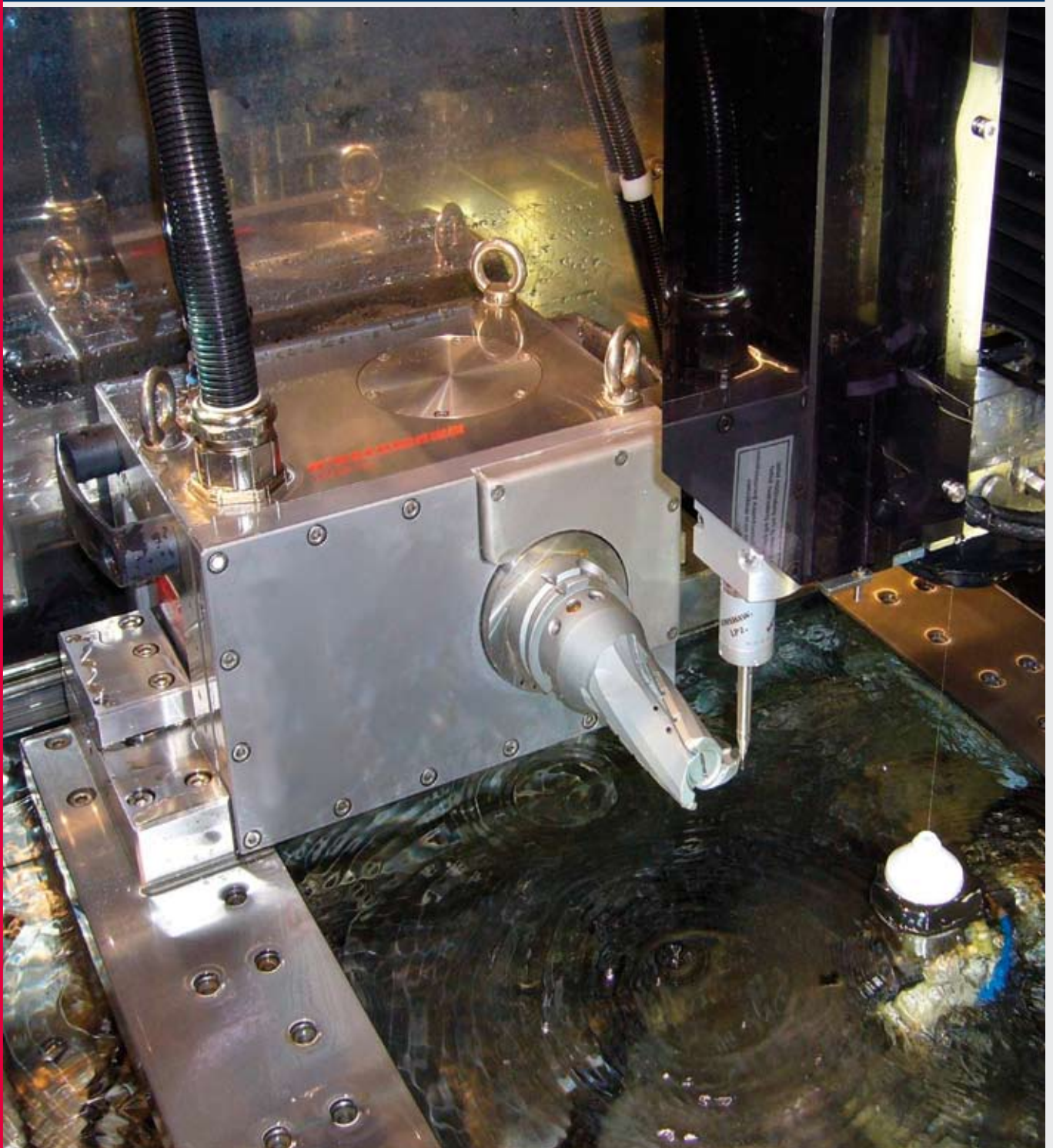


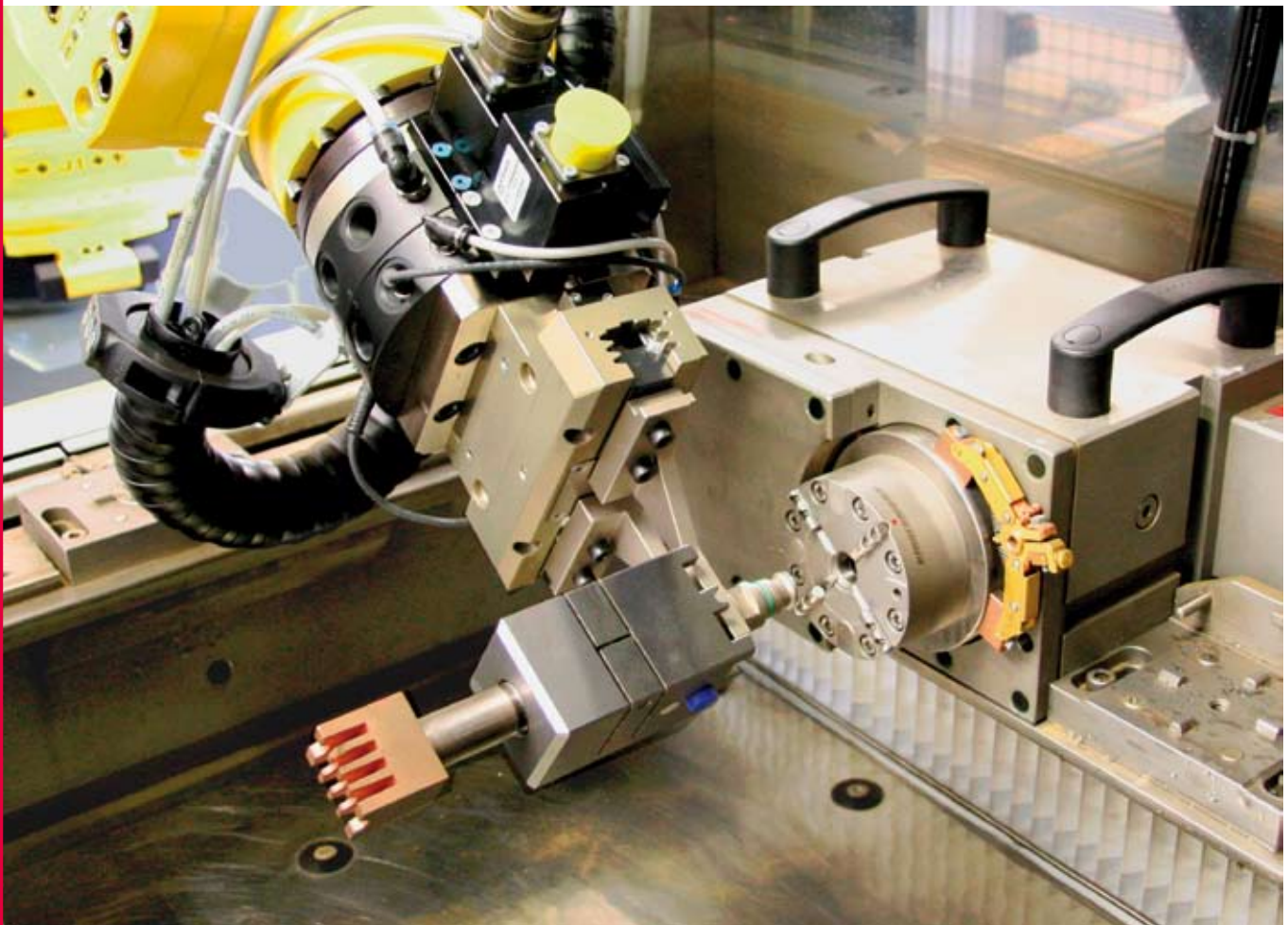
## **ROTARY INDEXING TABLES, A-AXES and ROTATING SPINDLES for Wire and Sinking EDM**





# Pin point accuracy Controlled dynamic power Consistent performance.

- Positioning accuracy up to  $\pm 2,5$  sec.
- Repeat accuracy up to  $\pm 1$  sec.



Automatic loading of workpieces with robot

## Operation, Maintenance, Cleaning

## Contents

### Operation

All Rotary Indexing Tables and A-Axes are supplied with operating and mounting manuals. Interface information is also included. Observe operation instructions of machine manufacturer, especially when Rotary Indexing Tables, A-Axes and Rotating Spindles are connected with machine control systems and are controlled by them. 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.

### Service and Maintenance

Since Rotary Indexing Tables and A-Axes are subject to chemical and physical influences, maintenance and service has to be performed with special care.

EDM current flow requires a good conductive connection (contact) to machine table. The conductivity of water (Wire EDM) and chlorides normally contained in water can influence the rust-resistant properties. Residues (varnishes, eroded particles etc.) from the electrical discharge process should be removed on a daily basis. Contact your local HIRSCHMANN dealer for recommended products to use.

### Technical Modifications

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

### Quality according to EN9100

All HIRSCHMANN products are produced using state of the art production methods. They are subject to quality management system as per EN 9100 (aerospace industry standard) both during production and in the assembly stage.

### Warranty

We provide a 12 month warranty for all Rotary Indexing Tables and A-Axes, starting from the invoice date, and assuming correct use and maintenance as specified.

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 and without delay.

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HIRSCHMANN GmbH



### Rotary Indexing Tables, A-Axes

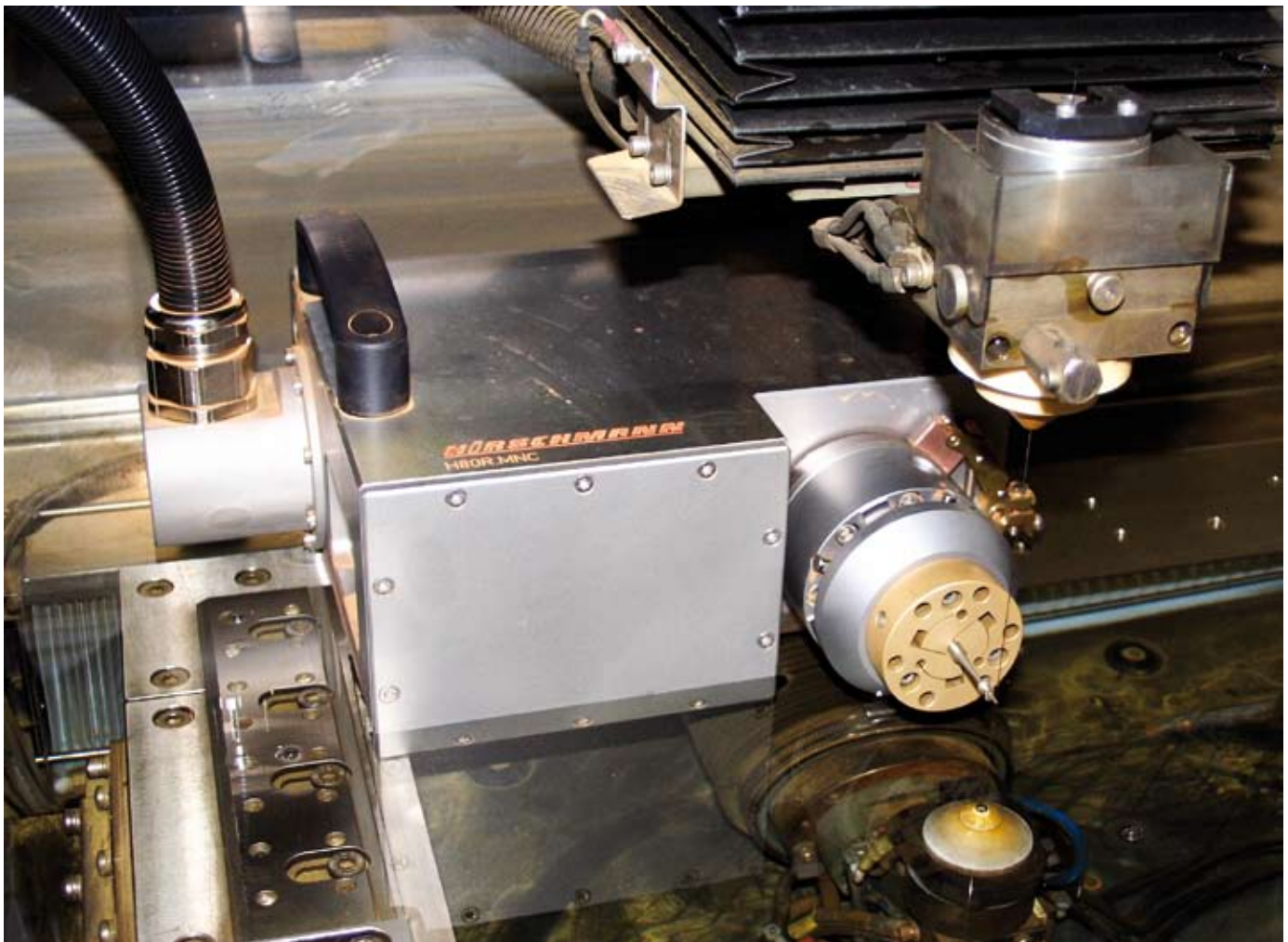
Many erosion tasks cannot be solved efficiently without using a Rotary Indexing Table or an A-Axis, as for example wire cutting of carbide tipped tools. HIRSCHMANN Rotary Indexing Tables and A-Axes are especially designed for the field of erosion. They are completely sealed (IP68) and can therefore be used in the dielectric of sinking and wire EDM. The high-precision HIRSCHMANN Rotary Indexing Tables and A-Axes are based on many decades of experience and knowledge of the erosion problems.

### High Speed Rotating Spindles

The High Speed Rotating Spindles open new grounds in the spark erosive production. They enable an erosive “turning” of smallest dynamically balanced parts with highest surface quality and without lateral processing force. A further step is the controlled High Speed Rotating and Positioning Spindle. Additionally to rotative work, it can also be used for cutting surfaces as well as simultaneous processing with several axes (turn & burn).

### Application

- **Medical technology (systems, instruments, implants)**
- **Aerospace (sensor measuring systems, micro-pumps and micro-valves)**
- **Automotive (electric plug connections (injection moulding))**
- **PCD/CBN processing**
- **Tool making (production of electrodes, direct structuring of workpieces, building of ejector pins)**
- **Machine building in general**



Controlled High Speed Rotating Spindle H80R.MNCM..

## General

### Precision

HIRSCHMANN Rotary Indexing Tables and A-Axes are high-precision products. They are subject to strict quality inspections. A measurement report with the measured values is enclosed to every Rotary Indexing Table and A-Axis.

HIRSCHMANN Rotary Indexing Tables and A-Axes are equipped with the precise Heidenhain direct measuring systems (encoders) and high-grade, low backlash drives. They offer the conditions for highest positioning accuracy and a high dynamic control.

The dividing accuracy depends on the quality of the measuring system (encoder). As standard we use measuring systems with a system accuracy of  $\pm 5''$  (alternatively  $\pm 10''$  or  $\pm 2,5''$ ). For a precise control a stiff and low backlash drive is essential.

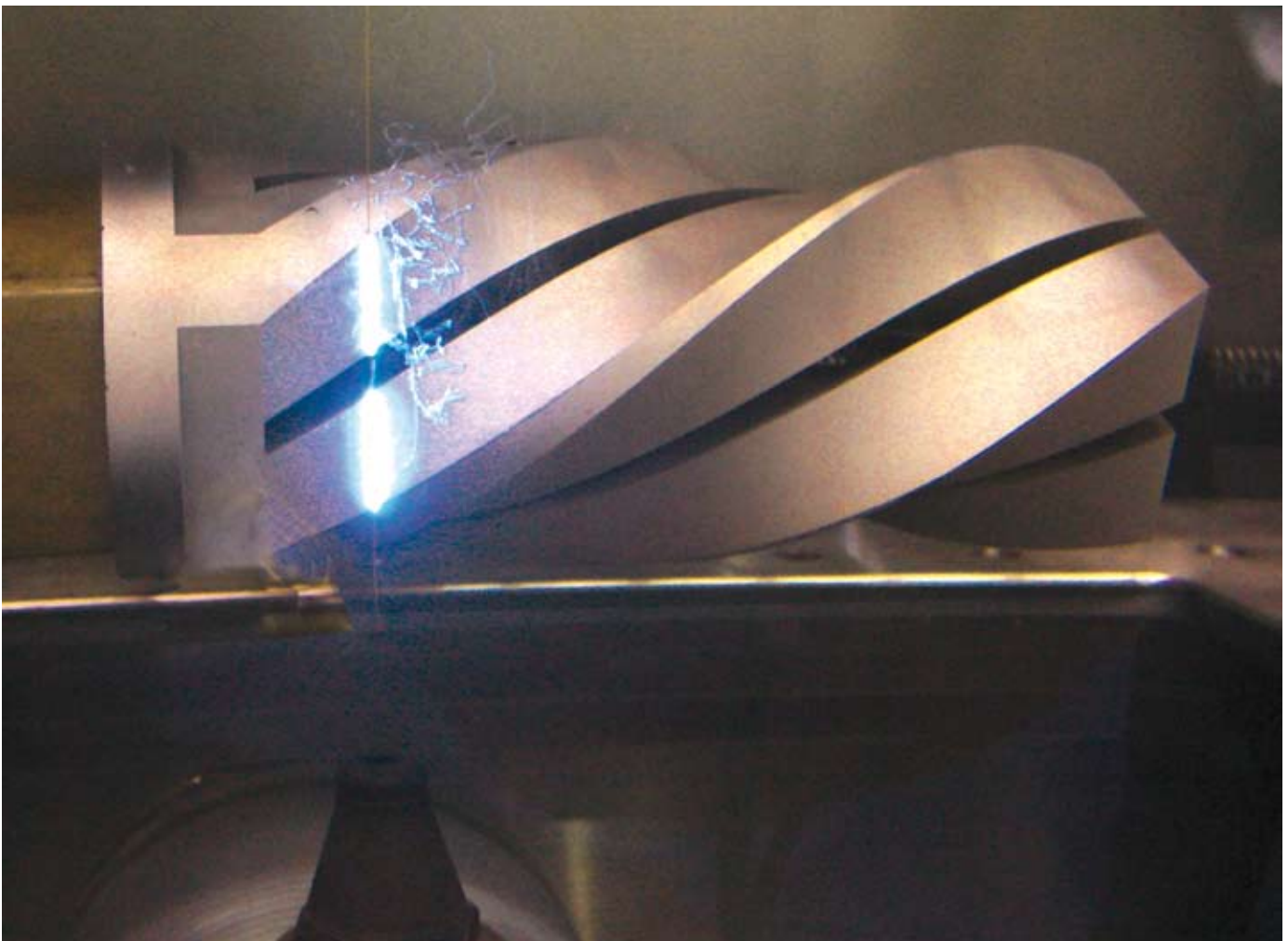
### Control

HIRSCHMANN Rotary Indexing Tables and A-Axes can be controlled directly through the machine control. If this is not possible, they can be controlled by the HIRSCHMANN Control H1625xx.

For the easy and quick integration into the machine control, the Rotary Indexing Tables and A-Axes are equipped with drive components, measuring systems and plug connections which are adapted and adjusted to the machine control. The advantages of the integration are the possibility of simultaneous processing as well as programming in the machine control.

### **HIRSCHMANN Rotary Indexing Tables and A-Axes are compatible to the following EDMs:**

ACCUTEX, AGIE, BES, CHARMILLES, ELECTRONICA, EXERON, FANUC, JOEMARS, MAKINO, MITSUBISHI, OPS-INGERSOLL, SODICK etc.



Simultaneous processing

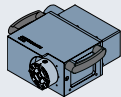
## Common features

- Precise direct measuring system for highest positioning accuracy (system accuracy optional  $\pm 10''$ ,  $\pm 5''$ ,  $\pm 2.5''$ )
- Stiff and low backlash drive for best dynamic behaviour during simultaneous processing (turn & burn)
- Compact, stainless design
- Low maintenance
- Completely sealed (IP68) – for the use in wire and sinking EDM
- Size from  $\varnothing 80$  mm until  $\varnothing 800$  mm face-plate diameter

### Rotary Indexing tables

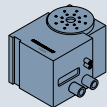
#### H 80R.NC

25 kg loading weight  
Manual clamber



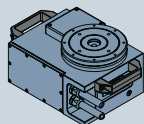
#### H 100R.NC

50 kg loading weight  
Face plate  $\varnothing 100$  mm



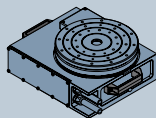
#### H 160R.NC

100 kg loading weight  
Face plate  $\varnothing 160$  mm



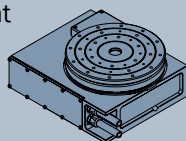
#### H 250R.NC

250 kg loading weight  
Face plate  $\varnothing 250$  mm



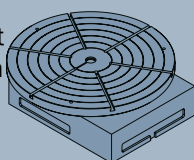
#### H 400R.NC

450 kg loading weight  
Face plate  $\varnothing 400$  mm



#### H 800R.NC

2000 kg loading weight  
Face plate  $\varnothing 800$  mm



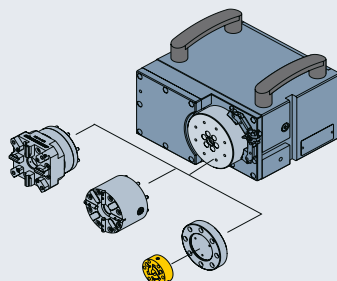
### A-Axes

#### H 100R.NC,,, series

Face plate  $\varnothing 100$  mm  
25 kg loading weight

##### Options:

- manual clamber
- pneumatic clamber
- clamber of other manufacturers
- adjustable clamping element
- customised devices

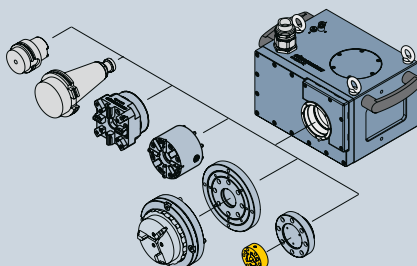


#### H 150R.NC,,, series

50 kg loading weight

##### Designs:

- SK, HSK machine taper mounting
- face-plate  $\varnothing 150$  mm
- manual clamber
- pneumatic clamber
- adjustable clamping element
- clamber of other manufacturers



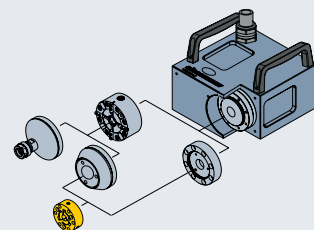
### High Speed Rotating Spindles

#### H 80R.MAC

Rotary speed 0 - 1500 min<sup>-1</sup>

##### Designs:

- adjustable clamping element
- manual clamber
- clamber of other manufacturers

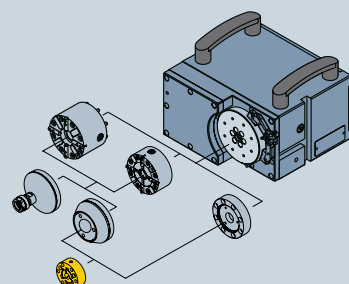


#### H 80R.MNC.. (positionable)

Rotary speed max. 1000 min<sup>-1</sup>  
Indexing accuracy  $\pm 5''$

##### Designs:

- face-plate
- adjustable clamping element
- manual clamber
- pneumatic clamber
- clamber of other manufacturers



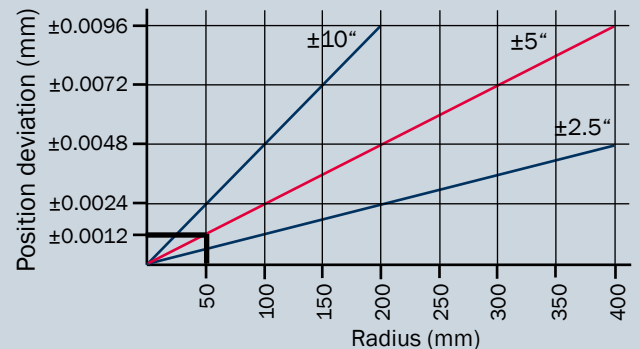


## Selection criteria

### System accuracy

The positioning- resp. indexing accuracy mainly depends on the accuracy of the measuring system (encoder), on the precision of the mechanic assembly and on the control. The influence of the encoder system accuracy is shown in the chart aside.

**Example:** In case of an encoder system accuracy of  $\pm 5''$  and a radius of 50 mm the position deviation (straight line) is max.  $\pm 0.0012$  mm.



## Selection criteria

- 1. Size of workpiece** (weight, diameter, length)
- 2. Workpiece mounting** (face-plate, jaw chuck, taper shank, clamping system)
- 3. Positioning accuracy** (alternatively  $\pm 10''$ ,  $\pm 5''$ ,  $\pm 2.5''$ )
- 4. High rotary speed** (for the production of dynamically balanced parts in rotation)
- 5. Available space** (size of machine table, travel, mounting possibility)
- 6. Electrical control** (through machine control or HIRSCHMANN control)

For detailed information please contact our indoor or external staff.

## Application form

<input type="checkbox"/> <b>Rotary Indexing Table</b> <input type="checkbox"/> H 80R.NC <input type="checkbox"/> H 100R.NC <input type="checkbox"/> H 160R.NC <input type="checkbox"/> H 250R.NC <input type="checkbox"/> H 400R.NC <input type="checkbox"/> H 800R.NC <input type="checkbox"/> Special design  <b>Encoder system accuracy</b> <input type="checkbox"/> $\pm 2.5''$ <input type="checkbox"/> $\pm 5''$ (standard) <input type="checkbox"/> $\pm 10''$ <input type="checkbox"/> Other: .....  <b>Controlled by:</b> <input type="checkbox"/> HIRSCHMANN control <input type="checkbox"/> Machine control Manufacturer: ..... Type: .....	<input type="checkbox"/> <b>A-Axis</b> <input type="checkbox"/> <b>Series H 100R.NC..</b> <input type="checkbox"/> Face plate $\varnothing$ 100 mm <input type="checkbox"/> Manual clamper <input type="checkbox"/> Pneumatic clamper <input type="checkbox"/> Adjustable clamping element <input type="checkbox"/> Other Type: ..... <hr/> <input type="checkbox"/> <b>Series H 150R.NC..</b> <input type="checkbox"/> SK50 taper shaft collet <input type="checkbox"/> HSK taper shaft collet (A,F): .... <input type="checkbox"/> Face plate $\varnothing$ 150 mm <input type="checkbox"/> Manual clamper <input type="checkbox"/> Pneumatic clamper <input type="checkbox"/> Adjustable clamping element <input type="checkbox"/> Jaw chuck <input type="checkbox"/> Other Type: ..... <hr/> <b>Encoder system accuracy</b> <input type="checkbox"/> $\pm 2.5''$ <input type="checkbox"/> $\pm 5''$ (standard) <input type="checkbox"/> $\pm 10''$ <input type="checkbox"/> Other: ..... <hr/> <b>Controlled by:</b> <input type="checkbox"/> HIRSCHMANN control <input type="checkbox"/> Machine control Manufacturer: ..... Type: .....	<input type="checkbox"/> <b>Rotating spindle</b> <input type="checkbox"/> <b>Series H 80R.MAC..</b> <input type="checkbox"/> Manual clamper H 6.16R <input type="checkbox"/> Manual clamper H 8.16R <input type="checkbox"/> Adjustable clamping element <input type="checkbox"/> Other Type: ..... <b>Controlled by:</b> <input type="checkbox"/> HIRSCHMANN-Steuerung <input type="checkbox"/> Other ..... <hr/> <input type="checkbox"/> <b>Serie H 80R.MNC..</b> <input type="checkbox"/> Face plate $\varnothing$ 80 mm <input type="checkbox"/> Manual clamper H 6.16R <input type="checkbox"/> Manual clamper H 8.16R <input type="checkbox"/> Pneumatic clamper <input type="checkbox"/> Adjustable clamping element <input type="checkbox"/> Other Type: ..... <hr/> <b>Encoder system accuracy</b> <input type="checkbox"/> $\pm 2.5''$ <input type="checkbox"/> $\pm 5''$ (Standard) <input type="checkbox"/> $\pm 10''$ <input type="checkbox"/> Other: ..... <hr/> <b>Controlled by:</b> <input type="checkbox"/> HIRSCHMANN control <input type="checkbox"/> Machine control Manufacturer: ..... Type: .....
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## Rotary Indexing Tables

All HIRSCHMANN Rotary Indexing Tables are equipped as standard with a direct measuring system with a system accuracy of  $\pm 5$  (except the H100R.NC) and an electromagnetic resp. pneumatic clamping of the rotary axis. As standard a DC-drive is provided, alternatively an AC-drive can also be installed.

### Common characteristics

- Direct measuring system
- Low-backlash free drive
- For horizontal and vertical use (except H80R.NC)
- DC drive, (available also with AC drive)
- Stainless steel
- IP68



### H 80R.NC Rotary Indexing Axis (stainless steel)

with manual clamped H 6.16R or H 8.16R for pallets and holders of the HIRSCHMANN Fixturing System 5000 (other systems on request). Horizontal use only.

Dimensions (W/D/H)	230/252/130 mm (9/9.9/5.12")
Min. indexing step	0.001°/3,6"
Indexing accuracy (standard encoder)	$\leq \pm 5''$
Repetitive accuracy	$\leq \pm 3''$
Loading weight	max. 25 kg (55.125 lbs)
Direct measuring system accuracy	$\pm 10$ , $\pm 5$ oder $\pm 2,5''$
Drive	DC motor
Holding force of plate (electromagnetic)	20 Nm
Speed max.	20 min <sup>-1</sup>
Weight approx.	35 kg (77.175 lbs)



### H 100R.NC Rotary Indexing Table (stainless steel)

Face plate (mounting surface)  $\varnothing$  100 mm, for horizontal and vertical use.

Dimensions (W/D/H)	188/125/135 mm (7.41/4.93/5.32")
Min. indexing step	0.001°/3,6"
Indexing accuracy	$\leq \pm 25''$
Repetitive accuracy	$\leq \pm 10''$
Loading weight	max. 50 kg (110.25 lbs)
Direct measuring system	ERN 480
Drive	DC motor
Brake holding force (pneumatic)	25 Nm
Speed	max. 10 min <sup>-1</sup>
Weight approx.	15 kg (40 lbs) $\varnothing$



### H 160R.NC Rotary Indexing Table (stainless steel)

with face plate (mounting surface)  $\varnothing$  160 mm, for horizontal and vertical use.

Dimensions (W/D/H)	265/203/148 mm (10.5/8/5.8")
Min. indexing step	0.001°/3,6"
Indexing accuracy (standard encoder)	$\leq \pm 5''$
Repetitive accuracy	$\leq \pm 3''$
Loading weight	max. 100 kg (220.5 lbs)
Direct measuring system accuracy	$\pm 10$ , $\pm 5$ oder $\pm 2,5''$
Drive	DC motor
Brake holding force (electromagnetic)	40 Nm
Speed	max. 7 min <sup>-1</sup>
Weight approx.	40 kg (88.2 lbs)



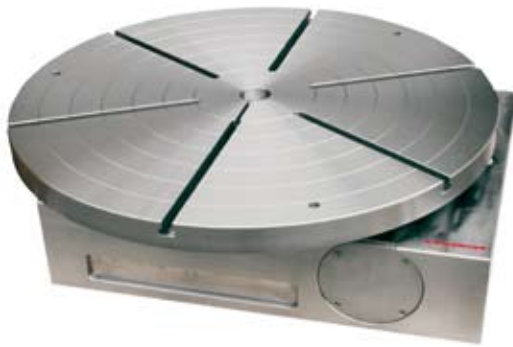
## Rotary Indexing Tables



### H 250R.NC Rotary Indexing Table (stainless steel)

with face plate (mounting surface)  $\varnothing$  250 mm, for horizontal and vertical use.

Dimensions (W/D/H)	340/290/135 mm (13.4/11.4/5.3")
Indexing accuracy (standard encoder)	$\leq \pm 5''$
Repetitive accuracy	$\leq \pm 3''$
Loading weight	max. 250 kg (551 lbs)
Direct measuring system accuracy	$\pm 10, \pm 5$ oder $\pm 2,5''$
Drive	DC motor
Brake holding force (electromagnetic)	40 Nm
Speed	max. 5 min <sup>-1</sup>
Weight approx.	60 kg (130 lbs)



### H 400.NC Rotary Indexing Table (steel)

### H 400R.NC Rotary Indexing Table (stainless steel)

similar to H 250R.NC but with face plate  $\varnothing$  400 mm

Dimensions (W/D/H)	490/410/175 mm (19.3/16.2/6.9")
Loading weight	max. 450 kg (992 lbs)
Weight	approx. 200 kg (440 lbs)
Brake holding force (electromagnetic)	40 Nm

### H 800.NC Rotary Indexing Table (steel)

### H 800R.NC Rotary Indexing Table (stainless steel)

similar to H 250R.NC with face plate  $\varnothing$  800 mm

Dimensions (W/D/H)	820/800/250 mm (32.3/31.5/9.9")
Loading weight	max. 2000 kg (4410 lbs)
Weight	approx. 620 kg (1367 lbs)
Brake holding force (electromagnetic)	350 Nm



### H 1625.DC CNC Control

Positioning control for H 80R.NC, H 160R.NC, H 250R.NC.

Dimensions (W/D/H)	approx. 520/420/230 mm (19.3/15.8/9")
Power supply	115/230 V 50/60 Hz
Weight	approx. 12 kg (25 lbs)

### H 1625.DC1 CNC Control

similar to H 1625.DC, for H 400.NC, H 400R.NC

### H 1625.DC3 CNC Control

similar to H 1625.DC, for H 100R.NC

### H 1625.DC4 CNC Control

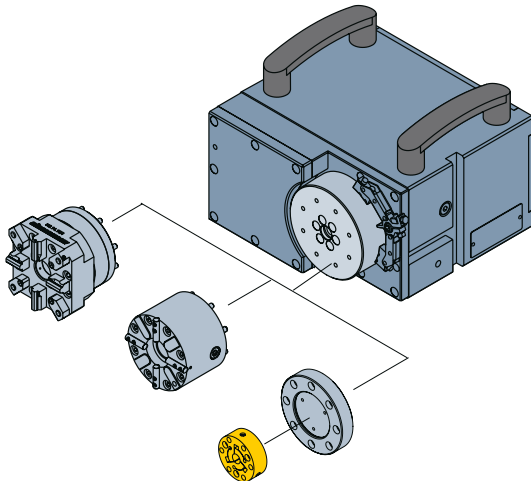
similar to H 1625.DC, for H 800.NC

### General

The stainless steel A-Axes of the series H100R.NCx are equipped with a face-plate diameter 100 mm. Optionally, the A-Axes can be equipped with a manual or pneumatic clumper, an adjustable clamping element or with customised devices. The encoder system accuracy is + 5 seconds as standard (see equipment possibilities). Optionally it can be delivered with an integrated air supply for pneumatic clumpers or customised devices. The electrical control is effected either through the machine control or with the HIRSCHMANN CNC Control H1625.AC1.



H 100R.NCx000 with face-plate



### H 100R.NC... A-Axis

with face-plate  $\varnothing$  100 mm, centering seat 15<sup>H7</sup> and eight fastening screw threads M6, for horizontal and vertical use.

Dimensions (W/D/H)	230/215/130 mm (9.1/8.5/5.12")
Indexing accuracy (standard encoder)	$\leq \pm 5''$
Smallest indexing step ( standard encoder)	0.0005° (1.8")
Radial run-out	$\leq 0,005$ mm
Axial run-out	$\leq 0,005$ mm
Moment of inertia of the workpieces	$\leq 375$ kgcm <sup>2</sup>
Weight	approx. 30 kg
Speed	max. 20 min <sup>-1</sup>
Protection class	IP68
Max. weight of workpiece	horizontal use: 15 kg vertical use: 25 kg

### Options

#### Workpiece mounting\*

- manual HIRSCHMANN clumper H 6.16R, H 8.16R
- pneumatic HIRSCHMANN clumper H 6.11.10R, H 8.11.10R
- manual and pneumatic clumpers of other manufacturers
- customised devices
- integrated air supply for pneumatic clumpers and devices

#### Encoder system accuracy \*

- $\pm 10''$
- **$\pm 5''$  (standard)**
- $\pm 2,5''$

#### Electrical equipment\*

For the adaption to the machine control the A-Axes can be equipped with different drives and connectors.

\* Please specify when ordering

### H 1625.AC1 CNC control

for A-Axis series H 100R.NC.. und H 150R.NC..

Dimensions (W/D/H)	approx. 520/420/230 mm
Power supply	115/230 V 50/60 Hz
Power input	max. 400VA
Weight	approx. 12 kg (25 lbs)

## A-Axis series H 150R.NC...

### General

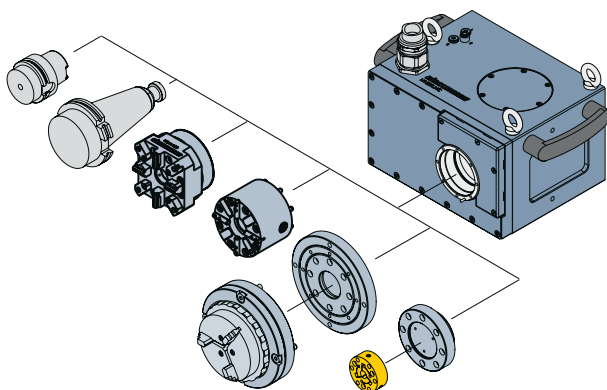
The stainless steel A-Axes of the series H150R.NC are equipped as standard with a pneumatic SK50, CAT50 or HSK63 machine taper chuck. Optionally, the A-Axes can be equipped with a face-plate  $\varnothing 150$  mm, a manual or pneumatic clumper, an adjustable clamping element or with customised devices. For the adaption to the machine control different drives and electrical equipment are available. The indexing accuracy and the min. indexing step depend on the measuring system.



H 150R.NC with SK50 taper chuck



H 150R.NC with HSK63 taper chuck



### H 150R.NC.. A-Axis

alternatively with SK50, CAT50 or HSK63 (form A or F) taper chuck. For horizontal and vertical use.

Dimensions (W/D/H) approx. 265/215/160 mm  
(10.43/8.47/6.3")

Indexing accuracy (standard encoder)  $\leq \pm 5''$

Repetitive accuracy (standard encoder)  $\leq \pm 3''$

Smallest indexing step (standard encoder)  $0.0005^\circ$  (1.8")

Radial run-out  $\leq 0,005$  mm

Max. weight of workpiece 50 kg

Speed max.  $20 \text{ min}^{-1}$

Weight approx. 45 kg

Erosion current max. 50 A

Protection class IP68

### Options

#### Workpiece mounting\*

- manual HIRSCHMANN clumper H 6.16R, H 8.16R
- pneumatic HIRSCHMANN clumper H 6.11.10R, H 8.11.10R
- manual and pneumatic clumpers of other manufacturers
- face-plate  $\varnothing 150$  mm
- jaw chuck
- customised devices
- integrated air supply for pneumatic clumpers and devices

#### Encoder system accuracy \*

- $\pm 10''$
- $\pm 5''$  (standard)
- $\pm 2,5''$

#### Electrical equipment\*

For the adaption to the machine control the A-Axes can be equipped with different drives and connectors.

\* Please specify when ordering



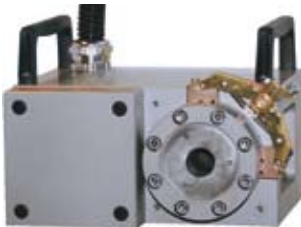
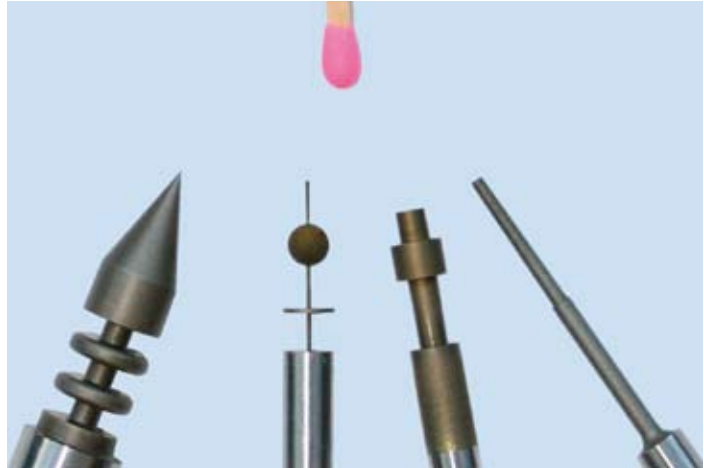
## High Speed Rotating Spindle H 80R.MAC

### Start in new dimensions

The advance in regions of micro-mechanic requires new ideas in production strategy. Dynamically balanced parts, which can hardly or not be manufactured on conventional lathes and grinding machines, can be ground with highest surface quality (Ra 0,1 mm and better) by erosive turning resp. grinding with HIRSCHMANN Rotary Spindles.

#### Characteristics:

- Alternative to hard turning or precision grinding of dynamically balanced parts with highest surface quality
- Economic production of parts with minimal structures, as well as micro electrodes made of stainless steel, hard metal or nonferrous metal and even conductive ceramics.



#### H 80R.MAC Rotating Spindle

with manual clamping H 8.16R (for clamping journal H 5.611R). Rust-proofed, maintenance free AC-Drive.

Dimensions (WxDxH)	190/191/98 mm (7.5/7.52/3.9")
Speed	0-1500 min <sup>-1</sup>
Axial accuracy	≤ 0,003 mm (0.00012")
Weight	approx. 20 kg

#### H 80R.MAC.6 Rotating Spindle

similar to H 80R.MAC but with manual clamping H 6.16R (for clamping journal H 6.611R).

#### H 80R.MAC.44 Rotating Spindle

similar to H 80R.MAC but equipped with adapter disc to fix directly the Adjustable Clamping Elements H 5.83.46R-xx. Integrated sleeve shaft Ø 18 mm, 100 mm deep.

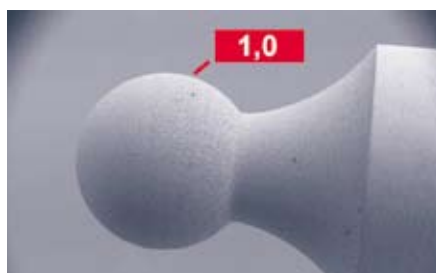
#### H 1680.AC4 Speed Control Unit

for speed control of the H 80R.MAC.. Rotating Spindles.

Dimensions (W/D/H)	270/330/320 mm
Mains voltage	230V / 50/60 Hz
Power input	max. 500 VA



Micro pin structure in hard metal, length 1 mm



Stainless steel piston for micro pump, accuracy of the ball profile 1 - 2 µm



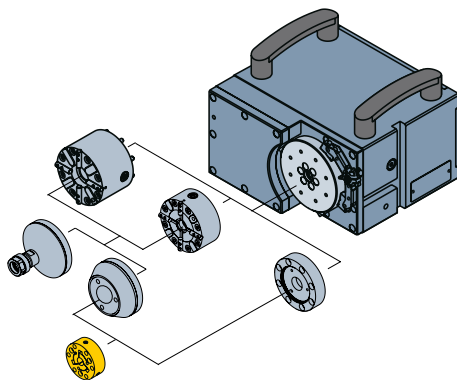
Stainless steel needle for medical technics, Ra 0.2 - 0.25 µm

## High Speed Rotating/Positioning Spindle H 80R.MAC H 80R.MNC

Additionally to the high speed rotation, the Rotating-Positioning Spindle H80R.MNC.. enables a precise positioning and simultaneous processing of the workpiece. This allows the production of complex parts. The control is effected preferably through the machine control or, if this is not possible, through the HIRSCHMANN Control H1625.AC3 which communicates through M-functions with the machine control.



Rotating/Positioning Spindle with clamber



### H 80R.MNC.. Rotating/Positioning Spindle

Rust-proof, long-life AC drive

Dimensions (W/D/H) approx. 265/212/120 mm  
(10.43/8.35/4.72")

Speed 0-1000 min<sup>-1</sup>

Positioning accuracy ± 5"

Axial accuracy ≤ 0,003 mm

Loading weight max. 30 kg

Weight approx. 31 kg

### Design versions

- face-plate Ø 80 mm
- manual clamber H 6.16R, H 8.16R
- pneumatic clamber H 6.11.10R, H 8.11.10R
- support for adjustable clamping element H 5.83.46R-xx
- clamber of other manufacturers



### H 1625.AC3 Control

for Rotating/Positioning Spindle H 80R.MNC..

Dimensions (W/D/H) 520/420/230 mm (19.3/15.8/9")

Power supply 230 V 50/60 Hz

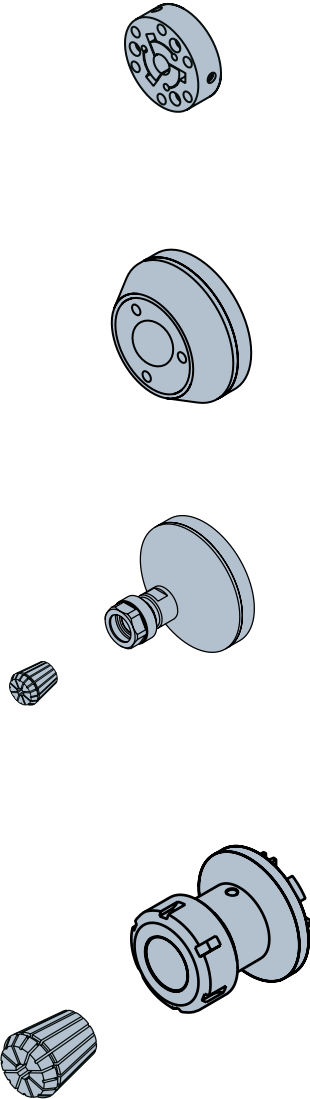
Power input max. 1000 VA

Weight approx. 10 kg (22.05 lbs)



### Adjustable Clamping Element – erosive grinding with high precision

A high definition requires a precise concentricity. With the HIRSCHMANN Adjustable Clamping Element the concentricity can quickly and easily be adjusted to  $\leq 0,001$  mm.



#### H 5.83.46R-xx Adjustable Clamping Element (Brass)

for the precise adjustment of the workpiece concentricity. The Adjustable Clamping Elements are mounted to the Clamping Element Holder H5.83.45R or directly to the Rotating Spindles resp. A-Axes equipped with Adjustable Clamping Elements.

Concentricity adjustable to  $< 0,001$  mm

Clamping range (xx) from  $\varnothing 1$  mm until  $\varnothing 18$  mm

(When ordering, please state the exact clamping diameter (xx))

#### H 5.83.45R Clamping Element Holder (stainless)

for mounting the Adjustable Clamping Elements H5.83.46R-xx in the Rotating Spindles, Axes and Presetting Spindles with HIRSCHMANN clampers.

Please order Clamping Journal H5.611R resp. H6.611R separately!

#### H 5.83.40R.MAC Collet Holder (stainless)

Clamping nut nickel plated. For collet H 50.41.

Concentricity (without collet)  $0,005$  mm

Please order Clamping Journal H5.611R resp. H6.611R separately!

#### H 50.41 Collet ER/ESX 16

Clamping range infinitely variable from  $\varnothing 0,5$  -  $\varnothing 10$  mm.

Collet size from  $\varnothing 1$  -  $\varnothing 10$  mm, in 1 mm increments.

Radial deviation until  $\varnothing 5$  mm =  $0,01$ , from  $\varnothing 6$  mm =  $0,02$  mm

Stainless edition on request.

#### H 5.83.50R Collet Holder (stainless)

Clamping nut nickel plated. For collet H 5.50.51 (ER40).

Clamping range  $\varnothing 3$  -  $\varnothing 26$  mm.

Concentricity (without collet)  $0,01$  mm

Weight  $1,1$  kg

Please order Clamping Journal H5.611R resp. H6.611R separately!

#### H 5.50.51 Collet ER/ESX 40

Clamping range infinitely variable from  $\varnothing 3$  -  $\varnothing 26$  mm.

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

Radial deviation until  $\varnothing 6$  mm =  $0,015$ , from  $\varnothing 7$  mm =  $0,02$  mm



H80R.MAC with Holder H 5.83.45R and Adjustable Clamping Element H 5.83.46R



H80R.MAC with Collet Holder H 5.83.40R



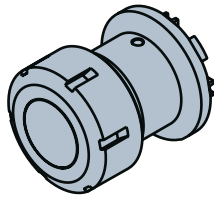
H80R.MAC.44 with Adjustable Clamping Element H 5.83.46R



## Accessory / Presetting Spindle

### Presetting of the concentricity

With the Presetting Spindle the concentricity is adjusted beyond the machine parallel to the production time. Afterwards, the parts to be processed can be put manually or, if necessary, automatically with a robot into the Rotating Spindle resp. A-Axis within seconds.



#### H 5.83.70R Collet Holder (stainless)

Clamping nut nickel plated. For collet ER50 (clamping range  $\varnothing 3 - \varnothing 34$  mm).

Concentricity (without collet)

0,01 mm

Weight

1.6 kg

Please order Clamping Journal H 5.611R resp. H 6.611R separately!



H 5.611R +  
H 5.611.1R



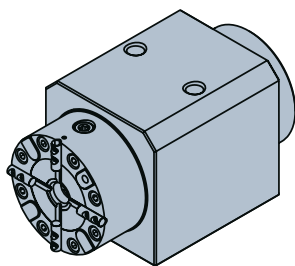
H 6.611R

#### H 5.611R Clamping Journal and H 5.611.1R Centering Bush (stainless)

to use the holders H 5.83.45R, H 5.83.40R.MAC, H 5.83.50R and H 5.83.70R in the clammer H 8.16R.

#### H 6.611R Clamping Journal (stainless)

to use the holders H 5.83.45R, H 5.83.40R.MAC, H 5.83.50R and H 5.83.70R in the clammer H 6.16R.



#### H 5.83.60R Presetting Spindle (Clammer H 8.16R)

to preset the concentricity of the parts which are mounted in the Adjustable Clamping Element H 5.83.46R by the Collet Holder H 5.83.45R.

Concentricity

$\leq 0,002$  mm

#### H 6.83.60R Presetting Spindle (Clammer H 6.16R)

similar to H 5.83.60R but with Clammer H 6.16R

Presetting Work Stations on request.



Presetting with Presetting Spindle and Adjustable Clamping Element

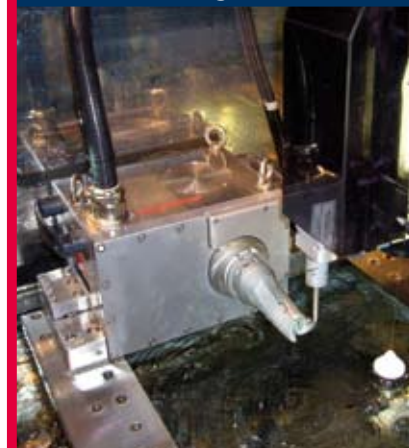


Adjustment of radial run-out with Adjustable Clamping Element H 5.83.46R..



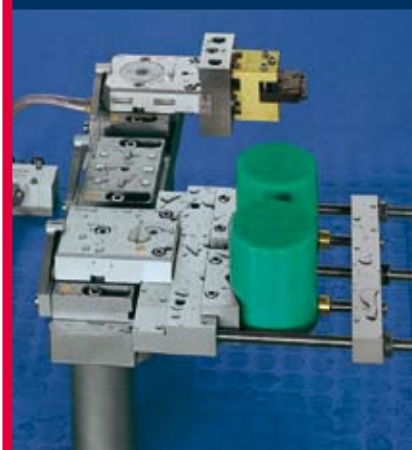
Adjustment of axial run-out with Adjustable Clamping Element H 5.83.46R..

**ROTARY TABLES and A-AXES**  
for Wire and Sinking EDM



## PRODUCT OVERVIEW

**FIXTURING SYSTEM 4000**  
for Wire EDM



**FIXTURING SYSTEM 5000**  
for Sinking EDM



**PALLETIZING SYSTEM 8000**  
for Machine Tools



**FIXTURING SYSTEM 9000**  
Modular Zero-Point Fixturing



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Catalogues upon request

