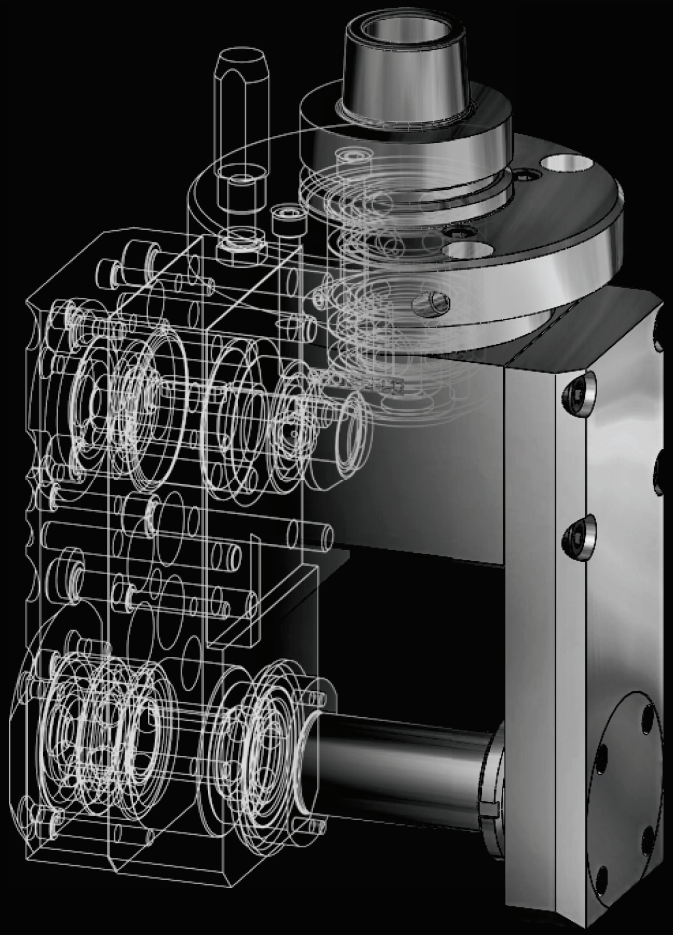
GROTEFELD

The driving force.



GROTEFELD

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Item group 03

CNC-aggregates

for the woodworking, plastics processing and aluminium processing industries and for the trades

The driving force.

GROTEFELD

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Our sortiment contains the following Item groups.:

01 drilling units, drilling spindles, driving units, multi spindle drilling gears, sawing-, milling units and milling spindles

03 aggregates, tracing units, drive adapter

09 drilling gears with preadapted spindles and slewing units

Withins these catalogues you will find our standard program, which will match a couple of demands. It is not a rareness, to have some special demands, which we are able to solve. Just contact us.

Our products correspond to the national and to the CE-regulations 89/392/EWG, enclosure II B, for machines to installed into.

With our products we offer high-tech solutions and we would be proud to come in a business partnership with you.

We pursue our goal, producing high quality machining for the woodworking-, plastic- and aluminium Industry since over 50 years. We started the company in developing and producing complete machines for the woodworking industry.

Also in this time we started with developing and producing angular units for those machines and for CNC routers. Even with direct customers contact, machinery leaders and users all over the world GROTEFELD became a well known status as specialist and partner. GROTEFELD aggregates solve a variety of tasks and applications due to high precision, uncomprisingly quality, great engineering and durability. For every application there is the right aggregate. Economically advantageous use is coupled with a fair price.

This is the catalogue for GROTEFELD angular heads, tracing spindles and adapters. We want to give you a well done, clear and sifnificant working sheet, which is done without unnecessary words and phrases in order to give you technical information.

Dear Reader,

as you know, even the best technology is subject to a constant process of further development and change, but we will keep you up-to-date with the latest state of the art. This catalogue provides an insight into our product range.

This catalogue is intended as a source of ideas, not as a list of article numbers. It is designed to arouse your interest in the wealth of varieties in which our products are available and to give you some idea of just what can be achieved today. Let us advise you. One thing you can be sure of is that we will also find a technically and economically optimum solution for you, too.

For more than 50 years we have carried the GROTEFELD philosophy in our hearts. We live, think and breathe GROTEFELD. And we are proud of the results.

We produce almost everything ourselves with our ultra-modern machinery, for the quality of the end-product is decisive. And that encompasses everything from engineering design (3D-CAD systems) through manufacture (CNC machines) to assembly. Our vertical integration is now over 90%. Only DIN parts, such as screws and bolts, ball bearings and electric motors, are still purchased as merchandise from selected premium suppliers.

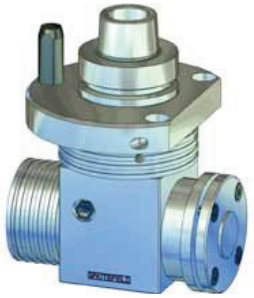
Our quality control department is equipped with the very latest measuring instruments and test benches which we have developed ourselves in order to guarantee the outstanding quality of our products.

In addition, we offer a service ensuring that your production process runs smoothly and safeguards your investments.

Our experience forms the basis for your success in the long term. Make use of our capacities!

Best regards,

Carsten Clauder



W01
angular sawing heads

The angular sawing head series W01 have one machining spindle. The receptacle is a sawing- or nut milling receptacle. The spindle turning direction of the receptacle is opposite to the drive turning direction. The drive speed is transmitted in a ratio of 1:1,55 to the tool receptacles. A maximum spindle speed of 10,000 rpm in interval operation is possible.

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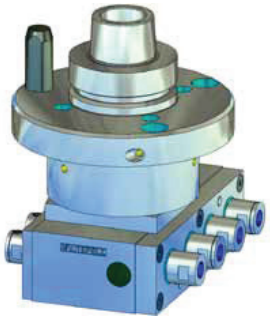

W04
angular heads

The angular drilling head series W04 can be equipped on two opposite sides with up to 5 horizontal drilling spindles. The spindle distance can be from minimum 21,5 up to maximum 32,0 mm. The spindle turning direction is according to the number and position of the spindles R.H./L.H. The drive speed is transmitted in a ratio of 1:1. A maximum spindle speed of 6.000 rpm is possible in the permanent operation.

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G03
angular heads

The angular heads of the series G03 are equipped with up to 4 processing spindles. The spindle turning direction of all tool receptacles is always equal to the drive turning direction. The drive speed is transmitted in a ratio of 1:1,55 to the tool receptacles. A maximum spindle speed of 18,000 rpm in interval operation is possible.

Page 16

G06-1.1
angular heads

The angular heads of the series G06-1.1 have a continuous machining spindle. The drive speed is transmitted in a ratio 1:1,55 to the tool receptacles. There is a maximum spindle speed of up to 20,000 rpm in the interval operation.

Page 30

G06-1.2
angular heads

The angular heads of the series G06-1.2 have a continuous machining spindle with two tool receptacles. One of the receptacles is turning equal to the drive turning direction, the other is turning opposite to the drive turning direction. Different from the G10 housing type, no further spindles can be put in the G06 casing type. The drive speed is transmitted in a ratio 1:1,55 to the tool receptacles. The maximum spindle speed in interval operation is 20,000 rpm.

Page 34

G07
angular heads

The angular heads of the series G07 offer you the possibility to choose an angular head with a fixed spindle position between 10° bended up and up to 10° bended down. In the two-spindle-execution the 180° opposite tool receptacle may have an other angle than the other tool receptacle. The determined angle cannot be modified afterwards. The spindle turning direction is opposite to the drive turning direction. The drive speed is transferred to the tool receptacles in a ratio of 1:1. A maximum spindle speed of 18,000 rpm in interval operation is possible.

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W09
angular heads

The angular heads of the series W09 offer you the possibility to choose an angular head with a fixed spindle position between 10° bended up and up to 10° bended down. The determined angle cannot be modified afterwards. The spindle turning direction is right / left. The drive speed is transferred to the tool receptacles in a ratio of 1:1. A maximum spindle speed of 6,000 rpm is possible in permanent operation is possible.

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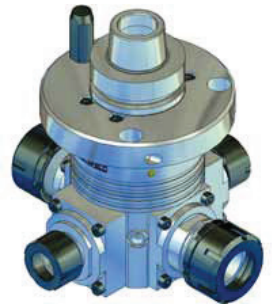

G10
angular heads

The angular heads of the seriers G10 are equipped with a continuous processing spindle with two possibly different tool receptacles. Therefore the spindle turning direction of one of the two tool receptacles is equal to the drive turning direction, the spindle turning direction of the other tool receptacle is opposite to it. The other existing processing spindles are arranged in an angle of 90° to the continuous processing spindle. The spindle turning direction of these tool receptacles is always equal to the drive turning direction. The drive speed is transferred in a ratio of 1:1,55 to the tool receptacles. A maximum spindle speed up to 18.000 rpm while interval operation is possible.

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G10-4.5
angular heads

The angular heads of the seriers G10-4.5 are equipped with a continuous processing spindle with two possibly different tool receptacles. Therefore the spindle turning direction of one of the two tool receptacles is equal to the drive turning direction, the spindle turning direction of the other tool receptacle is opposite to it. The other existing processing spindles are arranged in an angle of 90° to the continuous processing spindle. The spindle turning direction of these tool receptacles is always equal to the drive turning direction, that of the lower spindle opposite to the drive direction. The drive speed is transferred in a relation of 1:1,55 to the tool receptacles. A maximum spindle speed up to 18.000 rpm while interval operation is possible.

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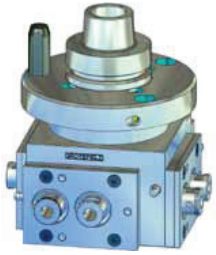

W11
angular heads

The angular heads of the series W11 can be equipped with up to two tool receptacles on all 4 sides. The spindle distance can be minimum 21,5 up to maximum 32,0 mm. The spindle turning direction is according to the number and position of the spindles R.H./L.H. The drive speed is transferred to the tool receptacles in a relation of 1:1,55. A maximum spindle speed of 6.000 rpm in permanent operation is possible.

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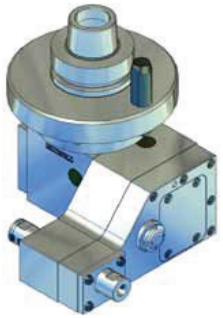

W12
angular heads

The angular heads of the series W12 are equipped with a continuous processing spindle with two tool receptacles. Therefore the spindle turning direction of one of the two tool receptacles is equal to the drive turning direction, the spindle turning direction of the other tool receptacle opposite to it. The drive speed is transferred in a relation of 1:2,25 to the tool receptacles. A maximum spindle speed of 9.000 rpm in permanent operation is possible.

Page 54

G15
angular heads

The angle heads of the G15 series are used as edge notching aggregate. The drive speed is transmitted in the ratio 1:1,55 on the tool receptacles. A maximum spindle speed of up to 12,000 rpm is possible in interval operation.

Page 56

G16
angular heads

The angular heads of the series G16 are especially designed for the processing of case lock millings. The housing is cranked so that a small partial circle is achieved with mounted long tool. They are equipped with continuous processing spindles with max. two opposite tool receptacles. Therefore the spindle turning direction of one of the two tool receptacles is equal to the drive turning direction, whereas the spindle turning direction of the other tool receptacle is opposite to it. The drive speed is transferred to the tool receptacles in a relation of 1:2,248. The maximum spindle speed is 12.000 rpm in permanent operation, in interval operation the max. spindle speeds is 15.000 rpm.

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W17
angular heads

The angular heads of the series W17 are equipped with one processing spindle which can be arranged in a determined angle in the area from 0° (horizontally) up to 90° max. (vertically). The determined angle cannot be modified afterwards. The spindle turning direction is opposite to the drive turning direction. The drive speed is transferred to the tool receptacles in a ratio of 1:1. With regard to the type W17-1.2-SB the spindle can be arranged with a sawing and drilling receptacle according to the above mentioned indications. A maximum spindle speed of 18.000 rpm in interval operation is possible.

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W19
angular heads

The angular heads of the series W19 were developed as processing heads for processing of work piece edges and today they are a particular small sized and light type series. They are equipped with a continuous processing spindle with two possibly different tool receptacles 180° opposite towards each other. Therefore the spindle turning direction of one of the two tool receptacles is equal to the drive turning direction, the spindle turning direction of the other tool receptacle is opposite to it. The drive speed is transferred in a ratio of 1:1 to the tool receptacles. A maximum spindle speed of 12.000 rpm in permanent operation is possible.

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G25
angular heads

The angular milling heads G25 have a machining spindle continuously adjustable by scale. The adjustment range is 0° (vertical) up to 100° to both sides. The spindle turning direction is opposite to drive turning direction. The drive speed is transmitted in a ratio of 1:2,06 to the Collet receptacle and 1:1,48 to the Sawing receptacle. The maximum spindle speed is 18,000 rpm in interval operation.

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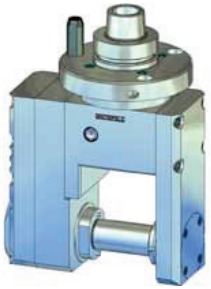

G30
angular heads

The angular heads of the series G030 are especially designed for milling of horizontal surfaces. The casing is equipped with one processing spindle for receptacle of tools with an aluminium base. The spindle turning direction of the tool receptacles is opposite to the drive turning direction The drive speed is transferred to the tool receptacle in a ratio of 1:1,29. A maximum spindle speed of 12.000 rpm in interval operation is possible.

Page 68

W56
angular milling heads

The angular milling heads W56 are equipped with a machining spindle, which can be arranged according to a fixed predetermined angle from 15 ° up to a maximum of 31 ° downward. The predetermined angle can not be changed later. The spindle turning direction is opposite to drive turning direction. The drive speed is transferred in the ratio 1:2,06 tool receptacle. A maximum spindle speed of 16,000 rpm in the interval operation is possible.

Page 70

G200W
angular heads

The underfloor drilling milling aggregate G200 is due to its design conceived for drilling or milling the bottom side of workpieces. The spindle turning direction of the tool receptacle is opposite to the drive turning direction. The drive speed is transferred in a ratio of 1:1 to the tool receptacle. The maximum spindle speed is 12,000 rpm in interval operation. The dimensions are variable and can be created on almost any size you want.

Page 72

UNI1-SV
drilling unit

The drilling gears of the series UNI1-SV can be produced with spindle distances A≥20 mm. During the construction was attempted to keep the speed gap between the spindles as low as possible. If possible the drive speed is transmitted in a ratio of 1:1. At different spindle distances within a drilling gear it is often necessary to vary the speeds of the individual spindles because of different gears. The maximum spindle speed is 10,000 rpm in permanent operation.

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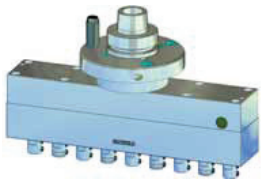

DPL
drilling unit

The multi-spindle drilling gear DPL are available with customized drill patterns. The minimal distance between spindles is 16mm. The spindle speeds are 4,500 rpm in permanent operation and 6,000 rpm in interval operation.

Page 84

STB
multi-spindle drilling gear

The multi-spindle drilling gear STB series are suitable for the processing of materials with steel insert. The shank of the center spindle is 5 mm longer than the outer spindles. The speed of max. 4500 rpm is transferred in a ratio of 1:1 to the central spindle. The speeds of the outer spindles depend on the distance.

Page 86

DN-VCM
vertical hollow mortiser

The vertical chisel mortiser DN-VCM can be used to make square holes. They have a tool spindle with a rotating tool holder and a fixed inclusion for square tools. The spindle direction is equal to the drive turning direction. The drive speed is transferred in a ratio of 1:1 to the tool receptacle. The maximum spindle speed is 5,000 rpm in permanent operation.

Page 88

DN-SPL
chip guide elements

The chip guiding systems of the series DN-SPL have a tool receptacle according to your specifications. The direct receptacle DN-X-SPL is used for direct reception of tools for the processing of solid wood or wood-like composite materials. The standing adapter casing (due to torque support) is used for mounting chip deflectors, according to the used profiling tool. The maximum spindle speed is 18.000 rpm in permanent operation.

Page 90

FN2
tracing spindles

The tracing spindles FN2 are equipped with a collet receptacle for shaft milling cutters. The spindle turning direction is opposite to the drive turning direction. The drive speed is transferred to the tool receptacle in a ratio of 1:3. The maximum spindle speed is 10,000 rpm in interval operation. The tracing stroke is 1,0 mm in X(Y)- and in Z-direction. The 2D-Horizontal-tracing spindle is used for light rounding, chamfering and equalizing of the upper and the lower panel edges (for example at soft- or postforming). The spindle traces by copying the surface of the panel and so it ensures that the processing is made equal to these traced surfaces.

Page 94

FN6
tracing spindles

The tracing spindles series FN6 have a shank receptacle and are used for drilling in a constant distance to the traced surface of the workpiece. So you get on uneven surfaces a constant distance relative to the surface with a tolerance of ± 0.05 mm. The tracing spindle must be provided with a tracing piece. The material of the tracing piece should be chosen depending of the surface constitution. Available is a piece of steel or polyamid.

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FN7
tracing spindles

The tracing spindle series FN7 work with a spring suspended stroke of 10 mm. The distance of the tool receptacle to the tracing arm or bell is constant. The sensing device is guided over the workpiece surface and adapts the suspension stroke through the different workpiece tolerances. In that way for example Lammello-connections, grooves or feathers are always done in a constant distance to the surface from the working piece. For different materials, it is necessary to adapt the tracing force. At the FN7 this can easily be changed by the user with an adjustment screw. Depending on the surface of the workpiece either sliding rings of polyamide or hard chrome plated steel can be used, on request with blow-off nozzles. The height between the tracing bell to the tool can be adjusted continuously by scale. The maximum speed is 18,000 rpm.

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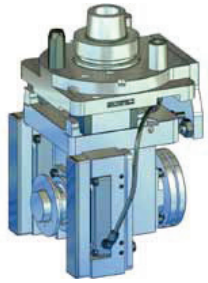
FN9-1.3-S
tracing spindles



The edge cutter and router FN9-1.3-S offers the opportunity to cut and round even glued and protruding edge bands one-sided traced to the work piece. The FN9-1.3-S is a multi-function aggregate, which is equipped with a cutter-saw and a profile router. The beside placed elongated runners enables the enclosure to the work piece and the vertical working direction. With two integrated pneumatic cylinders the runners are able to be adjusted automatically to the cutters and routers working relation. By fine adjustable end stops the runners can be easily adapted to different tool sets. To realize the compensatory movement of the tracing unit the drive and the working unit are decoupled and connected by movable linear slides free of play. A high dynamic compensation coupling allows spindle speeds up to 13,500 rpm. This causes a very high surface quality. The tracing force of about 100N is set by the Controlflex coupling and cannot be modified. The unit can be used to cap and round corners of solid wood materials, MDF, particleboards, coating materials, plastics.

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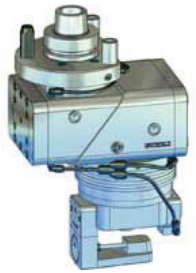
FN10
2D-tracing spindles



The 2D-Tracing spindle FN10 is used for rounding, chamfering or milling of workpiece edges. It sampled at the same time from the top and front face of the workpiece and works with a spring suspended stroke, each 10 mm in horizontal and vertical direction. Unevenness in the material can be equalized thereby. The sensing device is made with adjustable sliders on the workpiece surface and conforms to the tolerances due to a spring suspended stroke. As a result the processing is always in the same distance to the surface of the workpiece. For different materials, it is necessary to adjust the tracing force. At the FN 10 this can easily be changed steplessly with adjustment screws by the user. Depending on surface characteristics of the workpiece either sliding pieces of polyamide or hard chrome plated steel can be used. The maximum speed is 17,000 rpm.

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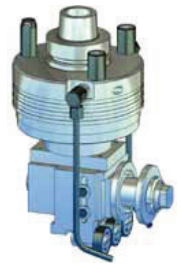
FN12
tracing spindles

The Tracing spindle series FN12 are used for rounding or chamfering edges of workpieces. They are scanning the lower side of the workpiece and work with a spring suspended stroke of 10 mm in vertical direction. Unevenness in the material can be equalized thereby. The sensing device is made with adjustable sliders on the workpiece surface and conforms to the tolerances due to a spring suspended stroke. As a result the processing is always in the same distance to the surface of the workpiece. For different materials, it is necessary to adjust the tracing force. This can easily be changed steplessly with an adjustment screw by the user. Depending on surface characteristics of the workpiece either sliding pieces of polyamide or hard chrome plated steel can be used. The maximum speed is 18,000 rpm.

Page 110

FU19
tracing spindles



The tracing spindle series FN19 work with a spring suspended stroke of 5mm. The distance of the tool receptacle to the tracing rollers is constant. The sensing device is guided over the workpiece surface and adapts the suspension stroke through the different workpiece tolerances. In that way for example Lammello-connections, grooves or feathers are always done in a constant distance to the surface from the working piece. For different materials, it is necessary to adapt the tracing force. This is set before the delivery to the requested force. Depending on the surface of the workpiece either tracing rollers of rubber or steel can be used. On request the tracing device can supplied with blow-off nozzles. The height between the tracing bell to the tool can be adjusted continuously. The maximum speed is 9.708 rpm.

Page 112

FU7
tracing spindles

The Tracing spindle series FU7 are used for scanning the lower side of the workpiece and makes a milling cut parallel to it. They have a spindle with a tool receptacle for saw blades or disc cutters. There are also other possible tool receptacles. The drive speed is transferred 1:1 by a belt drive to the tool receptacle. The maximum spindle speed is 12,000 rpm in interval operation. The tracing bell has an outer diameter of 120 mm and allows a maximum tool diameter of 100 mm. The tracing stroke is 5 mm.

Page 112

G50
direct-drive spindles

The direct drive spindles of the G50 series are for holding down the workpiece during the working process. The Aggregate has a stroke of 25mm. Tool receptacle and pressure ring can be made to customer specification. The maximum speed is 18,000rpm.

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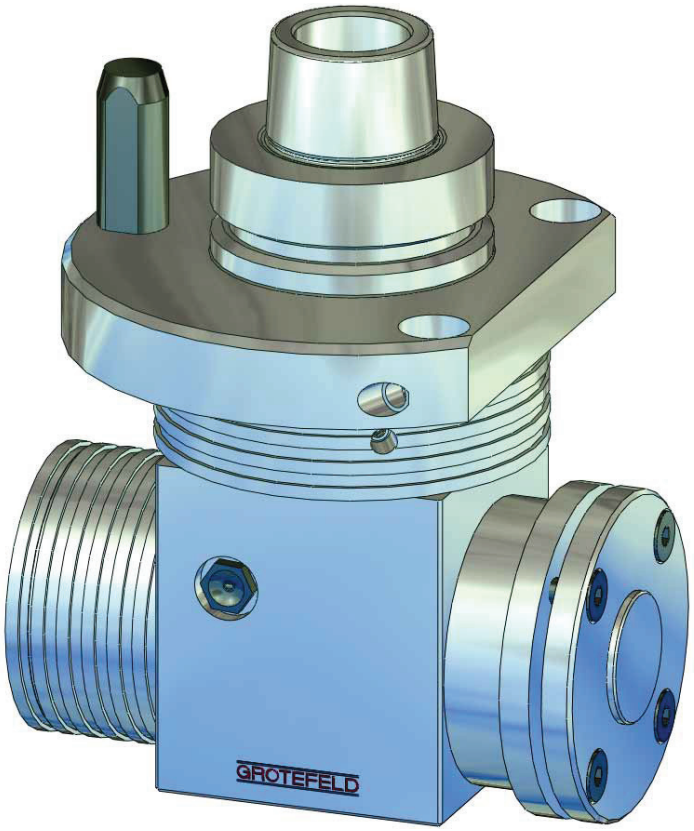
GROTEFELD

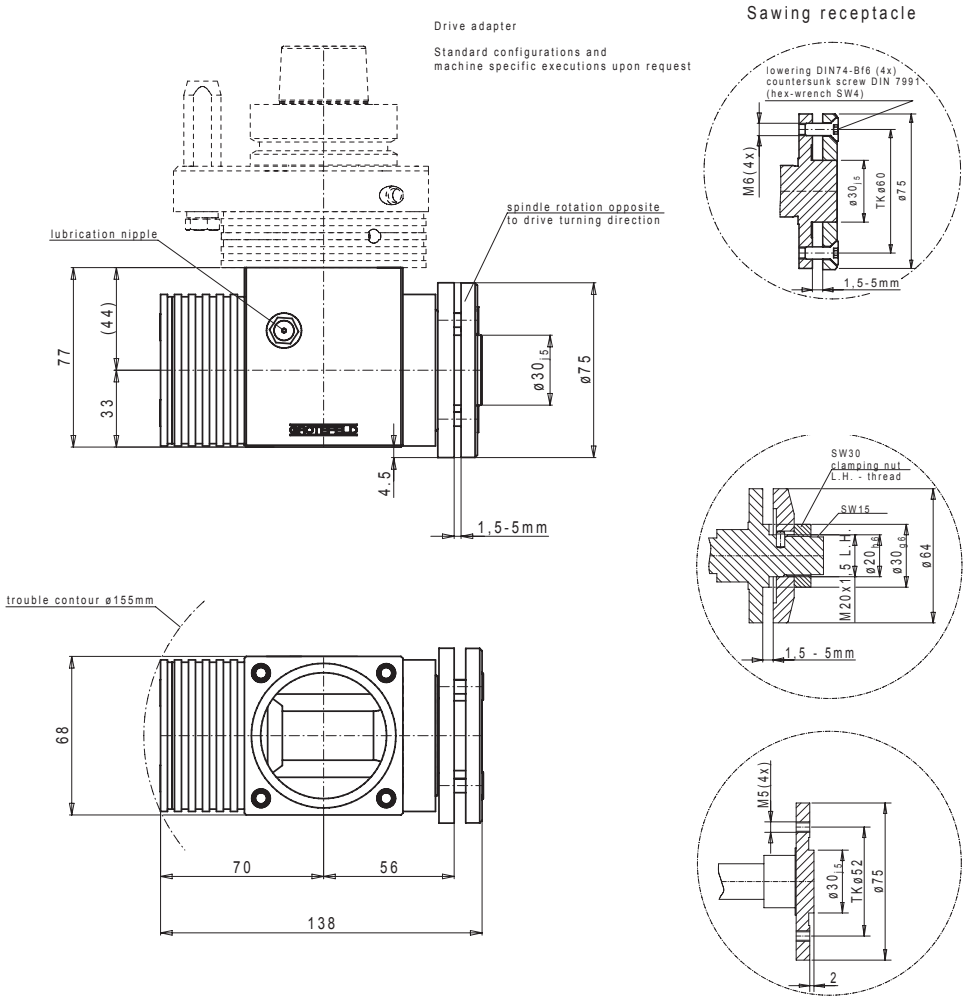


Sawing units

Drilling units

Milling units

Combined units



Technical features

Item Id.	EP-030046
drive turning direction	R.H./L.H.
drive speed max.	permanent operation 645 – 5.161 rpm
drive speed max.	interval operation 645 – 6.451 rpm
number of spindles	1
spindle position	horizontal
tool receptacle	Ø75/30 mm - 4xM6 – clamping area 1,5 - 5,0 mm
gear ratio	1 : 1,55 – wheel drive
turning direction of tool receptacle	opposite to drive turning direction
spindle speed max.	permanent operation 1.000 - 8.000 rpm
spindle speed max.	interval operation 1.000 - 10.000 rpm
drive capacity	3,0 kW
weight with drive adapter	approx. 4,50 kg

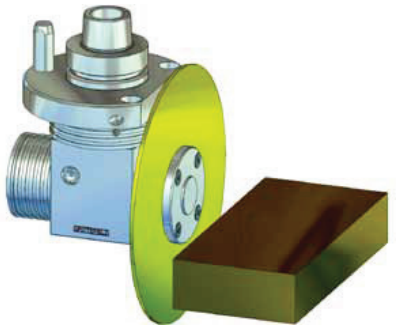
Optional accessories:

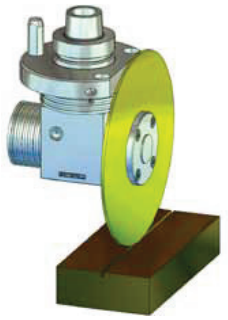
Hex-wrench SW4	Item Id. 138040
Lubrication press	Item Id. 980003

Attention:

With the angular sawing heads of the series W01 the use of saw blades is possible up to a maximum diameter of 300 mm. The freewheeling of the saw blade, however, has to be observed respectively the max. diameter has to be limited correspondingly - both depending on the used drive adapters and the drive cover contour (customer's part).

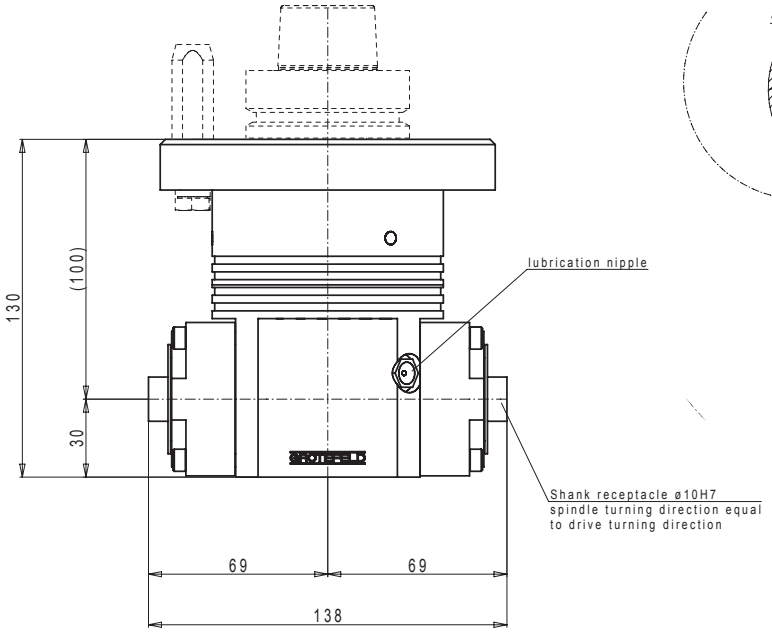
Variants on demand!



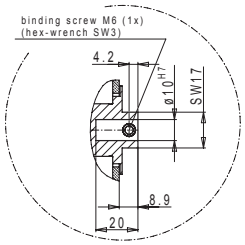


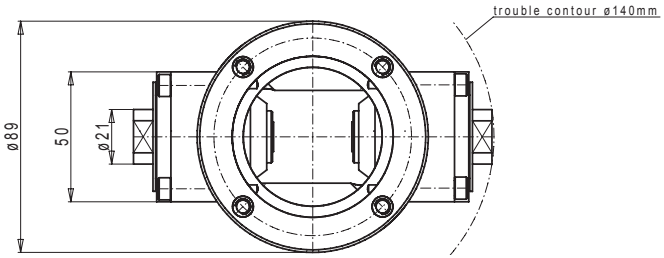
Drive adapter

Standard configurations and
machine specific executions upon request



Shank receptacle ø10 H7





Technical features

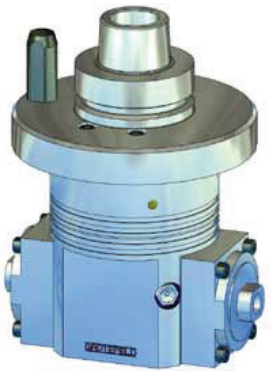
Item Id.	EP-030315
drive turning direction	R.H./L.H.
drive speed max.	permanent operation 645 – 9.290 rpm
drive speed max.	interval operation 645 – 11.613 rpm
number of spindles	2
spindle position	horizontal
tool receptacle	Ø10H7
gear ratio	1 : 1,55 – wheel drive
turning direction of tool receptacle	2x equal to drive turning direction
spindle speed max.	permanent operation 1.000 - 14.400 rpm
spindle speed max.	interval operation 1.000 - 18.000 rpm
drive capacity	3,0 kW
weight with drive adapter	approx. 5,25 kg

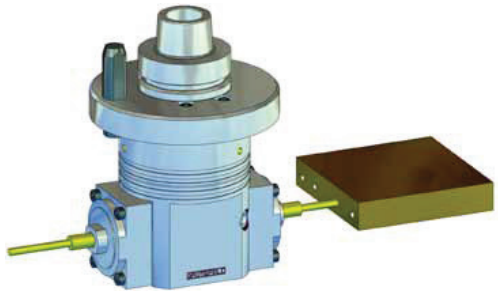
Optional accessories:

Hexagon-wrench SW3	Item Id. 138030
Open end spanner SW17	Item Id. 131017
Lubrication press	Item Id. 980003

The angular heads of the series G03 are equipped with up to 4 processing spindles. The spindle turning direction of all tool receptacles is always equal to the drive turning direction. The drive speed is transmitted in a ratio of 1:1,55 to the tool receptacles. The maximum spindle speed in interval operation is 18,000 rpm.

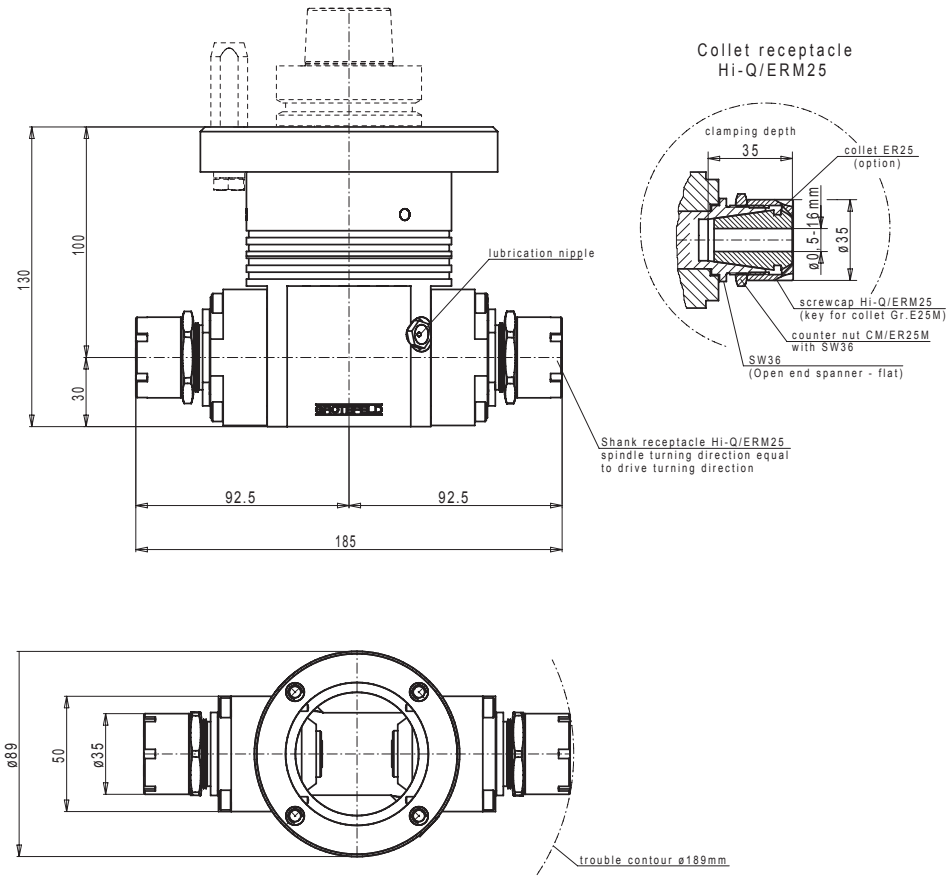
Variants on demand!





Drive adapter

Standard configurations and
machine specific executions upon request

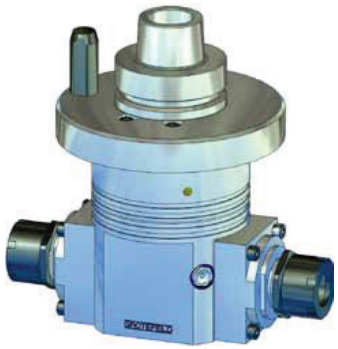


Technical features

Item Id.	EP-030322
drive turning direction	R.H./L.H.
drive speed max.	permanent operation 645 – 9.290 rpm
drive speed max.	interval operation 645 – 11.613 rpm
number of spindles	2
spindle position	horizontal
tool receptacle	Hi-Q/ERM25 DIN6499-C(8°)
gear ratio	1 : 1,55 – wheel drive
turning direction of tool receptacle	2x equal to drive turning direction
spindle speed max.	permanent operation 1.000 - 14.400 rpm
spindle speed max.	interval operation 1.000 - 18.000 rpm
drive capacity	3,0 kW
weight with drive adapter	approx. 5,40 kg

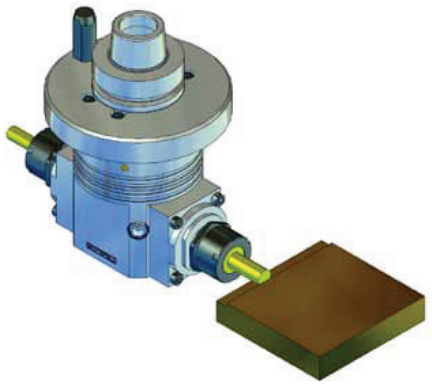
Optional accessories:

Hook-wrench E25M	Item Id. 137002
Open end spanner SW36 - flat	Item Id. 131236
Lubrication press	Item Id. 980003



The angular heads of the series G03 are equipped with up to 4 processing spindles. The spindle turning direction of all tool receptacles is always equal to the drive turning direction. The drive speed is transmitted in a ratio of 1:1,55 to the tool receptacles. The maximum spindle speed in interval operation is 18,000 rpm

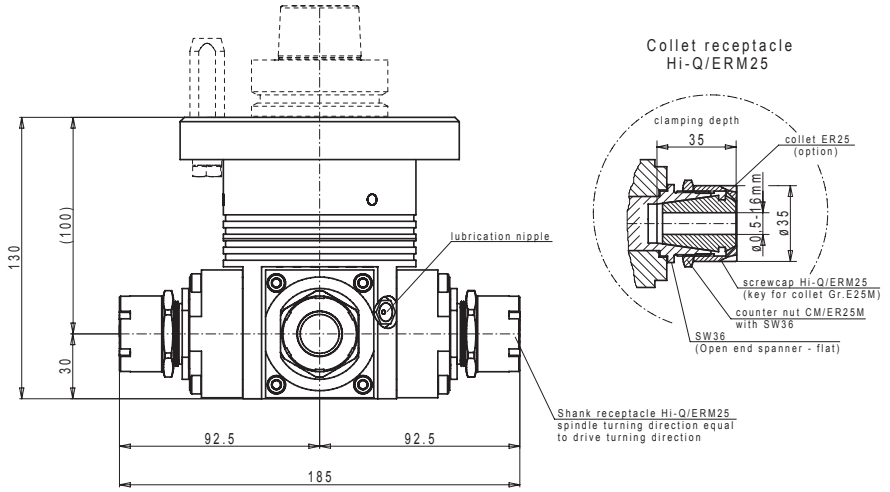
Variants on demand!

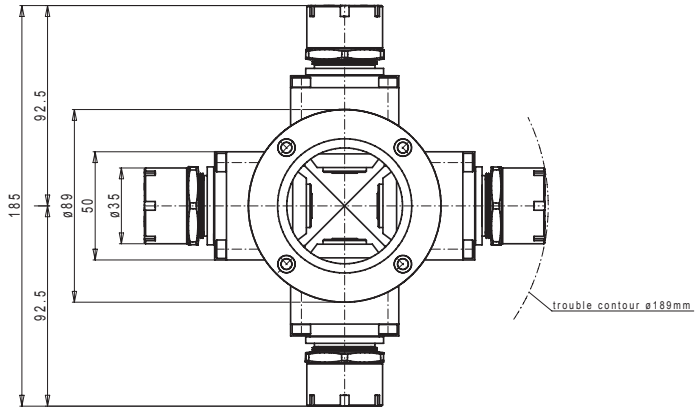


GROTEFELD

Drive adapter

Standard configurations and
machine specific executions upon request





Technical features

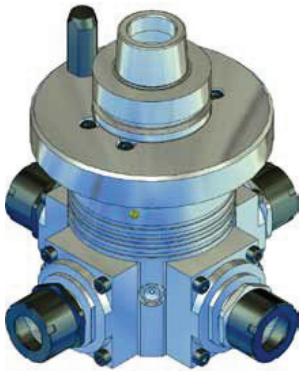
Item Id.	EP-030646
drive turning direction	R.H./L.H.
drive speed max.	permanent operation 645 – 9.290 rpm
drive speed max.	interval operation 645 – 11.613 rpm
number of spindles	4
spindle position	horizontal
tool receptacle	Hi-Q/ERM25 DIN6499-C(8°)
gear ratio	1 : 1,55 – wheel drive
turning direction of tool receptacle	4x equal to drive turning direction
spindle speed max.	permanent operation 1.000 - 14.400 rpm
spindle speed max.	interval operation 1.000 - 18.000 rpm
drive capacity	3,0 kW
weight with drive adapter	approx. 5,70 kg

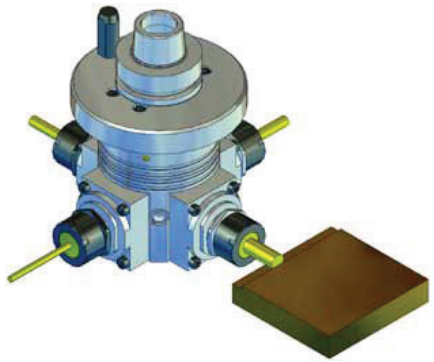
Optional accessories:

Hook-wrench E25M	Item Id. 137002
Open end spanner SW36 - flat	Item Id. 131236
Lubrication press	Item Id. 980003

The angular heads of the series G03 are equipped with up to 4 processing spindles. The spindle turning direction of all tool receptacles is always equal to the drive turning direction. The drive speed is transmitted in a ratio of 1:1,55 to the tool receptacles. The maximum spindle speed in interval operation is 18,000 rpm.

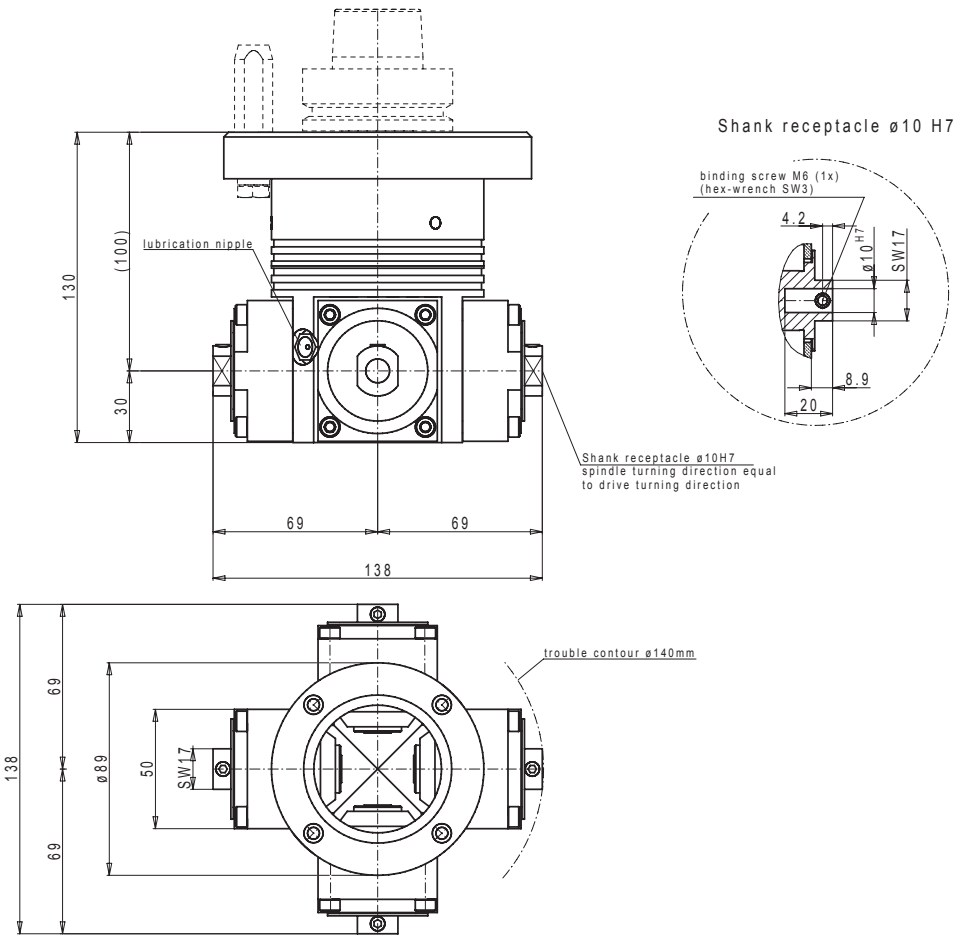
Variants on demand!





Drive adapter

Standard configurations and
machine specific executions upon request

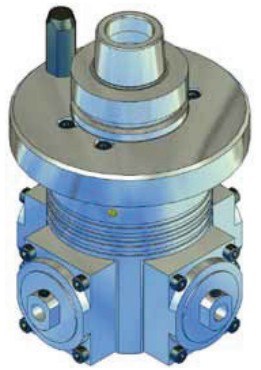


Technical features

Item Id.	EP-030344
drive turning direction	R.H./L.H.
drive speed max.	permanent operation 645 – 9.290 rpm
drive speed max.	interval operation 645 – 11.613 rpm
number of spindles	4
spindle position	horizontal
tool receptacle	Ø10H7
gear ratio	1 : 1,55 – wheel drive
turning direction of tool receptacle	4x equal to drive turning direction
spindle speed max.	permanent operation 1.000 - 14.400 rpm
spindle speed max.	interval operation 1.000 - 18.000 rpm
drive capacity	3,0 kW
weight with drive adapter	approx. 5,50 kg

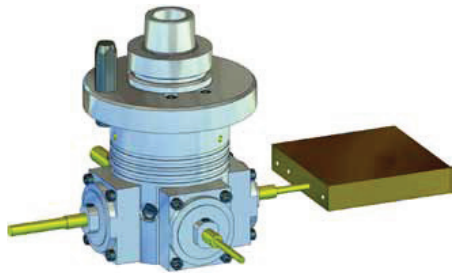
Optional accessories:

Hex-wrench SW3	Item Id. 138030
Open end spanner SW17	Item Id. 131017
Lubrication press	Item Id. 980003



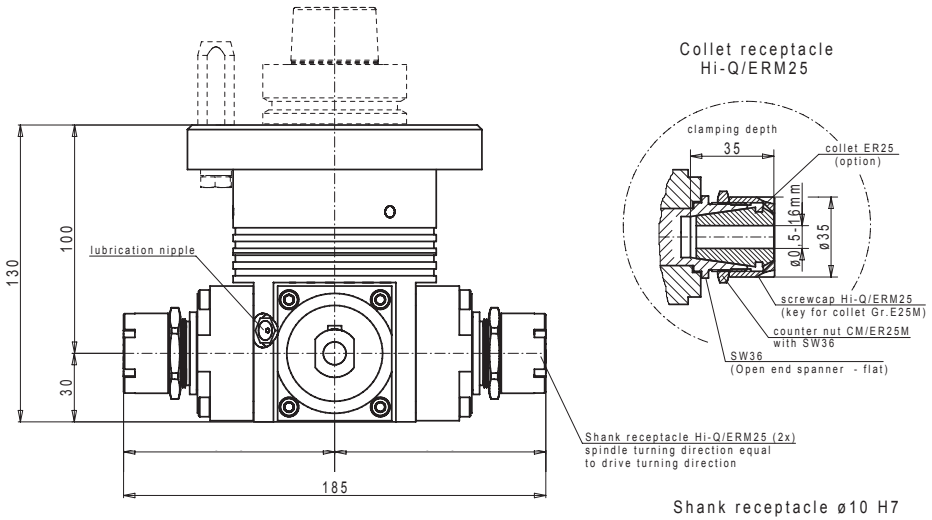
The angular heads of the series G03 are equipped with up to 4 processing spindles. The spindle turning direction of all tool receptacles is always equal to the drive turning direction. The drive speed is transmitted in a ratio of 1:1,55 to the tool receptacles. The maximum spindle speed in interval operation is 18,000 rpm.

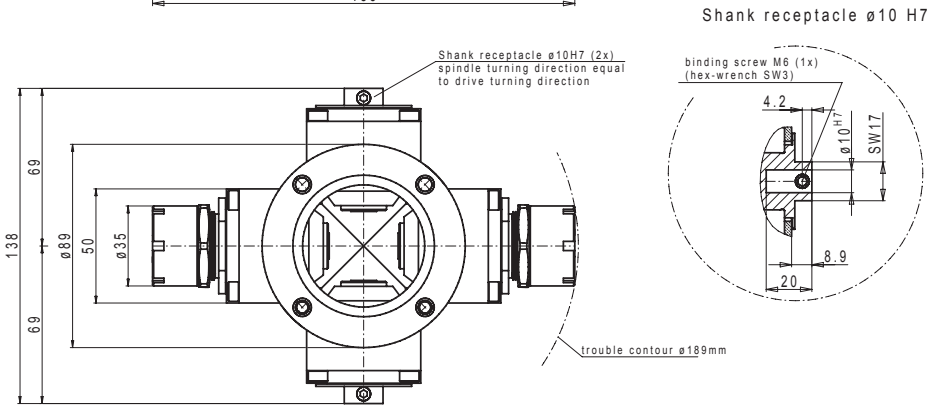
Variants on demand!



Drive adapter

Standard configurations and
machine specific executions upon request



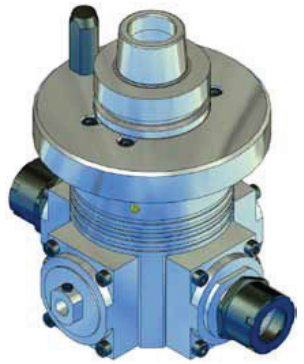


Technical features

Item Id.	EP-030649
drive turning direction	R.H./L.H.
drive speed max.	permanent operation 645 – 9.290 rpm
drive speed max.	interval operation 645 – 11.613 rpm
number of spindles	4
spindle position	horizontal
tool receptacle	2x Ø10H7 with binding screw
tool receptacle	2x Hi-Q/ERM25 DIN6499-C (8°)
gear ratio	1 : 1,55 – wheel drive
turning direction of tool receptacle	4x equal to drive turning direction
spindle speed max.	permanent operation 1.000 - 14.400 rpm
spindle speed max.	interval operation 1.000 - 18.000 rpm
drive capacity	3,0 kW
weight with drive adapter	approx. 5,40kg

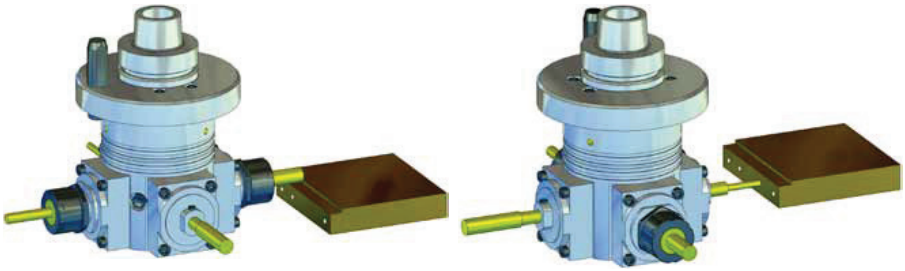
Optional accessories:

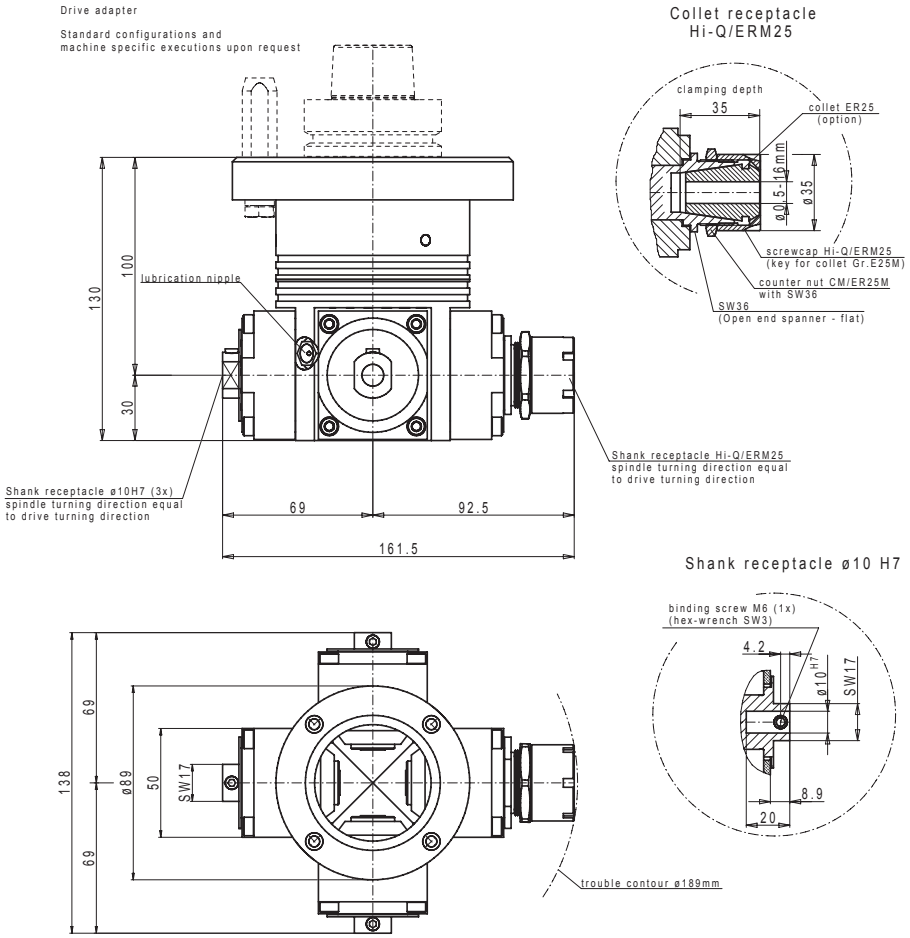
Hex-wrench SW3	Item Id. 138030
Open end spanner SW17	Item Id. 131017
Open end spanner SW36 flat	Item Id. 131236
Hook wrench E25M	Item Id. 137002
Lubrication press	Item Id. 980003



The angular heads of the series G03 are equipped with up to 4 processing spindles. The spindle turning direction of all tool receptacles is always equal to the drive turning direction. The drive speed is transmitted in a ratio of 1:1,55 to the tool receptacles. The maximum spindle speed in interval operation is 18,000 rpm.

Variants on demand!





Technical features

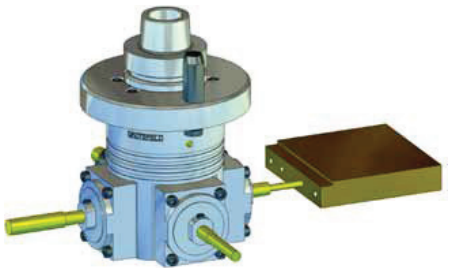
Item Id.	EP-030648
drive turning direction	R.H./L.H.
drive speed max.	permanent operation 645 – 9.290 rpm
drive speed max.	interval operation 645 – 11.613 rpm
number of spindles	4
spindle position	horizontal
tool receptacle	3x Ø10H7 with binding screw
tool receptacle	1x Hi-Q/ERM25 DIN6499-C (8°)
gear ratio	1 : 1,55 – wheel drive
turning direction of tool receptacle	4x equal to drive turning direction
spindle speed max.	permanent operation 1.000 - 14.400 rpm
spindle speed max.	interval operation 1.000 - 18.000 rpm
drive capacity	3,0 kW
weight with drive adapter	approx. 5,30kg

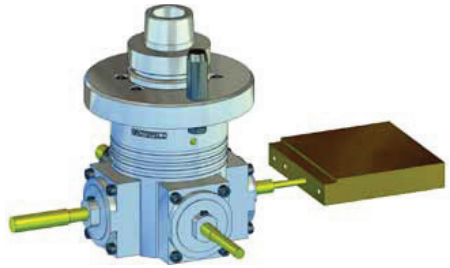
Optional accessories:

Hex-wrench SW3	Item Id. 138030
Open end spanner SW17	Item Id. 131017
Open end spanner SW36 flat	Item Id. 131236
Hook wrench E25M	Item Id. 137002
Lubrication press	Item Id. 980003

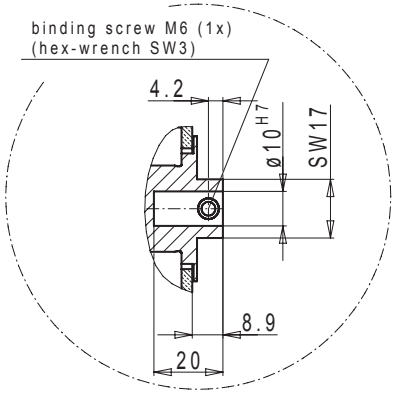
The angular heads of the series G03 are equipped with up to 4 processing spindles. The spindle turning direction of all tool receptacles is always equal to the drive turning direction. The drive speed is transmitted in a ratio of 1:1,55 to the tool receptacles. The maximum spindle speed in interval operation is 18,000 rpm.

Variants on demand!

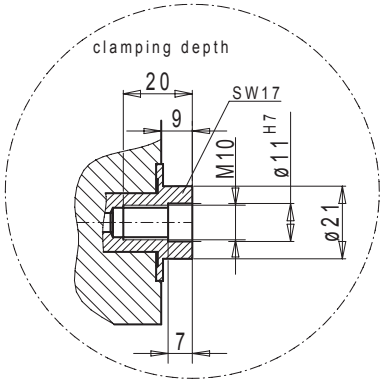




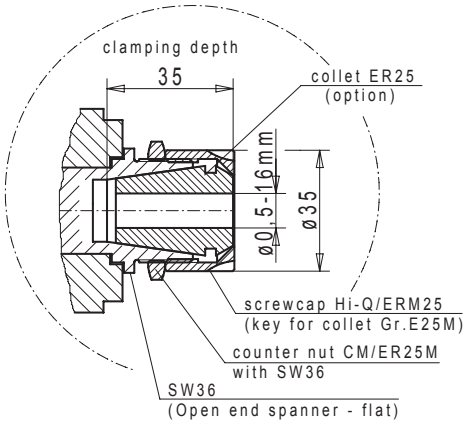
Shank receptacle ø10 H7



Shank receptacle M10 plan with ø11H7

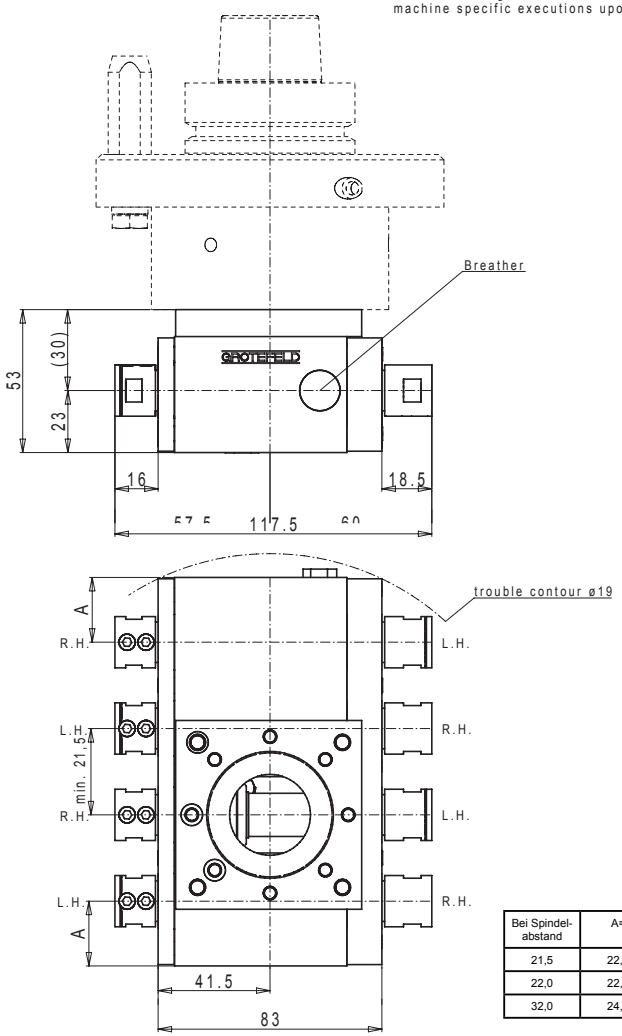


Collet receptacle Hi-Q/ERM25

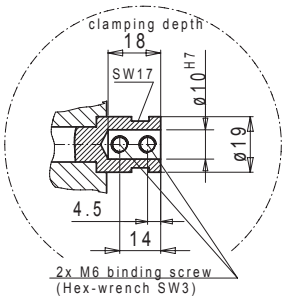


Drive adapter

Standard configurations and
machine specific executions upon request



Shank receptacle ø10H7



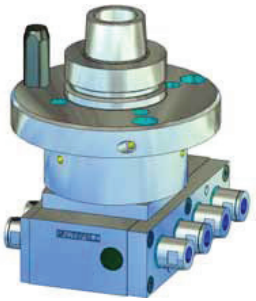
Bei Spindel-abstand	A=
21,5	22,0
22,0	22,0
32,0	24,0

Technical features

Item Id.	EP-030400
drive turning direction	R.H.
drive speed max.	permanent operation 1.000 – 6.000 rpm
number of spindles	2 - 5 maximum per side
spindle position	horizontal / one sided or two sided 180° opposite towards each other
tool receptacle	max. ø10H7 (R.H./L.H.)
gear ratio	1 : 1 - wheel drive
turning direction of tool receptacles	max. 5x equal to drive turning direction max. 5x opposite to drive turning direction
spindle speed max.	permanent operation 1.000 - 6.000 rpm
max. drive capacity	1,7 kW

Optional accessories:

Hex-wrench SW3	Item Id. 138030
Open end spanner SW 17	Item Id. 131017
Lubrication press	Item Id. 980003



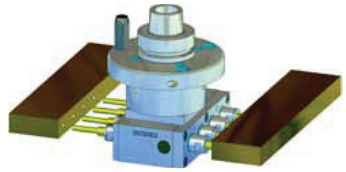
The angular drilling head series W04 offer the possibility to develop an angular drilling head that comes up to your specific requirement.

You may put forward the number of spindles as well as the spindle distance. Furthermore, an additional drilling receptacle can be installed on the opposite side per each spindle. From this results a maximum equipment of up to 10 drilling receptacles. As far as the spindle distances are concerned, you may select between a minimum distance of 20,0 mm up to a maximum distance of 32,0 mm. The dimension A indicated in the drawing varies depending on the selected spindle distance and will be transmitted to you with our confirmation of order.

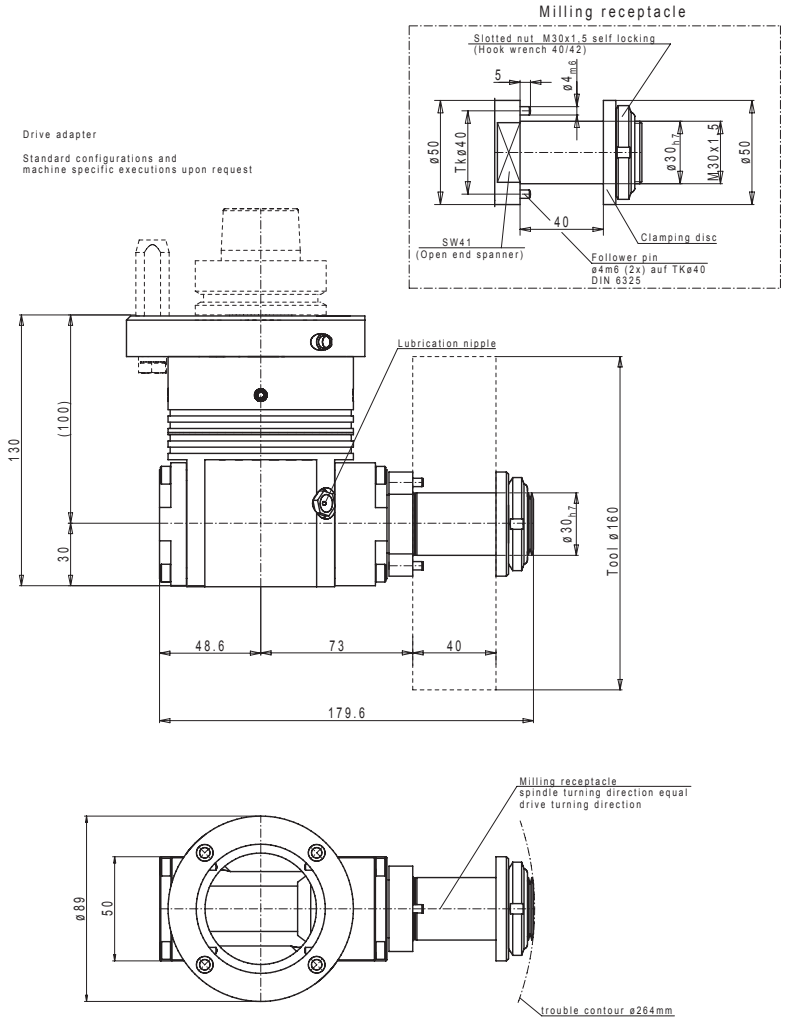
The angular drilling head series W04 can be equipped with up to 5 drilling spindles on two opposite sides. The spindle turning direction of the medium drilling spindle is equal to the drive turning direction, the spindle turning direction of the other spindles is opposite to it. The optional drilling receptacles on the opposite side have the contrary turning direction.

The type denomination W04-4.8-B indicated in this catalogue stands for an angular drilling head equipped with 2 x 4 drilling receptacles.

The Item Id. 030400 does not specify the exact placement of the angular head.It will be necessary in case of an order to - in addition to the order no. - indicate the variable information such as spindle distance and equipment. Corresponding to your order, we will provide in our order confirmation a final order no. for the angular drilling head you ordered. This Item Id. then applies for the specific configuration and can be used in case of further orders for this angular head without any further information.



Variants on demand!



Technical features

Item Id.	EP-030663
drive turning direction	R.H./L.H.
drive speed max	permanent operation 645 - 10.968 rpm
drive speed max	interval operation 645 - 12.903 rpm
number of spindles	1
spindle position	horizontal
tool receptacle	1x milling receptacle ø30h7 x 40 mm
turning direction of tool receptacle	1x equal to drive turning direction
gear ratio	1 : 1,55 – wheel drive
spindle speed	permanent operation 1.000 – 17.000 rpm
spindle speed	interval operation 1.000 – 20.000 rpm
max. spindle capacity	3,0 kW
weight with drive adapter	approx. 4,00 kg

Optional accessories:

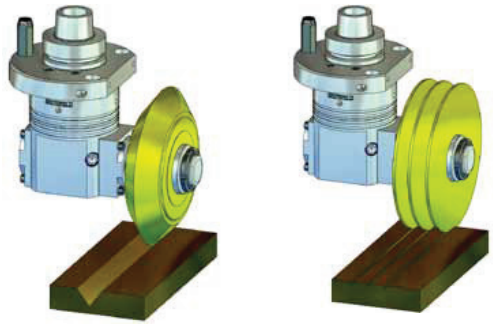
Open end spanner SW 41 flat	Item Id. 131203
Hook wrench 40/42	Item Id. 139040
Lubrication press	Item Id. 980003

The angular heads of the series G06-1.1-F have a continuous machining spindle. The drive speed is transmitted in a ratio 1:1,55 to the tool receptacles. The maximum spindle speed in interval operation is 20,000 rpm.

Note:

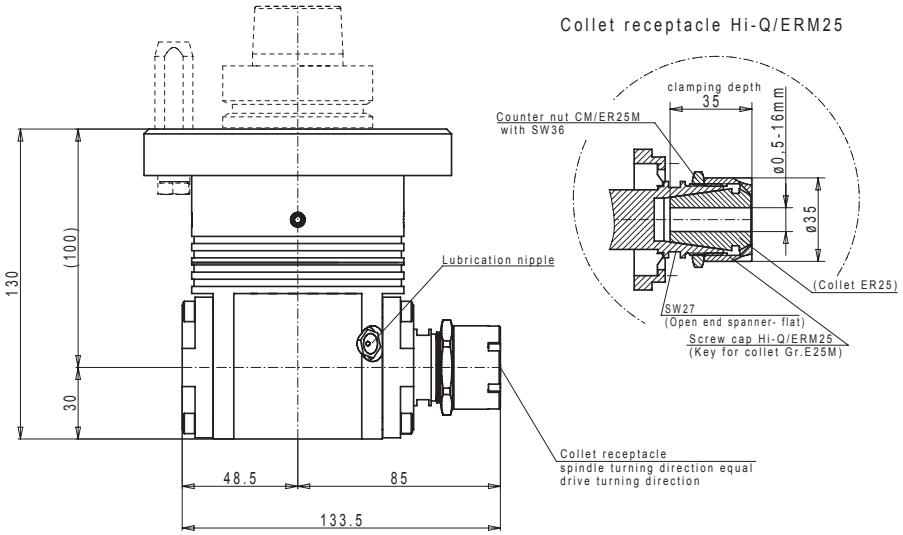
We point out that tools must be authorized for their choice of speeds!

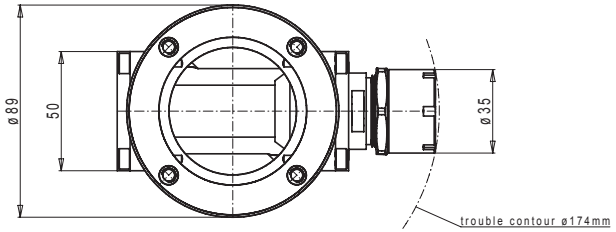
Variants on demand!



Drive adapter

Standard configurations and
machine specific executions upon request





Technical features

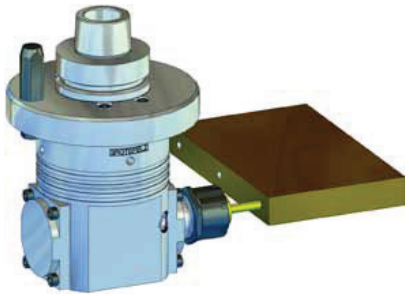
Item Id.	EP-030651
drive turning direction	R.H./L.H.
drive speed max.	permanent operation 645 – 10.968 rpm
drive speed max.	interval operation 645 – 12.903 rpm
number of spindles	1
spindle position	horizontal
tool receptacle	1x Hi-Q/ERM25 DIN6499-C (8°) for collet ER25 DIN 6499-B (ø0,5-ø16 mm)
turning direction of tool receptacle	1x equal to drive turning direction
gear ratio	1 : 1,55 – gear driven
spindle speed max.	permanent operation 1.000 – 17.000 rpm
spindle speed max.	interval operation 1.000 – 20.000 rpm
drive capacity	3,0 kW
weight with drive adapter	approx. 4,00 kg

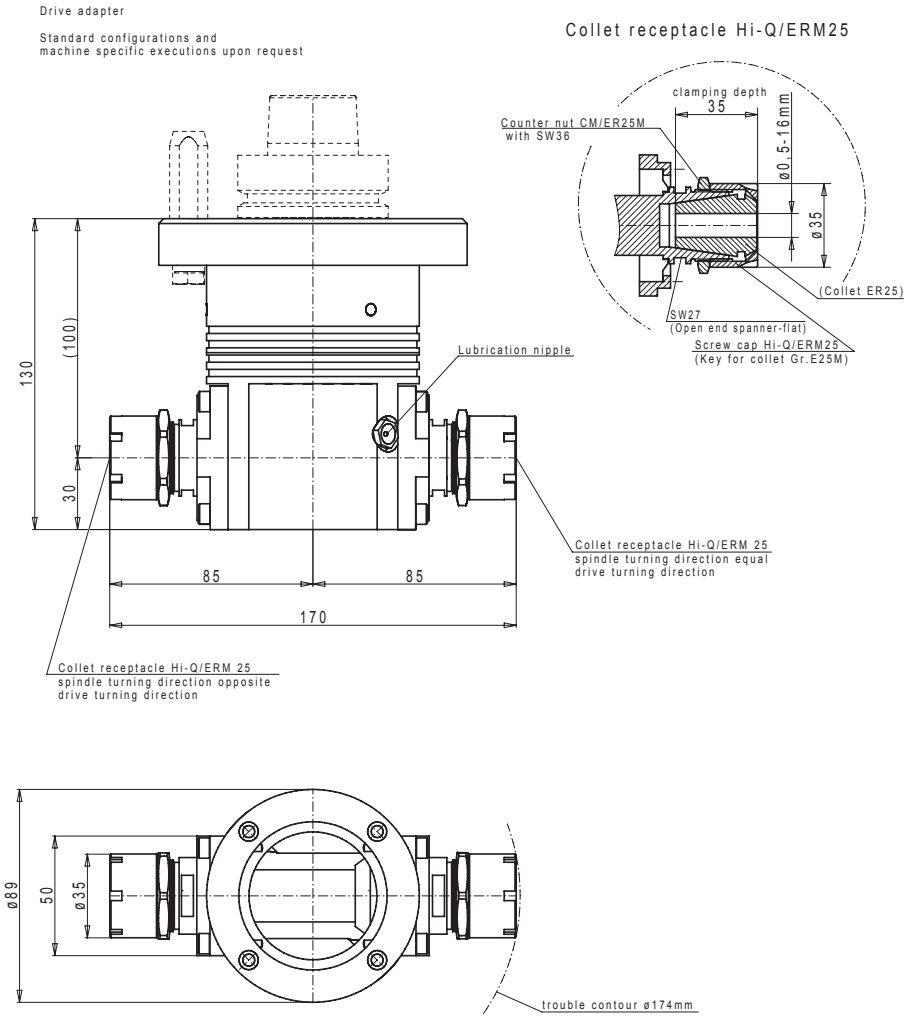
Optional accessories:

Key for collet E 25M	Item Id. 137002
Open end spanner SW 27 flat	Item Id. 131027
Open end spanner SW 36	Item Id. 131036
Lubrication press	Item Id. 980003

The angular heads of the series G06-1.1 have a continuous machining spindle. The drive speed is transmitted in a ratio 1:1,55 to the tool receptacles. The maximum spindle speed in interval operation is 20,000 rpm.

Variants on demand!





Technical features

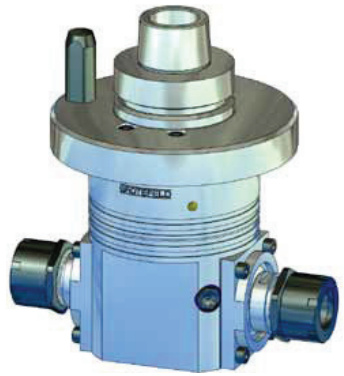
Item Id.	EP-030648
drive turning direction	R.H./L.H.
drive speed max.	permanent operation 645 – 10.968 rpm
drive speed max.	interval operation 645 – 12.903 rpm
number of spindles	1
spindle position	horizontal
tool receptacle	2x Hi-Q/ERM25 DIN6499-C (8°) for collet ER25 DIN 6499-B (ø0,5-ø16 mm)
turning direction of tool receptacle	1x equal to drive turning direction 1x opposite to drive turning direction
gear ratio	1 : 1,55 – gear driven
spindle speed max.	permanent operation 1.000 – 17.000 rpm
spindle speed max.	interval operation 1.000 – 20.000 rpm
drive capacity	3,0 kW
weight with drive adapter	approx. 4,50 kg

Optional accessories:

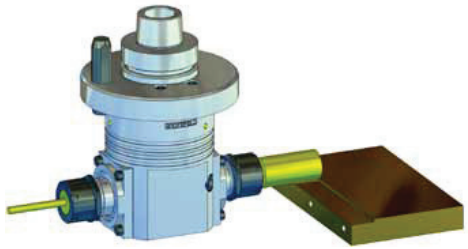
Key for collet E 25M	Item Id. 137002
Open end spanner SW 27 flat	Item Id. 131027
Open end spanner SW 36	Item Id. 131036
Lubrication press	Item Id. 980003

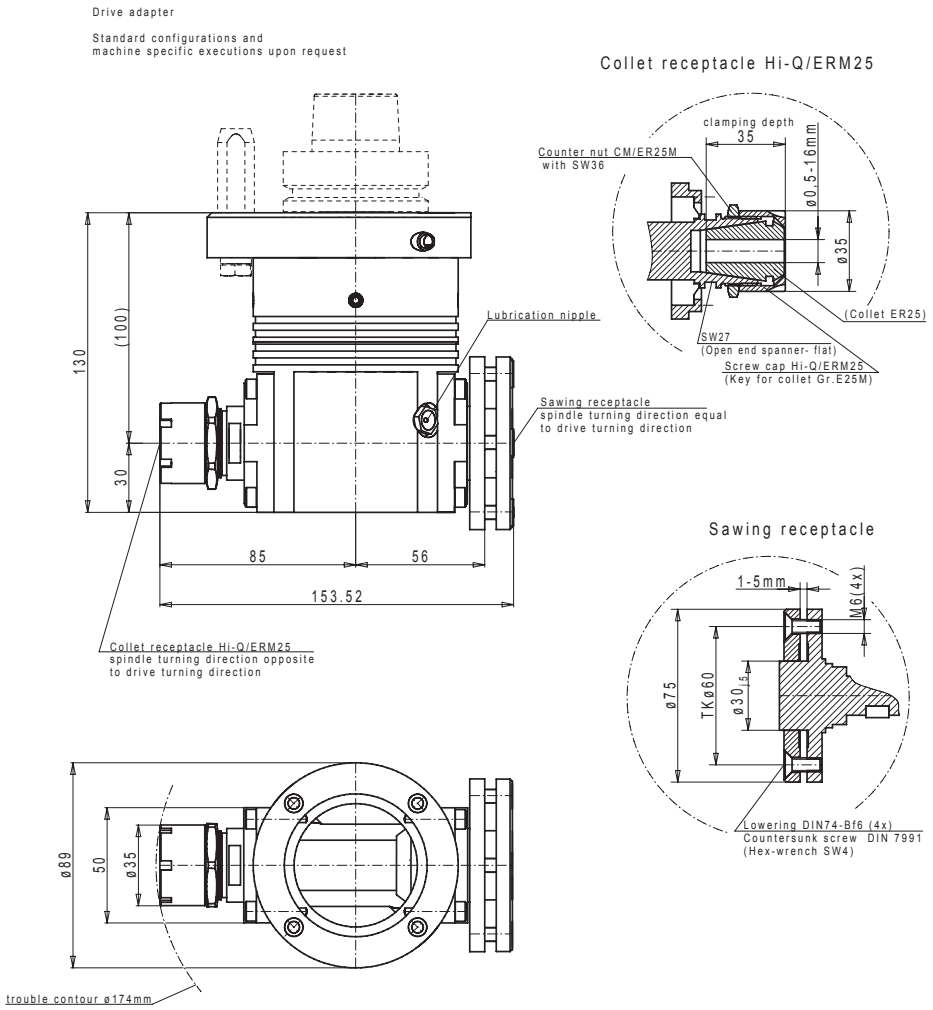
The angular heads of the series G06-1.2 have a continuous machining spindle.

This implies that the spindle direction of one of the two tool receptacles is equal to the drive turning direction, the other tool receptacle is opposite to it. The drive speed is transmitted in a ratio 1:1,55 to the tool receptacles. The maximum spindle speed is 20,000 rpm in interval operation.



Variants on demand!





Technical features

Item Id.	EP - 030630
drive turning direction	R.H./L.H.
drive speed max	permanent operation 645 – 10.968 rpm interval operation 645 – 12.903 rpm
number of spindles	1
spindle position	horizontal
tool receptacle	1x Hi-Q/ERM25 DIN6499-C (8°) for collet ER25 DIN 6499-B (ø0,5- ø16 mm) 1x ø30 mm – clamping area 1,0 – 5,0 mm
turning direction of tool receptacle	1x equal to drive turning direction 1x opposite to drive turning direction
gear ratio	1 : 1,55 – wheel drive
spindle speed	permanent operation 1.000 – 17.000 rpm interval operation 1.000 – 20.000 rpm
max. spindle capacity	3,0 kW
weight with drive adapter	approx. 4,80 kg

Optional accessories:

Hex wrench SW4	Item Id. 138040
Key for collet E 25M	Item Id. 137002
Open end spanner SW 27 flat	Item Id. 131027
Open end spanner SW 36	Item Id. 131036
Lubrication press	Item Id. 980003

Attention:

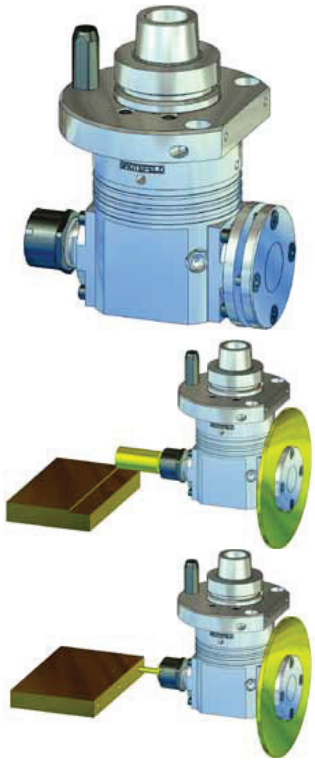
We point out that the tools must be permitted for the speed you chose!

Example: Milling cutter in the collet receptacle runs 17.000 rpm and the **NOT** dismounted saw blade is, for example, only permitted for 8.000 rpm.

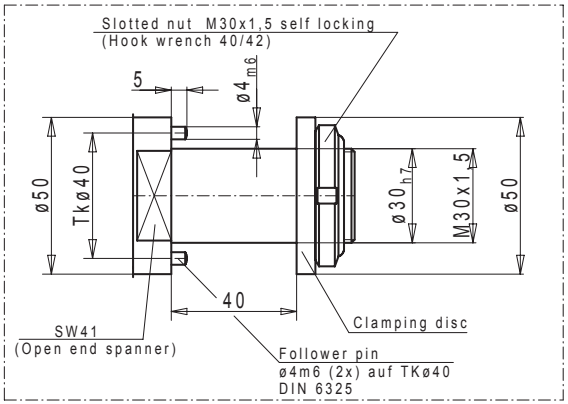
In such cases the saw blade **MUST** be dismounted!

The use of saw blades up to a maximum diameter of 300 mm is possible with the angular heads of the series G06. The freewheeling of the saw blade has to be observed respectively the max. diameter has to be limited correspondingly - both depending on the drive adapter and the drive cover contour (customer's part).

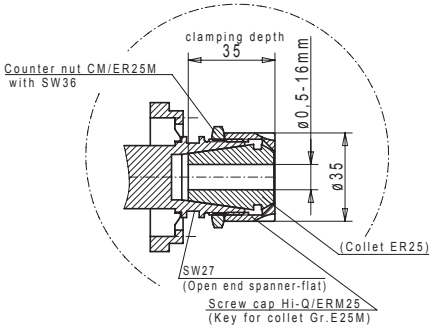
Variants on demand!



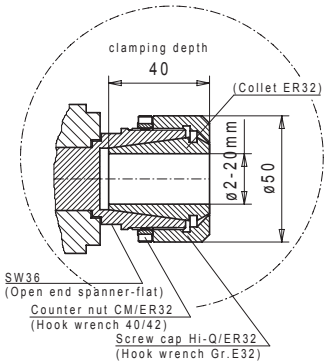
Milling receptacle



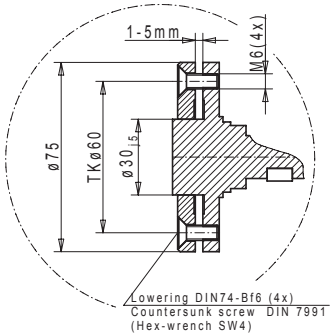
Collet receptacle Hi-Q/ERM25

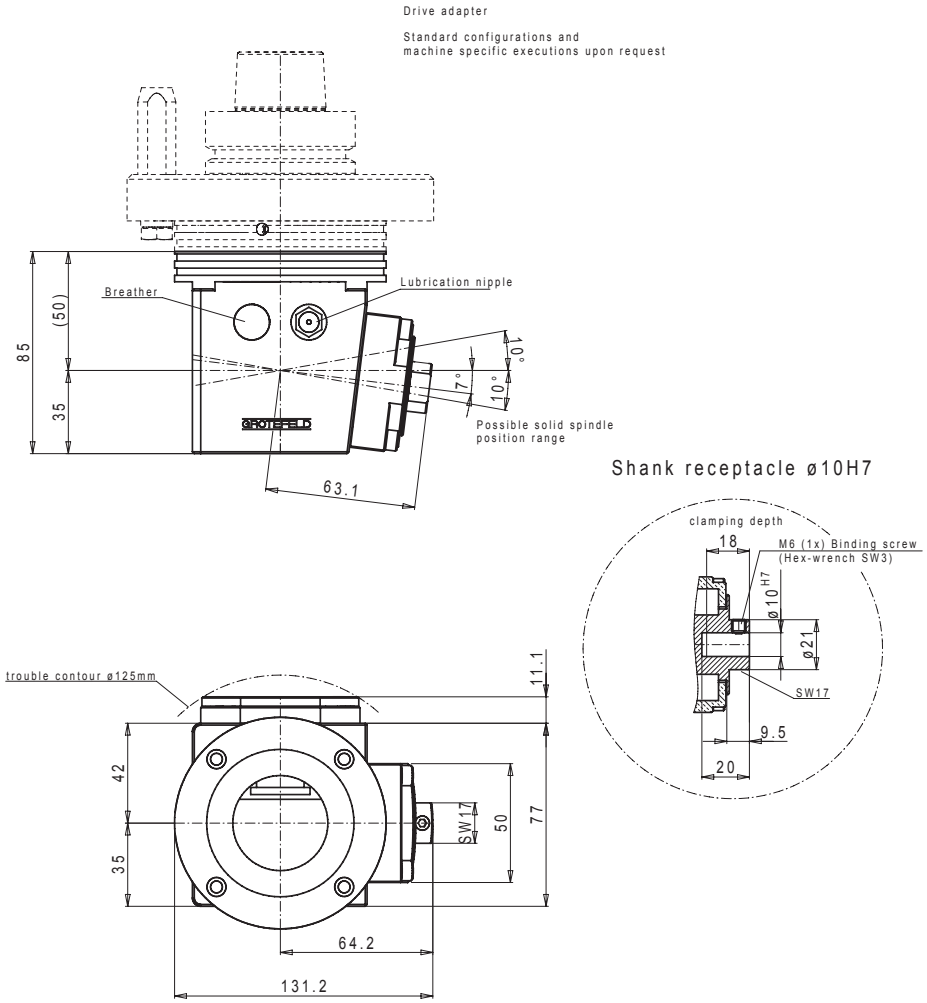


Collet reeptacle Hi-Q/ER32



Sawing receptacle





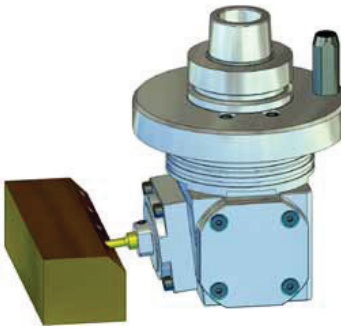
Technical features

Item Id.	EP-030810
drive turning direction	R.H./L.H.
drive speed max.	permanent operation 1.000 – 14.400 rpm interval operation 1.000 – 18.000 rpm
number of spindles	1
spindle position	max. 10° tilted up or down
tool receptacle	Ø10 H7 with Binding screw
gear ratio	1 : 1 – wheel drive
turning direction of tool receptacle	opposite to drive turning direction
spindle speed max.	permanent operation 1.000 – 14.400 rpm interval operation 1.000 – 18.000 rpm
drive capacity	3,0 kW
weight drive adapter	approx. 4,50 kg

Optional accessories:

Open end spanner SW 17	Item Id. 131017
Hex- wrench SW3	Item Id. 138030
Lubrication press	Item Id. 980003

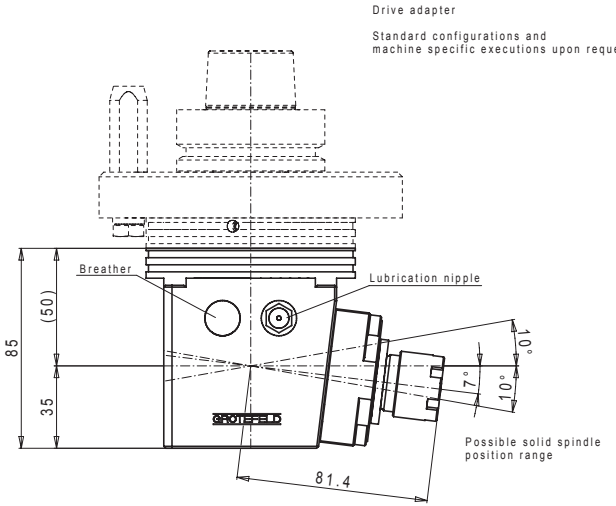
The angular heads of the series G07 offer you the possibility to choose an angular head with a fixed spindle position between 10° bended up and up to 10° bended down. In the two-spindle-execution the 180° opposite tool receptacle may have an other angle than the other tool receptacle. The determined angle cannot be modified afterwards. The spindle turning direction is opposite to the drive turning direction. The drive speed is transferred to the tool receptacles in a ratio of 1:1. The maximum spindle speed in interval operation is 18,000 rpm.



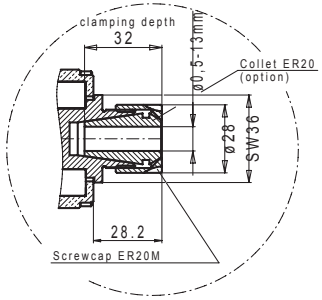
The Item Id. EP-030810 denominates the angular drilling head W07-1.1-B only, but does not determine a specific spindle position. It is necessary in case of an order to indicate the requested angle of the drilling spindle in addition to the Item Id. Corresponding to your order you will receive the final Item Id. within the order confirmation for the angular drilling head you ordered. This Item Id. than applies for this specific configuration and can be used in case of further orders without additional information.

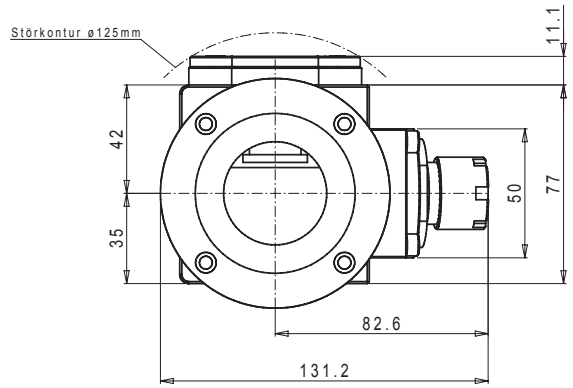
Note: In case of equipment with drilling receptacles M10 plane the drive turning direction has to be determined before placing the order.

Variants on demand!



Collet receptacle Hi-Q/ERM20





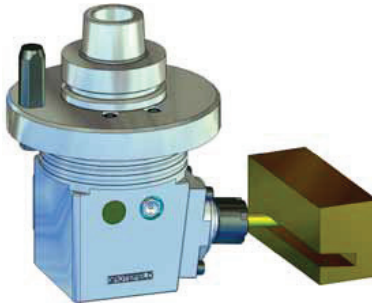
Technical features

Item Id.	EP-030820
drive turning direction	L.H.
drive speed max.	permanent operation 1.000 – 14.400 rpm interval operation 1.000 – 18.000 rpm
number of spindles	1
spindle position	max. 10° tilted up or down
tool receptacle	Hi-Q/ERM20 DIN6499-C (8°) for collet ER20 DIN6499-B (ø0,5mm – ø13mm)
gear ratio	1 : 1 – wheel drive
turning direction of tool receptacle	opposite to drive turning direction
spindle speed max.	permanent operation 1.000 – 14.400 rpm interval operation 1.000 – 18.000 rpm
drive capacity	3,0 kW
weight without drive adapter	approx. 1,80 kg

Optional accessories:

Open end spanner SW 36	Item Id. 131036
Key for collet	Item Id. 137001
Lubrication press	Item Id. 980003

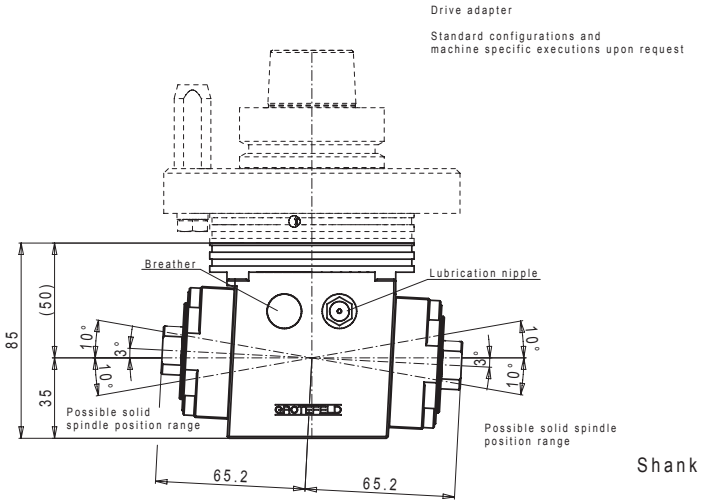
The angular heads of the series G07 offer you the possibility to choose an angular head with a fixed spindle position between 10° bended up and up to 10° bended down. In the two-spindle-execution the 180° opposite tool receptacle may have another angle than the other tool receptacle. The determined angle cannot be modified afterwards. The spindle turning direction is opposite to the drive turning direction. The drive speed is transferred to the tool receptacles in a ratio of 1:1. The maximum spindle speed in interval operation is 18,000 rpm.

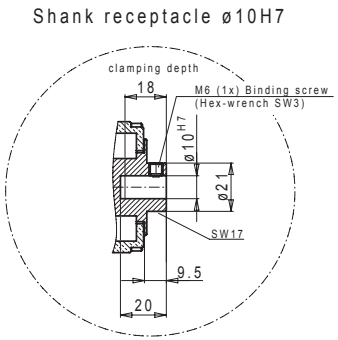


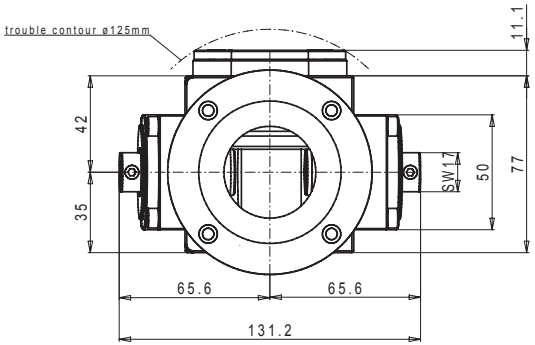
The Item Id. EP-030820 denominates the angular drilling head W07-1.1-P only, but does not determine a specific spindle position. It is necessary in case of an order to indicate the requested angle of the milling spindle in addition to the Item Id. Corresponding to your order you will receive the final Item Id. within the order confirmation for the angular milling head you ordered. This Item Id. than applies for this specific configuration and can be used in case of further orders without additional information.

Variants on demand!

GROTEFELD





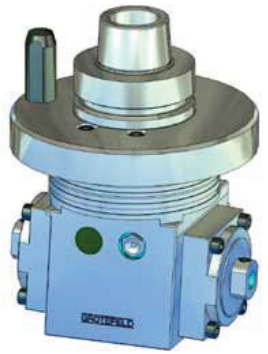


Technical features

Item Id.	EP-030830
drive turning direction	R.H./L.H.
drive speed max.	permanent operation 1.000 – 14.400 rpm interval operation 1.000 – 18.000 rpm
number of spindles	2
spindle position	max. 10° tilted up or down
tool receptacle	2x Ø10 H7 with Binding screw
gear ratio	1 : 1 – wheel drive
turning direction of tool receptacle	opposite to drive turning direction
spindle speed max.	permanent operation 1.000 – 14.400 rpm interval operation 1.000 – 18.000 rpm
drive capacity	3,0 kW
weight without drive adapter	approx. 2,00 kg

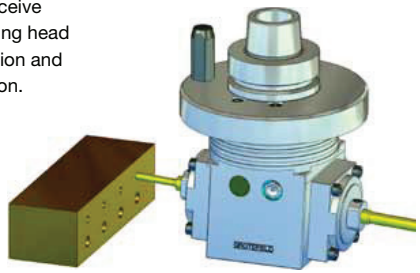
Optional accessories:

Open end spanner SW 17	Item Id. 131017
Hex- wrench SW3	Item Id. 138030
Lubrication press	Item Id. 980003



The angular heads of the series G07 offer you the possibility to choose an angular head with a fixed spindle position between 10° bended up and up to 10° bended down. In the two-spindle-execution the 180° opposite tool receptacle may have an other angle than the other tool receptacle. The determined angle cannot be modified afterwards. The spindle turning direction is opposite to the drive turning direction. The drive speed is transferred to the tool receptacles in a ratio of 1:1. The maximum spindle speed in interval operation is 18,000 rpm.

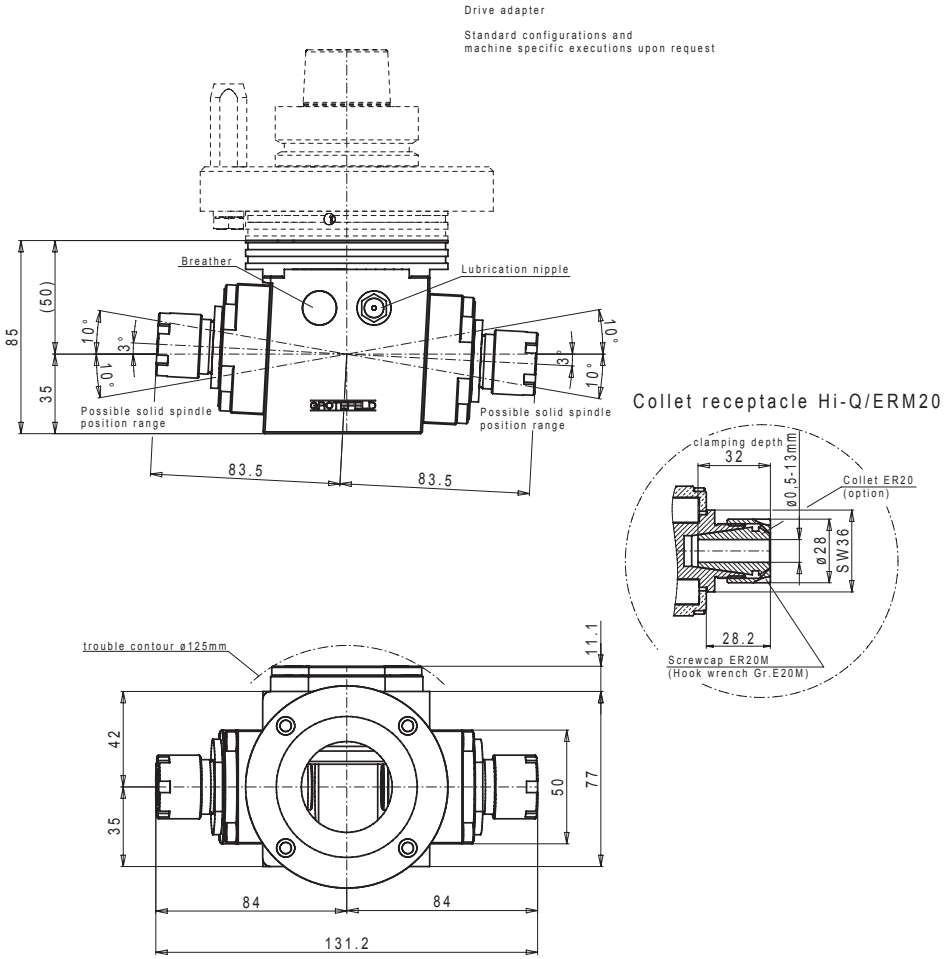
The Item Id. EP-030830 denominates the angular drilling head W07-2.2-B only, but does not determine a specific spindle position. It is necessary in case of an order to indicate the requested angle of the drilling spindle in addition to the Item Id. Corresponding to your order you will receive the final Item Id. within the order confirmation for the angular drilling head you ordered. This Item Id. than applies for this specific configuration and can be used in case of further orders without additional information.



Note: In case of equipment with drilling receptacles M10 plane the drive turning direction has to be determined before placing the order.

Variants on demand!

GROTEFELD



Technical features

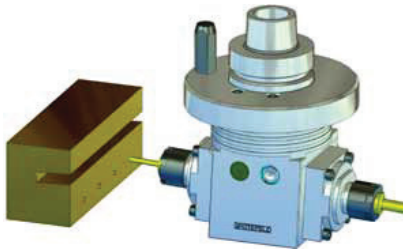
Item Id.	EP-030840
drive turning direction	L.H.
drive speed max.	permanent operation 1.000 – 14.400 rpm interval operation 1.000 – 18.000 rpm
number of spindles	2
spindle position	max. 10° tilted up or down
tool receptacle	2x Hi-Q/ERM20 DIN6499-C (8°) for collet ER20 DIN6499-B (ø0,5mm – ø13mm)
gear ratio	1 : 1 – wheel drive
turning direction of tool receptacle	opposite to drive turning direction
spindle speed max.	permanent operation 1.000 – 14.400 rpm interval operation 1.000 – 18.000 rpm
drive capacity	3,0 kW
weight without drive adapter	approx. 2,00 kg

Optional accessories:

Open end spanner SW 36	Item Id. 131036
Key for collet	Item Id. 137001
Lubrication press	Item Id. 980003

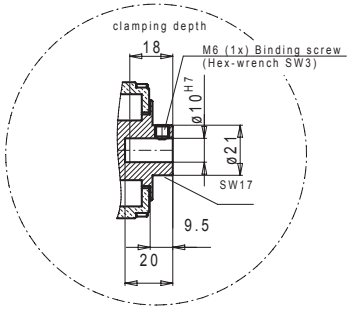
The angular heads of the series G07 offer you the possibility to choose an angular head with a fixed spindle position between 10° bended up and up to 10° bended down. In the two-spindle-execution the 180° opposite tool receptacle may have an other angle than the other tool receptacle. The determined angle cannot be modified afterwards. The spindle turning direction is opposite to the drive turning direction. The drive speed is transferred to the tool receptacles in a ratio of 1:1. The maximum spindle speed in interval operation is 18,000 rpm.

The Item Id. EP-030820 denominates the angular drilling head W07-2.2-P only, but does not determine a specific spindle position. It is necessary in case of an order to indicate the requested angle of the milling spindle in addition to the Item Id. Corresponding to your order you will receive the final Item Id. within the order confirmation for the angular milling head you ordered. This Item Id. than applies for this specific configuration and can be used in case of further orders without additional information.

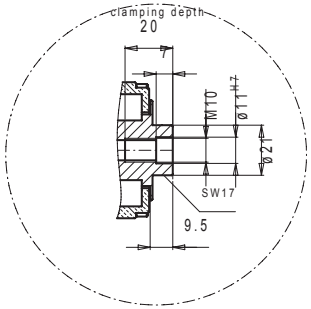


Variants on demand!

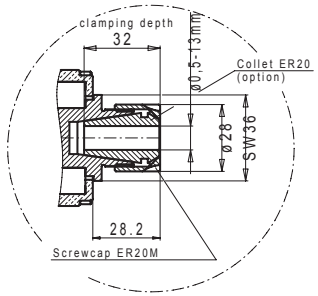
Shank receptacle ø10H7



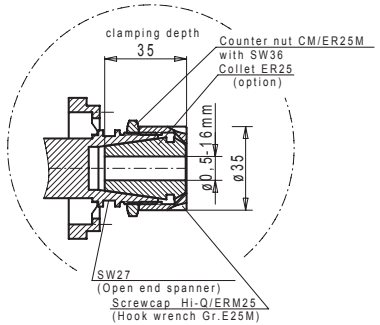
Shank receptacle M10 plan

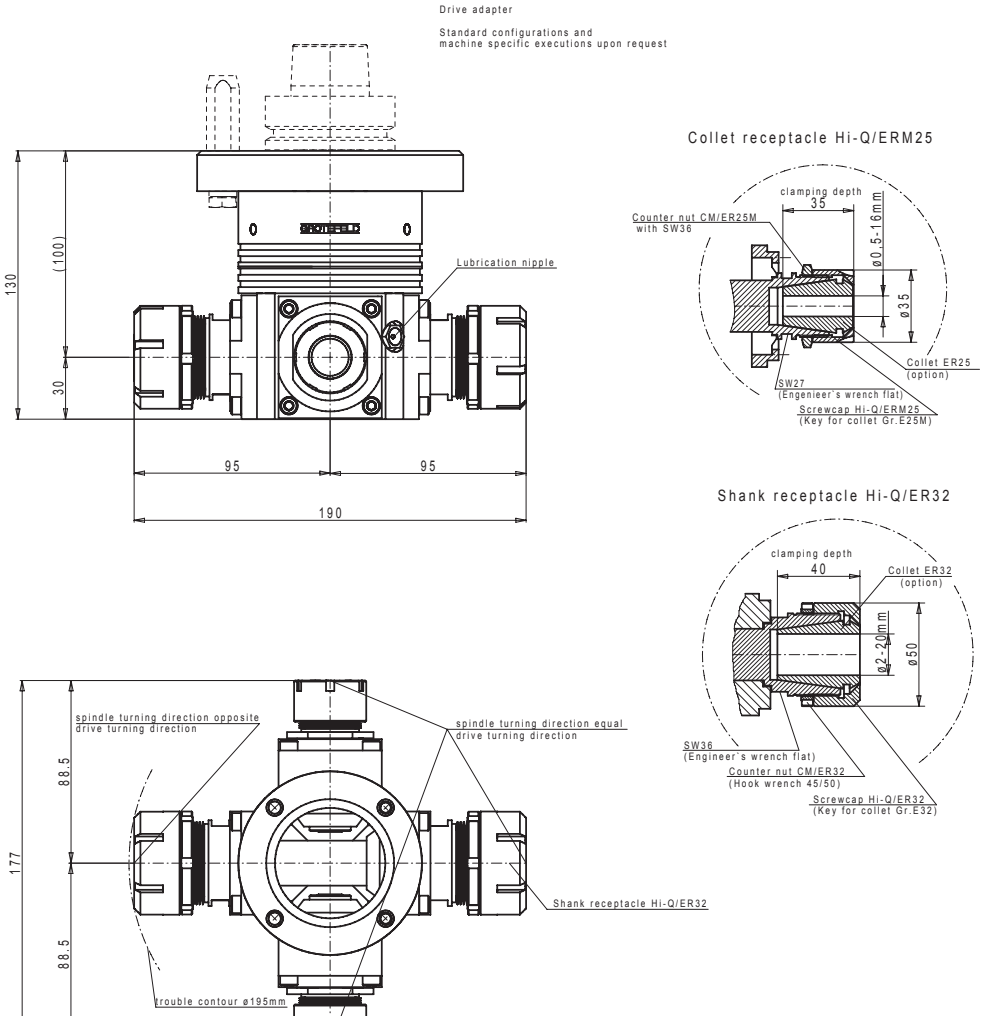


Collet receptacle Hi-Q/ERM20



Collet receptacle Hi-Q/ERM25





Technical features

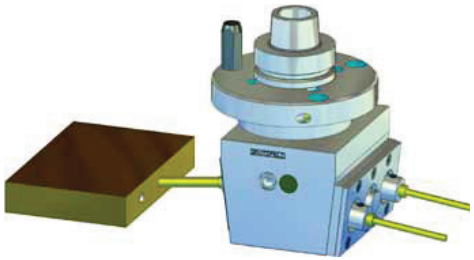
Item Id.	EP-030901
drive turning direction	R.H./L.H.
drive speed max.	permanent operation 6.000 rpm
number of spindles	3
spindle position	1x horizontal 180° against – A=71mm
spindle position	7,0° down
tool receptacle	Ø10H7
gear ratio	1 : 1 – wheel drive
turning direction of tool receptacle	2x equal to drive turning operation 1x opposite to drive turning operation
spindle speed max.	permanent operation 6.000 rpm
drive capacity	1,7 kW
weight with drive adapter	approx. 2,50 kg

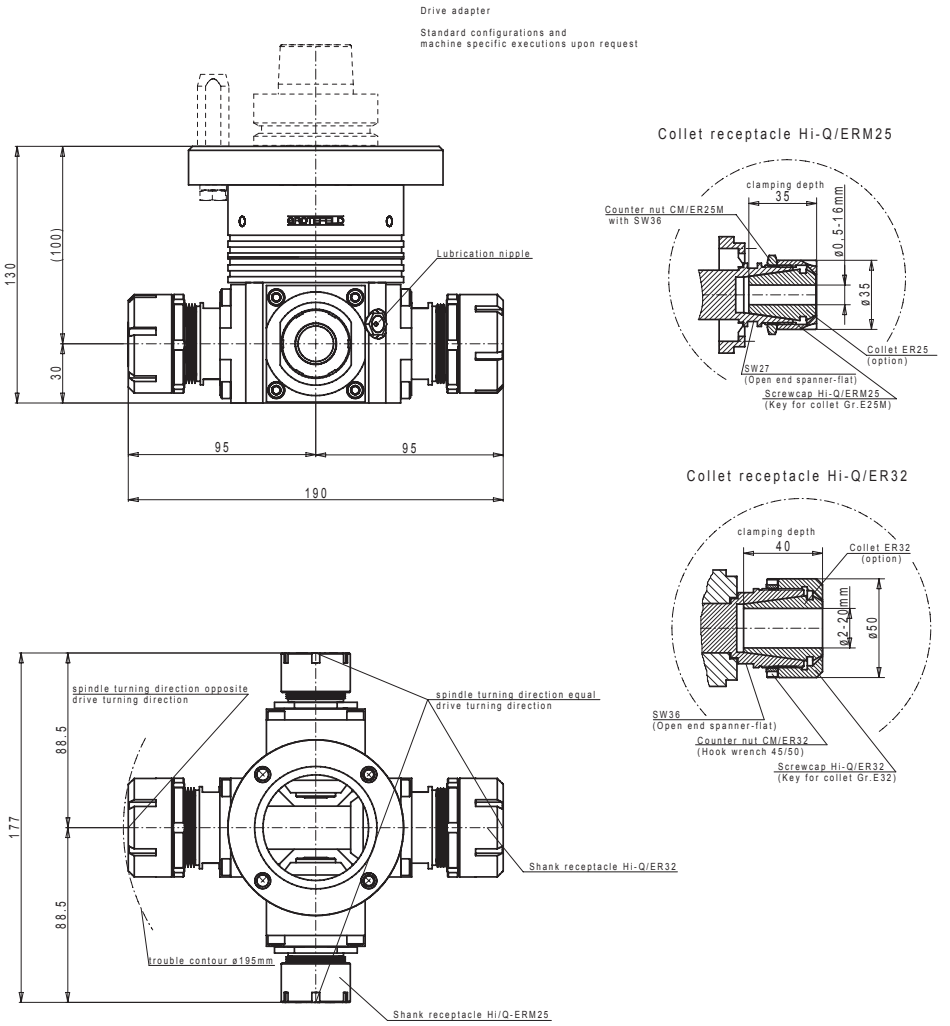
Optional accessories:

Hex-wrench SW3	Item Id. 138040
Open end spanner SW17	Item Id. 131017
Lubrication press	Item Id. 980003

The angular heads of the series W09 offer you the possibility to choose an angular head with a fixed spindle position between 10° bended up and up to 10° bended down. The determined angle cannot be modified afterwards. The spindle turning direction is right / left. The drive speed is transferred to the tool receptacles in a ratio of 1:1. The maximum spindle speed in interval operation is 18,000 rpm.

Variants on demand!





Technical features

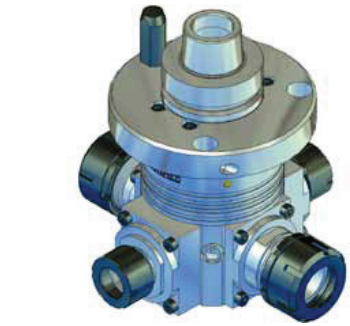
Item Id.	EP-031035
drive turning direction	R.H.
drive speed max.	permanent operation 645 – 9.290 rpm
drive speed max.	interval operation 645 – 11.613 rpm
number of spindles	3
spindle position	horizontal
tool receptacle	2x Hi-Q/ERM25 DIN6499-C(8°) for Collet ER25 DIN 6499-B (ø0,5 mm-ø16 mm)
tool receptacle	2x Hi-Q/ER32 DIN6499-C(8°) for Collet ER32 DIN 6499-B (1,0 mm-ø20 mm)
gear ratio	1 : 1,55 – wheel drive
turning direction of tool receptacle	3x equal to drive turning direction 1x opposite to drive turning direction
spindle speed max.	permanent operation 1.000 - 14.400 rpm
spindle speed max.	interval operation 1.000 - 18.000 rpm
drive capacity	3,0 kW
weight with drive adapter	approx. 6,00 kg

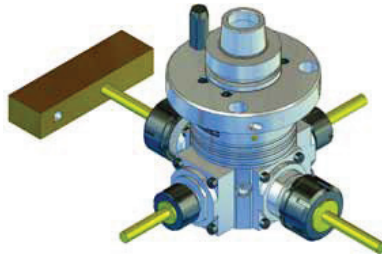
Optional accessories:

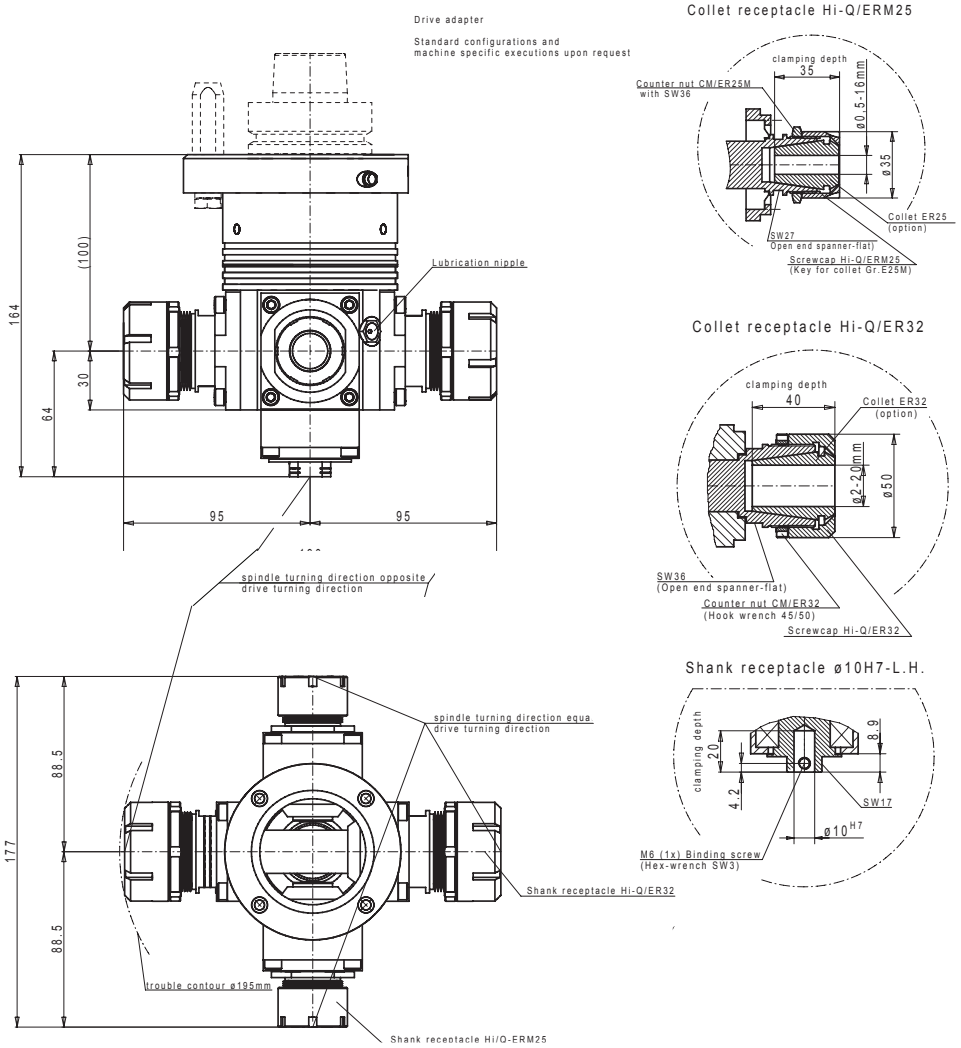
Key for collet E 25M	Item Id. 137002
Key for collet E 32	Item Id. 137007
Open end spanner SW 36 flat	Item Id. 131236
Hook wrench 45/50	Item Id. 139050
Lubrication press	Item Id. 980003

The angular heads of the series G10 are equipped with a continuous processing spindle with two possibly different tool receptacles. One of the receptacles is turning equal to the drive turning direction, the other is turning opposite to the drive turning direction. The other existing processing spindles are arranged in an angle of 90° to the continuous processing spindle. The spindle turning direction of these tool receptacles is always equal to the drive turning direction. The drive speed is transferred in a ratio of 1:1,55 to the tool receptacles. A maximum spindle speed up to 18.000 rpm is possible in interval operation.

Variants on demand!





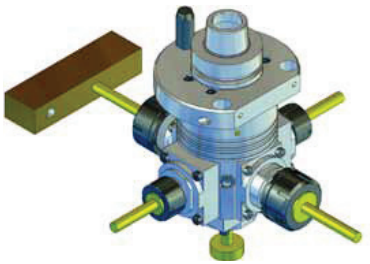


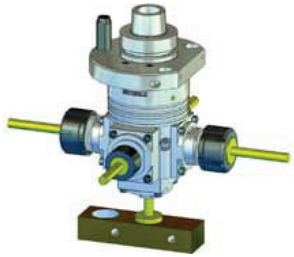
Technical features

Item Id.	EP-031038
drive turning direction	R.H.
drive speed max.	permanent operation 645 – 9.290 rpm
drive speed max.	interval operation 645 – 11.613 rpm
number of spindles	4
spindle position	horizontal / vertical
tool receptacle	2x Hi-Q/ERM25 DIN6499-C(8°) for Collet ER25 DIN 6499-B (ø0,5 mm-ø16 mm)
tool receptacle	2x Hi-Q/ER32 DIN6499-C(8°) for Collet ER32 DIN 6499-B (1,0 mm-ø20 mm)
tool receptacle	1x shank receptacle ø10H7 – L.H.
gear ratio	1 : 1,55 – wheel drive
turning direction of tool receptacle	3x equal to drive turning direction 2x opposite to drive turning direction
spindle speed max.	permanent operation 1.000 - 14.400 rpm
spindle speed max.	interval operation 1.000 - 18.000 rpm
spindle speed shank max.	permanent operation 645 - 9.032 rpm
spindle speed shank max.	interval operation 645 - 11.613 rpm
drive capacity	3,0 kW
weight with drive adapter	approx. 6,20 kg

Optional accessories:

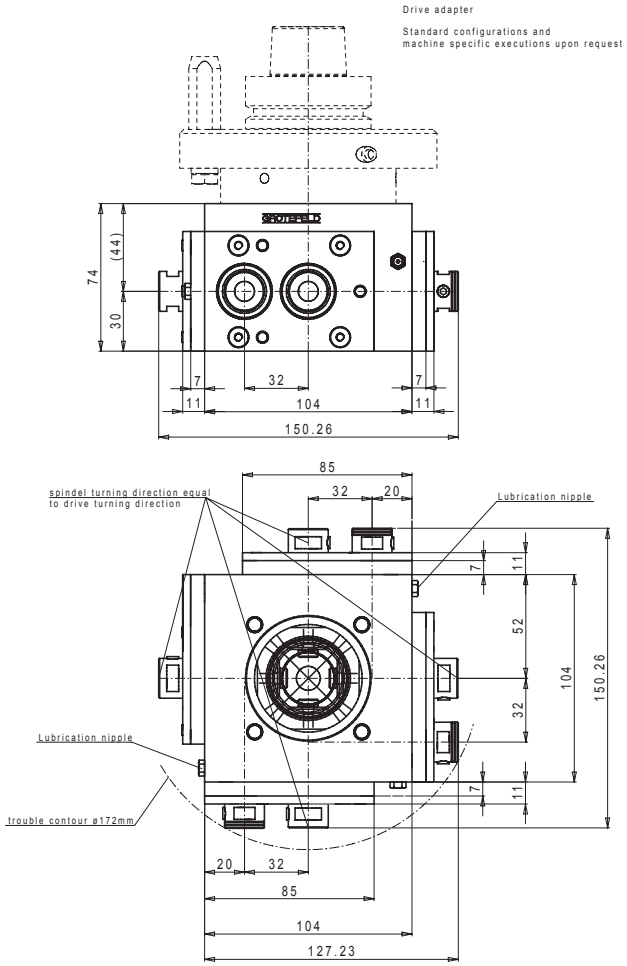
Key for collet E 25M	Item Id. 137002
Key for collet E 32	Item Id. 137007
Open end spanner SW 17	Item Id. 131017
Open end spanner SW 36 flat	Item Id. 131236
Hook wrench 45/50	Item Id. 139050
Hex-wrench SW3	Item Id. 138030
Lubrication press	Item Id. 980003



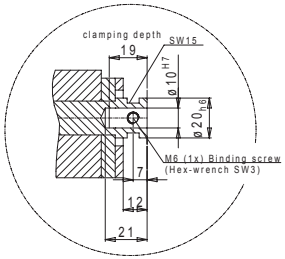


The angular heads of the series G10-4.5 are equipped with a continuous processing spindle with two possibly different tool receptacles. One of the receptacles is turning equal to the drive turning direction, the other is turning opposite to the drive turning direction. The other existing processing spindles are arranged in an angle of 90° to the continuous processing spindle. The spindle turning direction of these tool receptacles is always equal to the drive turning direction, that of the lower spindle opposite to the drive turning direction. The drive speed is transferred in a ratio of 1:1,55 to the tool receptacles. A maximum spindle speed up to 18.000 rpm is possible in interval operation.

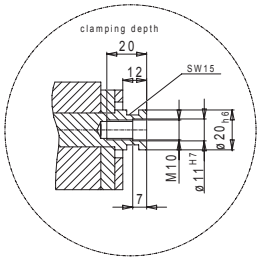
Variants on demand!



Shank receptacle ø10H7 R.H./L.H.



Shank receptacle M10 plane R.H./L.H.

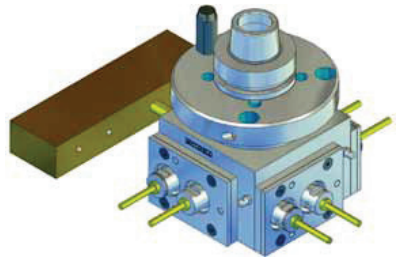


Technical features

Item Id.	EP-030002
drive turning direction	R.H./L.H.
drive speed max.	permanent operation 645 – 3.871 rpm
number of spindles	2 - 8
spindle position	horizontal / 90° shifted towards each other
tool receptacles	Ø10H7 with Binding screw
turning direction of tool receptacles	max. 4x equal to drive turning direction max. 4x opposite to drive turning direction
gear ratio	1 : 1,55 - wheel drive
spindle speed max.	permanent operation 1.000 – 6.000 rpm
drive capacity	3,0 kW
weight without drive adapter	approx. 3,80 kg (as shown)

Optional accessories:

Hex-wrench SW3	Item Id. 138030
Open end spanner SW15	Item Id. 131001
Lubrication press	Item Id. 980003



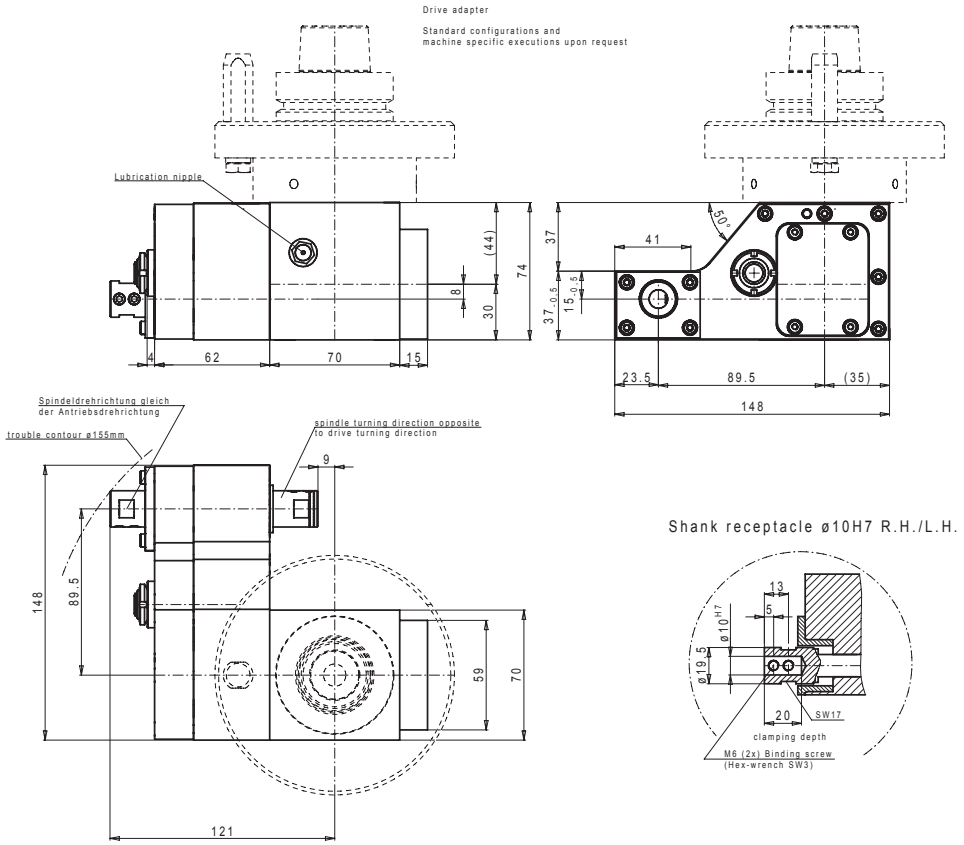
The angular heads of the series W11 can be equipped with up to two tool receptacles to all 4 sides. The spindle distance can be minimum 21,5 up to maximum 32,0 mm. The spindle turning direction is according to the number and position of the spindles R.H./L.H. The drive speed is transferred to the tool receptacles in a ratio of 1:1,55. A maximum spindle speed of 6.000 rpm is possible in permanent operation.

The type designation W11-7.7-B denominates an angular drilling head with seven spindles.

It is necessary in addition to the order number to mention the mode of equipment in case of an order. Corresponding to your order you will receive a final Item Id. within our order confirmation for the angular head ordered. This Item Id. then applies for this specific configuration and can be used for all further orders without any additional information.

Variants on demand!

GROTEFELD



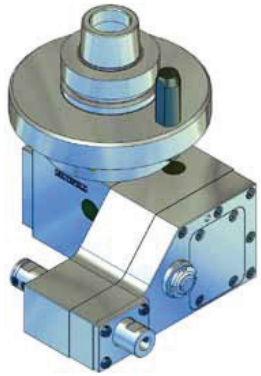
Technical features

Item Id.	EP-031201
drive turning direction	R.H.
drive speed max.	permanent operation 4.000 rpm*
number of spindles	1
spindle position	horizontal / 180° opposite towards each other
tool receptacles	2x ø10H7 with Binding screw
gear ratio	1 : 2,25 – wheel- and tooth belt drive
turning direction of tool receptacle	1x equal to drive turning direction 1x opposite to drive turning direction
spindle speed max.	permanent operation 9.000 rpm*
drive capacity	2,0 kW
weight without drive adapter	approx. 4,50 kg

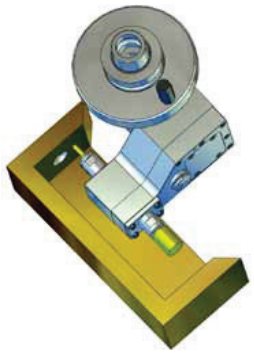
Optional accessories:

Hex- wrench SW3	Item Id.138030
Open end spanner SW17	Item Id. 131017
Lubrication press	Item Id. 980003

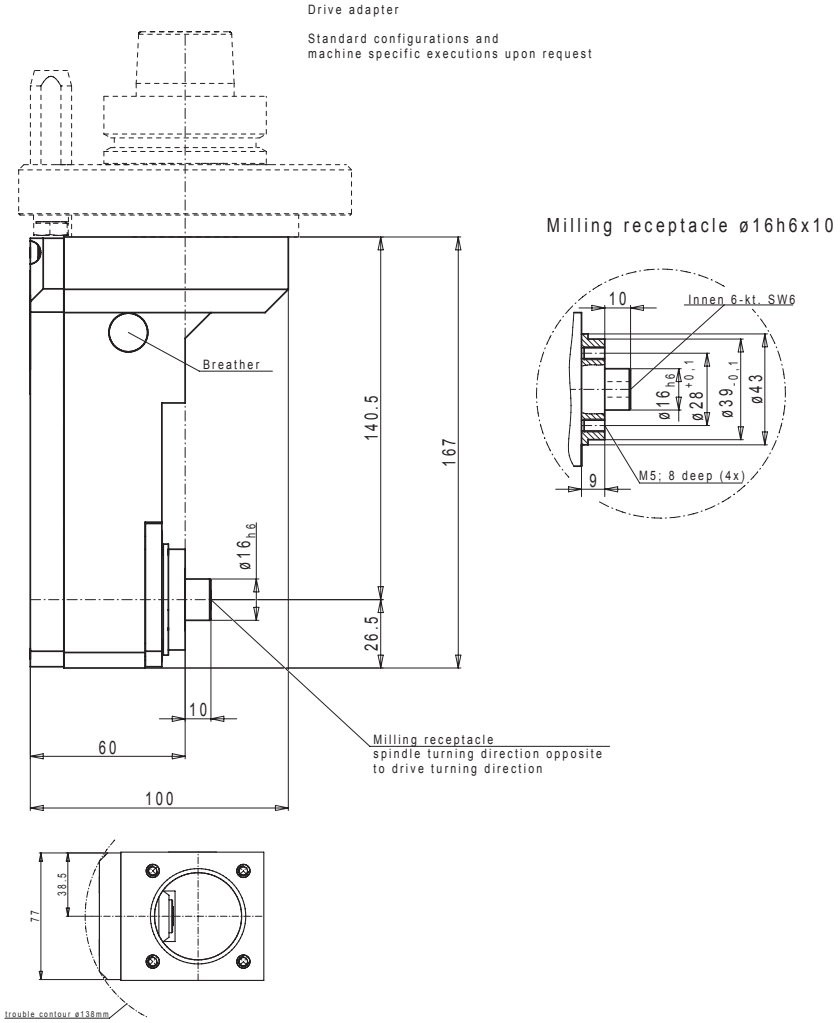
The angular heads of the series W12 can be equipped with a continuous processing spindle with two tool receptacles. One of the receptacles is turning equal to the drive turning direction, the other is turning opposite to the drive turning direction. The drive speed is transferred in a ratio of 1:2,25 to the tool receptacles. A maximum spindle speed of 9.000 rpm is possible in permanent operation.



*** Transferable services for other speeds on demand!**



Variants on demand!



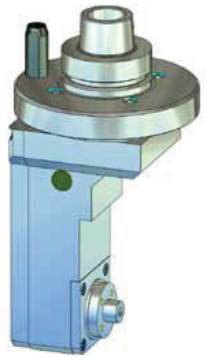
Milling receptacle ø16h6x10

Technical features

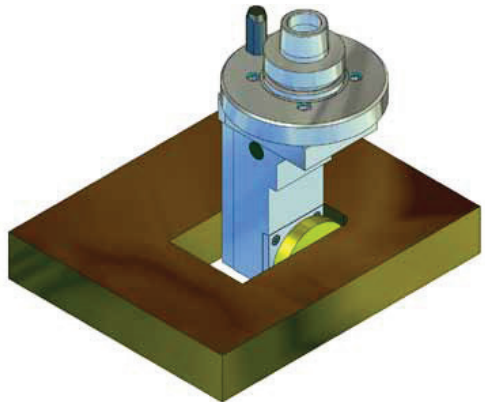
Item Id.	EP-031510
drive turning direction	R.H./L.H.
drive speed max.	interval operation 7.742 rpm
number of spindles	1
spindle position	horizontal
tool receptacle	1x milling receptacle ø16h6 x 10 mm
gear ratio	1 : 1,55 – wheel- and tooth belt drive
turning direction of tool receptacle	1x opposite to drive turning direction
spindel speed max.	interval operation 12.000 rpm
drive capacity	2,5 kW at 12.000 rpm
weight with drive adapter	approx. 4,00 kg

Optional accessories:

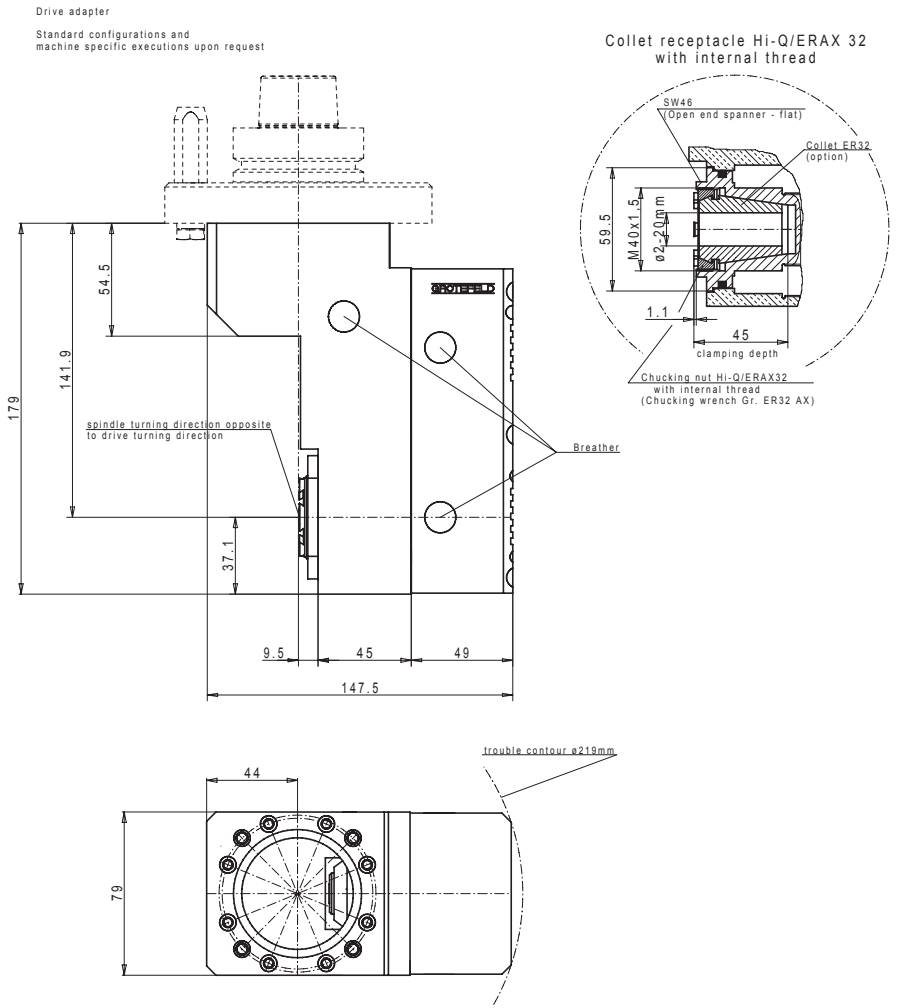
Hex-wrench SW6	Item Id. 138060
Lubrication press	Item Id. 980003



The angular heads of the G15 series are used as edge notching aggregates. The drive speed is transmitted in the ratio 1:1,55 to the tool receptacles. A maximum spindle speed up to 12.000 rpm is possible in interval operation.



Variants on demand!



Technical features

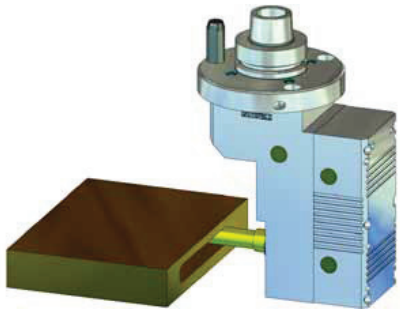
Item Id.	EP-031652
drive turning direction	L.H.
drive speed max.	permanent operation 5.338 rpm
drive speed max.	interval operation 6.672 rpm
number of spindles	1
spindle position	horizontal
tool receptacle	1x Collet receptacle Hi-Q/ERAX 32
gear ratio	1 : 2,248 wheel- and tooth belt driven
turning direction of collet receptacle	1x opposite to drive turning direction
spindle speed max.	permanent operation 12.000 rpm
spindle speed max.	interval operation 15.000 rpm
drive capacity	3,0 kW
weight with drive adapter	approx. 6,80 kg

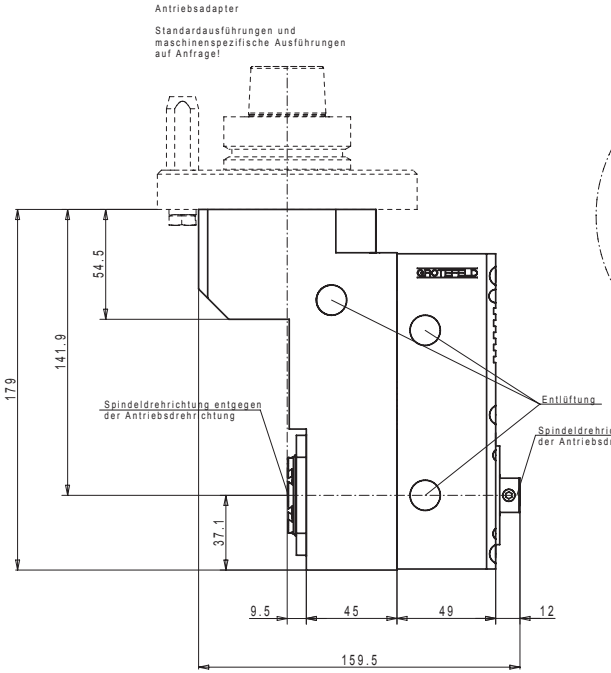
Optionales Zubehör:

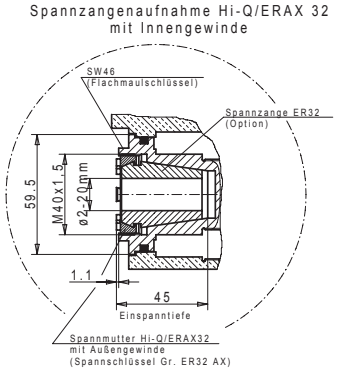
Open end spanner SW46 flat	Item Id. 131247
Chucking wrench E32-AX	Item Id. 137011
Lubrication press	Item Id. 980003

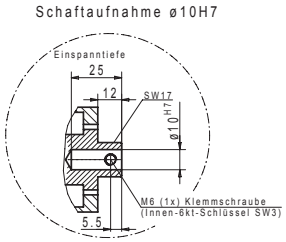
The angular heads of the series G16 are especially designed for the processing of case lock millings. The housing is cranked so that a small partial circle is achieved with mounted long tool. The G16-1.1-P is equipped with a continuous processing spindles with one tool receptacle. The drive speed is transferred to the tool receptacle in a relation of 1:2,248. The maximum spindle speed is 12.000 rpm in permanent operation, in interval operation the max. spindle speeds is 15.000 rpm.

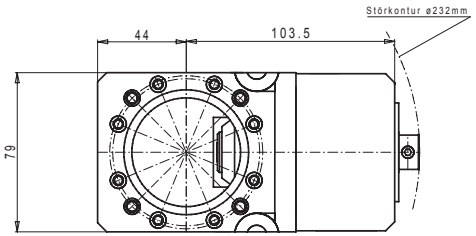
Variants on demand!











Technical features

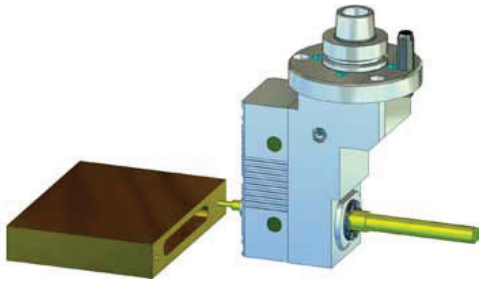
Item Id.	EP-031672
drive turning direction	L.H.
drive speed max.	permanent operation 5.338 rpm
drive speed max.	interval operation 6.672 rpm
number of spindles	1
spindle position	horizontal
tool receptacle	1x Collet receptacle Hi-Q/ERAX 32
tool receptacle	1x Shank receptacle ø10H7 x 25mm
gear ratio	1 : 2,248 wheel- and tooth belt driven
turning direction of collet receptacle	1x opposite to drive turning direction
turning direction of shank receptacle	1x equal to drive turning direction
spindle speed max.	permanent operation 12.000 rpm
spindle speed max.	interval operation 15.000 rpm
drive capacity	3,0 kW
weight with drive adapter	approx. 6,80 kg

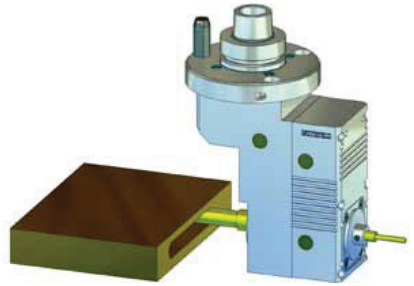
Optionales Zubehör:

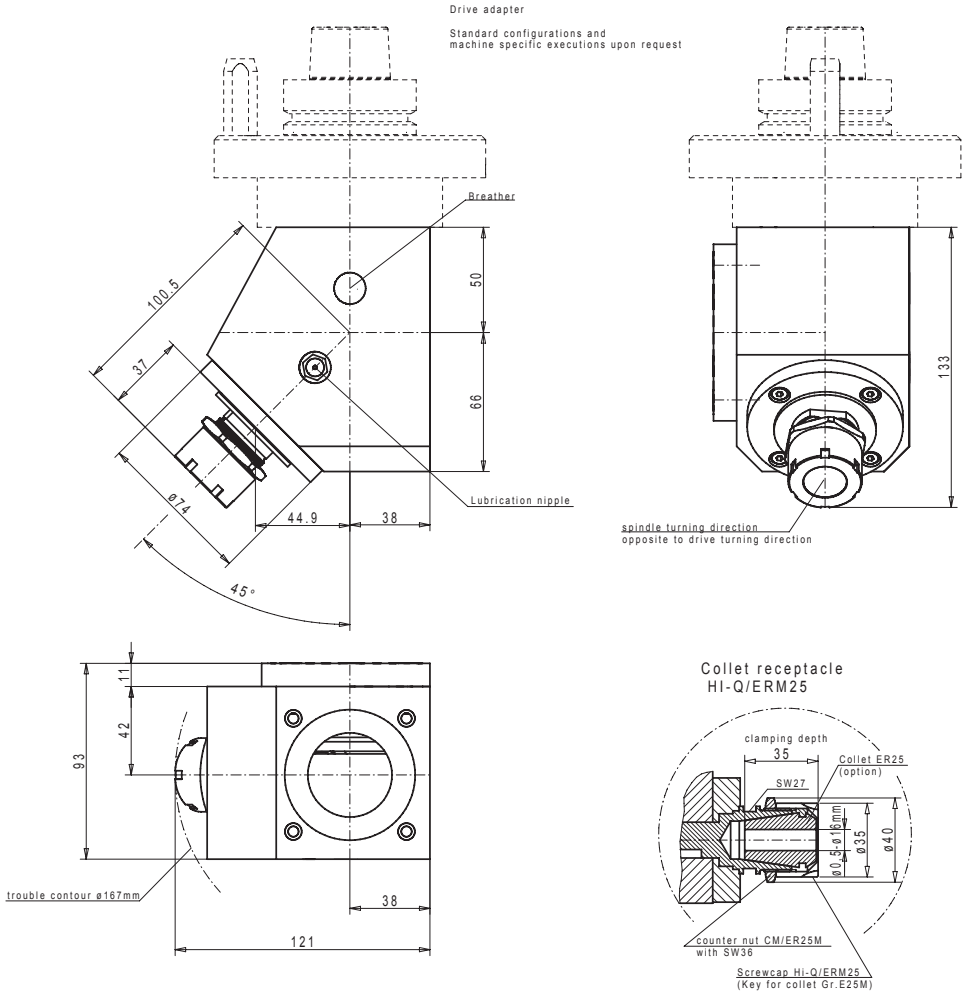
Open end spanner SW17	Item Id. 131017
Open end spanner SW46 flat	Item Id. 131247
Hex-wrench SW3	Item Id. 138030
Chucking wrench E32-AX	Item Id. 137011
Lubrication press	Item Id. 980003

The angular heads of the series G16 are especially designed for the processing of case lock millings. The housing is cranked so that a small partial circle is achieved with mounted long tool. They are equipped with continuous processing spindles with max. two opposite tool receptacles. Therefore the spindle turning direction of one of the two tool receptacles is equal to the drive turning direction, whereas the spindle turning direction of the other tool receptacle is opposite to it. The drive speed is transferred to the tool receptacles in a ratio of 1:2,248. The maximum spindle speed is 12.000 rpm in permanent operation, in interval operation the max. spindle speeds is 15.000 rpm.

Variants on demand!







Technical features

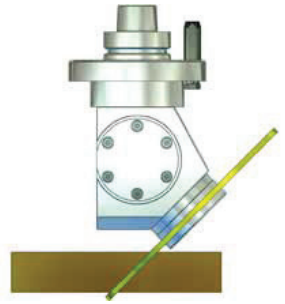
Item Id.	EP-031701
drive turning direction	R.H./L.H.
drive speed max.	permanent operation 1.000 – 10.000 rpm
drive speed max.	interval operation 1.000 – 18.000 rpm
number of spindles	1
spindle position	45° bended down (standard)
tool receptacle	Collet receptacle Hi-Q/ERM25 (ø0,5–ø16mm)
gear ratio	1 : 1 – wheel drive
turning direction	1x opposite to drive turning direction
spindle speed max.	permanent operation 1.000 – 10.000 rpm
spindle speed max.	interval operation 1.000 – 18.000 rpm
drive capacity	3,0 kW
weight without drive adapter	approx. 2,30 kg

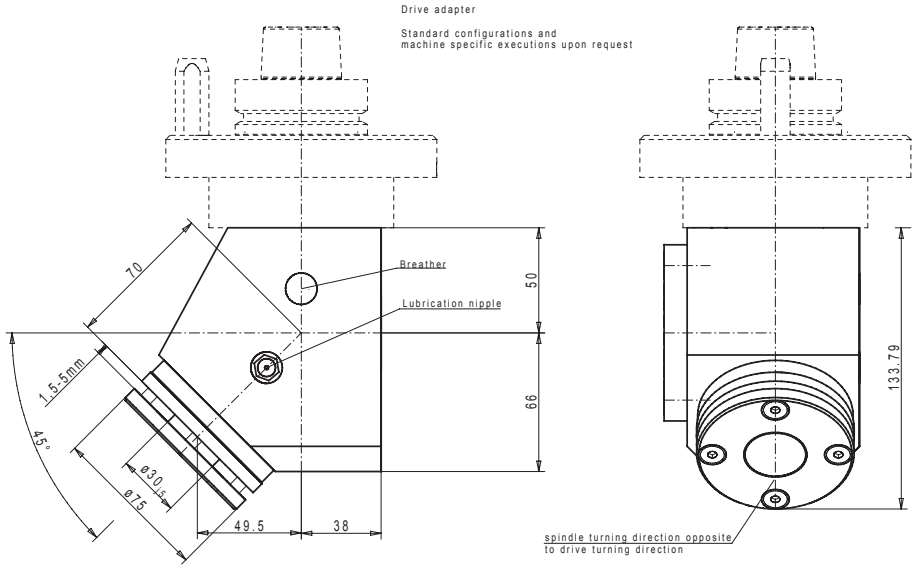
Optional accessories:

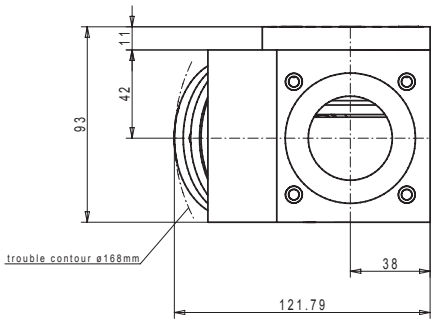
Key for Collet E 25M	Item Id. 137002
Open end spanner SW 27 flat	Item Id. 131027
Open end spanner SW 36	Item Id. 131036
Lubrication press	Item Id. 980003

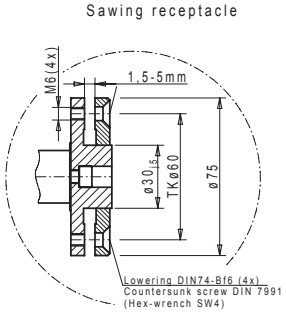
The angular heads of the series W17 are equipped with one processing spindle which can be arranged in a determined angle in the area from 0° (horizontally) up to 90° max. (vertically). The determined angle cannot be modified afterwards. The spindle turning direction is opposite to the drive turning direction. The drive speed is transferred to the tool receptacles in a ratio of 1:1. With regard to the type W17-1.2-SB the spindle can be arranged with a sawing and drilling receptacle according to the above mentioned indications. A maximum spindle speed of 18.000 rpm is possible in interval operation.

Variants on demand!









Technical features

Item Id.	EP-031709	
drive turning direction	R.H./L.H.	
drive speed max.	permanent operation	1.000 – 10.000 rpm
drive speed max.	interval operation	1.000 – 18.000 rpm
number of spindles	1	
spindle position	45° bended down (standard)	
tool receptacle	ø75 x ø30j5 – clamping area 1,5mm – 5,0mm	
gear ratio	1 : 1 – wheel drive	
turning direction	1x opposite to drive turning direction	
spindle speed max.	permanent operation	1.000 – 10.000 rpm
spindle speed max.	interval operation	1.000 – 18.000 rpm
drive capacity	3,0 kW	
weight without drive adapter	approx. 2,90 kg	

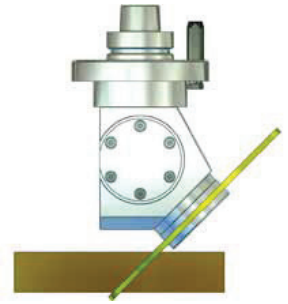
Optional accessories:

Hex- wrench SW4	Item Id. 138040
Lubrication press	Item Id. 980003

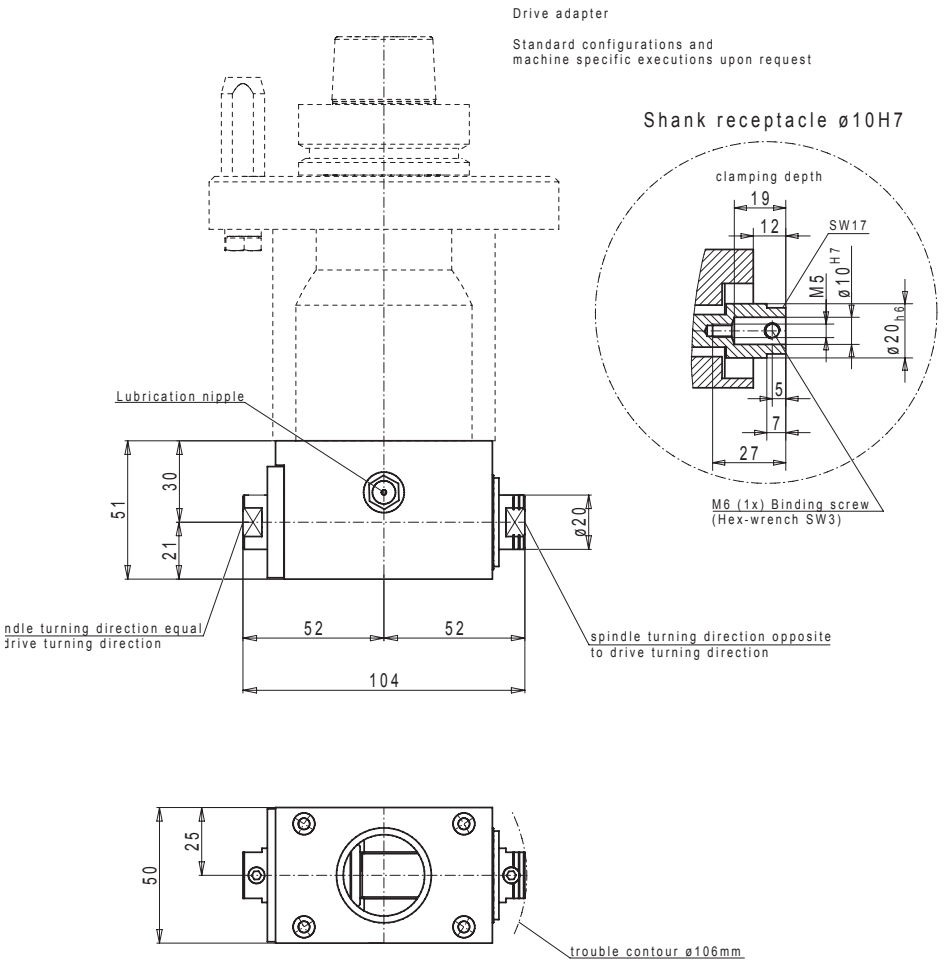
The angular heads of the series W17 are equipped with one processing spindle which can be arranged in a determined angle in the area from 0° (horizontally) up to 90° max. (vertically). The determined angle cannot be modified afterwards. The spindle turning direction is opposite to the drive turning direction. The drive speed is transferred to the tool receptacles in a ratio of 1:1. With regard to the type W17-1.2-SB the spindle can be arranged with a sawing and drilling receptacle according to the above mentioned indications. A maximum spindle speed of 18.000 rpm is possible in interval operation.

Attention:

The use of saw blades is possible with the angular heads of the type series W17 up to a maximum diameter of 300 mm. The freewheeling of the saw blade, however, has to be observed respectively the max. diameter has to be limited correspondingly - depending on the used drive adapters and the drive cover contour (customer's part).



Variants on demand!



Technical features

Item Id.	EP-031901
drive turning direction	R.H.
drive speed max.	permanent operation 1.000 – 12.000 rpm
number of spindles	1
spindle position	horizontal / 180° opposite towards each other
tool receptacle	2x Ø10H7 with Binding screw
gear ratio	1 : 1 – gear driven
turning direction of tool receptacle	1x equal to drive turning direction 1x opposite to drive turning direction
spindle speed max.	permanent operation 1.000 – 12.000 rpm
drive capacity	1,7 kW
weight without drive adapter	approx. 0,70 kg

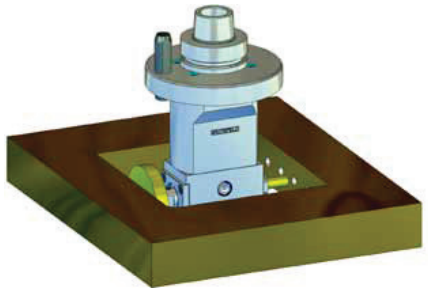
Optional accessories:

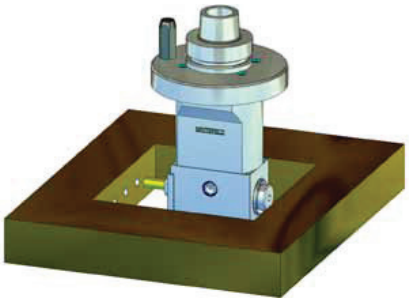
Open end spanner SW17	Item Id. 131017
Hex-wrench SW3	Item Id. 138030
Lubrication press	Item Id. 980003

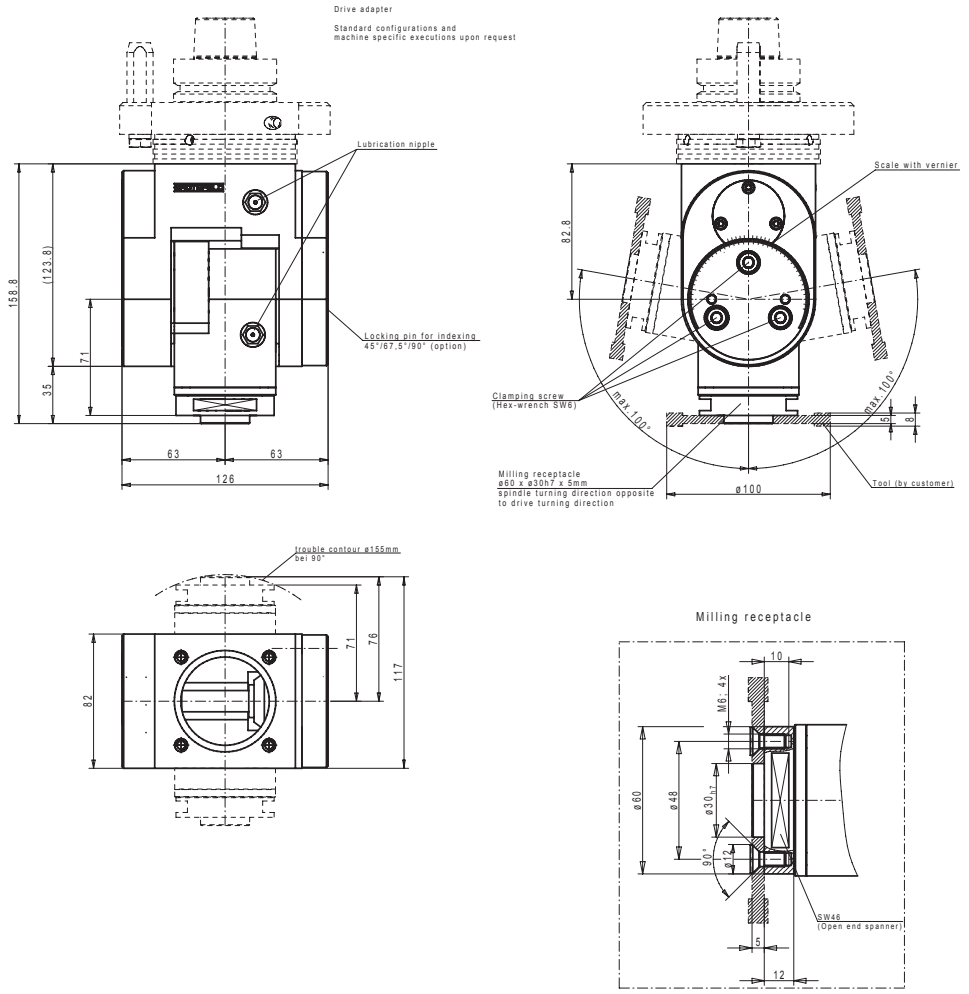
The angular drilling head W19-1.2-B suits for drilling and light milling work due to its construction.

With accordingly extended drive cover and special tools, it is often used for „edge notching“ from pre-milled grooves etc.

Variants on demand!







Technical features

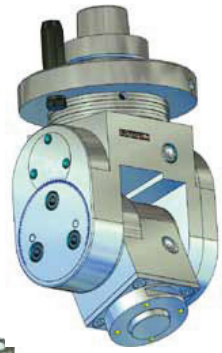
Item Id.	EP-032540
drive turning direction	R.H./L.H.
drive speed max.	permanent operation 7.755 rpm
drive speed max.	interval operation 8.726 rpm
number of spindles	1
spindle position	horizontal to vertical adjustable by scale (0°- 100°)
tool receptacle	Ø60 x ø30h7 x 5 mm
gear ratio	1 : 2,06 – toothed belt and gear drive
turning direction of tool receptacle	1x opposite to drive turning direction
spindle speed max.	permanent operation 16.000 rpm
spindle speed max.	interval operation 18.000 rpm
drive capacity	3,0 kW
weight without drive adapter	approx. 3,00 kg

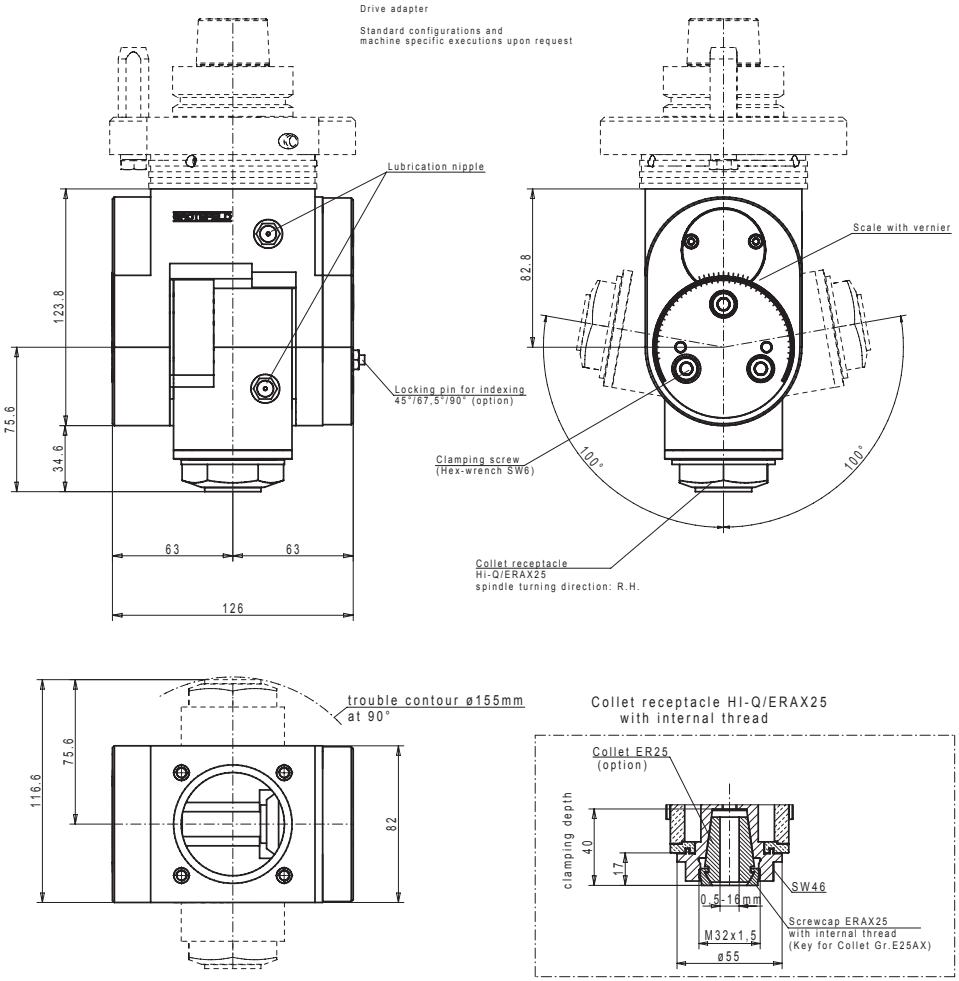
Optional accessories:

Indexing 45°/67,5°/90°	Item Id. 032549
Hex-wrench SW4	Item Id. 138040
Hex-wrench SW6	Item Id. 138060
Open end spanner SW 46 flat	Item Id. 131247
Lubrication press	Item Id. 980003

The angular milling heads G25-1.1-F have a machining spindle continuously adjustable by scale. The adjustment range is 0° (vertical) up to 100° to both sides. The spindle turning direction is opposite to drive turning direction. The drive speed is transmitted in a ratio of 1:2,06 to the tool receptacle. The maximum spindle speed is 18,000 rpm in interval operation.

Variants on demand!



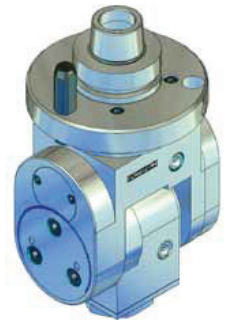


Technical features

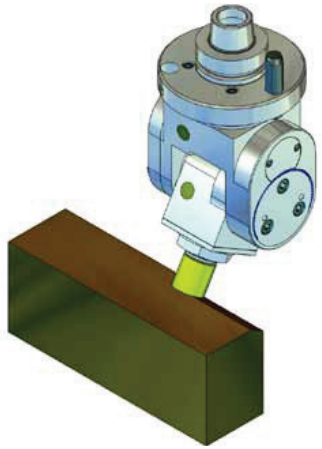
Item Id.	EP-032550
drive turning direction	L.H.
drive speed max.	permanent operation 7.755 rpm
drive speed max.	interval operation 8.726 rpm
number of spindles	1
spindle position	horizontal to vertical adjustable by scale (0° - 100°)
tool receptacle	1x Hi-Q/ERAX 25 DIN 6499-C(8°) for collet ER25 DIN 6499-B (ø0,5mm – ø16 mm)
gear ratio	1 : 2,06 – toothed belt and gear drive
turning direction of tool receptacle	1x opposite to drive turning direction
spindle speed max.	permanent operation 16.000 rpm
spindle speed max.	interval operation 18.000 rpm
drive capacity	3,0 kW
weight without drive adapter	approx. 3,00 kg

Optional accessories:

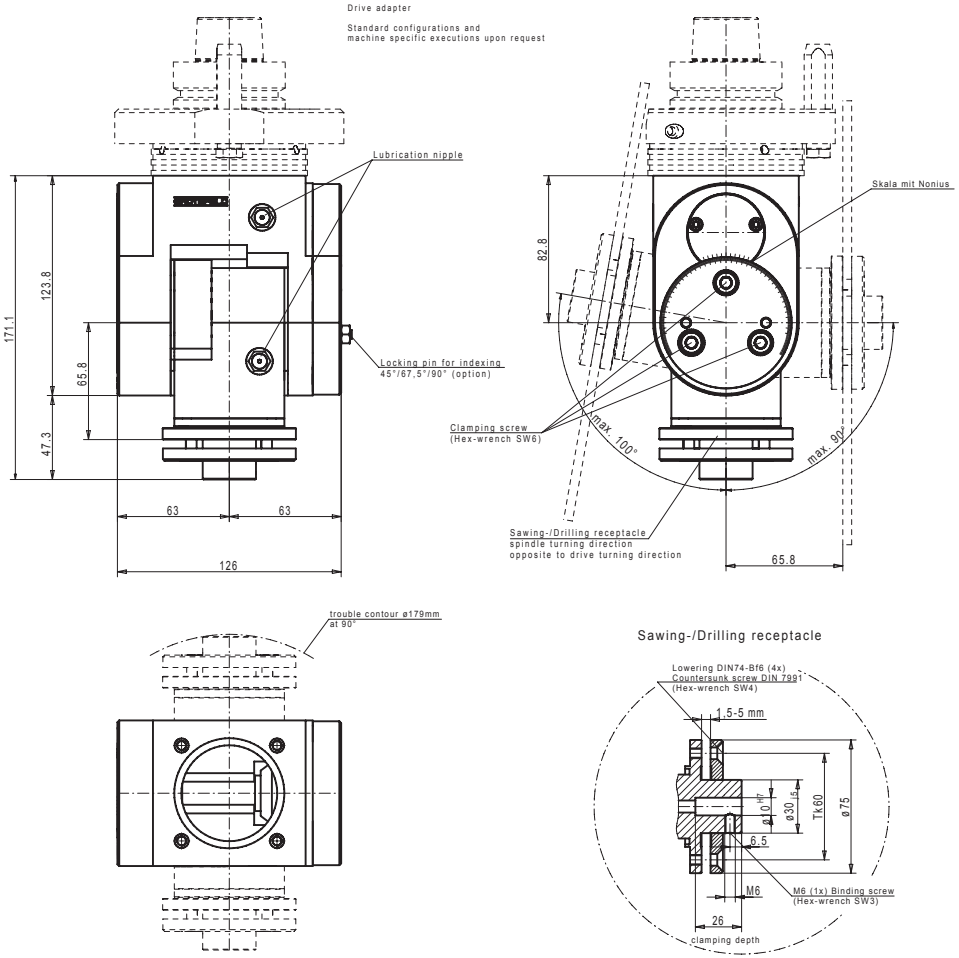
Indexing 45°/67,5°/90°	Item Id. 032549
Hex-wrench SW4	Item Id. 138040
Hex-wrench SW6	Item Id. 138060
Key for collet E 25-AX	Item Id. 137012
Open end spanner SW 46 flat	Item Id. 131247
Lubrication press	Item Id. 980003



The angular milling heads G25-1.1-P have a machining spindle continuously adjustable by scale. The adjustment range is 0° (vertical) up to 100° to both sides. The spindle turning direction is opposite to drive turning direction. The drive speed is transmitted in a ratio of 1:2,06 to the tool receptacle. The maximum spindle speed is 18,000 rpm in interval operation.



Variants on demand!



Technical features

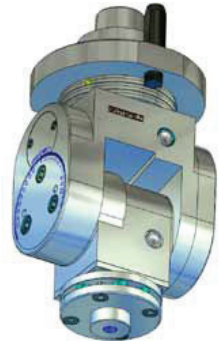
Item Id.	EP-032570
drive turning direction	R.H./L.H.
drive speed max.	permanent operation 6.752 rpm
drive speed max.	interval operation 8.102 rpm
number of spindles	1
spindle position	horizontal to vertical adjustable by scale (0° - 100°)
tool receptacle	1x ø75 x ø30j5 x 1,5-5 mm clamping area 1x shank receptacle ø10H7
gear ratio	1 : 1,48 – toothed belt and gear drive
turning direction of tool receptacle	2x opposite to drive turning direction
spindle speed max.	permanent operation 10.000 rpm
spindle speed max.	interval operation 12.000 rpm
drive capacity	3,0 kW
weight without drive adapter	approx. 3,20 kg

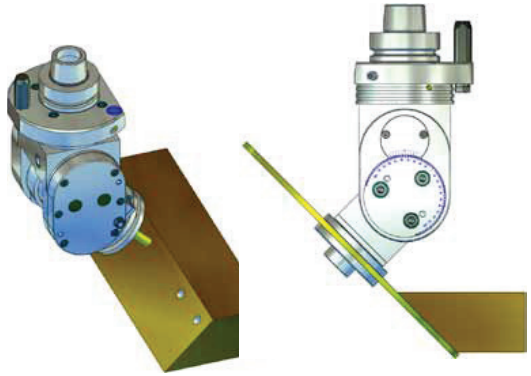
Optional accessories:

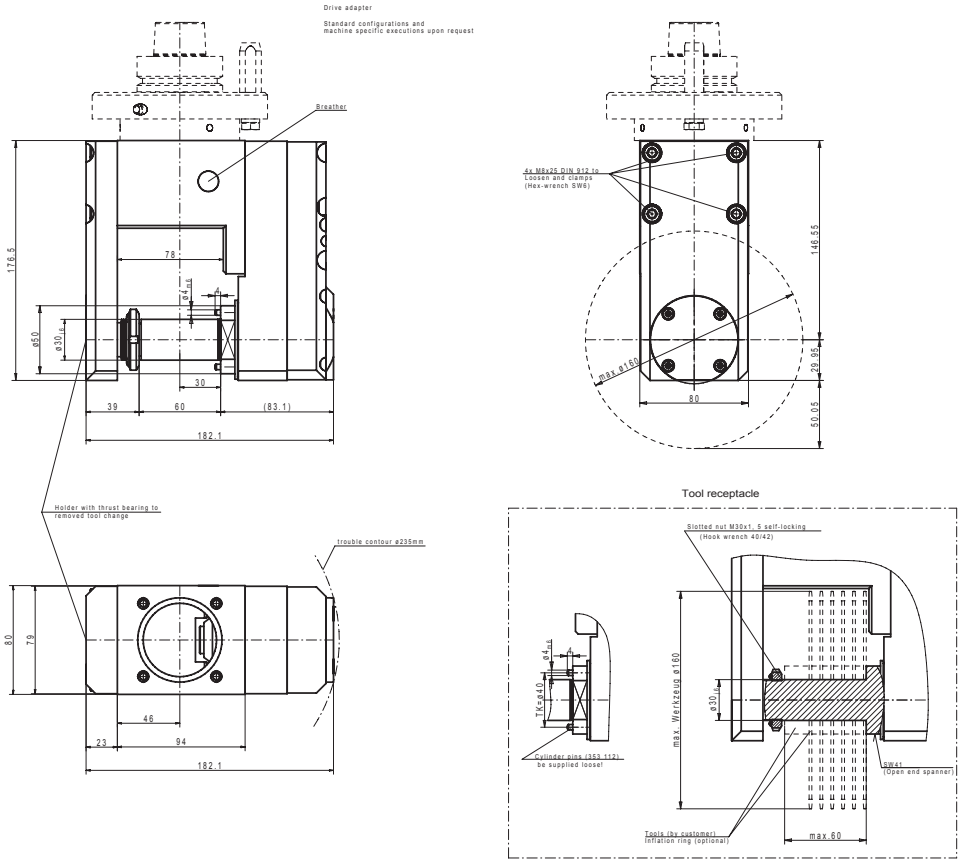
Indexing 45°/67,5°/90°	Item Id. 032549
Hex-wrench SW3	Item Id. 138030
Hex-wrench SW4	Item Id. 138040
Hex-wrench SW6	Item Id. 138060
Lubrication press	Item Id. 980003

The angular sawing drilling heads G25-1.2-SB have a machining spindle continuously adjustable by scale. The adjustment range is 0° (vertical) up to 100° to both sides. The spindle turning direction is opposite to drive turning direction. The drive speed is transmitted in a ratio of 1:1,48 to the tool receptacle. The maximum spindle speed is 12,000 rpm in interval operation.

Variants on demand!







Technical features

Item Id.	EP-032830
drive turning direction	R.H./L.H.
drive speed max.	interval operation 9.290 rpm
number of spindles	1
spindle position	horizontal
tool receptacle	Ø30j6 x 060 mm with thrust bearing - removed (Tool ø160 mm max.)
gear ratio	1:1,29 – Gears and belt drive
turning direction of tool receptacle	opposite to drive turning direction
spindle speed max.	interval operation 12.000 rpm
drive capacity	3,5 kW
weight without drive adapter	approx. 4,50 kg

Optional accessories:

Hex-wrench SW6	Item Id. 138060
Open end spanner SW41(flat)	Item Id. 131203
Hook wrench 40/42	Item Id. 139040
Lubrication press	Item Id. 980003

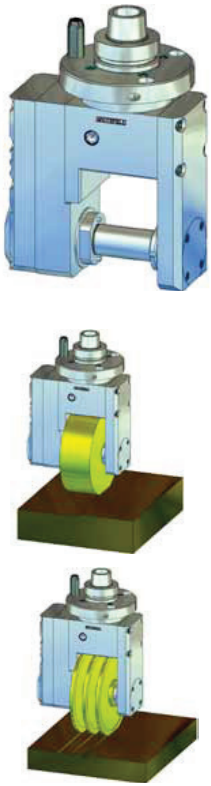
The angular heads of the series G030 are especially designed for milling of horizontal surfaces. The casing is equipped with one processing spindle for receptacle of tools with an aluminium base. The spindle turning direction of the tool receptacles is opposite to the drive turning direction. The drive speed is transferred to the tool receptacle in a ratio of 1:1,29. The maximum spindle speed is 12.000 rpm in interval operation.

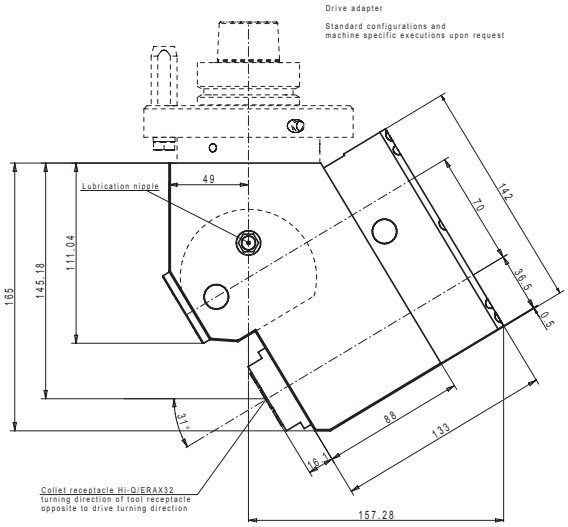
Type	Note	Order
G30-090	Tool receptacle - Ø30j6 x 090	EP-032820
G30-120	Tool receptacle - Ø30j6 x 120	EP-032810

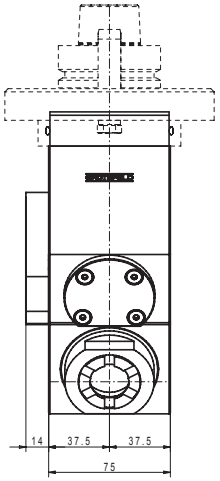
Attention:

In the selection and purchase of tools, cutters should be preferred to a support body made of aluminum to keep the rotating mass forces as low as possible. Additionally a fine counter balance of the tools has to be considered.

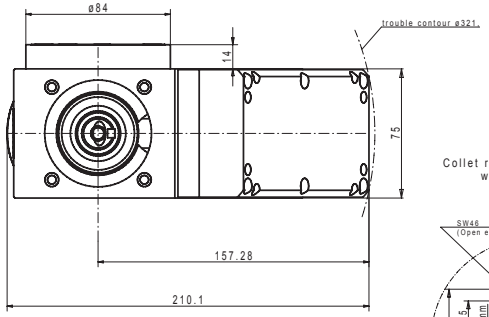
Variants on demand!



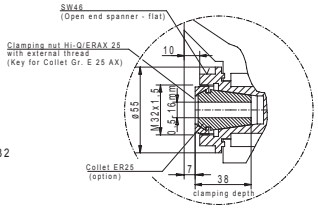


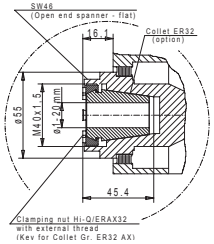


Collet receptacle Hi-Q/ERAX 25 with internal thread



Collet receptacle Hi-Q/ERAX 32 with internal thread





Technical features

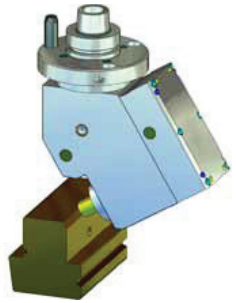
Item Id.	EP-035601
drive turning direction	L.H.
drive speed max.	permanent operation 5.825 rpm
drive speed max.	interval operation 7.766 rpm
number of spindles	1
spindle position	31° down - fixed
tool receptacle	Hi-Q/ERAX32 with external thread (ø1-ø20 mm)
gear ratio	1 : 2,06 – gear and toothed belt drive
turning direction of tool receptacle	opposite to drive turning direction (R.H.)
spindle speed max.	permanent operation 12.000 rpm
spindle speed max.	interval operation 16.000 rpm
drive capacity	2,6 kW at 12.000 rpm
weight **without** drive adapter	approx. 5,80 kg

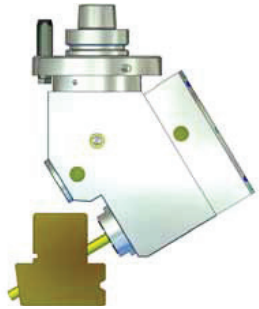
Optional accessories:

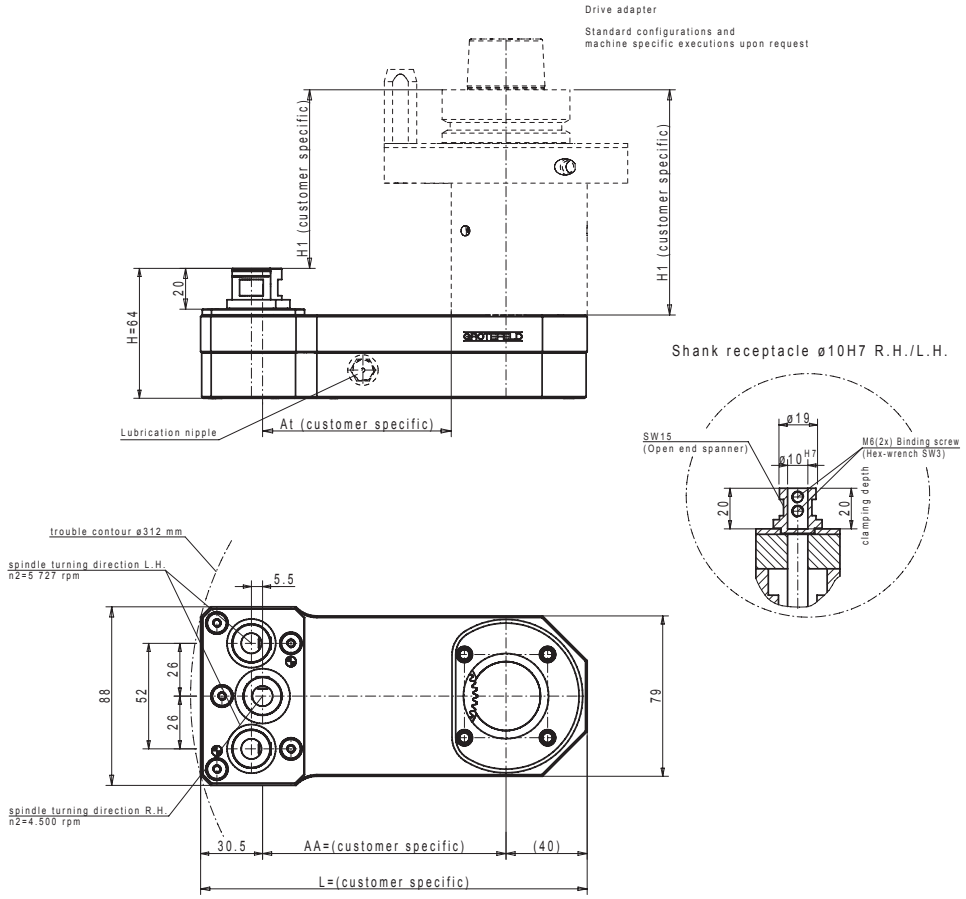
Open end spanner SW46-flat	Item Id. 131247
Key for collet ER32- AX	Item Id. 137011
Lubrication press	Item Id. 980003

The angular milling heads W56 are equipped with one processing spindle, which can be arranged in a determined angle from 15 ° up to a maximum of 31 ° downward. The determined angle cannot be changed later. The spindle turning direction is opposite to the drive turning direction. The drive speed is transferred in a ratio of 1:2,06 to the tool receptacle. The maximum spindle speed is 16,000 rpm in interval operation.

Variants on demand!







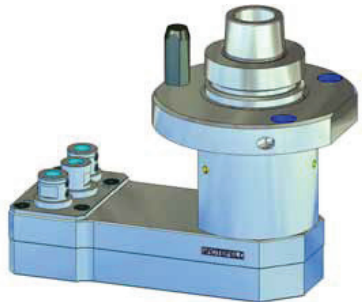
Technical features

Item Id	EP-015581
drive turning direction	R.H.
drive speed max.	4.500 rpm
number of spindles	3
spindle position	vertical / drilling figure - tool receptacles upwards
tool receptacles	3x ø10H7 x 20 mm
gear ratio	1 : 1,1663 / 1 : 1,4166 - gear drive
turning direction of tool receptacles	1x equal to drive turning direction 2x opposite to drive turning direction
spindle speed max.	2x 5.727 rpm + 1x 4.500 rpm
drive capacity	1,70 kW
weight without drive adapter	approx. 2,00 kg

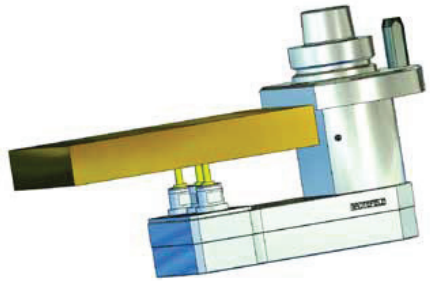
Optional accessories:

Hex-wrench SW3	Item Id. 138030
Open end spanner SW15	Item Id. 131001
Lubrication press	Item Id. 980003

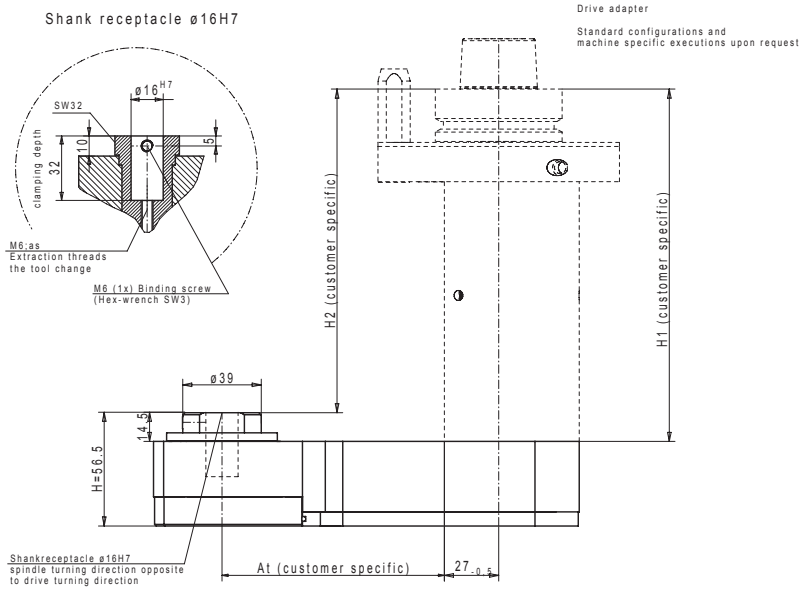
The underfloor drilling aggregate G200 is due to its design conceived for drilling the bottom side of workpieces. The spindle turning direction of the tool receptacles are R.H/L.H. The drive speed is transferred in a ratio of 1:1 to the tool receptacle. The maximum spindle speed is 5,727 rpm in permanent operation. The dimensions are variable and can be created on almost any size you want.

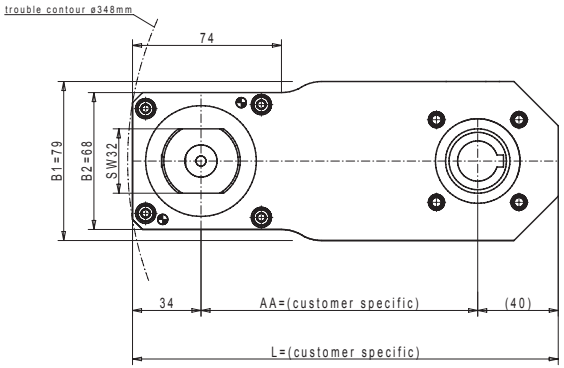


Variants on demand!



GROTEFELD



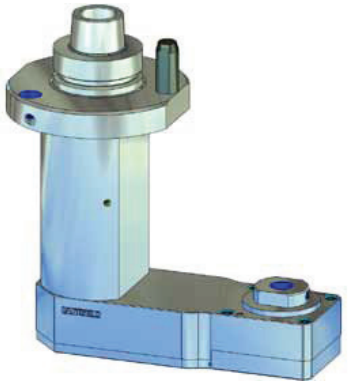


Technical features

Item Id	EP-015511
drive turning direction	R.H./L.H.
drive speed max.	interval operation 12.000 rpm
number of spindles	1
spindle position	vertical - tool receptacles upwards
tool receptacle	ø16H7 x 32 mm
gear ratio	1 : 1 – tooth belt drive
turning direction of tool receptacle	opposite to drive turning direction
spindle speed max.	interval operation 12.000 rpm
drive capacity	3,0 kW
weight without drive adapter	approx. 1,85 kg

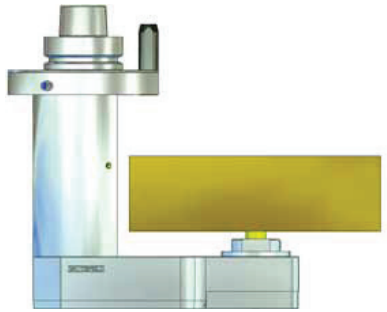
Optional accessories:

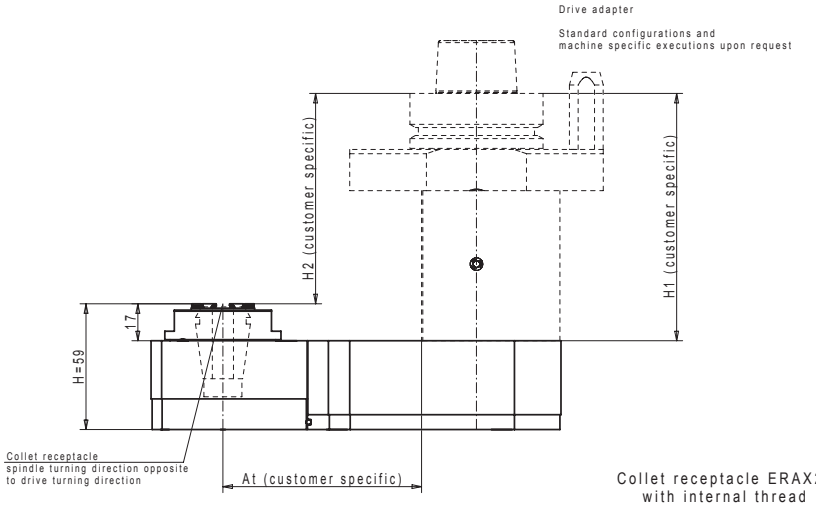
Hex-wrench SW3 Item Id. 138030
Open end spanner SW32 Item Id. 131003

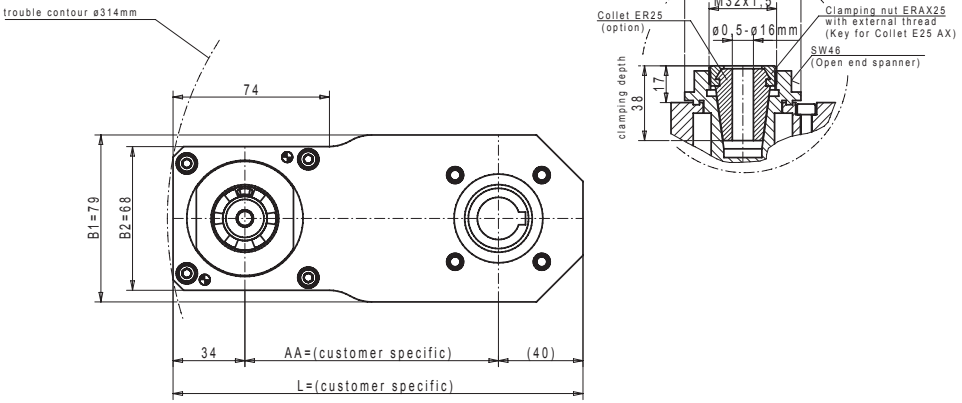


The underfloor drilling aggregate G200 is due to its design conceived for drilling the bottom side of workpieces. The spindle turning direction of the tool receptacle is opposite to the driving direction. The drive speed is transferred in a ratio of 1:1 to the tool receptacle. The maximum spindle speed is 12,000 rpm in interval operation. The dimensions are variable and can be created on almost any size you want.

Variants on demand!







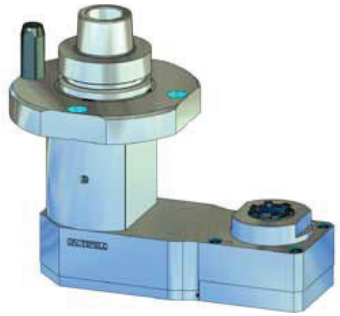
Collet receptacle ERAX25
with internal thread

Technical features

Item Id	EP-015529
drive turning direction	L.H.
drive speed max.	interval operation 12.000 rpm
number of spindles	1
spindle position	vertical - tool receptacles upwards
tool receptacle	Collet receptacle Hi-Q/ERAX 25 (ø0,5–ø16mm)
gear ratio	1 : 1 – tooth belt drive
turning direction of tool receptacle	opposite to drive turning direction (R.H.)
spindle speed max.	interval operation 12.000 rpm
drive capacity	3,0 kW
weight without drive adapter	approx. 1,70 kg

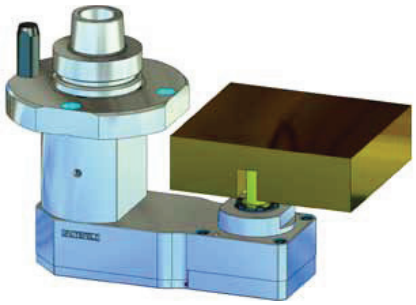
Optional accessories:

Key for Collet E25-AX	Item Id. 137012
Open end spanner SW46 - flat	Item Id. 131247

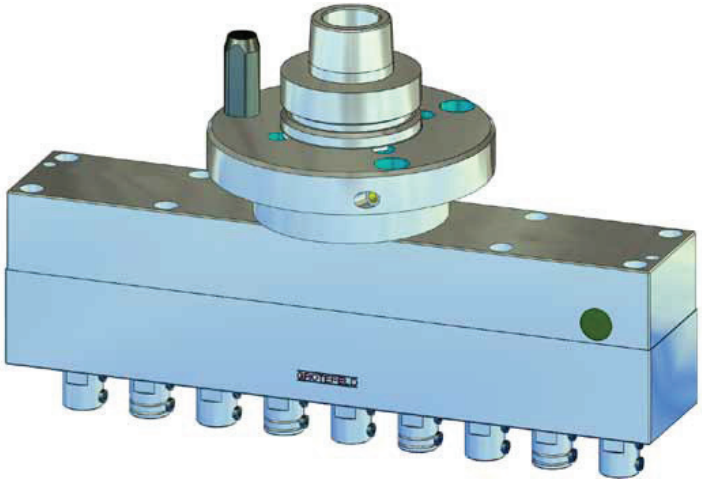


The underfloor drilling milling aggregate G200 is due to its design conceived for drilling or milling the bottom side of workpieces. The spindle turning direction of the tool receptacle is opposite to the drive turning direction. The drive speed is transferred in a ratio of 1:1 to the tool receptacle. The maximum spindle speed is 12,000 rpm in interval operation. The dimensions are variable and can be created on almost any size you want.

Variants on demand!



GROTEFELD

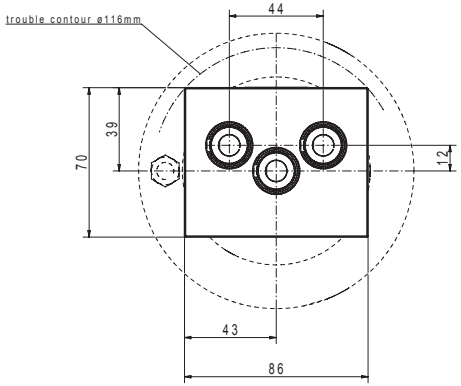


Drilling gears

Multi-drilling gears

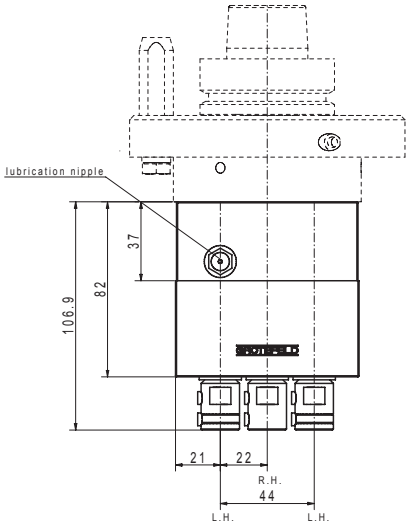
Vertical hollow mortiser

Chips guide elements



Drive adapter

Standard configurations and
machine specific executions upon request

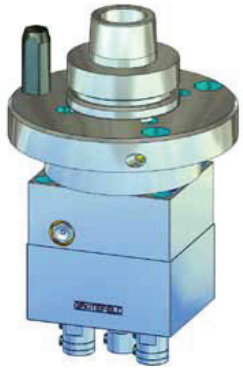


Technical features

Item Id.	EP-021166
drive turning direction	R.H.
drive speed max.	permanent operation 10.000 rpm
number of spindles	variable
spindle position	vertical / arrangement as drill pattern
tool receptacle	Ø10H7 with binding screw
gear ratio	1 : 1 - Gear drive
turning direction of tool receptacle	R.H. / L.H.
spindle speed max.	permanent operation 10.000 rpm
drive capacity	2,2 kW
weight without drive adapter	approx. 1,80 kg

Optional accessories:

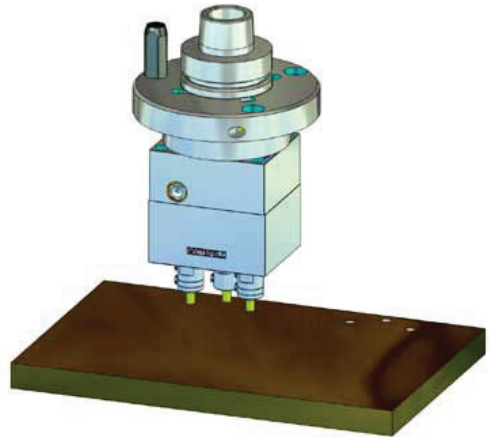
Hex-wrench SW3	Item Id. 138030
Open end spanner SW15	Item Id. 131001
Lubrication press	Item Id. 980003

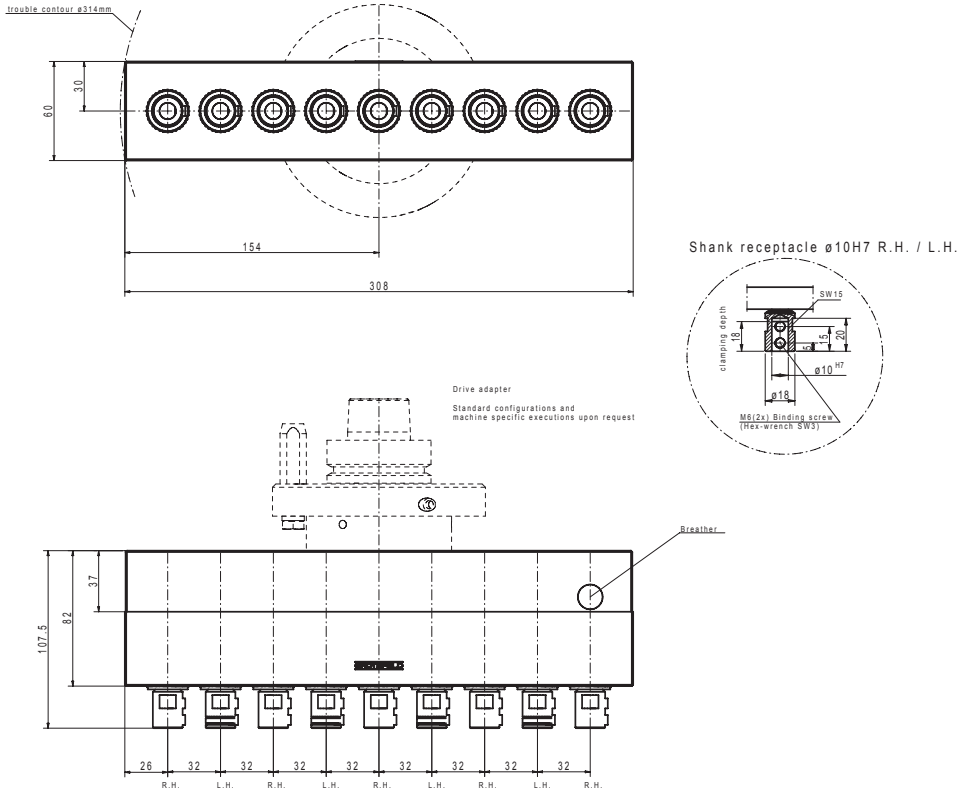


The drilling gears of the series UNI1-SV can be produced with spindle distances A≥20 mm. During the construction was attempted to keep the speed gap between the spindles as low as possible. If possible the drive speed is transmitted in a ratio of 1:1. At different spindle distances within a drilling gear it is often necessary to vary the speeds of the individual spindles because of different gears. The maximum spindle speed is 10,000 rpm in permanent operation.

The drilling gear is available for all standard hinges.

Variants on demand!



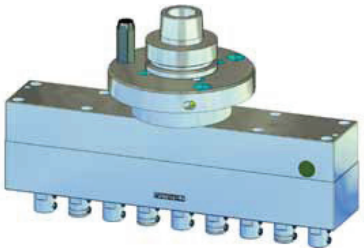


Technical features

Item Id.	
drive turning direction	R.H.
drive speed max.	permanent operation 10.000 rpm
number of spindles	variable
spindle position	vertical / arrangement in line
tool receptacle	Ø10H7 with binding screw
gear ratio	1 : 1 - gear drive (helical gear)
turning direction of tool receptacle	R.H. / L.H.
spindle speed max.	permanent operation 10.000 rpm
drive capacity	2,2 kW
weight without drive adapter	approx. 4,50 kg

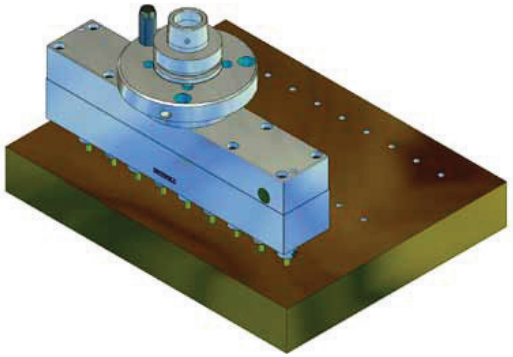
Optional accessories:

Hex-wrench SW3	Item Id. 138030
Open end spanner SW15	Item Id. 131001
Lubrication press	Item Id. 980003

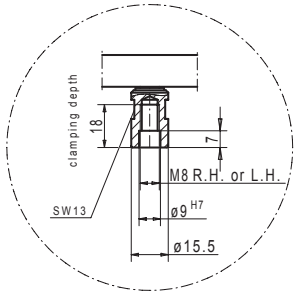


The drilling gears of the series UNI1-SV can be produced with spindle distances A≥20 mm. During the construction was attempted to keep the speed gap between the spindles as low as possible. If possible the drive speed is transmitted in a ratio of 1:1 to the spindles. At different spindle distances within a drilling gear it is often necessary to vary the speeds of the individual spindles because of different gears. The maximum spindle speed is 10,000 rpm in permanent operation.

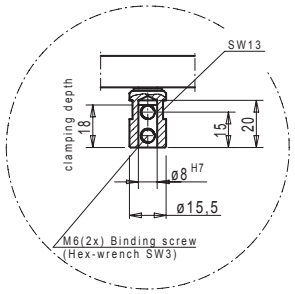
Variants on demand!



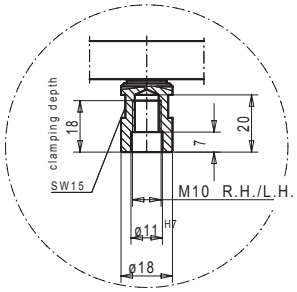
Shank receptacle M08 plan R.H. / L.H.



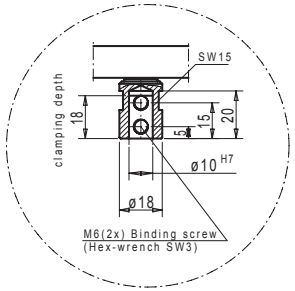
Shank receptacle ø08H7 R.H. / L.H.



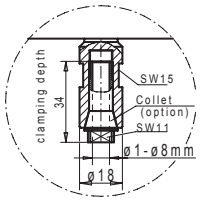
Shank receptacle M10 pl. R.H. / L.H.



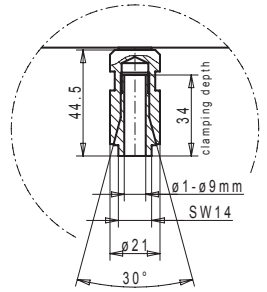
Shank receptacle ø10H7 R.H. / L.H.



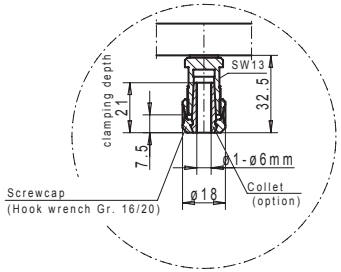
Collet receptacle max.ø8 mm
Spindle Type "J"



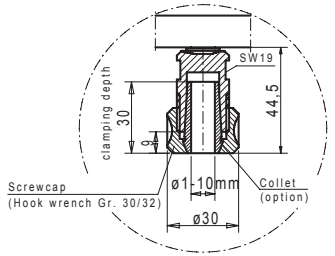
Collet receptacle max.ø9 mm
Spindle Type "K"

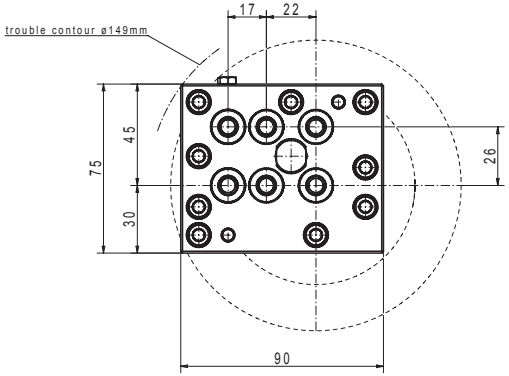


Collet receptacle max.ø6 mm
Spindle Type "L"

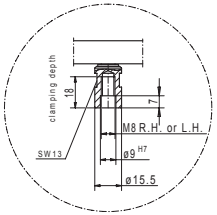


Collet receptacle max.ø10 mm
Spindle Type "M"



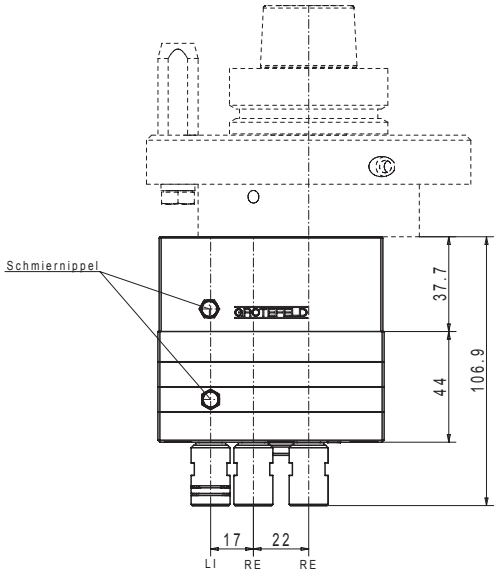


Shank receptacle M08 plan R.H. / L.H.



Drive adapter

Standard configurations and
machine specific executions upon request



Technical features

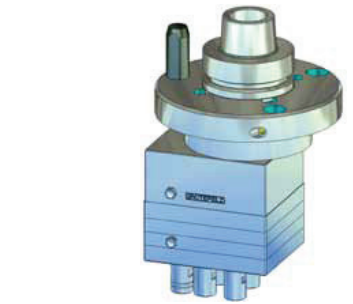
Item Id.	
drive turning direction	R.H.
drive speed max.	permanent operation 4.500 rpm interval operation 6.000 rpm
number of spindles	6
spindle position	vertical / arrangement as drilling figure
tool receptacle	M8 plane
gear ratio	1 : 1 - Gear drive
turning direction of tool receptacle	4x R.H. 2x L.H.
spindle speed max.	permanent operation 4.500 rpm interval operation 6.000 rpm
drive capacity	1,7 kW
weight without drive adapter	approx. 3,00 kg

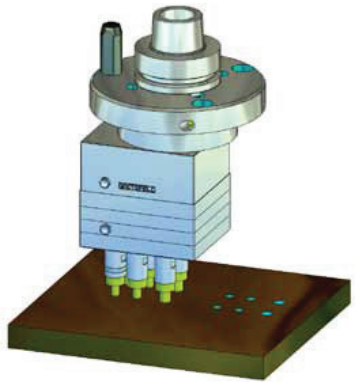
Optional accessories:

Open end spanner SW13 Item Id. 131023
Lubrication press Item Id. 980003

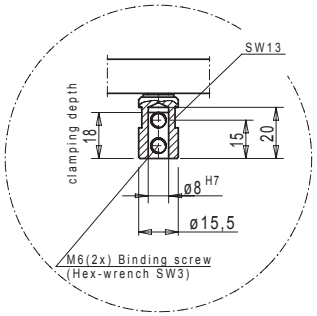
The multi-spindle drilling gears DPL are available with customized drill patterns. The minimal distance between spindles is 16mm. The maximum spindle speeds are 4,500 rpm in permanent and 6,000 rpm in interval operation. During the construction was attempted to keep the speed gap between the spindles as low as possible. If possible the drive speed is transmitted in a ratio of 1:1. At different spindle distances within a drilling gear it is often necessary to vary the speeds of the individual spindles because of different gears.

Variants on demand!

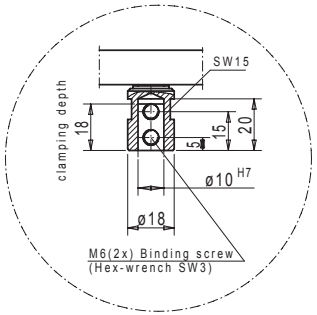




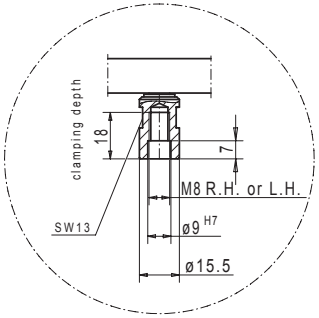
Shank receptacle ø08H7 R.H. / L.H.



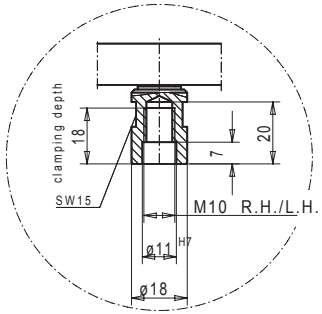
Shank receptacle ø10H7 R.H. / L.H.



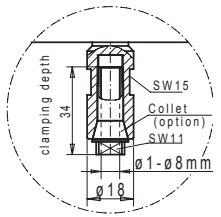
Shank receptacle M08 plan R.H. / L.H.

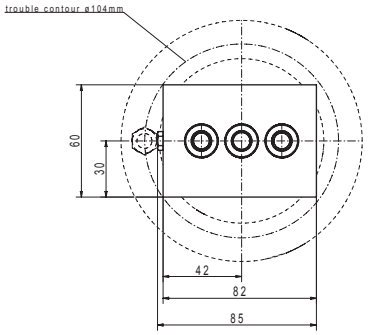


Shank receptacle M10 pl. R.H. / L.H.



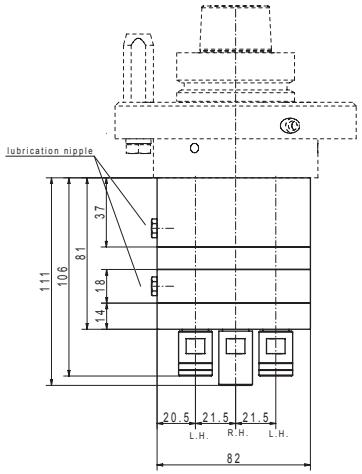
Collet receptacle max.ø8 mm
Spindle Type "J"





Drive adapter

Standard configurations and
machine specific executions upon request



Technical features

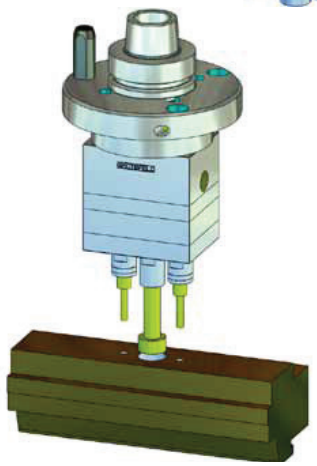
Item Id.	EP- -----
drive turning direction	R.H.
drive speed max.	permanent operation 4.500 rpm
number of spindles	variable
spindle position	vertical
tool receptacle	M10 plane
gear ratio	1 : 1,15 - gear drive
turning direction of tool receptacle	1x R.H. 2x L.H.
spindle speed max.	drive spindle 4.500 rpm secondary spindle 5.175 rpm
drive capacity	2,2 kW
weight without drive adapter	approx. 2,00 kg

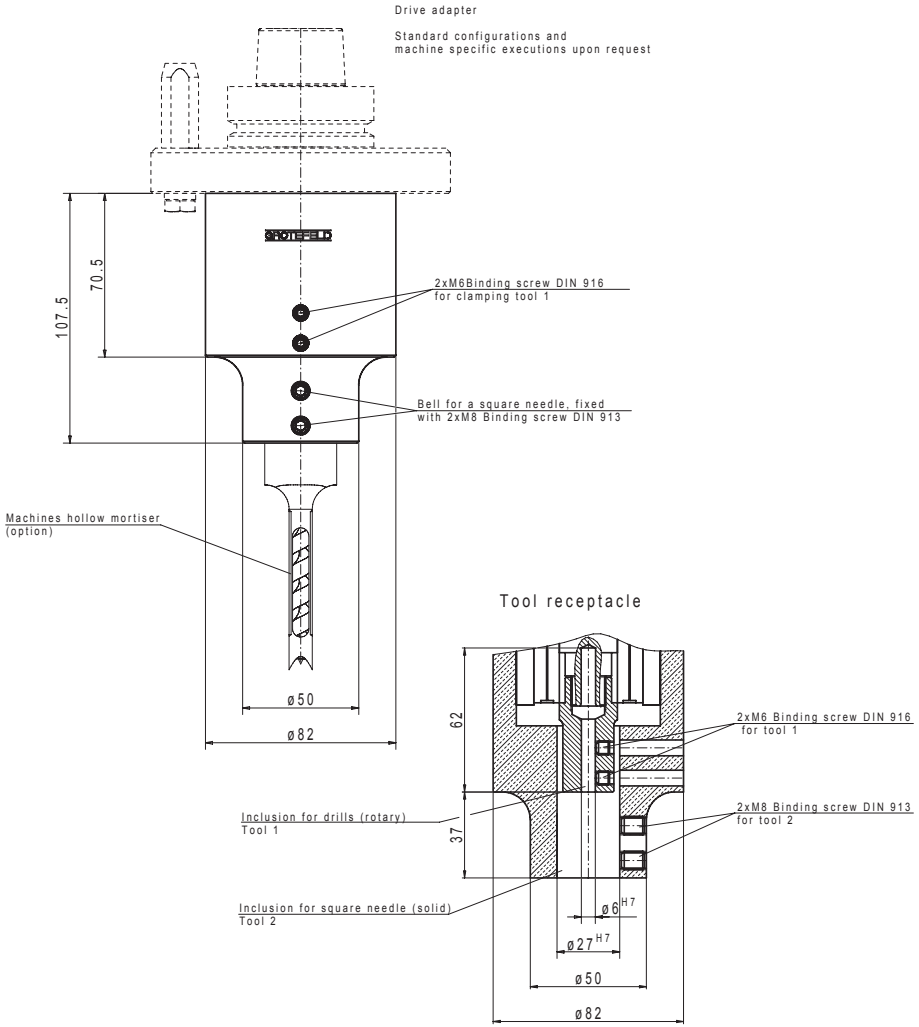
Optional accessories:

Open end spanner SW15	Item Id. 131001
Lubrication press	Item Id. 980003
Lubrication press	Item Id. 980004

The multi-spindle drilling gear STB series are suitable for the processing of materials with steel insert. The shank of the center spindle is 5 mm longer than the outer spindles. The speed of max. 4500 rpm is transferred in a ratio of 1:1 to the central spindle. The speeds of the outer spindles depend on the distance.

Variants on demand!





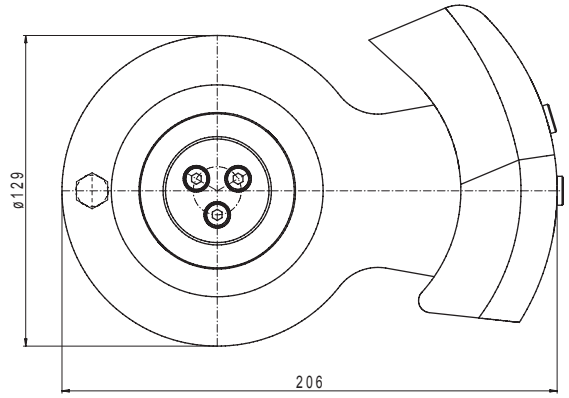
Technical features

Item Id.	EP-120697
drive turning direction	R.H.
drive speed max.	5.000 rpm
spindle position	vertical
tool receptacle	Ø 6H7 x 60 mm with 2xM6 binding screw Ø 27H7 x 37 mm with 2xM8 binding screw
gear ratio	1 : 1 – direct drive
turning direction of tool receptacle	equal to drive turning direction
spindle speed max.	5.000 rpm
drive adapter	according to customer's request
max. spindle capacity	2,0 kW
weight without drive adapter	approx. 2,5 kg

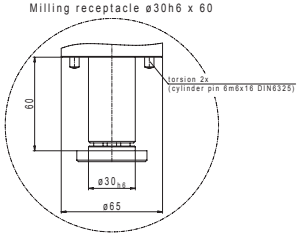
The vertical chisel mortiser DN-VCM can be used to make square holes. They have a tool spindle with a rotating tool holder and a fixed Inclusion Ø6x60 ø27x37 for square tools. The spindle direction is equal to the drive turning direction. The drive speed is transferred in a ratio of1:1 to the tool receptacle. The maximum spindle speed is 5,000 rpm in permanent operation.

The Direct receptacle is always supplied with a drive spindle according to your indications. It is necessary to indicate - in case of order - the information regarding the drive spindle in question in addition to the article-number. Usually it is a spindle according to the DIN / ISO regulations. Corresponding to your order you will receive within our order confirmation a final article-number that was extended by the information referring to the direct receptacle built for you. This article-number then applies for this specific configuration and can be used for all further orders without any additional information.

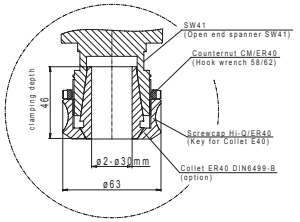
Variants on demand!



Milling receptacle ø30h6 x 60

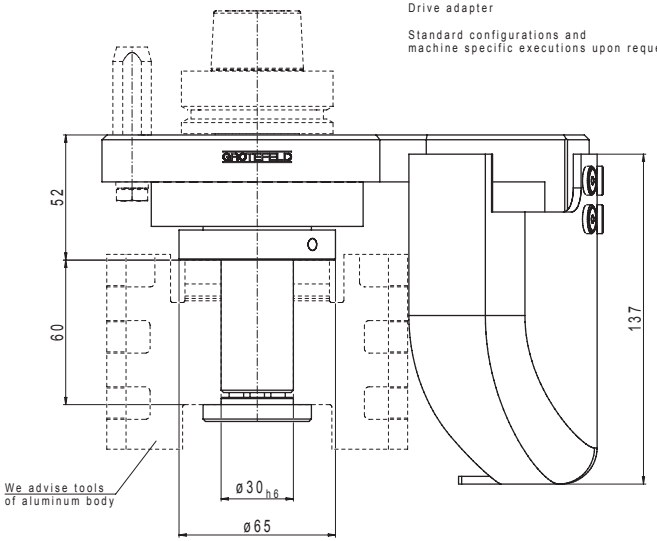


Collet receptacle Hi-Q/ER40



Drive adapter

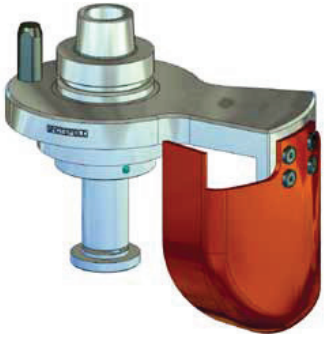
Standard configurations and
machine specific executions upon request



Technical features

Item Id	EP-120641
drive turning direction	R.H./(L.H.)
drive speed max.	permanent operation = 18.000 rpm
spindle position	vertical
tool receptacle	Ø30 x 60 mm with 3x M6 mounting thread - special equipment on request
gear ratio	1 : 1
turning direction of tool receptacle	equal to drive turning direction
spindle speed max.	permanent operation = 18.000 rpm
drive adapter	according to customer's request
max. drive capacity	3,0 kW
weight	3,05 kg with HSK-F63 (as per illustration)

The Direct receptacle DN-SPL is always supplied with a drive spindle according to your indications. It is necessary to indicate - in case of order - the information regarding the drive spindle in question in addition to the article-number. Usually it is a spindle according to the DIN / ISO regulations. Corresponding to your order you will receive within our order confirmation a final article-number that was extended by the information referring to the direct receptacle built for you. This article-number then applies for this specific configuration and can be used for all further orders without any additional information.

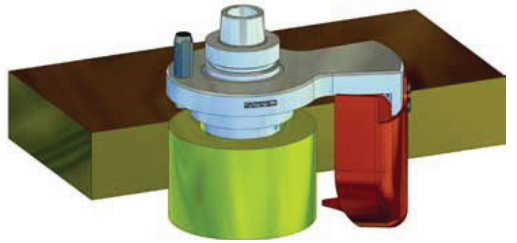


Description of the function

The chip guiding systems of the series DN-SPL have a tool receptacle according to your specifications. The direct receptacle DN-SPL is used for direct reception of tools for the processing of solid wood or wood-like composite materials. The standing adapter casing (due to torque support) is used for mounting chip deflectors, according to the used profiling tool. The maximum spindle speed is 18.000 rpm in permanent operation.

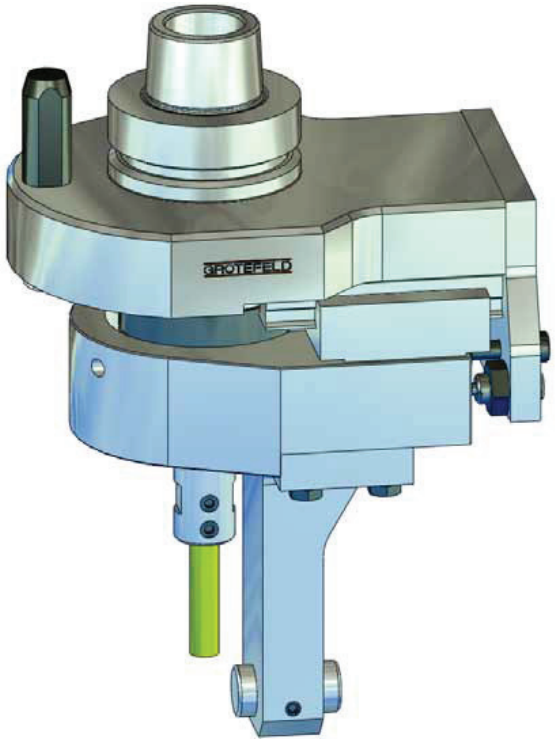
Attention:

In the selection and purchase of tools, you should prefer cutters with an aluminum body to minimize the rotating forces. Additionally the fine counter balance of the tools must be considered.



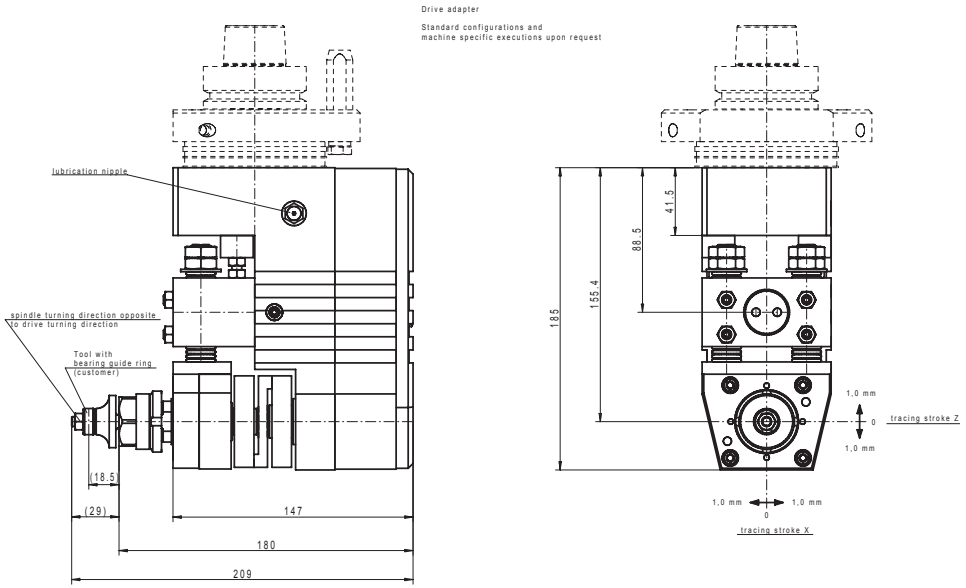
Variants on demand!

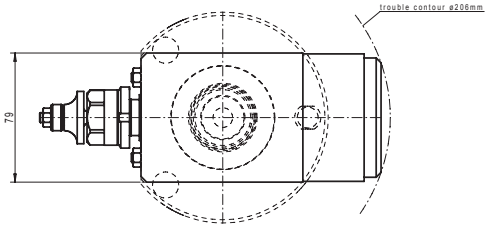
GROTEFELD



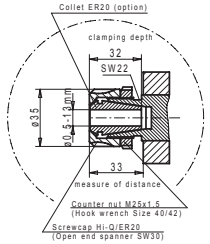
Tracing spindles

Direct-drive spindles





Collet receptacle
Hi-Q/ER20



Technical features

Item Id.	EP-035404
drive turning direction	R.H./L.H.
drive speed max.	interval operation = 3.333 rpm
number of spindles	1 - with part-cardanic suspension
tool receptacle	Hi-Q/ER20 DIN6499-C (8°) for collet ER20(-UP) DIN6499-B (ø0,5 - ø13 mm max.)
screwcap tool receptacle	Hi-Q/ER20 - R.H. thread with counter nut
tracing	by acceleration ring / ball bearing at tool
tracing direction	vertical and horizontal
tracing stroke X/Y-direction	-X/Y = 1,0 mm max. / +X/Y = 1,0 mm max.
tracing stroke Z-direction	-Z = 1,0 mm max. / +Z = 1,0 mm max.
tracing force	approx. 60N in both directions
gear ratio	i = 1 : 3 - wheel- and tooth belt drive
turning direction of tool receptacle	opposite to drive turning direction
spindle speed max.	interval operation = 10.000 rpm
max. drive capacity	1,5 kW
weight with drive adapter	approx. 9,10 kg

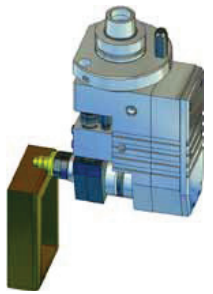
Optional accessories:

Hook wrench 40/42	Item Id. 139040
Open end spanner SW22	Item Id. 131221
Open end spanner SW30	Item Id. 131030
Lubrication press	Item Id. 980003

Description of the function

The 2D-Horizontal-Tracing spindle FN2-1.1-P is equipped with a receptacle for shaft milling cutters with acceleration ball bearing and it is used for light rounding, chamfering and egalizing of the upper and the lower panel edges (for example at soft- or postforming).

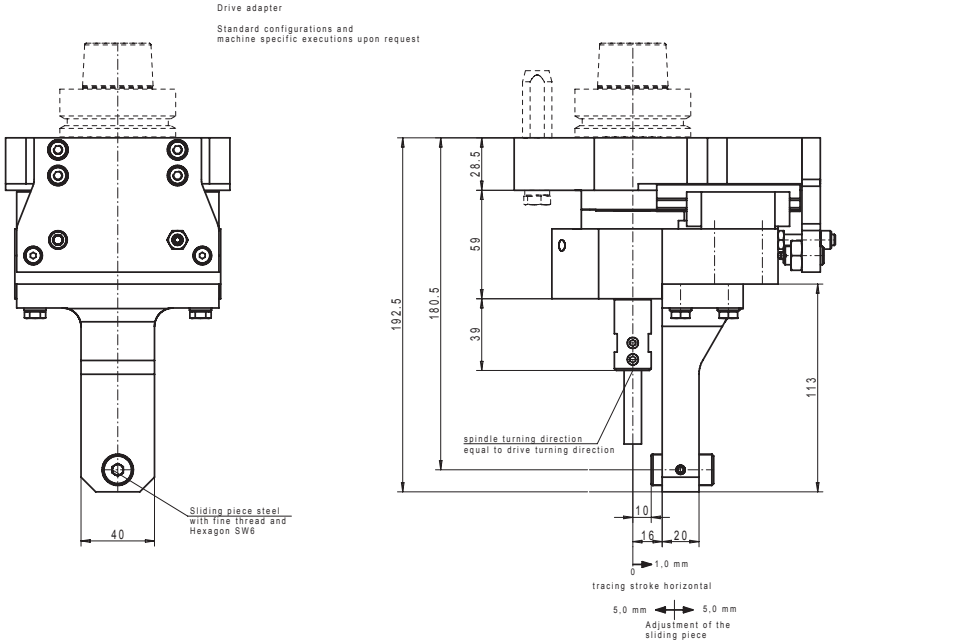
The 2D-Horizontal-tracing spindle traces by copying the surface of the panel and so it ensures that the processing is made equal to these traced surfaces.



Hint:

Please consider that due to the special high speed nuts (Hi-Q/ER20) used here the standard collets type ER20 DIN6499-B can only be clamp with the half clamping area downwards.
It is recommended to use the ultra precision collets type ER20-UP DIN6499.

Variants on demand!

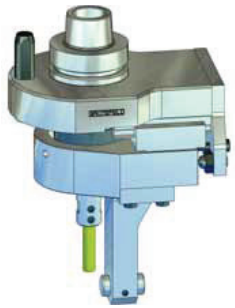


Technical features

Item Id.	EP-036501
drive turning direction	R.H. / L.H.
drive speed max.	permanent operation = 9,000 rpm
number of spindles	1
tool receptacle	Ø10 H7 with binding screws
tool receptacle	Ø10 mm
tracing stroke X-direction	1 mm max.
tracing force	60 – 90N
speed transfer	1:1
turning direction of tool receptacle	equal to drive turning direction
spindle speed max.	permanent operation = 9.000 rpm
max. drive capacity	1,7 kW
weight without drive adapter	approx. 4,50 kg

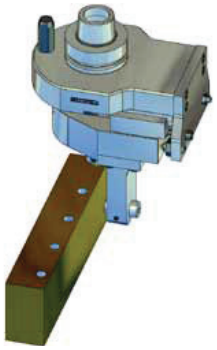
Optional accessories:

Hexagon wrench SW3 Artikel-Nr. 138030



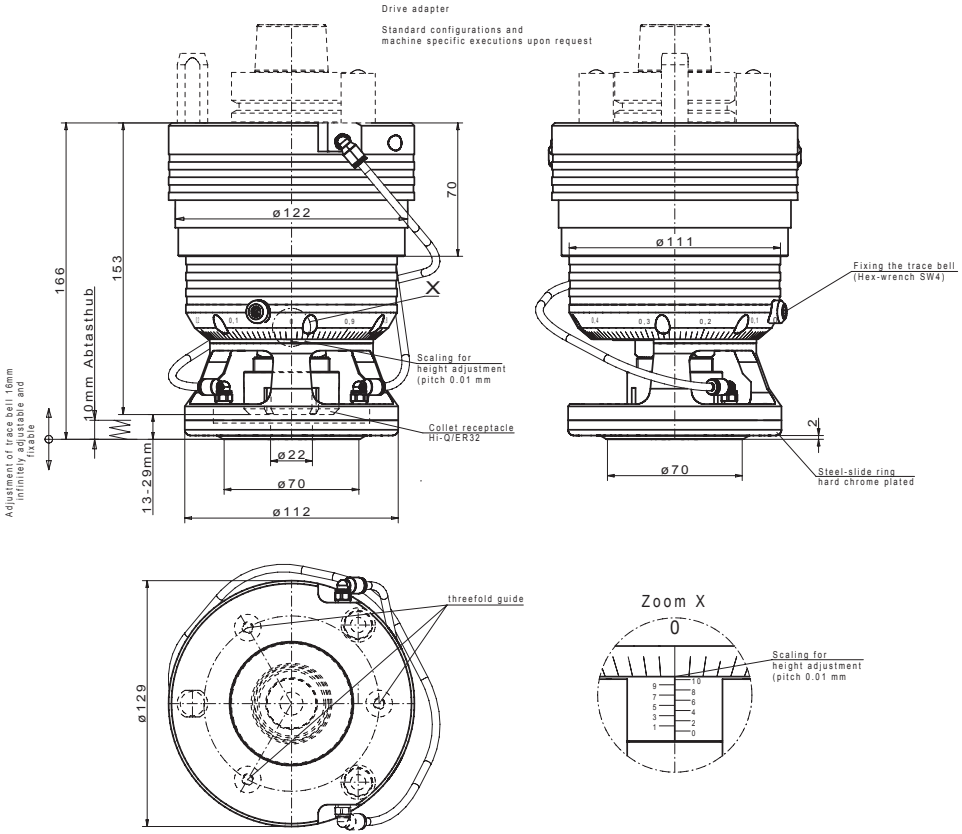
The tracing spindle FN6-1.1-B is always supplied together with a drive adapter according to your indications. It is necessary to indicate - in case of an order - the information regarding the drive adapter in question in addition to the article-number. Usually it is a machine specific adapter that is built corresponding to your machine. Corresponding to your order you will receive within our order confirmation a final Item Id. that was extended by the information referring to the adapter you ordered. This article-number. then applies for this specific configuration and can be used for all further orders without any additional information.

Description of the function



The tracing spindles series FN6-1.1-B have a shank receptacle and are used for drilling in a constant distance to the traced surface of the workpiece.
So you get on uneven surfaces a constant distance relative to the surface with a tolerance of ± 0.05 mm.
The tracing spindle must be provided with a tracing piece. The material of the tracing piece should be chosen depending of the surface constitution. Available is a piece of steel or polyamid.

Variants on demand!



Technical features

Item Id.	EP-038600
drive turning direction	R.H.
drive speed max.	interval operation = 18.000 rpm
number of spindles	1
tool receptacle	Hi-Q/ER32 (ø2mm – ø20mm)
tracing stroke	max. 10 mm
tracing force	30 – 100N (adjustable)
gear ratio	1:1
turning direction of tool receptacle	equal to drive turning direction (R.H.)
spindle speed max.	interval operation = 18.000 rpm
drive capacity	3,0 kW
weight	approx. 5,00 kg

Optional accessories:

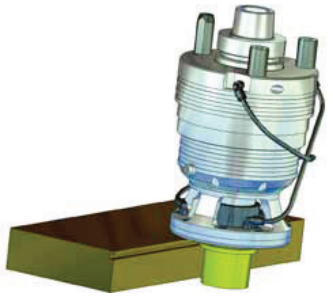
Collet ER32

Open end spanner SW36 flat	Item Id. 131236
Hex-wrench SW4	Item Id. 138040
Hex-wrench SW5	Item Id. 138050
Hook wrench 45/50	Item Id. 139050

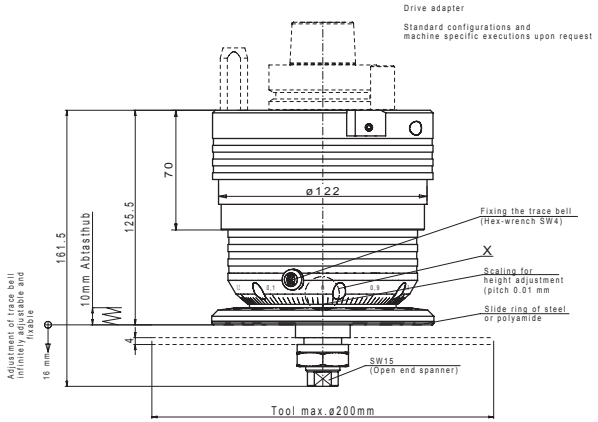
Functionary

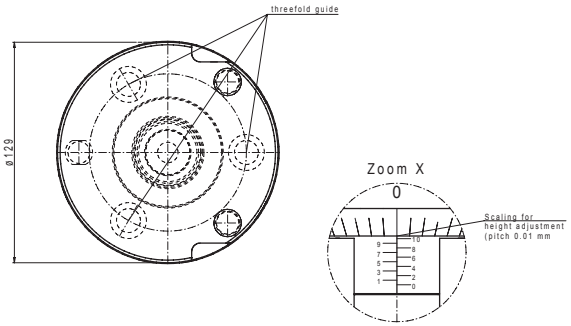
The tracing spindles of the series FN7 work with a spring suspended stroke of 10 mm. The distance of the tool receptacle to the tracing arm or bell is constant. The sensing device is guided over the workpiece surface and adapts the suspension stroke through the different workpiece tolerances. In that way for example Lammello-connections, grooves or feathers are always done in a constant distance to the surface of the work piece.

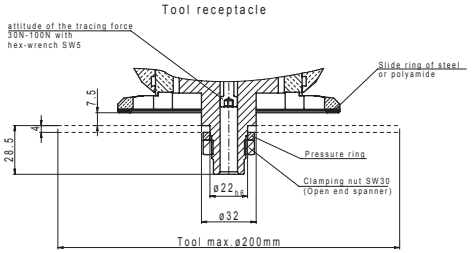
For different materials, it is necessary to adapt the tracing force. At the FN7 this can easily be changed by the user with an adjustment screw. Depending on the surface of the workpiece either sliding rings of polyamide or hard chrome plated steel can be used, on request with blow-off nozzles. The height between the tracing bell to the tool can be adjusted continuously by scale.



Variants on demand!







Technical features

Item Id.	EP- -------
drive turning direction	R.H.
drive speed max.	interval operation = 18.000 rpm
number of spindles	1
tool receptacle	ø22h6 x 4 mm
tracing stroke	max. 10 mm
tracing force	30 – 100N (adjustable)
gear ratio	1:1
turning direction of tool receptacle	equal to drive turning direction (R.H.)
spindle speed max.	interval operation = 18.000 rpm
drive capacity	3,0 kW
weight	approx. 5,00 kg

Optional accessories:

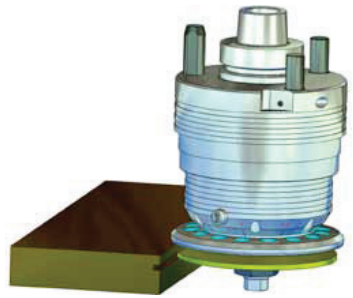
Open end spanner SW15	Item Id. 131001
Open end spanner SW30	Item Id. 131030
Hex-wrench SW4	Item Id. 138040
Hex-wrench SW5	Item Id. 138050

Functionary

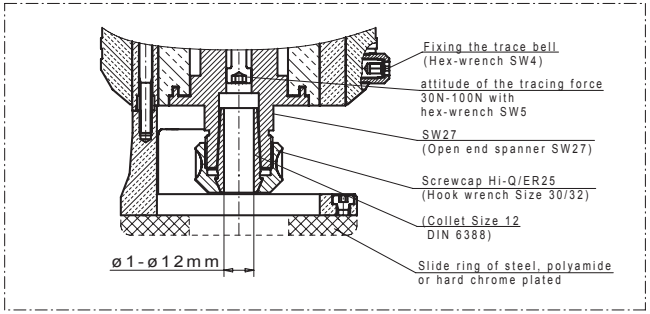
The tracing spindles of the series FN7 work with a spring suspended stroke of 10 mm. The distance of the tool receptacle to the tracing arm or bell is constant. The sensing device is guided over the work-piece surface and adapts the suspension stroke through the different workpiece tolerances. In that way for example Lammello-connections, grooves or feathers are always done in a constant distance to the surface of the work piece.

For different materials, it is necessary to adapt the tracing force. At the FN7 this can easily be changed by the user with an adjustment screw. Depending on the surface of the workpiece either sliding rings of polyamide or hard chrome plated steel can be used, on request with blow-off nozzles. The height between the tracing bell to the tool can be adjusted continuously by scale.

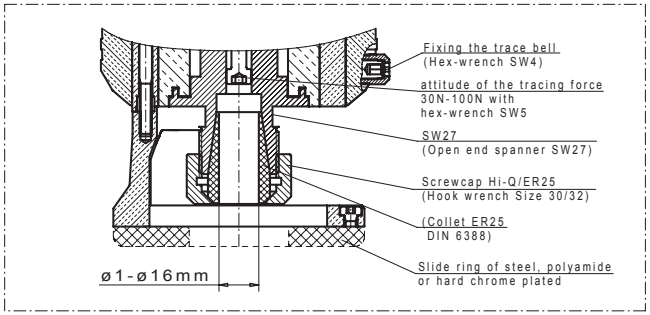
Variants on demand!



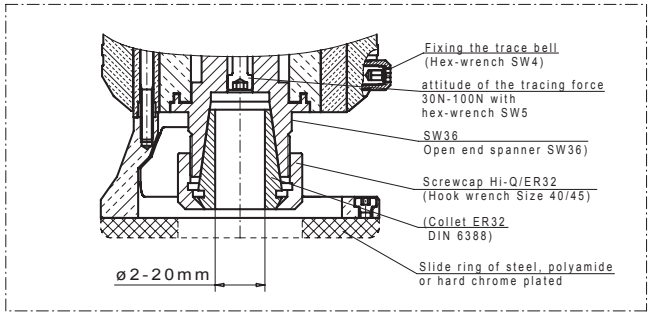
Collet receptacle Size12



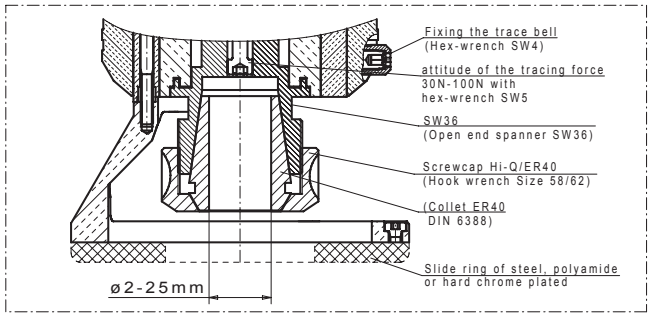
Collet receptacle Hi-Q/ER25

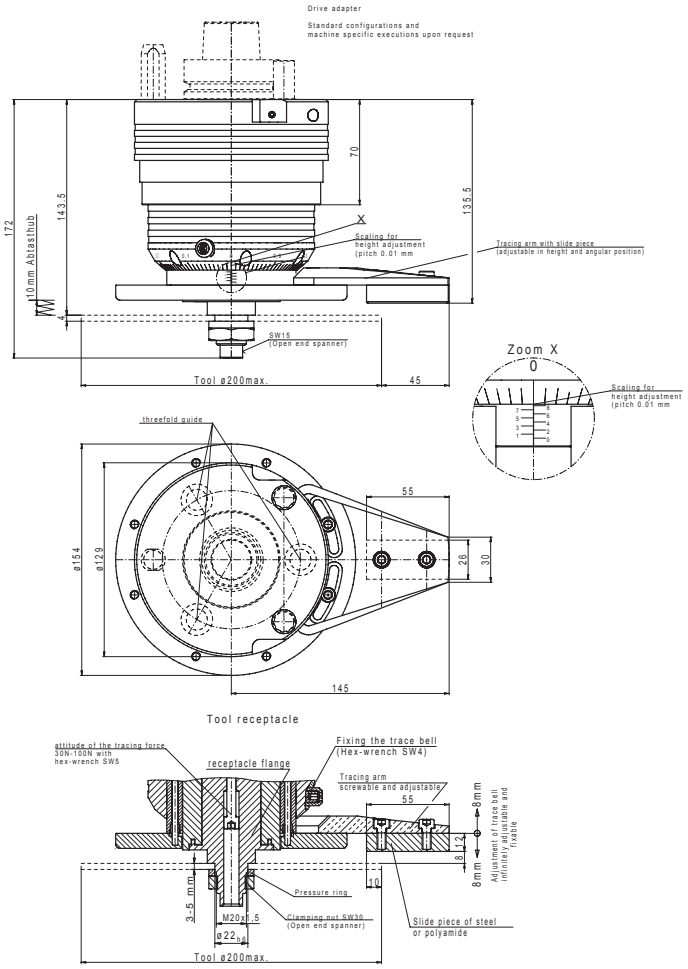


Collet receptacle Hi-Q/ER32



Collet receptacle Hi-Q/ER40



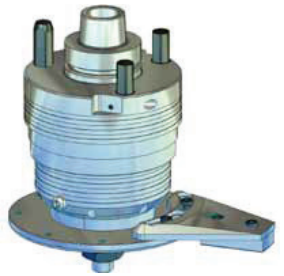


Technical features

Item Id.	EP- -------
drive turning direction	R.H.
drive speed max.	interval operation = 18.000 rpm
number of spindles	1
tool receptacle	ø22h6 x 4 mm
tracing stroke	max. 10 mm
tracing force	30 – 100N (adjustable)
gear ratio	1:1
turning direction of tool receptacle	equal to drive turning direction (R.H.)
spindle speed max.	interval operation = 18.000 rpm
drive capacity	3,0 kW
weight	approx. 4,80 kg

Optional accessories:

Open end spanner SW15	Item Id. 131001
Open end spanner SW30	Item Id. 131030
Hex-wrench SW4	Item Id. 138040
Hex-wrench SW5	Item Id. 138050

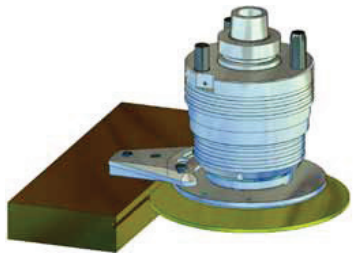


Functionary

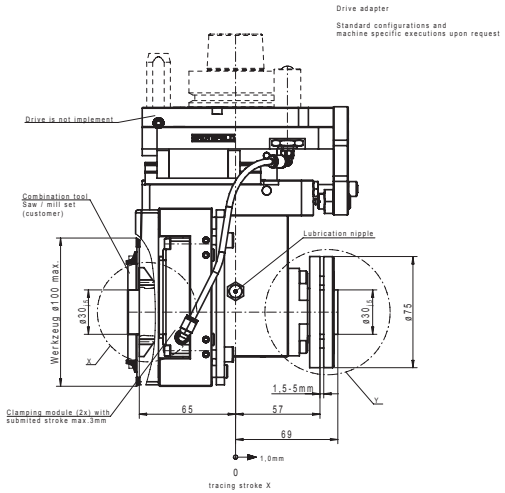
The tracing spindles of the series FN7 work with a spring suspended stroke of 10 mm. The distance of the tool receptacle to the tracing arm or bell is constant. The sensing device is guided over the work-piece surface and adapts the suspension stroke through the different workpiece tolerances. In that way for example Lammello-connec-tions, grooves or feathers are always done in a constant distance to the surface of the work piece.

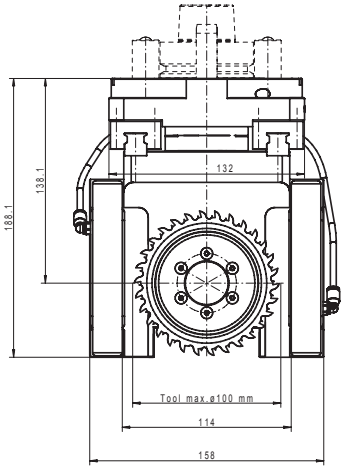
For different materials, it is necessary to adapt the tracing force. At the FN7 this can easily be changed by the user with an adjustment screw. Depending on the surface of the workpiece either sliding rings of polyamide or hard chrome plated steel can be used, on request with blow-off nozzles. The height between the tracing bell to the tool can be adjusted continuously by scale.

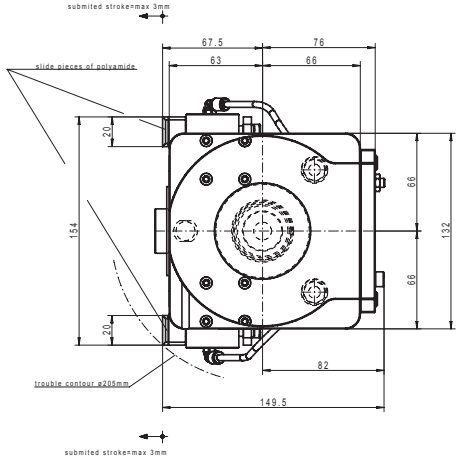
Variants on demand!

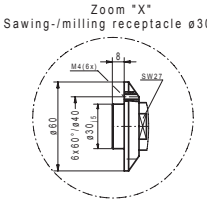


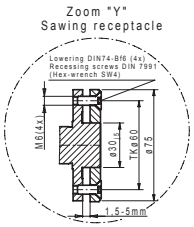
GROTEFELD











Technical features

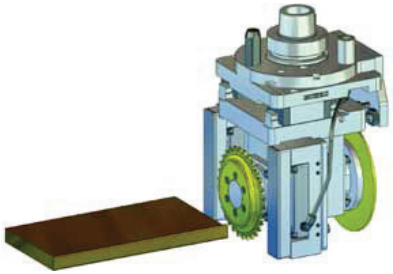
Item Id.	EP-039501
drive turning direction	R.H. / L.H.
drive speed max.	interval operation = 8.710 rpm permanent operation = 5.161 rpm
number of spindles	1
spindle position	horizontal one or both sided 180° opposite
tool receptacle 1	1x ø30 mm – clamping range 8 mm
tool receptacle 2	1x ø30 mm – clamping range 1,5 – 5,0 mm
tracing stroke X-direction	1 mm max.
sampling X-direction	slide pieces of polyamide
gear ratio	1:1,55
turning direction of tool receptacle 1	1x equal to drive turning direction
turning direction of tool receptacle 2	1x opposite to drive turning direction
spindle speed max.	interval operation = 13.500 rpm permanent operation = 8.000 rpm
drive capacity	3,0 kW
weight with drive adapter	approx. 7,70 kg

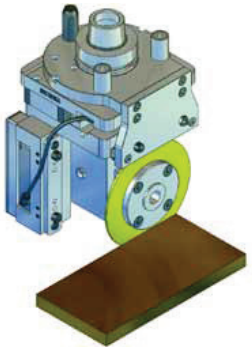
Optional accessories:

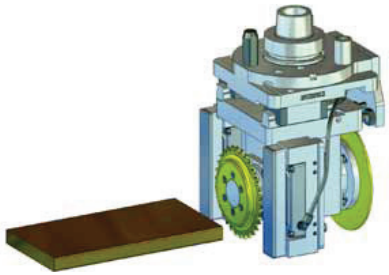
Hex-wrench SW4 Item Id. 138040
Lubrication press Item Id. 980003

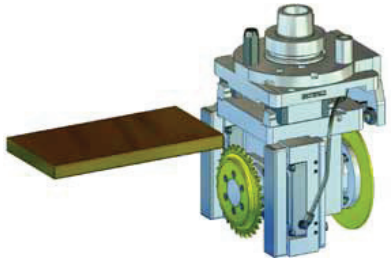
Continued on next page...

GROTEFELD









The edgge cutter aggregate is always supplied with a drive spindle according to your indications. It is necessary to indicate - in case of order - the information regarding the drive spindle in question in addition to the article-number. Usually it is a spindle according to the DIN / ISO regulations.

Corresponding to your order you will receive within our order confirmation a final article-number that was extended by the information referring to the edgge cutter aggregate built for you. This article-number then applies for this specific configuration and can be used for all further orders without any additional information.

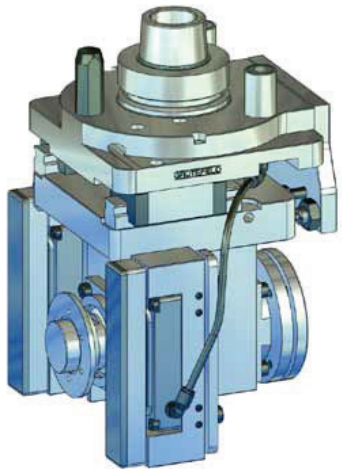
Description of the function

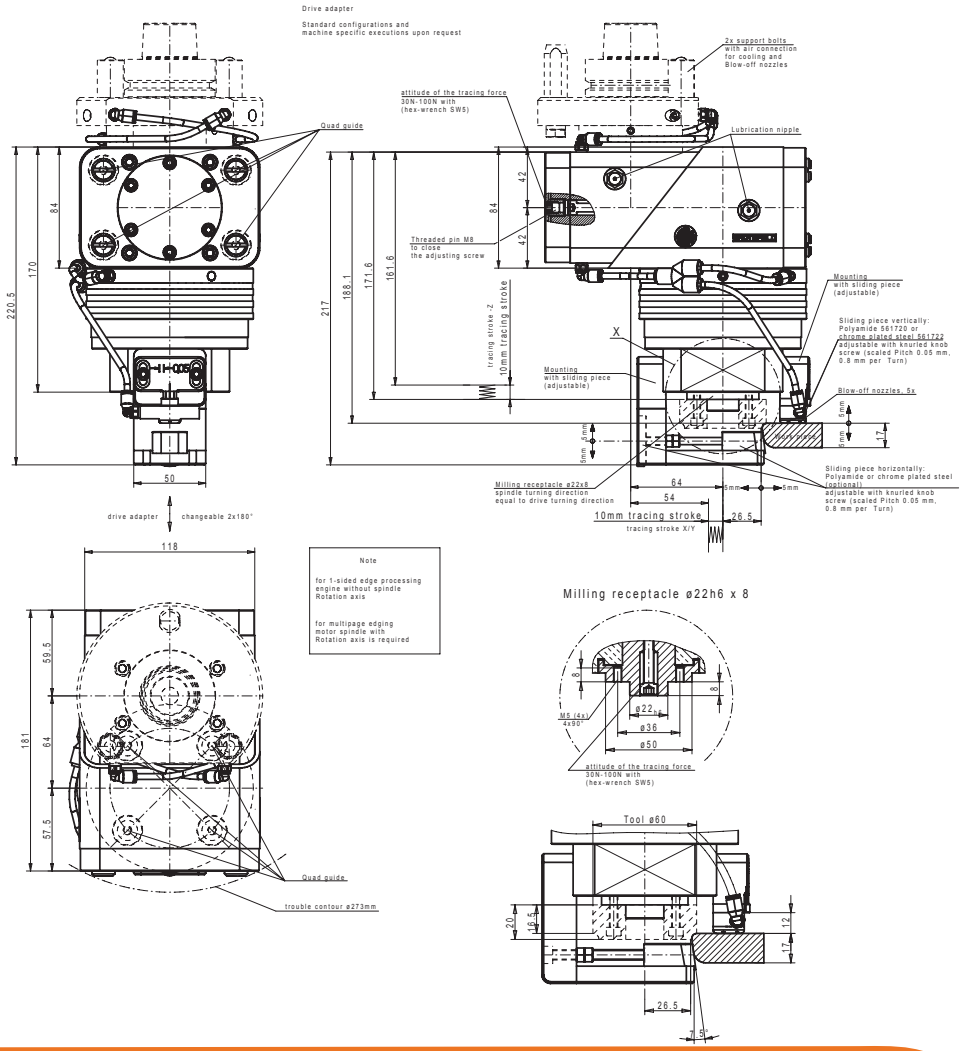
The edge cutter and router FN9-1.3-S offers the opportunity to cut and round even glued and protruding edge bands one-sided traced to the work piece. The FN9-1.3-S is a multi-function aggregate, which is equipped with a cutter-saw and a profile router. The beside placed elongated runners enables the enclosure to the work piece and the vertical working direction.

With two integrated pneumatic cylinders the runners are able to be adjusted automatically to the cutters and routers working relation. By fine adjustable end stops the runners can be easily adapted to different tool sets. To realize the compensatory movement of the tracing unit the drive and the working unit are decoupled and connected by movable linear slides free of play.

A high dynamic compensation coupling allows spindle speeds of up to 13,500 rpm. This causes a very high surface quality. The tracing force of about 100N is set by the Controlflex coupling and cannot be modified. The unit can be used to cap and round corners of solid wood materials, MDF, particleboards, coating materials, plastics.

Variants on demand!





Technical features

Item Id.	EP-030502
drive turning direction	R.H. / L.H.
gear ratio	i= 1:1 – gear driven
tracing stroke X/Y- direction	10 mm max.
tracing force	continuously adjustable from 30-100 N
drive speed – permanent operation	1.000 – 14.000 rpm
drive speed – interval operation	1.000 – 17.000 rpm
spindle speed – permanent operation	1.000 – 14.000 rpm
spindle speed – interval operation	1.000 – 17.000 rpm
milling receptacle	ø22h6 x 8 / 4xM5
milling turning direction	equal to drive turning direction
drive capacity	3,0 kW
weight with drive adapter	approx. 9,90 kg

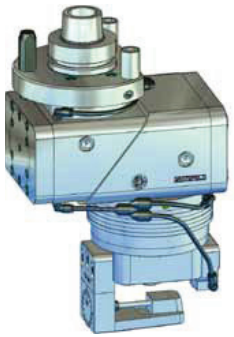
Optional accessories:

Sliding piece horizontally:

Polyamide	Item Id. 561719
Steel chrome plated	Item Id. 561721

Slieding piece vertically:

Polyamide	Item Id. 561720
Steel, hard chrome plated	Item Id. 561722
Hex-wrench SW3	Item Id. 138030
Hex-wrench SW4	Item Id. 138040
Hex-wrench SW5	Item Id. 138050
Lubrication press	Item Id. 980003

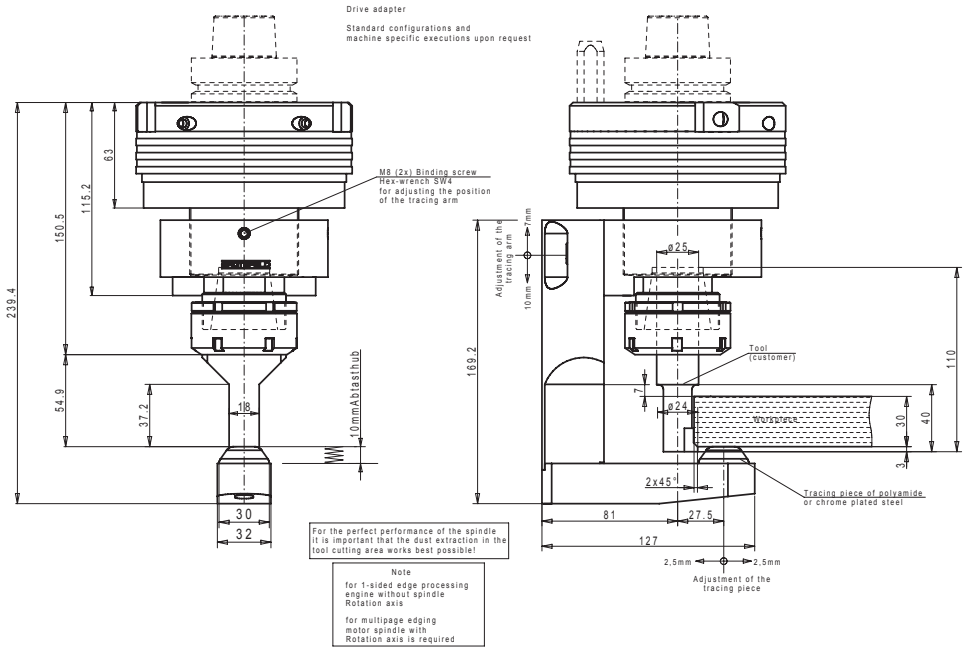


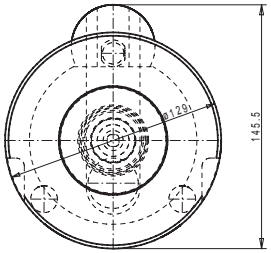
The 2D-Tracing spindle FN10-1.1-F is always supplied together with a drive adapter according to your indications. It is necessary to indicate - in case of an order - the information regarding the drive adapter in question in addition to the article-number. Usually it is a machine specific adapter that is built corresponding to your machine. Corresponding to your order you will receive within our order confirmation a final article-number. That was extended by the information referring to the adapter you ordered. This article-number. then applies for this specific configuration and can be used for all further orders without any additional information.

Description of the function

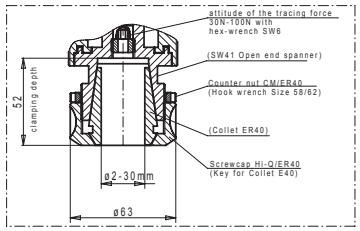
The 2D-Tracing spindle FN10 is used for rounding, chamfering or milling of workpiece edges. It sampled at the same time from the top and front face of the workpiece and works with a spring suspended stroke, each 10 mm in horizontal and vertical direction. Unevenness in the material can thereby be equalized. The sensing device is made with adjustable sliders on the work surface and conforms to the workpiece tolerances due to a spring suspended stroke. As a result the processing is always in the same distance to the surface of the workpiece. For different materials, it is necessary to adjust the tracing force. At the FN 10 this can easily be changed stepless with adjustment screws by the user. Depending on surface characteristics of the workpiece either sliding pieces of polyamide or hard chrome plated steel can be used.

Variants on demand!





Collet receptacle Hi-Q/ER40



Technical features

Item Id.	EP-039710
collet receptacle	Hi-Q/ER40 (max.ø30mm)
drive turning direction	R.H. / L.H.
tracing arm	tracing piece of polyamide or chrome plated steel
tracing stroke	10 mm max.
tracing force	adjustable from min. 30N – max. 100 N
spindle speed	18.000 rpm in interval operation
spindle turning direction	equal to drive turning direction
drive capacity	3,0 kW
weight without drive adapter	approx. 5,40 kg

Optional accessories:

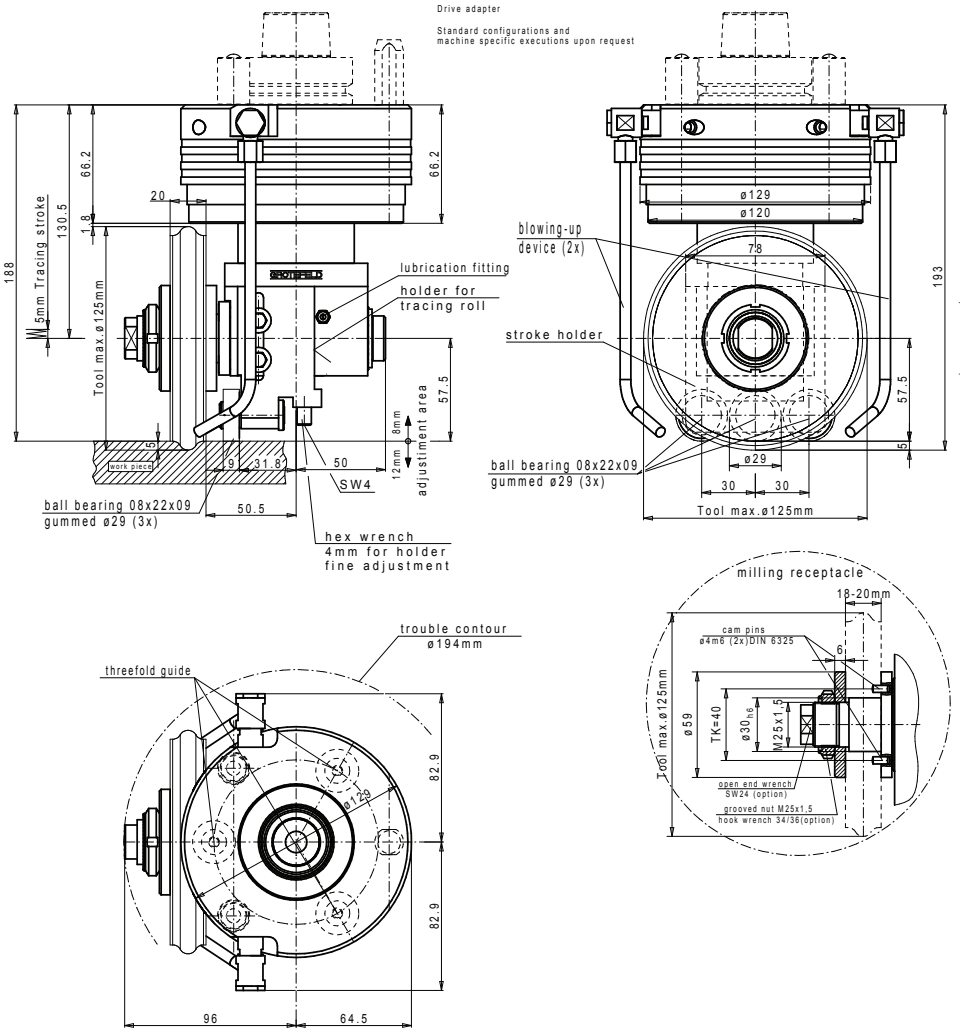
Open end spanner SW41-flat	Item Id. 131203
Hex-wrench SW4	Item Id. 138040
Hex-wrench SW6	Item Id. 138060
Hook wrench 58/62	Item Id. 139058
Key for Collet E40	Item Id. 137008

The 2D-Tracing spindle FN12-1.1-P30 is always supplied together with a drive adapter according to your indications. It is necessary to indicate - in case of an order - the information regarding the drive adapter in question in addition to the article-number. Usually it is a machine specific adapter that is built corresponding to your machine. Corresponding to your order you will receive within our order confirmation a final article-number. that was extended by the information referring to the adapter you ordered. This article-number. then applies for this specific configuration and can be used for all further orders without any additional information.

Description of the function

The Tracing spindle series FN12 are used for rounding or chamfering edges of workpieces. They are scanning the lower side of the workpiece and work with a spring suspended stroke of 10 mm in vertical direction. Unevenness in the material can thereby be equalized. The sensing device is made with adjustable sliders on the work surface and conforms to the workpiece tolerances due to a spring suspended stroke. As a result the processing is always in the same distance to the surface of the workpiece. For different materials, it is necessary to adjust the tracing force. This can easily be changed steplessly with an adjustment screw by the user. Depending on surface characteristics of the workpiece either sliding pieces of polyamide or hard chrome plated steel can be used.

Variants on demand!

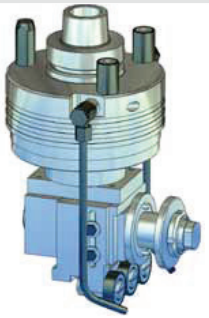


Technical features

Item Id.	EP- ------
drive turning direction	R.H.
drive speed max.	interval operation = 10.000 rpm
number of spindles	1
tool receptacle	1x ø30 mm – clamping area 18,0 – 20,0mm
tracing stroke	max. 5 mm
tracing force	40 – 60N
gear ratio	1,03:1
turning direction	3,0 kW
of tool receptacle	equal to drive turning direction
(R.H.)	
spindle speed max.	interval operation = 9.708 rpm
drive capacity	1,7 kW
weight	approx. 5,40 kg

Optional accessories:

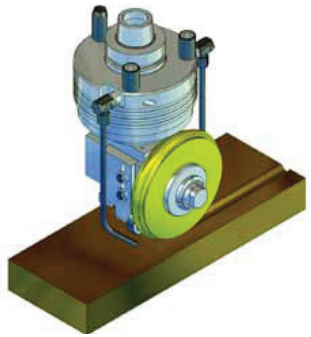
Open end spanner SW19	Item-Id. 131019
Hexagon wrench SW4	Item-Id. 138040
Hexagon wrench SW5	Item-Id. 138050
Hook wrench 40/42	Item-Id. 139040
Lubrication press	Item-Id. 980003



Description of the function

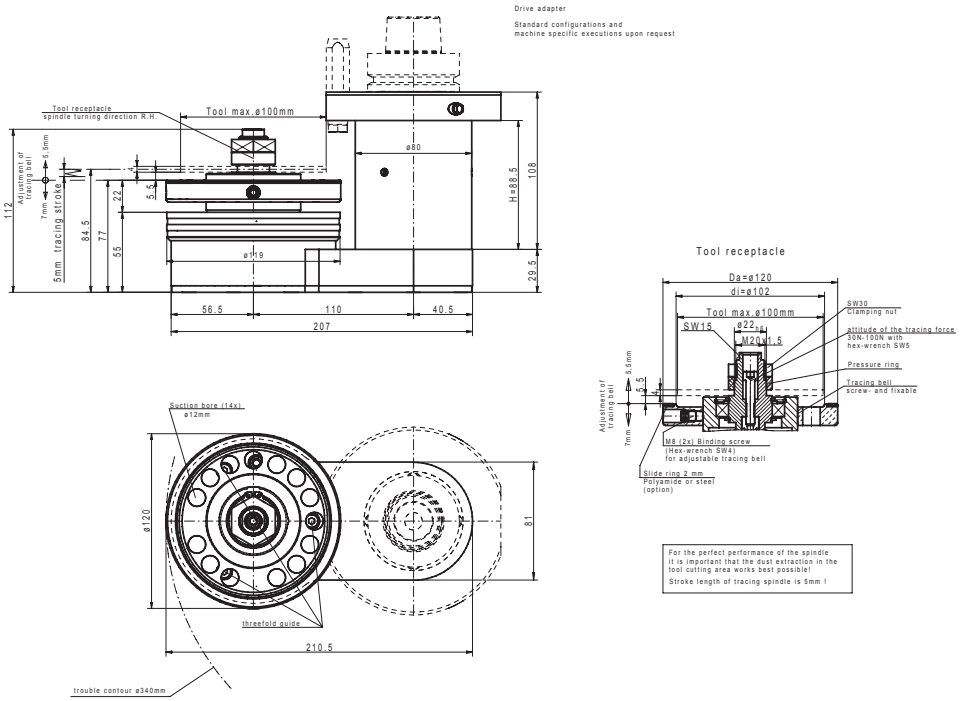
The tracing spindle series FN19 work with a spring suspended stroke of 5mm. The distance of the tool receptacle to the tracing rollers is constant. The sensing device is guided over the workpiece surface and adapts the suspension stroke through the different workpiece tolerances. In that way for example Lammello-connections, grooves or feathers are always done in a constant distance to the surface from the working piece.

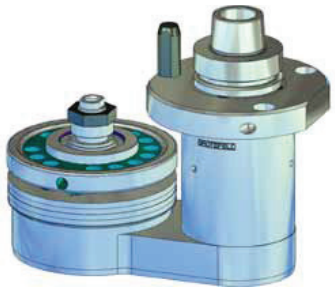
For different materials, it is necessary to adapt the tracing force. This is set before the delivery to the requested force. Depending on the surface of the workpiece either tracing rollers of rubber or steel can be used. On request the tracing device can supplied with blow-off nozzles. The height between the tracing bell to the tool can be adjusted continuously. The maximum speed is 9.708 1/min.

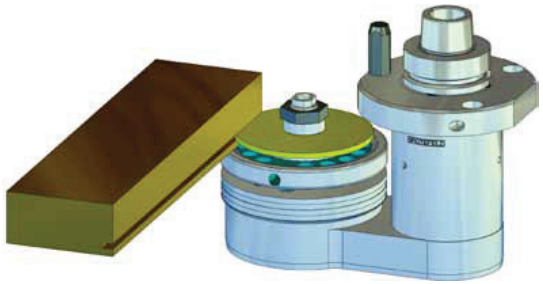


Variants on demand!

GROTEFELD







Technical features

Item Id.	EP-039510
drive turning direction	L.H.
drive speed max.	interval operation = 12.000 rpm
number of spindles	1
tool receptacle	Ø22h6 x 4 mm with tightening nut and pressure ring
tool diameter	Ø100 mm max.
tracing stroke	5 mm max.
tracing force	adjustable from min. 30N – max. 100N (without Tool weight)
gear ratio	1:1
turning direction of tool receptacle	opposite to drive turning direction – R.H.
spindle speed max.	interval operation = 12.000 rpm
drive capacity	2,2 kW
weight without drive adapter	approx. 3,00 kg

Optional accessories:

Open end spanner SW15	Item Id. 131001
Open end spanner SW30	Item Id. 131030
Hex-wrench SW4	Item Id. 138040
Hex-wrench SW5	Item Id. 138050
Slide ring – Polyamide	Item Id. 560729
Slide ring– Steel	Item Id. 560---

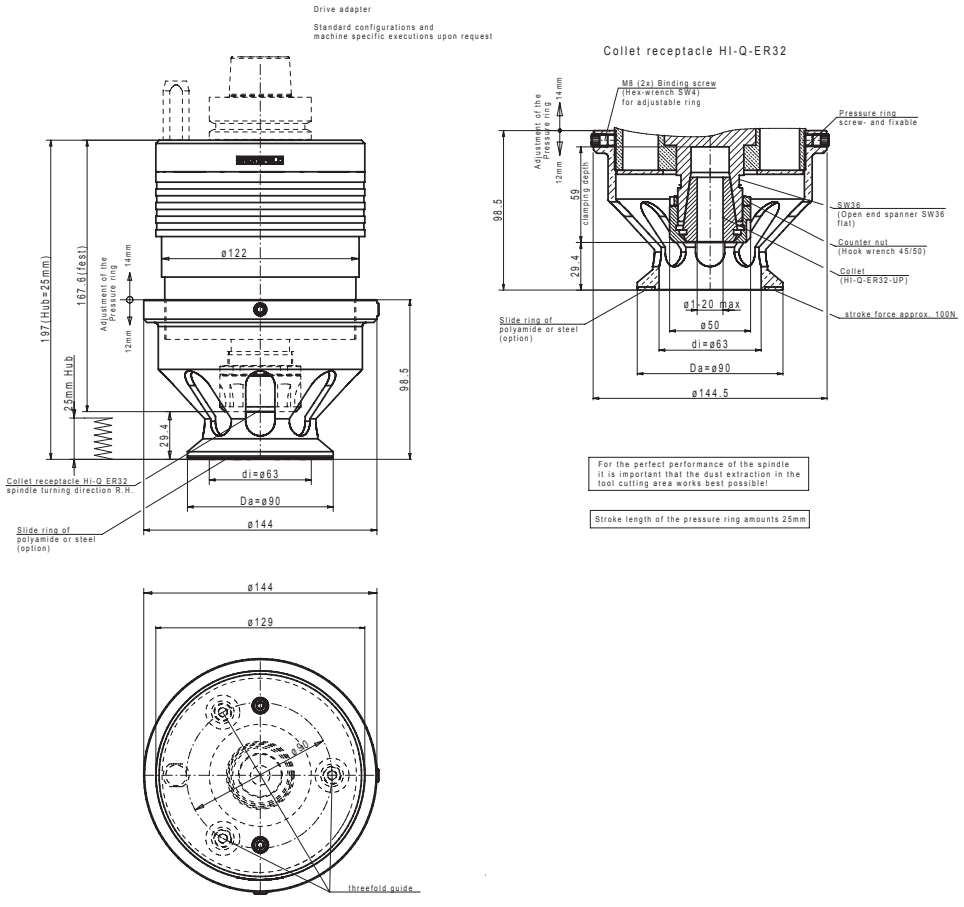
The Underfloor tracing spindle FU7-1.1-S is always supplied together with a drive adapter according to your indications. It is necessary to indicate - in case of an order - the information regarding the drive adapter in question in addition to the article-number. Usually it is a machine specific adapter that is built corresponding to your machine. Corresponding to your order you will receive within our order confirmation a final article-number. that was extended by the information referring to the adapter you ordered. This article-number. then applies for this specific configuration and can be used for all further orders without any additional information.

Description of the function

The Tracing spindle series FU7 are used for scanning the lower side of the workpiece and makes a milling cut parallel to it. They have a spindle with a tool receptacle for saw blades or disc cutters. There are also other possible tool receptacles. The drive speed is transferred 1:1 by a belt drive to the tool receptacle. The maximum spindle speed is 12,000 rpm in interval operation. The tracing bell has an outer diameter of 120 mm and allows a maximum tool diameter of 100 mm. The tracing stroke is 5 mm.

Variants on demand!

GROTEFELD

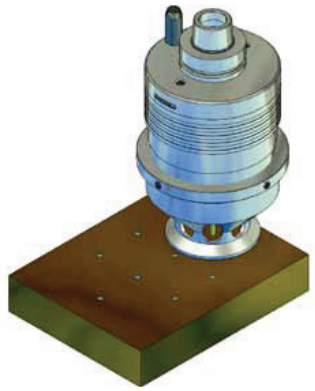


Technical features

Item Id.	EP--------
drive turning direction	R.H.
drive speed max.	interval operation = 18.000 rpm
number of spindles	1
tool receptacle	Collet receptacle Hi-Q/ER32 (ø1 – ø20mm max.)
stroke length oft he pressure ring	25 mm max.
pressure force	approx. 100N
gear ratio	1:1
turning direction of tool receptacle	equal to drive turning direction (R.H.)
spindle speed max.	interval operation = 18.000 rpm
drive capacity	3,0 kW
weight with drive adapter	approx. 5,70 kg

Optional accessories:

Slide ring – Polyamide	Item Id. 560527
Slide ring – Steel	Item Id. 560528
Hex-wrench SW4	Item Id. 138040
Open end spanner SW36 – flat	Item Id. 131236
Hook wrench 45/50	Item Id. 139050
Key for Collet E32	Item Id. 137007



The Direct Spindle G50-P20 is always supplied together with a drive adapter according to your indications. It is necessary to indicate - in case of an order - the information regarding the drive adapter in question in addition to the article-number.

Usually it is a machine specific adapter that is built corresponding to your machine. Corresponding to your order you will receive within our order confirmation a final article-number. That was extended by the information referring to the adapter you ordered. This article-number then applies for this specific configuration and can be used for all further orders without any additional information.

Description of function:

The direct drive spindle of the G50 series is for holding down the workpiece during the working process. The Aggregate has a stroke of 25mm. Tool receptacle and pressure ring can be made to customer specification. The maximum speed is 18,000rpm.

Note to all direct spindles:

In order to avoid a defect of the Aggregates, the stroke may be used by max. 25 mm is not exceeded! It is always a reserve stroke of 1.0 mm ensured.

Variants on demand!

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Name	Item Id.
Pull Stud for	
BT30	350127
BT35	350104
BT40	350126
SK30	350102
SK30 (BI-HSD)	350122
SK40	350103
ISO30 (SCM/Mo)	350121

Name	Item Id.
Open end spanner	
SW11	131011
SW13	131013
SW13 (DPL)	131023
SW14	131002
SW15	131001
SW17	131017
SW19	131019
SW22 - flat	131221
SW24	131024
SW24 - flat	131025
SW27	131006
SW27 – flat	131027
SW30	131030
SW32	131003
SW36	131036
SW36 - flat	131236
SW41	131041
SW41 - flat	131203
SW46 - flat	131247

Name	Item Id.
Hex-wrench	
SW3	138030
SW4	138040
SW5	138050
SW6	138060
SW8	138080

Name	Item Id.
Hook wrench	
16 / 20	139016
30 / 32	139030
40 / 42	139040
40 / 42 (Pin)	139041
45 / 50	139050
45 / 50 (Pin)	139051
58 / 62 (Pin)	139058
68 / 75	139068
80 / 90	139080
80 / 90 (Pin)	139081
95 /100	139095

Name	Item Id.
Key for Collet	
E 20M	137001
E 25M	137002
E 20 (HU/ER20)	137004
E 20-AX	137013
E 25 (HU/ER25)	137003
E 25-AX	137012
E 32	137007
E 32-A	137010
E R32-AX	137011
E 40	137008

Name	Item Id.
Collet ER20 – DIN6499-B(**UP**) for Type Hi-Q/ER20 and Hi-Q/ERM20	
ø 03,0 mm – 02,0 mm	151106
ø 05,0 mm – 04,0 mm	151107
ø 06,0 mm – 05,0 mm	151105
ø 08,0 mm – 07,0 mm	151102
ø 10,0 mm – 09,0 mm	151101
ø 12,0 mm – 11,0 mm	151103
ø 13,0 mm – 12,0 mm	151104

Name	Item Id.
Collet ER25 – DIN6499-B(**UP**) for Type Hi-Q/ER25 and Hi-Q/ERM25	
ø 02,0 mm – 01,0 mm	152112
ø 03,0 mm – 02,0 mm	152106
ø 04,0 mm – 03,0 mm	152107
ø 05,0 mm – 04,0 mm	152113
ø 06,0 mm – 05,0 mm	152110
ø 07,0 mm – 06,0 mm	152109
ø 08,0 mm – 07,0 mm	152108
ø 08,5 mm – 07,5 mm	152111
ø 09,0 mm – 08,0 mm	152114
ø 10,0 mm – 09,0 mm	152101
ø 11,0 mm – 10,0 mm	152115
ø 12,0 mm – 11,0 mm	152102
ø 13,0 mm – 12,0 mm	152104
ø 14,0 mm – 13,0 mm	152105
ø 15,0 mm – 14,0 mm	152116
ø 16,0 mm – 15,0 mm	152103

Name	Item Id.
Collet ER32 – DIN6499-B(**UP**) for Type Hi-Q/ER32	
ø 04,0 mm – 03,0 mm	153110
ø 06,0 mm – 05,0 mm	153108
ø 07,0 mm – 06,0 mm	153111
ø 08,0 mm – 07,0 mm	153105
ø 10,0 mm – 09,0 mm	153103
ø 12,0 mm – 11,0 mm	153106
ø 13,0 mm – 12,0 mm	153109
ø 14,0 mm – 13,0 mm	153104
ø 16,0 mm – 15,0 mm	153101
ø 18,0 mm – 17,0 mm	153107
ø 20,0 mm – 19,0 mm	153102

Name	Item Id.
Collet ER40 – DIN6499-B(**UP**) for Type Hi-Q/ER40	
ø 04,0 mm – 03,0 mm	154120
ø 12,0 mm – 11,0 mm	154116
ø 17,0 mm – 16,0 mm	154108
ø 20,0 mm – 19,0 mm	154102
ø 25,0 mm – 24,0 mm	154101

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Lubrication

The GROTEFELD angular heads are filled with high-quality, special „Long Life“ greases in the factory and run correspondingly. Therefore, there is no further lubrication necessary when starting work at the customer. After approximately 200 working hours a lubrication of the wheel drive according to our instructions of lubrication and maintenance is necessary. It has to be observed then that the grease prescribed by GROTEFELD is used.

Law of machine protection, Security measures

The GROTEFELD-angular heads and drive adapters as well as the accessories correspond at the current state of the art and to the German prescriptions of Security (UVV, VDE, etc.) as well as the CE regulations. When installing appliances supplied by GROTEFELD into existing machines and machine lines the valid prescriptions of security have to be observed by our customers.

Corresponding to the individual location and purpose the valid, country-specific prescriptions of security are to be observed by our customer and - if necessary - executed with regard to the covering of rotating respectively sliding machine elements. The same applies with regard to the aspiration of occurring dusts when sawing, drilling or milling.

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