

GRINDING SPINDLES

HIGH QUALITY AND TAILORED TO YOUR NEEDS





CONTENTS

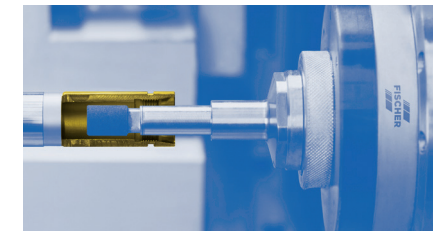
	PAGE
HF motor spindles for universal grinding	4
Spindles for deep hole grinding	7
Spindles for internal grinding	8
Spindles for external grinding	10
Spindles for dressing and profiling	12
Spindles for tool grinding	14
Spindles for grinding and profiling of optics and glass	15
Peripherals	16
Service and Repairs	18
Locations Worldwide	19

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



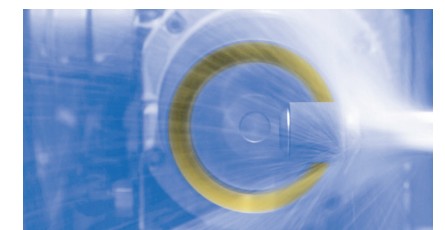
GRINDING OF TOOLS

- 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



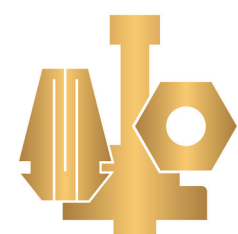
MACHINING OF SPECTACLE/FINE OPTICS

- 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



ACCESSORIES

Suitable accessories such as grinding mandrels, chucks with collets and belt pulleys can be found at www.fischerspindle.com/accessories



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

TYPE		MFM-860	MFM-890	MFM-8120	MFM-1022/45	MFM-1032/60	MFM-1090
Outer diameter	D [mm]	80	80	80	100	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	Arbor, HJND-50
Max. speed	nmax [min ⁻¹]	60'000	90'000	120'000	45'000	60'000	90'000
Lubrication		DLS	DLS	DLS	DLS	DLS	DLS
Direction of rotation		right/ left & right	right	right	right/ left & right	right/ left & right	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	4.2 / 5.4
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	0.47 / 0.62
Nominal speed	nN [min ⁻¹]	60'000	90'000	120'000	22'000	32'000	90'000
Motor frequency	[Hz]	1'000	1'500	2'000	1'500	2'000	1'500
Motor technology		ASYN	ASYN	ASYN	ASYN	ASYN	ASYN
Voltage	[V]	350	350	350	350	350	380
Current S1	[A]	6.4	7.5	3.7	17.3	19	9.0

Housing length	L [mm]	260	230	200	288	251	215
Weight	[kg]	6.8	6.25	5.5	12.5	10.0	8.5

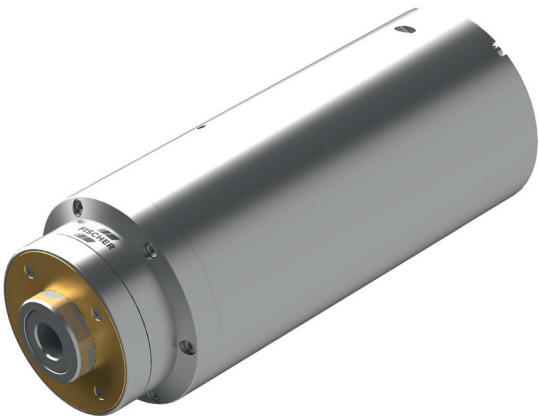
Options							
Coolant Through Unit		-	-	-	Yes	Yes	Yes
Encoder		-	-	-	-	-	-
Zero-speed monitoring		Yes	Yes	Yes	Yes	Yes	Yes

TYPE		MFM-1290	MFM-12120	MFM-1406/12	MFM-1406/18	MFM-1418/36	MFM-1509/30
Outer diameter	D [mm]	120	120	140	140	140	150
Tool interface		Arbor, HJND-50	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]	90'000	120'000	12'000	18'000	36'000	30'000
Lubrication		DLS	DLS	Grease	DLS	DLS	DLS
Direction of rotation		right	right	right/ left & right/ right	right/ left & right	right/ left & right	right/ left & right

Power S1 / S6 40%	P [kW]	4.2 / 5.4	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]	0.47 / 0.62	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]	90'000	120'000	6'000	6'000	18'000	9'000
Motor frequency	[Hz]	1'500	2'000	600	900	1'200	1'500
Motor technology		ASYN	ASYN	ASYN	ASYN	ASYN	ASYN
Voltage	[V]	380	380	350	350	350	380
Current S1	[A]	9	4.4	32	28.4	38	33

Housing length	L [mm]	215	202	373	373	373	308
Weight	[kg]	13.5	14.2	32.0	32.0	32.0	28.0

Options							
Coolant Through Unit		Yes	Yes	Yes	Yes	Yes	Yes
Encoder		-	-	Yes	Yes	Yes	Yes
Zero-speed monitoring		Yes	Yes	Yes	Yes	Yes	Yes



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

MFM-10120	MFM-1224/30	MFM-1224/42	MFM-1236/45	MFM-1242/60	MFM-1240/60	TYPE	
100	120	120	120	120	120	D [mm]	Outer diameter
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-42		Tool interface
120'000	30'000	42'000	45'000	60'000	60'000	nmax [min ⁻¹]	Max. speed
DLS	Grease	DLS	Grease	DLS	Grease		Lubrication
right	right/ left & right	right/ left & right	right/ left & right	right/ left & right/ left & right	right		Direction of rotation

2.0 / 2.5	15.0 / 20.0	15.0 / 20.0	12.0 / 16.0	10.0 / 13.0	7.0 / 10.0	P [kW]	Power S1 / S6 40%
0.16 / 0.2	6.0 / 8.1	6.0 / 8.1	3.2 / 4.3	2.3 / 3.0	1.7 / 2.4	M [Nm]	Torque S1 / S6 40%
120'000	24'000	24'000	36'000	42'000	40'000	nN [min ⁻¹]	Nominal speed
2'000	1'000	1'400	1'500	2'000	2'000	[Hz]	Motor frequency
ASYN	ASYN	ASYN	ASYN	ASYN	ASYN		Motor technology
380	380	380	380	380	380	[V]	Voltage
4.4	38	38	31	28	24	[A]	Current S1

200	326	326	279	279	268	L [mm]	Housing length
7.5	20.5	20.5	17.5	17.5	15.0	[kg]	Weight

							Options
Yes	Yes	Yes	Yes	Yes	Yes		Coolant Through Unit
-	Yes	Yes	Yes	Yes	-		Encoder
Yes	Yes	Yes	Yes	Yes	Yes		Zero-speed monitoring

MFM-1524/45	MFM-1542/60	MFM-1590	MFM-15120	MFM-1709/20	MFM-1709/30	TYPE	
150	150	150	150	170	170	D [mm]	Outer diameter
Arbor, HJND-21 HSK-C40	Arbor, HJND-28 HSK-C25 HSK-C32	Arbor, HJND-50	Arbor, HJND-60	HSK-C63	HSK-C63		Tool interface
45'000	60'000	90'000	120'000	20'000	30'000	nmax [min ⁻¹]	Max. speed
DLS	DLS	DLS	DLS	Grease	DLS		Lubrication
right/ left & right	right/ left & right/ left & right	right	right	left & right	left & right		Direction of rotation

15.0 / 22.0	10.0 / 13.0	4.2 / 5.4	2.0 / 2.5	20.0 / 26.0	20.0 / 26.0	P [kW]	Power S1 / S6 40%
6.0 / 8.9	2.3 / 3.0	0.47 / 0.62	0.16 / 0.2	21.5 / 28.0	21.5 / 28.0	M [Nm]	Torque S1 / S6 40%
24'000	42'000	90'000	120'000	9'000	9'000	nN [min ⁻¹]	Nominal speed
1'500	2'000	1'500	2'000	667	1'000	[Hz]	Motor frequency
ASYN	ASYN	ASYN	ASYN	ASYN	ASYN		Motor technology
380	380	380	380	350	350	[V]	Voltage
38	28	9	4.4	56	56	[A]	Current S1

307	307	244	230	390	390	L [mm]	Housing length
26.0	28.0	22.5	22.0	49	47.5	[kg]	Weight

							Options
Yes	Yes	Yes	Yes	Yes	Yes		Coolant Through Unit
Yes	Yes	-	-	Yes	Yes		Encoder
Yes	Yes	Yes	Yes	Yes	Yes		Zero-speed monitoring



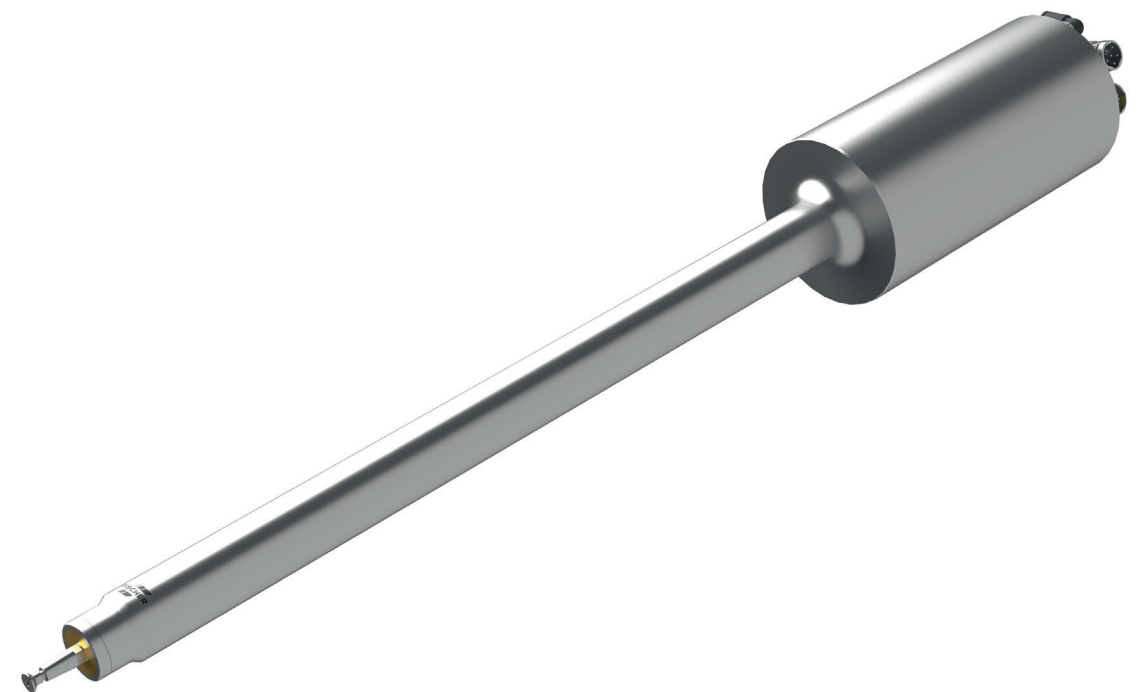
SPINDLES FOR DEEP HOLE GRINDING

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



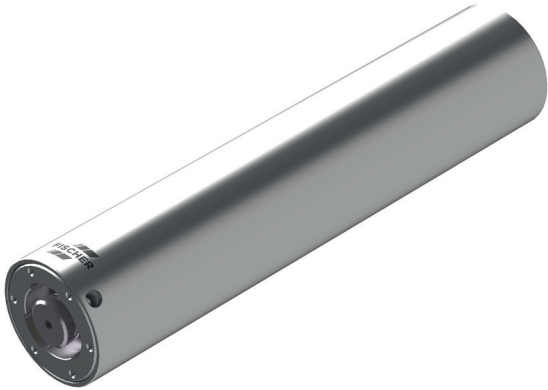
SPINDLES FOR INTERNAL GRINDING

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

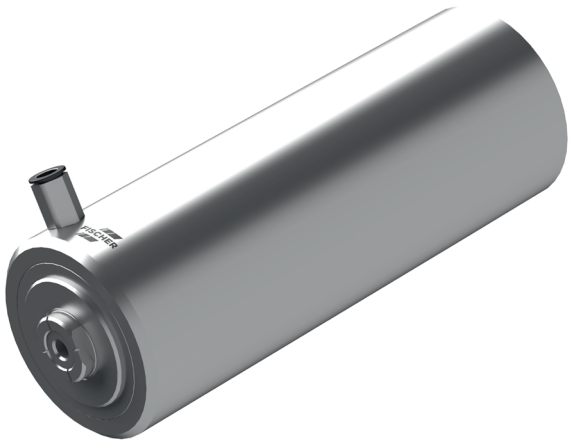
- Standard spindle housing Ø40 to 80 mm
- Speeds up to 28'000 min⁻¹
- UJD tool interface
- Direction of rotation right
- Labyrinth sealing system



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	n _{max} [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

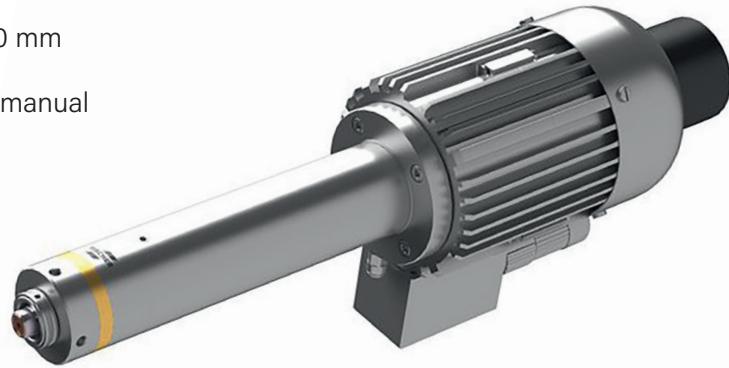
- Standard spindle housing Ø80 mm
- Speeds up to 60'000 min⁻¹
- HJND tool interface
- Direction of rotation right
- Sealing air seal



TYPE		HJN-828	HJN-842	HJN-860
Outer diameter	D [mm]	80	80	80
Tool interface		HJND-28	HJND-42	HJND-60
Max. speed	n _{max} [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

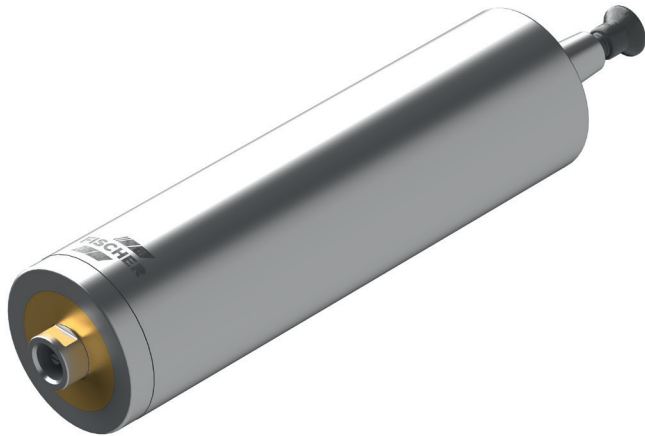
- Standard spindle housing Ø32 to 80 mm
- Speeds up to 48'000 min⁻¹
- With integrated collet chuck and manual HSK-C interface
- Hybrid bearing
- Direction of rotation right/left
- Sealing air seal



HEN-32	HEN-40	HEN-50	HEN-50/7	HEN-60	HEN-70	HEN-80	TYPE	
32	40	50	50	60	70	80	D [mm]	Outer diameter
Collet ER12	Collet EX16	Collet EX20	HSK-C25	Collet EX25	Collet EX32	Collet EX40		Tool interface
48'000	42'000	36'000	36'000	27'000	21'000	15'000	n _{max} [min ⁻¹]	Max. speed
Grease	Grease	Grease	Grease	Grease	Grease	Grease		Lubrication
right/left	right/left	right/left	right/left	right/left	right/left	right/left		Direction of rotation
0.26	0.79	1.1	1.1	1.3	2.0	3.0	P [kW]	Power S1 / S6 40%
0.08	0.28	0.44	0.44	0.46	0.91	1.91	M [Nm]	Torque S1 / S6 40%
30'000	27'000	24'000	24'000	3'000	3'000	3'000	n _N [min ⁻¹]	Nominal speed
800	700	600	600	450	350	250	[Hz]	Motor frequency
ASYN	ASYN	ASYN	ASYN	ASYN	ASYN	ASYN		Motor technology
220	220	220	220	220/380	220/380	220/380	[V]	Voltage S1
1.7	2.9	5.6	5.6	4.5	8	14	[A]	Current S1
External fan 24V DC								Motor cooling
160	180	210	210	240	280	320	L [mm]	Spindle housing length
181	203	230	230	248	277	305	L [mm]	Motor length
3.1	4.2	7.7	10.5	12.0	17.5	24.1	[kg]	Weight

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

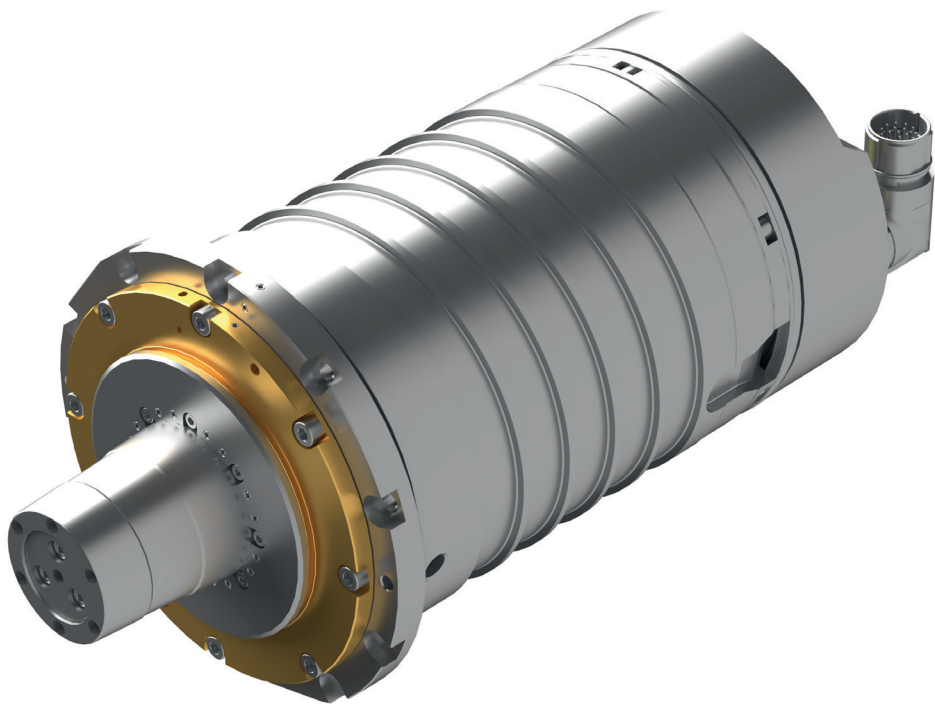


FIV45R160		FIV60R160	FIV80R250	TYPE	
45	60	80		D [mm]	Outer diameter
Internal taper 1:7.5	Internal taper 1:7.5	Internal taper 1:7.5			Tool interface
35'000	24'000	17'000		n _{max} [min ⁻¹]	Max. speed
Grease	Grease	Grease			Lubrication
right	right	right			Direction of rotation
160	160	250		L [mm]	Housing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

SPINDLES FOR EXTERNAL GRINDING

CUSTOMISED OR STANDARD SERIES

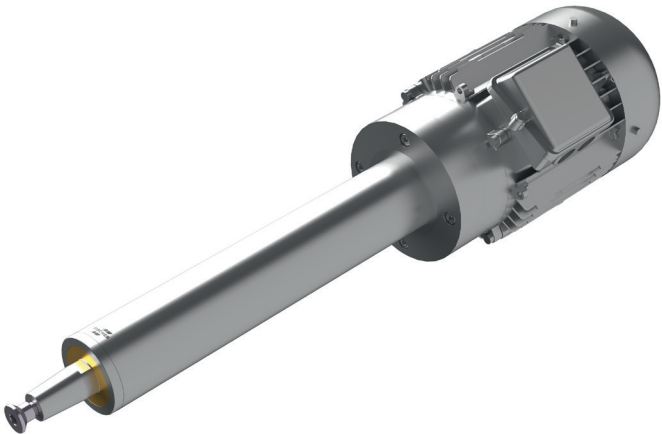
High precision and smooth running, a long service life and easy maintenance and care are the hallmarks of high-quality FISCHER external grinding spindles. Only with these spindles can machines achieve very good cutting performance and the best surface qualities.



- 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

M32/34 series with attached motor

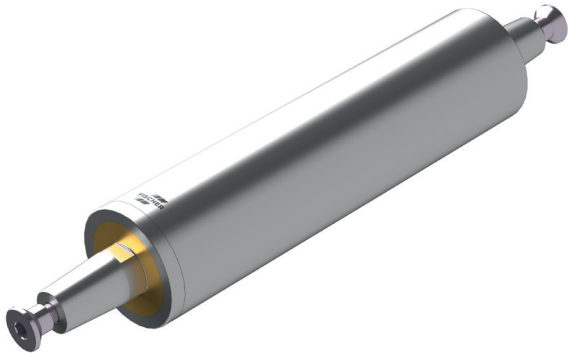
- Standard spindle housing Ø60 to 100 mm
- Speeds up to 6'000 min⁻¹
- External taper as tool interface
- Direction of rotation right
- Labyrinth sealing system



M32-FAV60 R190-3/2.2	M34-FAV60 R190-6/2.5	M32-FAV80 R220-3/3	M32-FAV80 R405-3/3	M32-FAV100 R285-3/4	M32-FAV100 R400-3/4	TYPE	
60	60	80	80	100	100	D [mm]	Outer diameter
External taper 1:7.5	External taper 1:7.5	External taper 1:7.5	External taper 1:7.5	External taper 1:7.5	External taper 1:7.5		Tool interface
3'000	6'000	3'000	3'000	3'000	3'000	nmax [min ⁻¹]	Max. speed
Grease	Grease	Grease	Grease	Grease	Grease		Lubrication
right	right	right	right	right	right		Direction of rotation
2.2	2.5	3.0	3.0	4.0	4.0	P [kW]	Power S1
7.0	7.96	9.55	9.55	12.73	12.73	M [Nm]	Torque S1
3'000	3'000	3'000	3'000	3'000	3'000	nN [min ⁻¹]	Nominal speed
50	200	50	50	50	50	[Hz]	Motor frequency
ASYN	ASYN	ASYN	ASYN	ASYN	ASYN		Motor technology
400	400	400	400	400	400	[V]	Voltage S1
4.3	5.7	5.7	5.7	7.6	7.6	[A]	Current S1
Self-ventilation	External fan	Self-ventilation					Motor cooling
190	190	220	405	285	400	L [mm]	Spindle housing length
316	368	346	346	363	363	L [mm]	Motor length
30	26	38.5	45	51	56	[kg]	Weight

FAV series with belt drive

- Standard spindle housing Ø36 to 100 mm
- Speeds up to 45'000 min⁻¹
- External taper as tool interface
- Direction of rotation right
- Labyrinth sealing system



FAV36R125	FAV40R160	FAV45R160	FAV60R160	FAV80R250	FAV80R315	FAV100R250	TYPE	
36	40	45	60	80	80	100	D [mm]	Outer diameter
External taper 1:7.5	External taper 1:7.5	External taper 1:7.5	External taper 1:7.5	External taper 1:7.5	External taper 1:7.5	External taper 1:7.5		Tool interface
45'000	40'000	35'000	24'000	17'000	17'000	12'000	nmax [min ⁻¹]	Max. speed
Grease	Grease	Grease	Grease	Grease	Grease	Grease		Lubrication
right	right	right	right	right	right	right		Direction of rotation
125	160	160	160	250	315	250	L [mm]	Housing length
0.9	1.4	1.8	3.4	9.9	11.9	15.3	[kg]	Weight

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	nmax [min ⁻¹]	16'000	16'000
Lubrication		Grease	Grease
Direction of rotation		right/left	right/left
Power S1	P [kW]	4.0	1.0
Torque S1	M [Nm]	0.47	1.04
Nominal speed	nN [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	TYPE	
Ø72	□80x110	Ø100	[mm]	Outer diameter
Ø40h3 x 10	Ø52h3 x 15	Ø52h3 x 15		Tool interface
16'000	6'000	16'000	nmax [min ⁻¹]	Max. speed
DLS	Grease	DLS		Lubrication
left & right	left & right	left & right		Direction of rotation
2.0	1.3	6.5	P [kW]	Power S1
1.2	2.0	5.2	M [Nm]	Torque S1
16'000	6'000	12'000	nN [min ⁻¹]	Nominal speed
533	300	533	[Hz]	Motor frequency
SYN	SYN	SYN		Motor technology
322	346	360	[V]	Voltage S1
4.2	2.4	13.1	[A]	Current S1
220	216	255	L [mm]	Length
5.6	11.3	13.0	[kg]	Weight
Water/Oil	Water/Oil	Water/Oil		Spindle cooling
Options				
Yes	Yes	Yes		Acoustic Emission Sensor AE
Yes	Yes	Yes		Encoder VC

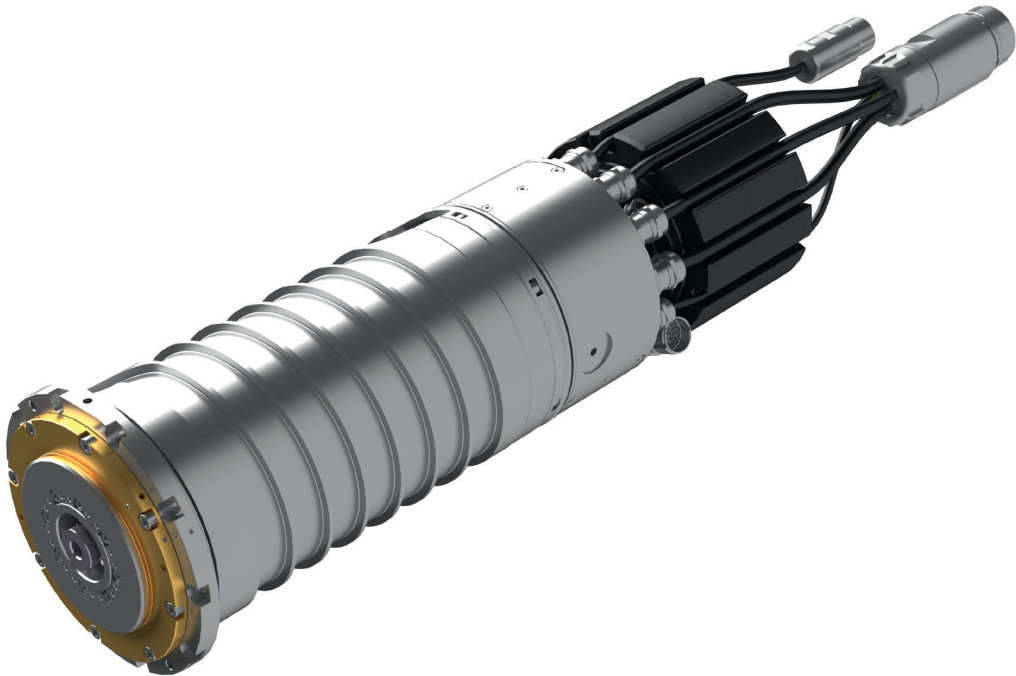
SPINDLES FOR TOOL GRINDING

HIGH PERFORMANCE IN A COMPACT DESIGN

This is what distinguishes our high-quality FI-SCHER 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

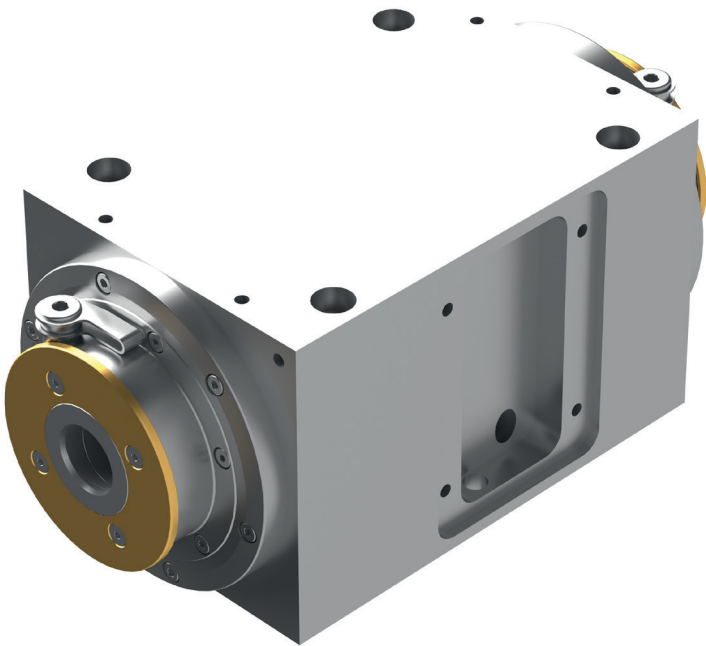
Broaching tool grinding

- 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

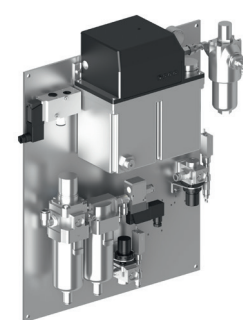
The very high and special requirements of the optical industry demand a high degree of technological competence and many years of experience competence and many years of experience - with over 80 years of experience, FISCHER is your best partner.



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

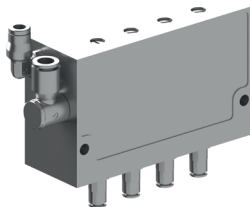


Oil-air central lubrication unit

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 air

MAIN TYPES*	ARTICLE NO.
OLA 106212110	147889



Oil-air dosing unit

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

TYPE	SPECIFICATION	ARTICLE NO.
SFJ 4G	4 injectors, 0.01cm³ each	104235



Exhaust air filter

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

DESIGNATION EXHAUST AIR FILTER	SPINDLE SIZE	ARTICLE NO.
ALF 310 for 1 oil return line	Suitable up to spindle-diameter 210 mm	107061
ALF 310 for 2 oil return lines		106807
ALF 310 for 3 oil return lines		107057
ALF 510 for 1 oil return line	Suitable from spindle-diameter 230 mm	108107
ALF 510 for 2 oil return lines		108106
ALF 510 for 3 oil return lines		108108



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

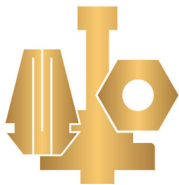
When using pulse width modulating (PWM) frequency inverters in the low-cost price segment, the interposition of a motor choke is mandatory. The FISCHER test center supports you in the design of the motor choke.

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

TYPE	SPECIFICATION	CONTENTS	ARTICLE NO.
MOTOREX Spindel oil ISO VG68	Bearing lubrication	5 Litres	133563
MOTOREX Cool-Oil	Motor, bearing, shaft cooling	20 Litres	152421
MOTOREX Cool-X	Motor and bearing cooling	25 Litres	107657
MOTOREX CS-Cleaner	Cleaning agent for cooling circuit	1 Litres	120891



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

- On-site support: Support for commissioning of spindle systems
- Maintenance training and application consulting
- Service visits for minor repairs or optimizations
- On-site vibration and bearing analysis
- Trainings

REPAIRS 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.

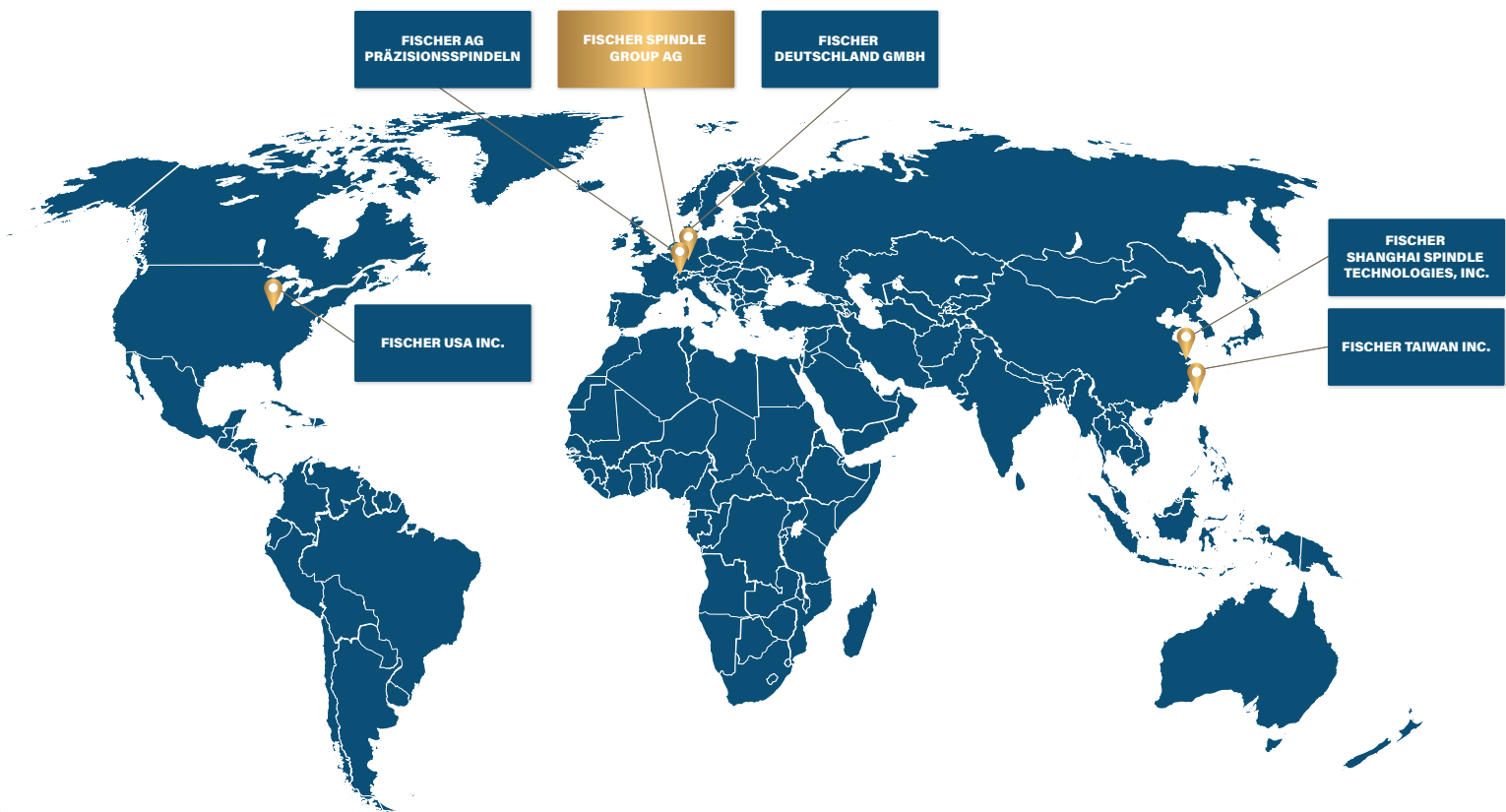
Spindle periphery

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 five locations worldwide and employs over 400 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 Präzisionsspindel
+41 62 956 22 22
info-fch@fischerspindle.com

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@phssscpl.com
www.phssscpl.com

www.fischerspindle.com



Precision.



Speed.



Power.

www.fischerspindle.com