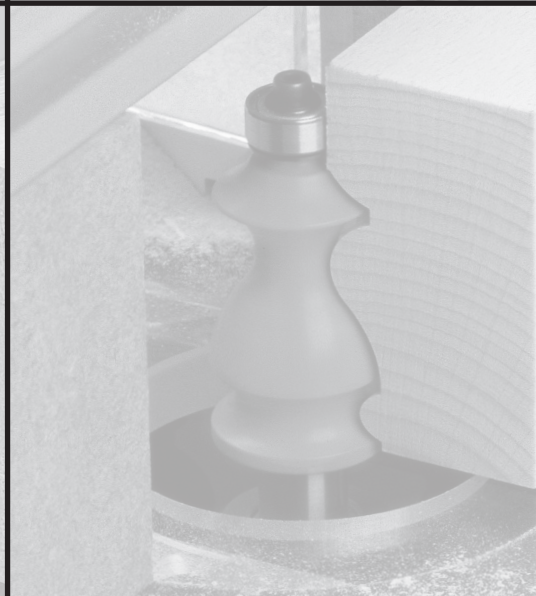
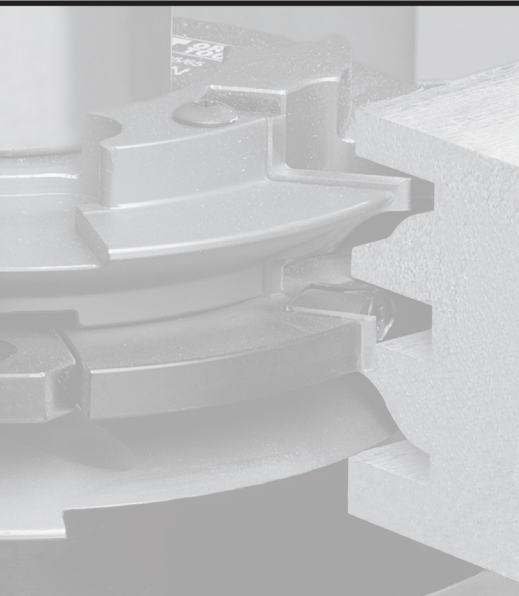


CMT ORANGE TOOLS®

CATALOGUE 2024 ENGLISH EDITION



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- **What equipment are you using?** Using brand new equipment of high quality is not the same as using outdated machinery!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)

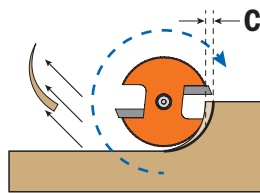
Z = Cutting edges

C = Chipload (mm)

FORMULAS:

V = (RPM x Z x C) / 1000

RPM = V x 1000 / (Z x C)



EXAMPLE:

with caliper take measurement of a good result chipload (C=0,2mm).

Z=2

RPM=18000

V = (RPM x Z x C) / 1000 = (18000x2x0,2) / 1000 = 7,2m/min

PROBLEM SOLVING

PROBLEM

Bad finishing
Cutting edge wear
Cutting edge burns
Cutting edge debris
Vibrations
Cutter breakage

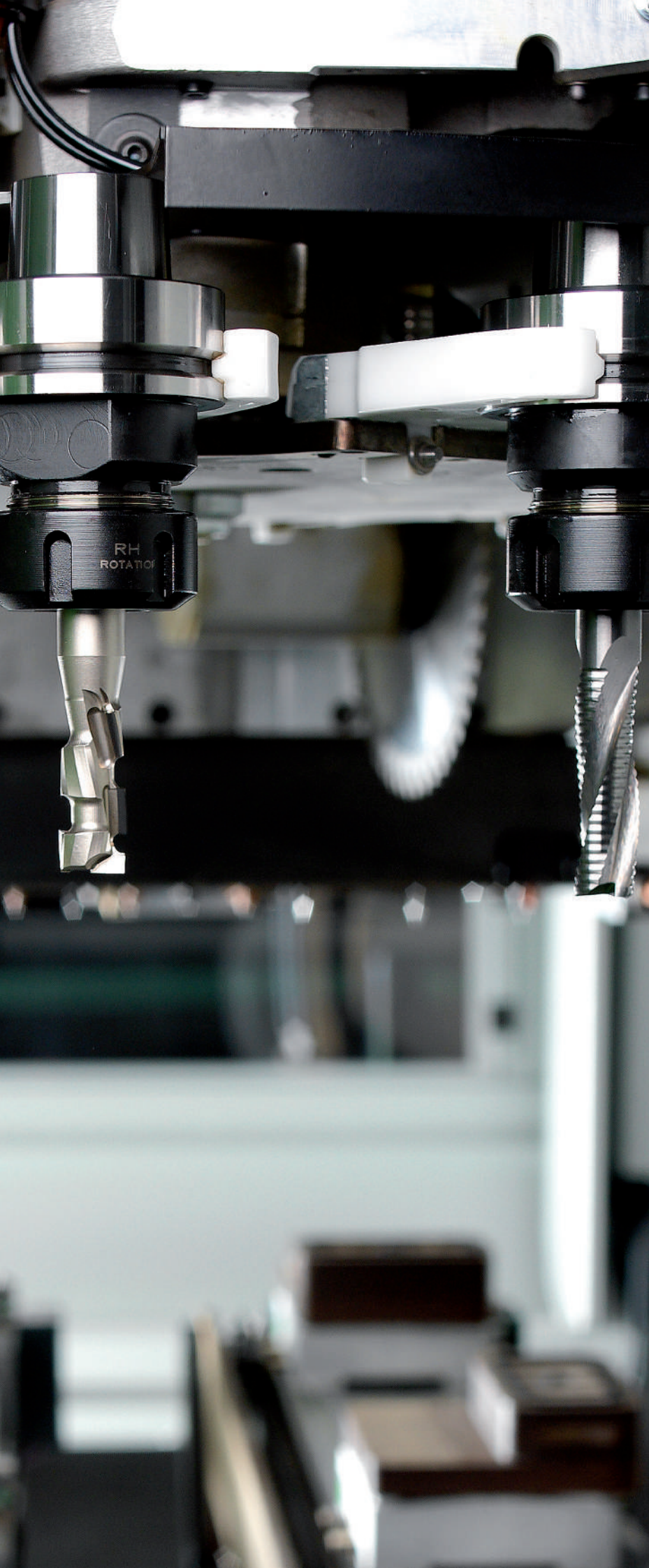
SOLUTIONS

• 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

PRODUCTS	PAGE
Kinetic Dust Extractor	282
CNC Chucks	283~285
Precision Collets	286-287
Clamping Nuts	287
ISO30 Retaining Studs & C-Spanner	288
HSK Chucks for Grooving Blade	288-289
Cutter Arbor	290
Universal Assembly Supports for Chucks	290
DLCS Coating Solid Carbide Spiral Bits	291-292, 295, 299
Solid Carbide Spiral Bits	292~300, 302
Spiral Bits for Locksets	301
HSS Upcut Spiral Bits	301
Solid Surface & Fiberglass Bits with DLCS	303
DP - Straight Cutters for CNC	304~308
Straight Carbide Cutters for CNC	308~311
Cutters with Insert Knives for CNC	312~319
Slot & Mortise Bits	320~326



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

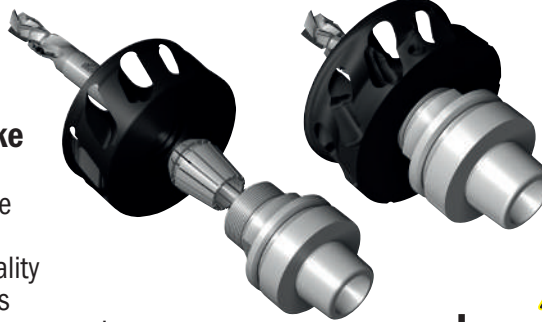
Spare parts: **991.285.00** C-Spanner 80-90mm (ER20/ER25)
991.284.00 C-Spanner 95-100mm (EOC25/ER32/ER40)



EASY TO USE!

Installation and removal just like a clamping nut

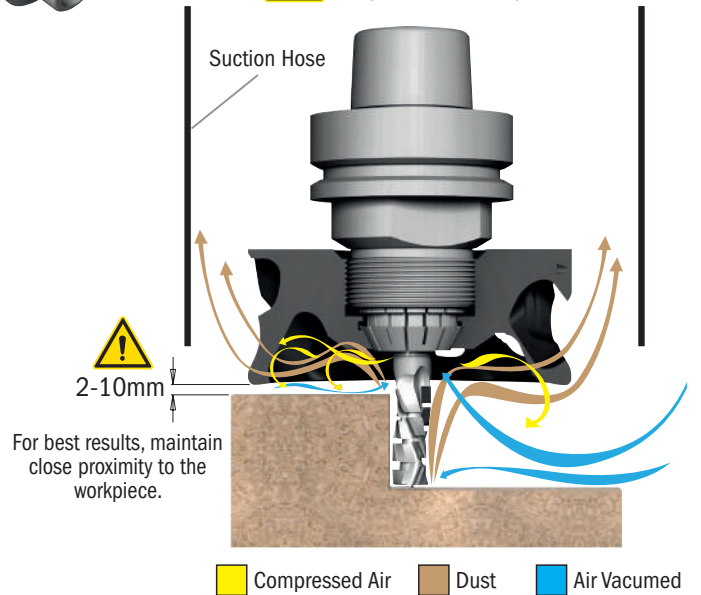
- Better health & safety on the worksite
- Better air quality on the worksite
- Improves tool performance & cut quality
- Longer tool life & reduced labor costs
- Recommended for Nesting and routing operations
- No wasted time throughout operation
- Replaces the standard clamping nut
- Suitable for any 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 413).

Always use vacuum system.



Download Instruction



Watch the video on
YouTube

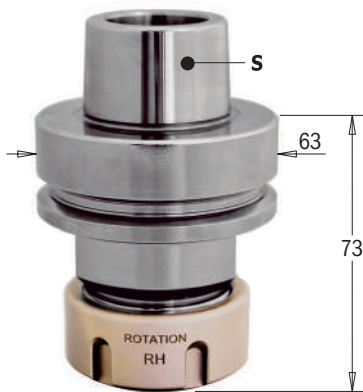
Working **WITHOUT** Kinetic Dust Extractor



Working **WITH** Kinetic Dust Extractor



HSK-63F Chucks for "ER32" Precision Collets



183.300 XTREME



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

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

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



NON-STICK ORANGE CHROME® SHIELD COATING

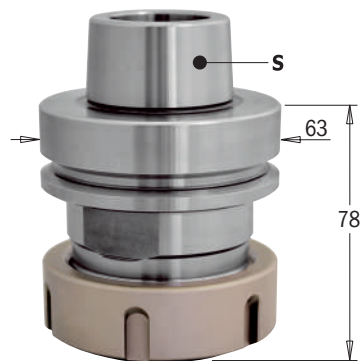
- Prevents overheating.
- Protects against corrosion and rust.
- Reduces resin build-up.
- Longer life and greater tool performance.

SAFETY TIPS



The **TW-200** Torque Wrench is recommended for the proper fastening of clamping nuts (see page 413).

HSK-63F Chucks for "ER40" Precision Collets



183.310 XTREME



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

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

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



NON-STICK ORANGE CHROME® SHIELD COATING

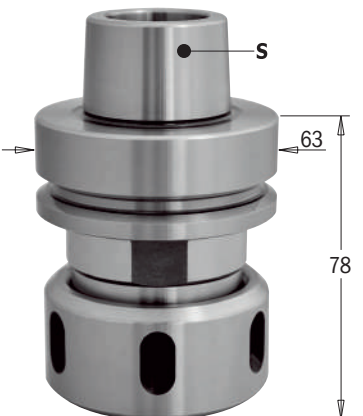
- Prevents overheating.
- Protects against corrosion and rust.
- Reduces resin build-up.
- Longer life and greater tool performance.

SAFETY TIPS



The **TW-200** Torque Wrench is recommended for the proper fastening of clamping nuts (see page 413).

HSK-63F Chucks for "EOC25" Precision Collet "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® and MASTERWOOD® machines.



NON-STICK ORANGE CHROME® SHIELD COATING

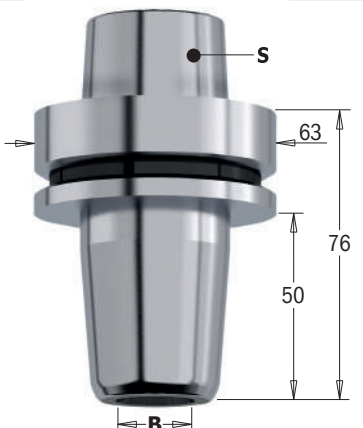
- Prevents overheating.
- Protects against corrosion and rust.
- Reduces resin build-up.
- Longer life and greater tool performance.

SAFETY TIPS



The **TW-200** Torque Wrench is recommended for the proper fastening of clamping nuts (see page 413).

HSK-63F Chucks for Shrink Fit Holders



183.075

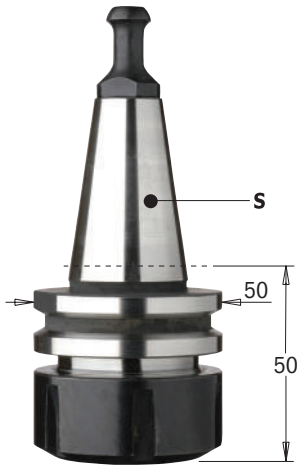


S	B mm	Box	ORDER NO.
HSK-63F	12	1	183.075.12
HSK-63F	16	1	183.075.16
HSK-63F	20	1	183.075.20
HSK-63F	25	1	183.075.25

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

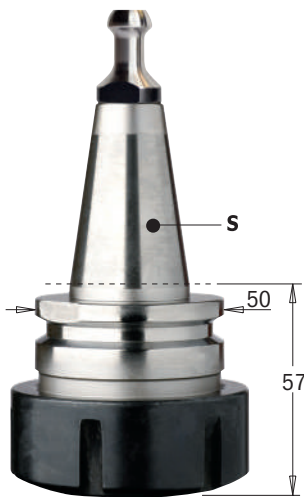
995.202 For ALBERTI® and MASTERWOOD® machines.

SAFETY TIPS




The **TW-200** Torque Wrench is recommended for the proper fastening of clamping nuts (see page 413).

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	

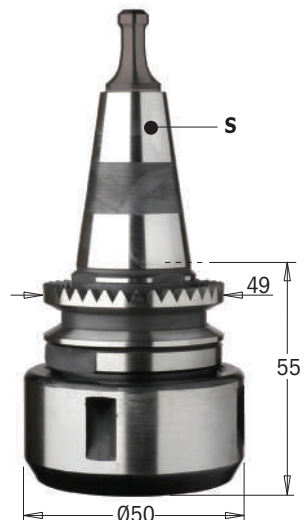
995.202 For ALBERTI® and MASTERWOOD® machines.

SAFETY TIPS



The **TW-200** Torque Wrench is recommended for the proper fastening of clamping nuts (see page 413).

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

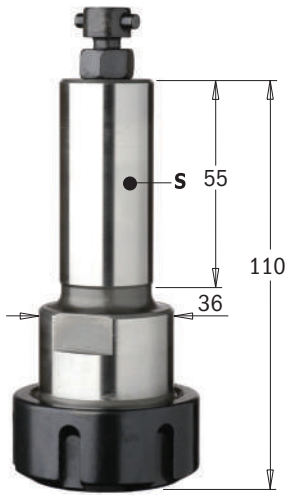
995.250 For MORBIDELLI® and SCM® machines.

SAFETY TIPS



The **TW-200** Torque Wrench is recommended for the proper fastening of clamping nuts (see page 413).

Chucks for "ER32" Precision Collets



183.400

RH

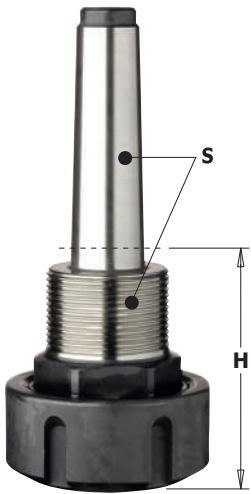
S mm	TO BE USED WITH COLLET	RETAINING STUD		ORDER NO. Right-hand rotation	
Ø25x55	ER32	LEUCO® P-SYSTEM®	1	183.400.01	

For machines with LEUCO® P-SYSTEM®.

SAFETY TIPS



The **TW-200** Torque Wrench is recommended for the proper fastening of clamping nuts (see page 413).



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	

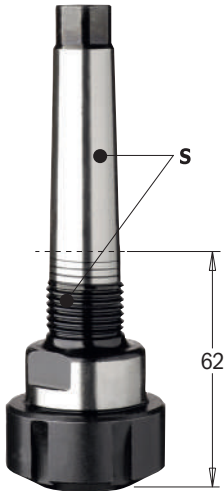
MK2/MK3 tapered shank

SAFETY TIPS



The **TW-200** Torque Wrench is recommended for the proper fastening of clamping nuts (see page 413).

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 413).
 The **TW-2836** Hook Insert can be used with this item (see page 413).

124 BICONICAL COLLETS

	B mm		ORDER NO.	B mm		ORDER NO.
	6	1	124.060.00	10	1	124.100.00
	6,35	1	124.064.00	12,7	1	124.120.00
	8	1	124.080.00	12,7	1	124.127.00
	9,5	1	124.095.00	14	1	124.140.00

Cap Nuts for CNC Machines



993.0

RH LH

INTERNAL THREAD		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
Ø20x14Fx1"	1	993.020.01 ■	993.020.02 ■
M30x1,5	1		993.030.02

For machines with M33x3 threaded spindle nose.

■ Until stock last

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. Fit most tapered spindle noses.

☐ *Special dimensions available on request.*



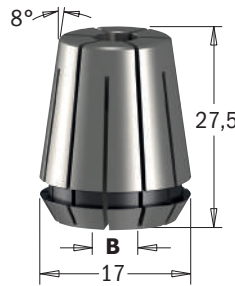
RUN-OUT
 This tolerance is guaranteed only on the nominal diameter



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.



For chucks:

183.000/100/200/250/300/400

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	
9,52	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

BULK PACK 10 PCS.



For chucks:

183.201/211/221/310

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
9,52	3/8	184.096.00		25		184.252.00	184.252.00H
10		184.102.00					

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. Fit most tapered spindle noses.

☐ 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					
Clamping nut with bearing ER25	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

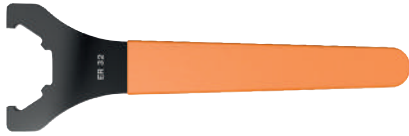


995.200 995.201 995.202 995.250 995.400

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 LEUCO® P-SYSTEM® 183.400 chucks	M8		995.400.00

C-Spanner

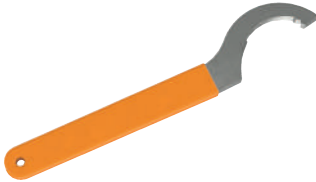


991.183 FOR «ER32»

DESCRIPTION	ORDER NO.
C-Spanner for "ER32"	991.183.00

991.184 FOR «ER40»

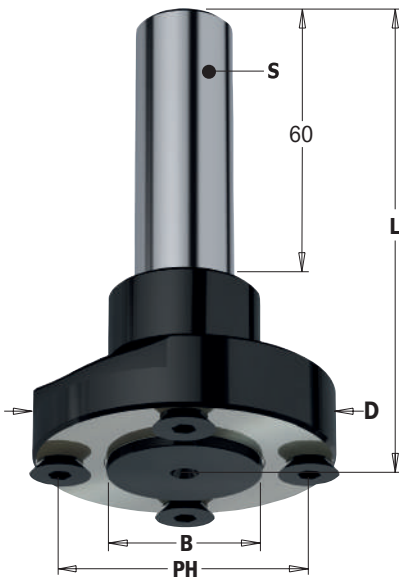
DESCRIPTION	ORDER NO.
C-Spanner for "ER40"	991.184.00



991.283 FOR «DIN6388» AND «ER40»

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

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	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)

SAFETY TIPS

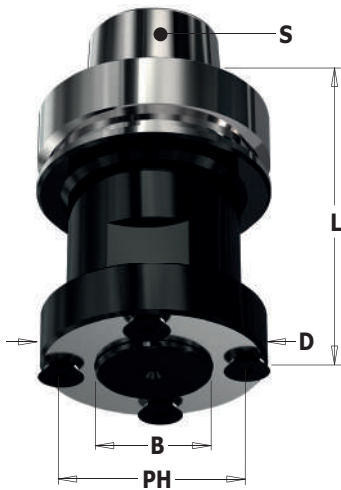


The **TW-006** Torque Screwdriver is recommended for the proper fastening of screws (see page 413).

Grooving saw blades available at page 66 on request.

LH RH

HSK Chucks for Grooving Blade



183.420

LH RH

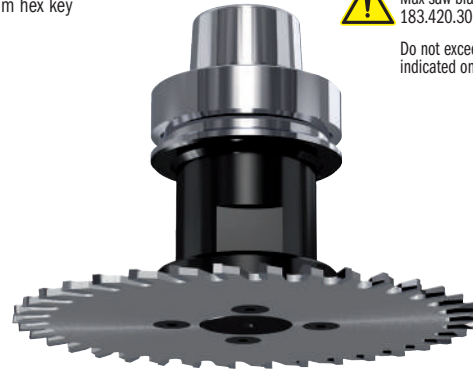
S	D mm	B mm	PIN HOLE	L mm		ORDER NO.
HSK-63F	59	30	4/M6/48	78	1	183.420.30

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.

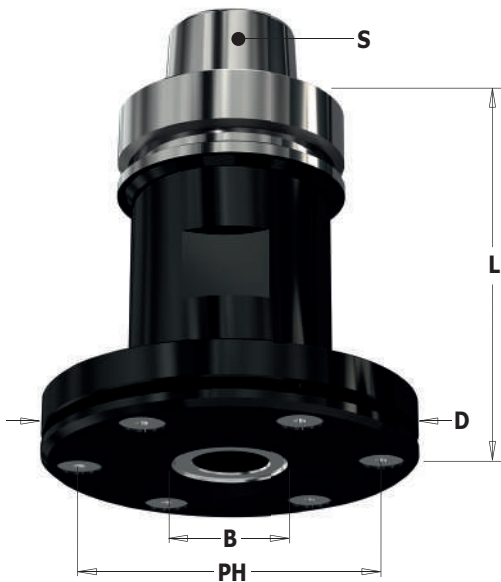


Grooving saw blades available at page 66 on request.

SAFETY TIPS



The **TW-006** Torque Screwdriver is recommended for the proper fastening of screws (see page 413).



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

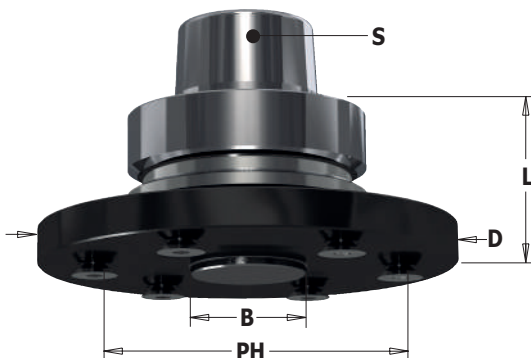


Grooving saw blades available on request.

SAFETY TIPS



The **TW-006** Torque Screwdriver is recommended for the proper fastening of screws (see page 413).



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.



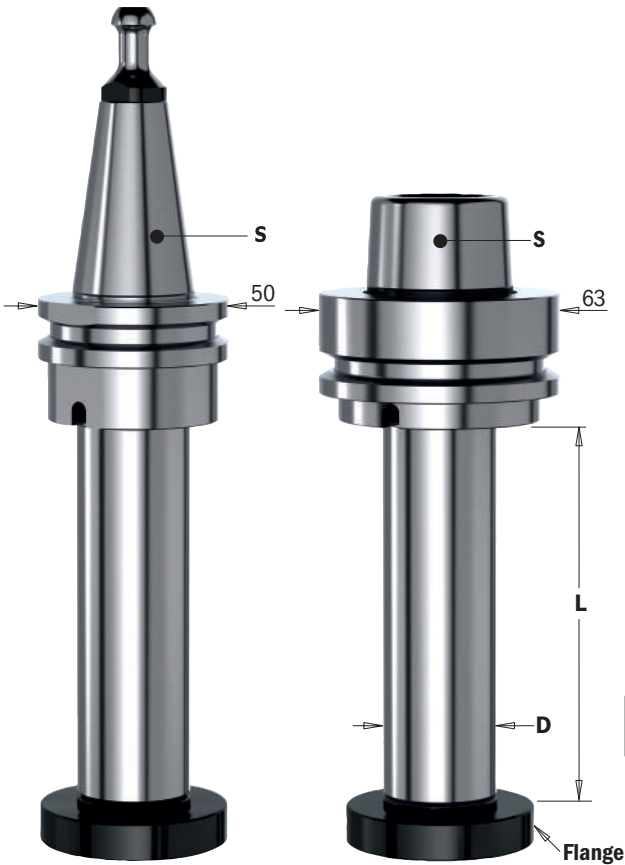
Grooving saw blades available on request.

SAFETY TIPS



The **TW-006** Torque Screwdriver is recommended for the proper fastening of screws (see page 413).

Cutter Arbor Chucks with Tapered Shank



183.260

LH RH

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

LH RH

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 413).

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 Ø40mm arbors - Female	992.560.40F

Universal Assembly Supports for Chucks

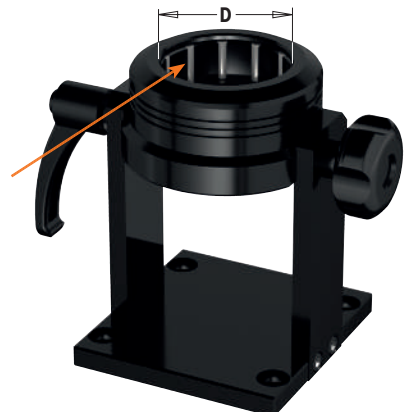
183



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.





XTREME COATING

THE ULTIMATE TECHNOLOGY FOR INDUSTRIAL CNC TOOLS

DLCS is a modified diamond-like carbon coating with superior load bearing capacity. This hard, durable metal-based finish (chromium nitride) provides an higher hardness surface and enhances the tribological properties of the carbon coating. Its application prevents excessive heat build up which is detrimental to performance. This means cutting tools remain fully effective after every use.

<p>Extreme Coating Hardness >HV 2.500</p> <p>Offers impressive hardness on cutting edges as well as outstanding protection against wear and tear.</p>	<p>Minimal coating thickness µm 2-4</p> <p>This micron thin finish guarantees perfectly sharpened edges for high cutting quality.</p>	<p>Provides the lowest coefficient of friction 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 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



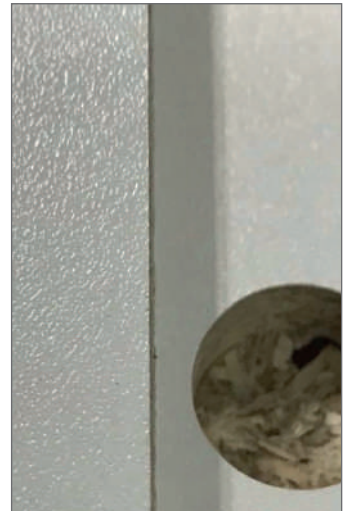
DLCS coated bit



Melamine Chipboard



Cut quality after 165 panels





190.41 DLCS CHROME COATING



D mm	I mm	I ₁ mm	L mm	S mm	Z		ORDER NO. Right-hand rotation
8	32	7	80	8	2+2	10	190.080.41
9,52	28,6	7	76,2	9,52	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

9,52	22,2	4,8	76,2	9,52	2+2	10	190.513.41
9,52	25,4	5,2	76,2	9,52	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		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
9,52	28,6	7	76,2	9,52	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

9,52	22,2	4,8	76,2	9,52	2+2	10	190.513.11
9,52	25,4	5,2	76,2	9,52	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:

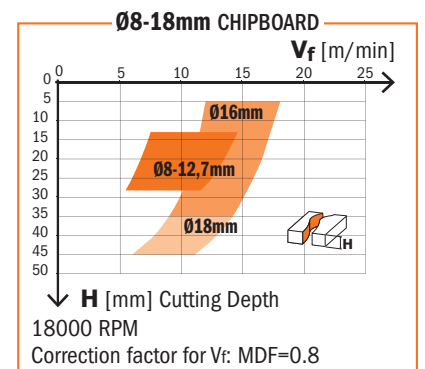
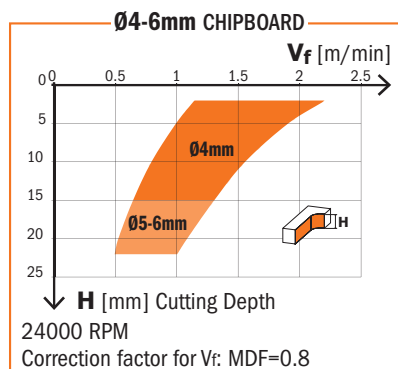
- Premium quality HWM.
- 1+1 spiral cutting edges [Z1+1].
- 2+2 spiral cutting edges [Z2+2].
- 3+3 spiral cutting edges [Z3+3].
- Provide an excellent finish on both the upper and the lower side of the workpiece.

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	15,87	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
9,52	28,57	76,2	9,52	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



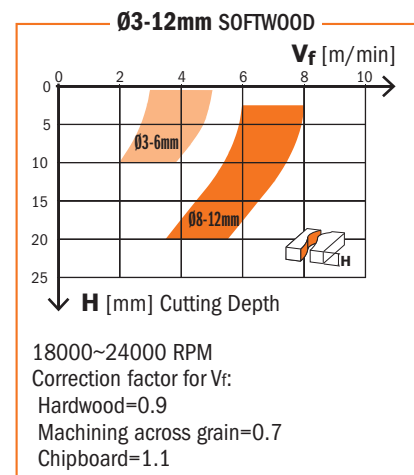
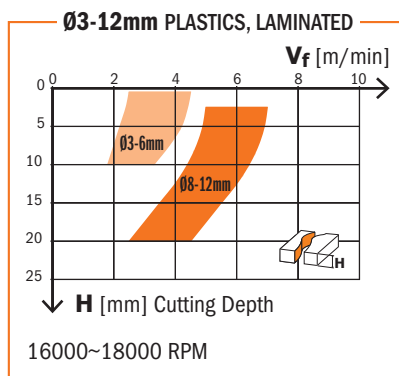
D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation
6	27	60	6	10	198.660.11

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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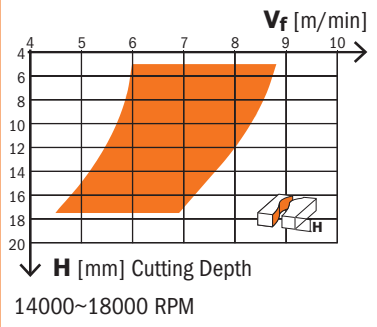


191

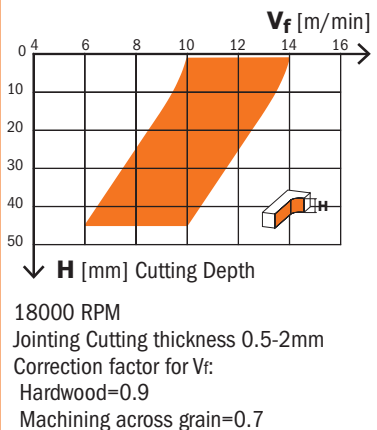


D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation
3	12	50	3	10	191.030.11
3	12	60	6	10	191.630.11
3	12	60	8	10	191.830.11
3,18	12,7	50,8	6,35	10	191.001.11
3,5	12	60	6	10	191.635.11
3,97	12,7	50,8	6,35	10	191.003.11
4	15	50	4	10	191.040.11
4	15	60	6	10	191.640.11
4	15	60	8	10	191.840.11
4,76	19,05	50,8	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
9,52	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:

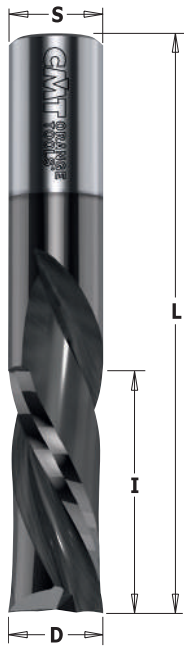
used for efficient contour cutting, end-trimming and panel sizing on solid wood, wood composites, plastic materials and laminates at high feed speed. Ensure to properly clamp workpieces.

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



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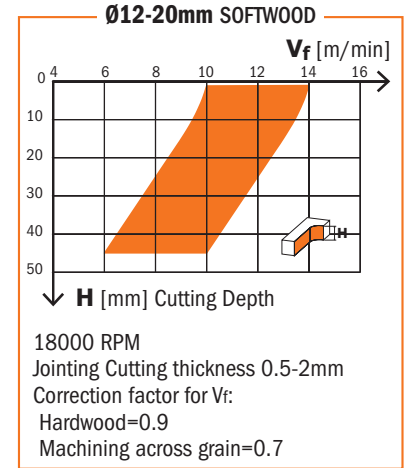
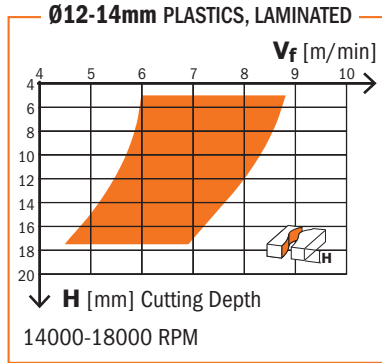
Solid Carbide Downcut Spiral Bits - LONG LIFE



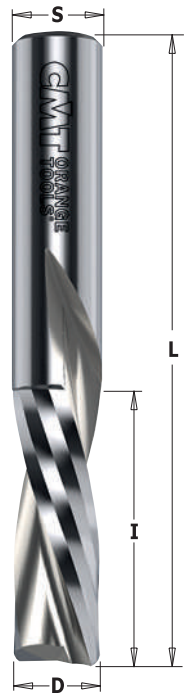
192.41 DLCS CHROME COATING



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
9,52	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



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.



192



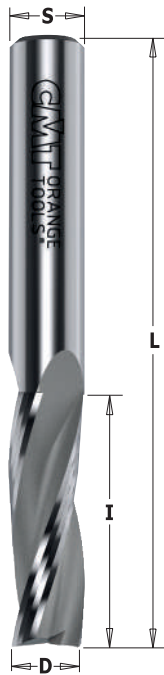
D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation
3	12	50	3	10	192.030.11
3	12	60	6	10	192.630.11
3	12	60	8	10	192.830.11
3,18	12,7	50,8	6,35	10	192.001.11
3,97	12,7	50,8	6,35	10	192.003.11
4	15	50	4	10	192.040.11
4	15	60	6	10	192.640.11
4	15	60	8	10	192.840.11
4,76	19,05	50,8	6,35	10	192.005.11
5	17	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
9,52	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.



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	

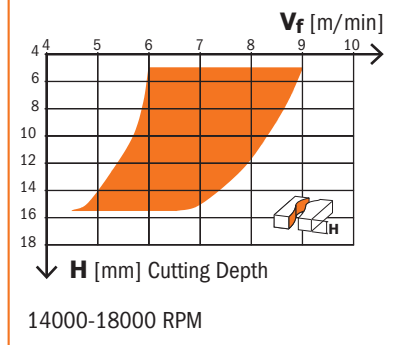
TECHNICAL DETAILS:

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

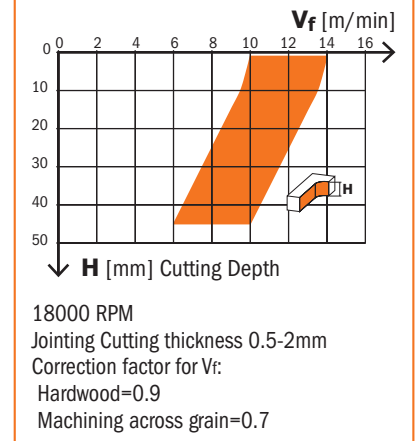
APPLICATION:

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.

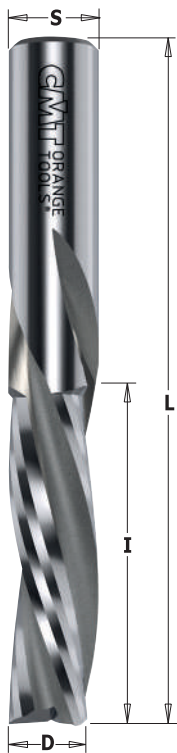
Ø12-14mm PLASTICS, LAMINATED



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.



194



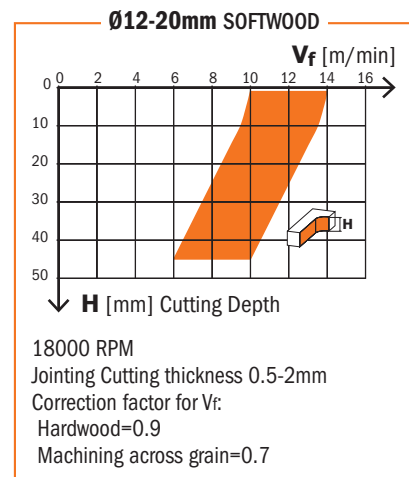
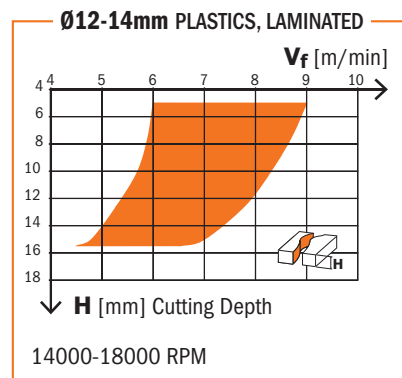
D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
10	32	80	10	10	194.100.11	
10	42	90	10	10	194.101.11	
12	35	83	12	10	194.120.11	194.120.12
12	42	90	12	10	194.121.11	
14	50	110	14	1	194.140.11	
16	55	110	16	1	194.160.11	194.160.12
16	35	90	16	1	194.161.11	
18	55	110	18	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.

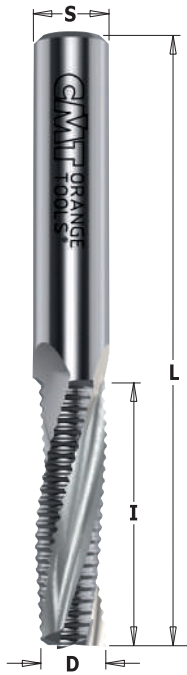
APPLICATION:

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.



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.

Solid Carbide Upcut Spiral Bits with Chipbreaker



195



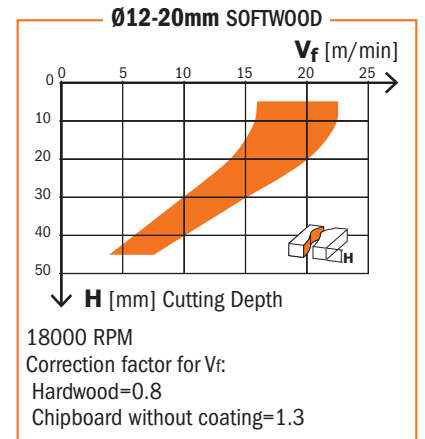
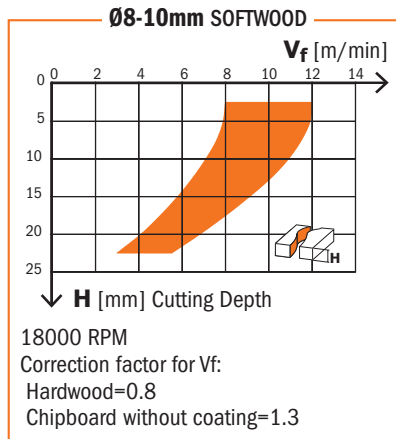
D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
8	32	80	8	10	195.081.11	195.081.12
8	42	90	8	10	195.082.11	
10	32	80	10	10	195.100.11	195.100.12
10	42	90	10	10	195.101.11	
12	35	83	12	10	195.120.11	195.120.12
12	42	90	12	10	195.121.11	
12	52	100	12	10	195.122.11	
12,7	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.

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.

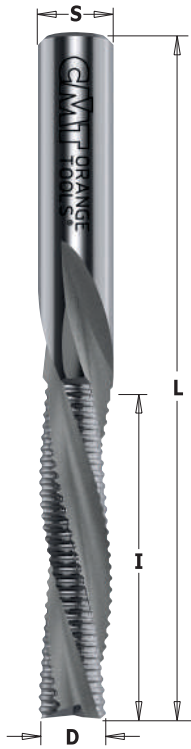
APPLICATION:

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 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	110	16	1	196.160.11	196.160.12
18	55	110	18	1	196.180.11	
20	60	120	20	1	196.200.11	
20	72	140	20	1	196.201.11	

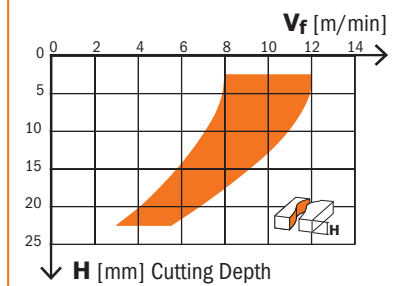
TECHNICAL DETAILS:

- 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:

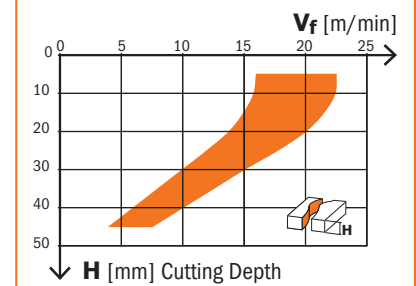
used for efficient contour cutting, end-trimming and panel sizing on solid wood, wood composites, plastic materials and laminates at high feed speed. Ensure to properly clamp workpieces. Can be used on machining centres, point-to-point boring machines, CNC routers and hand-held routers equipped with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

Ø8-10mm SOFTWOOD



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

Ø12-20mm SOFTWOOD



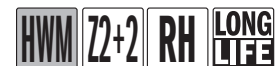
18000 RPM
Correction factor for Vr:
Hardwood=0.8
Chipboard without coating=1.3

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.

Solid Carbide Upcut & Downcut Spiral Bit with DLCS Chrome Coating - LONG LIFE



190.04



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.

P-System



1



2



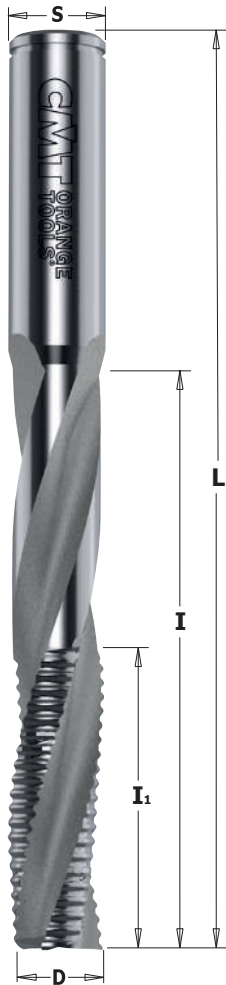
3



4



Solid Carbide Upcut Spiral Bits for Locksets



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

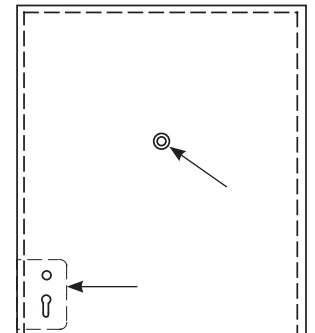
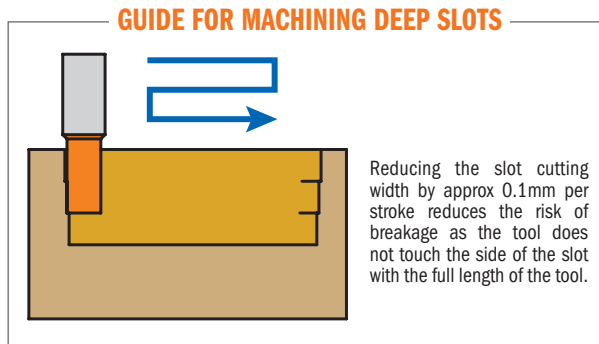
* The maximum cutting length is achieved in 2-3 passes.

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:

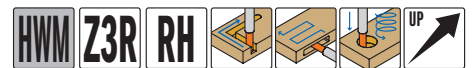
used for efficient contour cutting, end-trimming and panel sizing on solid wood, wood composites, plastic materials and laminates at high feed speed. Ensure to properly clamp workpieces. Can be used on machining centres, point-to-point boring machines, CNC routers and hand-held routers equipped with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



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



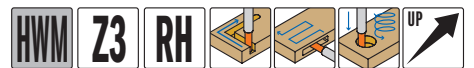
195.143/163



D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation
14	58	110	14	1	195.143.11
16	55	110	16	1	195.163.11

Solid Carbide Upcut Spiral Bits without Chipbreaker for 60° V-Point Locksets

191.143/163



D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation
14	50	110	14	1	191.143.11
16	55	110	16	1	191.163.11

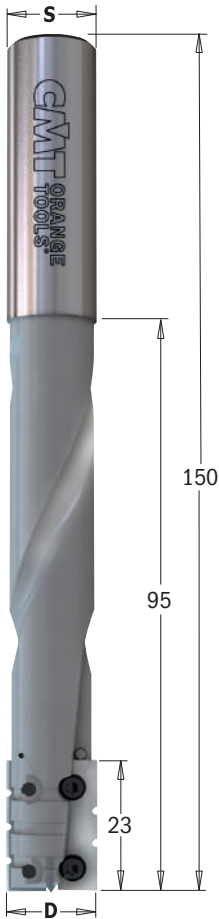
TECHNICAL DETAILS:

- 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	Box	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.

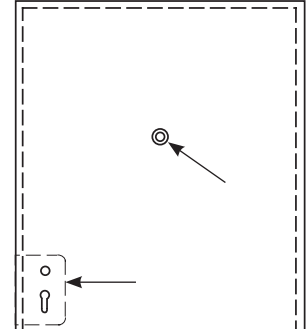
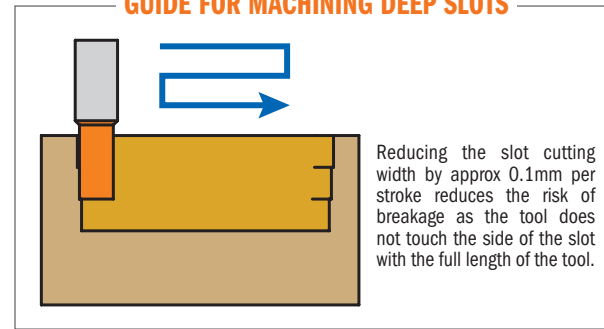
APPLICATION:

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 413).

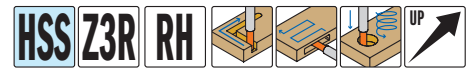
GUIDE FOR MACHINING DEEP SLOTS



Upcut Spiral Bits with Chipbreaker for Glue-Laminated Wooden Beams



195



D mm	I mm	L mm	S mm	Box	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.

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.**

EXCELLENCE 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

ALSO EXCELLENCE FOR

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

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

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
9,52	4,76	28,57	76,2	9,52	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	9,52	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.



151 XTREME PERFORMANCE



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 XTREME PERFORMANCE



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.

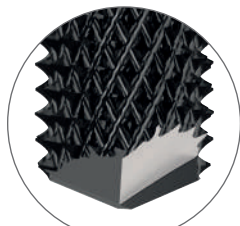
APPLICATION:

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 workpiece. 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!

DP - Router Cutters with Negative Shear Angle - LONG LIFE



40X
LONGER LIFE
THAN CARBIDE

141 (HWM TOOL BODY)



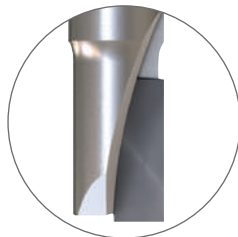
D mm	I mm	L mm	S mm	Z		ORDER NO. Right-hand rotation
6	10	60	6	1 Neg.	1	141.260.61
8	15	65	8	1 Neg.	1	141.280.61
10	15	65	10	1 Neg.	1	141.300.61
12	20	70	12	1 Neg.	1	141.320.61

TECHNICAL DETAILS:

- Special micrograin carbide formulation.
- Straight cutting edge.
- DP (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

DP - Router Cutters - LONG LIFE



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

140

D mm	I mm	L mm	S mm	Z		ORDER NO. Right-hand rotation
10	25	75	12x40	1+1 (3 DP+1 HW)	1	140.03956
12	25	76	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	25	76	12,7x40	1+1 (3 DP+1 HW)	1	140.127.61
12,7	35	84	12,7x40	1+1 (4 DP+1 HW)	1	140.128.61
15,87	27	85	15,87x50	1+1 (3 DP+1 HW)	1	140.158.61
15,87	45	103	15,87x50	1+1 (5 DP+1 HW)	1	140.159.61
16	25	85	16x50	1+1 (3 DP+1 HW)	1	140.160.61
16	35	95	16x50	1+1 (4 DP+1 HW)	1	140.161.61
18	25	87	20x50	1+1 (3 DP+1 HW)	1	140.180.61
18	35	97	20x50	1+1 (4 DP+1 HW)	1	140.181.61
18	45	107	20x50	1+1 (5 DP+1 HW)	1	140.182.61
19,05	25	85	19,05x50	1+1 (3 DP+1 HW)	1	140.190.61
19,05	45	104	19,05x50	1+1 (5 DP+1 HW)	1	140.192.61
20	25	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	104	20x50	1+1 (5 DP+1 HW)	1	140.202.61
20	55	113	20x50	1+1 (6 DP+1 HW)	1	140.203.61

TECHNICAL DETAILS:

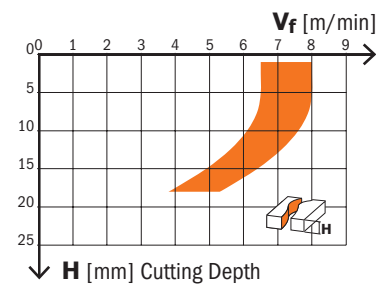
- Strength steel.
- Shear angle. - DP cutting edge (H2,5).
- HW plunging tip for diagonal plunge-cutting.
- Resharpeable (max 3 times).
- Max feed speed 5 m/min.

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.



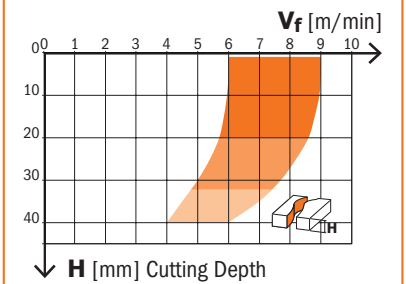
Results shown in this diagram are purely empirical, based merely on informative and hypothetical calculation. Each application may require different parameters in consideration of materials in use and machining conditions. CMT is not responsible for direct, indirect, incidental or consequential damages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

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

Ø15,87-20mm 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

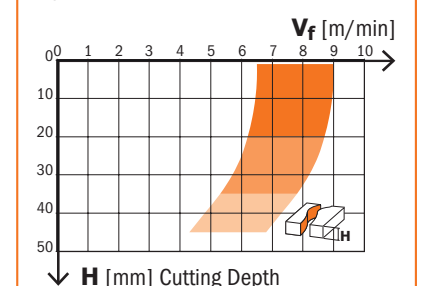
TECHNICAL DETAILS:

- Strength steel.
- Diamond cutting edges featuring 45° shear angle (H4).
- 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

DP - Router Cutters with 45° Shear Angle - LONG LIFE



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	25	85	20x50	2+2 (6 DP+1 HW)	1	142.200.61
20	35	95	20x50	2+2 (8 DP+1 HW)	1	142.201.61
20	45	104	20x50	2+2 (10 DP+1 HW)	1	142.202.61
20	55	113	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

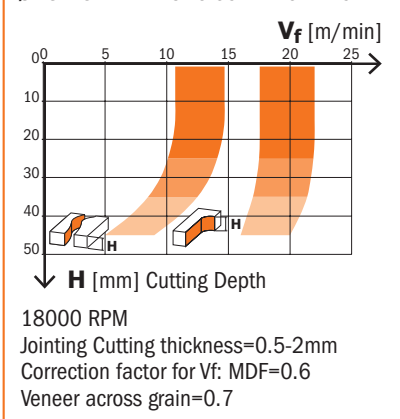
TECHNICAL DETAILS:

- 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

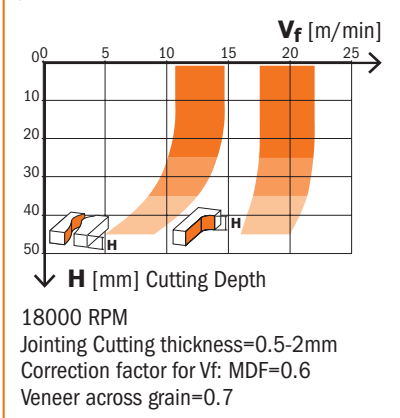
TECHNICAL DETAILS:

- Strength steel.
- Diamond cutting edges featuring 20° shear angle (H4).
- 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	75	12x40	3 (9 DP)	1	143.120.61
12	31	79	12x40	3 (10 DP)	1	143.121.61

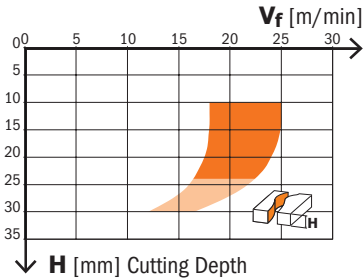
TECHNICAL DETAILS:

- 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

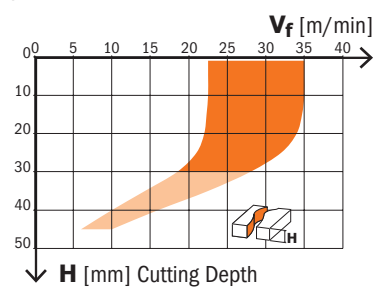
143



D mm	I mm	L mm	S mm	Z		ORDER NO. Right-hand rotation	
18	25	82	20x50	3 (10 DP+1 HW)	1	143.180.61	
18	30	87	20x50	3 (13 DP+1 HW)	1	143.181.61	
18	35	92	20x50	3 (15 DP+1 HW)	1	143.182.61	
20	25	82	20x50	3 (10 DP+1 HW)	1	143.200.61	
20	30	85	20x50	3 (13 DP+1 HW)	1	143.201.61	
20	35	92,5	20x50	3 (15 DP+1 HW)	1	143.202.61	
20	40	97	20x50	3 (18 DP+1 HW)	1	143.203.61	
20	45	102	20x50	3 (21 DP+1 HW)	1	143.204.61	
20	50	106,5	20x50	3 (24 DP+1 HW)	1	143.205.61	
20	55	111	20x50	3 (27 DP+1 HW)	1	143.206.61	
20	60	116,5	20x50	3 (30 DP+1 HW)	1	143.207.61	
20	65	121,5	20x50	3 (31 DP+1 HW)	1	143.208.61	
22	30	92	25x50	3 (13 DP+1 HW)	1	143.220.61	
<input type="checkbox"/>	22	35	97	25x50	3 (15 DP+1 HW)	1	143.221.61
<input type="checkbox"/>	22	40	102	25x50	3 (18 DP+1 HW)	1	143.222.61
<input type="checkbox"/>	22	45	107	25x50	3 (21 DP+1 HW)	1	143.223.61
<input type="checkbox"/>	22	50	112	25x50	3 (24 DP+1 HW)	1	143.224.61
<input type="checkbox"/>	22	55	117	25x50	3 (27 DP+1 HW)	1	143.225.61
<input type="checkbox"/>	22	60	122	25x50	3 (30 DP+1 HW)	1	143.226.61
<input type="checkbox"/>	22	65	127	25x50	3 (31 DP+1 HW)	1	143.227.61
<input type="checkbox"/>	22	70	132	25x50	3 (36 DP+1 HW)	1	143.228.61

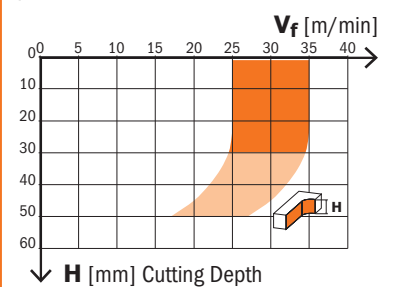
On request

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

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).

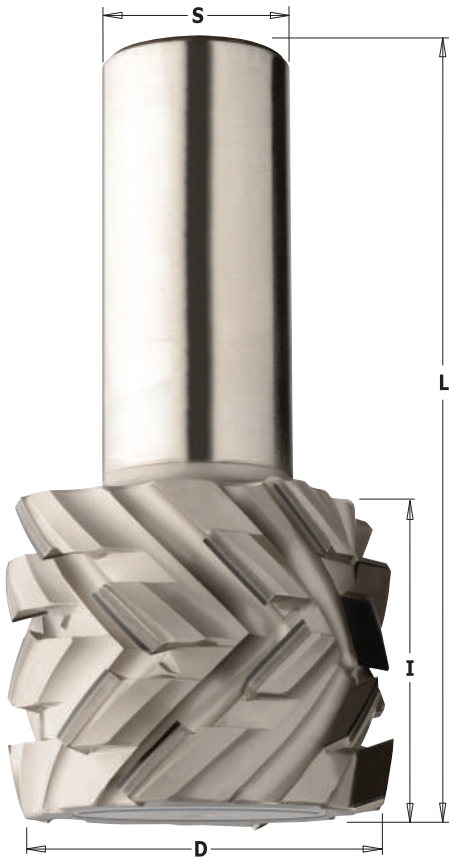
APPLICATION:

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.



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



145

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

On request

TECHNICAL DETAILS:

- Strength steel.
- "H4" diamond cutting edges 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.



Straight Bits for Industrial Nesting Application DLCS Chrome Coating - LONG LIFE SHARPENING



8/912



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		

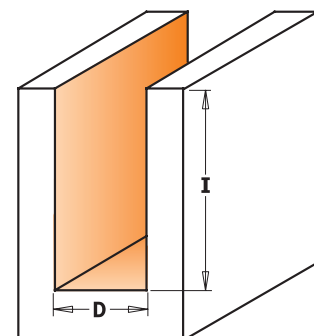
TECHNICAL DETAILS:

- 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.



Drawing is 1:1 scale



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



174

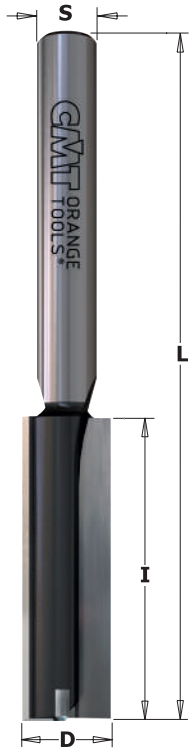


D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation
3	10	55	8	10	174.030.11
4	10	55	8	10	174.040.11
5	12	55	8	10	174.050.11
6	14	55	8	10	174.060.11
7	20	55	8	10	174.070.11

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



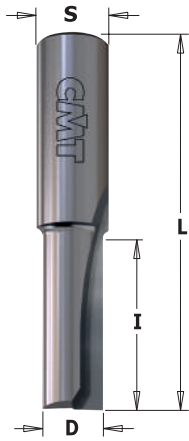
TECHNICAL DETAILS:

- 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.

Solid Carbide Router Cutters



112



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

Router Cutters



112



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

113

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation
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

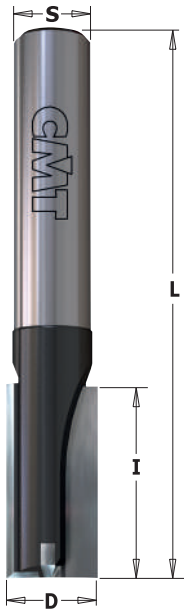


TECHNICAL DETAILS:

- 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

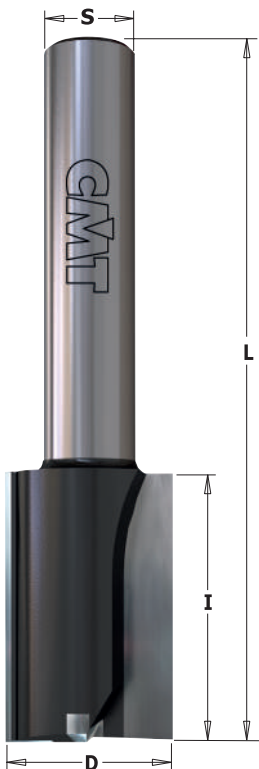
176



D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation
10	40	87	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

APPLICATION:

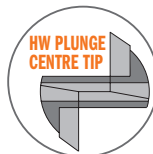
used for plunging cutting and grooving on solid wood and wood derivatives as well as laminates and plastic materials. For use on CNC machining centres, CNC routers, hand-held routers and point-to-point machines equipped with chucks or adaptors.



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.	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]

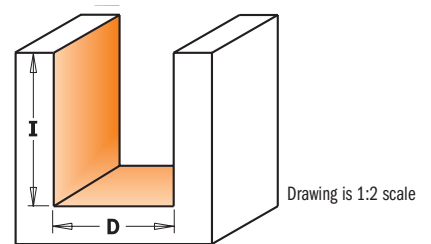
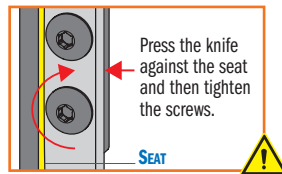
APPLICATION:

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 413).

CORRECT KNIFE POSITIONING



Straight Router Cutters with Insert Knives



653



D mm	I mm	L mm	S mm	Box	ORDER NO.	Spare parts	
16	28,3	92	20	10	653.661.11	790.283.12	790.075.00
16	48,3	111,5	20	10	653.662.11	790.483.12	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

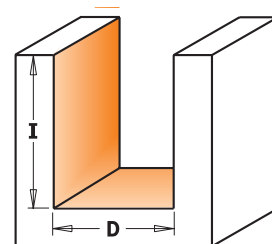
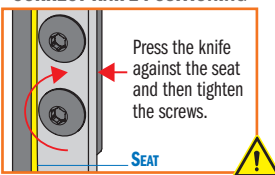
TECHNICAL DETAILS:

- 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



SAFETY TIPS

The **TW-006** Torque Screwdriver is recommended for the proper fastening of screws (see page 413).

Spoilboard Surfacing Router Cutters with Insert Knives



663.0



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

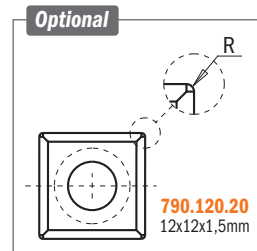
TECHNICAL DETAILS:

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

APPLICATION:

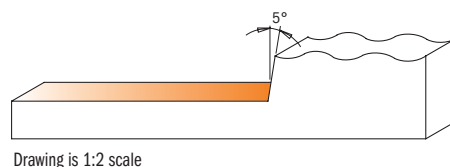
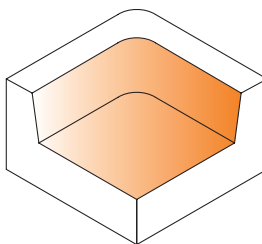
the new router bit for CNC routers is ideal for fast removal of material over a large surface area leaving an improved finish at the bottom of the cut. Used on soft and hardwood, particle board and MDF. The cutter uses 4-sided inserts in super micrograin carbide.

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



SAFETY TIPS

The **TW-006** Torque Screwdriver is recommended for the proper fastening of screws (see page 413).



Spoilboard Surfacing Router Cutters



178



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].

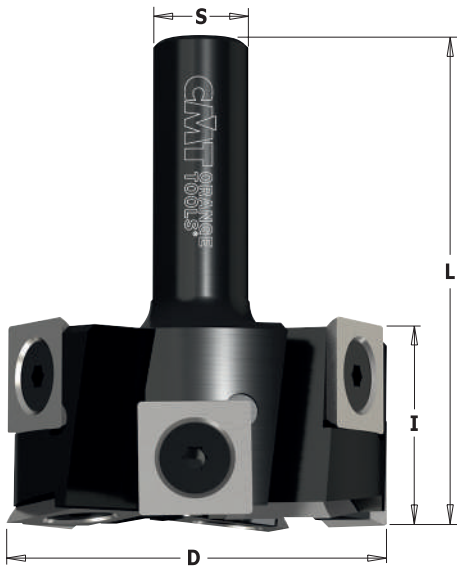
APPLICATION:

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 Router Cutter with Insert Knives



663.5 XTREME



D mm	I mm	L mm	S mm	Box	ORDER NO. Right-hand rotation	Spare parts	
50,8	25,4	63,5	12	10	663.502.11		790.140.20*
50,8	25,4	63,5	12,7	10	663.501.11		990.080.00

TECHNICAL DETAILS:

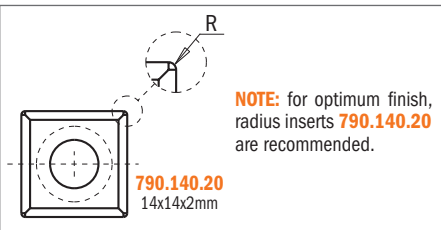
- Strength steel.
- 6 + 3 cutting edges [Z6+V3]

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.



SAFETY TIPS

The **TW-006** Torque Screwdriver is recommended for the proper fastening of screws (see page 413).



*Minimum 10 pieces or multiple

Universal Profile Cutter for CNC Machines



KNIVES NOT INCLUDED

663.301



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

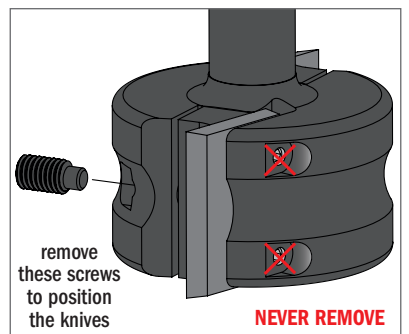
Spare parts: **692.999.01** 38x15x16mm wedge for cutter
990.064.00 M8x16mm STEI screw
991.064.00 Hex key 4mm

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.

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

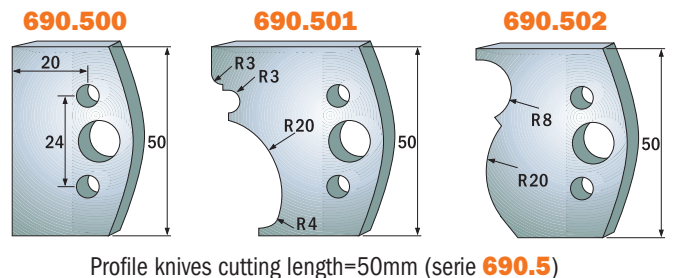
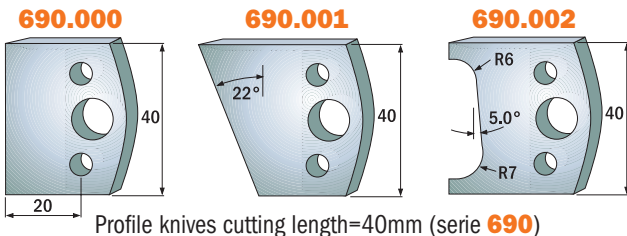


SAFETY TIPS

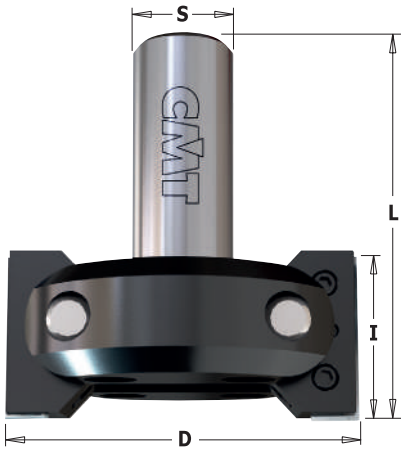
The **TW-006** Torque Screwdriver is recommended for the proper fastening of screws (see page 413).

Suggested **MAX RPM 12.000**

TO BE USED WITH SP KNIVES SERIES 690 (SEE PAGE 154~166)



Adjustable Chamfering CNC Cutter



663.201



D mm	D_Max 45° mm	I mm	A	L mm	S mm	Box	ORDER NO.
85	102	39,5	0°-45° - 0°+90°	92	20	1	Right-hand rotation 663.201.11

- Spare parts:**
- 790.395.12** 39,5x12x1,5mm knife (Minimum 10 pieces 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

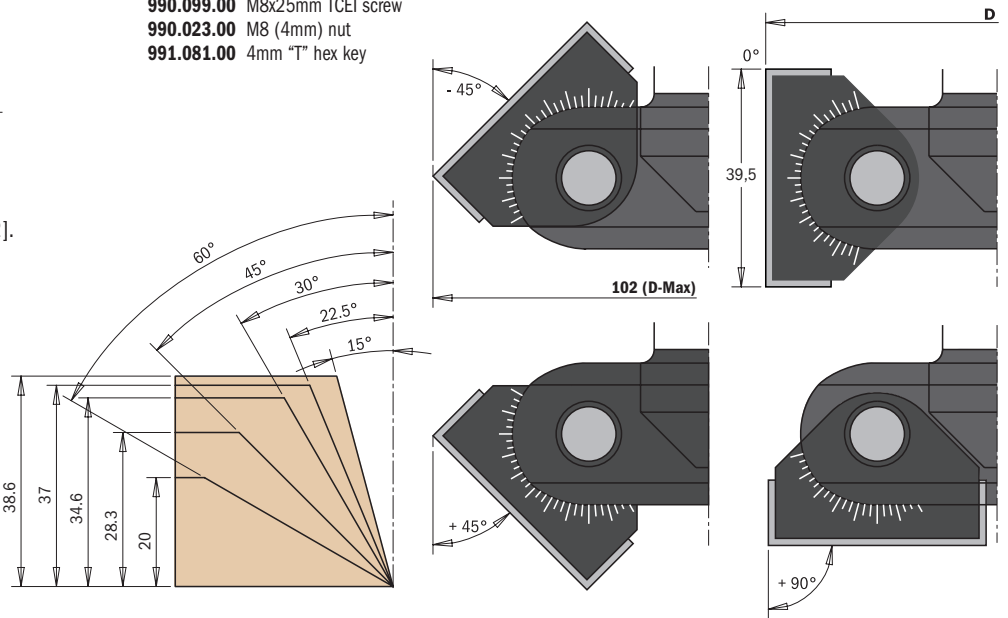
The **TW-006** Torque Screwdriver is recommended for the proper fastening of screws (see page 413).

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 Router Cutters with Insert Knives



663.1



D mm	I mm	L mm	A	S mm	Z	Box	ORDER NO.
34	40	115	45°	20	1	10	Right-hand rotation 663.103.11
44	38	115	60°	20	1	5	663.102.11
52	25	102	91°	20	1	1	663.101.11
60	21	95	110°	20	1	1	663.110.11
87,5	24	95	120°	20	2	1	663.120.11
91	20	95	130°	20	2	1	663.130.11
96,5	12,4	95	150°	20	2	1	663.150.11

Spare parts

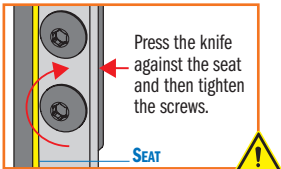
790.580.01*	
790.580.01*	
790.360.01*	
790.360.01*	
790.496.01*	
790.496.01*	
790.496.01*	

- 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: 5790.360.03* 36x12x1,5mm HW-SMG replaceable knife (4 cutting edges 35°)

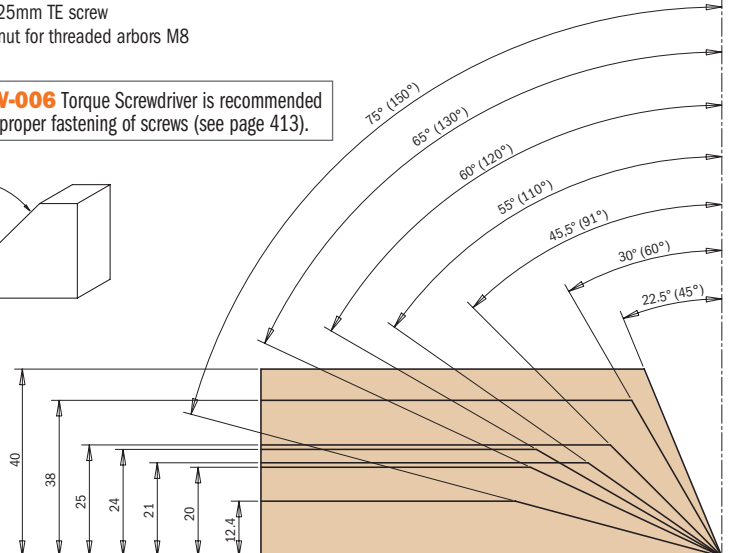
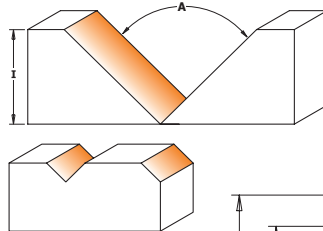
*Minimum 10 pieces or multiple

CORRECT KNIFE POSITIONING



SAFETY TIPS

The **TW-006** Torque Screwdriver is recommended for the proper fastening of screws (see page 413).



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

At request available with ER40



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



Includes:

At request available with ER40



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:

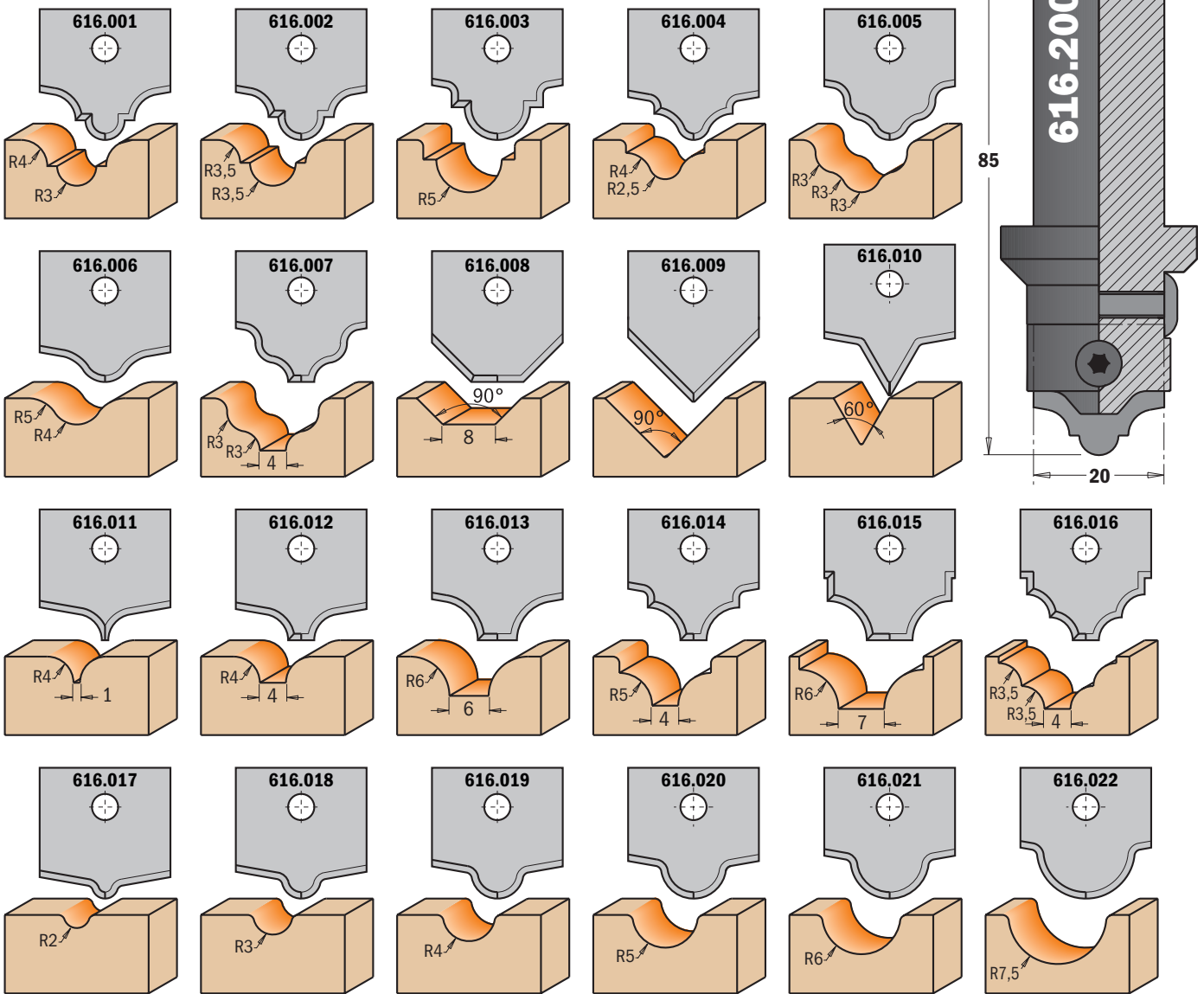
Knives 20x20x2mm.

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 413).



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

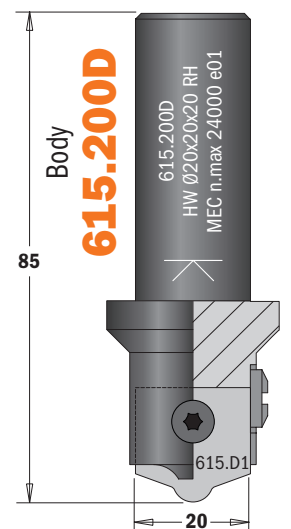
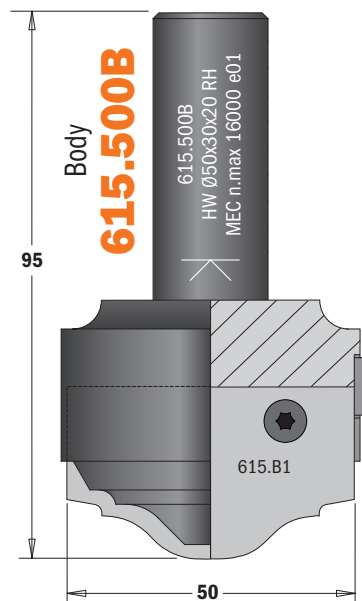
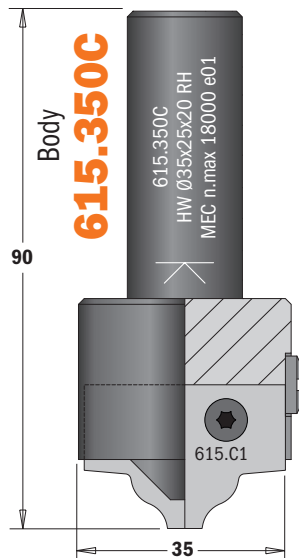
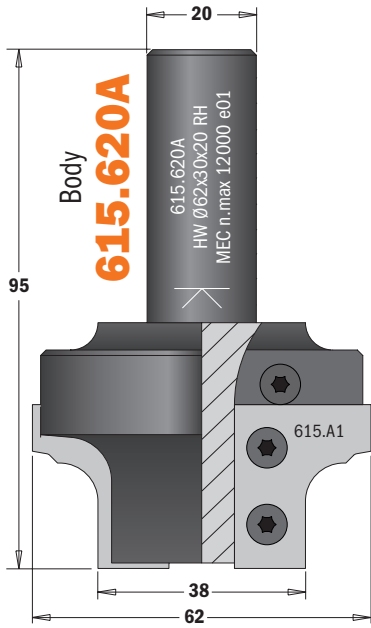
Open some new doors with CMT. Our 4-piece set includes the most popular profile to make MDF panel doors for kitchens and bathrooms. Each bit is made from bar stock steel and is equipped with 5 different profile knives allowing enormous possibilities for easy and economical construction. The highest materials, 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

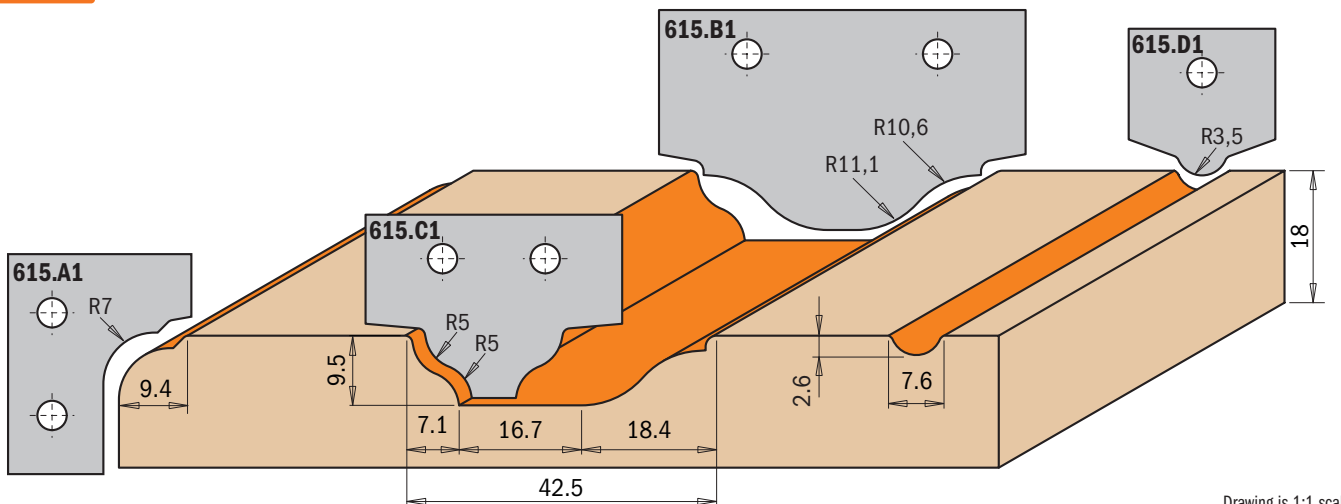
The **TW-006** Torque Screwdriver is recommended for the proper fastening of screws (see page 413).



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

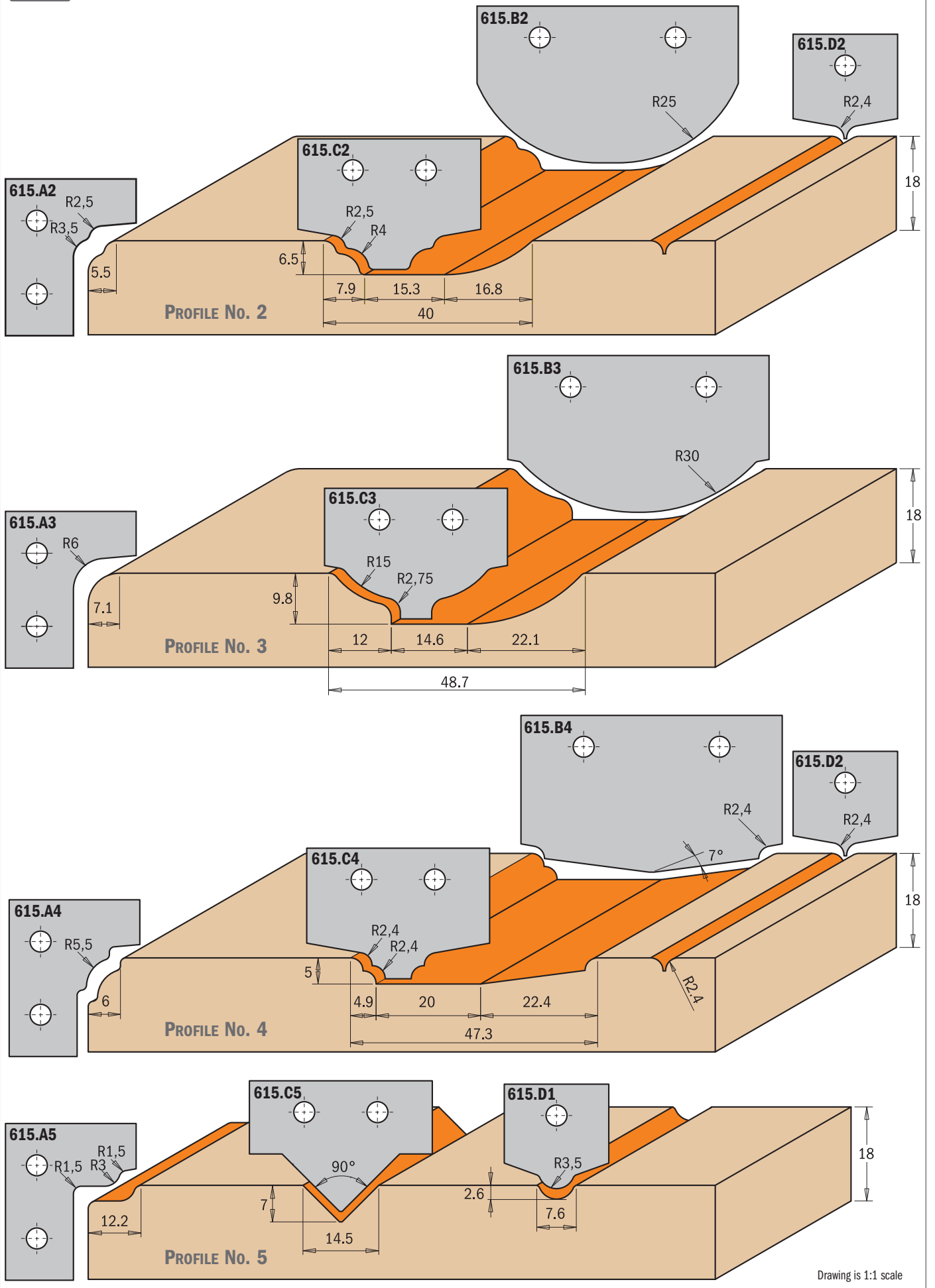


Standard Profile No. 1



Drawing is 1:1 scale

Optional



Drawing is 1:1 scale

Slot Mortising Bits with Chipbreaker



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	102.070.32
8	60	115	16	10	102.080.31	102.080.32
9	65	120	16	10	102.090.31	102.090.32
10	70	125	16	10	102.100.31	102.100.32
11	75	130	16	10	102.110.31	102.110.32
12	80	135	16	10	102.120.31	102.120.32
13	85	140	16	10	102.130.31	102.130.32
14	90	145	16	10	102.140.31	102.140.32
15	95	150	16	10	102.150.31	102.150.32
16	100	155	16	10	102.160.31	102.160.32
17	105	160	16	10	102.170.31	102.170.32
18	110	165	16	10	102.180.31	102.180.32
19	115	170	16	10	102.190.31	102.190.32
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	172.070.32
8	60	115	13	10	172.080.31	172.080.32
9	65	120	13	10	172.090.31	172.090.32
10	70	125	13	10	172.100.31	172.100.32
11	75	130	13	10	172.110.31	172.110.32
12	80	135	13	10	172.120.31	172.120.32
13	85	140	13	10	172.130.31	172.130.32
14	90	145	13	10	172.140.31	172.140.32
15	95	150	13	10	172.150.31	172.150.32
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

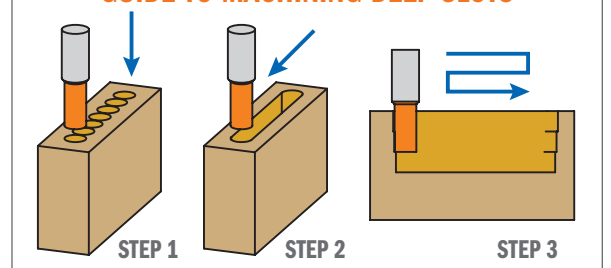
TECHNICAL DETAILS:

- 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

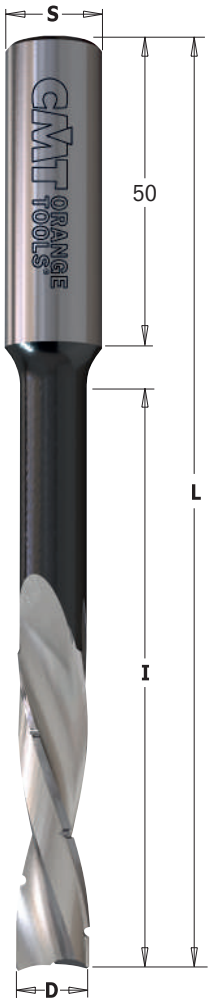


Our classic set of 6 spiral mortising bits with both Ø16mm and Ø13mm shanks made of super strength high speed steel and available in left-hand or right-hand rotation. Safely packaged in a plastic box for protection, these sets are economical and a perfect addition to any workshop.



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

Twisted Slot Mortising Bits with Chipbreaker



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

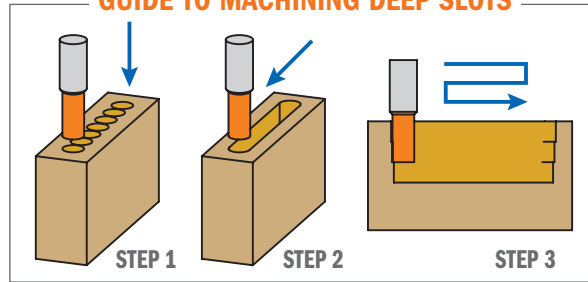
TECHNICAL DETAILS:

- 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

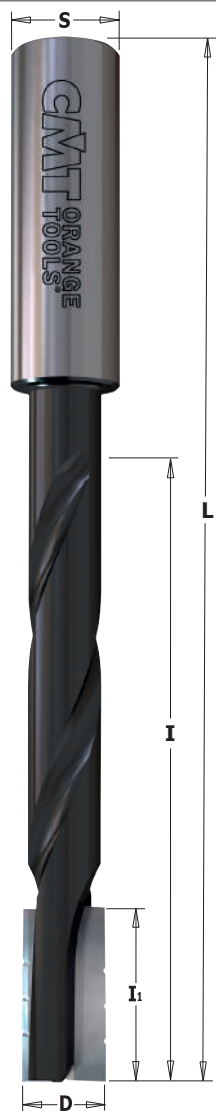
160 - 161

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

Carbide Spiral Slot Mortising Bits with Chipbreaker



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:

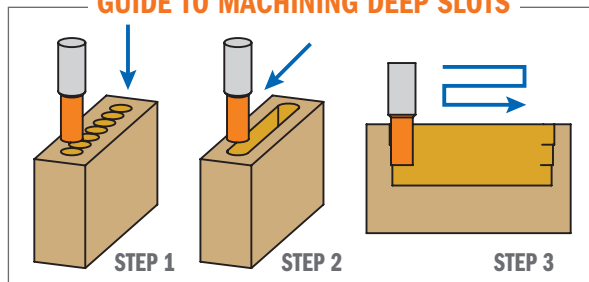
- Strength steel.
- Long-lasting cutting performance.
- 2 precision ground HW cutting edges with chipbreaker teeth.
- 1 HW plunge centre tip [Z2R+1]

APPLICATION:

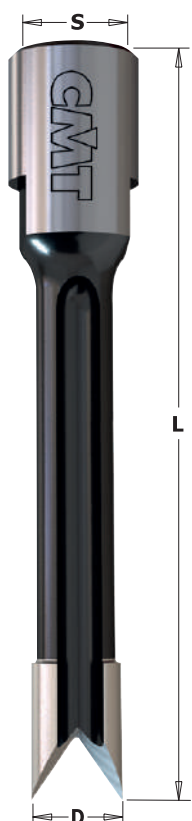
for cutting deep mortise slots in natural soft or medium density wood. For use on machining centres equipped with chucks. RPM 3000~5000



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	

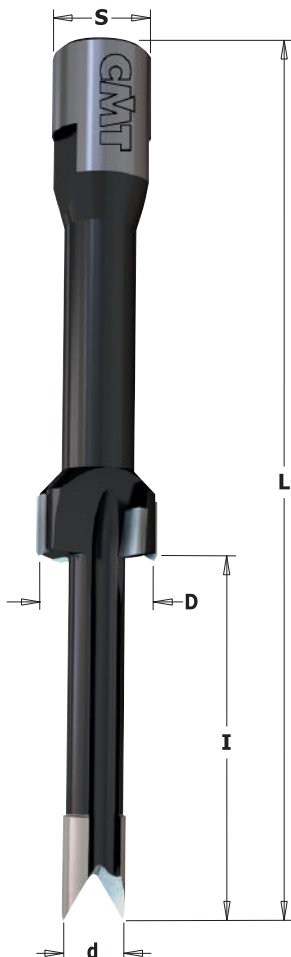
TECHNICAL DETAILS:

- Strength steel.
- HW cutting head with precision balanced 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	16	1	103.060.30
7	45	100	16	1	103.070.30
8	45	100	16	1	103.080.30
9	45	100	16	1	103.090.30
10	55	110	16	1	103.100.30
11	55	110	16	1	103.110.30
12	55	110	16	1	103.120.30
13	55	110	16	1	103.130.30
14	55	110	16	1	103.140.30
15	55	110	16	1	103.150.30
16	55	110	16	1	103.160.30

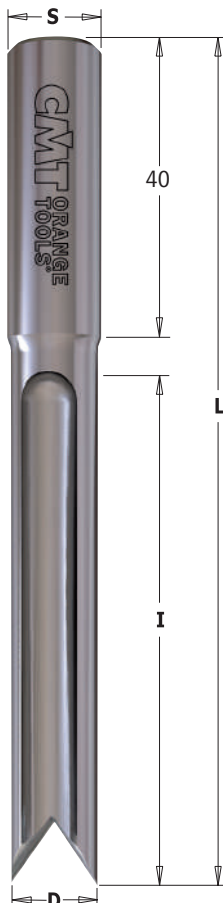
TECHNICAL DETAILS:

- 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.

Reciprocating Slot Mortising Bits



179



D mm	I mm	L mm	S mm		ORDER NO. Right-hand & Left-hand rotation
6	45	90	13	1	179.060.50
7	50	95	13	1	179.070.50
8	50	95	13	1	179.080.50
9	55	100	13	1	179.090.50
10	60	105	13	1	179.100.50
11	65	110	13	1	179.110.50
12	70	115	13	1	179.120.50
13	75	120	13	1	179.130.50

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	13	1	104.060.30
7	45	100	13	1	104.070.30
8	45	100	13	1	104.080.30
9	45	100	13	1	104.090.30
10	55	110	13	1	104.100.30
11	55	110	13	1	104.110.30
12	55	110	13	1	104.120.30
13	55	110	13	1	104.130.30
14	55	110	13	1	104.140.30
15	55	110	13	1	104.150.30
16	55	110	13	1	104.160.30

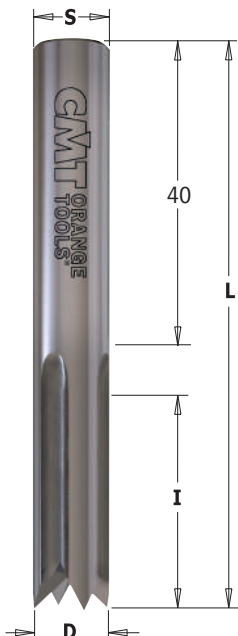
TECHNICAL DETAILS:

- 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.

Reciprocating Slot Mortising Bits



105



D mm	I mm	L mm	S mm		ORDER NO. Right-hand & Left-hand rotation
6	28	73	10	1	105.060.30
7	28	73	10	1	105.070.30
8	28	73	10	1	105.080.30
9	28	73	10	1	105.090.30
10	28	73	10	1	105.100.30
11	28	73	10	1	105.110.30
12	28	73	10	1	105.120.30
13	28	73	10	1	105.130.30
14	28	73	10	1	105.140.30
15	28	73	10	1	105.150.30
16	28	73	10	1	105.160.30

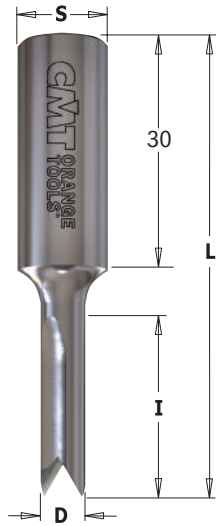
TECHNICAL DETAILS:

- 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 machine centres equipped with chucks.

Reciprocating Slot Mortising Bits

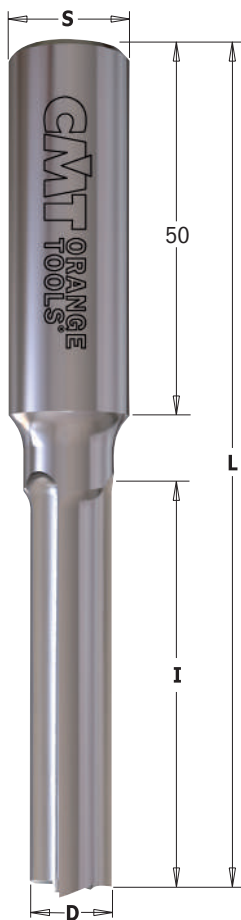

106


D mm	I mm	L mm	S mm	Z		ORDER NO. Right-hand & Left-hand rotation
6	25	60	12	2	1	106.060.30
7	25	60	12	2	1	106.070.30
8	25	60	12	2	1	106.080.30
9	25	60	12	2	1	106.090.30
10	25	60	12	4	1	106.100.30
11	25	60	12	4	1	106.110.30
12	25	60	12	4	1	106.120.30
13	25	60	12	4	1	106.130.30
14	25	60	12	4	1	106.140.30
15	25	60	12	4	1	106.150.30

TECHNICAL DETAILS:

- Long-lasting cutter performance.
- 2 or 4 HL precision ground cutting edges [Z2-Z4].

Slot Mortising Bits


107

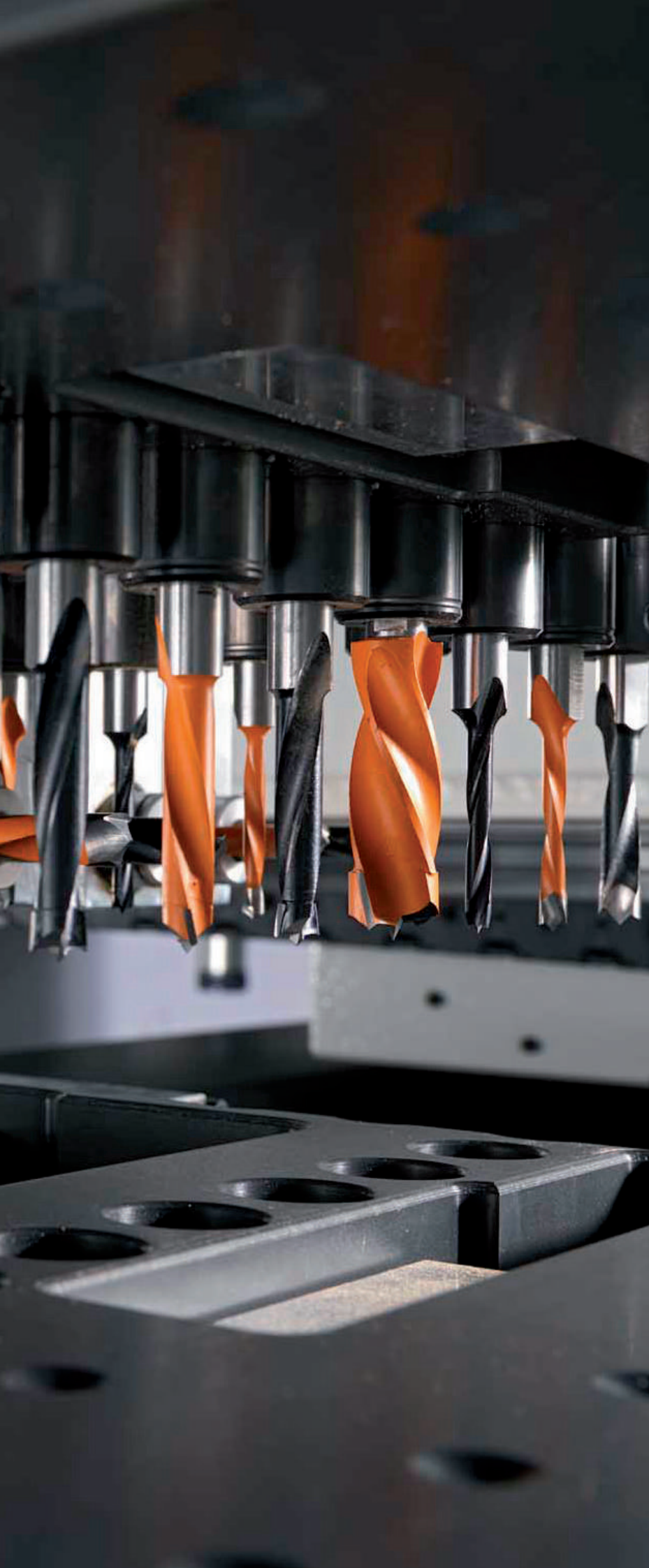

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
6	55	110	16	1	107.060.31	107.060.32
8	55	110	16	1	107.080.31	107.080.32
10	55	110	16	1	107.100.31	107.100.32
12	55	110	16	1	107.120.31	107.120.32
14	60	115	16	1	107.140.31	107.140.32
16	60	115	16	1	107.160.31	107.160.32
18	60	115	16	1	107.180.31	107.180.32
20	60	115	16	1	107.200.31	107.200.32

TECHNICAL DETAILS:

- Long-lasting cutter performance.
- 3 HL precision ground cutting edges [Z3].

APPLICATION:





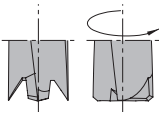
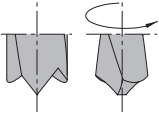
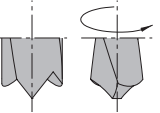
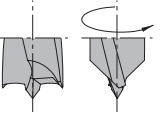


for cutting mortise slots in natural soft and medium density wood. For use on combination machining centres equipped with chucks.



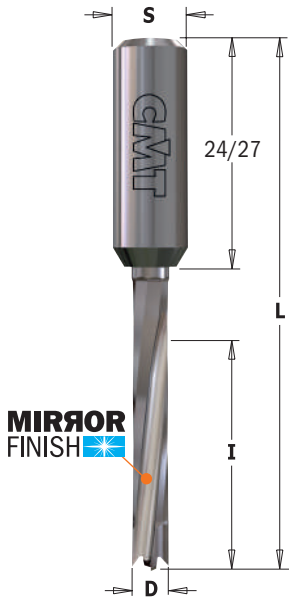
INDUSTRIAL DOWEL DRILLS

PRODUCTS	PAGE
XTreme Solid Carbide Boring Bits	329~331
XTreme Boring Bits	332~333
Solid Carbide Twist Drills	334
Adaptors & Bushings for Twist Drills	335
2 Flute Dowel Drills	336~337
4 Flute Dowel Drills	338~340
Dowel Drills with Countersink	341
Through Hole Dowel Drills	342~343
Countersinks	344
Adaptors	345~347
Hinge Boring Bits	349~351
Dowel Drills with Threaded Shank	352~354



LINE	XTREME FLAT-HWM	XTREME-HWM	XTREME	INDUSTRIAL
PERFORMANCE	★★★★★	★★★★★	★★★★★	★★★
BIT				
DESCRIPTION	Designed for heavy duty drilling in Large-Scale Industrial Manufacturing ensuring high impact resistance and greater durability.	Designed for heavy duty drilling in Large-Scale Industrial Manufacturing ensuring high impact resistance and greater 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 rigorous impact resistance and good durability.
USER	LARGE-SCALE INDUSTRIAL MANUFACTURING	LARGE-SCALE INDUSTRIAL MANUFACTURING	LARGE-SCALE TO MEDIUM-SCALE INDUSTRIAL MANUFACTURING	MEDIUM-SCALE TO SMALL-SCALE INDUSTRIAL MANUFACTURING
RECOMMENDED USE	INDUSTRIAL PRODUCTION	INDUSTRIAL PRODUCTION	INDUSTRIAL/CABINETMAKER'S	CABINETMAKER'S
MATERIALS	Ideal for chipboard, MDF, HDF and laminates. Nonprotruding center-point and spurs make this tool perfect for low-thickness panels.	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.
SHARPENING & MAINTENANCE	Flat edges with reinforced spurs allow perfect finishing and prolonged drilling.  XTREME FLAT SHARPENING	Specially designed reinforced spurs allow for impeccable finishing during operations involving high-speed cutting feed.  XTREME SHARPENING	Specially designed reinforced spurs allow for impeccable finishing during operations involving high-speed cutting feed.  XTREME SHARPENING	Standard design with negatively ground spurs providing good quality finishing without chipping.  NEGATIVELY GROUND SPURS
CARBIDE	INDUSTRIAL CHROMIUM MICROGRAIN CARBIDE The premium quality carbide produces clean bores with no rough edges and maintains a balanced center point. In addition to its safety features, Chromium Micrograin Carbide guarantees exceptional resistance to fatigue and abrasion and allows for an infinite number of resharpenings.	INDUSTRIAL CHROMIUM MICROGRAIN CARBIDE The special chromium enhanced carbide produces clean bores with no rough edges and maintains a balanced center point. In addition to its safety features, Chromium Micrograin Carbide guarantees exceptional resistance to fatigue and abrasion and allows for an infinite number of resharpenings.	INDUSTRIAL SINTERHIP HI-DENSITY CARBIDE The unique tip is made of high quality carbide enhanced via Sinterhip (hot isostatic pressing). This process guarantees long lasting performance and exceptionally clean bores.	INDUSTRIAL GRADE CARBIDE Fine and medium grain carbide grade guarantee reliable prolonged use.
COATING	 SOLID TUNGSTEN CARBIDE	 SOLID TUNGSTEN CARBIDE	C.M.T. P.T.F.E. Coating provides a non-stick surface preventing resin, glue or sludge residue accumulation on the bit body. Baked at 420°, this unique industrial material is specifically designed to fit woodworking tool requirements.	C.M.T. P.T.F.E. Coating provides a non-stick surface preventing resin, glue or sludge residue accumulation on the bit body. Baked at 420°, this unique industrial material is specifically designed to fit woodworking tool requirements.
PRICE RANGE	HIGH	HIGH	MEDIUM/HIGH	MEDIUM

Solid Carbide Dowel Drills - LONG LIFE SHARPENING



311.71/72 XTREME FLAT SHARPENING



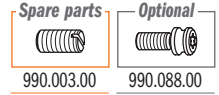
D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
5	30	70	10x27	50	311.050.71	311.050.72
6	30	70	10x27	50	311.060.71	311.060.72
7	30	70	10x27	50	311.070.71	311.070.72
8	30	70	10x24	50	311.080.71	311.080.72
10	30	70	10x26	50	311.100.71	311.100.72

TECHNICAL DETAILS:

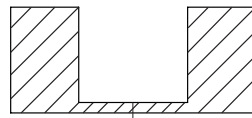
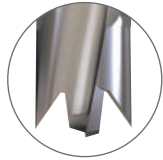
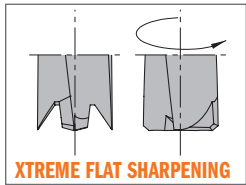
- Premium quality strength steel shank.
- High quality HWM body with mirror finishing.
- 2 cutting edges [Z2] + 2 curved ground spurs [V2].
- 2 spiral flutes.
- Parallel shank with driving flat and adjustable screw length.
- Recommended feed speed 1~4m/minute - RPM 6000.

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.



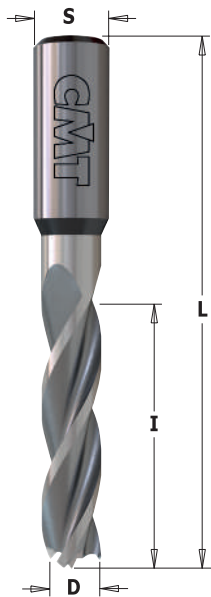
CMT's new high quality dowel drills guarantee excellent performance and extra-long life!



Flat sharpening with no center-point or spurs

Solid Carbide Dowel Drills - LONG LIFE SHARPENING

new



311.31/32 XTREME



3X
LONGER LIFE
THAN STANDARD

D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
5	30	70	10x30	50	311.050.31	311.050.32
8	35	70	10x25	50	311.080.31	311.080.32

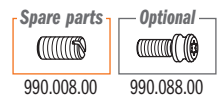
TECHNICAL DETAILS:

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

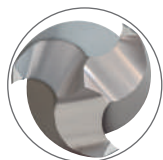
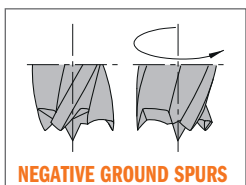
APPLICATION:

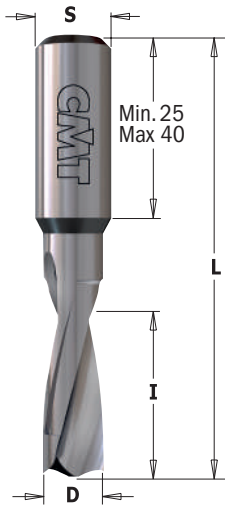
for drilling blind holes in solid wood, wood derivatives and laminates.
For use on boring machine equipped with adaptors and/or chucks.

REMARK: special dimensions available on request.



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



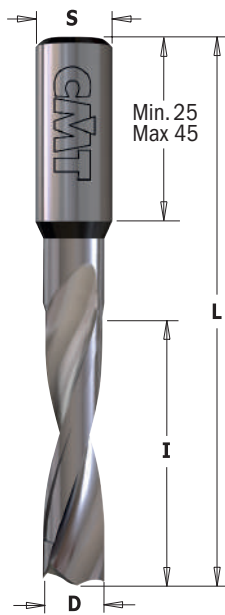
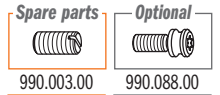


310.21/22 XTREME



D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
1,3	5	57,5	10x30	50	310.013.20*	
2	12	57,5	10x27	50	310.020.21	310.020.22
3	9	57,5	10x40	50	310.530.21	310.530.22
3	18	57,5	10x25	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	22	57,5	10x25	50	310.100.21	310.100.22

* Boring bit for panel preboring.
Suitable for both right-hand and left-hand rotation.

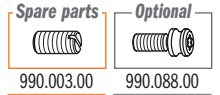


311.21/22 XTREME



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	10x40	50	311.020.21	311.020.22
3	18	70	10x42	50	311.030.21	311.030.22
3,5	18	70	10x39	50	311.035.21	311.035.22
4	30	70	10x28	50	311.040.21	311.040.22
5	30	70	10x30	50	311.050.21	311.050.22
6	30	70	10x27	50	311.060.21	311.060.22
6,35 (1/4")	30	70	10x30	50	311.064.21	311.064.22
7	35	70	10x25	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

* Boring bit for panel preboring.
Suitable for both right-hand and left-hand rotation.

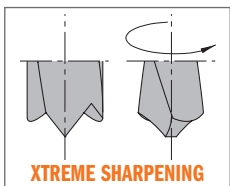


TECHNICAL DETAILS:

- Premium quality strength steel shank.
- High quality HWM body.
- 2 cutting edges [Z2] + 2 curved ground spurs [V2].
- 2 spiral flutes.
- Balanced 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.

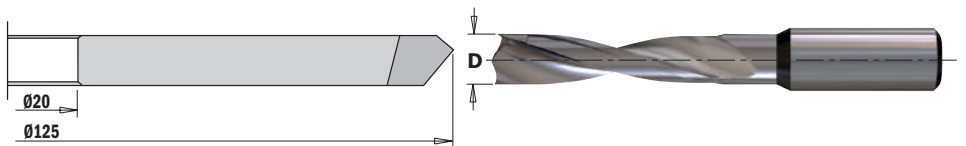


Grinding Wheels for Xtreme Sharpening

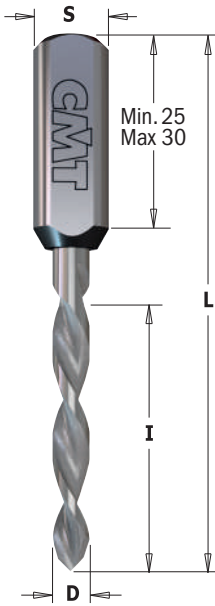


01.02

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



Solid Carbide Dowel Drills for Through Holes - LONG LIFE SHARPENING



314.21/22 XTREME

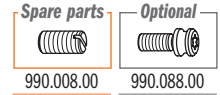


D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
*3	27	70	10x30	50	314.030.21	314.030.22
4	35	70	10x25	50	314.040.21	314.040.22
5	35	70	10x25	50	314.050.21	314.050.22
6	35	70	10x25	50	314.060.21	314.060.22
7	35	70	10x25	50	314.070.21	314.070.22
8	35	70	10x25	50	314.080.21	314.080.22
10	35	70	10x27	50	314.100.21	314.100.22

* "V" point 60° sharpening

TECHNICAL DETAILS:

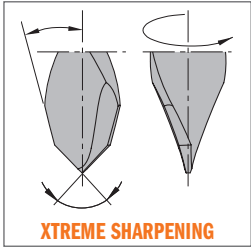
- Premium quality strength steel shank.
- High quality HWM body.
- 2 cutting edges [Z2] with double angle.
- 2 spiral flutes.
- Parallel shank with driving flat and adjustable screw length.



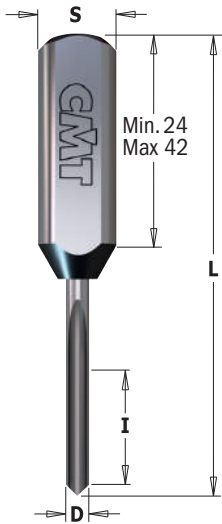
APPLICATION:

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 SHARPENING



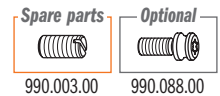
382 XTREME



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	10x26	50	382.3057
3	25	70	10x26	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

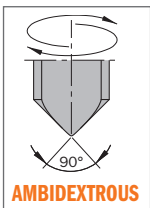
TECHNICAL DETAILS:

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

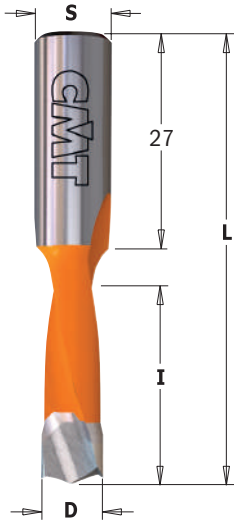


APPLICATION:

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.



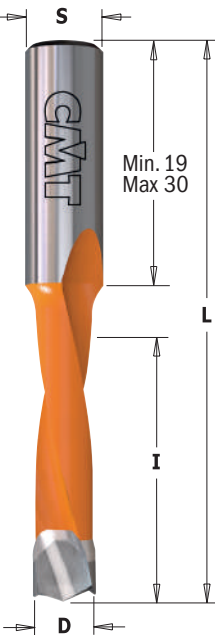
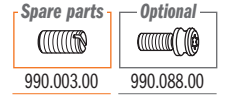
SECURITY TIPS:
These boring bits require more power compared to tradition dowel drills.
The number of boring bits to be used in a single drilling unit depends on the machine power.



310.41/42 XTREME



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

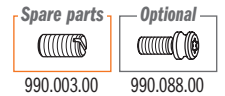


311.41/42 XTREME



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.

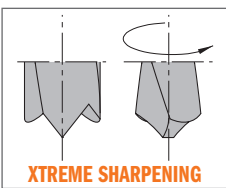


TECHNICAL DETAILS:

- Premium quality strength steel body.
- High quality HW tip.
- 2 cutting edges [Z2] + 2 curved ground spurs [V2].
- 2 spiral flutes.
- Balanced centre point.
- Orange or black P.T.F.E. 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.

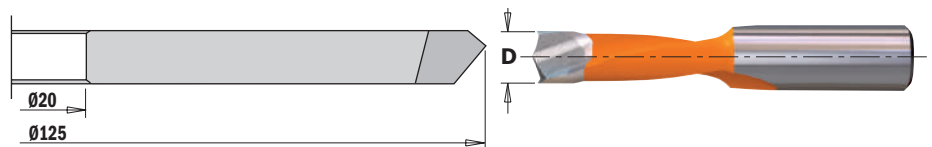


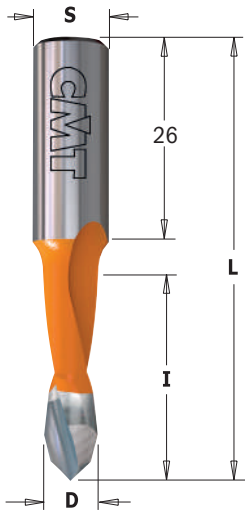
Grinding Wheels for Xtreme Sharpening



01.02

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





313.41/42 XTREME

HW LONG LIFE Z2 RH LH

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 P.T.F.E. coating.
- Parallel shank with driving flat and adjustable screw length.

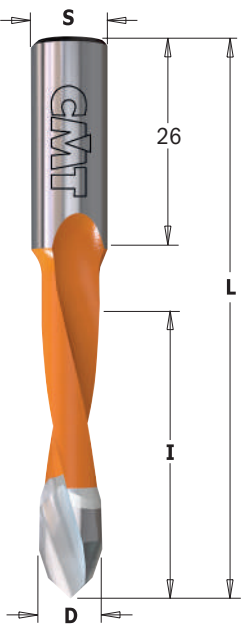
Spare parts 990.003.00

Optional 990.088.00

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

HW LONG LIFE Z2 RH LH

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 P.T.F.E. coating.
- Parallel shank with driving flat and adjustable screw length.

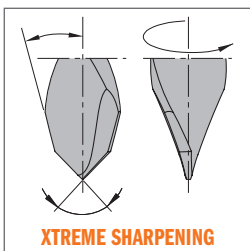
Spare parts 990.003.00

Optional 990.088.00

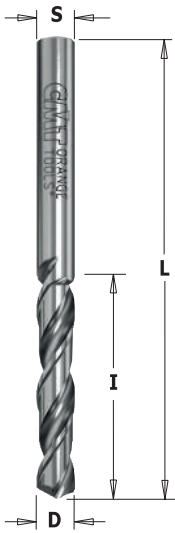
APPLICATION:

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 SHARPENING



"V" POINT 120°

363.11/12



S=D mm	I mm	L mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
2	25	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**

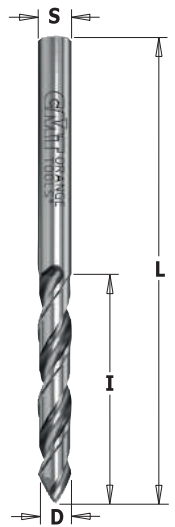
TECHNICAL DETAILS:

- 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 SHARPENING



"V" POINT 60°

363.41/42



S=D mm	I mm	L mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
2,5	27	55		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**

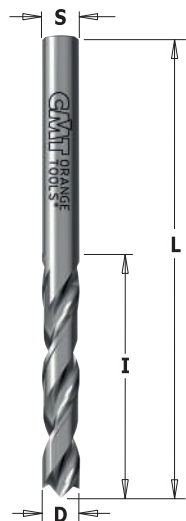
TECHNICAL DETAILS:

- 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 SHARPENING



XTREME SHARPENING

363.21/22 XTREME



S=D mm	I mm	L mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
2,5	27	55		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

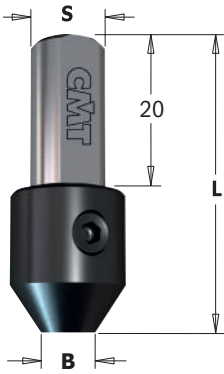
For use with the following items: **364-365**

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

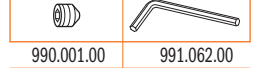
B mm	L mm	S mm		ORDER NO.
2	38	10x20	10	364.020.00
2,5	38	10x20	10	364.025.00
3	38	10x20	10	364.030.00
3,2	38	10x20	10	364.032.00
3,5	38	10x20	10	364.035.00
4	38	10x20	10	364.040.00
4,5	38	10x20	10	364.045.00
5	38	10x20	10	364.050.00

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.

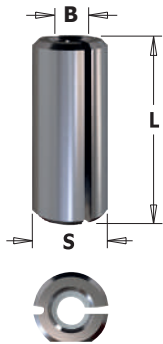
Spare parts



APPLICATION:

for use with twist drills with common shank and bushing diameter.
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:

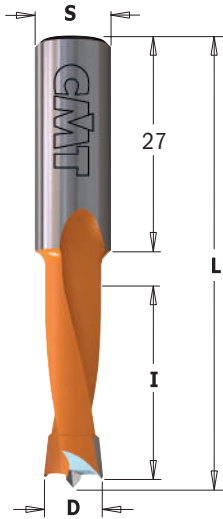
- Strength steel.
- Precision grinding on all contact surfaces.
- Axial cuttings for cylindrical drill clamps.
- Parallel shank with driving flat.

APPLICATION:

for use with twist drills with common shank and bushing diameter. For use on boring machines equipped with adaptors and/or chucks.

ASSEMBLY ILLUSTRATION

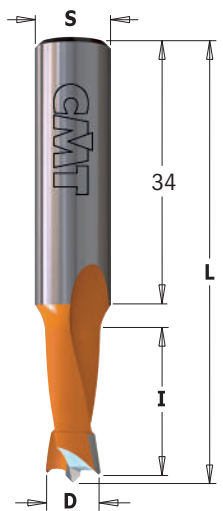
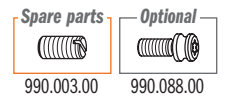




310

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
9,52	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



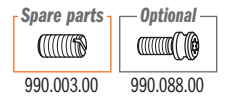
361

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

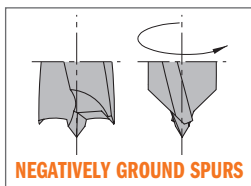
TECHNICAL DETAILS:

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

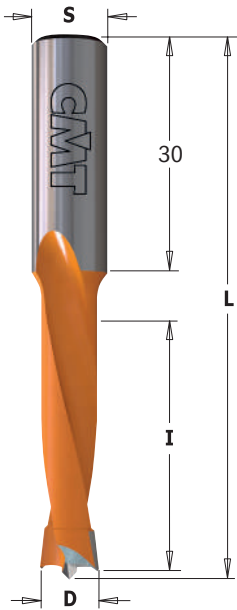


APPLICATION:

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

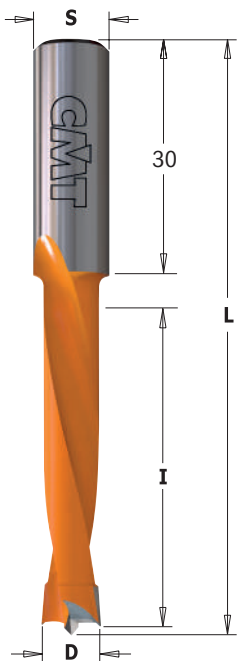
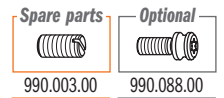


HW Z2 V2 RH LH



311

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
9,52	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



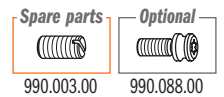
362

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

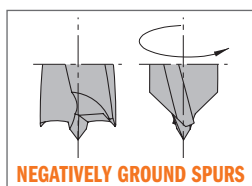
TECHNICAL DETAILS:

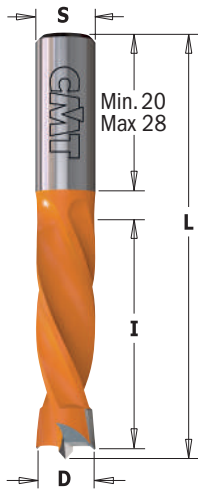
- Premium quality strength steel body.
- High quality HW tip.
- 2 cutting edges [Z2] + 2 negatively ground spurs [V2].
- 2 spiral flutes.
- Balanced centre point.
- Orange or black P.T.F.E. coating.
- Parallel shank with driving flat and length adjusting screw.



APPLICATION:

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



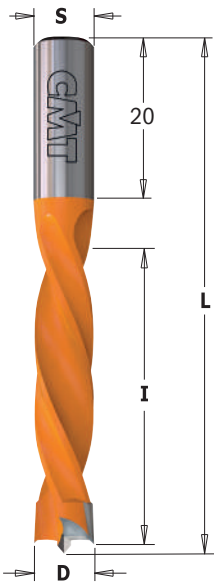
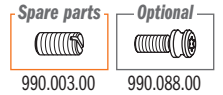


306



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



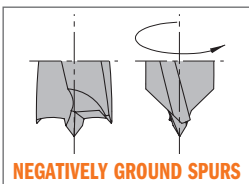
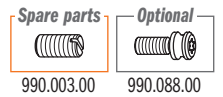
307



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
9,52	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

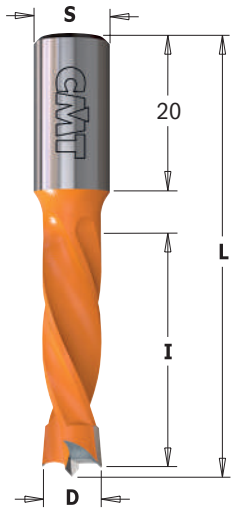
TECHNICAL DETAILS:

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



APPLICATION:

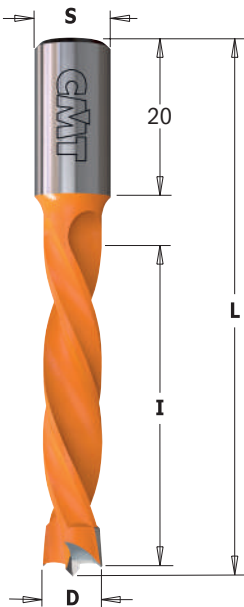
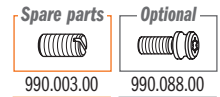
for drilling blind holes in solid wood, wood derivatives and laminates.
For use on boring machine equipped with adaptors and/or chucks.



308



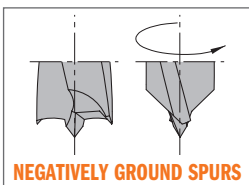
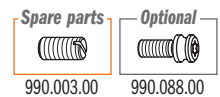
D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
4	26	57,5	10x20	50	308.040.11	308.040.12
5	30	57,5	10x20	50	308.050.11	308.050.12
6	30	57,5	10x20	50	308.060.11	308.060.12
6,35	30	57,5	10x20	50	308.064.11	308.064.12
7	30	57,5	10x20	50	308.070.11	308.070.12
8	30	57,5	10x20	50	308.080.11	308.080.12
9	30	57,5	10x20	50	308.090.11	308.090.12
9,52	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



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
9,52	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



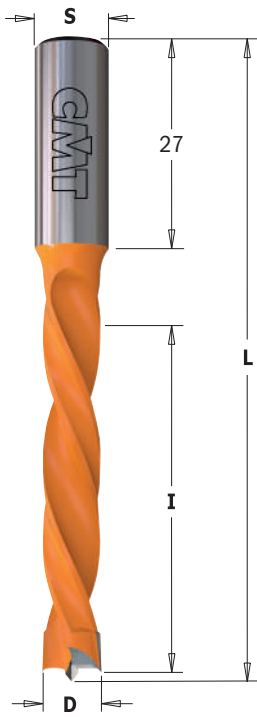
TECHNICAL DETAILS:

- Premium quality strength steel body.
- High quality HW tip.
- 2 cutting edges [Z2] + 2 negatively ground spurs [V2].
- 4 spiral flutes.
- Balanced centre point.
- Orange or black P.T.F.E. 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.

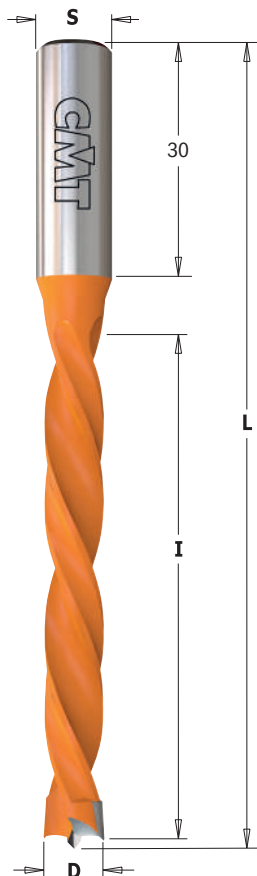
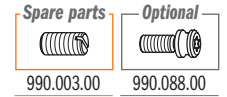
4 Flute Dowel Drills



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



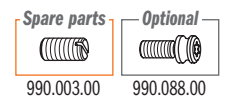
372

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

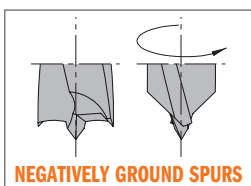
TECHNICAL DETAILS:

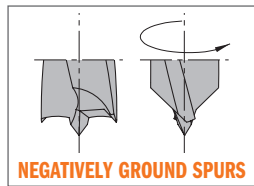
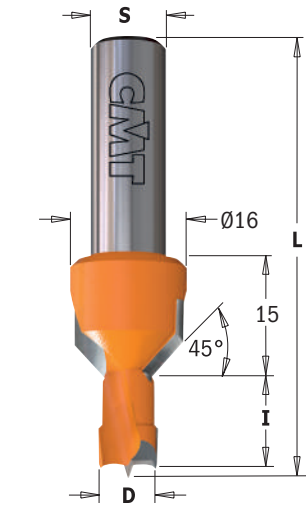
- Premium quality strength steel body.
- High quality HW tip.
- 2 cutting edges [Z2] + 2 negatively ground spurs [V2].
- 4 spiral flutes.
- Balanced centre point.
- Orange or black P.T.F.E. coating.
- Parallel shank with driving flat and length adjusting screw.



APPLICATION:

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





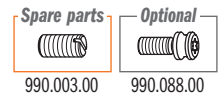
376-377

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:

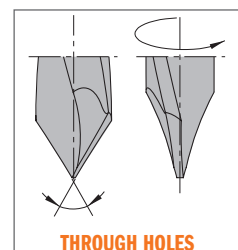
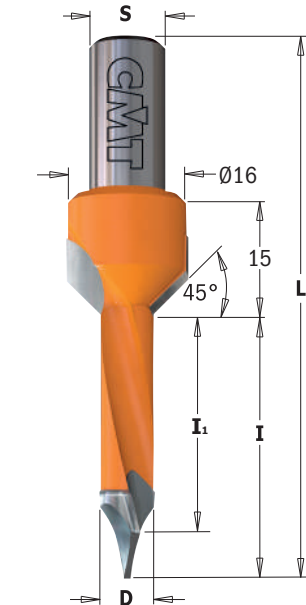
- Premium quality strength steel body.
- High quality HW tip.
- 2 cutting edges [Z2] + 2 negatively ground spurs [V2].
- 2 spiral flutes.
- Balanced centre point.
- 2 countersink cutting edges at 45°.
- Orange or black P.T.F.E. coating.
- Parallel shank with driving flat and length adjusting screw.



APPLICATION:

for drilling 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



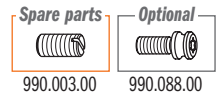
378

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:

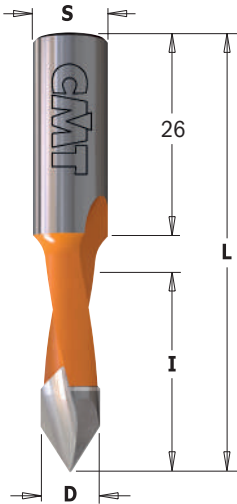
- Premium quality strength steel body.
- High quality HW tip.
- 2 cutting edges [Z2].
- 2 spiral flutes.
- 2 countersink cutting edges at 45°.
- Orange or black P.T.F.E. coating.
- Parallel shank with driving flat and adjustable screw length.



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



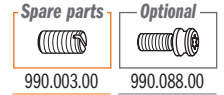
313 FOR PANELS WITH MAXIMUM THICKNESS: 20mm



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

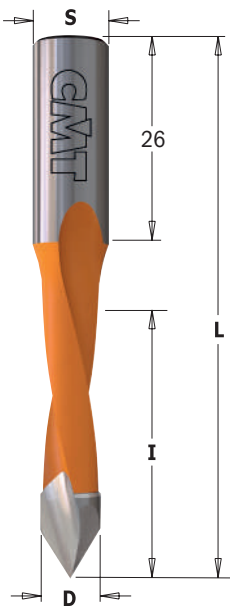
TECHNICAL DETAILS:

- Premium quality strength steel body.
- High quality HW tip.
- 2 precision ground cutting edges [Z2].
- 2 spiral flutes.
- Orange or black P.T.F.E. 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.

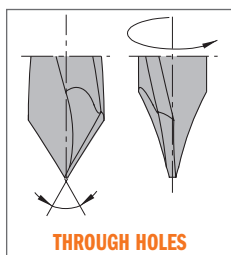


314 FOR PANELS WITH MAXIMUM THICKNESS: 25-30mm



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
9,52	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

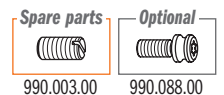
366 FOR PANELS WITH MAXIMUM THICKNESS: 30-40mm



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:

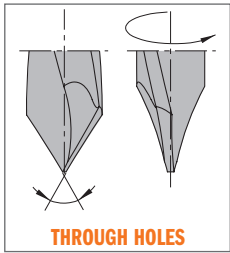
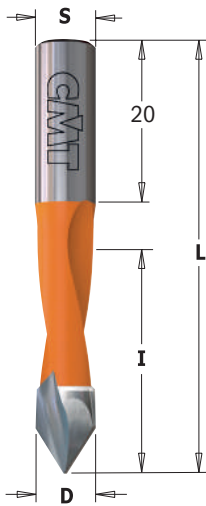
- Premium quality strength steel body.
- High quality HW tip.
- 2 cutting edges [Z2].
- 2 spiral flutes.
- Orange or black P.T.F.E. coating.
- Parallel shank with driving flat and adjustable screw length.



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



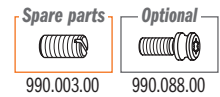
D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
5	30	56	8x20	50	367.050.11	367.050.12
8	30	56	8x20	50	367.080.11	367.080.12

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:

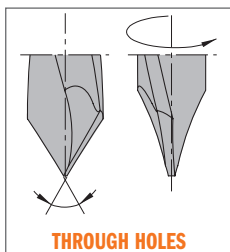
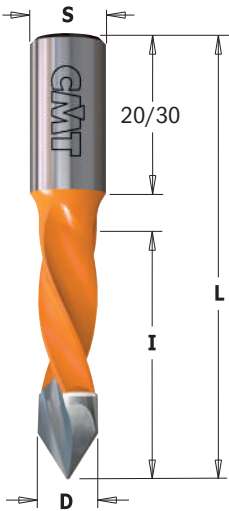
- Premium quality strength steel body.
- High quality HW tip.
- 2 cutting edges [Z2].
- 2 spiral flutes.
- Orange or black P.T.F.E. coating.
- Parallel shank with driving flat and adjustable screw length.



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

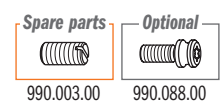
D mm	I mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
4	40	70	10x20	50	375.040.11	375.040.12
5	40	70	10x20	50	375.050.11	375.050.12
6	40	70	10x20	50	375.060.11	375.060.12
7	40	70	10x20	50	375.070.11	375.070.12
8	40	70	10x20	50	375.080.11	375.080.12
9	40	70	10x20	50	375.090.11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

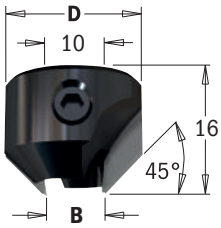
- Premium quality strength steel body.
- High quality HW tip.
- 2 cutting edges [Z2].
- 4 spiral flutes.
- Orange or black P.T.F.E. coating.
- Parallel shank with driving flat and adjustable screw length.



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.
- Countersink: 2 carbide tipped cutting edges [Z2] at 45°.
- Direct clamp on the shank of the drills.
- Fastening screw for quick and easy drill bit change HSS drill bit.

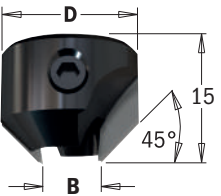
APPLICATION:

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.
- Countersink: 2 carbide tipped cutting edges [Z2] at 45°.
- Direct clamp on the shank of the drills.
- Fastening screw for quick and easy drill bit change HSS drill bit.

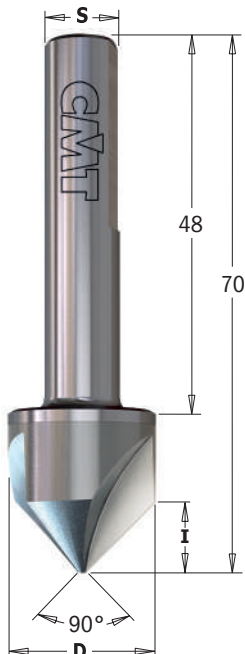
APPLICATION:

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

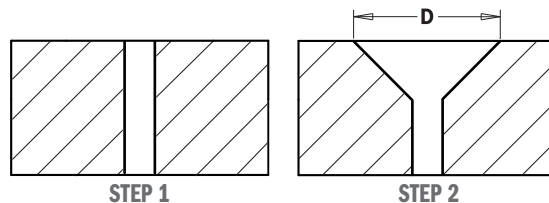
TECHNICAL DETAILS:

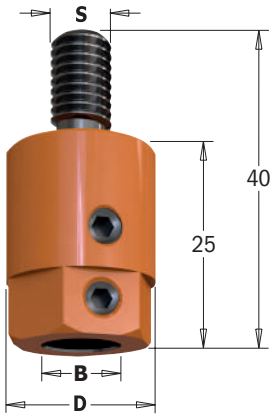
- Premium quality strength steel body.
- High quality HW tip.
- 3 cutting edges [Z3] at 90°.
- Parallel shank with driving flat.

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

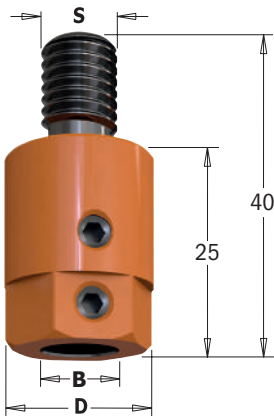
RH LH

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

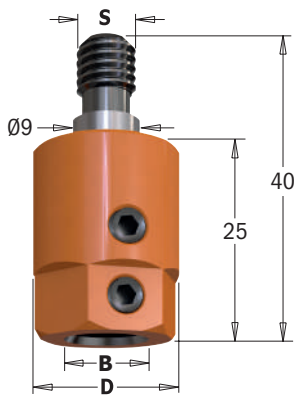
RH LH

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

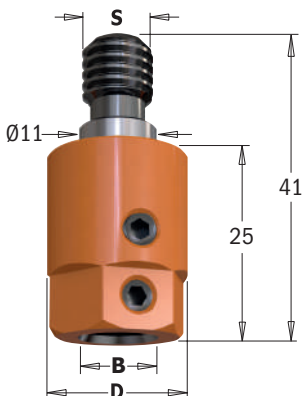
RH LH

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

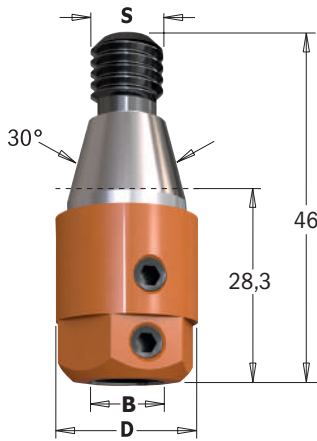
FOR USE ON THE FOLLOWING MACHINES:
BIESSE® (older models).
MASTERWOOD® (Zangheri & Boschetti).
MORBIDELLI®, TORWEGGE®, VITAP® (new design).
WEEKE®.

Spare parts

	
990.006.00	991.062.00

Adaptors

RH LH



303

B mm	D mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
8	16	M10/30°	10	303.080.01	303.080.02
10	19,5	M10/30°	10	303.000.01	303.000.02

FOR USE ON THE FOLLOWING MACHINES:

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

Spare parts



359

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



RH LH

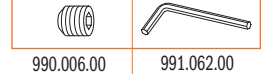


359

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



RH



360.001

B mm	d 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



RH LH



360.101



B mm	d 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	d 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	d 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	d 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

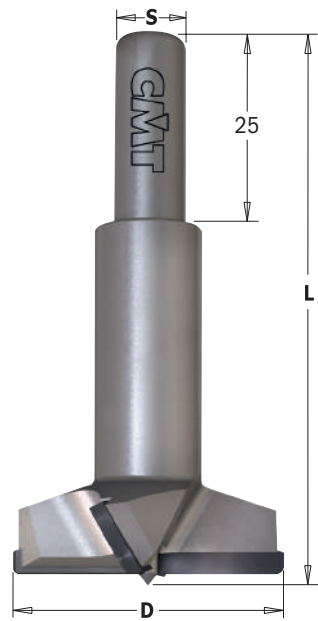


990.088



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

LINE	DP	XTREME	INDUSTRIAL with Chipbreaker	INDUSTRIAL
PERFORMANCE	★★★★★	★★★★★	★★★	★★★
BIT				
DESCRIPTION	Designed for heavy duty drilling in Large-Scale Industrial Manufacturing ensuring high impact resistance, greater durability and good chip evacuation thanks to the chipbreaker.	Designed for heavy duty drilling in Large-Scale Industrial Manufacturing ensuring high impact resistance and greater durability.	Designed for medium to light-duty drilling in medium to small-scale industrial manufacturing ensuring good chip evacuation thanks to the chipbreaker.	Designed for medium to light-duty drilling in medium to small-scale industrial manufacturing ensuring rigorous impact resistance and good durability.
USER	LARGE-SCALE INDUSTRIAL MANUFACTURING	LARGE-SCALE INDUSTRIAL MANUFACTURING	MEDIUM-SCALE TO SMALL-SCALE INDUSTRIAL MANUFACTURING	MEDIUM-SCALE TO SMALL-SCALE INDUSTRIAL MANUFACTURING
RECOMMENDED USE	INDUSTRIAL PRODUCTION	INDUSTRIAL PRODUCTION	INDUSTRIAL/REMODELER	INDUSTRIAL/REMODELER
MATERIALS	Ideal for chipboard, MDF, HDF, laminates and abrasive panels in which long service life is imperative.	Ideal for chipboard, MDF, HDF and laminates. Non-protruding center-point and spurs make this tool perfect for low-thickness panels.	Excellent for solid wood. Good for chipboard, MDF, HDF and laminates.	Excellent for solid wood. Good for chipboard, MDF, HDF and laminates.
SHARPENING & MAINTENANCE	NEGATIVELY GROUND SPURS: standard design HW head featuring precision balanced centre point. 2 HW precision ground cutting edges and 2 negatively ground spurs.	XTREME FLAT SHARPENING: flat edges with reinforced spurs allow perfect finishing and prolonged drilling at high-speed cutting feed.	NEGATIVELY GROUND SPURS: standard design HW head featuring precision balanced centre point. 2 HW precision ground cutting edges with chipbreaker and 2 negatively ground spurs.	NEGATIVELY GROUND SPURS: standard design HW head featuring precision balanced centre point. 2 HW precision ground cutting edges with chipbreaker and 2 negatively ground spurs.
DIAMOND/CARBIDE	The special polycrystalline diamond formula increases tool life up to 20 times longer than HW hinge bits. Good number of resharpenings guaranteed. The best quality/price ratio	INDUSTRIAL CHROMIUM MICROGRAIN CARBIDE Special chromium enhanced carbide produces clean bores with no rough edges even in corners. Chromium Micrograin Carbide guarantees exceptional resistance to fatigue and abrasion for longer lifetime.	INDUSTRIAL GRADE CARBIDE Fine and medium grain carbide grade guarantee reliable prolonged use.	INDUSTRIAL GRADE CARBIDE Fine and medium grain carbide grade guarantee reliable prolonged use.
COATING	High-quality nickel-plated with anti-friction and anti-corrosion properties.	C.M.T. P.T.F.E. coating provides a non-stick surface preventing resin, glue or sludge residue accumulation on the bit body. Baked at 420°, this unique industrial material is specifically designed to fit woodworking tool requirements.	C.M.T. P.T.F.E. coating provides a non-stick surface preventing resin, glue or sludge residue accumulation on the bit body. Baked at 420°, this unique industrial material is specifically designed to fit woodworking tool requirements.	C.M.T. P.T.F.E. coating provides a non-stick surface preventing resin, glue or sludge residue accumulation on the bit body. Baked at 420°, this unique industrial material is specifically designed to fit woodworking tool requirements.
PRICE RANGE	HIGH	MEDIUM/HIGH	MEDIUM	MEDIUM



20X
LONGER LIFE
THAN CARBIDE

317

PCD DP **LONG LIFE** Z2 V2 RH LH

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

20X
LONGER LIFE
THAN CARBIDE

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:

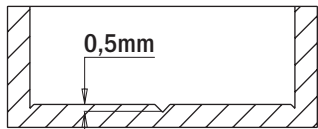
- Premium quality strength steel.
- DP balanced centre point 0,5mm.
- 2 DP ground cutting edges [Z2] + 2 DP negatively ground spurs [V2].
- Parallel shank with driving flat and length adjusting screw.

Spare parts 990.003.00 Optional 990.088.00

APPLICATION:

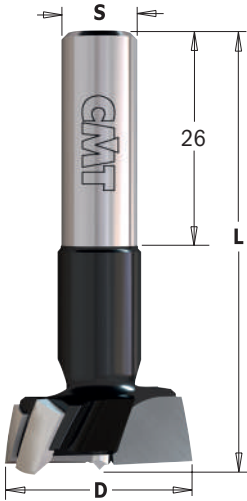
use for drilling accurate and clean-cut blind holes in wood composites, plastic and laminated materials. **Ideal for hinges.** For use on boring machine equipped with adaptors and/or chucks. Boring performance 20 times longer than HW materials.

REMARK: special dimensions available on request.

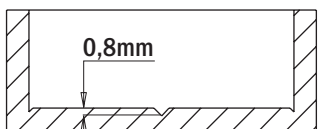
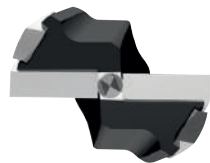


New construction with 0,5mm centre point

Hinge Boring Bits



XTREME SHARPENING CURVED SPURS



New construction with 0,8mm centre point

317 XTREME

HW Z2 V2 RH LH

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

HW Z2 V2 RH LH

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:

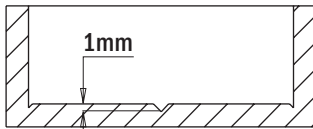
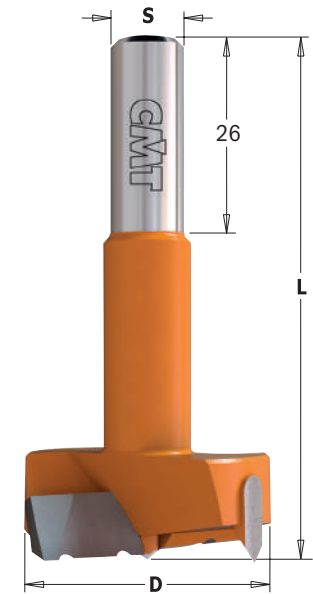
- Premium quality strength steel.
- Balanced centre point 0,8mm.
- 2 ground cutting edges [Z2] + 2 negatively ground spurs [V2].
- Orange or black P.T.F.E. coating.
- Parallel shank with driving flat and length adjusting screw.

Spare parts 990.003.00 Optional 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.

Hinge Boring Bits with Chipbreaker



New construction with 1mm centre point

317C



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

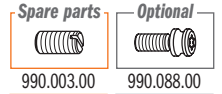
369C



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

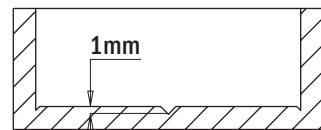
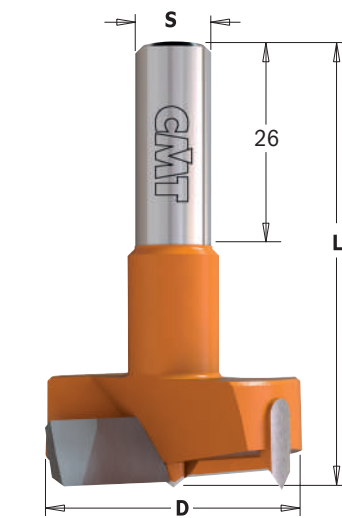
TECHNICAL DETAILS:

- Premium quality strength steel.
- Balanced centre point 1mm.
- 2 ground cutting edges with chipbreaker [Z2R] + 2 negatively ground spurs [V2].
- Orange or black P.T.F.E. 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.
- Balanced centre point 1mm.
- 2 ground cutting edges [Z2]
- + 2 negatively ground spurs [V2].
- Orange or black P.T.F.E. 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

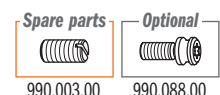


D mm	L mm	S mm		ORDER NO. Right-hand rotation	ORDER NO. Left-hand rotation
14	70	10x26	10	369.140.11	369.140.12
15	70	10x26	10	369.150.11	369.150.12
16	70	10x26	10	369.160.11	369.160.12
18	70	10x26	10	369.180.11	369.180.12
20	70	10x26	10	369.200.11	369.200.12
22	70	10x26	10	369.220.11	369.220.12
25	70	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

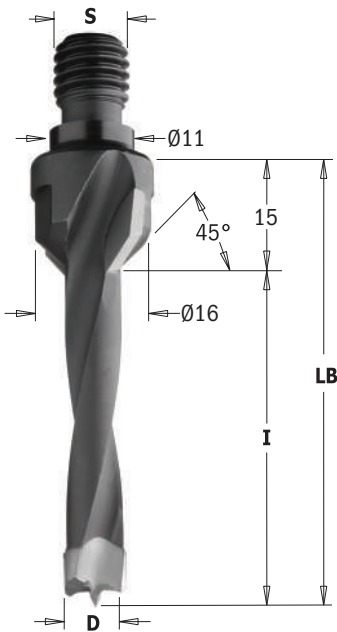
370



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



Dowel Drills with Threaded Shank with Countersink



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.
- Balanced centre point.
- 2 countersink cutting edges at 45°.
- Orange or black P.T.F.E. 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.
- Balanced centre point.
- Orange or black P.T.F.E. 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



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



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.
- Balanced centre point.
- Orange or black P.T.F.E. 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



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.
- Balanced centre point.
- Orange or black P.T.F.E. coating.

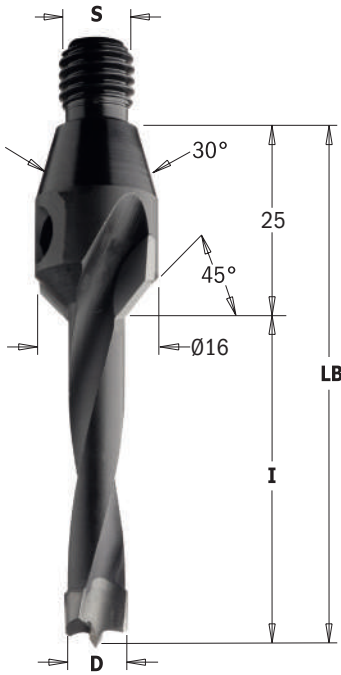
APPLICATION:

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



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

On request

TECHNICAL DETAILS:

- Premium quality strength steel body.
- High quality HW tip.
- 2 cutting edges [Z2] + 2 negatively ground spurs [V2].
- 2 spiral flutes.
- Balanced centre point.
- 2 countersink cutting edges at 45°.
- Orange or black P.T.F.E. 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



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

On request

TECHNICAL DETAILS:

- Premium quality strength steel body.
- High quality HW tip.
- 2 cutting edges [Z2] + 2 negatively ground spurs [V2].
- 4 spiral flutes.
- Balanced centre point.
- Orange or black P.T.F.E. 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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