

VDF BOEHRINGER

VDF DUS SERIES



Universal Lathes for Cycle-Controlled Turning



VDF DUS Series

Uncompromising Quality

VDF DUS turning machines for single workpieces or small batch sizes

Now your search is over. Here you can find your technically and economically-optimized universal turning machine. The VDF Boehringer DUS series covers a wide range of applications. Many machine types and a large number of options accommodate a wide range of solutions to fulfill your requirements and allow for highly-economical use even in special applications.

Due to the cycle control and the possibility of manual operations, machines of the VDF DUS series are mainly used for single workpiece or small batch size production. An automatically-indexing turret in combination with a second chip protection door allows full CNC machining and therefore the enhancement of efficient use in medium batch sizes as an alternative to a CNC lathe.



VDF 400 DUS



VDF 560 / 630 DUS



VDF 800 / 1000 / 1110 DUS



VDF 1600 DUS

**Achieve high performance and precision –
VDF DUS series from S to XXL**

- ▶ Turning lengths from 1000 mm up to 20 000 mm
- ▶ Swing over bed from 420 mm up to 1600 mm
- ▶ Drive power 11 kW up to 65 kW
- ▶ Workpiece weight up to 16t (VDF 1600 DUS)
- ▶ Manual turning for single workpieces
- ▶ Step-by-step operations (cycles) for small batch sizes
- ▶ CNC mode for larger batch sizes
- ▶ State-of-the-art controls Siemens Sinumerik 840D sl or Heidenhain Manualplus 620



The basis for high turning efficiency and lasting accuracy is the heavy, rigid box-type bed with large chip chutes to the rear



To avoid influences caused by heat transfer, the headstock and gearbox are thermally separated. The bearings of the main spindle are manufactured to the same high standards as those used on VDF Boehringer CNC turning machines



The guideways for the carriage (double vee) and the tailstock (vee and flat guideway) are a well proven combination. Large slideway surface areas with low surface pressure ensures high guiding efficiency with high long-term precision and repetitive accuracy

VDF 400 DUS

The smallest can be great

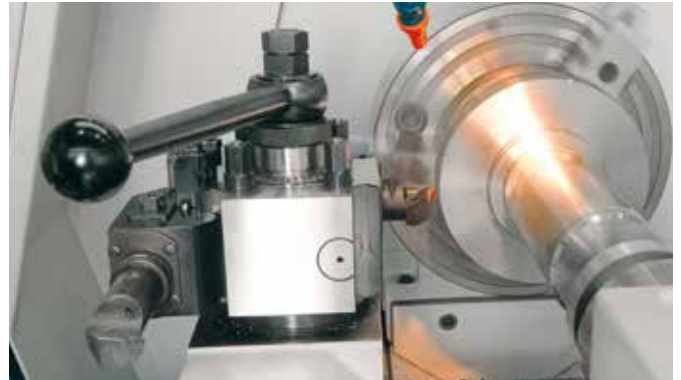
The machines of the VDF DUS series offer all preconditions for high-precision and cost-effective machining of workpieces.

- ▶ Machines of the VDF DUS series are designed in all aspects to be ergonomic and set no limits regarding the ability of the operator to make highly precise workpieces
- ▶ The functional cover of the machine offers optimal protection and safety for the operator and the environment





Pivoting control panel. Non-traveling chip protection door



Parat tool holder



Parat tool holder with boring rest



Multifix tool holder

Technical Data

Technical data		VDF 400 DUS
Turning length	mm	1000
Swing over bed/cross slide	mm	420 / 235
Stroke of cross slide	mm	250
Cutting tool cross-section, per DIN 770 h x w	mm	25 x 25

VDF 560 / 630 DUS

Ergonomics for more productivity

- ▶ The handwheels are ergonomically arranged to state-of-the-art design criteria. The control panel is set on an incline towards the operator to facilitate simple and safe operation of the machine and allow for largely fatigue-free operation
- ▶ The two gear ranges are automatically changed via programming or by the push of a button, directly from the control panel and are correspondingly displayed on the screen of the control system



Patented, ergonomically designed control panel





Large chip chutes in the machine bed provide efficient chip disposal. The chips can easily be removed from the chip pan through the sliding doors on the back side



Compound slide as an option



With a disc type turret for automatic tool change and two chip protection doors, the machines allow full CNC operation. Where large-volume chip quantities are involved, the machine can also be equipped with a chip conveyor



8-position disc turret, driven tools as option

Technical Data

Technical data		VDF 560 DUS	VDF 630 DUS
Turning length	mm	1000 – 8000	1000 – 8000
Swing over bed/cross slide	mm	570 / 365	640 / 435
Stroke of cross slide	mm	345	345
Cutting tool cross-section, per DIN 770 h x w	mm	32 x 25	32 x 25

VDF 800 / 1000 / 1110 DUS

For long and heavy workpieces

With the strong support of the heavy, rigid box-type bed, parts of nearly all lengths, diameters, weights and materials can be machined precisely and efficiently.



Optimal protection of the operator with large sized chip protection door.
All control elements are located outside the work zone

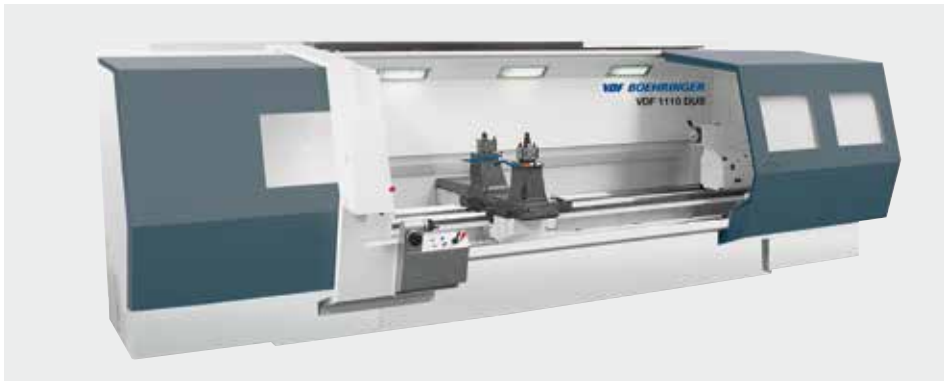




To enhance the ease of service of the machine, the entire power supply system is arranged outside of the work zone



Re-cutting of threads on a VDF 800 DUS



Full enclosure

Technical Data

Technical data		VDF 800 DUS	VDF 1000 DUS	VDF 1110 DUS
Turning length	mm	1000 – 20 000	1000 – 20 000	1000 – 20 000
Swing over bed/cross slide	mm	820 / 500	1000 / 700	1110 / 810
Stroke of cross slide	mm	540	540	540
Cutting tool cross-section, per DIN 770 h x w	mm	40 x 25	40 x 25	40 x 25

VDF 1600 DUS

An automatically indexing turret in combination with a second chip protection door allows full CNC machining and therefore the enhancement of efficient use in medium batch sizes as an alternative to a CNC lathe. With the strong support of the heavy, rigid box-type bed, parts weighing up to 16 tons can be machined precisely and efficiently.

Options

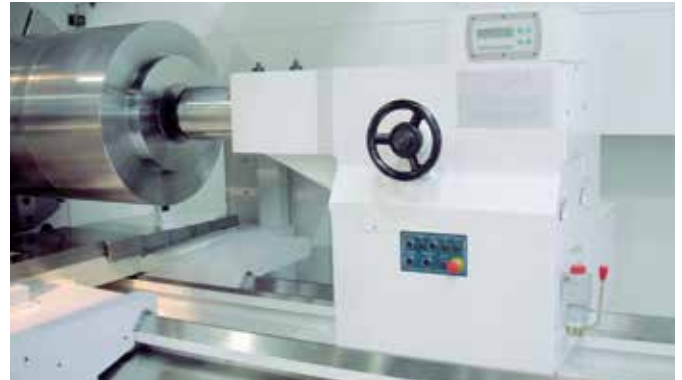
- ▶ 4-position universal turret
- ▶ 8-position drum type turret
- ▶ Drilling and milling unit
- ▶ Boring rest
- ▶ Boring rest with additional support rest for long boring bars
- ▶ Steadies
- ▶ C-axis, Y-axis

The guideways for the carriage (double vee including 2 flat guideways for additional support of the carriage) and the tailstock (vee and flat guideway) are well proven combinations. Large slideway surface areas with low surface pressure ensures high guiding efficiency with superior longterm precision and repetitive accuracy.





The guideways for the carriage and tailstock



Motor-driven tailstock



Work zone with 4-position universal turret



Chuck

Technical Data

Technical data		VDF 1600 DUS
Turning length	mm	2000 – 12 000
Swing over bed/cross slide	mm	1600 / 1150
Stroke of cross slide	mm	900
Cutting tool cross-section, per DIN 770 h x w	mm	50 x 50

VDF DUS Series Optional Equipment Provides Operational Flexibility and Diversity



- 1 4-position Parat tool post on compound slide and boring rest
- 2 4-position universal turret
- 3 8-position drum type turret



- 4 Turning, drilling and milling unit
- 5 Y-axis
- 6 Boring rest with additional support rest for long boring bars



16

VDF 1110 DUS – Machining of workpieces up to 20 meter possible



- 7** With the stationary steady rest, all quills can be adjusted from the front reducing the risk of accidents through optimal accessibility
- 8** Travelling steady rest
- 9** Stationary, self-centering and hydraulically operated steady rest
- 10** Traveling, self-centering and hydraulically operated steady rest
- 11** Grinding device
- 12** Whirling device
- 13** C-axis
- 14** Big Bore – rear end chuck with spindle size 20 and bore diameter 365 mm
- 15** Mist extraction
- 16** Capacity for long parts



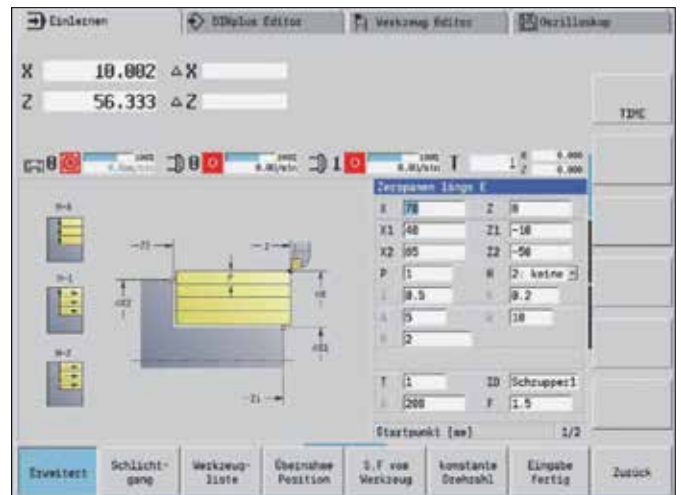
Simple and Comfortable to Operate

Two powerful controls for the VDF DUS series

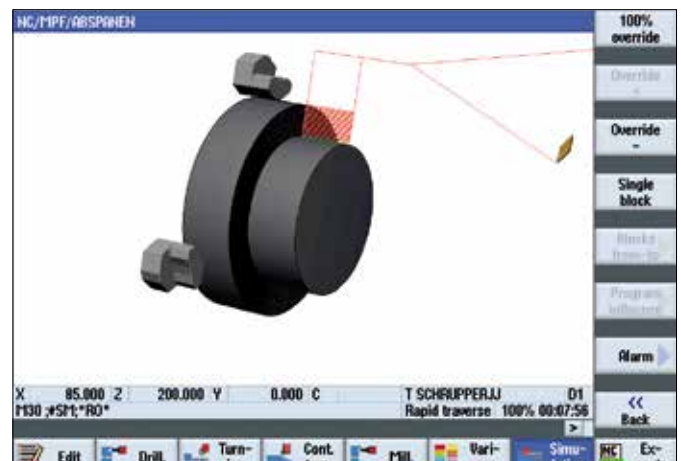
The machine control, either the Siemens Sinumerik 840D sl Manual Turn or the Heidenhain Manualplus 620 may be selected. The operating software of both control systems is designed specifically for cycle-controlled turning machines. All input masks have been structured to be self-explanatory and dialog-oriented and have been geared specifically to practical shop operations.

Fast and safe in practice – interactive user interface guarantees high efficiency

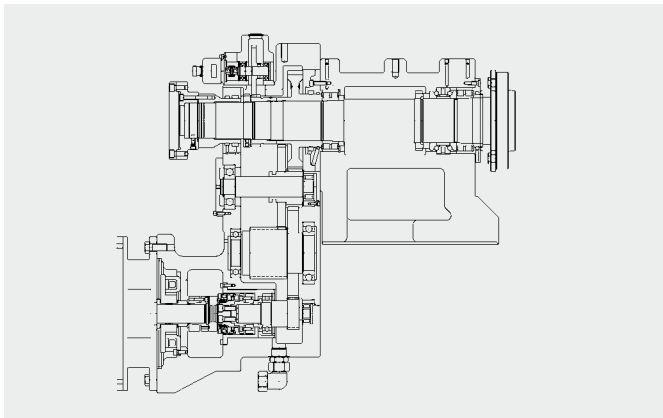
Flexibility and lower costs are required to be competitive in today's market. Both control systems offer these benefits. With minimal instructions the operator is able to complete different tasks. In daily practice, the ease of operation reduces the programming and setup effort for workpieces and tools. This saves time and costs even for single parts.



Heidenhain Manualplus 620



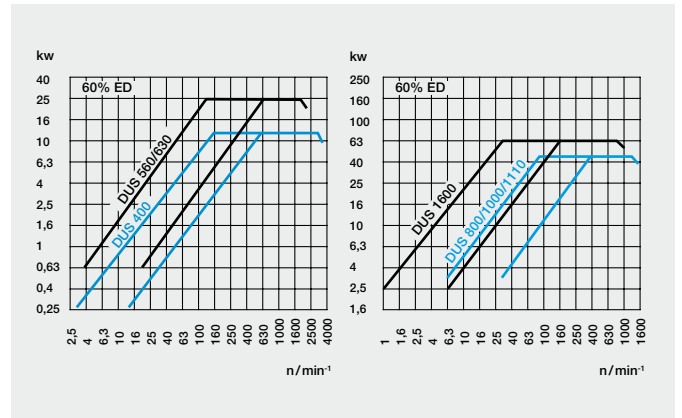
Siemens Sinumerik 840D sl



Headstock

Spindle bearings

Two rowed cylindrical roller bearing, combined with an angular-contact thrust ball bearing for highest accuracy even for heavy workpieces. (VDF 400 DUS – VDF 1110 DUS)

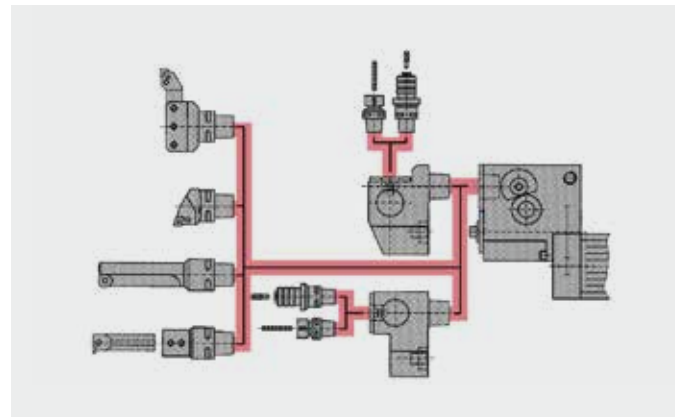


Drive power

Longitudinal and face turning Radial drilling/milling Axial drilling/milling

DUS	560/630	800/1000/1110
Drive Power 60% DC	kW 6,3	8,8
Total speed range	min ⁻¹ 1–2000	1–1600
Max. torque S3, 60% DC	Nm 45	80
Toolholder reception DIN 69 880, alternative Capto	50x78 C6	50x78 C6

Power driven tools



Tool carrier for driven tools with system Capto

Technical Data

The VDF DUS Series in Detail

Technical data		VDF 400 DUS	VDF 560 DUS
Working range			
Turning length	mm	1000	1000 – 8000
Swing over bed/ cross slide	mm	420 / 235	570 / 365
Stroke of cross slide/ compound slide	mm	250 / –	345 / 125
Cutting tool cross-section, per DIN 770 h x w	mm	25 x 25	32 x 25
Headstock spindle			
Spindle nose, per DIN 55027	size	6	8**
Spindle diameter at front bearing	mm	90	100
Spindle bore	mm	51	62
Main drive			
Continuously variable three phase AC motor		–	–
Drive power, 60% DC	kW	11	25
Torque, 60% DC max.	Nm	924	1800
Total speed range	rpm	10 – 3000	5 – 2500
Gear steps	no.	2	2
Feed drives			
Three phase AC servo drives		–	–
Feed range, transverse/longitudinal	mm/rev	0.01 – 50	0.01 – 50
Feed rate, transverse/longitudinal	m/min.	5 / 10	5 / 10
Feed force, transverse/longitudinal	kN	4.0 / 6.3	7.1 / 12.5
Thread leads			
Metric	mm	0.1 – 2000	0.1 – 2000
Tailstock			
Quill diameter	mm	70	100
Quill stroke	mm	110	190
Inner taper of quill		MT4	MT5
Dimensions and weight			
Length (1000 mm TL)	mm	3420	3830
Width (1000 mm TL)	mm	1925	2156
Weight	kg	3000	4800 – 10 400

* 2000 mm TL

** Further spindle nose sizes on request

Technical data subject to change



VDF 630 DUS	VDF 800 DUS	VDF 1000 DUS	VDF 1110 DUS	VDF 1600 DUS
1000 – 8000	1000 – 20 000	1000 – 20 000	1000 – 20 000	2000 – 12 000
640 / 435	820 / 500	1000 / 700	1110 / 810	1600 / 1150
345 / 125	540 / 250	540 / 250	540 / 250	900
32 x 25	40 x 25	40 x 25	40 x 25	50 x 50
8**	11**	11**	11**	20**
100	170	170	170	290
62	128	128	128	220
–	–	–	–	–
25	46	46	46	65
1800	5073	5073	5073	18 600
5 – 2500	6 – 1600	6 – 1600	6 – 1600	1 – 800
2	2	2	2	2
–	–	–	–	–
0.01 – 50	0.01 – 50	0.01 – 50	0.01 – 50	0.01 – 50
5 / 10	5 / 10	5 / 10	5 / 10	8 / 6
7.1 / 12.5	12.5 / 20.0	12.5 / 20.0	12.1 / 20.0	24.9 / 39.8
0.1 – 2000	0.1 – 2000	0.1 – 2000	0.1 – 2000	0.1 – 2000
100	125	125	125	220
190	280	280	280	300
MT5	MT6	MT6	MT6	ISO 50
3830	4578	4578	4578	6800*
2156	2656	2656	2656	3282*
5000 – 10 700	8000 – 27 000	8400 – 27 400	8600 – 27 600	21 000 – 38 000

Service for all Brands and Legacy Brands of FFG Werke GmbH



FFG 24/7 Service and Support: www.ffg-werke.com/24x7

VDF BOEHRINGER



Horizontal turning machines

Service Center Uhingen
Stuttgarter Strasse 169, 73066 Uhingen
Tel.: +49 800 000 5639

HESSAPP



Vertical turning machines

Service Center Taunusstein
Aarstrasse 157, 65232 Taunusstein
Tel.: +49 6128 243 260

HÜLLER HILLE
DIEDESHEIM



Horizontal machining centers

Service Center Mosbach
Steige 61, 74821 Mosbach
Tel.: +49 6261 66 123

Honsberg



Transfer lines, special machines

Service Center North / West
Stefansbecke 30, 45549 Sprockhoevel
Tel.: +49 2339 9278 0

 **MODUL**



Gear manufacturing

Service Center Chemnitz
Marienberger Strasse 17, 09125 Chemnitz
Tel.: +49 371 576 386

WITZIG & FRANK



Multi-way rotary transfer machines, multi-spindle, multi-station machining centers

Service Center Offenburg
Am Holderstock 2, 77652 Offenburg
Tel.: +49 781 289 1121

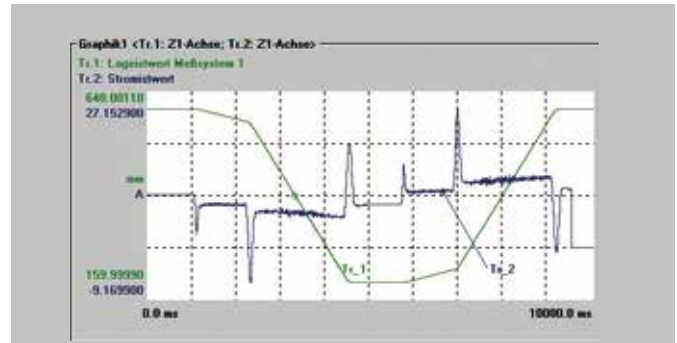
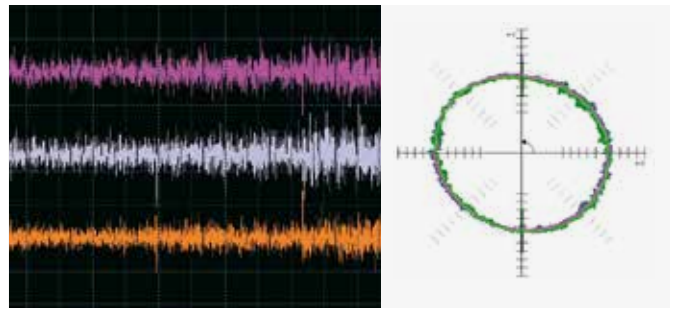
Service and support

- ▶ Commissioning
- ▶ Maintenance and inspections
- ▶ Repair service
- ▶ Spindle service
- ▶ Overhaul and retrofit
- ▶ Used machines
- ▶ Service contracts
- ▶ Machine relocation



Process and production optimization

- ▶ Process optimization
- ▶ Programming
- ▶ Software: machine data acquisition, diagnosis, condition monitoring, energy management, virtual machine



Machine condition monitoring "Finger print" via vibration analysis, ballbar test and trace measurement.

Spare parts

- ▶ 24/7 delivery
- ▶ Central warehouse
- ▶ Individual service concepts



Training

- ▶ Operator training
- ▶ Maintenance training (mechanical, electrical)
- ▶ Programming training



VDF BOEHRINGER

HÜLLER HILLE
DIEDESHEIM

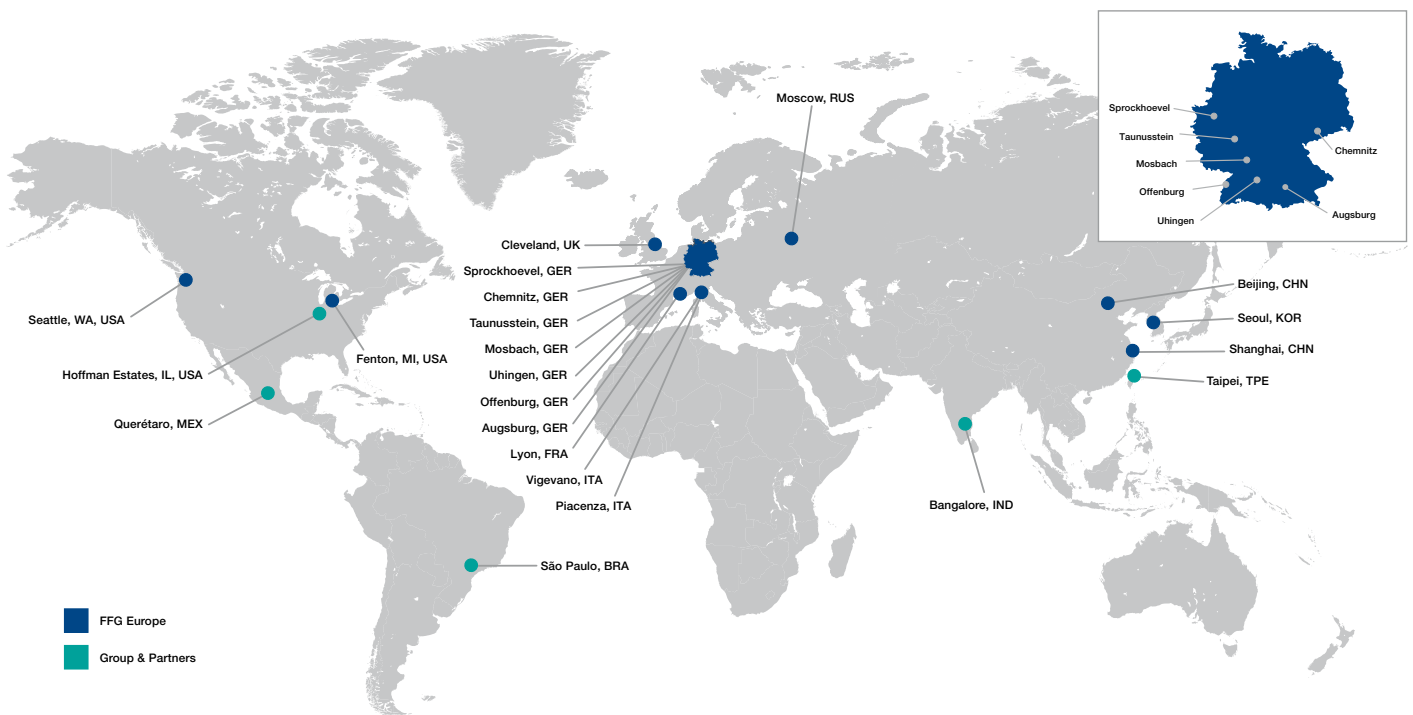
HESSAPP



Honsberg

WITZIG & FRANK

FFG Werke GmbH offers a broad range of turning, milling, and gear manufacturing technology, based on the knowhow of the renowned machine tool brands VDF Boehring, Hüller Hille, Hessapp, Honsberg, Modul and Witzig & Frank. These brands are well known as reliable and innovative equipment suppliers for the automotive and truck, machine building, general machining, railway, aerospace, energy and heavy engineering industries. The company has a global footprint, which is enhanced by a network of strong sales & service partners. While being an independent group member, FFG Werke GmbH benefits from the strengths and opportunities of the global Fair Friend Group. The brand FFG Europe stands for premium technology within FFG. Apart from the German brands, it comprises the Italian manufacturers Jobs, Sachman, Rambaudi and Sigma.



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