

GRINDING SPINDLES

HIGH QUALITY AND TAILORED TO YOUR NEEDS





THE WORLD OF GRINDING

EVERYTHING FROM ONE SOURCE

INTERNAL GRINDING

- Machining of a wide variety of workpieces, both cylindrical as well as end faces, tapered and spherical parts
- Spindles with highest speeds for high cutting speeds
- Spindles for sophisticated deep-hole grinding
- Highest running smoothness and precision
- Universally loadable bearings for radial, axial and combined grinding forces



EXTERNAL GRINDING

- High torque and high power density due to high-pole Synchronous motors
- HSG grinding with peripheral speeds up to 140 m/s
- Robust and high-precision bearing systems



GRINDING OF TOOLS

- Compact, high-torque and high-performance spindle systems for the production of cutting tools
- Razor-sharp cuts thanks to high rigidity and robust bearings
- Minimal axial shaft displacement
- Automatic tool clamping system or double-sided tool interface



DRESSING AND PROFILING OF GRINDING WHEELS

- Compact and powerful spindles with high thermal stability for precise dressing and profiling
- Cylindrical spindle housing or direct mounting housing



MACHINING OF SPECTACLE/FINE OPTICS

- Milling, grinding, polishing and dressing in the spectacle and fine optics industry
- Production of high-precision spheres, aspheres and fine optics at up to 100'000 rpm
- Sophisticated spindle sealing for the high demands of the optical industry
- Tool interface on both sides for pre-machining and finishing with one spindle



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YOUR CONTACT



CHRISTIAN JERMANN
Head of Global Sales
 info-fch@fischerspindle.com
 +41 62 956 22 22



DOUG KRANZ
Sales USA
 info-fusa@fischerspindle.com
 +1 800 333 6173



ANDREW KUNG
Sales Taiwan
 info-ftw@fischerspindle.com
 +886 4 2620 2200



MARKUS LANG
Sales Europe
 info-fch@fischerspindle.com
 +41 62 956 22 22



XU JANG
Sales China
 info-fsh@fischerspindle.com
 +86 21 6434 8150

HF MOTOR SPINDLES FOR UNIVERSAL GRINDING

HIGHEST PERFORMANCE IN A COMPACT DESIGN

- Compact, robust design
- High power and high torque over a wide speed range
- Excellent rigidity and concentricity for highest dimensional and form tolerances
- Designed for high radial and axial loads
- Sealing system supported by sealing air



ASYN = Asynchronous motor
DLS = Direct Lubrication System
HJND = Threaded Interface

| TYPE | | MFM-860 | MFM-890 | MFM-8120 | MFM-1022/45 | MFM-1032/60 |
|-----------------------|---------------------------|---------------------------|----------------|----------------|---------------------------|---------------------------|
| Outer diameter | D [mm] | 80 | 80 | 80 | 100 | 100 |
| Tool interface | | Arbor, HJND-42 HSK-C25 | Arbor, HJND-50 | Arbor, HJND-70 | Arbor, HJND-21 HSK-C40 | Arbor, HJND-28 HSK-C25 |
| Max. speed | nmax [min ⁻¹] | 60'000 | 90'000 | 120'000 | 45'000 | 60'000 |
| Lubrication | | DLS | DLS | DLS | DLS | DLS |
| Direction of rotation | | right left & right | right | right | right left & right | right left & right |
| Power S1 / S6 40% | P [kW] | 3.0 / 3.8 | 3.0 / 4.0 | 1.5 / 2.1 | 7.5 / 8.6 | 7.5 / 10.5 |
| Torque S1 / S6 40% | M [Nm] | 0.49 / 0.62 | 0.32 / 0.43 | 0.12 / 0.17 | 3.4 / 4.9 | 2.3 / 3.2 |
| Nominal speed | nN [min ⁻¹] | 60'000 | 90'000 | 120'000 | 22'000 | 32'000 |
| Motor frequency | [Hz] | 1'000 | 1'500 | 2'000 | 1'500 | 2'000 |
| Motor technology | | ASYN | ASYN | ASYN | ASYN | ASYN |
| Voltage | [V] | 350 | 350 | 350 | 350 | 350 |
| Current S1 | [A] | 6.4 | 7.5 | 3.7 | 17.3 | 19 |
| Housing length | L [mm] | 260 | 230 | 200 | 288 | 251 |
| Weight | [kg] | 6.8 | 6.25 | 5.5 | 12.5 | 10.0 |
| OPTIONS | | | | | | |
| Coolant Through Unit | | - | - | - | Yes | Yes |
| Encoder | | - | - | - | - | - |
| Zero-speed monitoring | | Yes | Yes | Yes | Yes | Yes |

| TYPE | | MFM-12120 | MFM-1406/12 | MFM-1406/18 | MFM-1418/36 | MFM-1509/30 |
|-----------------------|---------------------------|----------------|---|---------------------------|---------------------------|---------------------------|
| Outer diameter | D [mm] | 120 | 140 | 140 | 140 | 150 |
| Tool interface | | Arbor, HJND-60 | Arbor, HJND-16 HSK-C50 External taper | Arbor, HJND-16 HSK-C50 | Arbor, HJND-16 HSK-C50 | Arbor, HJND-16 HSK-C63 |
| Max. speed | nmax [min ⁻¹] | 120'000 | 12'000 | 18'000 | 36'000 | 30'000 |
| Lubrication | | DLS | Grease | DLS | DLS | DLS |
| Direction of rotation | | right | right left & right right | right left & right | right left & right | right left & right |
| Power S1 / S6 40% | P [kW] | 2.0 / 2.5 | 10.0 / 12.0 | 10.0 / 12.0 | 18.0 / 22.0 | 10.9 / 14.2 |
| Torque S1 / S6 40% | M [Nm] | 0.16 / 0.2 | 15.9 / 19.6 | 15.0 / 18.2 | 9.7 / 11.9 | 11.6 / 15.2 |
| Nominal speed | nN [min ⁻¹] | 120'000 | 6'000 | 6'000 | 18'000 | 9'000 |
| Motor frequency | [Hz] | 2'000 | 600 | 900 | 1'200 | 1'500 |
| Motor technology | | ASYN | ASYN | ASYN | ASYN | ASYN |
| Voltage | [V] | 380 | 350 | 350 | 350 | 380 |
| Current S1 | [A] | 4.4 | 32 | 28.4 | 38 | 33 |
| Housing length | L [mm] | 202 | 373 | 373 | 373 | 308 |
| Weight | [kg] | 14.2 | 32.0 | 32.0 | 32.0 | 28.0 |
| OPTIONS | | | | | | |
| Coolant Through Unit | | Yes | Yes | Yes | Yes | Yes |
| Encoder | | - | Yes | Yes | Yes | Yes |
| Zero-speed monitoring | | Yes | Yes | Yes | Yes | Yes |

| MFM-1090 | MFM-10120 | MFM-1224/30 | MFM-1224/42 | MFM-1236/45 | MFM-1242/60 | MFM-1290 |
|----------------|----------------|---------------------------|---------------------------|---------------------------|---------------------------------------|----------------|
| 100 | 100 | 120 | 120 | 120 | 120 | 120 |
| Arbor, HJND-50 | Arbor, HJND-60 | Arbor, HJND-21 HSK-C40 | Arbor, HJND-21 HSK-C40 | Arbor, HJND-28 HSK-C25 | Arbor, HJND-28 HSK-C25, HSK-C32 | Arbor, HJND-50 |
| 90'000 | 120'000 | 30'000 | 42'000 | 45'000 | 60'000 | 90'000 |
| DLS | DLS | Grease | DLS | Grease | DLS | DLS |
| right | right | right left & right | right left & right | right left & right | right left & right left & right | right |
| 4.2 / 5.4 | 2.0 / 2.5 | 15.0 / 20.0 | 15.0 / 20.0 | 12.0 / 16.0 | 10.0 / 13.0 | 4.2 / 5.4 |
| 0.47 / 0.62 | 0.16 / 0.2 | 6.0 / 8.1 | 6.0 / 8.1 | 3.2 / 4.3 | 2.3 / 3.0 | 0.47 / 0.62 |
| 90'000 | 120'000 | 24'000 | 24'000 | 36'000 | 42'000 | 90'000 |
| 1'500 | 2'000 | 1'000 | 1'400 | 1'500 | 2'000 | 1'500 |
| ASYN | ASYN | ASYN | ASYN | ASYN | ASYN | ASYN |
| 380 | 380 | 380 | 380 | 380 | 380 | 380 |
| 9.0 | 4.4 | 38 | 38 | 31 | 28 | 9 |
| 215 | 200 | 326 | 326 | 279 | 279 | 215 |
| 8.5 | 7.5 | 20.5 | 20.5 | 17.5 | 17.5 | 13.5 |
| OPTIONS | | | | | | |
| Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| - | - | Yes | Yes | Yes | Yes | - |
| Yes | Yes | Yes | Yes | Yes | Yes | Yes |

| MFM-1524/45 | MFM-1542/60 | MFM-1590 | MFM-15120 | MFM-1709/20 | MFM-1709/30 |
|---------------------------|---------------------------------------|----------------|----------------|--------------|--------------|
| 150 | 150 | 150 | 150 | 170 | 170 |
| Arbor, HJND-21 HSK-C40 | Arbor, HJND-28 HSK-C25 HSK-C32 | Arbor, HJND-50 | Arbor, HJND-60 | HSK-C63 | HSK-C63 |
| 45'000 | 60'000 | 90'000 | 120'000 | 20'000 | 30'000 |
| DLS | DLS | DLS | DLS | Grease | DLS |
| right left & right | right left & right left & right | right | right | left & right | left & right |
| 15.0 / 22.0 | 10.0 / 13.0 | 4.2 / 5.4 | 2.0 / 2.5 | 20.0 / 26.0 | 20.0 / 26.0 |
| 6.0 / 8.9 | 2.3 / 3.0 | 0.47 / 0.62 | 0.16 / 0.2 | 21.5 / 28.0 | 21.5 / 28.0 |
| 24'000 | 42'000 | 90'000 | 120'000 | 9'000 | 9'000 |
| 1'500 | 2'000 | 1'500 | 2'000 | 667 | 1'000 |
| ASYN | ASYN | ASYN | ASYN | ASYN | ASYN |
| 380 | 380 | 380 | 380 | 350 | 350 |
| 38 | 28 | 9 | 4.4 | 56 | 56 |
| 307 | 307 | 244 | 230 | 390 | 390 |
| 26.0 | 28.0 | 22.5 | 22.0 | 49 | 47.5 |
| OPTIONS | | | | | |
| Yes | Yes | Yes | Yes | Yes | Yes |
| Yes | Yes | - | - | Yes | Yes |
| Yes | Yes | Yes | Yes | Yes | Yes |



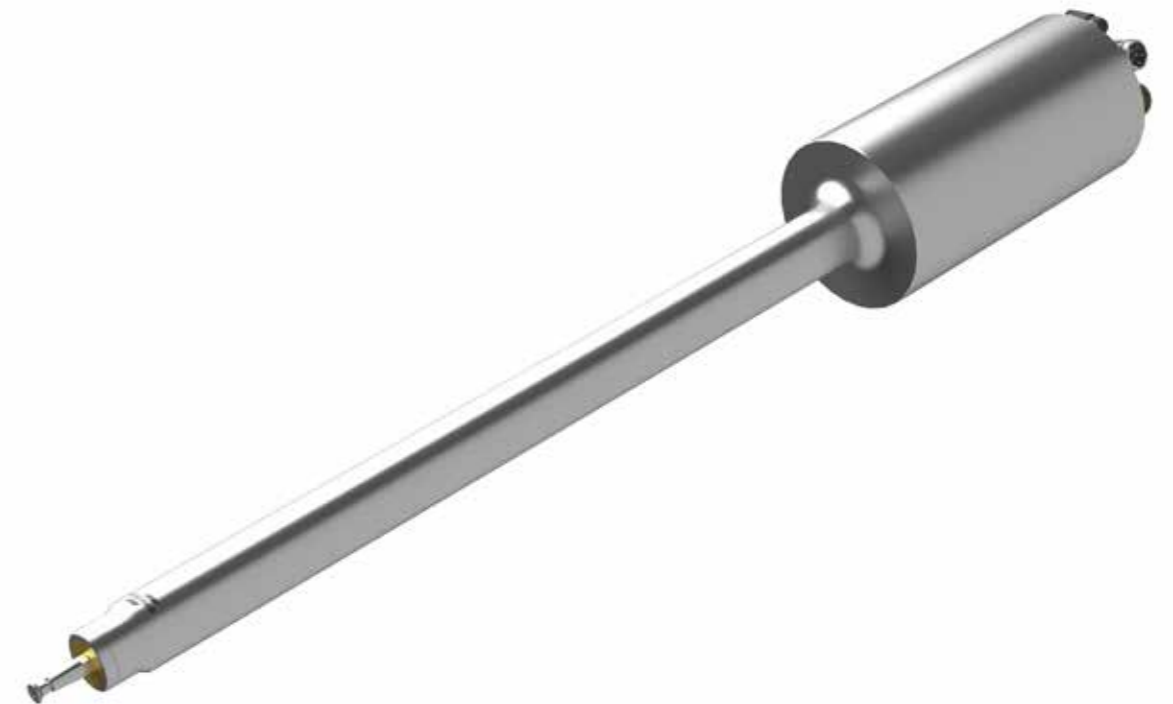
SPINDLES FOR DEEP HOLE GRINDING

UP TO A DIAMETER-LENGTH RATIO OF 1:20

Deep-hole grinding is the top discipline in internal cylindrical grinding. In recent years, it has become an increasingly important component in the manufacturing spectrum of the aerospace industry. Compared to classical internal cylindrical grinding with a diameter-to-length ratio of up to 1:10, with the FISCHER deep-hole spindles can machine workpieces up to 1:20.

This is achieved, among other things, with the proven FISCHER coupling shaft principle, which delivers an unsurpassed grinding quality in deep bores.

- Highest speeds
- Optimum rigidity
- The bearing-shaft system is statically determinant
- Precision grinding spindles for belt drive or with motor and external taper for internal grinding of deep bores
- Cylindrical or stepped spindle housing
- High precision spindle bearings with lifetime grease lubrication
- Labyrinth or sealing air system



SPINDLES FOR INTERNAL GRINDING

FOR BELT DRIVE OR MOUNTED MOTOR

These precision spindles have been developed for radial and axial loads and have a high-precision spindle bearing with lifetime grease lubrication.

UJ series with belt drive

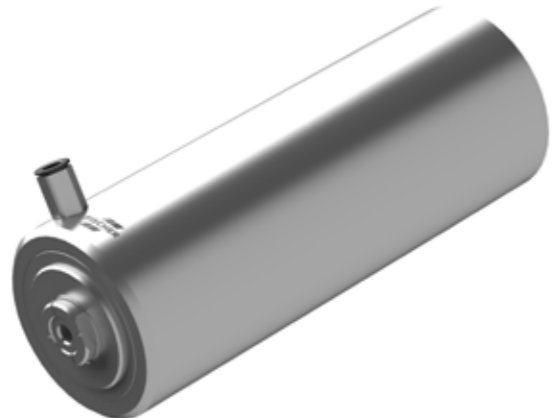
- Standard spindle housing Ø40 to 80 mm
- Speeds up to 28'000 min⁻¹
- UJD tool interface
- Direction of rotation right
- Labyrinth sealing system



| TYPE | | UJ-40x250 | UJ-50x250 | UJ-60x300 | UJ-70x300 | UJ-80x350 |
|-----------------------|---------------------------|-----------|-----------|-----------|-----------|-----------|
| Outer diameter | D [mm] | 40 | 50 | 60 | 70 | 80 |
| Tool interface | | UJD-40 | UJD-50 | UJD-60 | UJD-70 | UJD-80 |
| Max. speed | nmax [min ⁻¹] | 28'000 | 23'000 | 18'000 | 14'000 | 12'000 |
| Lubrication | | Grease | Grease | Grease | Grease | Grease |
| Direction of rotation | | right | right | right | right | right |
| Housing length | L [mm] | 250 | 250 | 300 | 300 | 350 |
| Weight | [kg] | 2.5 | 4.1 | 6.3 | 9.7 | 13.0 |

HJN series with belt drive

- Standard spindle housing Ø80 mm
- Speeds up to 60'000 min⁻¹
- HJND tool interface
- Direction of rotation right
- Sealing air seal



| TYPE | | HJN-828 | HJN-842 | HJN-860 |
|-----------------------|---------------------------|---------|---------|---------|
| Outer diameter | D [mm] | 80 | 80 | 80 |
| Tool interface | | HJND-28 | HJND-42 | HJND-60 |
| Max. speed | nmax [min ⁻¹] | 28'000 | 42'000 | 60'000 |
| Lubrication | | Grease | Grease | Grease |
| Direction of rotation | | right | right | right |
| Housing length | L [mm] | 240 | 230 | 220 |
| Weight | [kg] | 9.0 | 8.7 | 8.4 |

HEN series with mounted motor

- Standard spindle housing Ø32 to 50 mm
- Speeds up to 42'000 min⁻¹
- With integrated collet chuck and manual HSK-C interface
- Hybrid bearing
- Direction of rotation right/left
- Sealing air seal



| TYPE | | HEN-32 | HEN-40 | HEN-50 | HEN-50/7 |
|------------------------|---------------------------|---------------------|--------------|--------------|--------------|
| Outer diameter | D [mm] | 32 | 40 | 50 | 50 |
| Tool interface | | Collet ER12 | Collet EX16 | Collet EX20 | HSK-C25 |
| Max. speed | nmax [min ⁻¹] | 30'000 | 42'000 | 36'000 | 36'000 |
| Lubrication | | Grease | Grease | Grease | Grease |
| Direction of rotation | | right & left | right & left | right & left | right & left |
| Power S1 / S6 40% | P [kW] | 0.26 | 0.79 | 1.1 | 1.1 |
| Torque S1 / S6 40% | M [Nm] | 0.08 | 0.28 | 0.44 | 0.44 |
| Nominal speed | nN [min ⁻¹] | 30'000 | 27'000 | 24'000 | 24'000 |
| Motor frequency | [Hz] | 800 | 700 | 600 | 600 |
| Motor technology | | ASYN | ASYN | ASYN | ASYN |
| Voltage S1 | [V] | 220 | 220 | 220 | 220 |
| Current S1 | [A] | 1.7 | 2.9 | 5.6 | 5.6 |
| Motor cooling | | External fan 24V DC | | | |
| Spindle housing length | L [mm] | 160 | 180 | 210 | 210 |
| Motor length | L [mm] | 181 | 203 | 230 | 230 |
| Weight | [kg] | 3.1 | 4.2 | 7.7 | 10.5 |

FIV series with belt drive

- Standard spindle housing Ø45 to 80 mm
- Speeds up to 35'000 min⁻¹
- Internal taper as tool interface
- Direction of rotation right
- Labyrinth sealing system

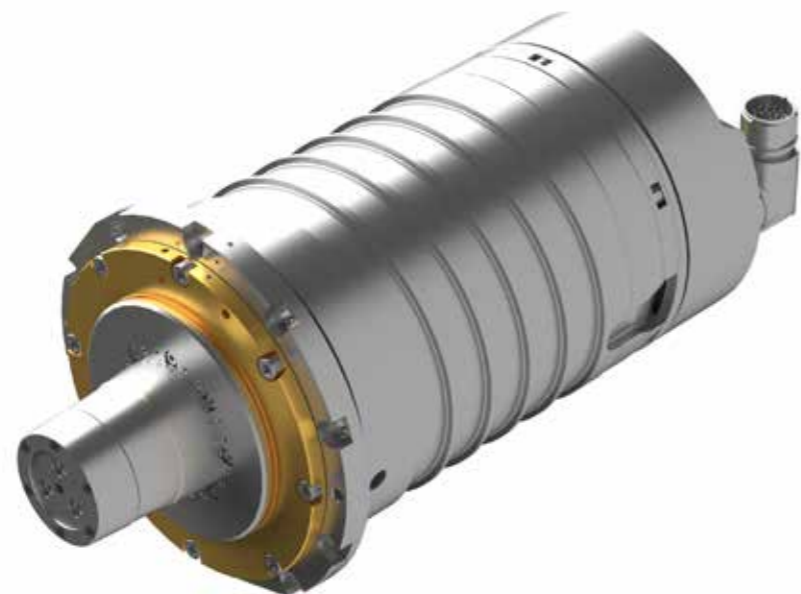


| TYPE | | FIV45R160 | FIV60R160 | FIV80R250 |
|-----------------------|---------------------------|----------------------|----------------------|----------------------|
| Outer diameter | D [mm] | 45 | 60 | 80 |
| Tool interface | | Internal taper 1:7.5 | Internal taper 1:7.5 | Internal taper 1:7.5 |
| Max. speed | nmax [min ⁻¹] | 35'000 | 24'000 | 17'000 |
| Lubrication | | Grease | Grease | Grease |
| Direction of rotation | | right | right | right |
| Housing length | L [mm] | 160 | 160 | 250 |
| Weight | [kg] | 1.8 | 3.3 | 9.8 |

SPINDLES FOR EXTERNAL GRINDING

CUSTOMISED OR STANDARD SERIES

High precision and smooth running, a long service life and easy maintenance and care are the hallmarks of high-quality FISCHER external grinding spindles. Only with these spindles can machines achieve very good cutting performance and the best surface qualities.



- Customized solutions according to the machine manufacturer's specifications
- Motor spindles or externally driven spindles
- With one-sided or two-sided tool interface, depending on customer requirements
- Integrated, automatic balancing systems as an option
- Cylindrical spindle housing or direct mounting housing
- Asynchronous and synchronous motors
- Rotary encoders as an option
- Robust, high-precision bearing systems
- HSG grinding with circumferential speeds of up to 140 m/s

M32 series with attached motor

- Standard spindle housing $\varnothing 60$ to 100 mm
- Speeds up to 6'000 min^{-1}
- External taper as tool interface
- Direction of rotation right
- Labyrinth sealing system



| TYPE | | M32-FAV60 R190-3/2.2 | M32-FAV60 R190-6/2.2 | M32-FAV80 R220-3/3 | M32-FAV80 R405-3/3 | M32-FAV100 R285-3/4 | M32-FAV100 R400-3/4 |
|------------------------|--|-------------------------|-------------------------|-----------------------|-----------------------|------------------------|------------------------|
| Outer diameter | D [mm] | 60 | 60 | 80 | 80 | 100 | 100 |
| Tool interface | | External taper 1:75 | External taper 1:75 | External taper 1:75 | External taper 1:75 | External taper 1:75 | External taper 1:75 |
| Max. speed | n_{max} [min^{-1}] | 3'000 | 6'000 | 3'000 | 3'000 | 3'000 | 3'000 |
| Lubrication | | Grease | Grease | Grease | Grease | Grease | Grease |
| Direction of rotation | | right | right | right | right | right | right |
| Power S1 | P [kW] | 2.2 | 2.2 | 3.0 | 3.0 | 4.0 | 4.0 |
| Torque S1 | M [Nm] | 7.0 | 7.2 | 9.55 | 9.55 | 12.73 | 12.73 |
| Nominal speed | n_N [min^{-1}] | 3'000 | 3'000 | 3'000 | 3'000 | 3'000 | 3'000 |
| Motor frequency | [Hz] | 50 | 50 | 50 | 50 | 50 | 50 |
| Motor technology | | ASYN | ASYN | ASYN | ASYN | ASYN | ASYN |
| Voltage S1 | [V] | 400 | 400 | 400 | 400 | 400 | 400 |
| Current S1 | [A] | 4.3 | 4.6 | 5.7 | 5.7 | 7.6 | 7.6 |
| Motor cooling | | Self-ventilation | External fan | Self-ventilation | | | |
| Spindle housing length | L [mm] | 190 | 190 | 220 | 405 | 285 | 400 |
| Motor length | L [mm] | 316 | 403 | 346 | 346 | 363 | 363 |
| Weight | [kg] | 30 | 42 | 38.5 | 45 | 51 | 56 |

FAV series with belt drive

- Standard spindle housing $\varnothing 36$ to 100 mm
- Speeds up to 45'000 min^{-1}
- External taper as tool interface
- Direction of rotation right
- Labyrinth sealing system



| TYPE | | FAV36R125 | FAV40R160 | FAV45R160 | FAV60R160 | FAV80R250 | FAV80R315 | FAV100R250 |
|-----------------------|--|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Outer diameter | D [mm] | 36 | 40 | 45 | 60 | 80 | 80 | 100 |
| Tool interface | | External taper 1:75 | External taper 1:75 | External taper 1:75 | External taper 1:75 | External taper 1:75 | External taper 1:75 | External taper 1:75 |
| Max. speed | n_{max} [min^{-1}] | 45'000 | 40'000 | 35'000 | 24'000 | 17'000 | 17'000 | 12'000 |
| Lubrication | | Grease | Grease | Grease | Grease | Grease | Grease | Grease |
| Direction of rotation | | right | right | right | right | right | right | right |
| Housing length | L [mm] | 125 | 160 | 160 | 160 | 250 | 315 | 250 |
| Weight | [kg] | 0.9 | 1.4 | 1.8 | 3.4 | 9.9 | 11.9 | 15.3 |

SPINDLES FOR DRESSING AND PROFILING

COMPACT AND POWERFUL

AES series

Robust motorized dressing spindle with stable bearing for profiling and dressing of CBN and other grinding wheels.

- Highest concentricity and rigidity for precise dressing
- Thermal stability
- **Asynchronous motor**
- Robust, high-precision bearing system
- Permanent grease lubrication
- Labyrinth sealing, supported by sealing air



| TYPE | | AES-72 | AES-80 |
|-----------------------------|---------------------------------------|------------------------|------------|
| Outer diameter | D [mm] | Ø72 | Ø80 |
| Tool interface | | Ø40h3 x 10 | Ø40h3 x 10 |
| Max. speed | n _{max} [min ⁻¹] | 16'000 | 16'000 |
| Lubrication | | Grease | Grease |
| Direction of rotation | | right/left | right/left |
| Power S1 | P [kW] | 0.4 | 1.0 |
| Torque S1 | M [Nm] | 0.47 | 1.04 |
| Nominal speed | n _N [min ⁻¹] | 9'000 | 10'000 |
| Motor frequency | [Hz] | 533 | 534 |
| Motor technology | | ASYN | ASYN |
| Voltage S1 | [V] | 220 | 350 |
| Current S1 | [A] | 2.7 | 4.0 |
| Length | L [mm] | 230 / 260 incl. Option | 260 |
| Weight | [kg] | 6.0 / 6.1 incl. Option | 7.0 |
| Spindle cooling | | Air | Water/Oil |
| OPTIONS | | | |
| Acoustic Emission Sensor AE | | Yes | Yes |
| Encoder VC | | - | - |

FD series

Dressing and profiling of grinding wheels by means of powerful motor spindles with robust bearings.

- Highest concentricity and rigidity for precise dressing
- Thermal stability
- **Synchronous motor for high motor power**
- Robust, high-precision bearing system
- Permanent grease lubrication
- Labyrinth sealing, supported by sealing air



| FD72 | FD80 | FD100 |
|--------------|--------------|--------------|
| Ø72 | □80x110 | Ø100 |
| Ø40h3 x 10 | Ø52h3 x 15 | Ø52h3 x 15 |
| 16'000 | 6'000 | 16'000 |
| DLS | Grease | DLS |
| left & right | left & right | left & right |
| 2.0 | 1.3 | 6.5 |
| 1.2 | 2.0 | 5.2 |
| 16'000 | 6'000 | 12'000 |
| 533 | 300 | 533 |
| SYN | SYN | SYN |
| 322 | 346 | 360 |
| 4.2 | 2.4 | 13.1 |
| 220 | 216 | 255 |
| 5.6 | 11.3 | 13.0 |
| Water/Oil | Water/Oil | Water/Oil |
| Yes | Yes | Yes |
| Yes | Yes | Yes |

SPINDLES FOR TOOL GRINDING

HÖCHSTLEISTUNG IN KOMPAKTER BAUFORM

This is what distinguishes our high-quality FISCHER grinding spindles:

- Compact designs
- High-torque and high-performance motors
- High precision thanks to high rigidity
- Robust bearings and minimal axial shaft misalignment
- A long service life
- Developed according to the machine manufacturer's specifications

This is the only way for machines to achieve a very good cutting performance and the best surface quality of the tools to be machined



Tool grinding

- Compact design
- Asynchronous and synchronous motors
- Slide-in and direct mounting housings
- Speeds: 12'000 / 24'000 min⁻¹
- Robust, high-precision bearing system
- Automatic tool clamping system HSK-E50/F63 or double-sided tool interface
- Pneumatic and hydraulic release units
- Rotary pulse encoder
- Belt solutions with center drive

Saw blade grinding

- Compact design
- Asynchronous and synchronous motors
- Direct mounting housing
- Speeds up to 60'000 min⁻¹
- Robust, high-precision bearing system
- Manual tool interface - cylinder with face contact
- Resolver/rotary pulse encoder
- Acoustic emission detection

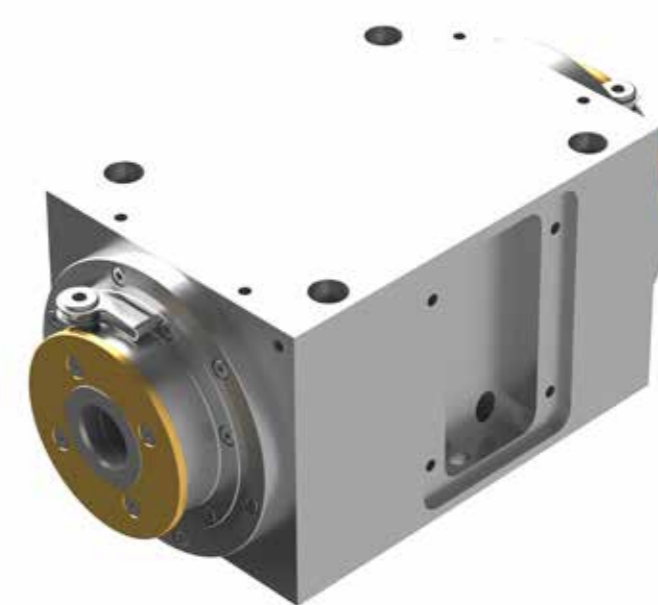
Broaching tool grinding

- Compact design
- Asynchronous and synchronous motors
- Direct mounting housing and cylindrical spindle housing
- Speeds up to 24'000 min⁻¹
- Robust, high-precision bearing system
- Manual tool interface - HSK and external taper
- Rotary encoder

SPINDLES FOR GRINDING AND POLISHING OF OPTICS AND GLASS

SPECIAL SOLUTIONS FOR DEMANDING MACHINING PROCESSES

The very high and special requirements of the optical industry demand a high degree of technological competence and many years of experience - with over 85 years of experience, FISCHER is your best partner.



Customized solutions according to the machine manufacturer's specifications.

- Machines for spectacle and precision optics
- Flat glass edge grinding machines
- Crystal glass decor grinding machines
- Corrosion-resistant design
- Highest concentricity and rigidity for precise polishing and grinding
- Housing shape and tool interface according to customer requirements
- Motor and externally driven precision spindles

PERIPHERALS

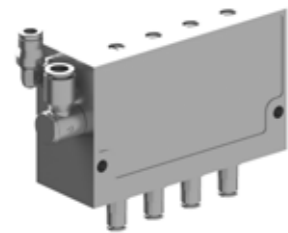
PERFECT FOR YOUR SPINDLE



Oil-air central lubrication unit

Pre-assembled central lubrication unit on aluminium base plate with the following components:

- Lubrication pump with level control
- Main shut-off valve
- Ultra-fine filter for oil
- Air treatment for central lubrication unit and sealing airt



Oil-air dosing unit

- Used for oil metering in spindles with oil-air bearing type
- 100 % tested and certified



Exhaust air filter

- For collecting waste oil coming out of spindle oil return path
- Dampens the air noise of the lubrication system



Frequency converter

The correct design of the converter is decisive for the smooth running, power development and heat generation of your spindle unit. FISCHER has been working closely with the leading converter manufacturers for years and regularly exchanges experience. As a result, we offer you optimum conditions when defining the inverter and are happy to support you in choosing the suitable supplier.



Filter choke

When using pulse width modulating (PWM) frequency inverters in the low-cost price segment, the interposition of a motor choke is mandatory. The FISCHER test center supports you in the design of the motor choke.

The ideal frequency inverter/choke combination results in less heat loss in the rotor and stator and higher power output. Results were measured and documented on the FISCHER test bench.



Operating fluids

Proven auxiliary and operating materials such as lubricating oil, hydraulic oil, coolant and coolant additives for maximum service life of FISCHER products.



Accessories

Our accessories can be found on our website at: www.fischerspindle.com/accessories

SERVICE AND REPAIRS

THE RIGHT OFFER FOR EVERY NEED

SERVICE AND SUPPORT

- Support for commissioning of spindle systems
- Maintenance training and application consulting
- Service visits for minor repairs or optimizations
- Vibration and bearing analysis
- Individualized Trainings

REPAIR OF FISCHER SPINDLES AND MILLING HEADS

- FISCHER Spindle Group has service centers and production facilities around the world
- Repair FISCHER spindles with original parts; refurbish key components as needed; bring spindle to like new condition.
- Express repairs
- Repair of FISCHER milling heads

THIRD PARTY SPINDLE REPAIRS

- We repair all brands of spindles in our worldwide group companies
- Analysis, repairs and retrofits of all your spindles
- FISCHER quality, service and advice
- All from one source

SERVICES

Spindle hotel

Your spindle is stored at FISCHER and checked for proper function at regular intervals. The warranty begins with the call-off and delivery of the spindle.

Spindle pool for machine manufacturers

While your spindle is being repaired, you can benefit from one of our pool spindles. You can continue adding value without interruption and keep production going.

Exchange spindles for end customers

We offer exchange spindles available in short notice with your defective spindle. This depends on the spindle type and availability.

Spindle repair service

We offer a professional and binding repair service. On request we provide a detailed analysis of the defective spindle as well as individual quotations.

Spindle Taxi

Your spindle will be picked up free of charge in Europe.

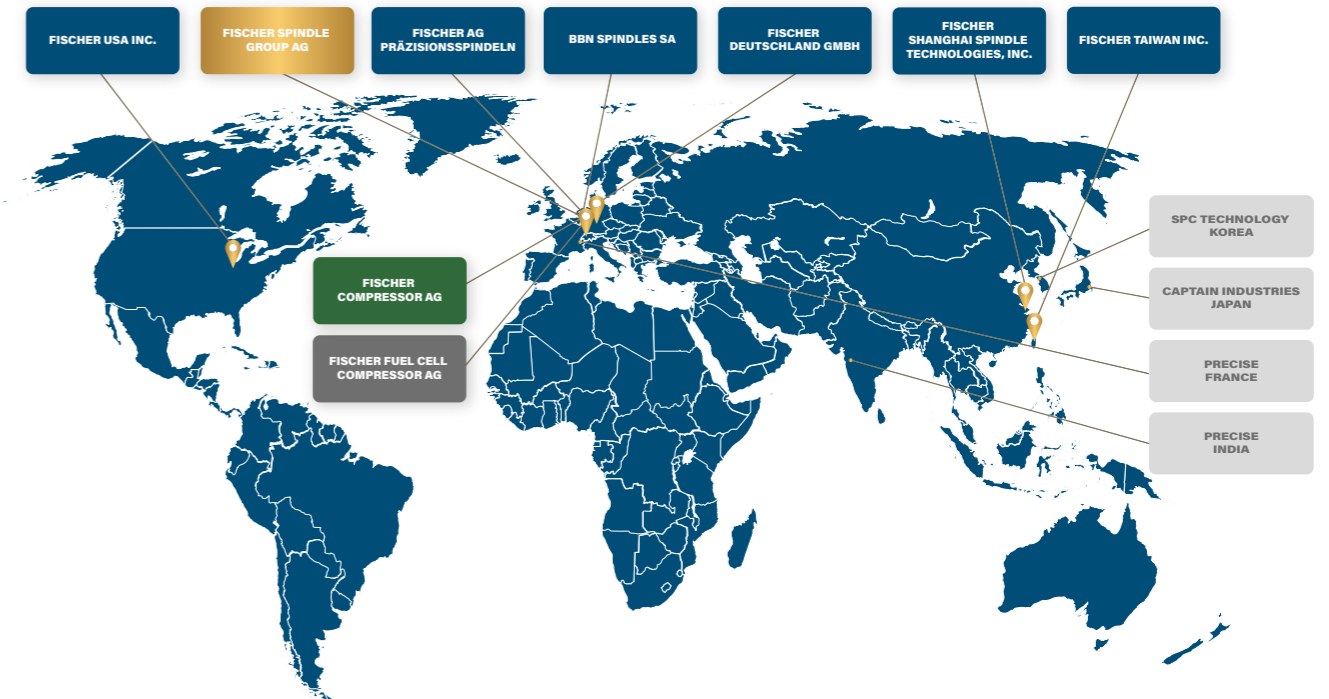
Spindle periphery

We support you in the selection and design of the appropriate periphery for a safe operation of the spindle.

LOCATIONS WORLDWIDE

OF THE FISCHER GROUP

The FISCHER family is present at six locations worldwide and employs over 450 people. A strong global team with the greatest enthusiasm for technology, ensuring customer satisfaction through successful, innovative products and outstanding service.



HEADQUARTERS SWITZERLAND AND LOCAL BRANCHES

Switzerland

FISCHER Spindle Group AG
+41 62 956 22 22
info-fsg@fischerspindle.com

Switzerland

FISCHER AG Präzisionsspindeln
+41 62 956 22 22
info-fch@fischerspindle.com

Switzerland

FISCHER Technology AG
+41 62 956 22 22
info-ftec@fischerspindle.com

Switzerland

BBN Spindles SA
+41 32 552 44 00
info@bbnsa.ch

Germany

FISCHER DEUTSCHLAND GmbH
+49 2173 20535 0
info-fde@fischerspindle.com

USA

FISCHER USA Inc.
+1 262 632 6173
info-fusa@fischerspindle.com

China

FISCHER SHANGHAI Spindle Technologies, Inc.
+86 21 643 481 50
info-fsh@fischerspindle.cn

Taiwan

FISCHER TAIWAN Inc.
+886 4 2620 2200
info-ftw@fischerspindle.com

AUTHORIZED PARTNERS

France

PRECISE France SAS
+33 4 50 36 90 15
www.reparation-electrobroche.com
precise@precise.fr

Japan

CAPTAIN INDUSTRIES, Ltd.
+81 3 5674 1162
www.capind.co.jp
info@capind.co.jp

Korea

SPC Technology, Inc.
+82 2 2082 5858
spc@spctech.co.kr
www.spctech.co.kr

India

Precise High Speed Spindle Service Centre Pvt.Ltd
+91 9422622701
info@precisefischer.com
www.precisefischer.com



Precision.



Speed.



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www.fischerspindle.com