Processing challenging materials accurately with the Nonwood End Mill Program by Aigner

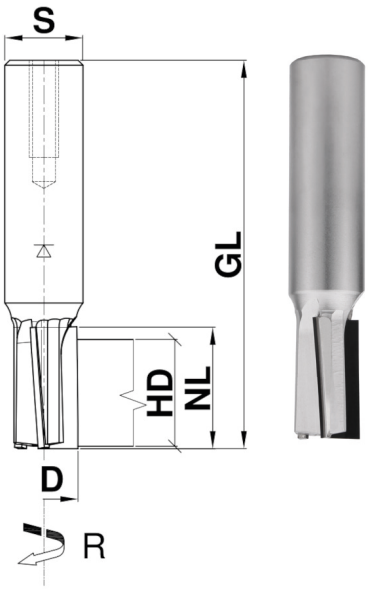
Aigner

PRECISION IN BEST TIME

DP MILLING TOOL PROGRAM FOR NOONWOOD MATERIALS

Nonwood and recycling materials are becoming increasingly important in CNC machining. For example, compact panels quickly push users to their limits in milling operations, both in terms of tool and machine capabilities. Everyone is familiar with quickly dulling and burning machining tools, which result in high maintenance costs or even tool breakage. Proper parameterization and a perfectly developed tool program provide a solution here and help to reduce costs. Aigner offers customer-oriented milling tools for console machines and CNC nesting systems. The fact that Aigner customers also opt for environmentally friendly and sustainable production when purchasing these products is just an added bonus.

C863-1 DP-Shank Grooving Cutter Finishing Nonwood Z3+Q



The DIA finishing cutter is used for the fine joining or finishing of compact panels in two passes (with a preceding rough milling pass). This type of milling cutter was specially developed for joining operations that require an outstanding edge finish. The standard version of the DIA finishing cutter is already equipped with a Densimet heavy metal tool body, which enables vibration-damped milling. The DIA quality is specially adapted to abrasive materials and guarantees extremely economical milling. A front cutting edge that goes to the center of the tool and two alternating cutting edges on the circumference enable flying or spiral plunging into the material. The feed speeds can vary between 5 and 12 m/min depending on the type of machining. Joining operations range from 0.5 to a maximum of 2.0 mm for rather hard materials and can be optimally adjusted with feed and speed depending on the quality requirements.

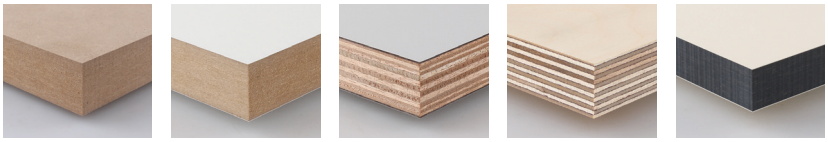
Design:
Support body material: Densimet; with DP cutting edge Z3+Q; can be resharpened 2-3x; optimized cutting edge geometry with finishing profile for a smooth edge finish; shank fit h6

Application:
Grooving, fine jointing, suitable for use on nesting systems and console CNCs, suitable for routing turbines, for processing MDF, ply materials and HPL compact panels

Application speed range: 16000-18000 rpm; feed range: 5-12 m/min

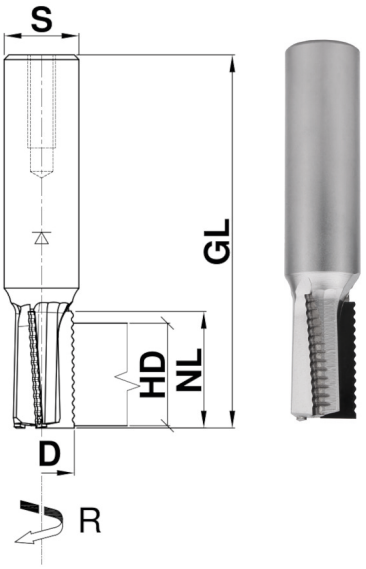
Article no.	D	NL	GL	HD	S	Z	LR	N-MAX	MS
C863-1142516R	14	25	80	22	16	3	R	24000	
C863-1142516R-M1	14	25	80	22	16	3	R	24000	M1
C863-1142516R-M2	14	25	80	22	16	3	R	24000	M2

Optionally assembled (MS):
Assembled in shrink chuck HSK-F 63 (C915): ...-...-M1
Assembled in collet chuck HSK-F 63 (C910): ....-...-M2



PRECISION IN BEST TIME

C863-2 DP-Shank Grooving Cutter Roughing Noonwood Z3+Q



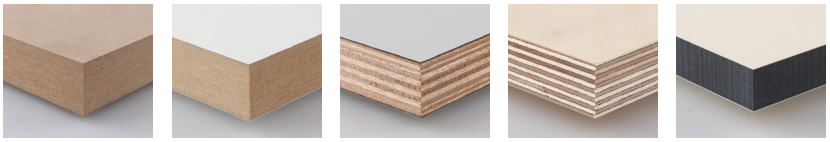
To process compact panels in two steps (with subsequent finishing milling) is arguably the most efficient method for machining hard materials on a CNC machine. The new DIA roughing and grooving cutter can handle complete parting cuts or jointing operations with extensive machining in record time! The standard version of the roughing end mill is already equipped with a Densimet heavy metal support body, which enables vibration-damped milling. The DIA quality is specially designed for abrasive materials and guarantees extremely economical milling. A front cutting edge that goes to the center of the tool and two alternating cutting edges on the circumference result in a combination that enables plunging milling strategies and all types of formatting milling passes. Depending on the type of machining, feed rates of 5-12 m/min can be set.

Design:
Support body material: Densimet; with DP cutting edge Z3+Q; 2-3x resharpenable; optimized cutting edge geometry with roughing profile for better chip removal; shank fit h6

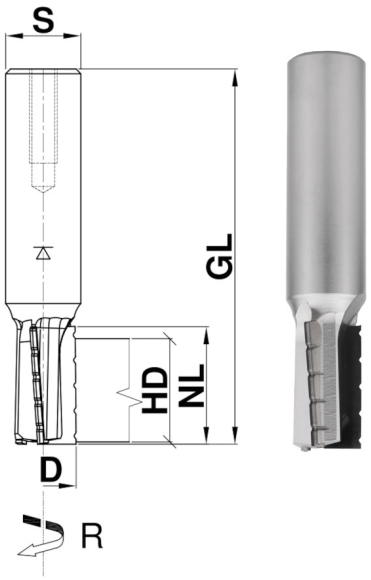
Application:
Grooving, rebating, formatting, suitable for use on nesting systems and console CNCs, suitable for milling turbines, for processing MDF, ply materials and HPL compact panels
Application speed range: 16000-18000 rpm; feed rate range: 5-12 m/min

Article no.	D	NL	GL	HD	S	Z	LR	N-MAX	MS
C863-2142516R	14	25	80	22	16	3	R	24000	
C863-2142516R-M1	14	25	80	22	16	3	R	24000	M1
C863-2142516R-M2	14	25	80	22	16	3	R	24000	M2

Optionally assembled (MS):
Assembled in shrink chuck HSK-F 63 (C915): ...-...-M1
Assembled in collet chuck HSK-F 63 (C910): ....-...-M2



C863-3 DP-Shank Grooving Cutter Roughing/Finishing Nonwood Z3+Q



The strength of the DIA roughing/finishing end mill lies in its ability to machine compact panels in a single operation (without a roughing/milling pass). Whether cutting or jointing, the DIA slot milling cutter masters both in top time! The standard version of the roughing/finishing end mill is already equipped with a Densimet heavy metal tool body, which enables vibration-damped milling. The DIA quality is specially adapted for abrasive materials and guarantees extremely economical milling. A front cutting edge that goes to the center of the tool and two alternating cutting edges on the circumference result in a combination that enables plunging milling passes and all types of formatting operations. The feed speeds can vary between 5 and 12 m/min depending on the type of machining. Depending on quality requirements, higher speeds can also be used for joining operations in the 0.5-2.0 mm range.

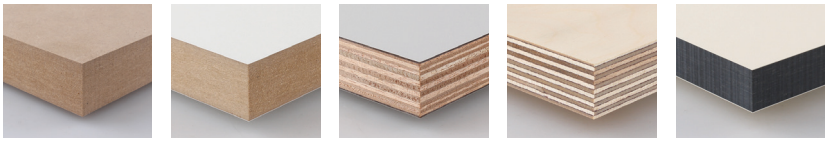
Design:
Support body material: Densimet; with DP drill cutting edge Z3+Q; 2-3x resharpenable; optimized cutting edge geometry with roughing/finishing profile for better chip removal; shank fit h6

Application:
Grooving, joining, rebating, formatting, suitable for use on nesting systems and console CNCs, suitable for routing turbines, for processing MDF, ply materials and HPL compact panels

Application speed range: 16000-18000 rpm; feed rate range: 5-12 m/min

Article no.	D	NL	GL	HD	S	Z	LR	N-MAX	MS
C863-3142516R	14	25	80	22	16	3	R	24000	
C863-3142516R-M1	14	25	80	22	16	3	R	24000	M1
C863-3142516R-M2	14	25	80	22	16	3	R	24000	M2

Optionally assembled (MS):
Assembled in shrink chuck HSK-F 63 (C915): ...-...-M1
Assembled in collet chuck HSK-F 63 (C910): ....-...-M2



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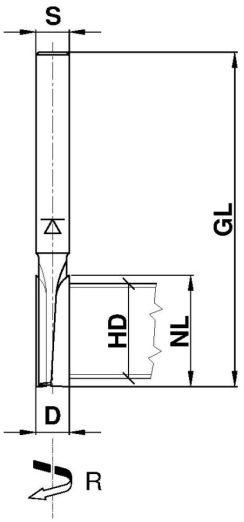
PRECISION IN BEST TIME

C437 DP-router cutter with continuous cutting edge

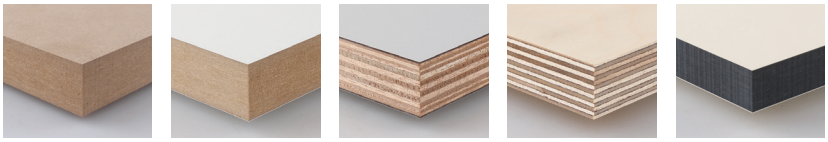


With the C437 DIA grooving cutter, a continuous Z2 design is possible even with a small milling diameter. Drilling is also possible thanks to the existing base cutting edge with a low feed rate, the correct plunging strategy and the application parameters. With a small tool diameter of 5 and 6 mm, you should be aware of the increased risk of breakage and always mill with the correct insert parameters.

Design:
Solid carbide support body, shank fit h6, with DP cutting edge Z2+B, two peripheral cutting edges, one of which leads with axis angle at the top, can be resharpened 1 to 4 times depending on diameter, optimized chip spaces for better chip collection

Application:
Grooving, joining, formatting (cut-off milling) suitable for use on nesting systems and console CNCs. Application: Speed range 16000-24000 rpm, feed range: 0.5-10 m/min, please refer to the reference value table

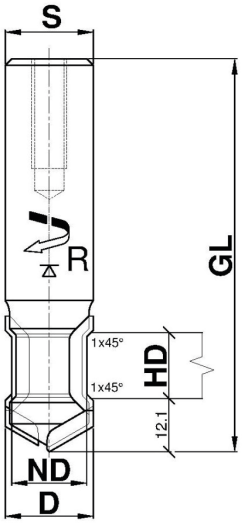
Article no.	D	NL	GL	HD	S	Z	LR	VA	N-MAX
C437-0510R	5	10	50	7	6	2	R	MAN/MEC	24000
C437-0515R	5	15	60	12	6	2	R	MAN/MEC	24000
C437-0610R	6	10	50	7	6	2	R	MAN/MEC	24000
C437-0615R	6	15	60	12	6	2	R	MAN/MEC	24000
C437-0620R	6	20	60	17	6	2	R	MAN/MEC	24000
C437-0810R	8	10	55	7	8	2	R	MAN/MEC	24000
C437-0815R	8	15	65	12	8	2	R	MAN/MEC	24000
C437-0820R	8	20	70	17	8	2	R	MAN/MEC	24000
C437-0825R	8	25	75	22	8	2	R	MAN/MEC	24000
C437-0830R	8	30	80	26	8	2	R	MAN/MEC	24000
C437-1015R	10	15	65	12	10	2	R	MAN/MEC	24000
C437-1015L	10	15	65	12	10	2	L	MAN/MEC	24000
C437-1020R	10	20	70	17	10	2	R	MAN/MEC	24000
C437-1020L	10	20	70	17	10	2	L	MAN/MEC	24000
C437-1025R	10	25	75	22	10	2	R	MAN/MEC	24000
C437-1025L	10	25	75	22	10	2	L	MAN/MEC	24000
C437-1030R	10	30	80	26	10	2	R	MAN/MEC	24000
C437-1030L	10	30	80	26	10	2	L	MAN/MEC	24000
C437-1225R	12	25	75	22	12	2	R	MAN/MEC	24000
C437-1225L	12	25	75	22	12	2	L	MAN/MEC	24000
C437-1230R	12	30	80	26	12	2	R	MAN/MEC	24000
C437-1230L	12	30	80	26	12	2	L	MAN/MEC	24000
C437-1235R	12	35	85	31	12	2	R	MAN/MEC	24000



Additional dimensions available in the online catalog or on request for your machine type!

Optionally assembled (MS):
Assembled in shrink chuck HSK-F 63 (C915): ...-...-M1

C860-2 DP-Jointing/chamfering/boring tool for HPL



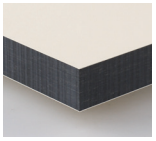
Combining drilling, chamfering and joining in one tool can actually work! With the DIA profile router C860-2, compact panels are drilled, joined without offsets and chamfered at the same time. An ideal routing tool for producing cable apertures or for routing sockets or openings in HPL milled parts. Of course, lateral jointing operations up to a maximum panel thickness of 15 mm can also be carried out on the milled part. With a slim diameter of just 20 mm, openings in the workpiece are possible in the tightest of spaces!

Design:
Support body in steel; with DP cutting edge Z2 + 2BS; resharpenable 4-6x; Optimized cutting edge geometry for better chip removal; shank fit h6

Application:
Drilling, joining, chamfering suitable for use on console CNCs, HPL compact panels. Application speed range: 16000-18000 rpm; feed rate range: 5-10 m/min for joining and chamfering, reduce speed to max. 5000-9500 rpm when drilling. Drilling feed: 1-2m/min

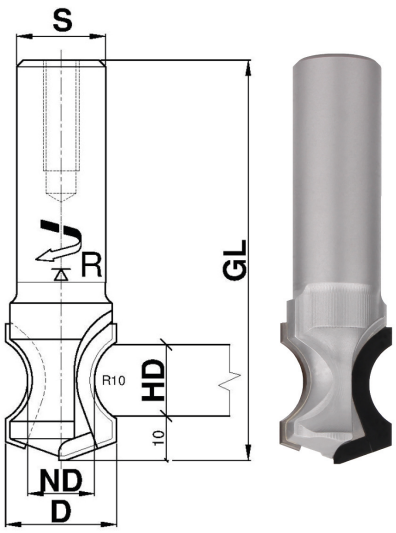
Article no.	D	ND	GL	HD	S	Z	LR	N-MAX	MS
C860-215R	20	17	90	15	20	2+2	R	24000	
C860-215R-M1	20	17	90	15	20	2+2	R	24000	M1
C860-215R-M2	20	17	90	15	20	2+2	R	24000	M2

Optionally assembled (MS):
Assembled in shrink chuck HSK-F 63 (C915): ...-...-M1
Assembled in collet chuck HSK-F 63 (C910): ....-...-M2



PRECISION IN BEST TIME

C860-3 DP-Jointing/rounding/boring tool for HPL



Combining drilling, chamfering and profiling in one tool actually works! With the DIA profile cutter C860-3, compact panels are drilled and simultaneously profiled with a radius of 10 mm. An ideal routing tool for the production of sanitary elements on the BAZ or for routing openings, with subsequent profiling of the HPL milled parts. Of course, lateral rounding (joining) with a radius of 10 mm up to a maximum panel thickness of 16 mm can also be carried out on the milled part. With a slim diameter of just 25 mm, openings in the workpiece can be milled in the tightest of spaces!

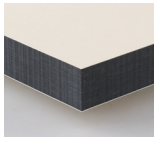
Design:
Support body in steel; with DP cutting edge Z2 + 2BS; resharpenable 4-6x;
Optimized cutting edge geometry for better chip removal; shank fit h6

Application:
Drilling, joining/rounding suitable for use on console CNCs, HPL compact panels.

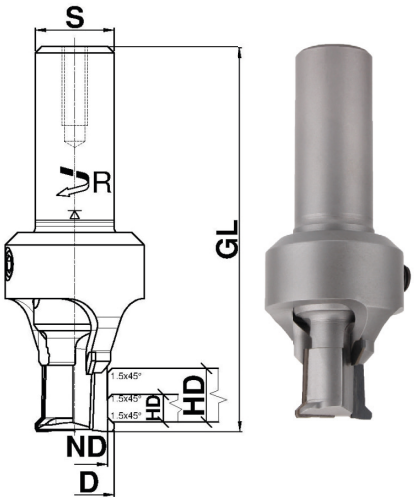
Application speed range: 16000-18000 rpm; feed rate range: 5-10m/min profiling, reduce speed to max. 5000-9500 rpm when drilling. Drilling feed: 1-2m/min

Article No.	D	ND	GL	HD	S	Z	LR	N-MAX	MS
C860-31016R	25	15	90	16	20	2	R	24000	
C860-31016R-M1	25	15	90	16	20	2	R	24000	M1
C860-31016R-M2	25	15	90	16	20	2	R	24000	M2

Optionally assembled (MS):
Assembled in shrink chuck HSK-F 63 (C915): ...-...-M1
Assembled in collet chuck HSK-F 63 (C910): ....-...-M2



C860-4 DP-Jointing/chamfering tool adjustable for HPL



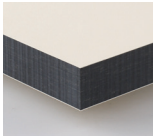
Probably the smallest adjustable DIA jointing chamfer end mill in the world! With an adjustment scale, this PCD-tipped jointing chamfer end mill can be set to a thickness range of 8.8-17.1 mm for different material thicknesses. Thanks to the adjustability, the workpieces can be joined and chamfered at the top and bottom at the same time in a single operation. As this all-rounder is equipped with a drill cutting edge, the cutter can also be used perfectly for cut-outs required for sockets or cable sockets.

Design:
Steel body; with DP drill cutting edge Z2+BS; 2-4x resharpenable; optimized cutting edge geometry for better chip removal; shank fit h6

Application:
Joining/ chamfering suitable for use on console CNCs, HPL compact panels.
Speed range 12000-18000 rpm; feed range: 5-10 m/min profiling, reduce speed to max. 5000-9500 rpm when drilling. Drilling feed: 1-2 m/min

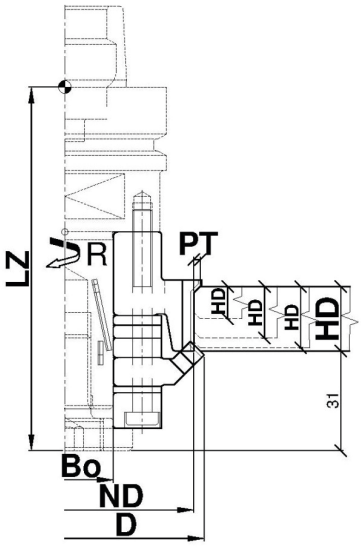
Article no.	D	ND	GL	HD	S	Z	LR	N-MAX	MS
C860-425R	25	20.8	122	8.8-17.1	25	2	R	20000	
C860-425R-M1	25	20.8	122	8.8-17.1	25	2	R	20000	M1
C860-425R-M2	25	20.8	122	8.8-17.1	25	2	R	20000	M2

Optionally assembled (MS):
Assembled in shrink chuck HSK-F 63 (C915): ...-...-M1
Assembled in collet chuck HSK-F 63 (C910): ....-...-M2



PRECISION IN BEST TIME

C860-5 DP-Jointing/chamfering tool adjustable for HPL



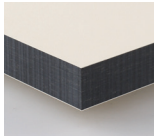
Our C860-5 represents the reference class among the DIA jointing cutter systems on a milling arbor. This type of router can also be used to set a thickness range of 10.0-20.0 mm for different material thicknesses when routing joints (especially for HPL panels). Thanks to the adjustment option, the workpieces can be joined and chamfered at the top and bottom at the same time in a single operation. Thanks to its stable and precise design, the drilling tool on a milling arbor allows fast feed rates in very hard materials and achieves the best results in terms of surface quality.

Design:
Support body in steel with adjusting ring set; Z3; can be resharpened 4-6x; optimized cutting edge geometry for better chip removal; available in various arbor lengths;

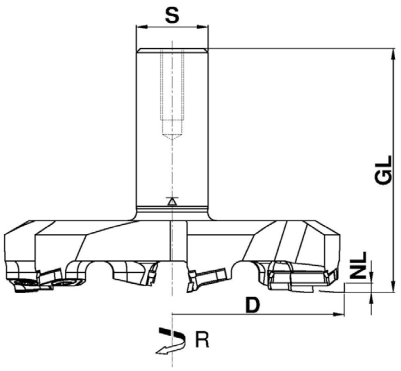
Application:
Joining / chamfering suitable for use on console CNCs, HPL compact panels. Application speed range: 10000-15000 rpm; feed range: 5-12m/min profiling.

Article no.	D	ND	PT	HD	LZ	BO	Z	LR	N-MAX	MS
C860-5	86.5	80	2	10-20		30	3	R	15000	
C860-5-F1	86.5	80	2	10-20	113	30	3	R	15000	F1
C860-5-F2	86.5	80	2	10-20	148	30	3	R	15000	F2

Optionally assembled (MS):
Assemled on milling arbor HSK-F 63 (C905-4530xx): ...-...-F1
Assemled on milling arbor HSK-F 63 (C905-8030xx): ....-...-F2



C181 DP-Planing cutter Konstantin® for CNC



Our Konstantin® face milling cutter also works absolutely excellently in non-wood materials! Equipped with the Konstantin® interchangeable cutting edge system, optionally in Z3 or Z6 design, this milling cutter enables the user to precisely face mill plastics and even HPL panels. With an infeed depth of up to 3.0 mm, fast milling processes are guaranteed. Two different diameters in 80 and 120 mm are available for your CNC. With the right cutting parameters, the best processing results can be achieved very economically. As the customer can carry out the changing process themselves, no replacement tools are required!

Design:
Support body in steel; Z3 or Z6 design optionally possible through the use of blind blades; optimized cutting edge geometry for better cutting; available in various diameters;

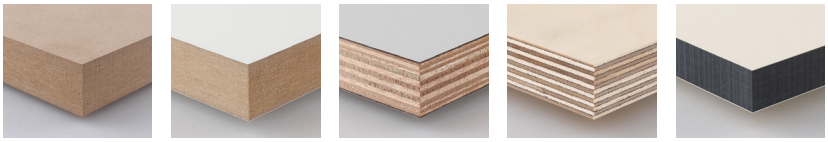
Application:
Face milling suitable on nesting systems or console CNCs, HPL compact boards, MDF, HDF, multiplex
Speed range depending on diameter: 13000-18000 rpm; feed range depending on number of teeth: 12-15 m/min
Attention: Ensure a small web overlap, maximum 5-10 mm!

Article no.	D	NL	GL	S	Z	LR	N-MAX	MS
C181-080325	80	3.3	85	25	3	R	18000	
C181-080325-M1	80	3.3	85	25	3	R	18000	M1
C181-080325-M2	80	3.3	85	25	3	R	18000	M2
C181-120325	120	3.3	85	25	3	R	13000	
C181-120325-M1	120	3.3	85	25	3	R	13000	M1
C181-120325-M2	120	3.3	85	25	3	R	13000	M2

Optionally assembled (MS):
Assembled in shrink chuck HSK-F 63 (C915): ...-...-M1
Assembled in collet chuck HSK-F 63 (C910): ....-...-M2

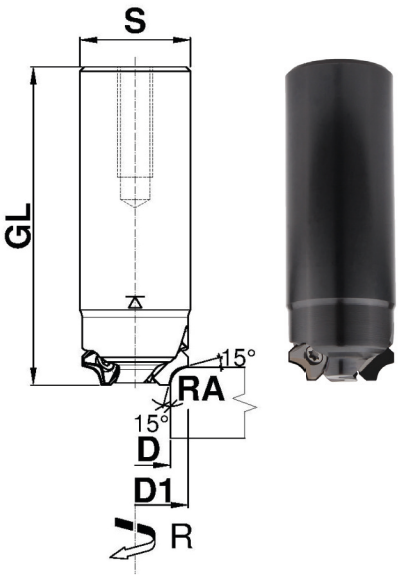
SPAREPARTS

Article no.	Description
KW.93706.4-14	Clamping screw - M6 x 14 / Torx 25
KW.21723.7/B02	DP-cross cutting knife
04.12736.7	Dummy knife „System - Konstantin“
C986-D315	Torque wrench 3-15Nm



PRECISION IN BEST TIME

C165-4 DP-Radius/Bevelling cutter „Konstantin®-Mini“ R1-R4 for CNC



The ability to perform rounding and chamfer milling with a single support body exemplifies the attributes of our C165-4. A milling tool from the Konstantin® series enables Aigner customers to produce extremely cost-effectively with various profile knives in DIA design! Radius profile knives from R1-R4 and a chamfer knife with 45° chamfer offer a wide range of options for a wide variety of routing operations in panel materials. In short, the Aigner torque wrench enables ultra-fast knife changes. No need to keep several tools in stock and save costs!

Design:
Support body in steel design; Z2 ; Konstantin® Mini System integrated;
Optimized cutting edge geometry for better chip removal; shank fit h6

Application:
Chamfering/rounding suitable for use on console CNCs or nesting systems, HPL compact panels.
Application speed range: 16000-24000 rpm; feed range: 2-8m/min profiling

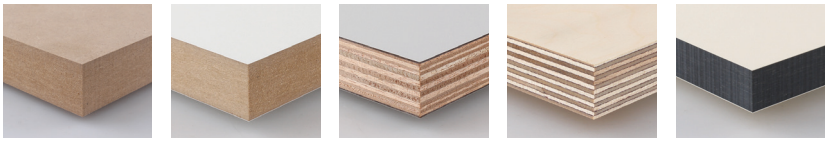
Article no.	D	D1	GL	S	Z	RA	G	R	N-MAX	MS
C165-4167220R	16	24	72	20	2	R2	R1-R4/Fase	R	24000	
C165-4167220R-M1	16	24	72	20	2	R2	R1-R4/Fase	R	24000	M1
C165-4167220R-M2	16	24	72	20	2	R2	R1-R4/Fase	R	24000	M2
C165-4167225R	16	24	72	25	2	R2	R1-R4/Fase	R	24000	
C165-4167225R-M1	16	24	72	25	2	R2	R1-R4/Fase	R	24000	M1
C165-4167225R-M2	16	24	72	25	2	R2	R1-R4/Fase	R	24000	M2

Optionally assembled (MS):
Assembled in shrink chuck HSK-F 63 (C915): ...-...-M1
Assembled in collet chuck HSK-F 63 (C910): ....-...-M2

SPAREPARTS

Article no.	Description
KW.21679.7/B25	Replaceable knife R1.0 (Option)
KW.21680.7/B25	Replaceable knife R1.3 (Option)
KW.21681.7/B25	Replaceable knife R1.5 (Option)
KW.21682.7/B25	Replaceable knife R2.0
KW.21683.7/B25	Replaceable knife R2.5 (Option)

KW.21684.7/B25	Replaceable knife R3.0 (Option)
KW.24151.7/B25	Replaceable knife R4.0 (Option)
KW.22331.7/B25	Replaceable knife (Option)
KW.15714.7	Countersunk screw M3x6 T10



DP milling tools from Aigner with many advantages:

- High performance thanks to optimized chip spaces and adapted cutting shapes
- Base body in Densimet design if required
- Optimum diamond grades for abrasive materials
- Extremely economical due to long tool life
- Noise-reduced milling

Sustainable milling tools with savings potential

- Sustainable and environmental friendly production with solar power, etc.
- Quality: Made in Austria
- Power consumption optimized tool geometries for energy savings
- Konstantin® cutting edge replacement instead of throwing away the tool body at the end of its service life

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Aigner
PRECISION IN BEST TIME