

Technical data

Grinding range

Grinding workpiece length	mm	1100
Center height	mm	220
Workpiece weight	kg	50

Grinding wheel S1 and S2

Diameter, maximum	mm	340
Width, maximum	mm	70
Circumferential speed	m/s	125
Drive output	kW	30

Grinding wheel S3

Diameter, maximum	mm	80/130
Width, maximum	mm	70
Circumferential speed	m/s	125
Drive output	kW	6/8

Dimensions

Set-up area required (incl. control cabinet)	mm	4560x4760
Max. height	mm	2450

Machine weight

kg	11000
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Application 4-cylinder camshaft

Workpiece	Material	Hardness
Tube	Steel pipe	Soft
Lobe	100Cr6	HRC60
Endpiece	42CrMoV4	Hardened and tempered

Dimensions	
Stock removal bearing	Ø 34 x 400 mm
Stock removal lobe	Ø 0.3 mm 0.9 mm base Ø

Accuracy

Diameter tolerance	Ø 23 mm	0/-0.016 mm
Base circle tolerance	Ø 30 mm	±0.050 mm
Roundness		< 5 µm
Straightness		< 5 µm
Surface Quality (Rz)		< 4 µm
Cylindricity		< 20 µm

Cycle time

2.3 min

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CamGrind L

Technology for maximum productivity

Each installed CamGrind L is the concrete translation of your workpiece-specific requirement into an optimally designed production concept.

Irrespective of whether you machine the same part for years, or if the application range changes or expands. The CamGrind L is available with one or two slides, with a grinding length of 650 mm or 1100 mm or as CamGrind L synchro.

Each slide can be equipped with a swivel-in spindle. The B-axis is naturally available for both slides. The CamGrind L can therefore be seamlessly configured with one to six spindles, which are used individually or simultaneously.

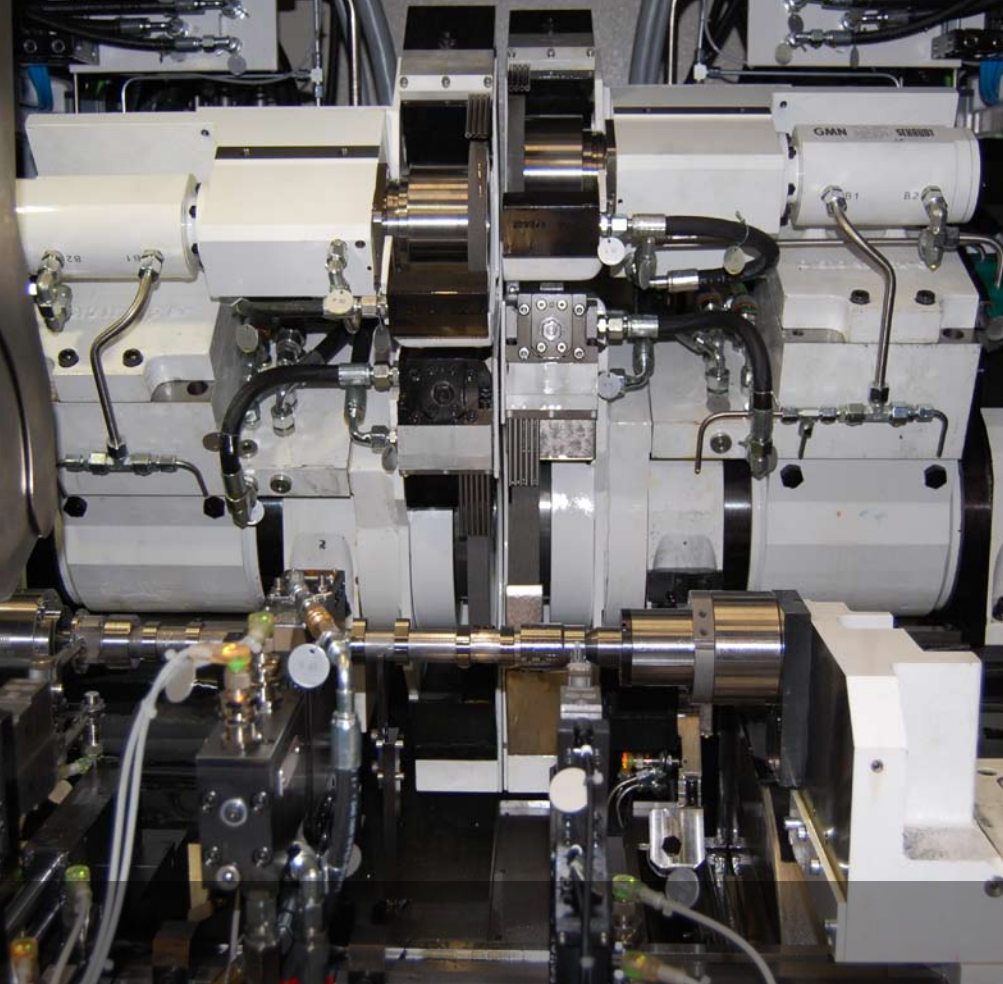
The B-axis has room for three grinding spindles. It is the logical addition to the existing CamGrind kit and closes the gap between the single slide and the double slide machine. Any angle can be swiveled to within the swiveling range of 225°.

A torque motor is used as direct drive, which enables a swiveling time of < 4 seconds at an angle of 180°. The guide is designed as a roller bearing with hydraulic clamping.

This design principle is particularly distinguished by its low overall height of just 100 mm. This results in a very high static and dynamic rigidity. The absolute angular position measuring system integrated into the direct drive offers maximum angular and repeatability precision.



more than grinding



Technical data CamGrind L 650 U07

Grinding range

Grinding workpiece length	mm	650
Center height	mm	220
Workpiece weight	kg	50

Grinding wheel S1

Diameter	mm	400
Width	mm	42
Circumferential speed	m/s	125
Drive output	kW	40

Grinding wheel S2

Diameter	mm	400
Width	mm	28
Circumferential speed	m/s	125
Drive output	kW	40

Grinding wheel S3 und S4

Diameter	mm	150
Width	mm	16
Circumferential speed	m/s	125
Drive output	kW	8

Dimensions

Set-up area required (incl. control cabinet)	mm	4.560 x 4.760
Max. height	mm	2.450

Machine weight	kg	18.000
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Application camshaft with Speed-load

Workpiece	Material	Hardness
Camshaft	100Cr6	58-60 HRC
Bearing		soft

Dimensions		
	Ø 40 x 393	mm
Stock removal Ø	0,5	mm
Stock removal lobe	from base circle	1,0 mm

Accuracy		
Roundness	6,0	µm
Straightness	3,0	µm
Concentricity	10,0	µm
Surface Quality (Rz)	4,5	µm

Cycle time	1,45	min
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more than grinding



Technical data

Variant N

Grinding area

Grindable workpiece length	mm	1600
Center height	mm	225
Workpiece weight	kg	250

Grinding wheel S1

Diameter, maximum	mm	600
Width, maximum	mm	100
Circumferential speed	m/s	50
Drive output	kW	10

Dimensions

Set-up area required (incl. switch cabinet)	mm	5470x2160
Max. height	mm	2.504

Machine weight

kg	9000
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Application

Cold rollers and levelling rollers

Workpiece

Cold roller
Levelling roller

Material

155CrVMo121
50CrV4V

Hardness

hard 63-65HRc
hard 59-65HRc

Accuracy

Roundness	< 2 µm
Cylindricity	< 2 µm
Surface (Ra)	0.05 µm

Dimensions

Cold roller	Ø 85 x 1044 mm
Levelling roller	Ø 16 x 981 mm

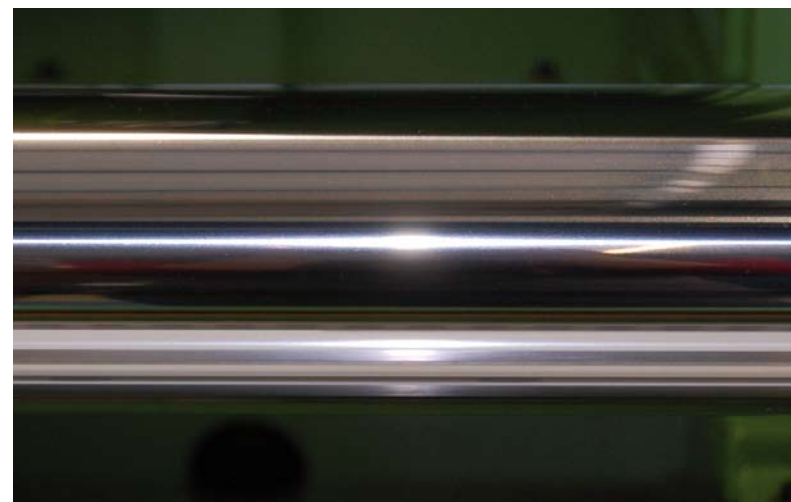
Cycle time

Cold roller	40 min
Levelling roller	28 min



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FlexGrind S

Small, flexible and modular

The FlexGrind series is designed for a broad user group, with solutions for a wide variety of grinding tasks in external, internal and noncircular grinding. As a table slide machine it offers advantages in precision, flexibility and stability. With its diverse variants, it can cover the entire range of potential applications, from single-purpose machine through to universal machine.

Thanks to its modular design, the FlexGrind S is the ideal universal cylindrical grinding machine for the production of small and medium lot sizes. Complete machining of a wide variety of materials such as stainless steel, ceramic, silicate and rubber is possible in a single clamping on this machine. The diverse wheelhead variants enable the right grinding solution for every application.

The machine is designed for workpieces up to 1000 mm or 1600 mm length, with a weight of 250 kg and 450 mm swing. Grinding wheels up to 600 mm in diameter ensure the appropriate productivity.

Further external and internal grinding spindles and the B-axis are optionally available for turning the wheelhead. The basic version includes the hydrostatic guideway for the infeed axis. A unique feature is the innovative DIATRONIC 22 diameter and length measuring system.



more than grinding



Technical Data

Grinding area

Grindable workpiece length	mm	1.000/2.000 3.000/4.000
Center height	mm	260/310
Workpiece weight	kg	500/1.200

Grinding wheel

Diameter, maximum	mm	750
Width, maximum	mm	200
Bore	mm	203,3
Circumferential speed	m/s	50/63
Option CBN	m/s	80
Drive output	kW	25/30

Versions

N, S, UNB, UIB, USB, UNN li/li,
UNN re/re, UNN li/re
+ special solution UIB

Dimensions

(workpiece length 4.000 mm)		
Set-up area required	mm	11.980 x 2.770

Machine weight	kg	15.000
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Application rotor shaft - for wind energy plant

Workpiece

Material	18CrNiMo7
Hardness	60HRC

Dimensions

	Ø 250 x 1050 mm
Stock removal	Ø 1,0 mm
Stock removal face	0,5 mm

Different diameter sizes multiple plunges and
oscillation grinding (gauged)

Accuracy

		ref.	actual
Diameter tolerance	Ø 230 mm	+15/-14	±2 µm
	Ø 280 mm	± 16	±2 µm
	Ø 279 mm	+41/-40	±3 µm
	Ø 229 mm	+58/-57	±3 µm
Runout ↗ A-B		72	30 µm
Face runout ↗ A-B		32	5 µm
Surface Quality Rz		6,3	4,0 µm

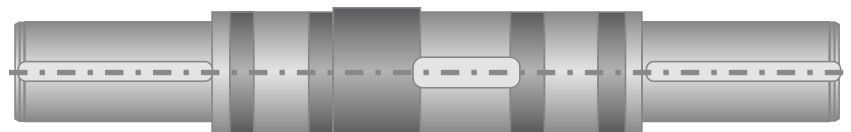
Cycle time

	1-5	2,6 µm
	92	78 min



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FlexGrind M

Precision grinding of long and heavy workpieces

The FlexGrind M, thanks to its modular design, is the ideal universal round grinding machine for the flexible production of long and heavy workpieces.

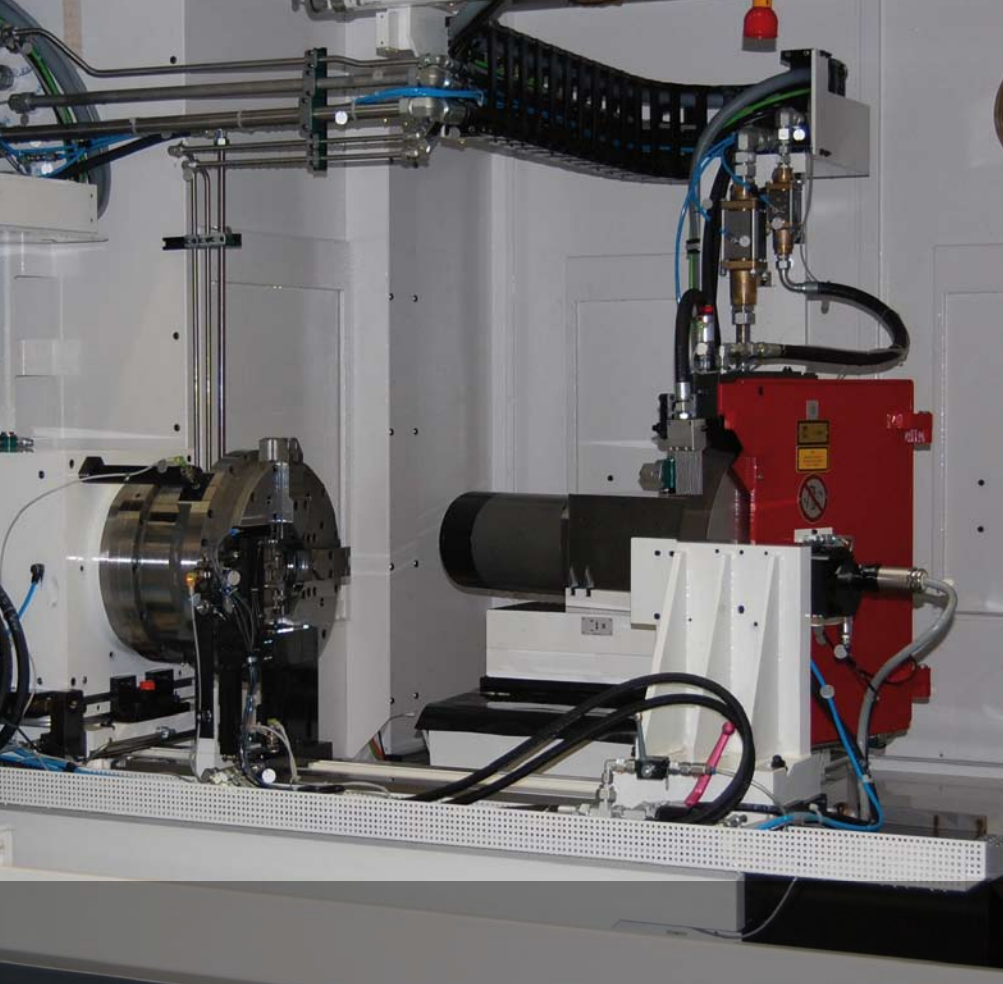
All of the various optimised machine configurations are available to allow the complete processing of different workpiece geometries. Thanks to the eleven grinding spindle head versions, a very wide range of applications in the fields of mechanical engineering and vehicle construction are catered for. The workpieces that can be processed range from shafts and shaft-like components such as main spindles, piston rods, printing rollers, cylinders and rotors through to crankshafts, drive and transmission components, etc.

The universal round grinding machine FlexGrindM represents the FlexGrind Series for medium-sized workpieces. Depending on the design variant, it can be used for workpieces of max. 1,000 mm to 4,000 mm length, and with tailstocks for weights of up to 500 kg / 1,200 kg. Additional equipment including the diameter and length measurement system

DIATRONIC 22 makes the FlexGrind M unique in its machine class. The X-axis is also available with a hydrostatic guide mechanism.

- Measurement-controlled grinding with DIATRONIC 22 absolute measuring head
- Process-sure thanks to complete processing on the in- and outside, in a single clamping operation
- Low piece costs thanks to short processing and setup times
- High level of availability and little maintenance required





Technische Daten FlexGrind M 1000 N

Grinding area

Grindable workpiece length	mm	1.000
Center height	mm	355
Workpiece weight	kg	500

Grinding wheel

Diameter, maximum	mm	650
Width, maximum	mm	40
Circumferential speed	m/s	125
Drive output	kW	40

Dimensions

Set-up area required (incl. control cabinet)	mm	4.800 x 5.600
Max. height	mm	2.550

Machine weight

kg	10.000
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Application capto holder C3/C4/C5/C6/C8 (polygon)

Workpiece

Holder C3-C8

Material

Hardened steel

Hardness

60 HRC

Accuracy

Surface quality (Ra)

0,5 μm

Diameter tolerance \varnothing

$\pm 2,0 \mu\text{m}$

Evenness

3,0 μm

Face runout A

3,0 μm

Angle

1°25'56" (+50")

Dimensions

Stock removal \varnothing

0,3 mm

Stock removal face

0,1 mm

Cycle time

1,77 min



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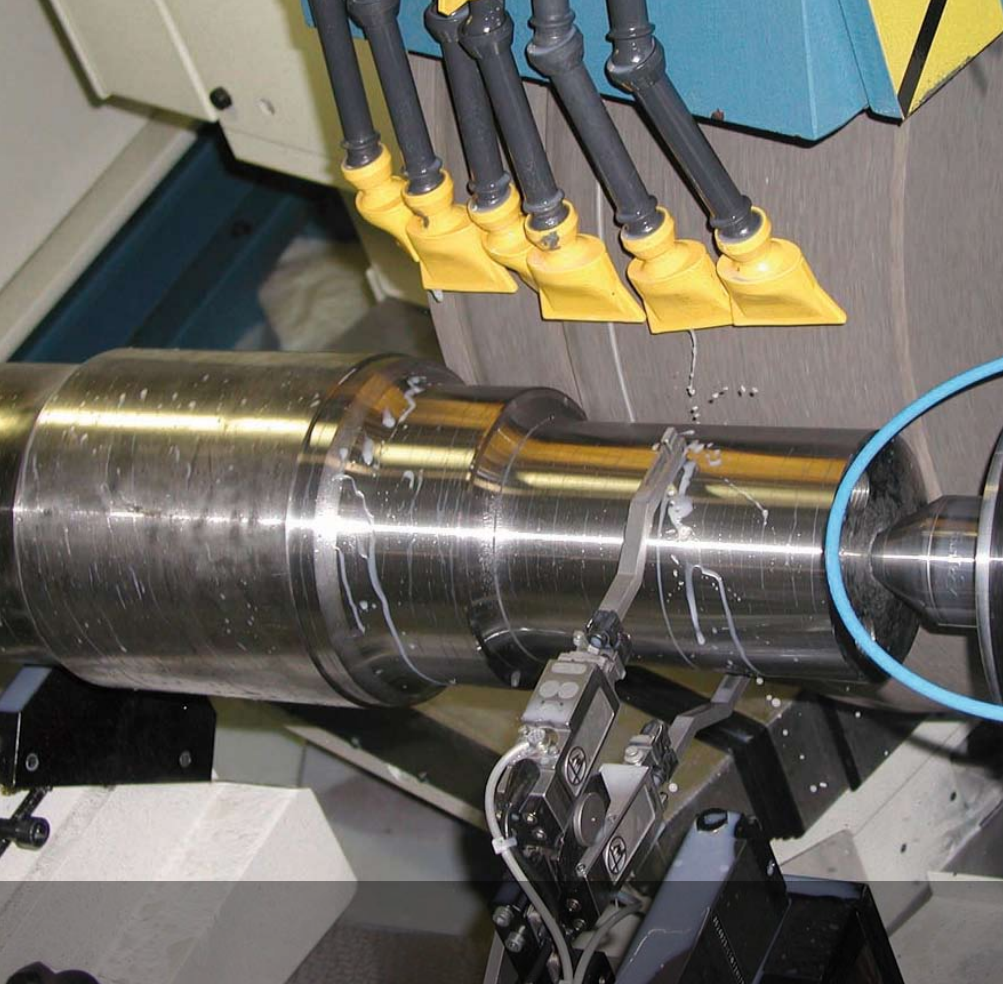
Thanks to its modular design with up to eleven standard spindle configurations a huge variety of different workpiece geometries can be machined. The optional B-axis allows you to mount and swivel multiple spindle heads and provides the ability to perform ID and OD grinding in a single clamping. Typical application in which the FlexGrind series excels are shafts, shaft-like components such as main spindles, piston rods, printing rollers, cylinders and rotors but also crankshafts, drive and transmission components as well as landing gears and aerospace parts.

The universal cylindrical grinding machine FlexGrind M represents the FlexGrind Series for medium-sized workpieces. Depending on the configuration, it can be used for workpieces of 1,000 mm to max. 4,000 mm length, and with the corresponding tailstock it can handle parts weights of up to 500 kg / 1,200 kg. Additional equipment including the advanced in-process measurement system DIATRONIC for

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Technical Data FlexGrind M 3000 S

Grinding area max.

Grindable workpiece length	mm	3.000
Center height	mm	260
Workpiece weight	kg	1.200

Grinding wheel S1

Diameter	mm	900
Width	mm	300
Circumferential speed	m/s	45
Drive output	kW	30

Dimensions

Set-up area required (incl. switch cabinet)	mm	9.800 x 4.600
Height	mm	2.850

Machine weight

kg	14.000
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Application non powered railway axles

Workpiece	Material	Hardness
Axle	LV50	180-250 HB
Dimensions	Ø 160 x 2.100	mm
Stock removal Ø	0,30	mm
Stock removal face	0,15	mm

Accuracy	
Diameter Ø 130p6	±5,0 µm
Diameter Ø 160f7	±5,0 µm
Roundness	7,0 µm
Surface (Ra)	0,8 µm
Run-out A-B	7,0 µm
Cycle time	6,5 min



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Precision grinding of long and heavy workpieces

The FlexGrind M, thanks to its modular design, is the ideal universal round grinding machine for the flexible production of long and heavy workpieces.

All of the various optimised machine configurations are available to allow the complete processing of different workpiece geometries. Thanks to the eleven grinding spindle head versions, a very wide range of applications in the fields of mechanical engineering and vehicle construction are catered for. The workpieces that can be processed range from shafts and shaft-like components such as main spindles, piston rods, printing rollers, cylinders and rotors through to crankshafts, drive and transmission components, etc.

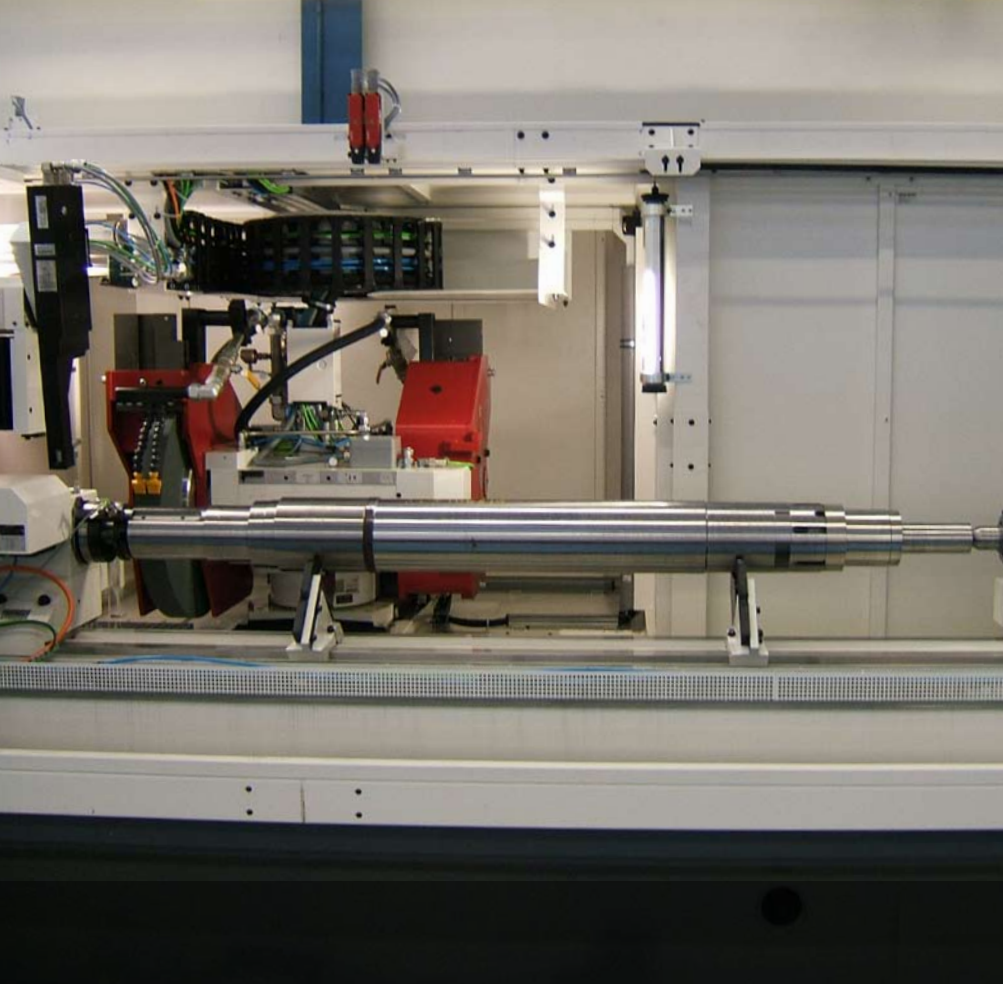
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Technical Data FlexGrind M 3000 UNN

Grinding area max.

Grindable workpiece length	mm	3.000
Center height	mm	260
Workpiece weight	kg	1.200

Grinding wheel S1 and S2

Diameter	mm	720
Width	mm	80
Circumferential speed	m/s	45
Drive output	kW	20

Dimensions

Set-up area required (incl. switch cabinet)	mm	9.800 x 4.600
Height	mm	2.850

Machine weight	kg	14.000
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Application rotor shaft - for wind energy plant

Workpiece	Material	Hardness
Rotor shaft	C45E	220 HB
	X6CrNiMoTi	215 HB

Dimensions	Ø 150 x 2.217	mm
Stock removal Ø	0,3	mm

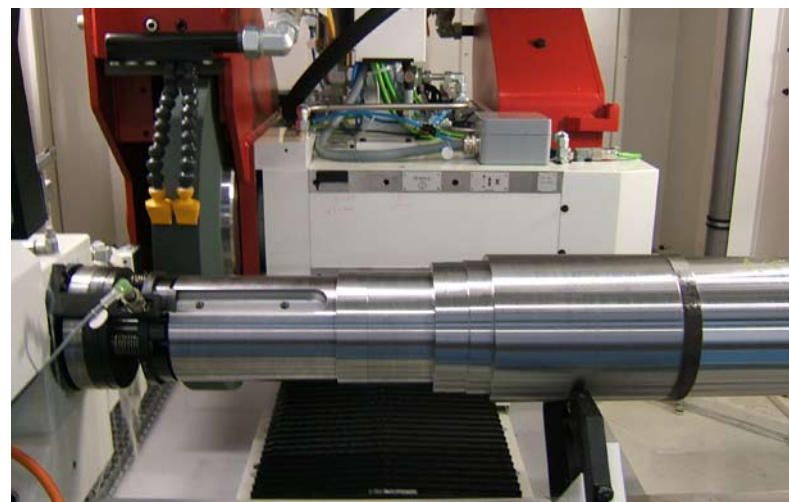
Accuracy	
Cylindricity	<20 µm
Roundness	<10 µm
Surface (Ra)	1,6 µm
Diameter tolerance Ø	+0,015/+0,033 mm
Run-out A-B	<50 mm

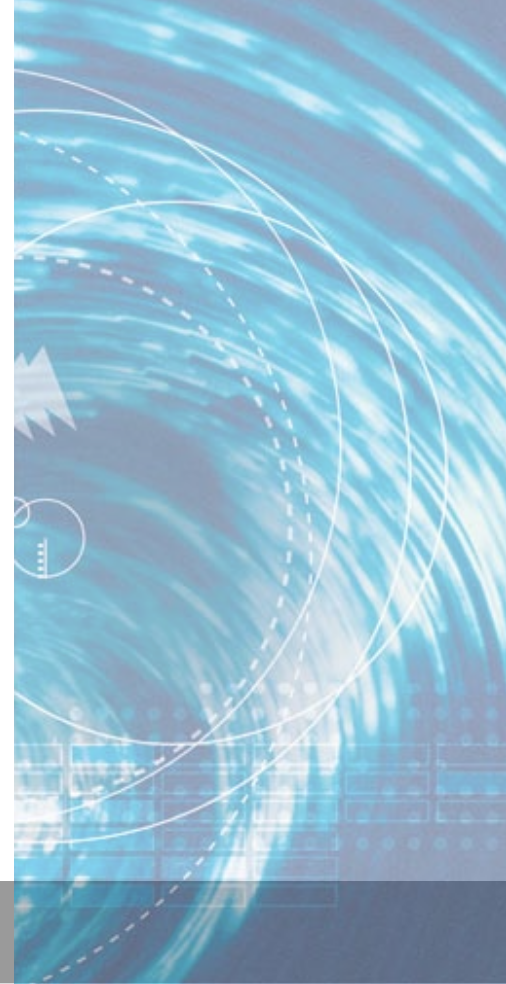
Cycle time	31 min
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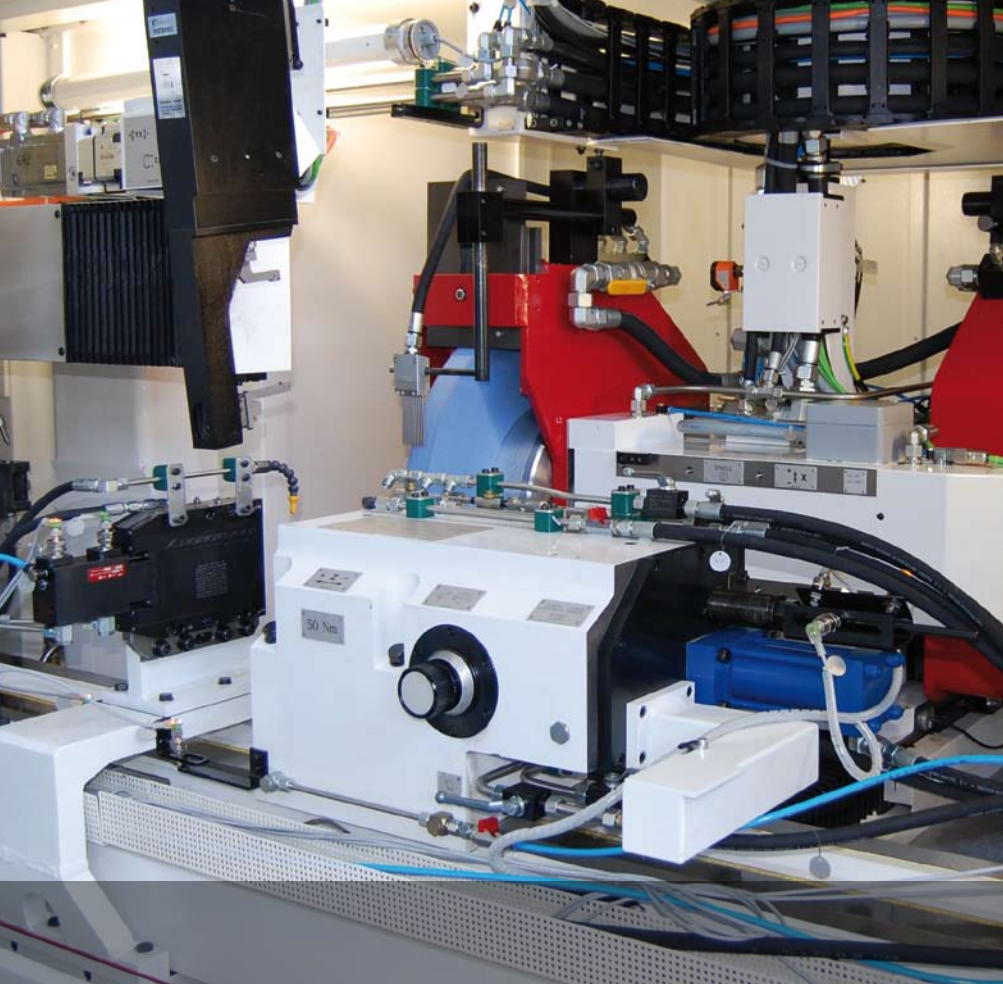
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Technical Data FlexGrind M 2000 UNN

Grinding area max.

Grindable workpiece length	mm	2000
Center height	mm	260
Workpiece weight	kg	500

Grinding wheel S1

Diameter	mm	720
Width	mm	50
Circumferential speed	m/s	50
Drive output	kW	20

Grinding wheel S2

Diameter	mm	720
Width	mm	50
Circumferential speed	m/s	50
Drive output	kW	20

Dimensions

Set-up area required (incl. switch cabinet)	mm	4.400x7.750
Height	mm	2.280

Machine weight

kg	13.000
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Application levelling roller with bridge type steady rest

Workpiece	Material	Hardness
Roller	AISI D2	58-60 HRC

Accuracy	
Cylindricity	<2 µm
Roundness	<2 µm
Surface (Rz)	0,5 µm
Diameter tolerance Ø	0/-0,025 mm

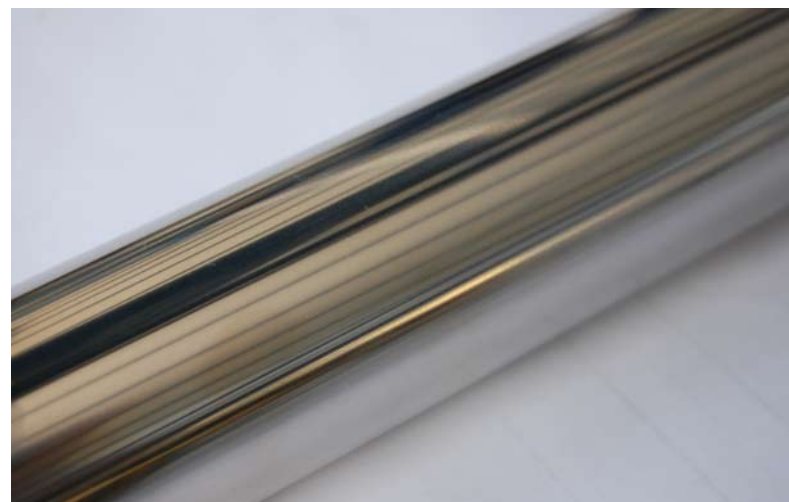
Dimensions	Ø 14 x 982,6 mm
Stock removal Ø	0,2 mm

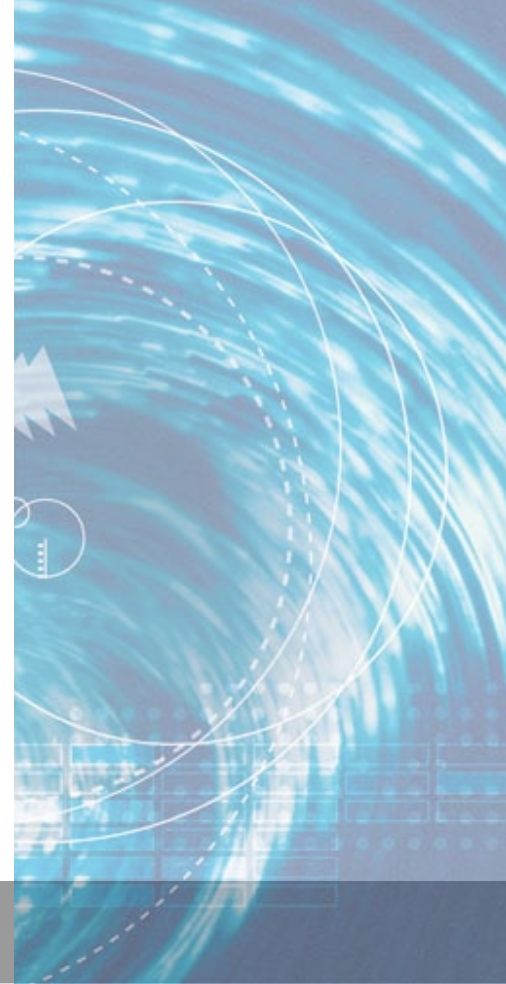
Cycle time	50 min
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