1:1 scale

DESCRIPTION	S mm		ORDER NO. Right-hand rotation	Spare Parts		
Complete Set for Decorating on MDF	20	10	616.000.01			
Router cutter body with shank Ø20mm (insert knives not included)	20	10	616.200		990.077.00	991.061.00
Router cutter body with shank Ø12mm (insert knives not included)	12	10	616.120		990.077.00	991.061.00

REMARK: tool body and insert knives can be sold individually.

Complete Set for MDF Doors



615.004.01

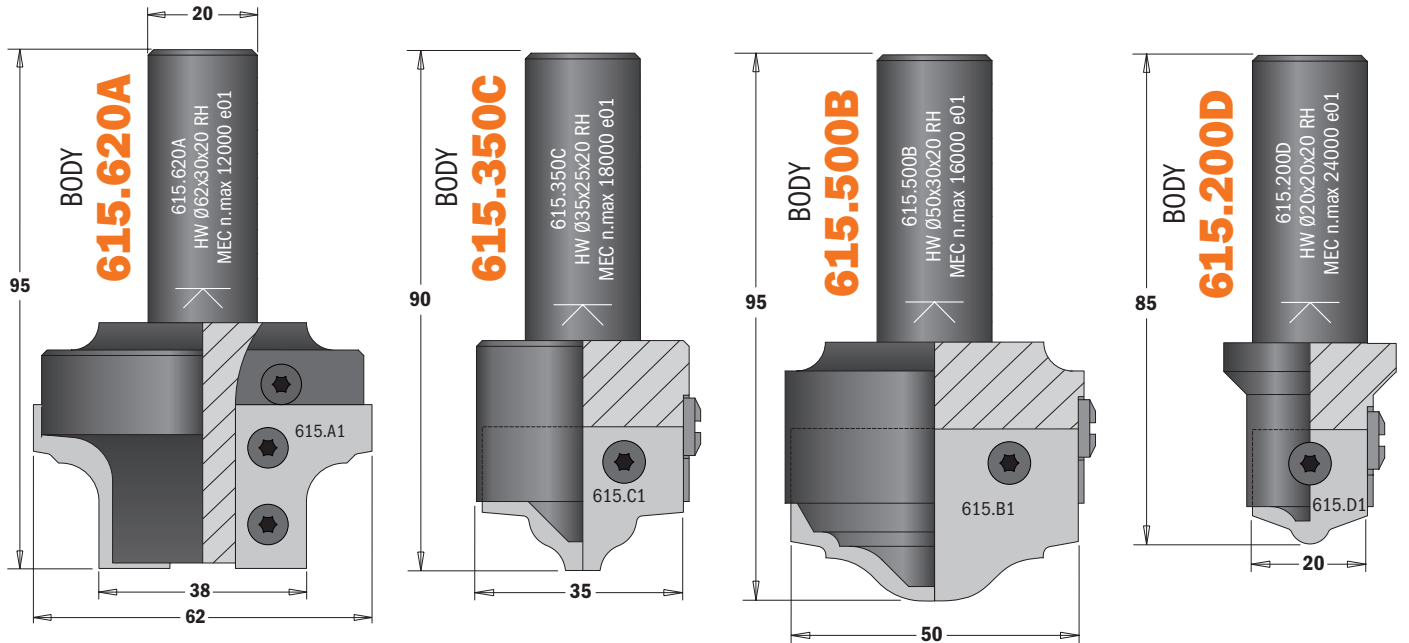
Open some new doors with CMT. Our 4-piece set includes the most popular profile to make MDF panel doors for kitchens and bathrooms. Each bit is made from bar stock steel and is equipped with 5 different profile knives allowing enormous possibilities for easy and economical construction. The highest materials, the lowest tolerance in balancing and the precision in the sharpening of the knives let you obtain a smooth finish on your CNC machine.

SAFETY TIPS

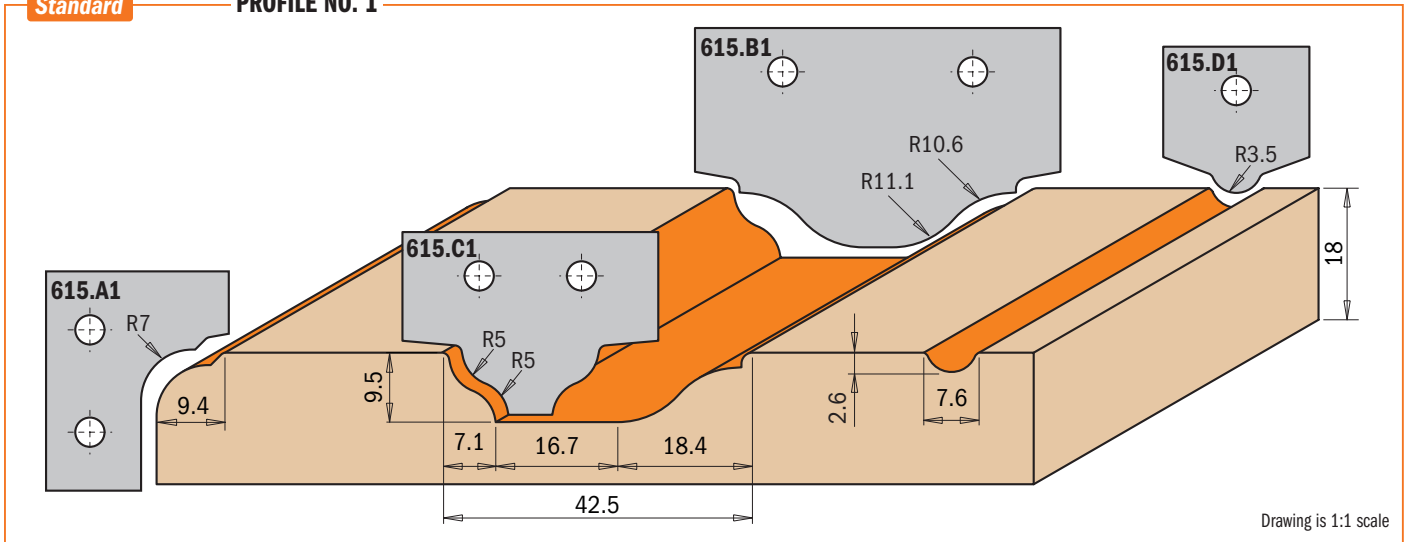
The **TW-006** Torque Screwdriver is recommended for the proper fastening of screws (see page 421).



DESCRIPTION	S mm		ORDER NO. Right-hand rotation	Spare Parts	
Complete Set for MDF Doors (Profile no. 1)	20	1	615.004.01	990.077.00	991.061.00

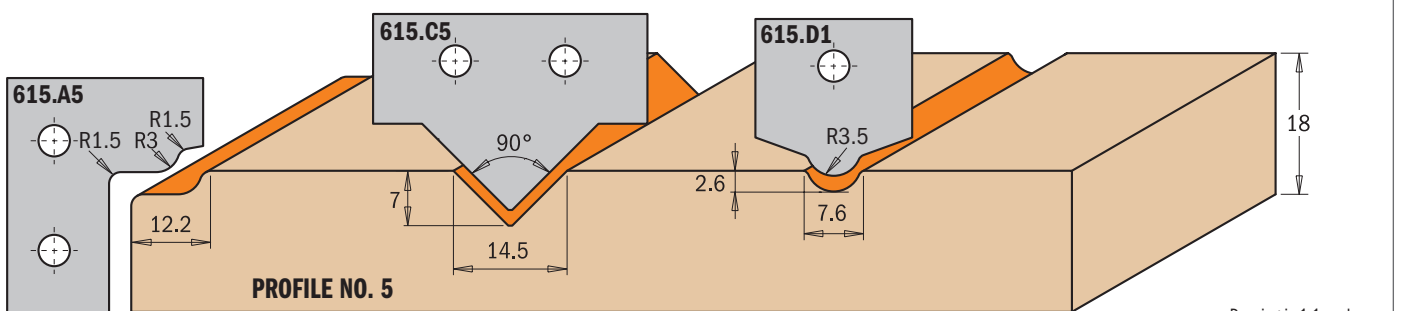
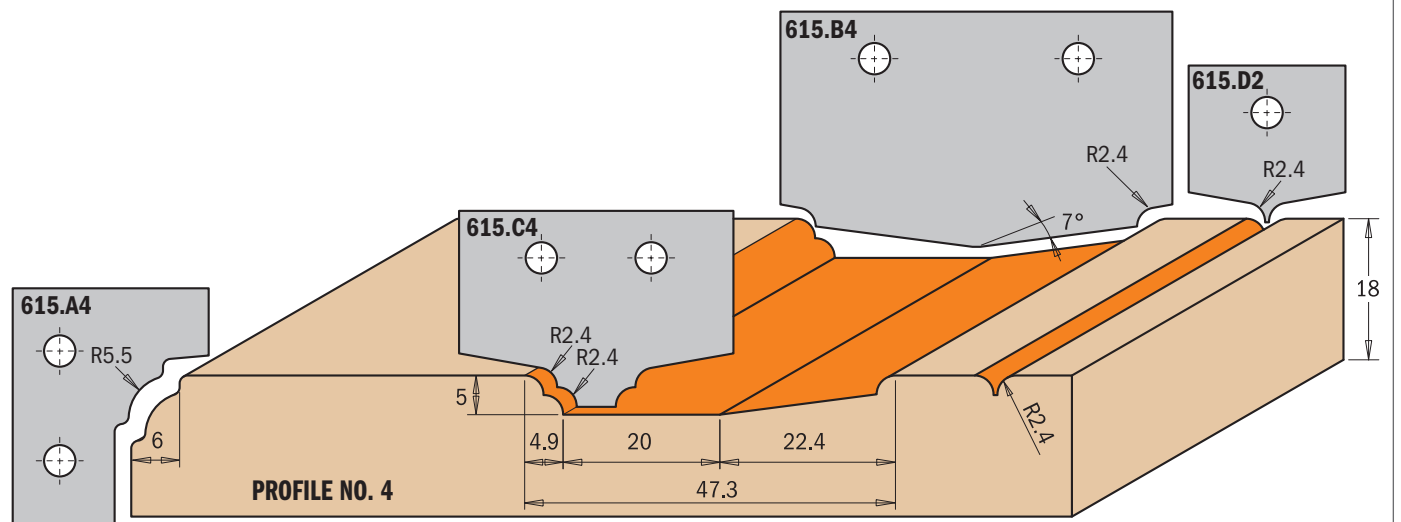
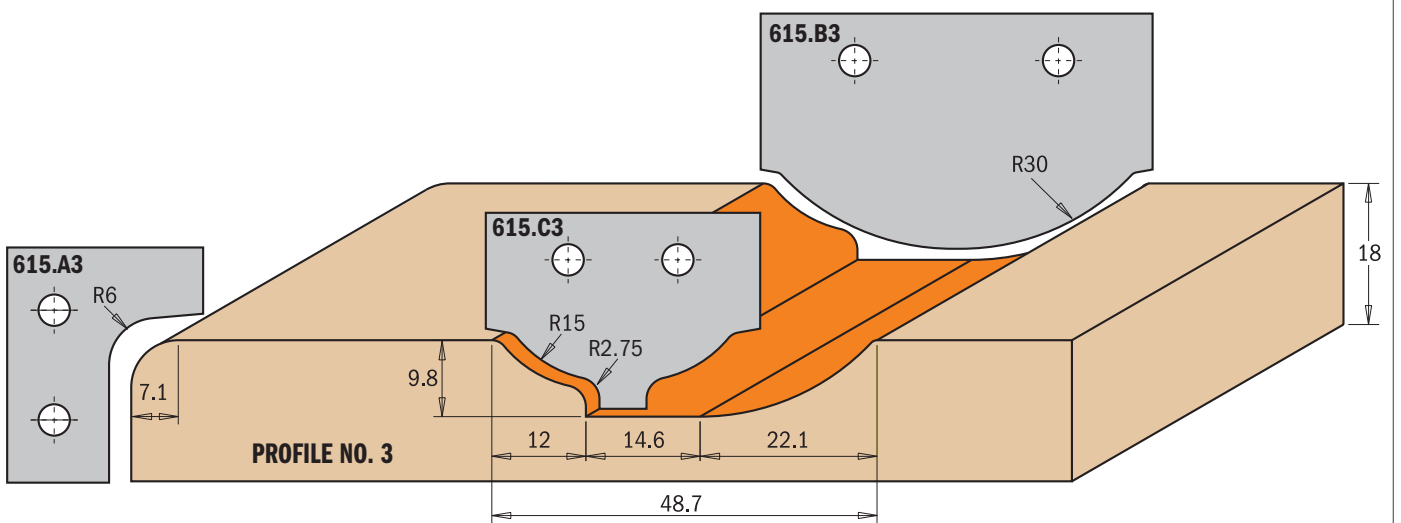
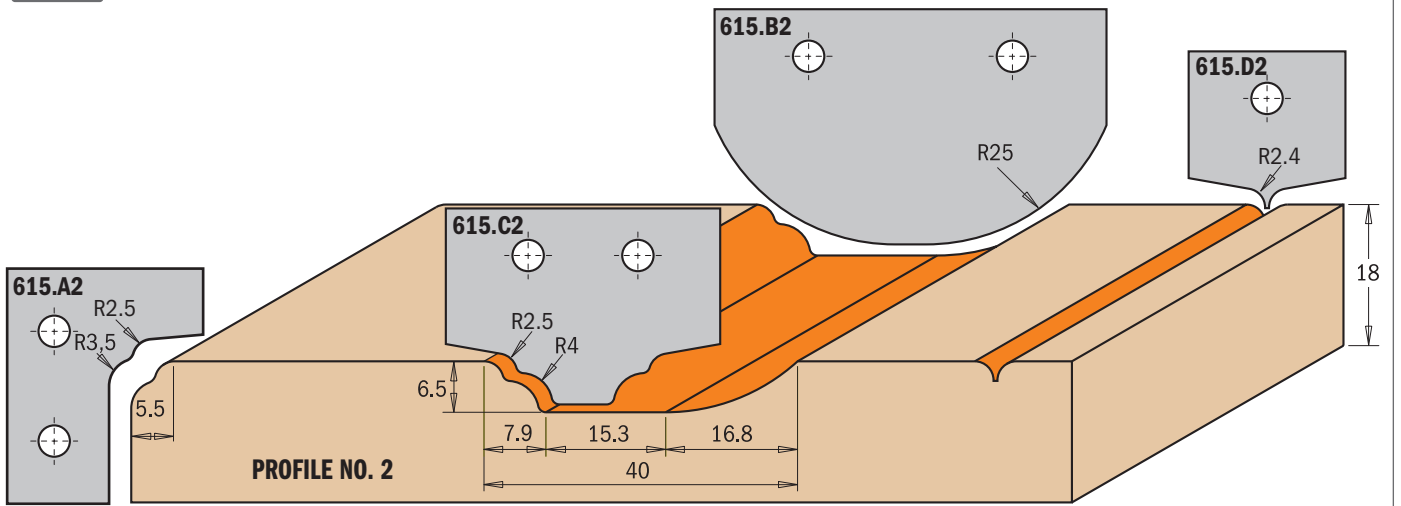


Standard PROFILE NO. 1



Drawing is 1:1 scale

Optional



Drawing is 1:1 scale



102



D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
6	50	105	16	10	102.060.31	102.060.32
7	55	110	16	10	102.070.31	
8	60	115	16	10	102.080.31	102.080.32
9	65	120	16	10	102.090.31	
10	70	125	16	10	102.100.31	102.100.32
11	75	130	16	10	102.110.31	
12	80	135	16	10	102.120.31	102.120.32
13	85	140	16	10	102.130.31	
14	90	145	16	10	102.140.31	102.140.32
15	95	150	16	10	102.150.31	
16	100	155	16	10	102.160.31	102.160.32
17	105	160	16	10	102.170.31	
18	110	165	16	10	102.180.31	102.180.32
19	115	170	16	10	102.190.31	
20	120	175	16	10	102.200.31	102.200.32
22	125	180	16	10	102.220.31	102.220.32
24	125	180	16	10	102.240.31	102.240.32

172

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
6	50	105	13	10	172.060.31	172.060.32
7	55	110	13	10	172.070.31	
8	60	115	13	10	172.080.31	172.080.32
9	65	120	13	10	172.090.31	
10	70	125	13	10	172.100.31	172.100.32
12	80	135	13	10	172.120.31	172.120.32
13	85	140	13	10	172.130.31	
14	90	145	13	10	172.140.31	172.140.32
15	95	150	13	10	172.150.31	
16	100	155	13	10	172.160.31	172.160.32
18	110	165	13	10	172.180.31	172.180.32
20	120	175	13	10	172.200.31	172.200.32

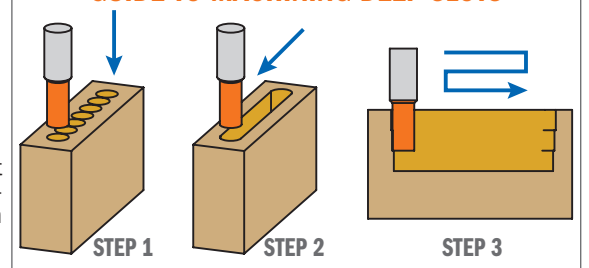
TECHNICAL DETAILS:

- Long-lasting cutting performance.
- 2 HL precision ground straight cutting edges with chipbreaker teeth [Z2R].

APPLICATION:

for cutting deep mortise slots in natural soft and medium density wood. For use on combination machining centres equipped with adaptors and/or chucks.

GUIDE TO MACHINING DEEP SLOTS



6 Piece Mortising Bit Sets

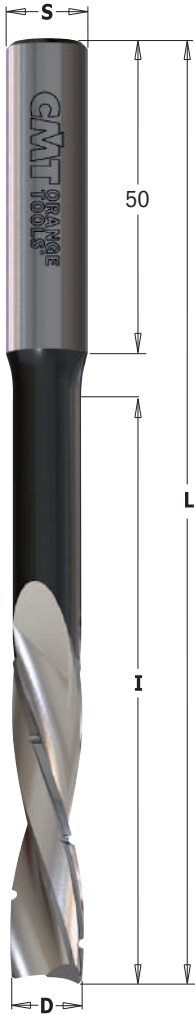
102 - 172



Our classic set of 6 spiral mortising bits with both Ø16mm and Ø13mm shanks made of super strength high speed steel and available in left-hand or right-hand rotation. Safely packaged in a plastic box for protection, these sets are economical and a perfect addition to any workshop.



S mm	D mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
16	6-8-10-12-14-16	1	102.001.00	102.001.10
13	6-8-10-12-14-16	1	172.001.00	172.001.10



161



D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
6	60	120	16	10	161.060.31	161.060.32
8	70	130	16	10	161.080.31	161.080.32
10	80	140	16	10	161.100.31	161.100.32
12	90	150	16	10	161.120.31	161.120.32
14	100	160	16	10	161.140.31	161.140.32
16	110	170	16	10	161.160.31	161.160.32

160



D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
6	60	120	13	10	160.060.31	160.060.32
8	70	130	13	10	160.080.31	160.080.32
10	80	140	13	10	160.100.31	160.100.32
12	90	150	13	10	160.120.31	160.120.32
14	100	160	13	10	160.140.31	160.140.32
16	110	170	13	10	160.160.31	160.160.32

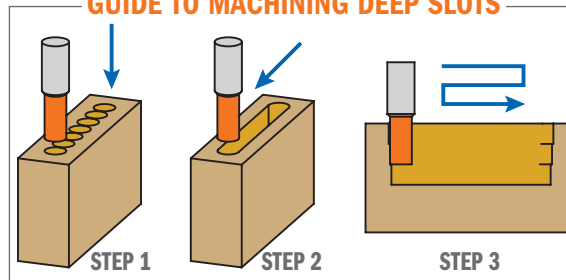
TECHNICAL DETAILS:

- Long-lasting cutting performance.
- 2 HSS precision ground spiral cutting edges with chipbreaker teeth [Z2R].

APPLICATION:

for cutting mortise slots in soft and hardwood.
Used on combined machining centres equipped with chucks.

GUIDE TO MACHINING DEEP SLOTS



6 Piece Mortising Bit Sets

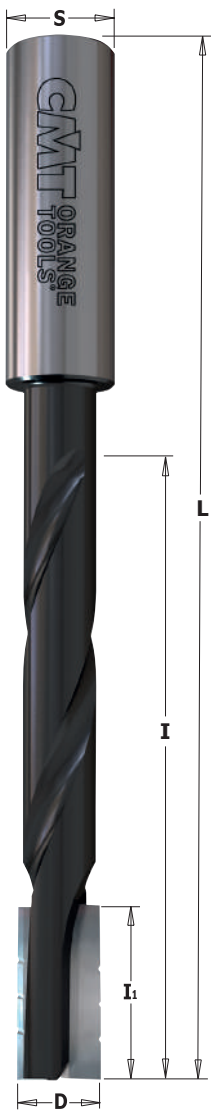
160 - 161



Ideal for heavy mortise jobs. Made of super strength high speed steel and available in left-hand or right-hand rotation. Safely packaged in a plastic box for protection, these sets are economical and a perfect addition to any workshop.



S mm	D mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
16	6-8-10-12-14-16	1	161.001.00	161.001.10
13	6-8-10-12-14-16	1	160.001.00	160.001.10



161

D mm	I ₁ mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
12	25	75	150	16x50	10	161.120.11	161.120.12
16	25	95	170	16x50	10	161.160.11	161.160.12

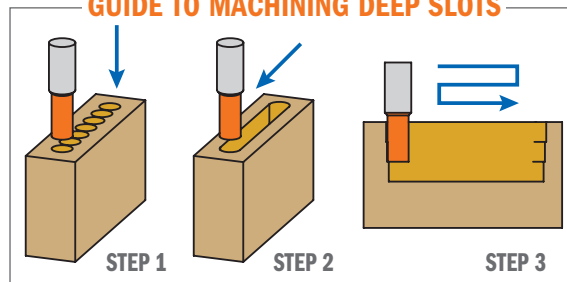
TECHNICAL DETAILS:

- Strength steel.
- Long-lasting cutting performance.
- 2 precision ground HW cutting edges with chipbreaker teeth.
- 1 HW plunge centre tip [Z2R+1]

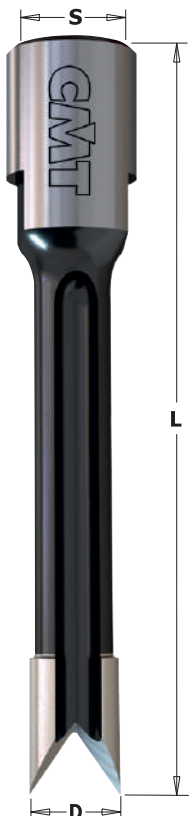
APPLICATION:

for cutting deep mortise slots in natural soft or medium density wood.
For use on machining centres equipped with chucks. RPM 3000~5000.

GUIDE TO MACHINING DEEP SLOTS



Slot & Mortise Boring Bits



163



D mm	L mm	S mm		ORDER NO. Right-hand rotation
12	100	M12x1	1	163.120.11
14	100	M12x1	1	163.140.11
16	100	M12x1	1	163.160.11

TECHNICAL DETAILS:

- Strength steel.
- 2 HW precision ground cutting edges [Z2].

APPLICATION:


for cutting slots and mortises in solid wood, wood derivatives and laminates.
For use on mortising machines equipped with chucks.

Slot & Mortise Boring Bits



164



D mm	L mm	S mm			ORDER NO. Right-hand rotation	
18	100	M12x1		1	164.180.11	
20	100	M12x1		1	164.200.11	
22	100	M12x1		1	164.220.11	

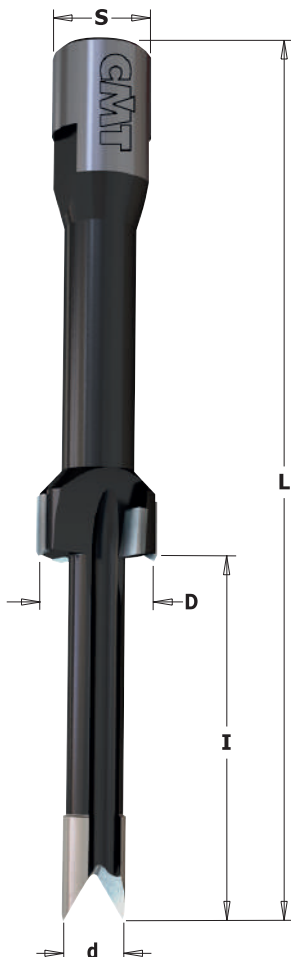
TECHNICAL DETAILS:

- Strength steel.
- HW cutting head with precision centre point.
- 2 HW precision ground cutting edges [Z2].
- 2 negatively HW ground spurs [V2].

APPLICATION:


for drilling blind holes in solid wood, wood composites, plastic and laminated materials.
For use on slot and mortise machines equipped with chucks.

Slot & Mortise Boring Bits



166 - 167



d mm	D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	
11	22	62	155	M12x1	1	166.220.11	
12	19	62	155	M12x1	1	167.190.11	

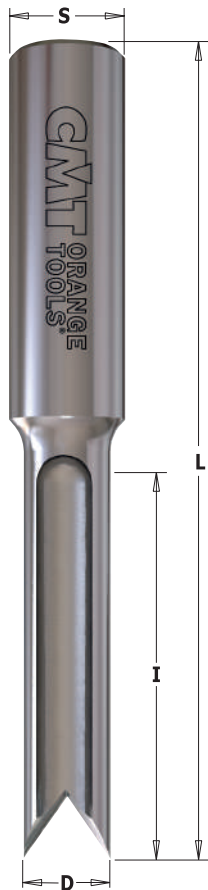
TECHNICAL DETAILS:

- Strength steel.
- 2 HW precision ground cutting edges [Z2].
- 2 negatively HW ground spurs [V2].

APPLICATION:

for creating mortise slots in solid wood, wood derivatives and laminates.
For use on slot and mortise machines equipped with chucks.

Reciprocating Slot Mortising Bits



103



D mm	I mm	L mm	S mm		ORDER NO. Right-hand & Left-hand rotation
6	45	100	16x50	1	103.060.30
8	45	100	16x50	1	103.080.30
10	55	110	16x50	1	103.100.30
12	55	110	16x50	1	103.120.30
14	55	110	16x50	1	103.140.30
16	55	110	16x50	1	103.160.30

TECHNICAL DETAILS:
 - Long-lasting cutter performance.
 - 2 HL precision ground cutting edges [Z2].

APPLICATION:
 for cutting deep mortise slots in soft and hardwood.
 For use on combination machining centres equipped with adaptors and/or chucks.

179



D mm	I mm	L mm	S mm		ORDER NO. Right-hand & Left-hand rotation
6	45	90	13x40	1	179.060.50
8	50	95	13x40	1	179.080.50
10	60	105	13x40	1	179.100.50
12	70	115	13x40	1	179.120.50

TECHNICAL DETAILS:
 - Long-lasting cutter performance.
 - 2 HSS precision ground cutting edges [Z2].

APPLICATION:
 for cutting deep mortise slots in natural soft or medium density wood. For use on combination machining centres equipped with adaptors and/or chucks.

Reciprocating Slot Mortising Bits



104



D mm	I mm	L mm	S mm		ORDER NO. Right-hand & Left-hand rotation
6	45	100	13x50	1	104.060.30
8	45	100	13x50	1	104.080.30
9	45	100	13x50	1	104.090.30
10	55	110	13x50	1	104.100.30
12	55	110	13x50	1	104.120.30
13	55	110	13x50	1	104.130.30
14	55	110	13x50	1	104.140.30
15	55	110	13	1	104.150.30
16	55	110	13x50	1	104.160.30

TECHNICAL DETAILS:
 - Long-lasting cutting performance.
 - 4 HL precision ground cutting edges [Z4].

APPLICATION:
 for cutting deep mortise slots in soft and medium density wood.
 For use on mortising machine centres equipped with chucks.

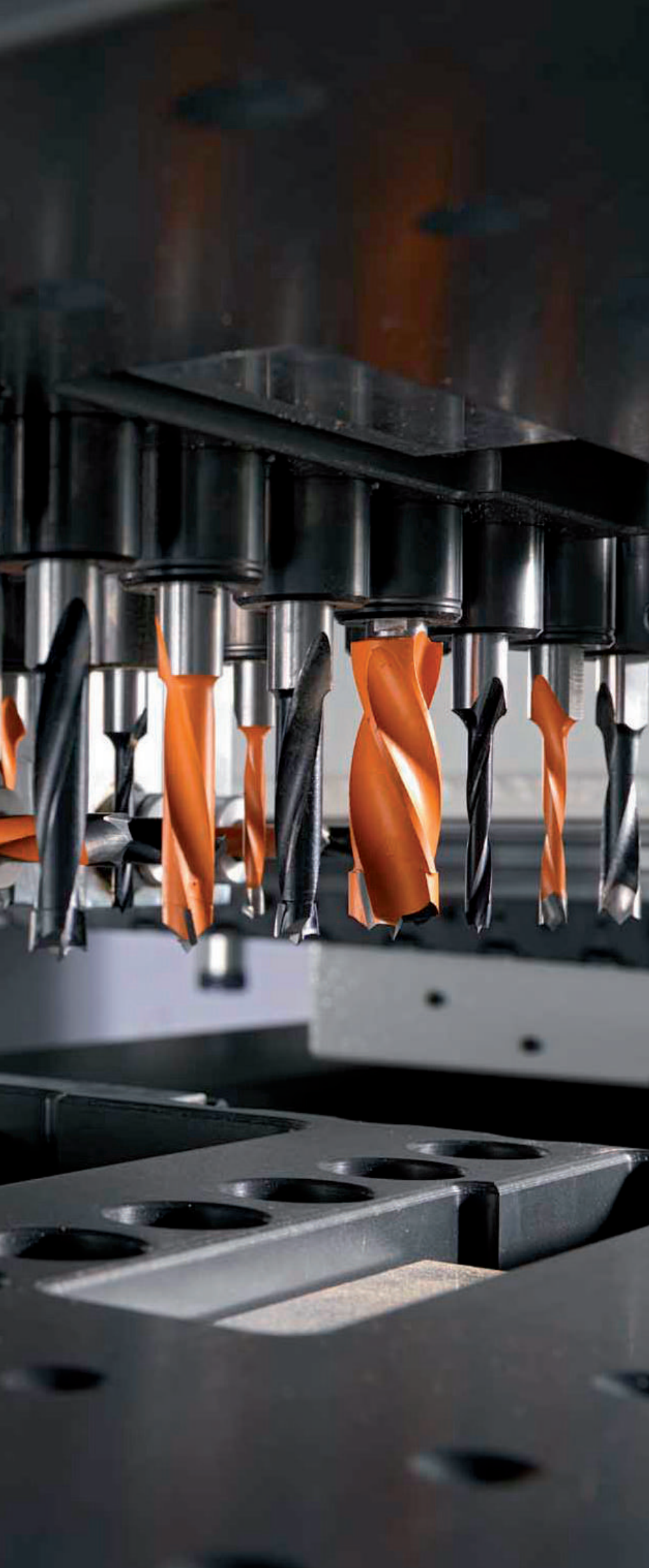
105



D mm	I mm	L mm	S mm		ORDER NO. Right-hand & Left-hand rotation
6	28	73	10x40	1	105.060.30
8	28	73	10x40	1	105.080.30
10	28	73	10x40	1	105.100.30
12	28	73	10x40	1	105.120.30

TECHNICAL DETAILS:
 - Long-lasting cutting performance.
 - 4 HL precision ground cutting edges [Z4].








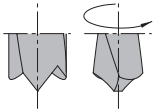
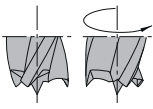
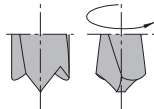
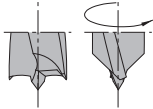

APPLICATION:
 for cutting deep mortise slots in natural soft and medium density wood. For use on mortising machining centres equipped with chucks.



INDUSTRIAL DOWEL DRILLS

PRODUCTS	PAGE
XTREME Solid Carbide Boring Bits	337~339
XTREME Boring Bits	340~341
Solid Carbide Twist Drills	342
Adaptors & Bushings for Twist Drills	343
2 Flute Dowel Drills	344~345
4 Flute Dowel Drills	346~348
Dowel Drills with Countersink	349
Through Hole Dowel Drills	350~351
Countersinks	352
Adaptors	353~355
Hinge Boring Bits	357~359
Dowel Drills with Threaded Shank	360~362



BORING RANGE	XTREME-HWM				XTREME	INDUSTRIAL
PERFORMANCE	★★★★★				★★★★★	★★★★
						
FEATURES	Z2 FLAT SHARPENING MIRROR FINISH	Z2 REDUCED GRINDING BODY MORE: FINISHING COOLER CUTTING DEPTH LIFE TIME	Z2	Z3 3X LONGER LIFE THAN STANDARD	Z2	Z2
SHARPENING	No center-point or spurs means perfect bores in low-thickness panels.  XTREME FLAT SHARPENING	Specially designed reinforced spurs provide impeccable finishing during high-speed drilling feed operations.  XTREME SHARPENING	Standard design with negatively ground spurs providing good quality finishing without chipping.  NEGATIVELY GROUND SPURS	Specially designed reinforced spurs provide impeccable finishing during high-speed drilling feed operations.  XTREME SHARPENING	Standard design with negatively ground spurs providing good quality finishing without chipping.  NEGATIVELY GROUND SPURS	
CARBIDE	HWM LONG LIFE INDUSTRIAL CHROMIUM MICROGRAIN CARBIDE Premium quality, solid tungsten carbide produces clean bores with no rough edges. Guarantees exceptional resistance to fatigue and abrasion and allows for an infinite number of resharpenings.				HW INDUSTRIAL SINTERHIP HI-DENSITY CARBIDE The tip is made of high quality carbide enhanced via Sinterhip (hot isostatic pressing). This process guarantees long lasting performance and exceptionally clean bores.	HW INDUSTRIAL GRADE CARBIDE Medium and fine grain carbide tip guarantee reliable prolonged use.
COATING	× SOLID TUNGSTEN CARBIDE				ORANGE SHIELD® NON-STICK PTFE COATING  <ul style="list-style-type: none"> - Protects against corrosion and rust. - Reduces resin and residue build-up. - Reduces overheating and blade drag. - Improves performance and cutting life. 	
MATERIALS APPLICATION	Ideal for chipboard, MDF, HDF and laminates.				Excellent for both hard and soft wood. Great for chipboard, MDF, HDF and laminates.	Excellent for both hard and soft wood. Good for chipboard, MDF and laminates.
DESCRIPTION	Designed for heavy duty drilling in large-scale industrial manufacturing ensuring very high impact resistance and superb durability.				Designed for heavy-duty to medium-duty drilling in large-scale to medium-scale industrial manufacturing ensuring high impact resistance and greater durability.	Designed for medium-duty to light-duty drilling in medium-scale to small-scale industrial manufacturing ensuring good impact resistance and good durability.
USER	LARGE-SCALE INDUSTRIAL MANUFACTURING				LARGE-SCALE TO MEDIUM-SCALE INDUSTRIAL MANUFACTURING	MEDIUM-SCALE TO SMALL-SCALE INDUSTRIAL MANUFACTURING
RECOMMENDED USE	INDUSTRIAL PRODUCTION				INDUSTRIAL PRODUCTION CABINETMAKER'S	CABINETMAKER'S



311.71/72 XTREME FLAT SHARPENING

HWM Z2 V2 RH LH

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
5	30	70	10x27	50	311.050.71	311.050.72
6	30	70	10x27	50	311.060.71	311.060.72
7	30	70	10x27	50	311.070.71	311.070.72
8	30	70	10x25	50	311.080.71	311.080.72
10	30	70	10x25	50	311.100.71	311.100.72

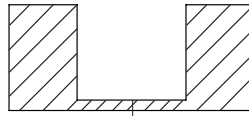
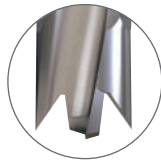
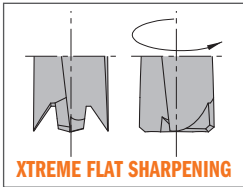
TECHNICAL DETAILS:

- Premium quality strength steel shank.
- High quality HWM body with mirror finishing.
- 2 cutting edges [Z2] + 2 curved ground spurs [V2].
- 2 spiral flutes.
- Parallel shank with driving flat and adjustable screw length.
- Recommended feed speed 1~4m/minute - RPM 6000.

Spare Parts	Optional
990.003.00	990.088.00

APPLICATION:

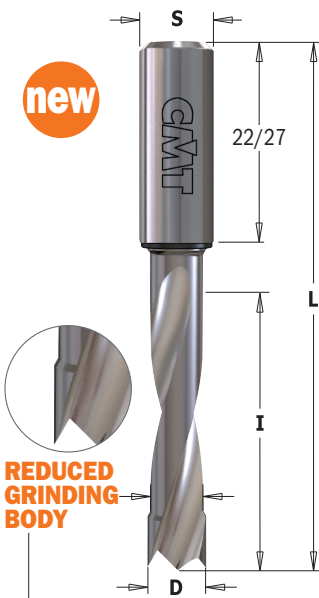
ideal for chipboard, MDF, HDF and laminates.
No center-point or spurs means perfect bores in low-thickness panels.
For use on boring machines equipped with adaptors/chucks.



XTREME FLAT SHARPENING:
No center-point or spurs means perfect bores in low-thickness panels.

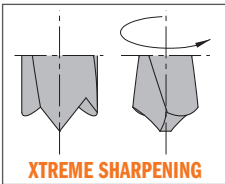
CMT's new high quality dowel drills guarantee excellent performance and extra-long life!

Solid Carbide Dowel Drill - REDUCED GROUND BODY - LONG LIFE



REDUCED GRINDING BODY

MORE FINISHING COOLER CUTTING DEPTH LIFE TIME



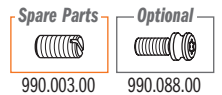
310-311-362-373 XTREME

HWM Z2 V2 RH LH

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
5	27	57.5	10x22	50	310.650.21	310.650.22
8	27	57.5	10x22	50	310.680.21	310.680.22
3	40	70	10x22	50	311.630.21	311.630.22
3.5	40	70	10x22	50	311.635.21	311.635.22
4	40	70	10x22	50	311.640.21	311.640.22
4.5	40	70	10x22	50	311.645.21	311.645.22
4.76	40	70	10x22	50	311.647.21	311.647.22
5	40	70	10x22	50	311.650.21	311.650.22
5.2	40	70	10x22	50	311.652.21	311.652.22
5.5	40	70	10x22	50	311.655.21	311.655.22
6	40	70	10x22	50	311.660.21	311.660.22
7	40	70	10x22	50	311.670.21	311.670.22
8	40	70	10x22	50	311.680.21	311.680.22
8.2	40	70	10x22	50	311.682.21	311.682.22
8.5	40	70	10x22	50	311.685.21	311.685.22
10	40	70	10x22	50	311.700.21	311.700.22
5	45	77	10x25	50	362.650.21	362.650.22
8	45	77	10x27	50	362.680.21	362.680.22
5	50	85	10x27	50	373.650.21	373.650.22
8	50	85	10x27	50	373.680.21	373.680.22

TECHNICAL DETAILS:

- Premium quality strength steel shank.
- High quality HWM body.
- 2 cutting edges [Z2] + 2 curved ground spurs [V2].
- 2 spiral flutes.
- Centre point.
- Parallel shank with driving flat and adjustable screw length.

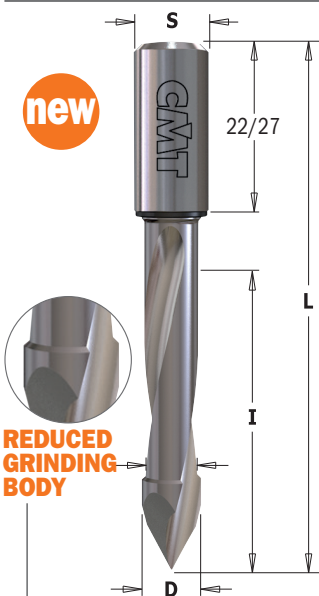


APPLICATION:

for drilling blind holes in solid wood, wood derivatives and laminates. For use on boring machines equipped with adaptors and/or with chucks.

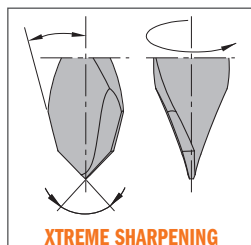
Perfect for all materials and long-lasting performance!

Solid Carbide Dowel Drill for Through Holes - REDUCED GROUND BODY - LONG LIFE



REDUCED GRINDING BODY

MORE FINISHING COOLER CUTTING DEPTH LIFE TIME



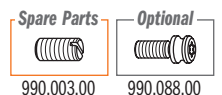
314-366 XTREME

HWM Z2 V2 RH LH

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
3	40	70	10x22	50	314.630.21	314.630.22
4	40	70	10x22	50	314.640.21	314.640.22
5	40	70	10x22	50	314.650.21	314.650.22
6	40	70	10x22	50	314.660.21	314.660.22
7	40	70	10x22	50	314.670.21	314.670.22
8	40	70	10x22	50	314.680.21	314.680.22
10	40	70	10x22	50	314.700.21	314.700.22
5	45	77	10x25	50	366.650.21	366.650.22
8	45	77	10x27	50	366.680.21	366.680.22
5	50	85	10x27	50	366.650.21X	366.650.22X
8	50	85	10x27	50	366.680.21X	366.680.22X

TECHNICAL DETAILS:

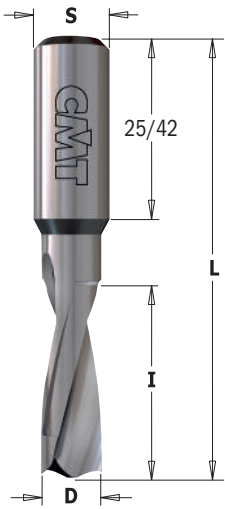
- Premium quality strength steel shank.
- High quality HWM body.
- 2 cutting edges [Z2] with double angle.
- 2 spiral flutes.
- Parallel shank with driving flat and adjustable screw length.



APPLICATION:

for drilling through holes in solid wood, wood derivatives and laminates. For use on boring machine equipped with adaptors and/or with chucks.

Perfect for all materials and long-lasting performance!

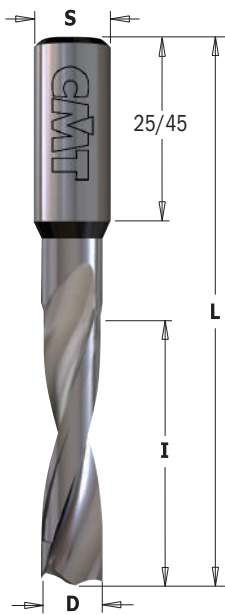
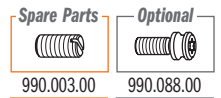


310.21/22 XTREME

HWM Z2 V2 RH LH

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
1.3	5	57.5	10x32	50	310.013.20*	
2	12	57.5	10x32	50	310.020.21	310.020.22
3	9	57.5	10x42	50	310.530.21	310.530.22
3	18	57.5	10x30	50	310.030.21	310.030.22
4	20	57.5	10x27	50	310.040.21	310.040.22
5	22	57.5	10x27	50	310.050.21	310.050.22
6	22	57.5	10x27	50	310.060.21	310.060.22
6.35 (1/4")	22	57.5	10x27	50	310.064.21	310.064.22
8	22	57.5	10x27	50	310.080.21	310.080.22
10	35	57.5	10x25	50	310.100.21	310.100.22

* Dowel drill for panel preboring. Suitable for both right-hand and left-hand rotation.

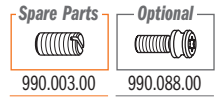


311.21/22 XTREME

HWM Z2 V2 RH LH

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
1.3	5	70	10x45	50	311.013.20*	
2	12	70	10x45	50	311.020.21	311.020.22
3	18	70	10x42	50	311.030.21	311.030.22
3.5	22	70	10x39	50	311.035.21	311.035.22
4	30	70	10x27	50	311.040.21	311.040.22
5	35	70	10x27	50	311.050.21	311.050.22
6	35	70	10x27	50	311.060.21	311.060.22
6.35 (1/4")	35	70	10x27	50	311.064.21	311.064.22
7	35	70	10x27	50	311.070.21	311.070.22
8	35	70	10x25	50	311.080.21	311.080.22
10	35	70	10x25	50	311.100.21	311.100.22

* Dowel drill for panel preboring. Suitable for both right-hand and left-hand rotation.

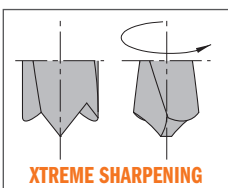


TECHNICAL DETAILS:

- Premium quality strength steel shank.
- High quality HWM body.
- 2 cutting edges [Z2] + 2 curved ground spurs [V2].
- 2 spiral flutes.
- Centre point.
- Parallel shank with driving flat and adjustable screw length.

APPLICATION:

for drilling blind holes in solid wood, wood derivatives and laminates. For use on boring machines equipped with adaptors and/or with chucks.



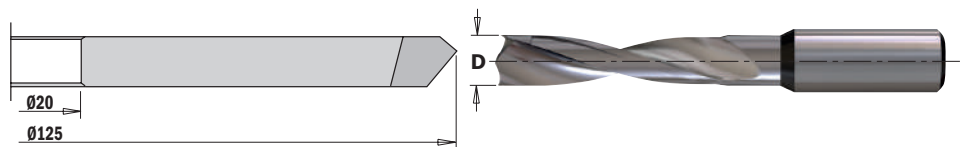
Grinding Wheels for XTREME Sharpening*



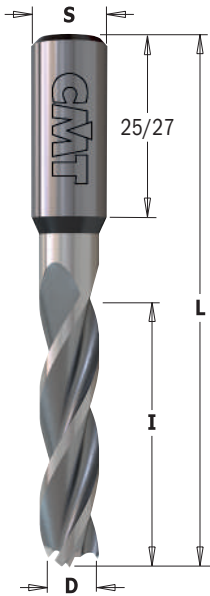
01.02

D mm	DESCRIPTION	DIMENSION mm	B mm		ORDER NO.
Ø3 to 7	Grinding wheel for sharpening	Ø125x5.5	Ø20	1	01.02.0316
Ø8 to 10	Grinding wheel for sharpening	Ø125x7	Ø20	1	01.02.0317

* For use with the following items: 310.21/22 - 311.21/22 - 310.41/42 - 311.41/42



Z3 - Solid Carbide Dowel Drills - LONG LIFE



3X
LONGER LIFE
THAN STANDARD

311.31/32 ~~EXTREME~~

HWM Z3 V3 RH LH

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
5	35	70	10x27	50	311.050.31	311.050.32
8	35	70	10x25	50	311.080.31	311.080.32

TECHNICAL DETAILS:

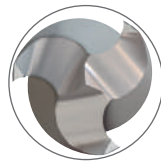
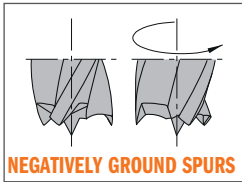
- Premium quality strength steel shank.
- High quality HWM body.
- 3 cutting edges [Z3] + 3 negatively ground spurs [V3].
- 3 spiral flutes.
- Centre point.
- Parallel shank with driving flat and adjustable screw length.

Spare Parts	Optional
 990.008.00	 990.088.00

APPLICATION:

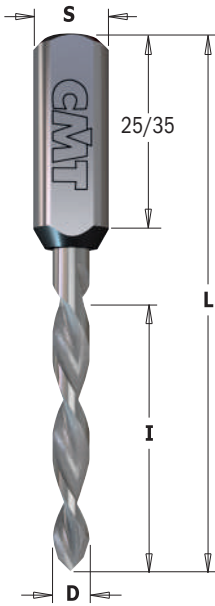
for drilling blind holes in solid wood, wood derivatives and laminates.
For use on boring machine equipped with adaptors and/or chucks.

REMARK: special dimensions available on request.



CMT's new high quality dowel drills guarantee excellent performance and extra-long life!

Solid Carbide Dowel Drills for Through Holes - LONG LIFE



314.21/22 XTREME

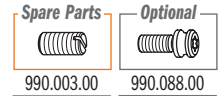
HWM Z2 RH LH

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
*3	27	70	10x35	50	314.030.21	314.030.22
4	35	70	10x26	50	314.040.21	314.040.22
5	35	70	10x26	50	314.050.21	314.050.22
6	35	70	10x25	50	314.060.21	314.060.22
7	35	70	10x25	50	314.070.21	314.070.22
8	35	70	10x25	50	314.080.21	314.080.22
10	35	70	10x25	50	314.100.21	314.100.22

* "V" point 60° sharpening

TECHNICAL DETAILS:

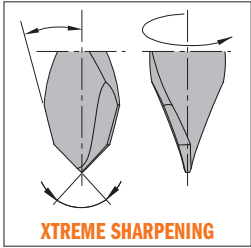
- Premium quality strength steel shank.
- High quality HWM body.
- 2 cutting edges [Z2] with double angle.
- 2 spiral flutes.
- Parallel shank with driving flat and adjustable screw length.



APPLICATION:

for drilling through holes in solid wood, wood derivatives and laminates.
For use on boring machine equipped with adaptors and/or chucks.

FOR PANELS WITH MAXIMUM THICKNESS: 20-30mm



Solid Carbide Dowel Drills - LONG LIFE



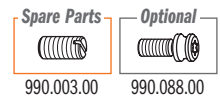
382 XTREME

HWM Z1 LH RH

D mm	I mm	L mm	S mm		ORDER NO. Right-hand & Left-hand rotation
2	12	57.5	10x30	50	382.2057
2	12	70	10x42	50	382.2070
2.5	16	57.5	10x24	50	382.2557
2.5	16	70	10x35	50	382.2570
3	15	57.5	10x25	50	382.3057
3	25	70	10x30	50	382.3070
3.5	18	57.5	10x24	50	382.3557
3.5	18	70	10x36	50	382.3570
5	25	57.5	10x25	50	382.5057
5	35	70	10x25	50	382.5070

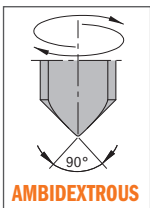
TECHNICAL DETAILS:

- Premium quality strength steel shank.
- High quality HWM body.
- 1 cutting edge [Z1].
- Parallel shank with driving flat and adjustable screw length.

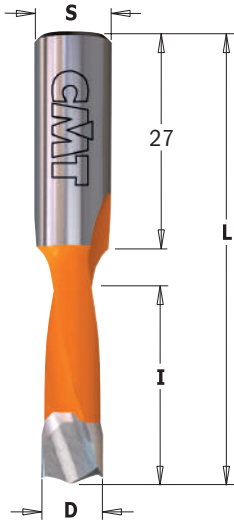


APPLICATION:

for drilling blind holes in solid wood, wood derivatives, plastic, laminates and melamine.
For use on boring machine, point-to-point machines and hand-held routers equipped with adaptors and/or chucks.



SECURITY TIPS:
These boring bits require more power compared to tradition dowel drills.
The number of boring bits to be used in a single drilling unit depends on the machine power.

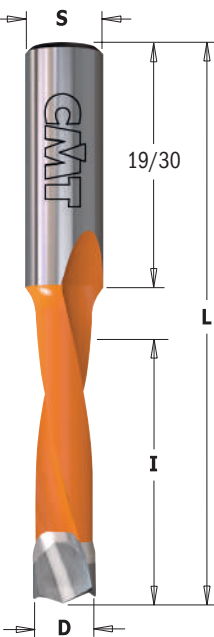


310.41/42 XTREME

HW Z2 V2 RH LH

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
5	27	57.5	10x27	50	310.050.41	310.050.42
6	27	57.5	10x27	50	310.060.41	310.060.42
7	27	57.5	10x27	50	310.070.41	310.070.42
8	27	57.5	10x27	50	310.080.41	310.080.42
9	27	57.5	10x27	50	310.090.41	310.090.42
10	27	57.5	10x27	50	310.100.41	310.100.42

Spare Parts 990.003.00
Optional 990.088.00



311.41/42 XTREME

HW Z2 V2 RH LH

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
5	35	70	10x30	50	311.050.41	311.050.42
6	35	70	10x30	50	311.060.41	311.060.42
7	35	70	10x30	50	311.070.41	311.070.42
8	35	70	10x30	50	311.080.41	311.080.42
8	45	70	10x19	50	311.580.41*	311.580.42*
9	35	70	10x30	50	311.090.41	311.090.42
10	35	70	10x30	50	311.100.41	311.100.42
12	35	70	10x30	10	311.120.41	311.120.42

* Drill bits designed to fit HÄFELE® one-piece Ixconnect SC 8/60 spreading connector.

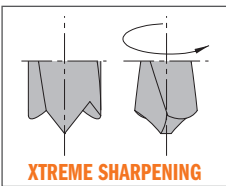
Spare Parts 990.003.00
Optional 990.088.00

TECHNICAL DETAILS:

- Premium quality strength steel body.
- High quality HW tip.
- 2 cutting edges [Z2] + 2 curved ground spurs [V2].
- 2 spiral flutes.
- Centre point.
- Orange or black PTFE coating.
- Parallel shank with driving flat and adjustable screw length.

APPLICATION:

for drilling blind holes in solid wood, wood derivatives, plastics and laminates. For use on boring machines equipped with adaptors and/or chucks.



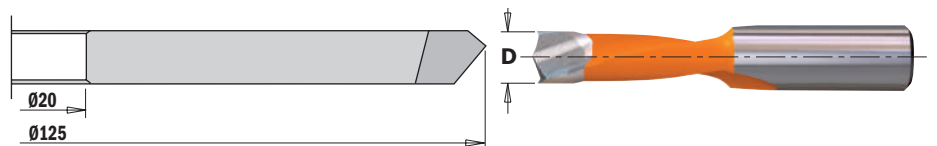
Grinding Wheels for XTREME Sharpening*

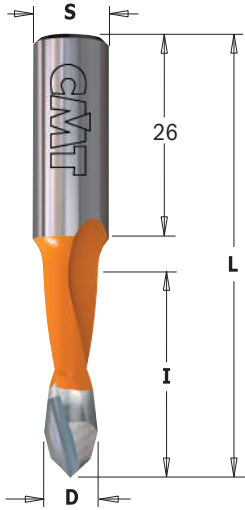


01.02

D mm	DESCRIPTION	DIMENSION mm	B mm		ORDER NO.
Ø3 to 7	Grinding wheel for resharpening	Ø125x5.5	Ø20	1	01.02.0316
Ø8 to 10	Grinding wheel for resharpening	Ø125x7	Ø20	1	01.02.0317

* For use with the following items: 310.21/22 - 311.21/22 - 310.41/42 - 311.41/42





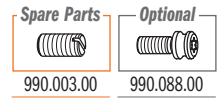
313.41/42 XTREME



D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
5	27	57.5	10x26	50	313.050.41	313.050.42
8	27	57.5	10x26	50	313.080.41	313.080.42

TECHNICAL DETAILS:

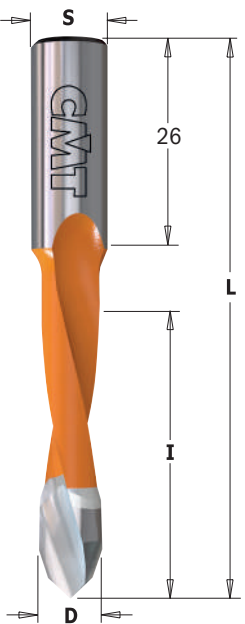
- Premium quality strength steel body.
- High quality HW tip.
- 2 cutting edges [Z2] with double angle.
- 2 spiral flutes.
- Orange or black PTFE coating.
- Parallel shank with driving flat and adjustable screw length.



APPLICATION:

for drilling through holes in solid wood, wood derivatives and laminates.
For use on boring machines equipped with adaptors and/or chucks.

FOR PANELS WITH MAXIMUM THICKNESS: 20mm



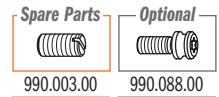
314.41/42 XTREME



D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
5	35	70	10x26	50	314.050.41	314.050.42
6	35	70	10x26	50	314.060.41	314.060.42
7	35	70	10x26	50	314.070.41	314.070.42
8	35	70	10x26	50	314.080.41	314.080.42
10	35	70	10x26	50	314.100.41	314.100.42

TECHNICAL DETAILS:

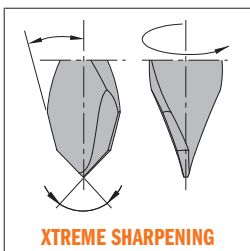
- Premium quality strength steel body.
- High quality HW tip.
- 2 cutting edges [Z2] with double angle.
- 2 spiral flutes.
- Orange or black PTFE coating.
- Parallel shank with driving flat and adjustable screw length.



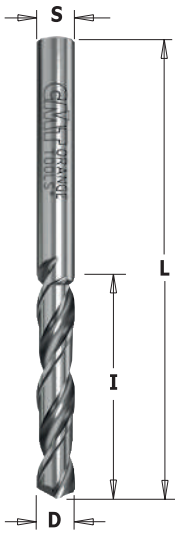
APPLICATION:

for drilling through holes in solid wood, wood derivatives and laminates.
For use on boring machines equipped with adaptors and/or chucks.

FOR PANELS WITH MAXIMUM THICKNESS: 30mm



Solid Carbide Twist Drills "V" Point 120° - LONG LIFE



"V" POINT 120°

363.11/12

HWM Z2 RH LH

S=D mm	I mm	L mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
2	25	50	50	363.020.11	363.020.12
2.5	27	55	50	363.025.11	363.025.12
3	27	55	50	363.030.11	363.030.12
3.2	27	55	50	363.032.11	363.032.12
3.5	27	55	50	363.035.11	363.035.12
4	27	55	50	363.040.11	363.040.12
4.5	28	60	50	363.045.11	363.045.12
5	28	60	50	363.050.11	363.050.12

For use with the following items: **364-365**

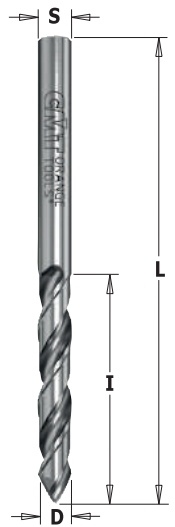
TECHNICAL DETAILS:

- High quality HWM body.
- 2 cutting edges [Z2] at 120°.
- 2 spiral flutes.

APPLICATION:

for drilling through holes in solid wood, wood derivatives and laminates.
For use on boring machines equipped with adaptors and/or chucks.

Solid Carbide Twist Drills "V" Point 60° - LONG LIFE



"V" POINT 60°

363.41/42

HWM Z2 RH LH

S=D mm	I mm	L mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
2.5	27	55	50	363.025.41	363.025.42
3	27	55	50	363.030.41	363.030.42
3.5	27	55	50	363.035.41	363.035.42
4	27	55	50	363.040.41	363.040.42

For use with the following items: **364-365**

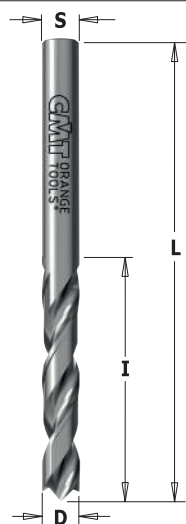
TECHNICAL DETAILS:

- High quality HWM body.
- 2 cutting edges [Z2] at 60°.
- 2 spiral flutes.

APPLICATION:

for drilling through holes in solid wood, wood derivatives and laminates.
For use on boring machines equipped with adaptors and/or chucks.

Solid Carbide Twist Drills Negatively Ground Spurs - LONG LIFE



XTREME SHARPENING

363.21/22 XTREME

HWM Z2 RH LH

S=D mm	I mm	L mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
2.5	27	55	50	363.025.21	363.025.22
3	27	55	50	363.030.21	363.030.22
4	27	55	50	363.040.21	363.040.22
5	28	60	50	363.050.21	363.050.22

For use with the following items: **364-365**

TECHNICAL DETAILS:

- High quality HWM body.
- 2 cutting edges [Z2] + 2 curved ground spurs [V2].
- 2 spiral flutes.

APPLICATION:

for drilling blind holes in solid wood, wood derivatives and laminates.
For use on boring machines equipped with adaptors and/or chucks.



364

B mm	L mm	S mm		ORDER NO.
2	38	10x20	10	364.020.00
2.5	38	10x20	10	364.025.00
3	38	10x20	10	364.030.00
3.2	38	10x20	10	364.032.00
3.5	38	10x20	10	364.035.00
4	38	10x20	10	364.040.00
4.5	38	10x20	10	364.045.00
5	38	10x20	10	364.050.00

For use with the following items: **363** HWM

TECHNICAL DETAILS:

- Strength steel.
- Precision grinding on all contact surfaces.
- Quick and secure assembly of the twist drills with screw.
- Parallel shank with driving flat.

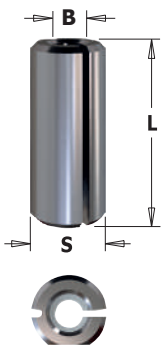
Spare Parts

990.001.00	991.062.00

APPLICATION:

For use with twist drills having same shank diameter as chuck/bushing hole.
For use on boring machines equipped with adaptors and/or chucks.

Bushings for Twist Drills



365

B mm	L mm	S mm		ORDER NO.
2	23	10	50	365.020.00
2.5	23	10	50	365.025.00
3	23	10	50	365.030.00
3.2	23	10	50	365.032.00
3.5	23	10	50	365.035.00
4	23	10	50	365.040.00
4.5	23	10	50	365.045.00
5	23	10	50	365.050.00
6	23	10	50	365.060.00

For use with the following items: **363** HWM

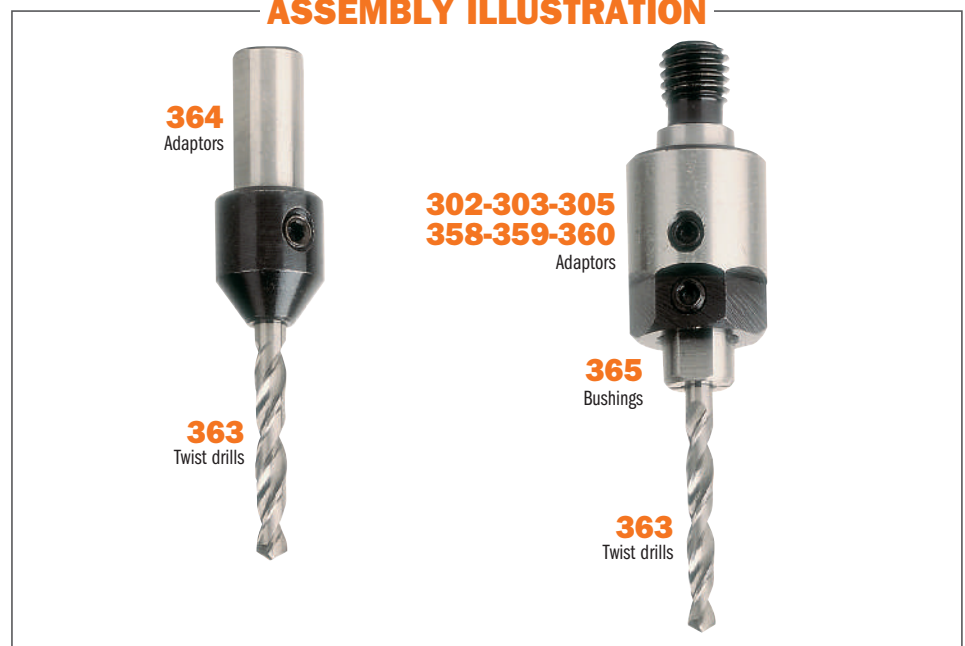
TECHNICAL DETAILS:

- Strength steel.
- Precision grinding on all contact surfaces.
- Axial cuttings for cylindrical drill clamps.
- Parallel shank with driving flat.

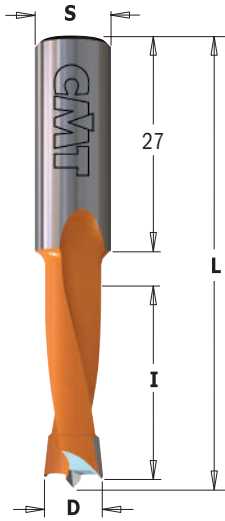
APPLICATION:

For use with twist drills having same shank diameter as chuck/bushing hole.
For use on boring machines equipped with adaptors and/or chucks.

ASSEMBLY ILLUSTRATION



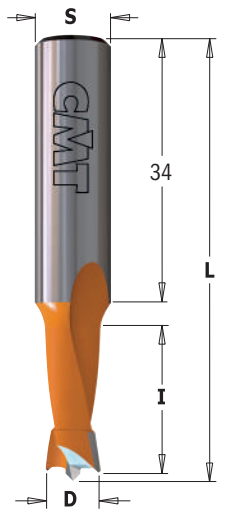
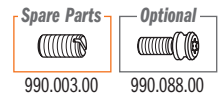
2 Flute Dowel Drills



310

HW **Z2** **V2** **RH** **LH**

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
4	27	57.5	10x27	50	310.040.11	310.040.12
4.5	27	57.5	10x27	50	310.045.11	310.045.12
4.76	27	57.5	10x27	50	310.047.11	310.047.12
5	27	57.5	10x27	50	310.050.11	310.050.12
5.1	27	57.5	10x27	50	310.051.11	310.051.12
5.2	27	57.5	10x27	50	310.052.11	310.052.12
5.55	27	57.5	10x27	50	310.055.11	310.055.12
6	27	57.5	10x27	50	310.060.11	310.060.12
6.35	27	57.5	10x27	50	310.064.11	310.064.12
6.5	27	57.5	10x27	50	310.065.11	310.065.12
7	27	57.5	10x27	50	310.070.11	310.070.12
8	27	57.5	10x27	50	310.080.11	310.080.12
8.2	27	57.5	10x27	50	310.082.11	310.082.12
9	27	57.5	10x27	50	310.090.11	310.090.12
9.53	27	57.5	10x27	50	310.095.11	310.095.12
10	27	57.5	10x27	50	310.100.11	310.100.12
11	27	57.5	10x27	10	310.110.11	310.110.12
12	27	57.5	10x27	10	310.120.11	310.120.12
12.7	27	57.5	10x27	10	310.127.11	310.127.12
13	27	57.5	10x27	10	310.130.11	310.130.12
14	27	57.5	10x27	10	310.140.11	310.140.12
15	27	57.5	10x27	10	310.150.11	310.150.12
16	27	57.5	10x27	10	310.160.11	310.160.12



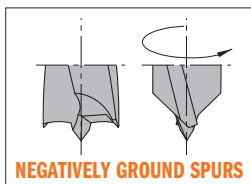
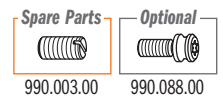
361

HW **Z2** **V2** **RH** **LH**

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
5	18	57.5	10x34	50	361.050.11	361.050.12
6	18	57.5	10x34	50	361.060.11	361.060.12
7	18	57.5	10x34	50	361.070.11	361.070.12
8	18	57.5	10x34	50	361.080.11	361.080.12
10	18	57.5	10x34	50	361.100.11	361.100.12

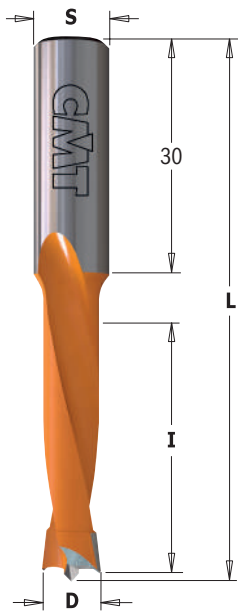
TECHNICAL DETAILS:

- Premium quality strength steel body.
- High quality HW tip.
- 2 cutting edges [Z2] + 2 negatively ground spurs [V2].
- 2 spiral flutes.
- Centre point.
- Orange or black PTFE coating.
- Parallel shank with driving flat and length adjusting screw.



APPLICATION:

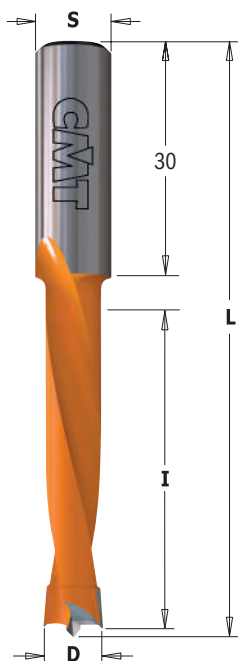
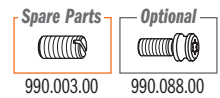
for drilling blind holes in solid wood, wood derivatives and laminates.
For use on boring machine equipped with adaptors and/or chucks.



311

HW Z2 V2 RH LH

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
4	35	70	10x30	50	311.040.11	311.040.12
4.5	35	70	10x30	50	311.045.11	311.045.12
4.76	35	70	10x30	50	311.047.11	311.047.12
5	35	70	10x30	50	311.050.11	311.050.12
5.1	35	70	10x30	50	311.051.11	311.051.12
5.2	35	70	10x30	50	311.052.11	311.052.12
5.55	35	70	10x30	50	311.055.11	311.055.12
6	35	70	10x30	50	311.060.11	311.060.12
6.35	35	70	10x30	50	311.064.11	311.064.12
6.5	35	70	10x30	50	311.065.11	311.065.12
7	35	70	10x30	50	311.070.11	311.070.12
8	35	70	10x30	50	311.080.11	311.080.12
8.2	35	70	10x30	50	311.082.11	311.082.12
9	35	70	10x30	50	311.090.11	311.090.12
9.53	35	70	10x30	50	311.095.11	311.095.12
10	35	70	10x30	50	311.100.11	311.100.12
11	35	70	10x30	10	311.110.11	311.110.12
11.1	35	70	10x30	10	311.111.11	311.111.12
12	35	70	10x30	10	311.120.11	311.120.12
12.7	35	70	10x30	10	311.127.11	311.127.12
13	35	70	10x30	10	311.130.11	311.130.12
14	35	70	10x30	10	311.140.11	311.140.12
15	35	70	10x30	10	311.150.11	311.150.12
16	35	70	10x30	10	311.160.11	311.160.12



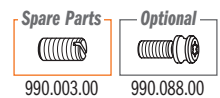
362

HW Z2 V2 RH LH

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
5	44	77	10x30	50	362.050.11	362.050.12
6	44	77	10x30	50	362.060.11	362.060.12
7	44	77	10x30	50	362.070.11	362.070.12
8	44	77	10x30	50	362.080.11	362.080.12
10	44	77	10x30	50	362.100.11	362.100.12
12	44	77	10x30	10	362.120.11	362.120.12

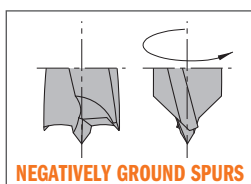
TECHNICAL DETAILS:

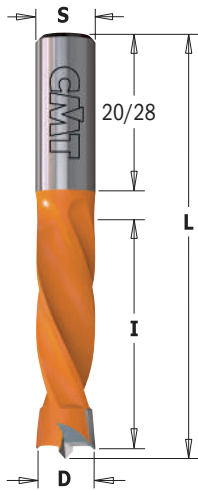
- Premium quality strength steel body.
- High quality HW tip.
- 2 cutting edges [Z2] + 2 negatively ground spurs [V2].
- 2 spiral flutes.
- Centre point.
- Orange or black PTFE coating.
- Parallel shank with driving flat and length adjusting screw.



APPLICATION:

for drilling blind holes in solid wood, wood derivatives and laminates.
For use on boring machine equipped with adaptors and/or chucks.



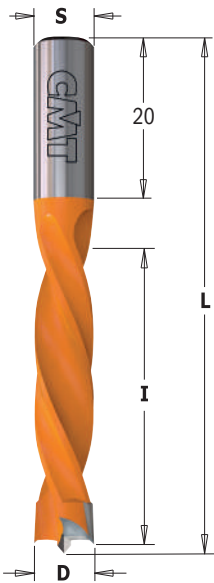
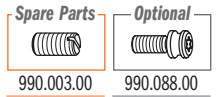


306



D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
• 3	18	55.5	8x28	50	306.030.21	
5	30	55.5	8x20	50	306.050.11	306.050.12
5.55	30	55.5	8x20	50	306.055.11	306.055.12
6	30	55.5	8x20	50	306.060.11	306.060.12
6.35	30	55.5	8x20	50	306.064.11	306.064.12
7	30	55.5	8x20	50	306.070.11	306.070.12
8	30	55.5	8x20	50	306.080.11	306.080.12
9	30	55.5	8x20	50	306.090.11	306.090.12
10	30	55.5	8x20	50	306.100.11	306.100.12
12	30	55.5	8x20	50	306.120.11	306.120.12

• HWM



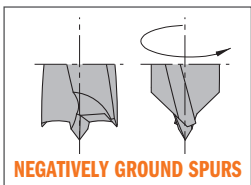
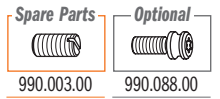
307



D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
5	40	67	8x20	50	307.050.11	307.050.12
5.55	40	67	8x20	50	307.055.11	307.055.12
6	40	67	8x20	50	307.060.11	307.060.12
6.35	40	67	8x20	50	307.064.11	307.064.12
7	40	67	8x20	50	307.070.11	307.070.12
8	40	67	8x20	50	307.080.11	307.080.12
9	40	67	8x20	50	307.090.11	307.090.12
9.53	40	67	8x20	50	307.095.11	307.095.12
10	40	67	8x20	50	307.100.11	307.100.12
12	40	67	8x20	10	307.120.11	307.120.12

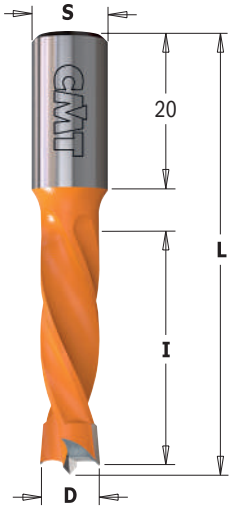
TECHNICAL DETAILS:

- Premium quality strength steel body.
- High quality HW tip.
- 2 cutting edges [Z2] + 2 negatively ground spurs [V2].
- 4 spiral flutes.
- Centre point.
- Orange or black PTFE coating.
- Parallel shank with driving flat and length adjusting screw.



APPLICATION:

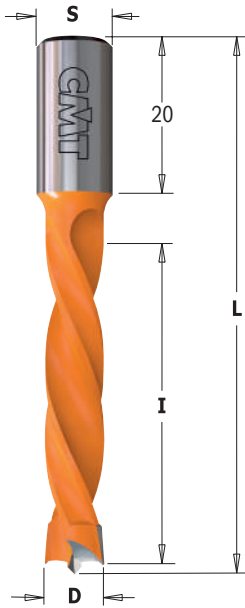
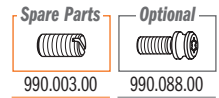
for drilling blind holes in solid wood, wood derivatives and laminates.
For use on boring machine equipped with adaptors and/or chucks.



308

HW Z2 V2 RH LH

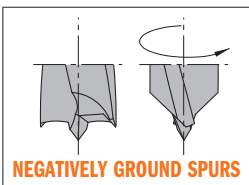
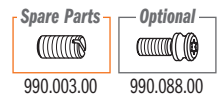
D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
4	26	57.5	10x20	50	308.040.11	308.040.12
5	30	57.5	10x20	50	308.050.11	308.050.12
6	30	57.5	10x20	50	308.060.11	308.060.12
6.35	30	57.5	10x20	50	308.064.11	308.064.12
7	30	57.5	10x20	50	308.070.11	308.070.12
8	30	57.5	10x20	50	308.080.11	308.080.12
9	30	57.5	10x20	50	308.090.11	308.090.12
9.53	30	57.5	10x20	50	308.095.11	308.095.12
10	30	57.5	10x20	50	308.100.11	308.100.12
11	30	57.5	10x20	10	308.110.11	308.110.12
12	30	57.5	10x20	10	308.120.11	308.120.12
12.7	30	57.5	10x20	10	308.127.11	308.127.12
13	30	57.5	10x20	10	308.130.11	308.130.12
14	30	57.5	10x20	10	308.140.11	308.140.12
15	30	57.5	10x20	10	308.150.11	308.150.12
16	30	57.5	10x20	10	308.160.11	308.160.12



309

HW Z2 V2 RH LH

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
4	43	70	10x20	50	309.040.11	309.040.12
5	43	70	10x20	50	309.050.11	309.050.12
6	43	70	10x20	50	309.060.11	309.060.12
6.35	43	70	10x20	50	309.064.11	309.064.12
7	43	70	10x20	50	309.070.11	309.070.12
7.5	43	70	10x20	50	309.075.11	309.075.12
8	43	70	10x20	50	309.080.11	309.080.12
9	43	70	10x20	50	309.090.11	309.090.12
9.53	43	70	10x20	50	309.095.11	309.095.12
10	43	70	10x20	50	309.100.11	309.100.12
11	43	70	10x20	10	309.110.11	309.110.12
12	43	70	10x20	10	309.120.11	309.120.12
12.7	43	70	10x20	10	309.127.11	309.127.12
13	43	70	10x20	10	309.130.11	309.130.12
14	43	70	10x20	10	309.140.11	309.140.12
15	43	70	10x20	10	309.150.11	309.150.12
16	43	70	10x20	10	309.160.11	309.160.12

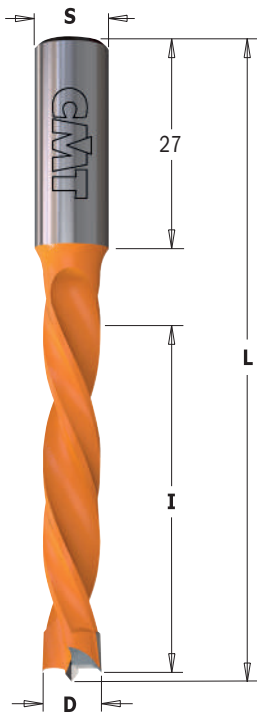


TECHNICAL DETAILS:

- Premium quality strength steel body.
- High quality HW tip.
- 2 cutting edges [Z2] + 2 negatively ground spurs [V2].
- 4 spiral flutes.
- Centre point.
- Orange or black PTFE coating.
- Parallel shank with driving flat and length adjusting screw.

APPLICATION:

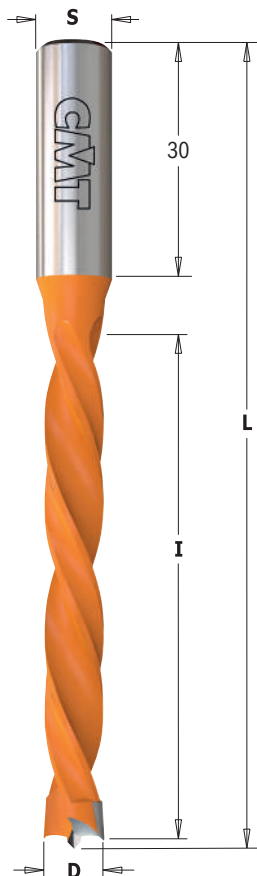
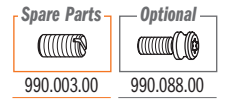
for drilling blind holes in solid wood, wood derivatives and laminates.
For use on boring machine equipped with adaptors and/or chucks.



373

HW **Z2** **V2** **RH** **LH**

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
5	50	85	10x27	50	373.050.11	373.050.12
6	50	85	10x27	50	373.060.11	373.060.12
7	50	85	10x27	50	373.070.11	373.070.12
8	50	85	10x27	50	373.080.11	373.080.12
10	50	85	10x27	50	373.100.11	373.100.12
12	50	85	10x27	10	373.120.11	373.120.12



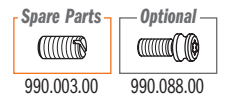
372

HW **Z2** **V2** **RH** **LH**

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
5	65	105	10x30	10	372.050.11	372.050.12
6	65	105	10x30	10	372.060.11	372.060.12
7	65	105	10x30	10	372.070.11	372.070.12
8	65	105	10x30	10	372.080.11	372.080.12
10	65	105	10x30	10	372.100.11	372.100.12
12	65	105	10x30	10	372.120.11	372.120.12

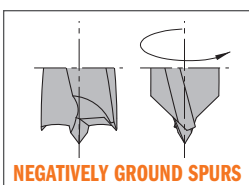
TECHNICAL DETAILS:

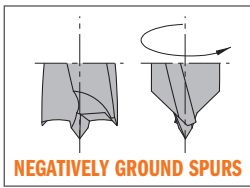
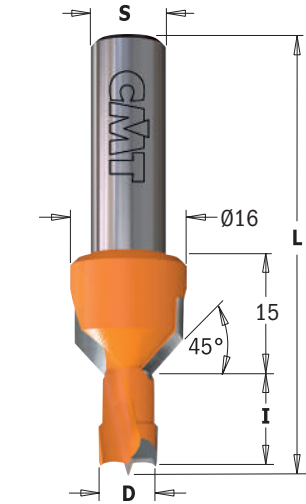
- Premium quality strength steel body.
- High quality HW tip.
- 2 cutting edges [Z2] + 2 negatively ground spurs [V2].
- 4 spiral flutes.
- Centre point.
- Orange or black PTFE coating.
- Parallel shank with driving flat and length adjusting screw.



APPLICATION:

for drilling blind holes in solid wood, wood derivatives and laminates. For use on boring machine equipped with adaptors and/or chucks.





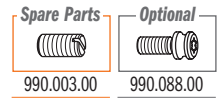
376-377

HW Z2 V2 RH LH

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
8	12	57.5	10	10	376.080.11	376.080.12
8	13	57.5	10	10	376.083.11	376.083.12
8	15	57.5	10	10	376.081.11	376.081.12
8	20	57.5	10	10	376.082.11	376.082.12
10	12	57.5	10	10	376.100.11	376.100.12
10	13	57.5	10	10	376.103.11	376.103.12
10	15	57.5	10	10	376.101.11	376.101.12
10	20	57.5	10	10	376.102.11	376.102.12
8	12	70	10	10	377.080.11	377.080.12
8	13	70	10	10	377.083.11	377.083.12
8	15	70	10	10	377.081.11	377.081.12
8	20	70	10	10	377.082.11	377.082.12
10	12	70	10	10	377.100.11	377.100.12
10	13	70	10	10	377.103.11	377.103.12
10	15	70	10	10	377.101.11	377.101.12
10	20	70	10	10	377.102.11	377.102.12

TECHNICAL DETAILS:

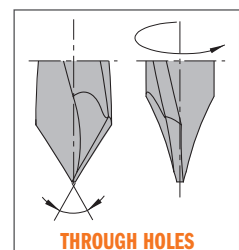
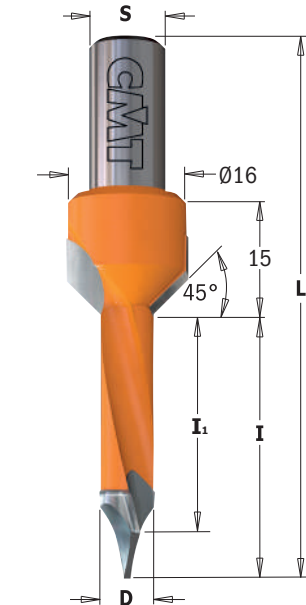
- Premium quality strength steel body.
- High quality HW tip.
- 2 cutting edges [Z2] + 2 negatively ground spurs [V2].
- 2 spiral flutes.
- Centre point.
- 2 countersink HW cutting edges [Z2] at 45°.
- Orange or black PTFE coating.
- Parallel shank with driving flat and length adjusting screw.



APPLICATION:

For drilling (blind holes) and countersinking in solid wood, wood derivatives and laminates. For use on boring machine equipped with adaptors and/or chucks.

Dowel Drills for Through Holes with Countersink



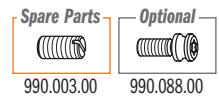
378

HW Z2 V2 RH LH

D mm	I mm	I ₁ mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
5	35	31	70	10	10	378.052.11	378.052.12
7	35	29.5	70	10	10	378.072.11	378.072.12
8	35	29	70	10	10	378.082.11	378.082.12
10	35	26.5	70	10	10	378.102.11	378.102.12

TECHNICAL DETAILS:

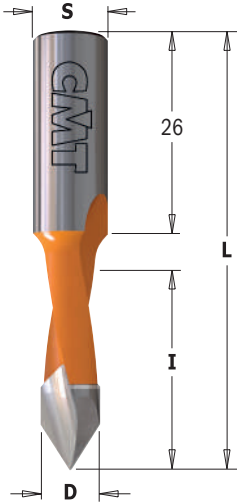
- Premium quality strength steel body.
- High quality HW tip.
- 2 cutting edges [Z2].
- 2 spiral flutes.
- 2 countersink HW cutting edges [Z2] at 45°.
- Orange or black PTFE coating.
- Parallel shank with driving flat and adjustable screw length.



APPLICATION:


for drilling and countersinking in solid wood, wood derivatives and laminates. For use on boring machine equipped with adaptors and/or chucks.

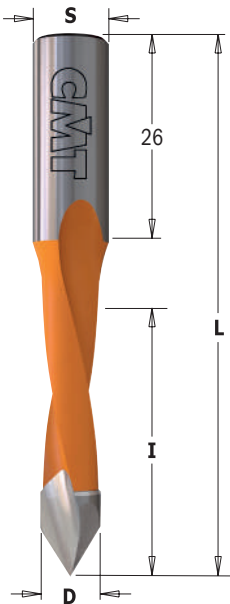
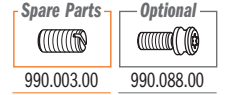
2 Flute Dowel Drills for Through Holes



313 FOR PANELS WITH MAXIMUM THICKNESS: 20mm




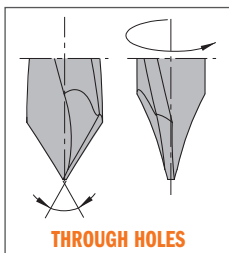
D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
5	27	57.5	10x26	50	313.050.11	313.050.12
6	27	57.5	10x26	50	313.060.11	313.060.12
8	27	57.5	10x26	50	313.080.11	313.080.12
10	27	57.5	10x26	50	313.100.11	313.100.12




314 FOR PANELS WITH MAXIMUM THICKNESS: 25-30mm



D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
4	30	70	10x26	50	314.040.11	314.040.12
4.76	35	70	10x26	50	314.047.11	314.047.12
5	35	70	10x26	50	314.050.11	314.050.12
5.55	35	70	10x26	50	314.055.11	314.055.12
6	35	70	10x26	50	314.060.11	314.060.12
6.35	35	70	10x26	50	314.064.11	314.064.12
7	35	70	10x26	50	314.070.11	314.070.12
8	35	70	10x26	50	314.080.11	314.080.12
9	35	70	10x26	50	314.090.11	314.090.12
9.53	35	70	10x26	50	314.095.11	314.095.12
10	35	70	10x26	50	314.100.11	314.100.12
12	35	70	10x26	10	314.120.11	314.120.12
12.7	35	70	10x26	10	314.127.11	314.127.12

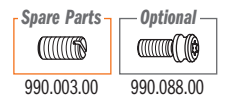


366 FOR PANELS WITH MAXIMUM THICKNESS: 30-40mm

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
5	44	77	10x26	50	366.050.11	366.050.12
6	44	77	10x26	50	366.060.11	366.060.12
8	44	77	10x26	50	366.080.11	366.080.12
10	44	77	10x26	50	366.100.11	366.100.12
12	44	77	10x26	10	366.120.11	366.120.12

TECHNICAL DETAILS:

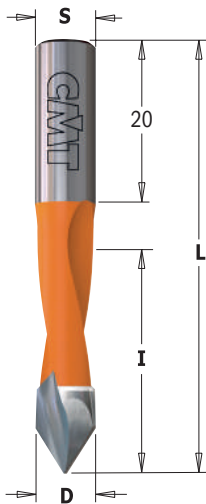
- Premium quality strength steel body.
- High quality HW tip.
- 2 cutting edges [Z2].
- 2 spiral flutes.
- Orange or black PTFE coating.
- Parallel shank with driving flat and adjustable screw length.



APPLICATION:

for drilling through holes in solid wood, wood derivatives and laminates.
For use on boring machine equipped with adaptors and/or chucks.

2 Flute Dowel Drills for Through Holes



367 FOR PANELS WITH MAXIMUM THICKNESS: 20-25mm



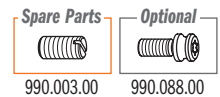
D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
5	30	56	8x20	50	367.050.11	367.050.12
8	30	56	8x20	50	367.080.11	367.080.12

368 FOR PANELS WITH MAXIMUM THICKNESS: 35-40mm

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
5	43	70	8x20	50	368.050.11	368.050.12
6	43	70	8x20	50	368.060.11	368.060.12
7	43	70	8x20	50	368.070.11	368.070.12
8	43	70	8x20	50	368.080.11	368.080.12

TECHNICAL DETAILS:

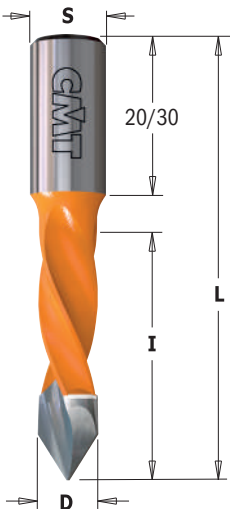
- Premium quality strength steel body.
- High quality HW tip.
- 2 cutting edges [Z2].
- 2 spiral flutes.
- Orange or black PTFE coating.
- Parallel shank with driving flat and adjustable screw length.



APPLICATION:

for drilling through holes in solid wood, wood derivatives and laminates.
For use on boring machine equipped with adaptors and/or chucks.

4 Flute Dowel Drills for Through Holes



374 FOR PANELS WITH MAXIMUM THICKNESS: 20-25mm



D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
5	30	57.5	10x20	50	374.050.11	374.050.12
8	30	57.5	10x20	50	374.080.11	374.080.12

375 FOR PANELS WITH MAXIMUM THICKNESS: 30-35mm

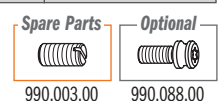
D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
4	40	70	10x20	50	375.040.11	375.040.12
5	40	70	10x20	50	375.050.11	375.050.12
6	40	70	10x20	50	375.060.11	375.060.12
7	40	70	10x20	50	375.070.11	375.070.12
8	40	70	10x20	50	375.080.11	375.080.12
9	40	70	10x20	50	375.090.11	375.090.12
10	40	70	10x20	50	375.100.11	375.100.12

381 FOR PANELS WITH MAXIMUM THICKNESS: 60-65mm

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
5	70	115	10x30	10	381.050.11	381.050.12
6	70	115	10x30	10	381.060.11	381.060.12
8	70	115	10x30	10	381.080.11	381.080.12
10	70	115	10x30	10	381.100.11	381.100.12

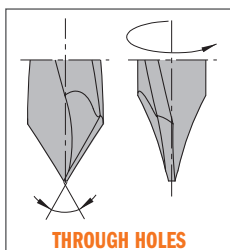
TECHNICAL DETAILS:

- Premium quality strength steel body.
- High quality HW tip.
- 2 cutting edges [Z2].
- 4 spiral flutes.
- Orange or black PTFE coating.
- Parallel shank with driving flat and adjustable screw length.

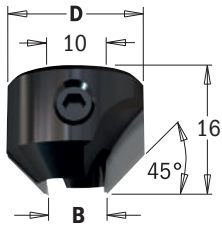


APPLICATION:

for drilling through holes in solid wood, wood derivatives and laminates.
For use on boring machine equipped with adaptors and/or chucks.



Countersinks for 2 Flutes Dowel Drills



315

HW Z2 RH LH

B mm	D mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
5 ~ 10	20	10	315.200.11	315.200.12
11 ~ 12	22	10	315.220.11	315.220.12

Spare Parts	
990.006.00	991.062.00

TECHNICAL DETAILS:

- Strength steel.
- 2 countersink HW cutting edges [Z2] at 45°.
- Direct clamp on the shank of the 2 flutes drills.
- Fastening screw for quick and easy drill bit change.

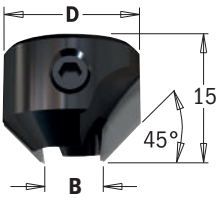
APPLICATION:

for chamfering in solid wood, wood derivatives and laminates.

315 ASSEMBLY ILLUSTRATION



Countersinks for 4 Flutes Dowel Drills



316

HW Z2 RH LH

B mm	D mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
4	16	10	316.040.11	316.040.12
5	16	10	316.050.11	316.050.12
6	16	10	316.060.11	316.060.12
7	16	10	316.070.11	316.070.12
8	18	10	316.080.11	316.080.12
9	18	10	316.090.11	316.090.12
10	20	10	316.100.11	316.100.12
12	20	10	316.120.11	316.120.12

Spare Parts	
990.002.00	991.062.00

TECHNICAL DETAILS:

- Strength steel.
- 2 countersink HW cutting edges [Z2] at 45°.
- Direct clamp on the shank of the 4 flutes drills.
- Fastening screw for quick and easy drill bit change.

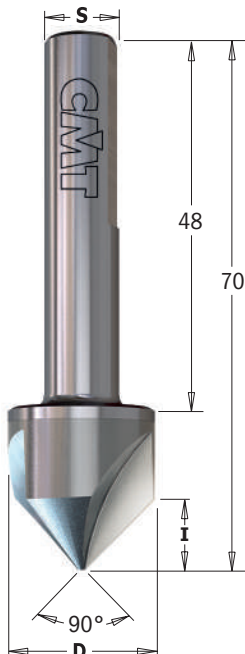
APPLICATION:

for chamfering in solid wood, wood derivatives and laminates.

316 ASSEMBLY ILLUSTRATION



90° Solid Carbide Countersink with Driving Flat



521

HWM Z3 RH

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation
19.5	9	70	10x48	10	521.002.21

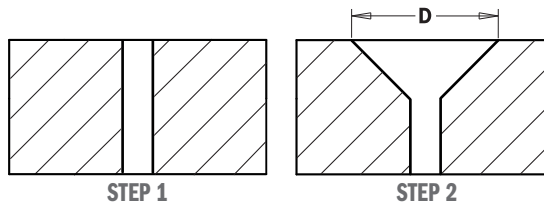
TECHNICAL DETAILS:

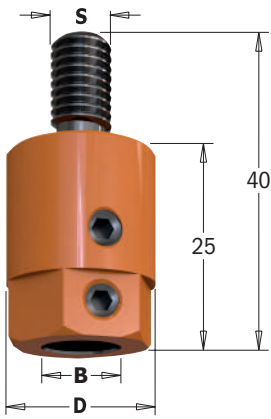
- Premium quality strength steel body.
- High quality HW tip.
- 3 cutting edges [Z3] at 90°.
- Parallel shank with driving flat.

APPLICATION:

for making 90° countersinks for the insertion of screws that sit flush with the surface. Suitable for wood, wood-based, non-ferrous materials and metal.



Spare Parts
990.003.00







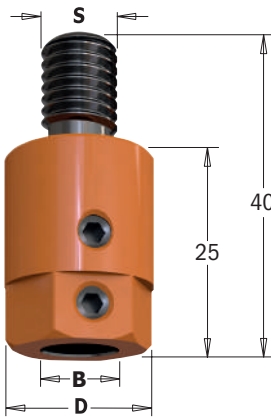
301

RH LH

B mm	D mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
8	16	M8		301.080.01	301.080.02
10	19.5	M8		301.000.01	301.000.02



FOR USE ON THE FOLLOWING MACHINES:
NOTTMEYER® (older models).

Spare Parts	
	
990.006.00	991.062.00





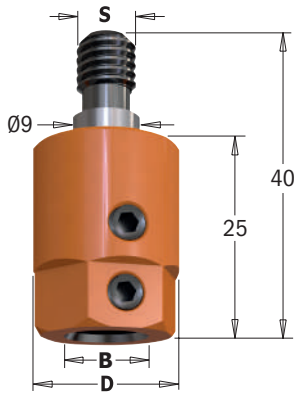
302

RH LH

B mm	D mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
8	16	M10		302.080.01	302.080.02
10	19.5	M10		302.000.01	302.000.02



FOR USE ON THE FOLLOWING MACHINES:
AYEN®, HOLZMA®, KNOEVENAGEL®, MAYER®, TORWEGGE®.

Spare Parts	
	
990.006.00	991.062.00





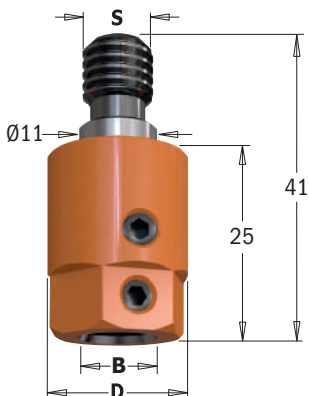
358

RH LH

B mm	D mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
8	16	M8/9		358.080.01	358.080.02
10	19.5	M8/9		358.000.01	358.000.02



FOR USE ON THE FOLLOWING MACHINES:
MASTERWOOD® (Zangheri & Boschetti).
MORBIDELLI®, NOTTMEYER® (new design).

Spare Parts	
	
990.006.00	991.062.00





305

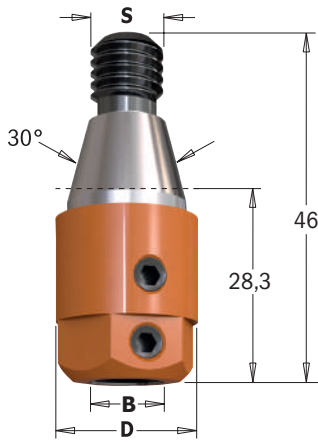
RH LH

B mm	D mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
8	16	M10/11		305.080.01	305.080.02
10	19.5	M10/11		305.000.01	305.000.02

FOR USE ON THE FOLLOWING MACHINES:
BIESSE® (older models).
MASTERWOOD® (Zangheri & Boschetti).
MORBIDELLI®, TORWEGGE®, VITAP® (new design).
WEEKE®.

Spare Parts	
	
990.006.00	991.062.00

Adaptors



303

RH LH

B mm	D mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
10	19.5	M10/30°	10	303.000.01	303.000.02

FOR USE ON THE FOLLOWING MACHINES:

ALBERTI® (older models).
BALESTRINI®, BILEK®, BUSSELLATO® (older models).
SCHLEICHER®, VITAP® (older models).

Spare Parts

990.006.00	991.062.00



359

RH LH

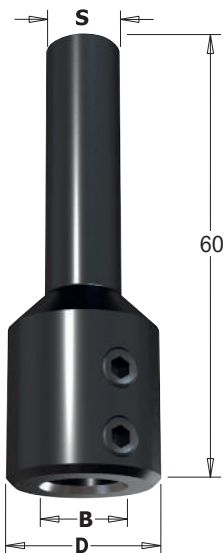
B mm	D mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
10	19.5	M10	10	359.000.01	359.000.02

FOR USE ON THE FOLLOWING MACHINES:

SCHEER®.

Spare Parts

990.006.00	991.062.00



359

RH

B mm	D mm	S mm		ORDER NO. Right-hand rotation	
10	19.5	10x35	10	359.100.00	

For use on boring machine centres.

Spare Parts

990.006.00	991.062.00



360.001

RH LH

B mm	D2 mm	D mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
10	20	15	10	360.001.01	360.001.02

FOR USE ON THE FOLLOWING MACHINES:

BIESSE® machines with quick drill change chuck.

Spare Parts

990.007.00	991.067.00



360.101



B mm	D2 mm	D mm		ORDER NO. Right-hand & Left-hand rotation
10	17.5	18	10	360.101.00

FOR USE ON THE FOLLOWING MACHINES:
VITAP®.

Spare Parts	
990.015.00	991.062.00



360.201



B mm	D2 mm	D mm		ORDER NO. Right-hand & Left-hand rotation
10	19.5	20	10	360.201.00

FOR USE ON THE FOLLOWING MACHINES:
MORBIDELLI®.

Spare Parts	
990.009.00	991.067.00



360.301



B mm	D2 mm	D mm		ORDER NO. Right-hand & Left-hand rotation
10	19.5	20	10	360.301.00

FOR USE ON THE FOLLOWING MACHINES:
MASTERWOOD®, MAGGI®, FELDER®, GRIGGIO®.

Spare Parts	
990.015.00	991.062.00



360.401



B mm	D2 mm	D mm		ORDER NO. Right-hand & Left-hand rotation
10	20	17	10	360.401.00

FOR USE ON THE FOLLOWING MACHINES:
WEEKE®.














Spare Parts	
990.009.00	991.067.00

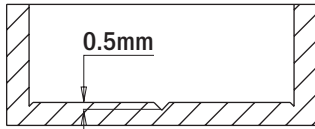


990.088



DESCRIPTION		ORDER NO. Right-hand & Left-hand rotation
Retaining screw with blue threadlocker for WEEKE® machines	10	990.088.00

HINGE BORING RANGE	DP	XTREME	INDUSTRIAL	
PERFORMANCE	 	 	  	
FEATURES	<p>0.5MM HW CENTRE POINT Non-protruding center-point and spurs make this tool perfect for low-thickness panels.</p>	<p>0.8MM HW CENTRE POINT Non-protruding center-point and spurs make this tool perfect for low-thickness panels.</p>	<p>1MM HW CENTRE POINT CHIPBREAKER Ensure better chip evacuation</p>	<p>1MM HW CENTRE POINT</p>
SHARPENING	<p>NEGATIVELY GROUND SPURS Standard design head with 2 DP ground cutting edges + 2 DP negatively ground spurs.</p>	<p>XTREME SHARPENING CURVED SPURS Specially designed with curved spurs provide impeccable finishing during high-speed drilling feed operations.</p> 	<p>NEGATIVELY GROUND SPURS Standard design head with 2 HW ground cutting edges + 2 HW negatively ground spurs.</p>	
DIAMOND/CARBIDE	 <p>POLYCRYSTALLINE DIAMOND The polycrystalline diamond increases tool life up to 20 times longer than HW hinge bits. Good number of resharpenings guaranteed. The best quality/price ratio.</p>	 <p>INDUSTRIAL CHROMIUM MICROGRAIN CARBIDE Premium quality, tungsten carbide tip produces clean bores with no rough edges. Guarantees exceptional resistance to fatigue and abrasion and allows for an infinite number of resharpenings.</p>	 <p>INDUSTRIAL SINTERHIP HI-DENSITY CARBIDE The tip is made of high quality carbide enhanced via Sinterhip (hot isostatic pressing). This process guarantees long lasting performance and exceptionally clean bores.</p>	
COATING	 <p>NICKEL COATING High-quality nickel-plated with anti-friction and anti-corrosion properties.</p>	 <p>ORANGE SHIELD® NON-STICK PTFE COATING</p> <ul style="list-style-type: none"> - Protects against corrosion and rust. - Reduces resin and residue build-up. - Reduces overheating and blade drag. - Improves performance and cutting life. 		
MATERIALS APPLICATION	<p>Ideal for chipboard, MDF, HDF, laminates and abrasive panels in which long service life is imperative.</p>	<p>Ideal for chipboard, MDF, HDF and laminates.</p>	<p>Excellent for both hard and soft wood. Great for chipboard, MDF, HDF and laminates.</p>	
DESCRIPTION	<p>Designed for heavy duty drilling in large-scale industrial manufacturing ensuring very high impact resistance and superb durability.</p>	<p>Designed for heavy-duty to medium-duty drilling in large-scale to medium-scale industrial manufacturing ensuring high impact resistance and greater durability.</p>	<p>Designed for medium-duty to light-duty drilling in medium-scale to small-scale industrial manufacturing ensuring good impact resistance and good durability.</p>	
USER	<p>LARGE-SCALE INDUSTRIAL MANUFACTURING</p>	<p>LARGE-SCALE INDUSTRIAL MANUFACTURING</p>	<p>MEDIUM-SCALE TO SMALL-SCALE INDUSTRIAL MANUFACTURING</p>	
RECOMMENDED USE	<p>INDUSTRIAL PRODUCTION</p>	<p>INDUSTRIAL PRODUCTION</p>	<p>INDUSTRIAL PRODUCTION/CABINETMAKER'S</p>	



New construction with 0.5mm centre point

317



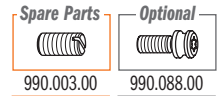
D mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
15	57.5	10x25	10	317.150.61	317.150.62
35	57.5	10x25	10	317.350.61	317.350.62

369

D mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
15	70	10x25	10	369.150.61	369.150.62
16	70	10x25	10	369.160.61	369.160.62
20	70	10x25	10	369.200.61	369.200.62
25	70	10x25	10	369.250.61	369.250.62
26	70	10x25	10	369.260.61	369.260.62
35	70	10x25	10	369.350.61	369.350.62

TECHNICAL DETAILS:

- Premium quality strength steel.
- HW centre point 0.5mm.
- 2 DP ground cutting edges [Z2] + 2 DP negatively ground spurs [V2].
- Parallel shank with driving flat and length adjusting screw.

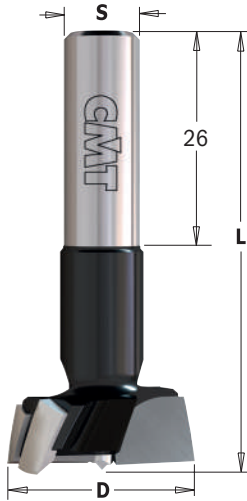


APPLICATION:

use for drilling accurate and clean-cut blind holes in wood composites, plastic and laminated materials. **Ideal for hinges.** For use on boring machine equipped with adaptors and/or chucks. Boring performance 20 times longer than HW materials.

REMARK: special dimensions available on request.

Hinge Boring Bits



XTREME SHARPENING CURVED SPURS



New construction with 0.8mm centre point

317 XTREME



D mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
15	57.5	10x26	10	317.150.41	317.150.42
18	57.5	10x26	10	317.180.41	317.180.42
20	57.5	10x26	10	317.200.41	317.200.42
25	57.5	10x26	10	317.250.41	317.250.42
26	57.5	10x26	10	317.260.41	317.260.42
35*	57.5	10x26	10	317.350.41	317.350.42

369 XTREME

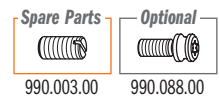


D mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
15	70	10x26	10	369.150.41	369.150.42
18	70	10x26	10	369.180.41	369.180.42
20	70	10x26	10	369.200.41	369.200.42
25	70	10x26	10	369.250.41	369.250.42
26	70	10x26	10	369.260.41	369.260.42
35*	70	10x26	10	369.350.41	369.350.42

*with chipbreaker

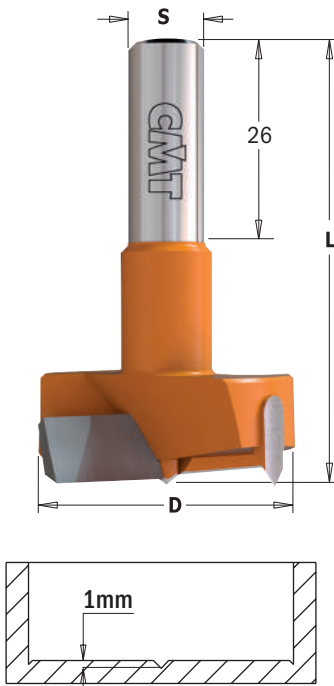
TECHNICAL DETAILS:

- Premium quality strength steel.
- Centre point 0.8mm.
- 2 ground cutting edges [Z2] + 2 negatively ground spurs [V2].
- Orange or black PTFE coating.
- Parallel shank with driving flat and length adjusting screw.



APPLICATION:

use for drilling accurate and clean-cut blind holes in wood composites, plastic and laminated materials. **Ideal for hinges.** For use on boring machine equipped with adaptors and/or chucks.



New construction with 1mm centre point.

317



D mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
14	57.5	10x26	10	317.140.11	317.140.12
15	57.5	10x26	10	317.150.11	317.150.12
16	57.5	10x26	10	317.160.11	317.160.12
17	57.5	10x26	10	317.170.11	317.170.12
18	57.5	10x26	10	317.180.11	317.180.12
19	57.5	10x26	10	317.190.11	317.190.12
20	57.5	10x26	10	317.200.11	317.200.12
22	57.5	10x26	10	317.220.11	317.220.12
24	57.5	10x26	10	317.240.11	317.240.12
25	57.5	10x26	10	317.250.11	317.250.12
26	57.5	10x26	10	317.260.11	317.260.12
28	57.5	10x26	10	317.280.11	317.280.12
30	57.5	10x26	10	317.300.11	317.300.12
32	57.5	10x26	10	317.320.11	317.320.12
34	57.5	10x26	10	317.340.11	317.340.12
35	57.5	10x26	10	317.350.11	317.350.12
38	57.5	10x26	10	317.380.11	317.380.12
40	57.5	10x26	10	317.400.11	317.400.12
42	57.5	10x26	10	317.420.11	317.420.12
45	57.5	10x26	10	317.450.11	317.450.12
50	57.5	10x26	10	317.500.11	317.500.12
55	57.5	10x26	10	317.550.11	317.550.12
60	57.5	10x26	10	317.600.11	317.600.12

TECHNICAL DETAILS:

- Premium quality strength steel.
- Centre point 1mm.
- 2 ground cutting edges [Z2]
+ 2 negatively ground spurs [V2].
- Orange or black PTFE coating.
- Parallel shank with driving flat and length adjusting screw.

APPLICATION:

use for drilling accurate and clean-cut blind holes in wood composites, plastic and laminated materials.

Ideal for hinges. For use on boring machine equipped with adaptors and/or chucks.

369

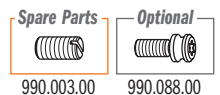


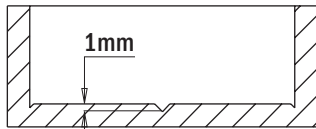
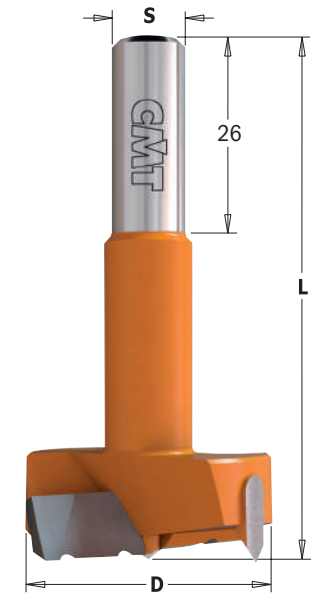
D mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
14	70	10x26	10	369.140.11	369.140.12
15	70	10x26	10	369.150.11	369.150.12
16	70	10x26	10	369.160.11	369.160.12
18	70	10x26	10	369.180.11	369.180.12
20	70	10x26	10	369.200.11	369.200.12
22	70	10x26	10	369.220.11	369.220.12
25	70	10x26	10	369.250.11	369.250.12
26	70	10x26	10	369.260.11	369.260.12
30	70	10x26	10	369.300.11	369.300.12
35	70	10x26	10	369.350.11	369.350.12
40	70	10x26	10	369.400.11	369.400.12
45	70	10x26	10	369.450.11	369.450.12
50	70	10x26	10	369.500.11	369.500.12
55	70	10x26	10	369.550.11	369.550.12
60	70	10x26	10	369.600.11	369.600.12

370



D mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
18	77	10x30	10	370.180.11	370.180.12
20	77	10x30	10	370.200.11	370.200.12
25	77	10x30	10	370.250.11	370.250.12
30	77	10x30	10	370.300.11	370.300.12
35	77	10x30	10	370.350.11	370.350.12





New construction with 1mm centre point.

317C

HW Z2R V2 RH LH

D mm	L mm	S mm			ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
35	57.5	10x26		10	317.350.11C	317.350.12C
40	57.5	10x26		10	317.400.11C	317.400.12C
45	57.5	10x26		10	317.450.11C	317.450.12C

369C

HW Z2R V2 RH LH

D mm	L mm	S mm			ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
35	70	10x26		10	369.350.11C	369.350.12C
40	70	10x26		10	369.400.11C	369.400.12C
45	70	10x26		10	369.450.11C	369.450.12C

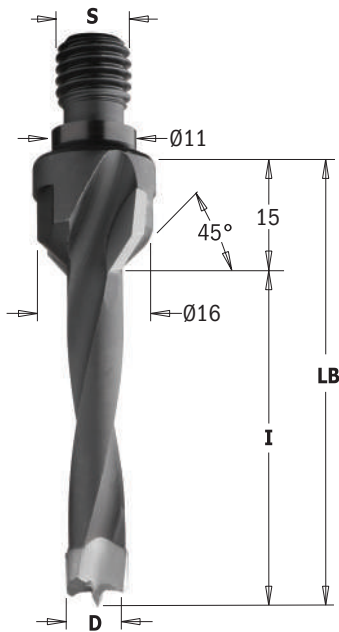
TECHNICAL DETAILS:

- Premium quality strength steel.
- Centre point 1mm.
- 2 ground cutting edges with chipbreaker [Z2R] + 2 negatively ground spurs [V2].
- Orange or black PTFE coating.
- Parallel shank with driving flat and length adjusting screw.

Spare Parts	Optional
990.003.00	990.088.00

APPLICATION:

use for drilling accurate and clean-cut blind holes in wood composites, plastic and laminated materials.
Ideal for hinges. For use on boring machine equipped with adaptors and/or chucks.



325-327-329-330

HW Z2 V2 RH LH

D mm	I mm	LB mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
5	20	35	M10/11x4	10	325.050.11	325.050.12
6	20	35	M10/11x4	10	325.060.11	325.060.12
8	20	35	M10/11x4	10	325.080.11	325.080.12
10	20	35	M10/11x4	10	325.100.11	325.100.12
12	20	35	M10/11x4	10	325.120.11	325.120.12
5	30	45	M10/11x4	10	327.050.11	327.050.12
6	30	45	M10/11x4	10	327.060.11	327.060.12
8	30	45	M10/11x4	10	327.080.11	327.080.12
10	30	45	M10/11x4	10	327.100.11	327.100.12
12	30	45	M10/11x4	10	327.120.11	327.120.12
5	40	55	M10/11x4	10	329.050.11	329.050.12
6	40	55	M10/11x4	10	329.060.11	329.060.12
8	40	55	M10/11x4	10	329.080.11	329.080.12
10	40	55	M10/11x4	10	329.100.11	329.100.12
12	40	55	M10/11x4	10	329.120.11	329.120.12
5	50	65	M10/11x4	10	330.050.11	330.050.12
6	50	65	M10/11x4	10	330.060.11	330.060.12
8	50	65	M10/11x4	10	330.080.11	330.080.12
10	50	65	M10/11x4	10	330.100.11	330.100.12
12	50	65	M10/11x4	10	330.120.11	330.120.12

TECHNICAL DETAILS:

- Premium quality strength steel body.
- High quality HW tip.
- 2 cutting edges [Z2] + 2 negatively ground spurs [V2].
- 2 spiral flutes.
- Centre point.
- 2 countersink cutting edges at 45°.
- Orange or black PTFE coating.

APPLICATION:

for drilling blind holes in solid wood, wood composites, plastic and laminated materials. For use on boring machines equipped with chucks.

Dowel Drills with Threaded Shank without Countersink



338-339-340

HW Z2 V2 RH LH

D mm	I mm	LB mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
5	30	45	M10/11x4	10	338.050.11	338.050.12
6	30	45	M10/11x4	10	338.060.11	338.060.12
8	30	45	M10/11x4	10	338.080.11	338.080.12
10	30	45	M10/11x4	10	338.100.11	338.100.12
12	30	45	M10/11x4	10	338.120.11	338.120.12
5	40	55	M10/11x4	10	339.050.11	339.050.12
6	40	55	M10/11x4	10	339.060.11	339.060.12
8	40	55	M10/11x4	10	339.080.11	339.080.12
10	40	55	M10/11x4	10	339.100.11	339.100.12
12	40	55	M10/11x4	10	339.120.11	339.120.12
5	50	65	M10/11x4	10	340.050.11	340.050.12
6	50	65	M10/11x4	10	340.060.11	340.060.12
8	50	65	M10/11x4	10	340.080.11	340.080.12
10	50	65	M10/11x4	10	340.100.11	340.100.12
12	50	65	M10/11x4	10	340.120.11	340.120.12

TECHNICAL DETAILS:

- Premium quality strength steel body.
- High quality HW tip.
- 2 cutting edges [Z2] + 2 negatively ground spurs [V2].
- 4 spiral flutes.
- Centre point.
- Orange or black PTFE coating.

APPLICATION:

for drilling blind holes in solid wood, wood composites, plastic and laminated materials. For use on boring machines equipped with chucks.

Dowel Drills with Threaded Shank



344

HW Z2 V2 RH LH

D mm	I mm	LB mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
5	43	63	M8	10	344.050.11	344.050.12
6	43	63	M8	10	344.060.11	344.060.12
8	43	63	M8	10	344.080.11	344.080.12
10	43	63	M8	10	344.100.11	344.100.12
12	43	63	M8	10	344.120.11	344.120.12

FOR USE ON THE FOLLOWING MACHINES:

NOTTMEYER® (older models)

346

HW Z2 V2 RH LH

D mm	I mm	LB mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
5	43	63	M10	10	346.050.11	346.050.12
6	43	63	M10	10	346.060.11	346.060.12
8	43	63	M10	10	346.080.11	346.080.12
10	43	63	M10	10	346.100.11	346.100.12
12	43	63	M10	10	346.120.11	346.120.12

FOR USE ON THE FOLLOWING MACHINES:

AYEN®, HOLZMA®, KNOEVENAGEL®, MAYER®, TORWEGGE®.

TECHNICAL DETAILS:

- Premium quality strength steel body.
- High quality HW tip.
- 2 cutting edges [Z2] + 2 negatively ground spurs [V2].
- 4 spiral flutes.
- Centre point.
- Orange or black PTFE coating.

APPLICATION:

for drilling blind holes in solid wood, wood composites, plastic and laminated materials.
For use on boring machines equipped with chucks.

Dowel Drills with Threaded Shank



352-353

HW Z2 V2 RH LH

D mm	I mm	LB mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
5	30	45	M8/9	10	352.050.11	352.050.12
6	30	45	M8/9	10	352.060.11	352.060.12
8	30	45	M8/9	10	352.080.11	352.080.12
10	30	45	M8/9	10	352.100.11	352.100.12
12	30	45	M8/9	10	352.120.11	352.120.12
5	40	55	M8/9	10	353.050.11	353.050.12
6	40	55	M8/9	10	353.060.11	353.060.12
8	40	55	M8/9	10	353.080.11	353.080.12
10	40	55	M8/9	10	353.100.11	353.100.12
12	40	55	M8/9	10	353.120.11	353.120.12

FOR USE ON THE FOLLOWING MACHINES:

MASTERWOOD® (Zangheri & Boschetti), MORBIDELLI®, NOTTMEYER® (new design).

TECHNICAL DETAILS:

- Premium quality strength steel body.
- High quality HW tip.
- 2 cutting edges [Z2] + 2 negatively ground spurs [V2].
- 4 spiral flutes.
- Centre point.
- Orange or black PTFE coating.

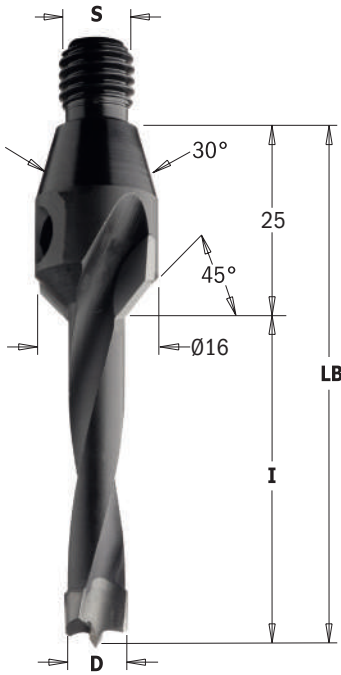
APPLICATION:

for drilling blind holes in solid wood, wood composites, plastic and laminated materials.
For use on boring machines equipped with chucks.

Dowel Drills with Threaded Shank with Countersink

HW **Z2** **V2** **RH** **LH**

332-334-336-337



ON REQUEST

D mm	I mm	LB mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
5	20	45	M10/30°	10	332.050.11	332.050.12
6	20	45	M10/30°	10	332.060.11	332.060.12
8	20	45	M10/30°	10	332.080.11	332.080.12
10	20	45	M10/30°	10	332.100.11	332.100.12
12	20	45	M10/30°	10	332.120.11	332.120.12
5	30	55	M10/30°	10	334.050.11	334.050.12
6	30	55	M10/30°	10	334.060.11	334.060.12
8	30	55	M10/30°	10	334.080.11	334.080.12
10	30	55	M10/30°	10	334.100.11	334.100.12
12	30	55	M10/30°	10	334.120.11	334.120.12
5	40	65	M10/30°	10	336.050.11	336.050.12
6	40	65	M10/30°	10	336.060.11	336.060.12
8	40	65	M10/30°	10	336.080.11	336.080.12
10	40	65	M10/30°	10	336.100.11	336.100.12
12	40	65	M10/30°	10	336.120.11	336.120.12
5	50	75	M10/30°	10	337.050.11	337.050.12
6	50	75	M10/30°	10	337.060.11	337.060.12
8	50	75	M10/30°	10	337.080.11	337.080.12
10	50	75	M10/30°	10	337.100.11	337.100.12
12	50	75	M10/30°	10	337.120.11	337.120.12

TECHNICAL DETAILS:

- Premium quality strength steel body.
- High quality HW tip.
- 2 cutting edges [Z2] + 2 negatively ground spurs [V2].
- 2 spiral flutes.
- Centre point.
- 2 countersink cutting edges at 45°.
- Orange or black PTFE coating.

APPLICATION:

for drilling blind holes in solid wood, wood composites, plastic and laminated materials. For use on boring machines equipped with chucks.

Dowel Drills with Threaded Shank without Countersink

HW **Z2** **V2** **RH** **LH**

341-342-343



ON REQUEST

D mm	I mm	LB mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
5	30	55	M10/30°	10	341.050.11	341.050.12
6	30	55	M10/30°	10	341.060.11	341.060.12
8	30	55	M10/30°	10	341.080.11	341.080.12
10	30	55	M10/30°	10	341.100.11	341.100.12
12	30	55	M10/30°	10	341.120.11	341.120.12
5	40	65	M10/30°	10	342.050.11	342.050.12
6	40	65	M10/30°	10	342.060.11	342.060.12
8	40	65	M10/30°	10	342.080.11	342.080.12
10	40	65	M10/30°	10	342.100.11	342.100.12
12	40	65	M10/30°	10	342.120.11	342.120.12
5	50	75	M10/30°	10	343.050.11	343.050.12
6	50	75	M10/30°	10	343.060.11	343.060.12
8	50	75	M10/30°	10	343.080.11	343.080.12
10	50	75	M10/30°	10	343.100.11	343.100.12
12	50	75	M10/30°	20	343.120.11	343.120.12

TECHNICAL DETAILS:

- Premium quality strength steel body.
- High quality HW tip.
- 2 cutting edges [Z2] + 2 negatively ground spurs [V2].
- 4 spiral flutes.
- Centre point.
- Orange or black PTFE coating.

APPLICATION:

for drilling blind holes in solid wood, wood composites, plastic and laminated materials. For use on boring machines equipped with chucks.

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