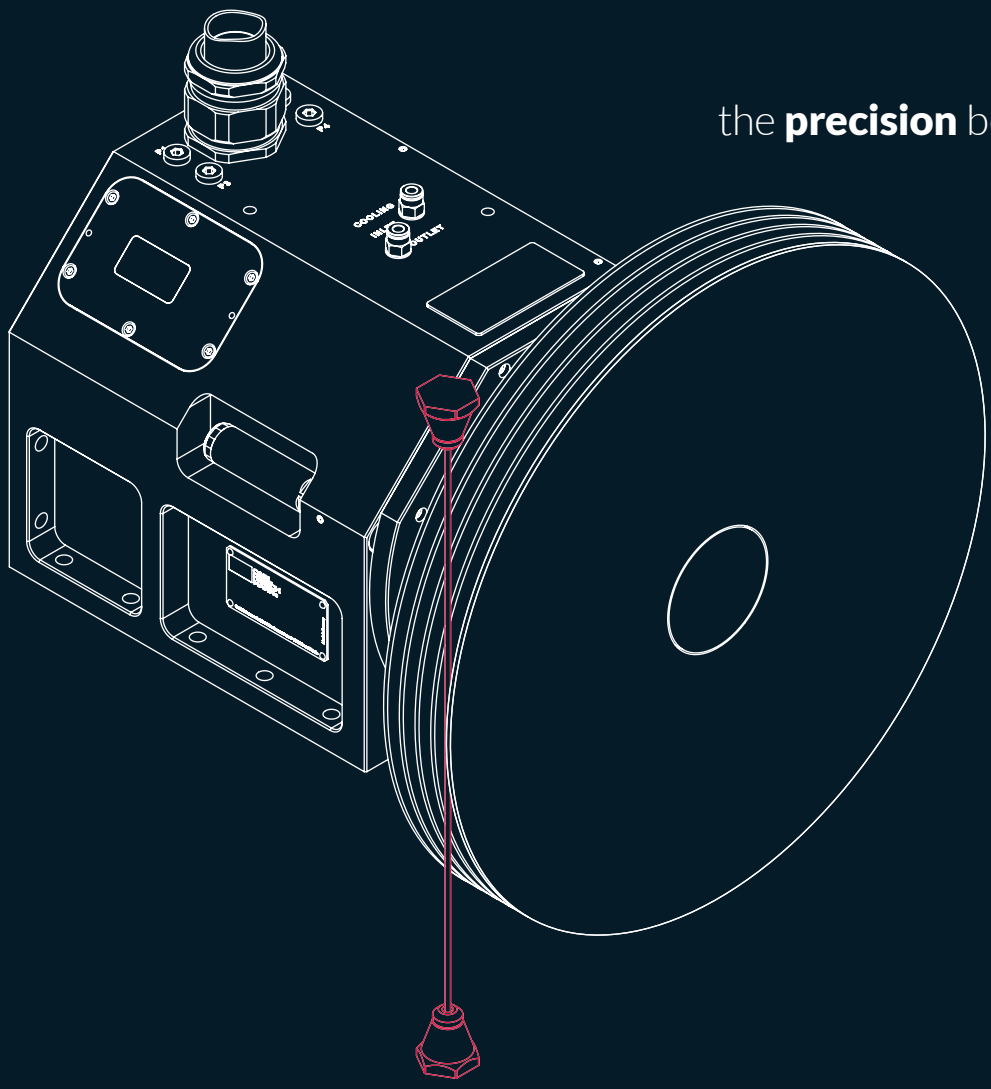
the **precision** benchmark



Rotary Indexing Table FJRD-120

For extremely complex EDM processes

CARL HIRSCH MANN

EN2631

Carl Hirschmann GmbH

Precision Begins Where Others Reach Their Limits

For decades, Carl Hirschmann has been developing high-precision rotary tables, rotary and indexing spindles, and clamping systems for the most demanding manufacturing processes. Today, this expertise is reflected in innovative solutions for the EDM dressing of metal-bonded diamond and CBN grinding wheels. Our technologies enable highly accurate positioning, maximum rotational accuracy, and fully repeatable processes – even for the most complex profiles and the highest quality requirements. Development, engineering, manufacturing, and assembly are all carried out at our facility in Germany. This allows us to deliver perfectly integrated system solutions from a single source that sustainably increase productivity, process reliability, and cost efficiency. Together with our customers, we develop solutions precisely tailored to their specific applications, setting new benchmarks in EDM grinding wheel dressing.
For us, precision is more than a promise – it is the standard by which we measure ourselves every day.

Technology for the Highest Demands

Carl Hirschmann is recognized worldwide for high-precision rotary tables and clamping systems specifically engineered for demanding EDM and grinding applications. EN 9100-certified manufacturing processes, state-of-the-art metrology, and decades of engineering expertise form the foundation for durable, reliable, and cost-effective system solutions.

The result is maximum precision, outstanding process reliability, and consistently repeatable quality – wherever the highest demands are placed on people, machines, and workpieces.

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Quality & Compliance

What Certifications Does Carl Hirschmann Hold?

Carl Hirschmann is certified to EN 9100 and is listed in the IAQG OASIS database as an approved supplier for the aerospace industry. Additional certifications include: DIN EN ISO 9001 / DIN EN ISO 14001 / TISAX®

Precision and Process Reliability in EDM Dressing

Our EDM solutions for grinding wheel dressing are engineered to deliver maximum precision, outstanding process reliability, and highly repeatable results. Backed by decades of expertise in rotary tables, rotary/indexing spindles, and clamping systems, we ensure stable, efficient, and consistent dressing processes for demanding manufacturing applications.

Quality Management System

The structure of the quality management system, which is designed in accordance with automotive and aerospace requirements, ensures that customer requirements are reliably met.

Quality Assurance

Our quality assurance processes ensure that every product is manufactured using stable, controlled production methods and verified with state-of-the-art metrology equipment. This guarantees full compliance with all specified technical requirements.

Full Traceability

Through batch-controlled storage and manufacturing processes, we provide complete traceability from the finished product back to the original raw material, ensuring maximum transparency and quality assurance.

Supply Chain Compliance

Carl Hirschmann is a key link in the supply chain to OEMs and end users. Based on our certifications, we ensure a transparent, controlled, and traceable supply chain. Compliance with safety and regulatory requirements is governed by additional certifications to ISO 14001 and TISAX®.

NEW: Rotary Indexing Table FJRD-120

Innovative rotary indexing table for wire and sinking EDM processing

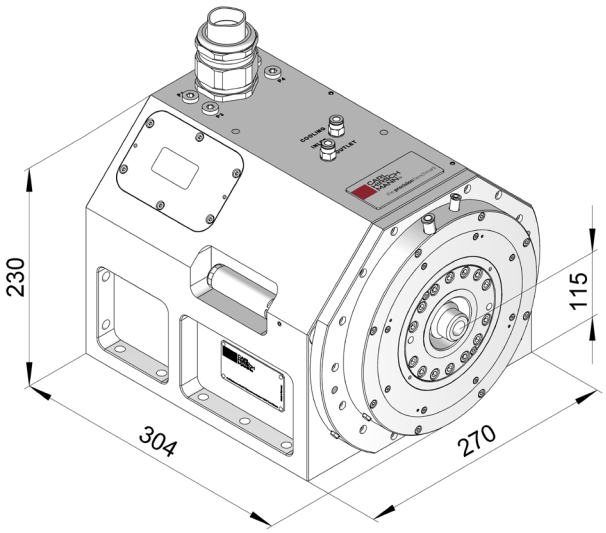
FJRD-120 directly driven rotary indexing table

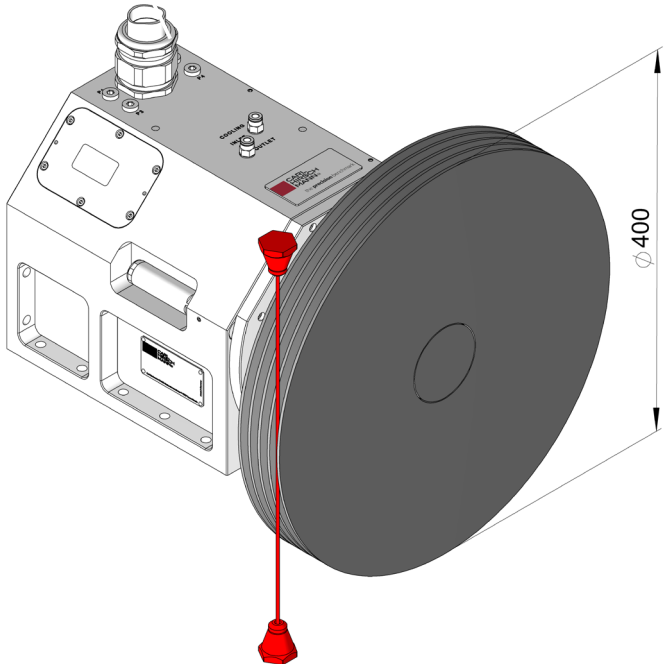
The new development resulting from customer demands is especially suitable for wheel dressing of grinding wheels with a maximum weight of 50 kilograms by wire EDM. Speeds of up to 700 rpm are possible.

With the FJRD-120 Rotary Indexing Table, a wide range of wire and sinking EDM applications can be carried out precisely, reliably and at high speed.

Maintenance can be carried out more quickly, easily and cost-effectively by the end user, saving time and significantly reducing production downtime. The user-friendly maintenance concept improves the efficiency and cost effectiveness of production processes and reduces costs.

These innovations are now being transferred to other rotary indexing tables in the Carl Hirschmann portfolio.





Technical Highlights:

- Maximum 50 kg
- Rotational speed maximum 700 rpm
- Two-stage sealing system with integrated water ingress monitoring sensors
- Innovative flushing and sealing concept to prevent penetration of abrasive particles
- EDM current transmission with microfiber rings
- Direct drive for lifelong wear-free operation
- Intelligent sensing provided as standard
- Fully automatic clamping system
- Optimized bearing lubrication due to finely dosed delivered via supply cartridge
- Status and service messages are shown in plain text on a display
- Easy to maintain
- Option to access system parameters online
- Many service tasks can be carried out by customers themselves – saving time and money

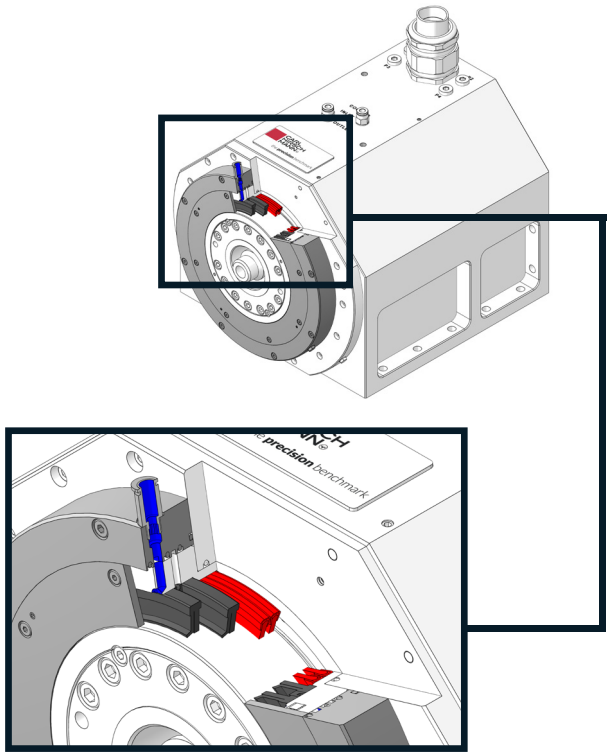
Innovative flushing and sealing concept

The microfiltered water flushing system prevents abrasive particles from reaching the seal and damaging it. This protects the shaft radial seal rings and the shaft from abrasion damage.

Thanks to this newly developed flushing system, combined with the innovative sealing concept and integrated barrier air, the FJRD-120 rotary indexing table in the machining center guarantees the high reliability of the entire system even under the most adverse operating conditions.

A system with two seals was installed as a second barrier for additional protection. Should the first seal actually allow a leak, a sensor detects water ingress in the gap and triggers a fault alert. The second seal reliably prevents fluid from entering the interior of the rotary indexing table.

The machine operator can replace the seal assembly and the shaft sleeve with minimal effort, without affecting the accuracy of the rotary indexing table.



EDM power transmission

For EDM power transmission, Carl Hirschmann relies on proven, patented EDM technology with conductive microfiber rings instead of carbon brushes.
This permanently eliminates problems such as worn carbon brushes or shrinkage of the transmission surface.

Power is transmitted evenly over the whole shaft in the sealed housing and there are no friction losses and no wear caused by carbon brushes.

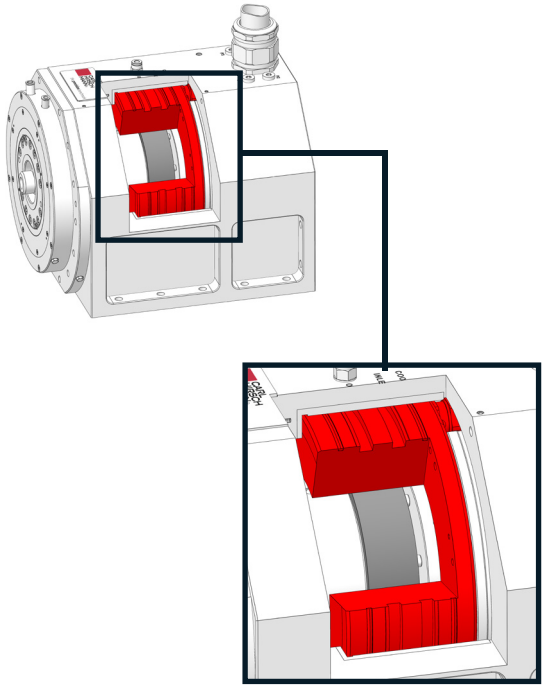
Direct drive for life-long and wear-free operation

This rotary indexing table is equipped with a direct drive and a direct measuring system and can be integrated into the machine control system according to customer requirements.

In combination with a high-resolution direct measuring system, the FJRD-120 offers very good concentricity characteristics even at low speeds.

Inaccuracies due to gear backlash, wear caused by toothed belt elongation, shaft torsion, resonance or hysteresis are no problem.

The integrated motor cooling ensures optimized operating conditions.



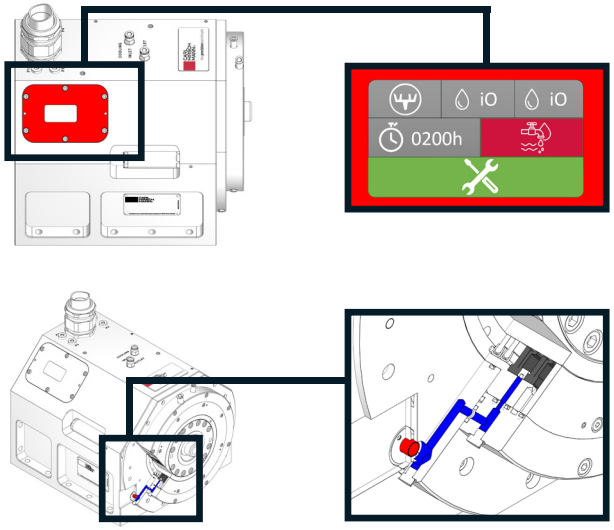
Intelligent sensor system as standard

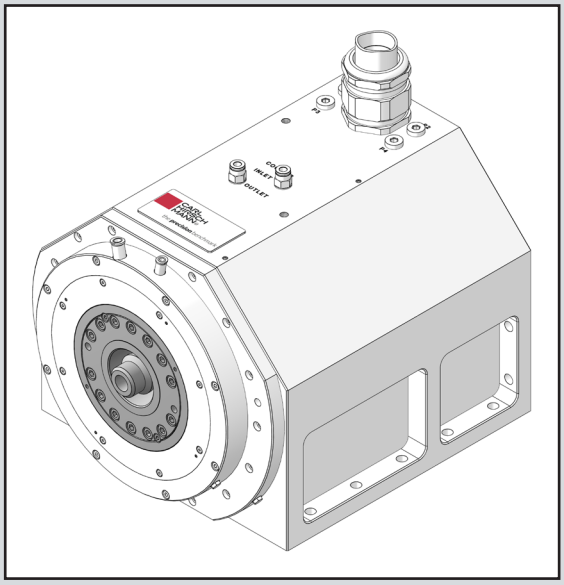
The integrated smart sensor technology is another interesting feature of the new FJRD-120 rotary indexing table.

A wide range of data—such as water ingress between the seals or into the housing, flushing pressure, runtime, and maintenance—is recorded on a memory card. This allows users to track the entire production history.

Maintenance intervals and error messages are displayed on a color LED screen. This helps minimize or even completely prevent downtime— Industry 4.0 production in practice.

All data can be read and analyzed using Wi-Fi-enabled devices such as smartphones, tablets, or laptops; the web server runs on an integrated microprocessor.





Fully automatic clamping system

The Rotary indexing table can be equipped with a pneumatic clamping system **HSK-A80 or HSK-A63**.

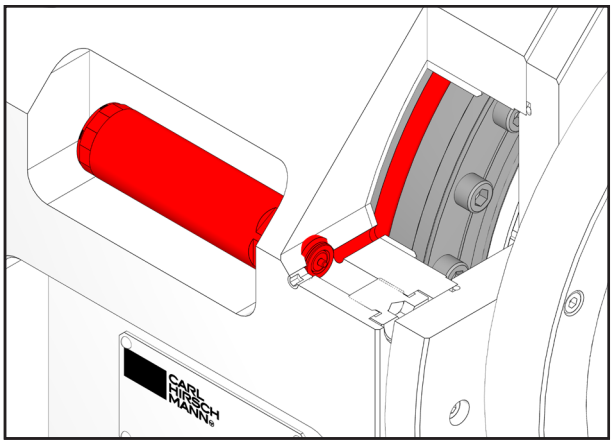
Compact in design, the integrated clamping system offers a high level of rigidity and precision, with pneumatic actuation for releasing, clamping and cleaning. Optionally, the system can also be equipped with a face plate.

Clamping

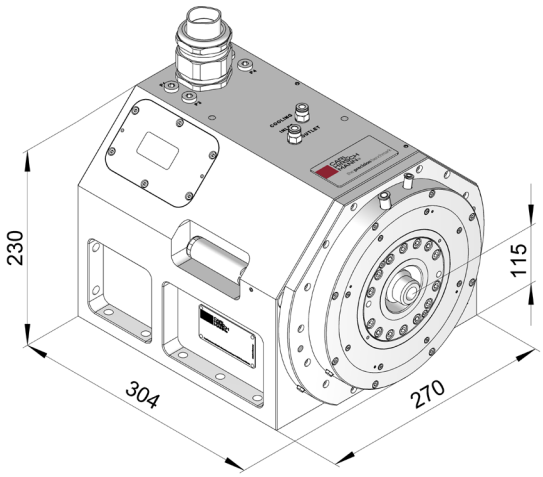
The new rotary indexing table is equipped with a pneumatic clamping: clamping is done with spring force, opening pneumatically. In case of a power failure or malfunction, the shaft is clamped, thus ensuring a secure position of the clamped component.

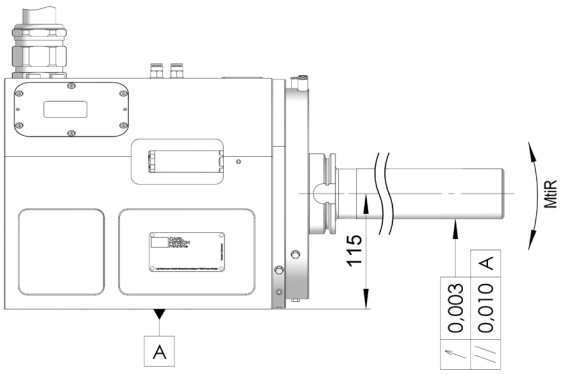
Automatic bearing lubrication

A further contribution to maintenance-friendly handling of the FJRD-120 is made by the lubrication cartridge attached to the housing, which continuously supplies finely dosed quantities of grease into the spindle bearing of the rotary indexing table. This ensures that bearings are always optimally lubricated.



Dimensions of rotary indexing table



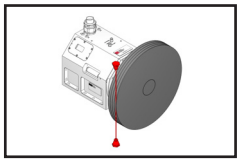


Technical Details

Concentricity of control rod	↗	0,003 mm	Torque MR max.	33 Nm
Parallelism of control plug (to base) A	//	0,01 mm	Tilting effect MtiR max.	100 Nm
Protection class	IP 68 (0,5 m)		Weight of workpiece max.	50 kg*
Net weight	≈ 91 kg		Speed max.	700 rpm

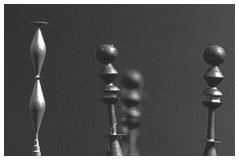
* Weight depends on part geometry. Note MtiR!

Examples of use



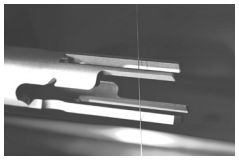
Wheel dressing

- metal-bonded abrasive discs
- complex contours
- individual contours
- free grain setting for dressing



Wire turning

- ejector pins
- finest needles
- complex shapes



Wire EDM

- swinging shapes
- helices
- complex shape

Sinking EDM

- undercuts
- gear teeth
- perforations

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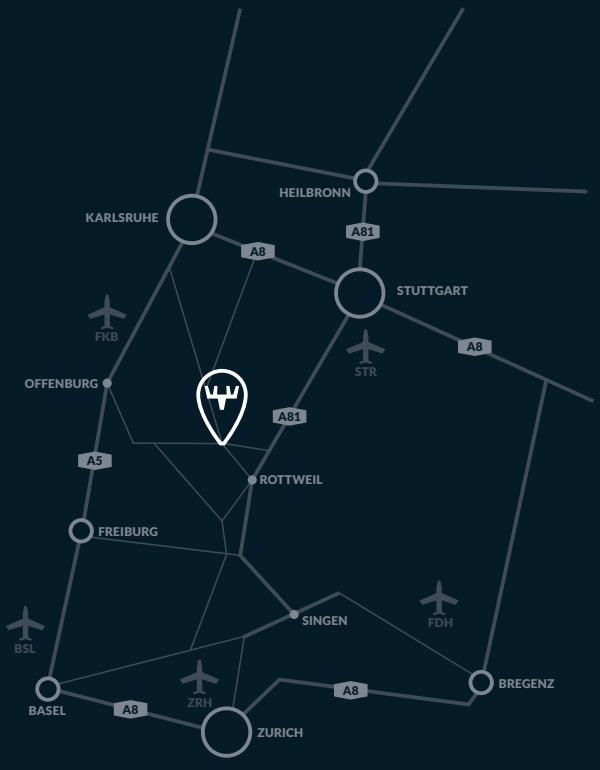

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