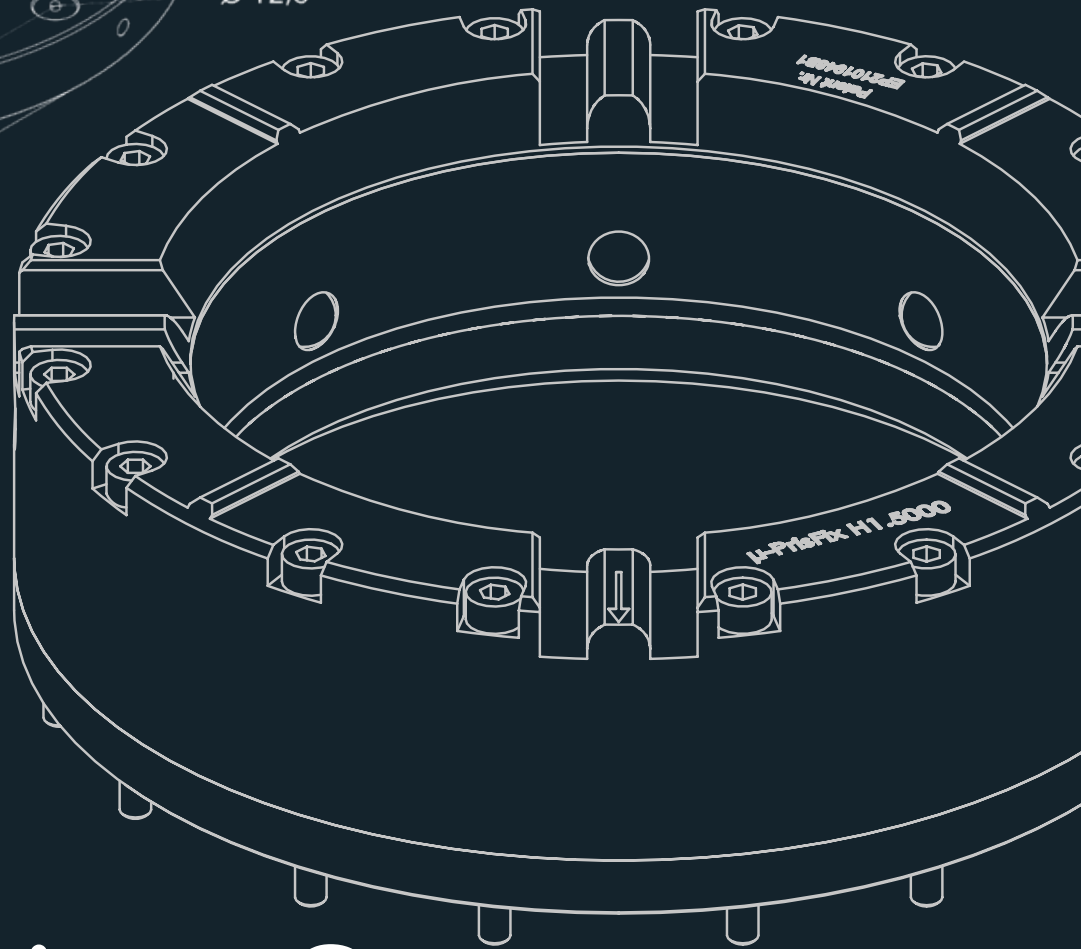




the **precision** benchmark



Clamping System 5000

For sinking EDM and chipping machines

**CARL
HIRSCH
MANN** 

Carl Hirschmann GmbH

Precision as passion

Highest precision is the distinctive trademark of our clamping systems. With great passion and deep special know how we develop and manufacture trend-setting products for your ambitious requirements – since decades and with increasing enthusiasm. As leading manufacturer in clamping technology for EDM, milling, turning and measuring machines as well as machining centers we convince with competence in solutions and innovative conceptional results. We are the system provider with perfected engineering for clamping projects.

Carl Hirschmann – the precision benchmark

Our Clamping System 5000 with a repetitive accuracy of $\leq 2 \mu\text{m}$ is the ideal accessories for sinking EDM, metal cutting machines, machining centers and measuring machines.

Already our standard assortment covers a wide range. For your specific requirements we design and produce individual configured palletizing and clamping systems up to assembling in the metal-cutting machine. The tight cooperation with the customer guarantees perfect results even for complex challenges. Take benefit of our full service out of one source. Our Clamping System 5000 offers you unbeatable advantages on global market.



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Operation

Most tools are supplied together with an operating guide. Correct operation cannot be ensured and danger to personnel and machine cannot be excluded unless these operating instructions or information given in this catalogue are observed.

Precision

The individual tool planes incorporate hardened and precision ground X and Y centering prisms and separate Z-supports. That means positioning of pallets and fixtures is done automatically.

Service and maintenance

Since the clamping system is subject to chemical and physical influences, maintenance and service has to be performed with special care.

Technical modification

All products shown in this catalogue are subject to ongoing improvements and developments; we reserve the right to make modifications without notice.

Quality according to ISO 9001 and EN 9100

All products of Carl Hirschmann GmbH are manufactured using the latest production methods. All products are submitted for ISO 9001 and EN 9100 (air and space industry standard) quality assurance.

Warranty

We provide a 12 month warranty for all clamping system parts starting from the invoice date, and assuming correct use and maintenance as specified has been observed.

The warranty is restricted to replacement or repair, free of charge, of any defective parts. Claims arising from improper use or handling shall not be considered. Warranty claims must be submitted in writing.

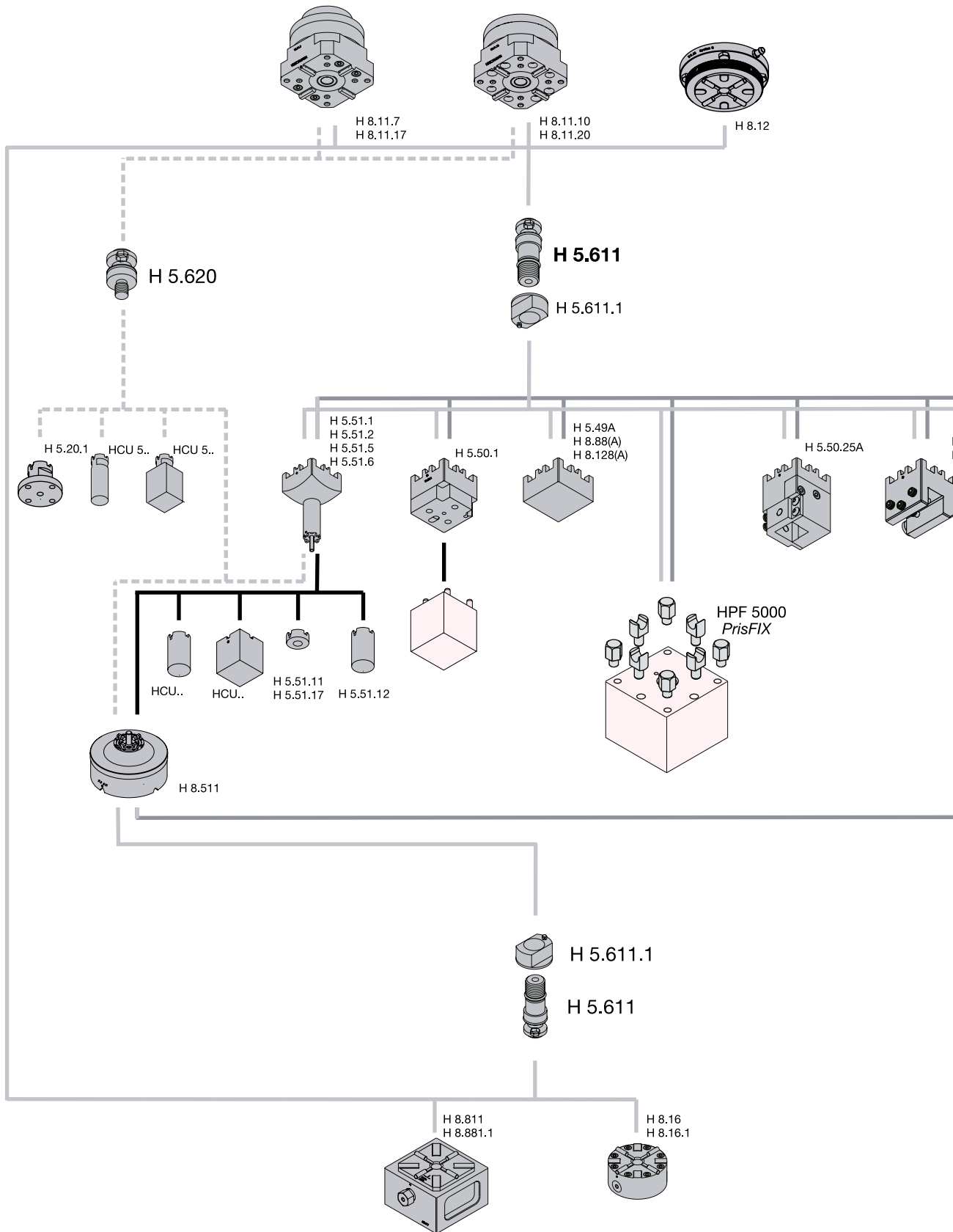
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Clamping System 5000

Overview

SPINDLE

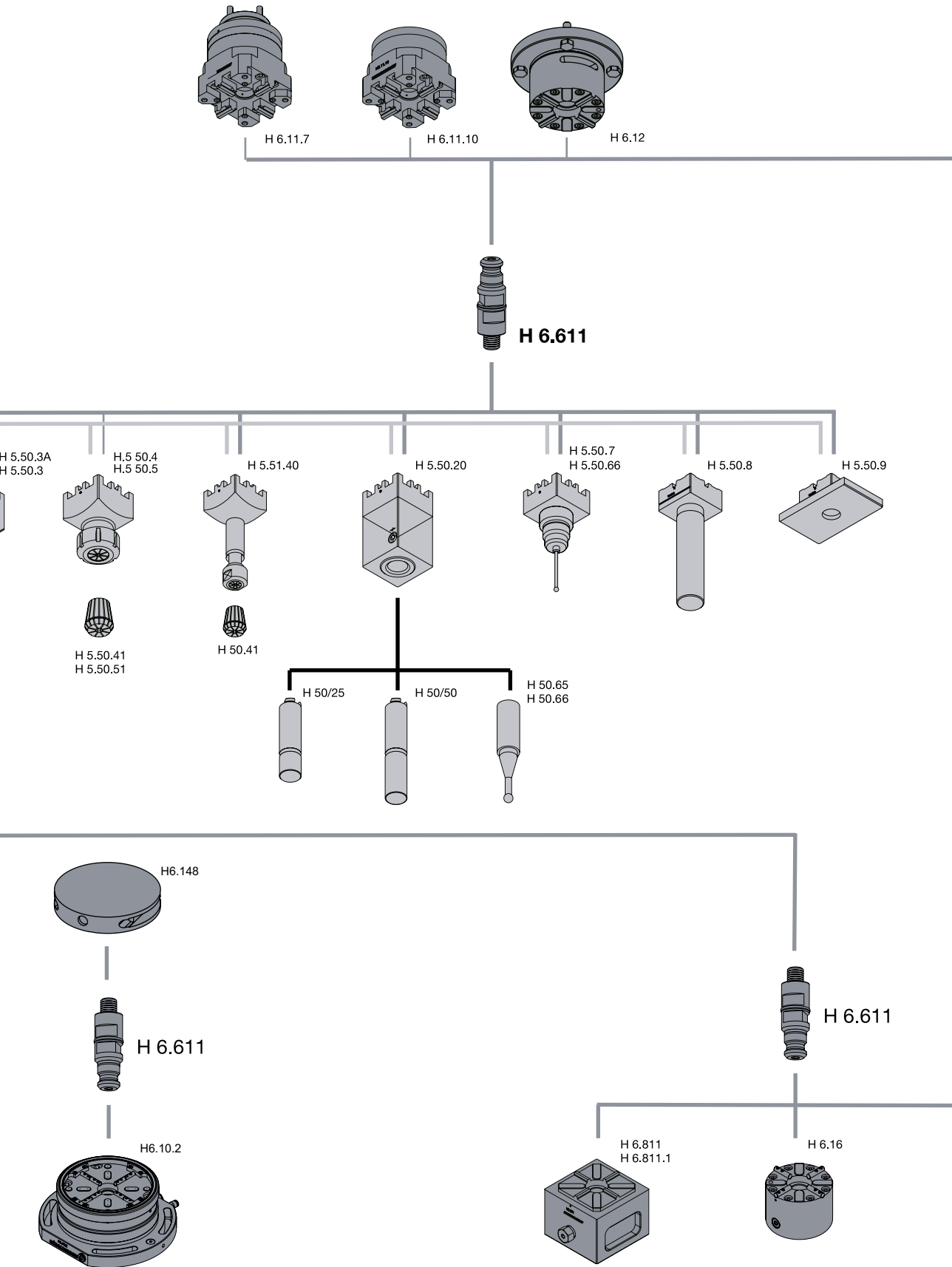
Clamper series H8.xx for clamping journal H5.611



MACHINE

SLEEVE

Clamper series H6.xx for clamping journal H6.611



TABLE

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Clamping System 5000

Introduction

Application

The Clamping System 5000 is a universal clamping system for electrodes and workpieces. It guarantees quick, and precise clamping and referencing of fixtures and workpieces on all EDM, metal cutting machine tools, machining centers and measuring machines.

Your benefit

High productive machine running times through runtime parallel setup and fast high precise change of electrodes, fixtures and workpiece blanks on universal, also automatically changeable pallets and holders.

Our strengths

Decades of experience in innovative and practical clamping technology and customized solutions „Made by Carl Hirschmann / Germany“.

Characteristics

- Repetitive accuracy $\leq 0,002$ mm
- Integrated X, Y, Z references
- Integrated 4 x 90° pitch
- Up to 100 kg weight of electrodes / workpieces
- Solid, shock and dirt resistant
- Rust-proof
- Manual and automatic pallet change possible



Advantages of Clamping System

- Universal use on all machine tools
- Future-proof due to innovative technology
- Precise - repetitive accuracy $\leq 0,002$ mm
- Quick amortization due to good value



Advantages for your company

- Increased productivity because of parallel setting and quick changing in the machine
- Better manufacturing precision because set-up faults and their addition from machine to machine are avoided
- More flexibility because of the possibility to interrupt for rush orders or measuring processes
- Higher process safety because of integrated pneumatic cleaning and availability check
- Successful in competition and therefore more profit

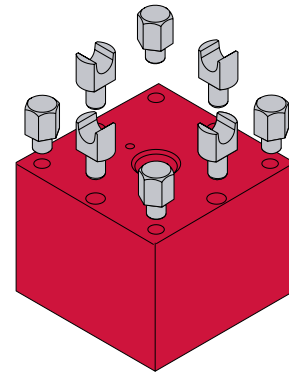
Advantages for your customers

- On-time delivery. High productive machine running times because of minimum set-up times
- Precise parts because set-up faults are not added up from machine to machine
- Reliability because of cost effective, on-time delivery. High productivity and flexibility
- High customer satisfaction = customer loyalty

Reference Set HPF5000 PrisFix

Low-cost Referencing of Electrodes and workpieces

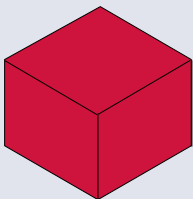
The HPF 5000 PrisFix reference set is a cost-effective solution for referencing copper or graphite electrodes and workpieces in the Carl Hirschmann 5000 clamping system. The function of a pallet (X-Y-Z reference base) is divided into single, very cost-effective components. These are glued into the electrode or the workpiece and clamped in a Carl Hirschmann clammer until they are fixed by the adhesive (takes a few minutes). The costs for a pallet are eliminated. Both the clamping journal H6.611 for the clamping series H6... and the clamping journal H5.611 for the clamping series H8... can be used.



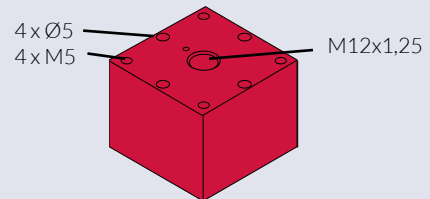
Brilliantly simple

Prepare blank in 8 steps

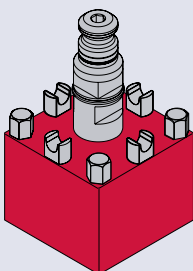
1.) Blank ($\geq 50 \times 50$ or $\geq \varnothing 67$ mm)



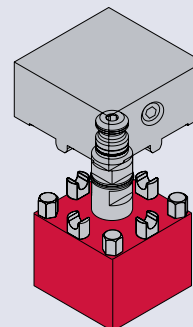
2.) Make bores $\varnothing 5$, M5 and M12



5.) Blank with completely mounted parts

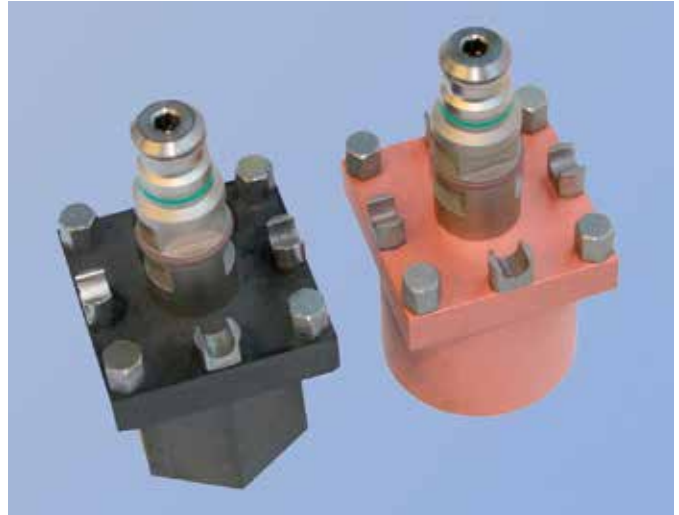


6.) Clamp blank with mounted parts for centering of reference prisms into clammer.



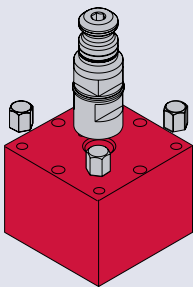
characteristics

- Repetitive accuracy $\leq 0,002$ mm
- Inexpensive, no pallet necessary
- Material bond connection (no shifting)
- For electrodes and workpieces from $\square 50$ mm / $\varnothing 67$ mm
- Easy and quick to assemble
- Automatic change possible
- Clamping journal H5.611 and H6.611 can be used

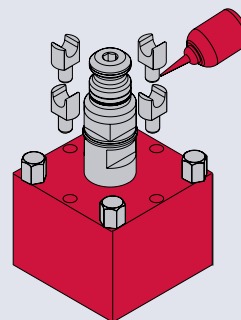


Reference Set HPF 5000 PrisFix installed on graphite and copper electrodes.

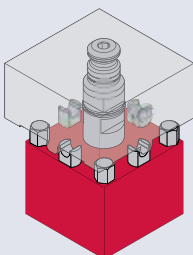
3.) Screw in Z support and clamping journal



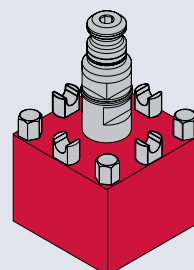
4.) Place X, Y reference prisms with special glue



7.) For centering of X, Y reference prisms clamp into a Carl Hirschmann clumper (presetting station or machine) until glue is hardened enough (approx. 10 minutes).



8.) Take blank out of clumper - ready!



Clamping System 5000

Clamping journal

All pallets and holders and also the Reference Set HPF 5000 are delivered without clamping journal, it is to be ordered separately.

Depending on series of clammer (H6.xx or H8.xx), the corresponding type of clamping journal must be used. In case of a new purchase the use of clammers series H6.xx and the clamping journal H6.611 is recommended.





Two clamping journal designs are available

- Clamping Journal H5.611 -short clamping journal (use only for clammers series H8.xx)
- Clamping journal H6.611 - clamping journal with integrated gripper surfaces for automatic change (use only for clammers series H6.xx)



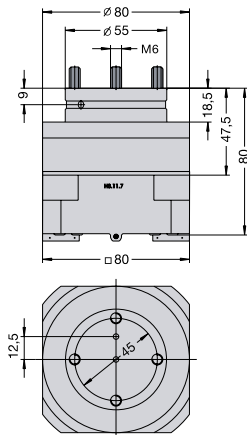
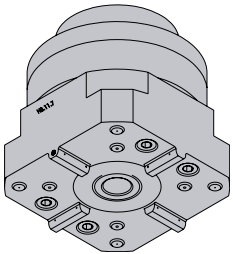
Automatic loading

Selection of clamping journal

	Clamping journal H5.611	Clamping journal H6.611
		
For clammer series	H8.xx	H6.xx
Manual handling	•	•
Pick-up systems	•	•
Automatic handling	pick-up only	•
		

Pneumatic clamber series H8.11.. for clamping journal H5.611

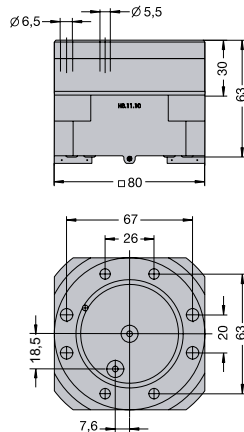
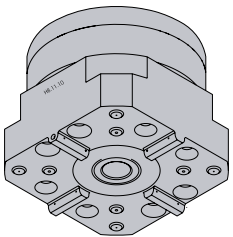
The pneumatic tool clampers are intended for mounting or installation in the spindle sleeve or C-axis of the EDM machine but can also be mounted or integrated on the machine table. Clamping is by spring force, opening is pneumatic with 6 bar pressure. The pneumatic clampers are equipped with integrated Z-cleaning nozzles, which can also be used for clamping monitoring (pressure monitoring).



H 8.11.7 Tool Clamber without MINIFIXplus H 8.11.17 Tool Clamber with MINIFIXplus

For installation in C-axes and spindle sleeves. The connection for compressed air and dielectric is made from above. The rear side of the clamber is ground parallel to the centering prism as an alignment surface.

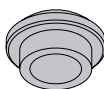
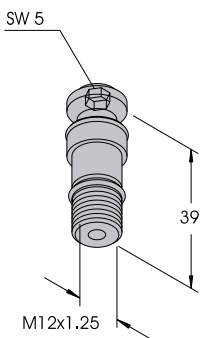
Positional and repetitive accuracy	≤ 0,002 mm
Clamping force H8.11.7	2500 N
Clamping force H8.11.17	1500 N
Max. electrode weight	50 kg
Max. erosion current	120 A
Compressed air min.	6 bar (87psi)
Weight	2.5 kg



H 8.11.10 Tool Clamber without MINIFIXplus H 8.11.20 Tool Clamber with MINIFIXplus

For installation in C-axes and spindle sleeves. The connection for compressed air and dielectric is made from above. The rear side of the clamber is ground parallel to the centering prism as an alignment surface.

Positioning and repetitive accuracy	≤ 0,002 mm
Clamping force H8.11.10	2500 N
Clamping force H8.11.20	1500 N
Max. electrode weight	50 kg
Max. erosion current	120 A
Compressed air min.	6 bar (87psi)
Weight	2.15 kg



H5.611 Clamping journal H5.611.1 Centering sleeve

For holding pallets and holders in the clampers of the H8... series as well as for magazining in the magazine forks H5.60 or H5.62 as well as in round and linear magazines. With central flushing bore

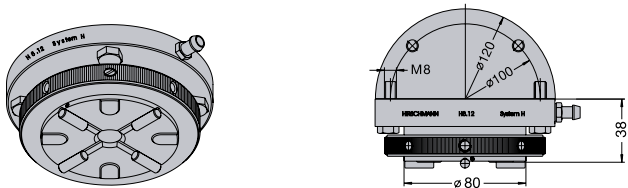
H5.611.2 Distance Bush

For placement in the older magazine forks H5.57... the distance sleeve H5.611.2 can be exchanged for centering bush H5.611.1.

Clamping System 5000

Manual clamber for clamping journal H5.611..

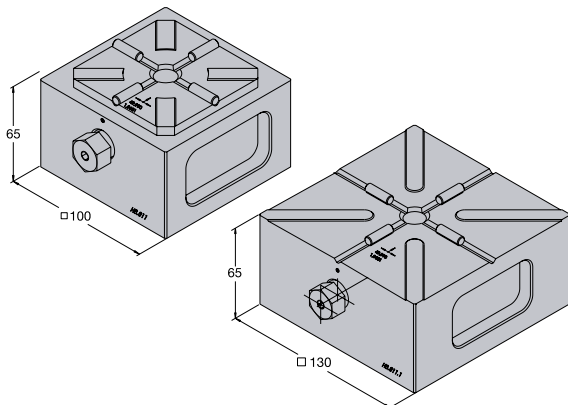
The manual tool claspers are designed for use on the spindle sleeve of manual EDM machines as well as on the table of cutting machine tools, machining centres and measuring machines. The pallets and holders are clamped manually by means of a clamping ring or a clamping screw.



H8.12 Tool Clamper, manual

Round for mounting on the spindle sleeve or table with (4) M8 hex bolts. Includes lateral connection for internal flushing.

Positioning or repetitive accuracy	≤ 0,002 mm
Clamping force	2500 N
Max. electrode/workpiece weight	100 kg
Max. erosion current	120 A
Weight	3.7 kg



H8.811 Pallet Clamper, manual

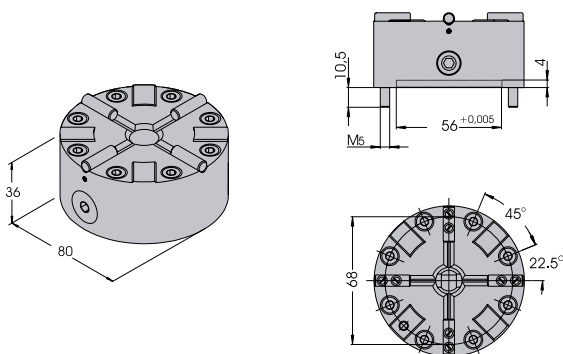
With force-losing clamping. The four precision ground contact surfaces, which are also used for alignment on the machine, enable horizontal and vertical use. Engraved center distances for alignment and positioning. Suitable for use in dielectric.

Positioning accuracy	≤ 0,002 mm
Clamping force	10000 N
Weight	3.5 kg

H8.811.1 Pallet Clamper, manual

Same as H 8.811 with a larger base for additional "Z" support for the pallets H8.128.

Weight	6.5 kg
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H8.16 Pallet Clamper, manual

For cylindrical applications with an internal hexagon tightening screw. Centering seat and 8 fixing screws M5. Suitable for rotating applications and use in dielectric.

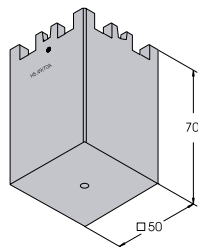
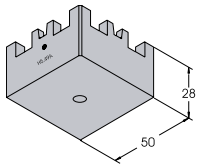
Positioning accuracy	≤ 0,002 mm
Clamping force	6000 N
Weight	1,2 kg

H8.16.1 Pallet Clamper, manual

Same as H8.16 but with a male hexagon clamping screw like the H8.811. For stationary use.

Pallets and holders made of aluminum

The extremely low-priced aluminum pallets and holders can also be used in wire EDM machines. All pallets and holders are delivered without clamping journals which must be ordered separately.



H5.49A Pallet

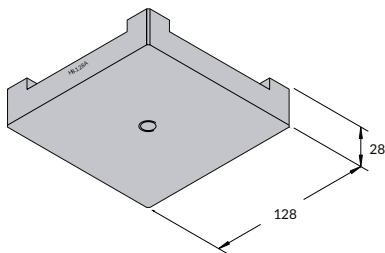
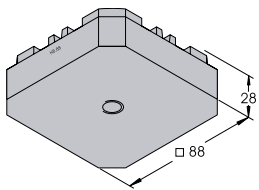
For copper electrodes up to 75 mm (3") \varnothing or graphite electrodes up to 100 mm (4") \varnothing , machined on H6.811 or H8.811. Electrode or workpiece is screwed from above or beneath. Without mounting bores.

(without clamping journals) Delivered as set of 9 pieces
Weight 0,12 kg

H5.49/70A Pallet (for custom machining)

Same as H5.49A, but 70 mm long.

(without clamping journals) Delivered as set of 9 pieces
Weight 0.25 kg



H8.88A Pallet

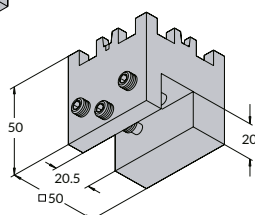
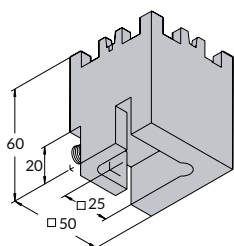
For copper electrodes up to 100 mm (4") \varnothing , or graphite electrodes up to 150 mm (6") \varnothing , machined on series H 6.811 or H 8.811 clampers. Pallet is blank for custom mounting.

(without clamping journals) Delivered as set of 5 pieces
Weight 0.5 kg

H8.128A Pallet

For copper electrodes up to 160 mm (6.5") \varnothing , or graphite electrodes up to 250 mm (10") \varnothing , machined on H6.811.1 and H8.811.1 clampers.

(without clamping journals) Delivered as 1 piece or set of 5 pieces
Weight 0.5 kg



H5.50.25A V-Holder

Aluminum „V“ block holder for electrode blanks from 10 mm \varnothing up to 25 mm (1") \varnothing .

(without clamping journals) Delivered as set of 9 pieces
Weight 0.15 kg

H5.50.3A F-Holder

Aluminum "Rib" holder for holding flat electrode blanks up to 20 mm (0.8") thickness.

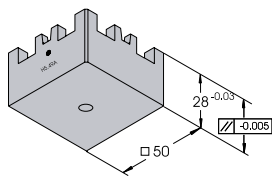
(without clamping journals) Delivered as set of 9 pieces
Weight 0.15 kg

the **precision** benchmark

Clamping System 5000

Pallets and holders made of steel

Steel pallets and holders are protected against rust by chemical nickel plating. They guarantee high repetitive accuracy and long life even with high machining forces. The centring prisms and Z supports are inductively hardened. Please order clamping journals separately!



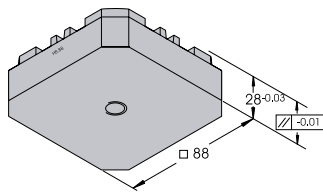
H5.50 Pallet

For copper electrodes and workpieces up to 75 mm (3") \varnothing , or graphite electrodes up to 100 mm (4") \varnothing , machined on H6.811 and H8.811 clamper.

Weight 0,5 kg

H5.50R Stainless Steel Pallet

Same as H 5.50 but made of stainless steel (use stainless steel clamping journals H5.611R, H5.611.1R and/or H6.611R).



H8.88 Pallet

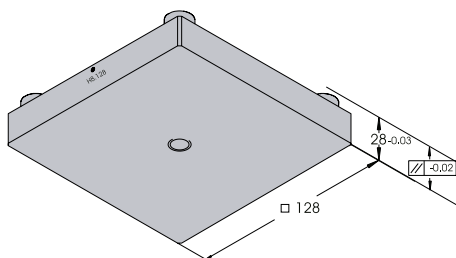
For copper electrodes and workpieces up to 100 mm (4") \varnothing , or graphite electrodes up to 150 mm (6") \varnothing , machined on H6.811 or H8.811 clamper.

Weight 1.2 kg

H8.88R Stainless Pallet

Same as H 8.88 but made of stainless steel (use stainless steel clamping journals H5.611R, H5.611.1R and/or

H6.611R).



H8.128 Pallet

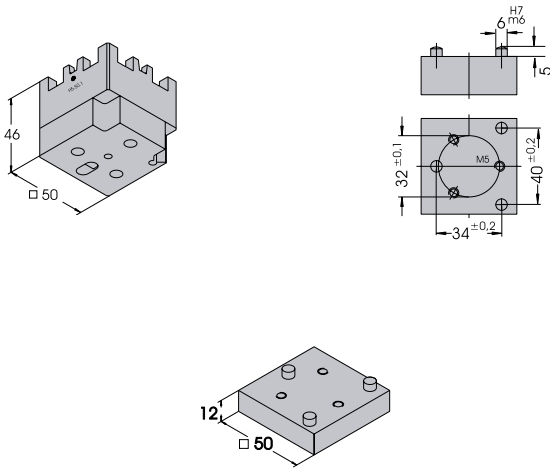
For copper electrodes and workpieces up to 160 mm (6.5") \varnothing or graphite electrodes up to 250 mm (10") \varnothing , machined on H6.811.1 and H8.611.1 clampers.

Weight 2.5 kg

U-holder, V-holder made of steel

U-holder

The electrode or workpiece blank is either attached to an adapter plate H5.50.11 or equipped with three tapped holes two reference pins and a fixing pin and screwed directly to the U-holder. The electrode can be used and re-mounted to the holder with high repetitive accuracy. All U-holder are delivered without clamping journals which must be ordered separately.



H5.50.1 U-Holder

For copper electrodes up to 60 mm (2.4") \varnothing , or graphite electrodes up to 100 mm (4") \varnothing

Threaded inserts are recommend for graphite electrodes.
Repetitive accuracy (same holder) ≤ 0.002 mm

Changing accuracy (different holder) ≤ 0.005 mm

Weight 0.75 kg

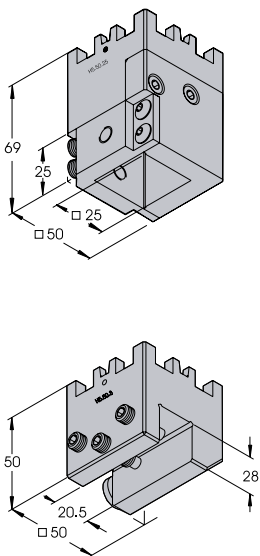
H5.50.11 Adapter Plate

For use with U-holder H5.50.1, aluminum, 50x50 mm, with reference and fixing pins.

Delivered in

set of 10 pieces

V-holder



H5.50.25 V-Holder

Central holder for round or square electrodes and workpieces up to \varnothing 25mm. Holder hardened and chemically nickel-plated. With lateral flushing connection.

The contact surfaces are parallel and exactly aligned to the centering prisms.

Repetitive accuracy measured 50 mm below the V-holder ≤ 0.01 mm.

Weight

0.75 kg

H5.50.3 F-Holder

Flat holder for electrodes and workpieces up to 20mm thickness. Holder hardened and chemically nickel-plated. With lateral flushing connection.

The contact surfaces are parallel and exactly aligned to the centering prisms.

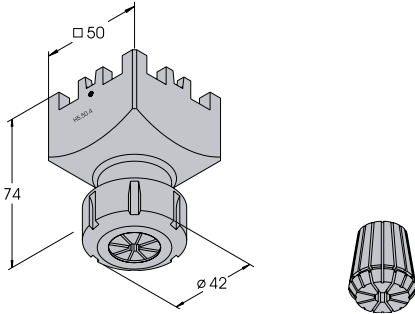
Repetitive accuracy measured 50 mm below the V-holder ≤ 0.01 mm.

Weight

0.6 kg

Clamping System 5000

Collet holder



H5.50.4 Collet Holder

Clamping range 0.5-16 mm (0.02"-0.63") for collet H5.50.41, hardened and chemically nickel-plated. With central flushing. Built-in and easily replaceable sealing disc with a 3.7 mm hole. Five extras without hole are included in delivery. (Misalignment clamping taper to the centering prisms) ≤ 0.01 mm.

Weight 1,0 kg

H5.50.41 Collet ER/ESX 25

Clamping range infinitely variable from 0.5-16 mm (0.02"-0.63") depending on diameter.

Collet size from $\varnothing 1$ - $\varnothing 16$ mm in 1 mm increments

Run-out error upto $\varnothing 6$ mm 0.015mm from $\varnothing 7$ mm 0.02 mm

H5.50.42 Replacement Seals

Set with 5 pieces, without hole for H5.50.4

H5.50.43 Hook Wrench (not pictured)

For tightening the collet in the holder H5.50.4.

H5.50.5 Collet Holder

Clamping range 3 - 26 mm. For collet H5.50.51, hardened and chemically nickel-plated. With central flushing. Built-in and easily replaceable sealing disc with a 2.7 mm hole. 5 extras without hole are included in delivery.

Misalignment clamping taper to centering prisms $\leq 0,01$ mm

Weight 1.2 kg

H5.50.51 Collet ER/ESX 40

Clamping range infinitely variable from 3 - 26 mm (0.12"-1.024") depending on diameter.

Collet size from $\varnothing 4$ - $\varnothing 26$ mm in 1 mm increments

Run-out error upto $\varnothing 6$ mm 0.015mm from $\varnothing 7$ mm 0.025 mm

H5.50.52 Replacement Seals

Set with 5 pieces, without hole for H5.50.5

H5.50.53 Hook Spanner Wrench (not pictured)

For tightening the collet in the holder H5.50.5.

H5.51.40 Collet Holder

Clamping range infinitely variable from 3 - 26 mm.

Collet size from $\varnothing 4$ - $\varnothing 26$ mm, in 1 mm increments.

Run-out error up to $\varnothing 6$ mm 0.015 from $\varnothing 7$ mm 0.02 mm.

Weight 0.8 kg

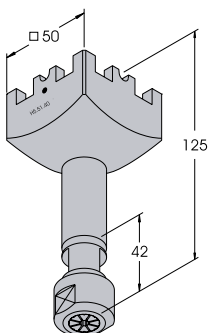
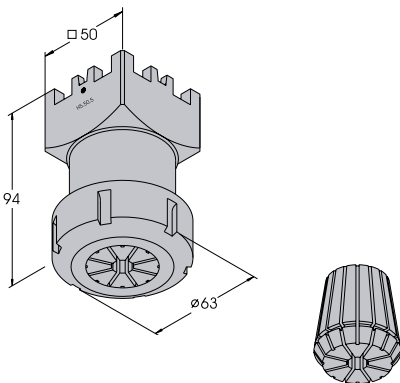
H50.41 Collet ER/ESX 16

Clamping range 0,5 - 10 mm. For collet H5.50.41, hardened and chemically nickel-plated. With central flushing. Built-in and easily replaceable sealing disc with a 3.7 mm hole. 5 extras without hole are included in delivery.

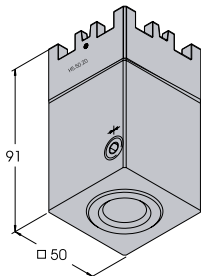
H50.42 Replacement Seals

Set with 5 pieces, without hole for H5.51.40

Clamping journals H5.611 or H6.611 must be ordered separately!



Hydraulic chuck



H5.50.20 Hydraulic Chuck

For precise mounting and angle fixing of the electrode shafts via a hardened pin located transversely in the centre of the chuck, which is congruent with the centring prisms located at the tool parting line. Hardened and chemically nickel-plated. With central flushing and lateral flushing connection.

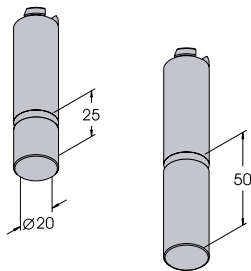
Changing accuracy of a shank, measured 50 mm below the chuck ≤ 0.005 mm

Repetitive accuracy ≤ 0.002 mm

The distance from the centering prism to the fixing pin is the same for all hydraulic chucks. ≤ 0.01 mm

Weight 2 kg

The clamping journals H5.611 or H6.611 must be ordered separately!



H50/25 Electrode Shank (work length 25 mm)

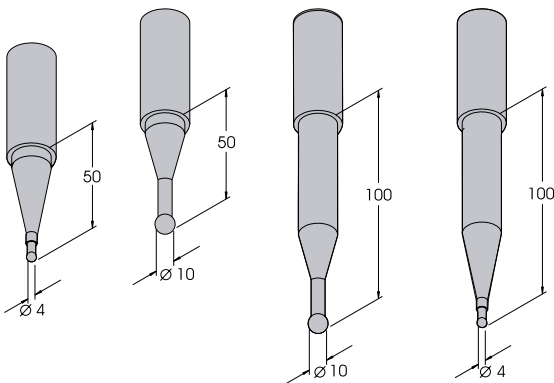
For mounting in the hydraulic chuck. Diameter 20mm, with 30° fixing bevel at shaft end. Fitting side and fixing bevel inductively hardened and precision ground. Flushing bore drilled. Electrode side unhardened, for fastening the electrode blank by soldering, gluing, screws etc.

Max. electrode weight 5 kg.

H50/50 Electrode Shank (work length 50 mm)

Same as H50/25 but with a work of length 50 mm.

Delivered in set of 10 pcs.



H50.65 Ball Caliper

For mounting in the hydraulic chuck. Hardened steel ball 4 or 10 mm diameter.

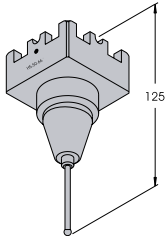
Length 50 mm

H50.66 Ball Caliper

Same as H50.65 but 100 mm long.

Clamping System 5000

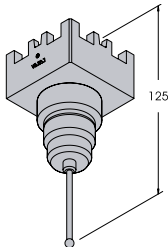
Control tools



H5.50.66/2 Ball Caliper

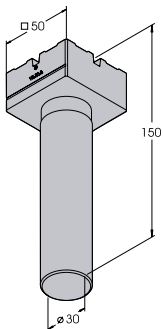
For finding position of workpieces.

Hardened steel ball, \varnothing 2 mm diameter ball (+0.002,-0.005).



H5.50.66/5 Ball Caliper

Same as H 5.50.66/2 but with steel ball \varnothing 5 (+0.002,-0.005) mm.



H5.50.7 3D (Surface Finder flexible)

For finding coordinate position of workpieces or clampers via contacting edges. One (1) mm of overrun protection is incorporated in all three directions.

Repetitive accuracy in X-, Y- and Z directions is 0.002 mm

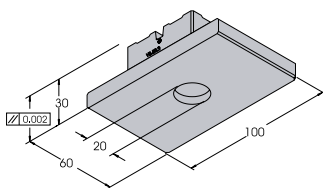
Steel ball diameter 5 mm

(+0.002,-0.005)

H5.50.8 Control Rule

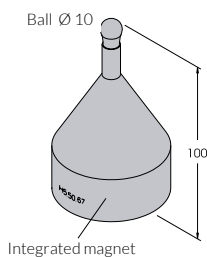
For checking axis and clamber concentricity, alignment and radial position.

For aligning and checking the axial and radial position of the mounted tool clampers, as well as for concentricity and system checks.



H5.50.9 Aligning Gauge

For aligning and checking tool and pallet clampers in the X & Y directions. With a precision bore for checking center positions on clampers.



H5.50.67 Reference Surface Ball (with magnetic base)

For determining position of the electrode via milled reference surfaces and for measuring electrode wear.

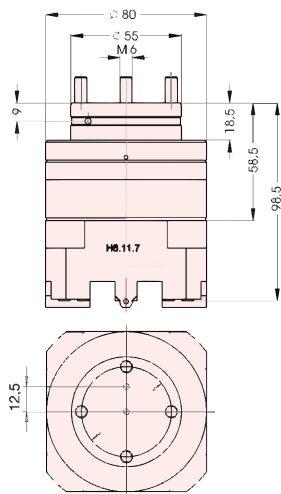
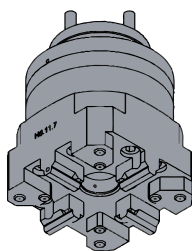
Ball diameter 10 mm

Magnetic base diameter 58 mm

Pneumatic clamber

Series H6.11.. for clamping journal H6.6.11

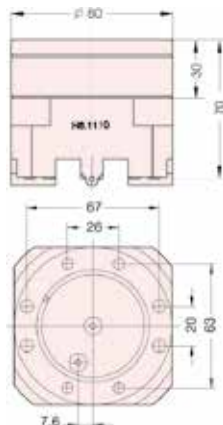
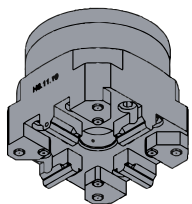
These pneumatic tool claspers are intended for mounting or installation in the spindle sleeve or C-axis of the sinking EDM machine but can also be mounted or integrated on the machine table. The clamping is done by spring force, opening is pneumatic with 6 bar pressure. The pneumatic claspers are equipped with integrated Z-cleaning nozzles, which are also used for clamping monitoring.



H6.11.7 Tool Clasper

For installation in C-axes. Connection for compressed air and flushing from above. The rear side of the clasper is ground parallel to the centering prism as an alignment surface.

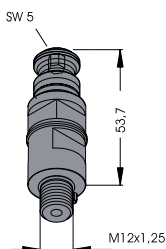
Positioning and repetitive accuracy	≤ 0.002 mm
Clamping force	2500 N
Max. electrode weight	50 kg.
Max. erosion current	120 A
Compressed air	min 6 bar (87psi)
Weight	2.6 kg



H6.11.10 Tool Clasper

Same as H6.11.7 but with flat mounting surface.

Positioning and repetitive accuracy	≤ 0.002 mm
Clamping force	2500 N
Max. electrode weight	50 kg.
Max. erosion current	120 A
Compressed air	min 6 bar (87psi)
Weight	2.2 kg



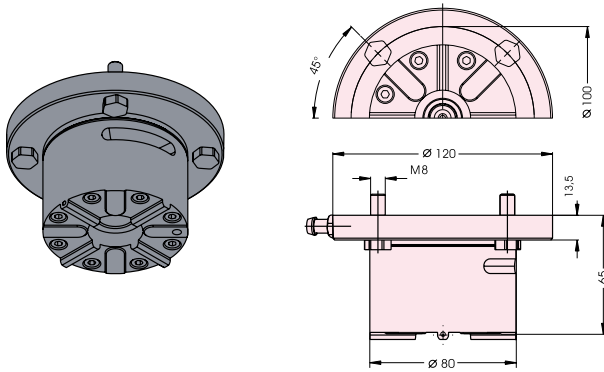
H6.611 Clamping Journal

Used with claspers of series H6.. (H6.11.10 etc.) and with disc and linear magazines equipped with H5.60 or H5.62 type forks. For automatic operation with robots, loading devices and OEM furnished tool change systems. Bored for central flushing.

Clamping System 5000

Pallet clamber for clamping journal H6.611..

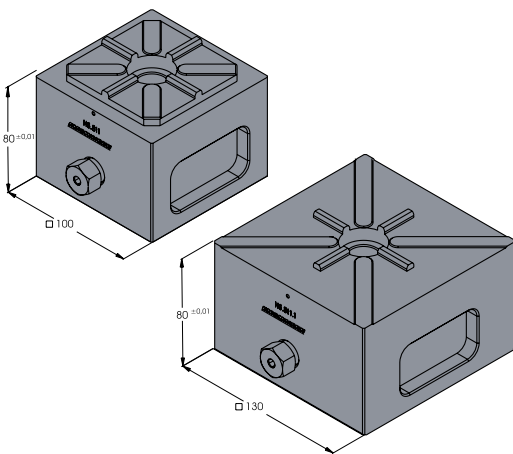
The pallet clammers are designed to be mounted on the machine table of sinking EDM and other machine tools but can also be used on the spindle sleeve of sinking EDM machines.



H6.12 Pallet Clamber, manual

Round, with four fixing screws M8. For mounting on the machine sleeve or on the machine table.

Positioning and repetitive accuracy	≤ 0,002 mm
Clamping force	9500 N
Max. workpiece weight	100 kg
Max. erosion current	120 A
Weight	approx. 3 kg



H6.811 Pallet Clamber, manual

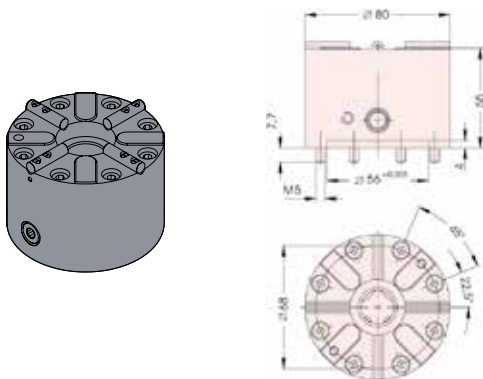
With non-positive clamping. The four precision-ground contact surfaces, which are also used for alignment on the machine, enable horizontal and vertical use. The dimension from center to contact surfaces is engraved. Suitable for use in dielectric.

Positioning and repetitive accuracy	≤ 0,002 mm
Clamping force	10000 N
Weight	approx. 4,5 kg

H6.811.1 Pallet Clamber, manual

Same as H 6.811 with a larger base for additional "Z" support for pallets H8.128.

Weight	approx. 9.9 kg
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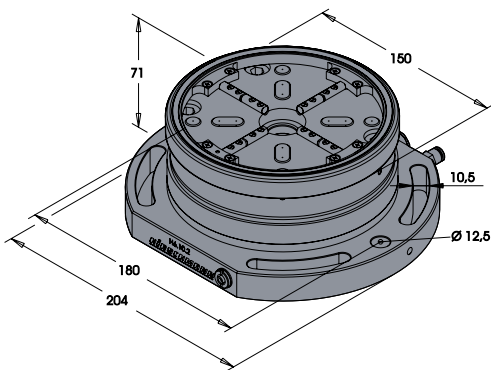
H6.16 Pallet Clamber, manual

Same design as H6.811 but cylindrical. With internal hexagon clamping screw. Centering seat and 8 fixing screws M5. For stationary and rotating use.

Positioning and repetitive accuracy	≤ 0,002 mm
Clamping force	6000 N
Suitable for use in dielectric.	

Pallet clumper series H6.10.. for clamping journal H6.611

The pneumatic pallet clumpers are designed specifically for palletizing workpieces on HSC milling machines and machining cells. Due to the complete sealing they are well prepared for harsh operating conditions and ensure, along with the integrated pallet presence check, even with automatic pallet changing means of a handling device (robot) a process-safe operation. By default, the clumpers are equipped with a sealing ring for pallet H6.148 ...



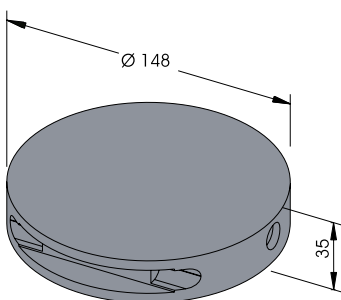
H6.10.2 Pallet Clumper

With round flange plate for mounting on the machine table.	
Positioning accuracy	≤ 0,002 mm
Clamping force (without/with retension)	10000/18000 N
Permissable loading weight	100 kg
Compressed air	min. 6 bar
Weight	9,9 kg

Other flange plates upon request.

Pallets for pallet clumper H6.10..

The pallets are available in aluminum or steel and are equipped for automatic handling with external gripper grooves and prepared for the use of identification chips. This conditions for an automatic loading of the machine by a handling device are created. Special pallets on request.
The clamping journal H6.611 for the pallets must be ordered separately!

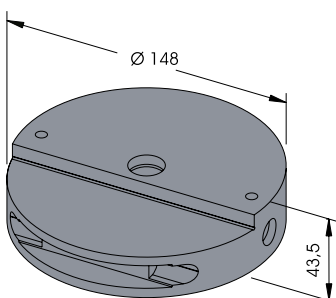


H6.148 Pallet

Made of steel (without clamping journal).	
Diameter	148 mm
Permissable loading weight	max. 100 kg
Weight	3,3 kg

H6.148A Pallet

Made of aluminum, same as H6.148.	
Weight	1,2 kg



H6.148.9 Alignment gauge

Made of steel (without clamping journal).	
Diameter	148 mm
Weight	3,9 kg

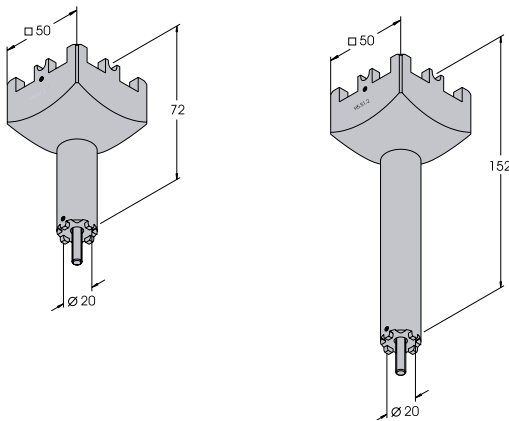
Clamping System 5000

MINIFIX holder, adapter

Small electrodes (up to \varnothing 30 mm for copper and up to \varnothing 40 mm for graphite) are clamped inexpensively and with highest repetitive accuracy. For this, either the MINIFIX electrode blanks equipped with prefabricated centering prisms are used or own electrode blanks are attached to the inexpensive H5.51.11 pallets. The centering prism, combined with separate Z-supports, guarantees highest repeatability and changing accuracy.

The MINIFIX holders are made of stainless steel and are therefore also suitable for use on wire EDM machines.

Please order clamping journals H5.611 or H6.611 separately!



H5.51.1 P-Holder (length 72 mm) H5.51.2 P-Holder (length 152 mm)

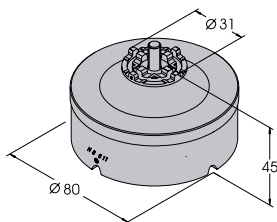
For precise mounting and angular fixing of MINIFIX and MINIFIXplus electrodes, pallets and holders. Centering prisms finely ground. With central flushing and lateral flushing connection.

Shaft body diameter	20 mm
Accuracy with MINIFIX pallet or electrode blank	
Repetitive accuracy (same holder)	≤ 0.005 mm
Repetitive accuracy (holder to holder)	≤ 0.01 mm
Overall length (holder to holder)	≤ 0.01 mm
Weight	0.6 kg/0.8 kg

H5.51.5 P-Holder (length 72 mm) H5.51.6 P-Holder (length 152 mm)

Same as the H5.51.1 / H5.51.2 in length but with 36 mm shaft diameter.

Weight	1,2 kg / 1,8 kg
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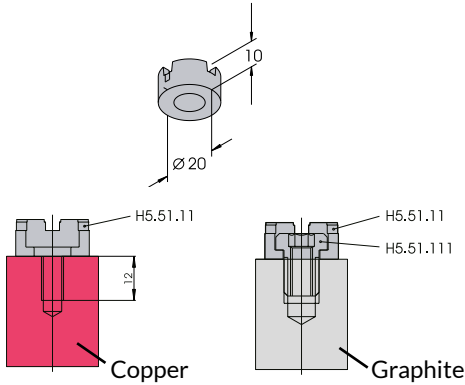


H8.511 Milling Adapter

For precise and non-positive mounting and machining of MINIFIX and MINIFIXplus electrode blanks e.g. on milling machine. The adapter fits all pallet and tool clampers.

Weight	0.8 kg
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MINIFIX pallets, electrode blanks



H5.51.11 Pallet

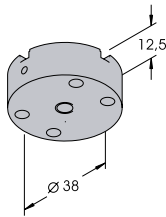
Aluminum, \varnothing 20 mm, with reference point. For copper and graphite electrodes. To be fixed on the electrode blank with quick adhesive. A fastening thread M6, approx. 12 mm long, is inserted into the electrode through the central hole. The pallet together with the electrode is connected to the holder by the main screw of the holder accurately and non-positively.

Delivered as set of 30 pieces

H5.51.111 Screw

For fixing the pallet H5.51.11 to graphite electrodes (with M10 thread). Pallet is fastened to the holder via the central M6 hole in the H5.51.111 screw.

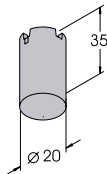
Delivered as set of 30 pieces.



H5.51.17 Pallet

Same as H5.51.11 but \varnothing 38 mm, four fixing holes for screw M4 and central thread M6.

Delivered as set of 20 pieces.

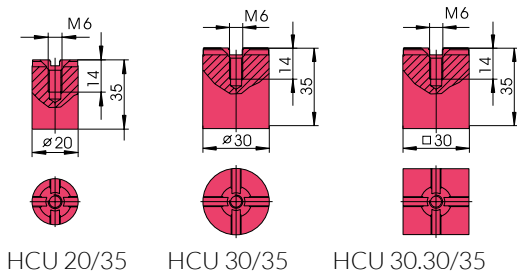


H5.51.12 Pallet

Rustproof, unhardened, \varnothing 20 mm, with reference point and tightening thread. Fixing of electrodes by gluin, soldering, screws.

Delivered as set of 20 pieces.

MINIFIX electrode blanks are equipped with a pre-machined centering prism, which is precisely embossed on the milling adapter or holder during the first clamping process. The MINIFIX electrodes are preferably machined in the milling adapter H8.511.



HCU.. MINIFIX copper electrode blanks

The centering prism is pre-machined. During the first clamping operation, on the H8.511 milling adapter or a holder, it is precisely embossed by the centering tabs.

HCU20/35, \varnothing 20 mm, 35 mm long, set of 10 pcs.

HCU30/35, \varnothing 30 mm, 35 mm long, set of 10 pcs.

HCU 30.30/35, \square 30 mm, 35 mm long, set of 10 pcs.

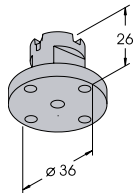
HCU233, 10 pieces mixed 4/4/2, supplied in cartridges.

Other dimensions upon request.

Clamping System 5000

MINIFIXplus pallets, electrode blanks, clamping journal

The MINIFIXplus electrode blanks are additionally equipped with a groove for direct magazing of linear and disc magazines. After mounting the clamping journal H5.620, they can be automatically changed into the clamps H8.11.17 or H8.11.20 at the EDM machine sleeve using the pick-up procedure. As with the MINIFIX electrodes, the centering prism is precisely embossed during the first clamping operation in the milling adapter or on a holder.

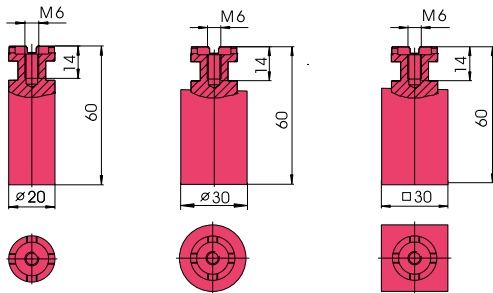


H5.20.1 MINIFIXplus Pallet

Aluminum, Ø 36 mm, with reference point and four mounting holes for screw M4. Deposit grooves for magazing in magazine forks. Direct mounting in clamper H8.11.17, H8.11.20.

To be mounted in the clamper, order clamping journal H5.620 separately.

Delivered in _____ sets of 20 pcs.



HCU5.. MINIFIXplus copper electrode blanks

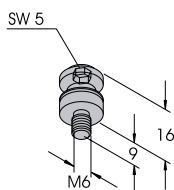
Equipped with storage grooves for magazing in magazine forks. Direct mounting in the clamper H8.11.17 or H8.11.20. The centering prism is pre-milled. It is precisely embossed by the centering tabs during the first clamping operation on the H8.5.11 milling adapter.

HCU5.20/60, Ø 20 mm, 60 mm long, set of 10 pcs.

HCU5.30/60, Ø 30 mm, 60 mm long, set of 10 pcs.

HCU5.30.30/60, Ø 30 mm, 60 mm long, set of 10 pcs.

HCU5.233, set of 10 piece mixed 4/4/2 supplied in cartridges.



H5.620 Clamping Journal

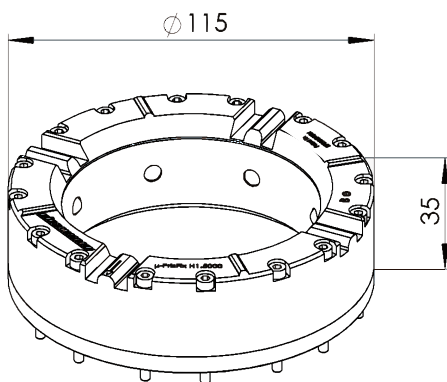
For mounting of MINIFIXplus copper electrodes HCU5... and pallet H5.20.1 to the clampers H8.11.17, H8.11.20.

Delivered in _____ sets of 10 pcs. (H5.620S).

Hollow axis clamber μ -PrisFix 5000

With Hollow Axis Clamber μ -PrisFix 5000 workpieces are positioned quickly and precisely in a hollow axis or directly on machine table. This offers the possibility of 360 degree machining of inner contours, even complex shapes are possible.

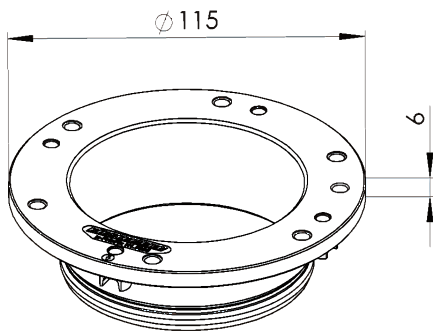
The innovation is based on proven Carl Hirschmann technology of patented μ -PrisFix Clamping System for positioning of workpieces in machine tools with a repetitive accuracy of $\leq 0,5\mu\text{m}$.



H1.5000 μ -PrisFix Hollow Axis Clamber

Made of rust-proof materials for use in deionized water or in other fluids.

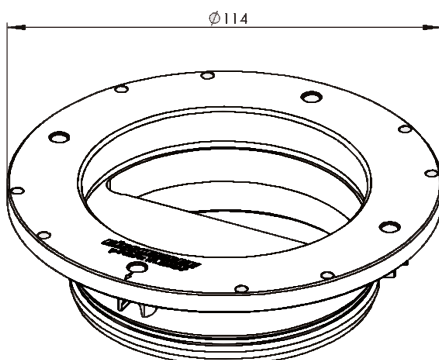
Pneumatic operation, pressure	6 bar
Height (without pallet)	35 mm
Clamping force	1 kN
Repetitive accuracy	$\leq 0,0005 \text{ mm } (0,5\mu\text{m})$
Outer diameter	115 mm
Weight	1,15 Kg



H1.5005 μ -PrisFix Pallet

Made of rust-proof materials for use in deionized water or in other fluids.

Outer diameter	115 mm
Hole diameter (other versions on request)	75 mm
Weight	0.44 kg



H1.5005AP μ -PrisFix Aligning Pallet

For alignment and control of μ -PrisFix Hollow axis clamber.

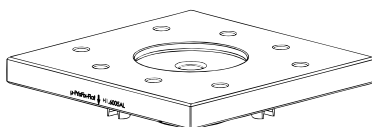
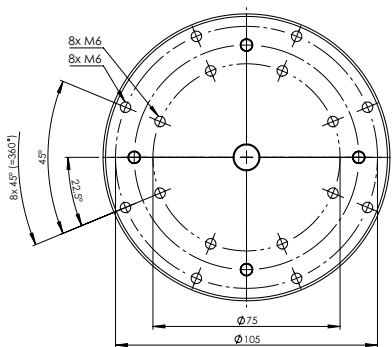
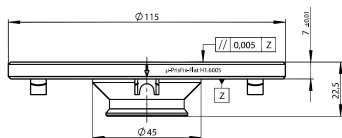
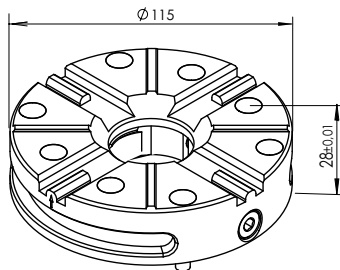
Outer diameter	114 mm
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Clamping System 5000

μ-PrisFix Flat Clamper

Installation height of the ultra-flat clamping system μ-PrisFix Flat is significantly lower compared to current systems available on the market. Clamper and especially designed workpiece holder together are only 35 mm high. As manual clamping system with an attractive price-performance ratio and the short resulting time of amortization μ-PrisFix Flat is the ideal entry product for applications on rotary indexing tables. It is suitable for numerous applications such as wire EDM, sinking EDM, EDM drilling or laser machining. The clamping system is completely rust-proof and can be used in deionized water or other fluids.

Due to its different hole patterns the new clamping system can be used on many single-axis and two-axis rotary indexing tables of Carl Hirschmann. Also customized hole patterns can be realized and the clamper can be mounted directly onto the machine table or to another interface.



H1.6000 μ-PrisFix Flat Clamper

Made of rust-proof materials for use in deionized water or in other fluids.

Manual operation	
Height (without pallet)	28 mm
Height with pallet H1.6005	35 mm
Clamping force	3 kN
Repetitive accuracy	≤ 0,0005 mm (0,5μm)
(Outer) Diameter	115 mm
Weight	1,7 Kg

H1.6005 μ-PrisFix Flat Pallet

Made of rust-proof materials for use in deionized water or in other fluids.

Diameter	115 mm
Holes for fixing of workpiece (other versions on request)	16 x M6
Weight	0,55 kg

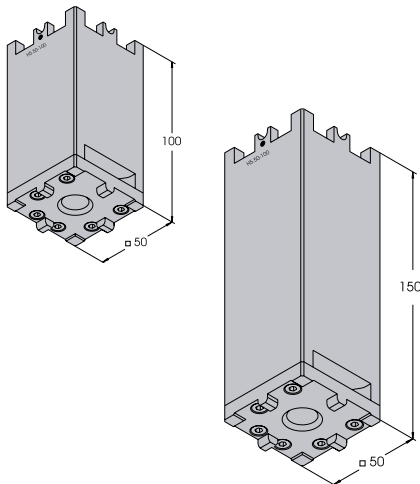
H1.6005 Aligned Device

For alignment and control of μ-PrisFix Flat Clamper.

Dimensions	□ 115 mm
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Special holders

(made on request)

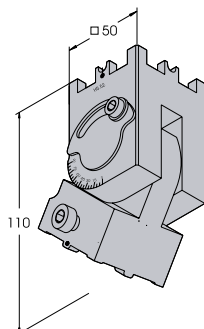


H5.50-100 Extension, 100 mm long H5.50-150 Extension, 150 mm long

Square (□50 mm) extensions for use between a clamper and an electrode, pallet or holder. Central flushing passage, can be magazined.

Weight

2,0 or. 2,5 kg

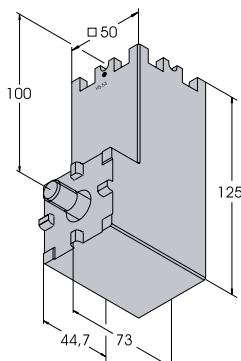


H5.52 Swivel Holder

For use with all pallets and electrode holders. Swivels from 0-90 degrees, with solid stops at 0 and 90 degrees. Central flushing. Adjustment is made via scaling or with the help of a sine ruler (e.g. H4416).

Weight

1,8 kg



H5.53 Horizontal Holder

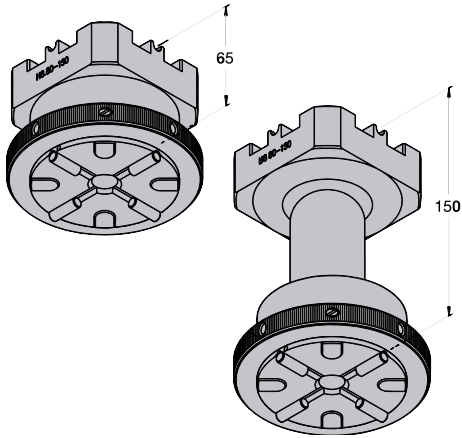
For horizontal mounting of all pallets and holders. Pallets and holders are clamped without clamping journals using the integrated clamping screw in the horizontal holder.

Weight

1,8 kg

Clamping System 5000

On request: special holders

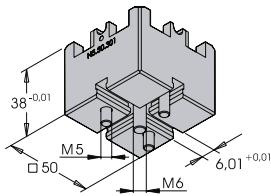


H8.80/65 Extension, 88 mm, 65 mm long H8.80/150 Extension, 88 mm, 150 mm long

Used between clamer and pallet or holder. (clamping journal H5.611).

Central flushing passage.

Weight 2.5 or 3 kg



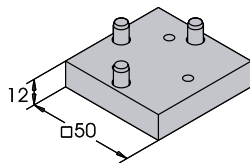
H5.50.301 3-pin Holder

For copper electrodes and workpieces up to 60 mm (2.4") \varnothing , or graphite electrodes up to 100 mm (4") \varnothing . Can be mounted directly on clampers of series H6.. and H8.. clampers.

Repetitive accuracy (same holder) ≤ 0.002 mm

Changing accuracy (different holder) ≤ 0.005 mm

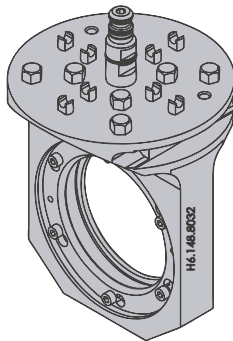
Weight 0.75 kg



H5.50.311 Adapter Plate

For 3-PIN Holder H5.50.301, aluminum. 50 mm \square .

Delivered in: Sets of 10 pieces.



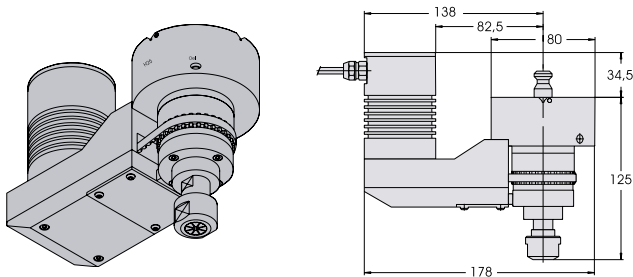
H6.148xxxx Special Pallet

Special pallet for dental technology.

Other customized pallets are available on request.

On request: Rotating Spindle

The use of rotating spindles considerably increases the material removal rate and accuracy for small and deep holes. Flushing and thus machining stability are significantly improved. The concentricity of thin electrodes is stabilized by high speed. Flushing through the center.



H25 Rotating Spindle (for clamper H8..)

Integrated collet holder for electrodes from $\varnothing 0.5$ -10 mm, replaceable rubber seal.

Infinitely variable DC drive. Control unit H 20.2 must be ordered separately.

Integrated clamping journal H5.611, only for clampers H8.xx!

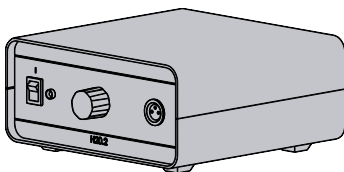
Weight approx.	2.5 kg
Speed range	20-1500 rpm
Radial run-out accuracy (without collet)	0.02 mm
Perm. electrode weight	0.5 kg
Perm. erosion current	5A
Weight	3.2 kg

H50.41 Collet ER/ESX 16

Clamping range $\varnothing 0.5 - 10$ mm (.02" - 0.39") infinitely variable in 1 mm (0.04") increments. Can be used in H25 and in collet holder H50.40.

H50.42 Replacement Seals for H25

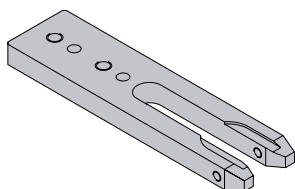
Set with 5 pieces.



H20.2 Controller

For rotating spindle H25. Can be switched from 230V to 115V. Incl. mains cable approx. 2 m long

Weight approx. 2.5 kg

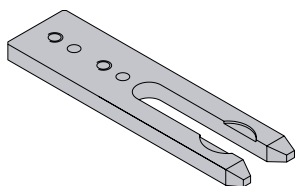


H5.62.. Magazine fork (with ball pressure piece)

For clamping journals H5.6../H6.6..

Two ball pieces acting from the side secure the pallets and holders against falling out.

For automatic removal or depositing machine is moved in the X and Y direction.



H5.60.. Magazine fork (with cavity)

For mounting of clamping journals H5.6../H6.6..

The clamping journals are suspended in a cavity and are secured against falling out. For automatic withdrawal of pallet or holder with machine sleeve must first be raised by about 1.5 mm, and then moved out of the magazine in X or Y direction.

Rotary Indexing Tables

For high precision EDM

Our circular dividing tables and rotating spindles are specially designed for use on EDM, HSC and laser machines. They are completely sealed (IP68) and can therefore be used in the dielectric of sinking and wire EDM machines. Rotary indexing tables considerably extend the application range of the EDM machine. Spiral cuts, helices, high-precision pitches etc. can be easily produced even out of materials that are difficult to machine.

One Axis Indexing Tables



Common Characteristics

- High positioning accuracy ($\leq \pm 5''$)
- Long life maintenance-free AC Drive
- Direct measuring system (encoder)
- Rust-proof
- Completely sealed

Two Axes Indexing Tables



Versions with

- Face plate
- Manual or pneumatic clamper
- SK or HSK taper shaft
- Adjustable clamping element holder
- Hollow axis
- Special clamping solutions

Multiple Axes Indexing Tables



Applications

- Medical technology (micropumps, instruments, implants)
- Aviation (sensors, micro-valves, turbine blades)
- PCD tools
- Automotive (electric plug connections, injection nozzles)
- Tool making (production of electrodes, direct structuring of workpieces, building of ejector pins)

Hollow Axes Indexing Tables



Our Clamping Systems

Overview

Clamping System	4000	5000	8000	9000	μ-Prifix
Use for	Workpiece clamping and palletizing for wire EDM	Electrode / workpiece clamping and palletizing	Workpiece and fixturing palletizing	Workpiece and fixturing palletizing	Micro clamping system for high precision part manufacturing
Wire EDM	x				x
Sinking EDM		x	x	x	x
Micro manufacturing		x			x
Chipping		x	x	x	x
Laser machines		x	x	x	x
Mounting		x	x	x	x
Measurement technique		x	x		x
Repetitive accuracy	≤ 0.002 mm ≤ 0.00008"	≤ 0.002 mm ≤ 0.00008"	≤ 0.002 mm ≤ 0.00008"	≤ 0.005 mm ≤ 0.0002"	≤ 0.0001mm ≤ 0.000004"
Max. workpiece weight	150 kg	100 kg	300 kg	1000 kg / chuck	
Clamping force	---	18.000 N	60.000 N	30.000 N / chuck	500 N
Automatic changable with handling units	x	x	x	x	x

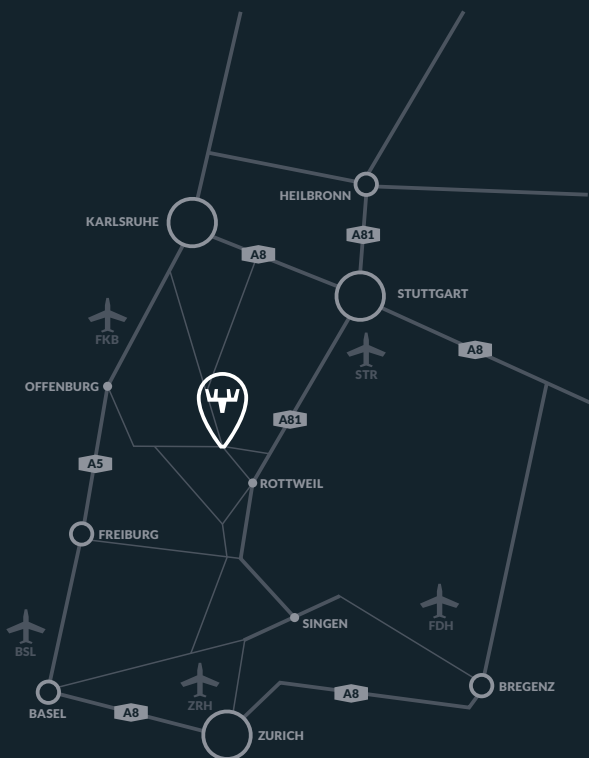
Detailed information you can find in our catalogues and on our homepage www.carlhirschmann.de. For questions and detailed advice please contact our sales staff.

Download area



the **precision** benchmark

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