



VDF BOEHRINGER

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meccanodora

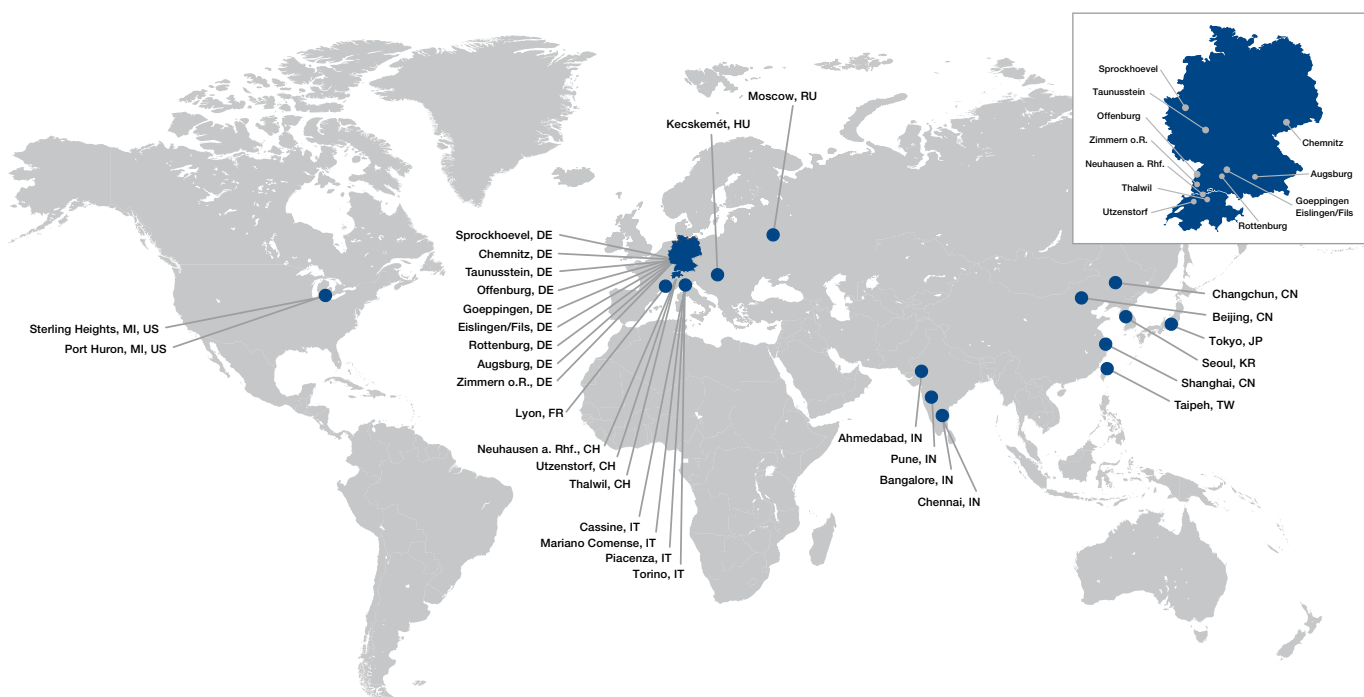


MORARA



About FFG Europe & Americas

The FFG entities in Europe and the Americas unite major players from the German, Italian, Swiss and American machine tool industry with a broad range of milling, turning, grinding, and gear manufacturing technology, and the knowhow of the renowned machine tool brands VDF Boehringer, Hessapp, IMAS, Jobs, MAG, Meccanodora, Modul, Morara, Pfiffner, Rambaudi, Sachman, Sigma, SMS, Tacchella and Witzig & Frank. Since 1798, these brands have substantially contributed to the progress in industrial manufacturing and are well known as reliable and innovative equipment and systems solutions suppliers for the automotive and truck, aerospace, machine building, general machining, railway industry, energy and heavy engineering industries. While being an independent group, these entities benefit from the strengths and opportunities of the global Fair Friend Group. They stand for premium technology within FFG.



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Made in Germany since 1789

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 1300 / 1500 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 1500 mm
- ▶ Drive power 11 kW up to 65 kW
- ▶ Workpiece weight up to 14t (VDF 1300 / 1500 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 carrier with boring rest



Multifix tool carrier

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

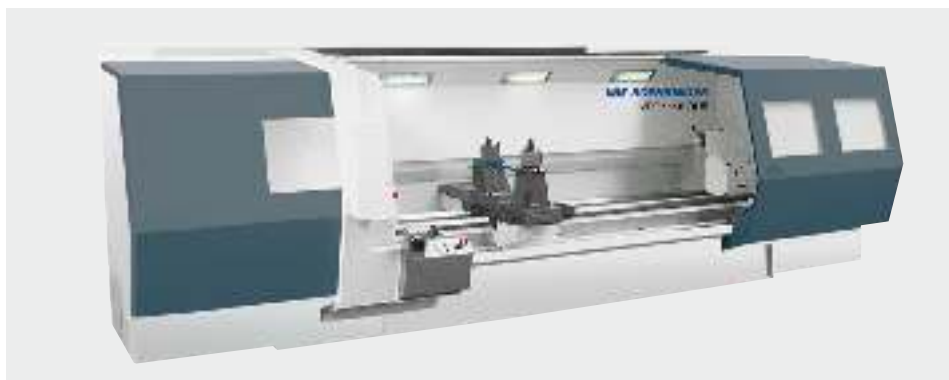




To enhance the ease of service of the machine, the entire power supply system is arranged outside of the work zone



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 1300 / 1500 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 14 tons can be machined precisely and efficiently.

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.

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





Working area with parat tool post



Reinforced tailstock



Working area with 4-position universal turret



Chuck

Technical Data

Technical data		VDF 1300 DUS	VDF 1500 DUS
Turning length	mm	1000 – 16 000	1000 – 16 000
Swing over bed/cross slide	mm	1300 / 950	1500 / 1100
Stroke of cross slide	mm	750	750
Cutting tool cross-section, per DIN 770 h x w	mm	50 x 50	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

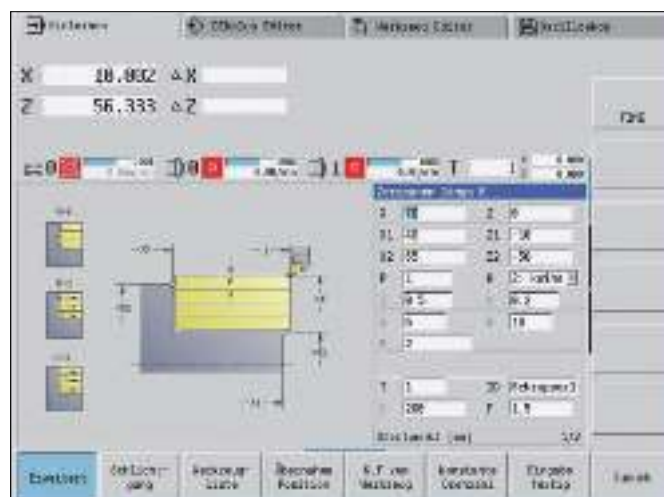
Two powerful controls for the VDF DUS series

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.

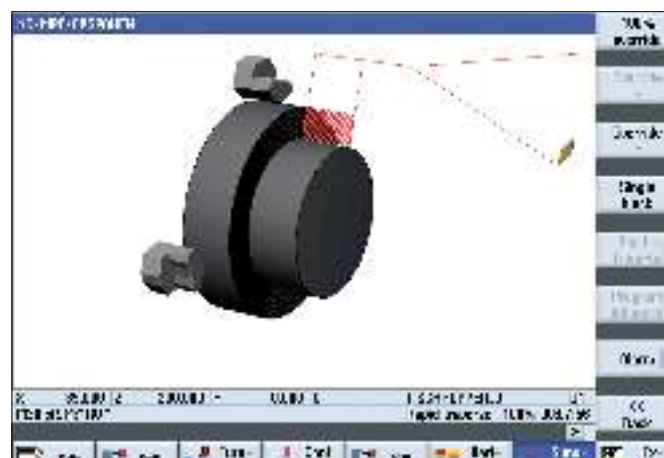
Fast and safe in practice –

interactive user interface guarantees high efficiency

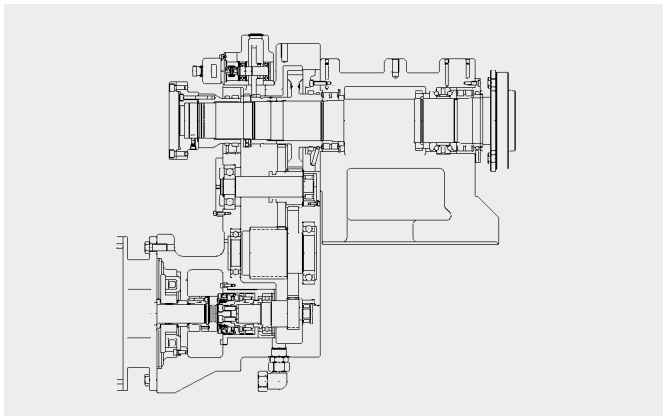
Flexibility and lower costs are required to be competitive in today's market. Both control systems offer these benefits. With minimal instructions the operator is able to complete different tasks. In daily practice, the ease of operation reduces the programming and setup effort for workpieces and tools.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



Heidenhain Manualplus 620



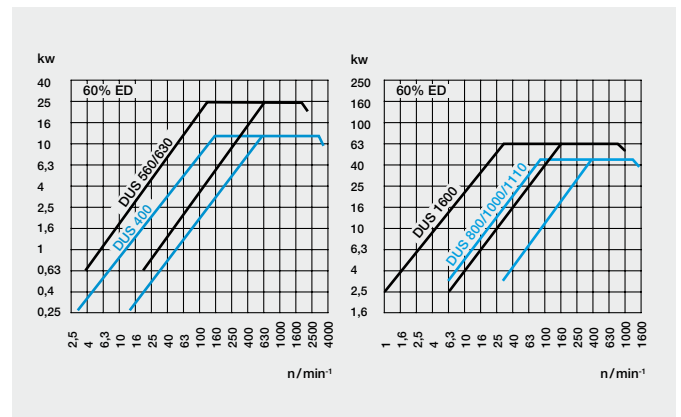
Siemens Sinumerik 840D sl



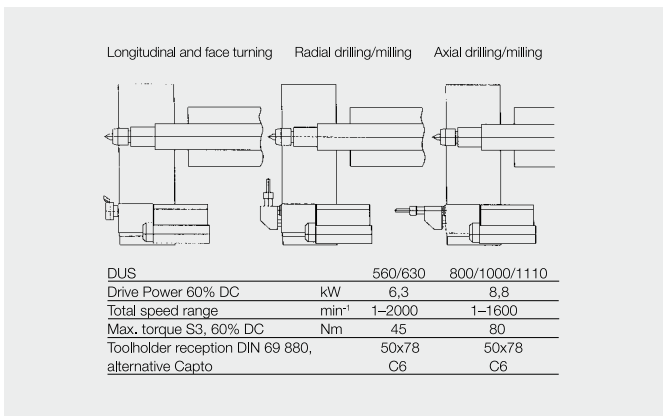
Headstock

Spindle bearings

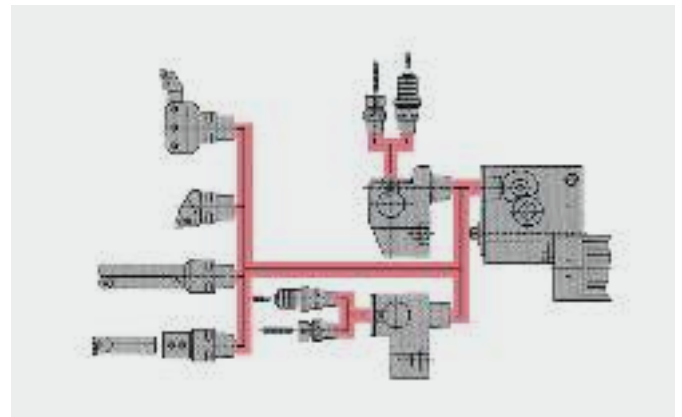
Two rowed cylindrical roller bearing, combined with an angular-contact thrust ball bearing for highest accuracy even for heavy workpieces. (VDF 400 DUS – VDF 1110 DUS)



Drive power



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	VDF 630 DUS
Working range				
Turning length	mm	1000	1000 – 8000	1000 – 8000
Swing over bed / cross slide	mm	420 / 235	570 / 365	640 / 435
Stroke of cross slide / compound slide	mm	250 / –	345 / 125	345 / 125
Cutting tool cross-section, per DIN 770 h x w	mm	25 x 25	32 x 25	32 x 25
Headstock spindle				
Spindle nose, per DIN 55027 (DIN 55026)	size	6	8*	8*
Spindle diameter at front bearing	mm	90	120	120
Spindle bore	mm	51	82	82
Main drive				
Continuously variable three phase AC motor				
Drive power, 60% DC	kW	11	25	25
Torque, 60% DC max.	Nm	924	1800	1800
Total speed range	rpm	10 – 3000	5 – 2500	5 – 2500
Gear steps	Anzahl	2	2	2
Feed drives				
Three phase AC servo drives				
Feed range, transverse / longitudinal	mm/rev	0.01 – 50	0.01 – 50	0.01 – 50
Feed rate, transverse / longitudinal	m/min.	5 / 10	5 / 10	5 / 10
Feed force, transverse / longitudinal	kN	4.0 / 6.3	7.1 / 12.5	7.1 / 12.5
Thread leads				
Metric	mm	0.1 – 2000	0.1 – 2000	0.1 – 2000
Tailstock				
Quill diameter	mm	70	100	100
Quill stroke	mm	110	190	190
Inner taper of quill		MK4	MK5	MK5
Dimensions and weight				
Length (1000 mm TL)	mm	3420	3830	3830
Width (1000 mm TL)	mm	1925	2156	2156
Weight	kg	3000	4800 – 10 400	5000 – 10 700

* Further spindle nose sizes on request

Technical data subject to change



VDF 800 DUS	VDF 1000 DUS	VDF 1110 DUS	VDF 1300 DUS	VDF 1500 DUS
1000 – 20 000	1000 – 20 000	1000 – 20 000	1000 – 16 000	1000 – 16 000
820 / 500	1000 / 700	1110 / 810	1300 / 950	1500 / 1100
540 / 250	540 / 250	540 / 250	750	750
40 x 25	40 x 25	40 x 25	50 x 50	50 x 50
11*	11*	11*	15	15
170	170	170	260	260
128	128	128	200	200
46	46	46	65	65
5073	5073	5073	12 450	12 450
6 – 1600	6 – 1600	6 – 1600	2 – 1000	2 – 1000
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	5 / 10
12.5 / 20.0	12.5 / 20.0	12.1 / 20.0	20.0 / 30.0	20.0 / 30.0
0.1 – 2000	0.1 – 2000	0.1 – 2000	0.1 – 2000	0.1 – 2000
125	125	125	160 (220)	160 (220)
280	280	280	280 (300)	280 (300)
MK6	MK6	MK6	MK6 (SK55)	MK6 (SK55)
4578	4578	4578	5400	5400
2656	2656	2656	4300	4300
8000 – 27 000	8400 – 27 400	8600 – 27 600	15 500 – 32 400	15 500 – 32 400

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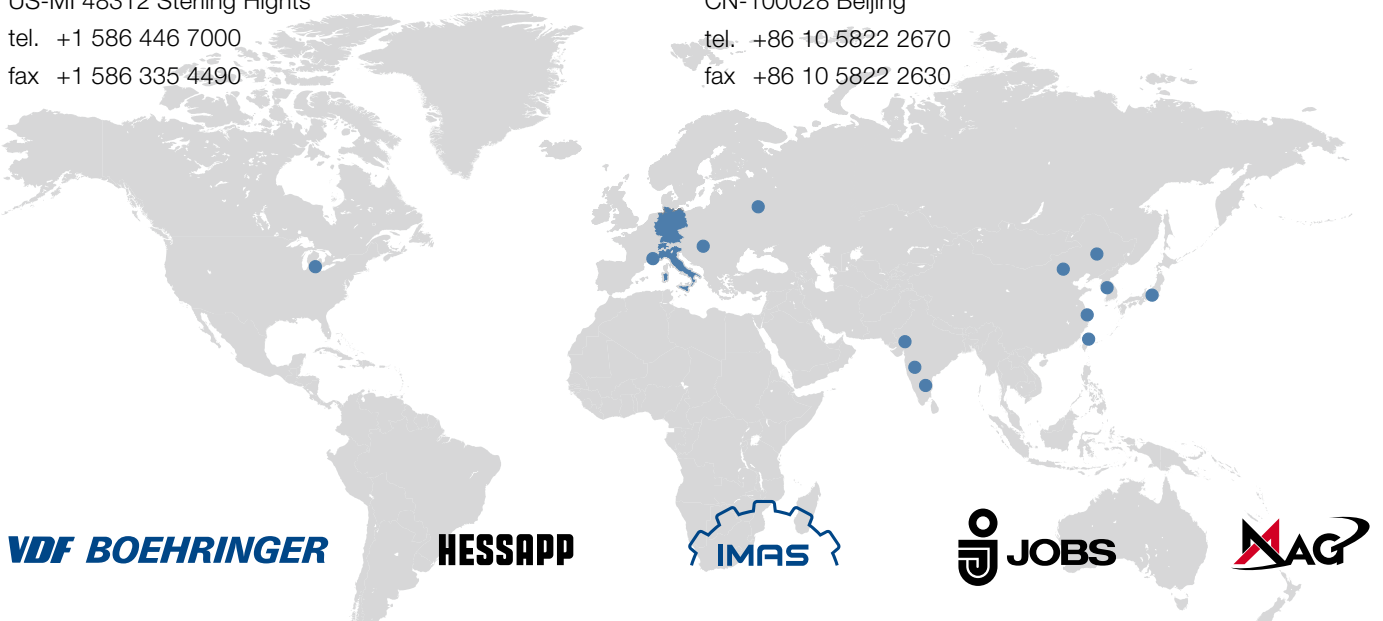
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Service and support

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



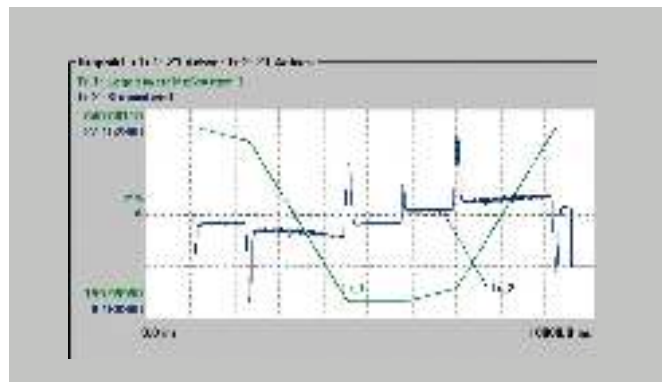
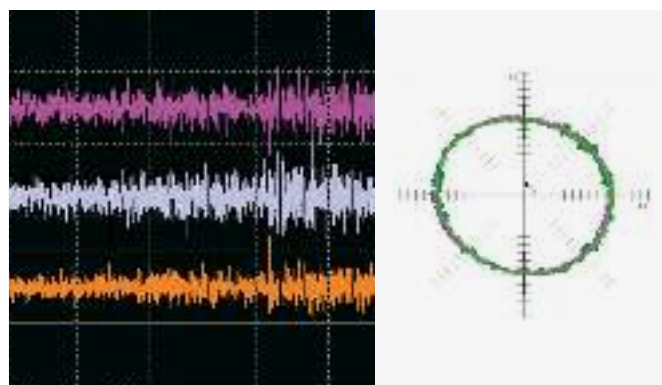
Spare parts

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



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.

Training

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



FFG 24/7 Service and Support:
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