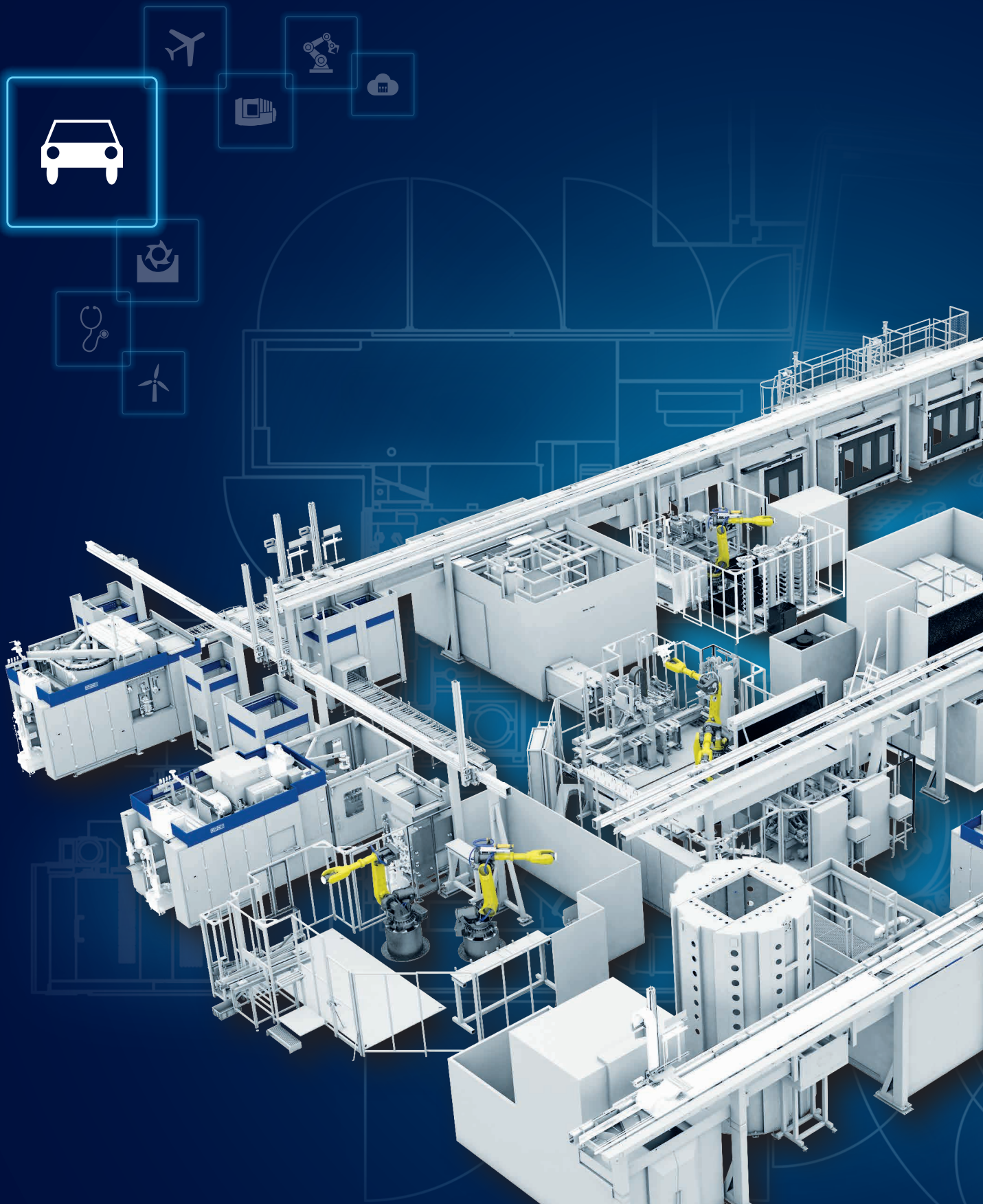
#OneStepAhead

MACHINING TECHNOLOGY



This is who we are

GROB-WERKE

Technology at its best

STEP INTO A GREEN FUTURE WITH US

At GROB, we strive for continuous progress and improvement. Not only do we strive to develop outstanding solutions and products for our customers, but we also seek to make a contribution to our environment and future generations. This is firmly anchored in our corporate philosophy and lived every day.

We therefore utilize photovoltaics and geothermal energy in our locations and support a wide variety of social projects. But we also place great emphasis on SUSTAINABILITY in our internal departments. Our products are based on the highest energy efficiency and regenerative drive systems. We integrate our supplier network in reducing the carbon footprint.

Excellence in sustainable technology

OUR PRODUCT RANGE

#MachiningTechnology #UniversalMachiningCenters #AssemblyPlants #Electromobility #Automation #AdditiveManufacturing #Digitalization #NewAndQualityCheckedUsedMachines #Service

Concentrated competence worldwide

INTELLIGENT TECHNOLOGY IS HUMAN

For generations, we at GROB have lived and experienced this principle by making customer requirements the focus of our work. The result is sophisticated technology creating more efficient production processes worldwide and delivering highest quality.

RESEARCH & DEVELOPMENT

With a high degree of creativity and technical intuition, as well as the best engineering expertise, our developers have worked hard to earn the reputation of being a technology leader.

ASSEMBLY

From pre-assembly to machine assembly to process commissioning – our employees demonstrate their expertise with optimally coordinated workflows.

ENGINEERING

With method development and structured problem solving, our employees in Engineering develop innovative concepts representing milestones for precision, dynamics, and reliability.

COMMISSIONING

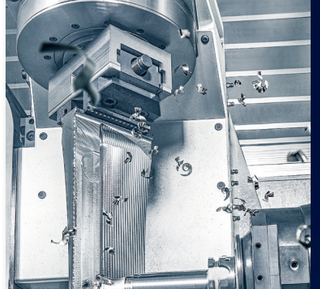
With simulation techniques and virtual commissioning, we achieve the highest adherence to delivery dates and product quality.

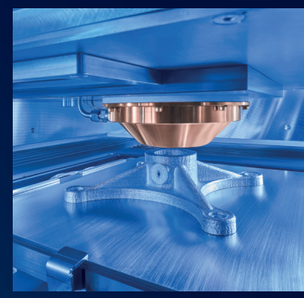
PRODUCTION

The high degree of vertical integration along the entire value creation chain, numerous machining technologies and our employees' distinctive specialist knowledge create the best conditions for state-of-the-art production.

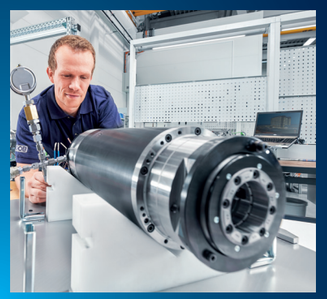
TECHNICAL APPLICATION CENTERS

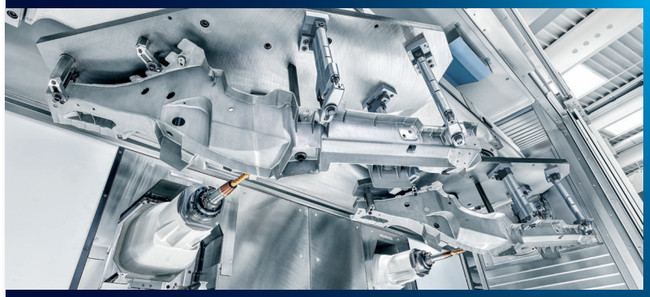
Our production plants in Germany, Brazil, the USA, China, Italy and India have technical application centers for the machining and electromobility sectors, where our customers can experience GROB technologies up close.

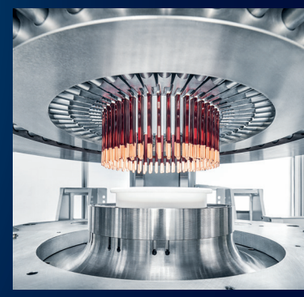


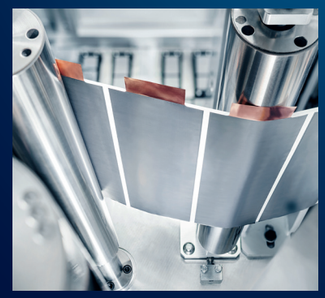













Ensure the optimal solution for your success

GROB MACHINING TECHNOLOGY AT A GLANCE

G-SERIES

Machine concepts

Maximum part size/minimal footprint

Technical data

F-SERIES

Machine concepts

Maximum part size/minimal footprint

Technical data

F-SERIES FOR MEGA & GIGA CASTINGS

Machine concepts

Maximum part size/minimal footprint

Technical data

X-SERIES

Machine concepts

Maximum part size/minimal footprint

Technical data

MOTORIZED SPINDLES

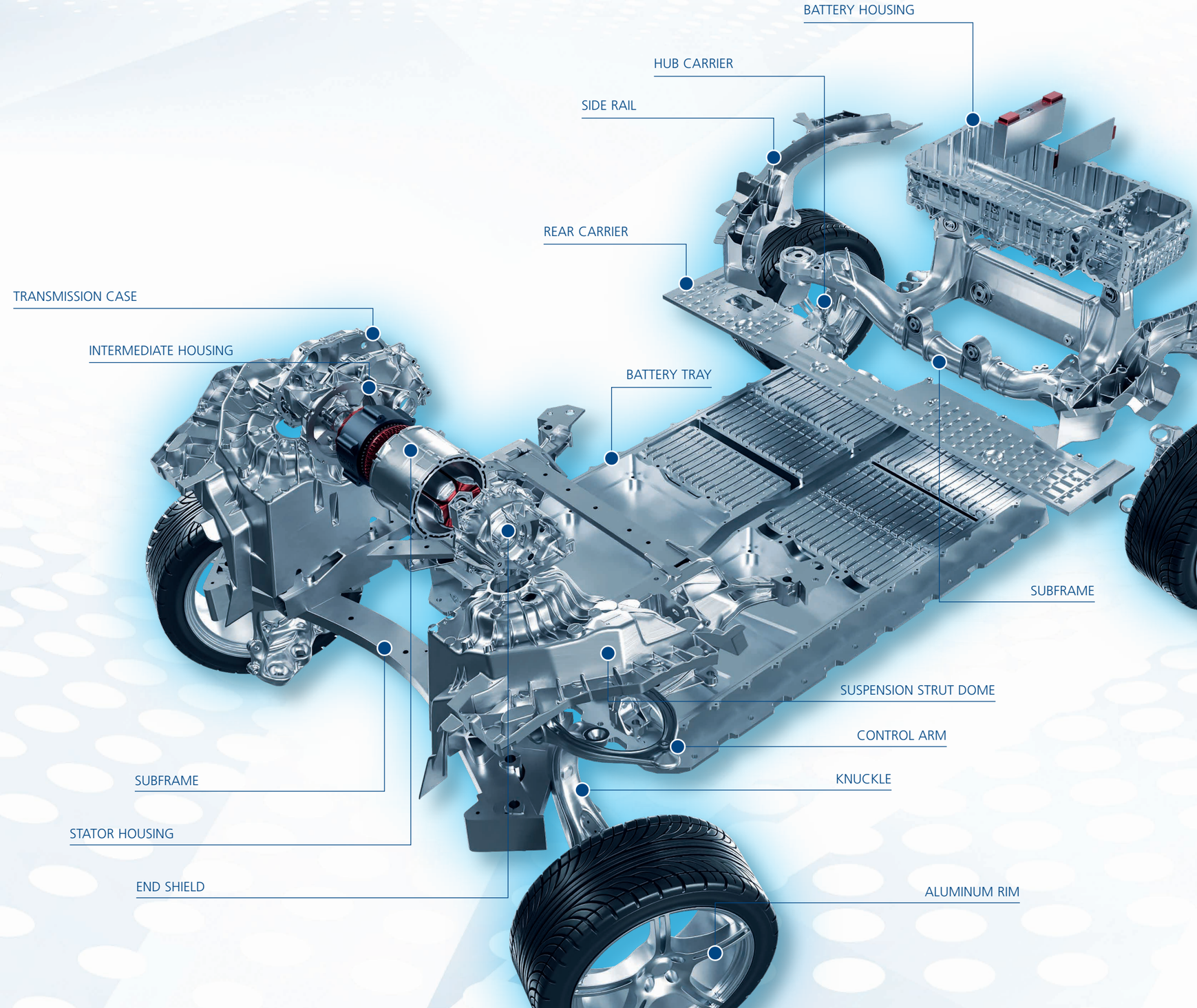
G-Series/F-Series/F-Series for mega & giga castings/X-Series

AUTOMATION SOLUTIONS

G-Series/F-Series/F-Series for mega & giga castings/X-Series

DIGITALIZATION

SERVICE



Flexible, dynamic & productive

THE GROB G-SERIES

Profound know-how and use of the latest technologies make GROB a recognized expert in the machining technology sector. GROB's machine concepts help you master any challenge.

- In-house tool and clamping fixture design as well as clamping fixture construction – ensure the optimal solutions for your success
- Greatest process and engineering experience among machine tool manufacturers
- Automation solutions tailored to your needs
- One single supplier responsible:
  From individual machines to turn-key production lines

OUR PORTFOLIO

#G300 #G320 #G500 #G520
#G500F #G520F #G700F #G720F #G800F #G600F
#G920X
#G900F[4] #G920F[4] #G900F[5] #G920F[5]

Available as single and two-spindle machining centers

THE GROB G-SERIES

GROB's G-series is designed specifically for use in flexible series production and provides the perfect solution for high-precision machining. No matter which machine concept you choose – your GROB machine can be stand-alone or interlinked with other machines in an automated production line.

Benefit from the **PROCESS RELIABILITY, EFFICIENCY**, and **DURABILITY** of our machine concept.

TILTING ROTARY TABLE

- Almost limitless machining potential thanks to the largest possible swivel range

CHIP DISPOSAL

- Uninterrupted part machining with chip disposal by a flume, material handling or direct discharge

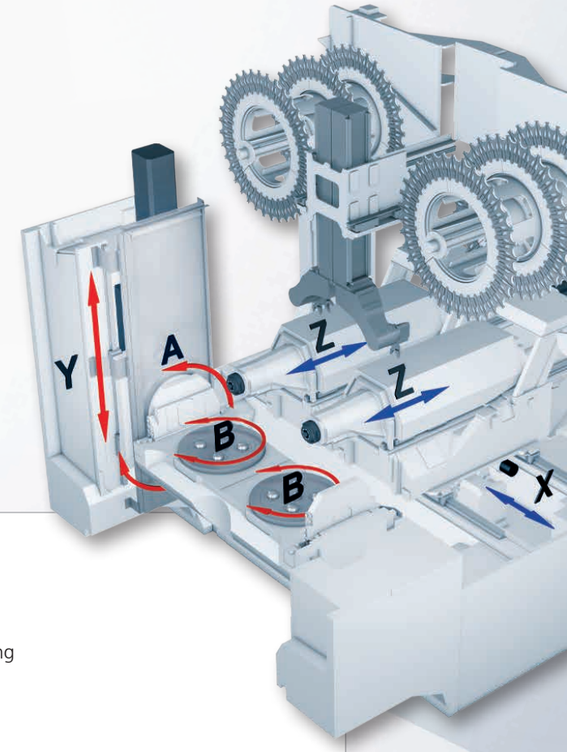
HORIZONTAL MOTORIZED SPINDLE

- For meeting the toughest machining requirements

"OVERHEAD" PART MACHINING

- Ideal for machining with MQL
- Best chip fall
- Low heat input by hot chips on the fixture
- Flexible for front and top loading

Illustration of G320 may contain options



UNIQUE AXIS CONCEPT

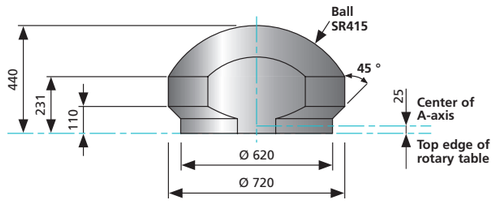
- Three linear axes and two rotary axes permit 5-sided machining
- The linear axes X and Z move the machining spindle
- Optimal temperature concept
- X- and Z-axis with optimized dynamics and rigidity

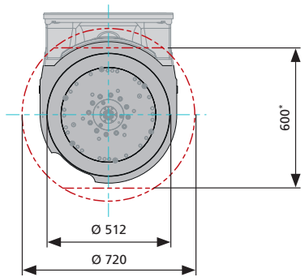
Maximum part size
Minimal footprint

G300

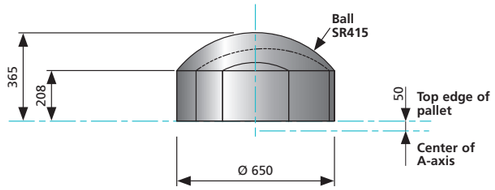
A- / B-axis max. [mm]	Top view max. [mm]

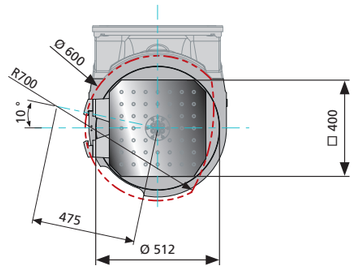
Basic machine



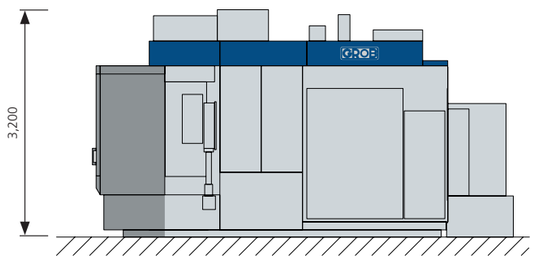


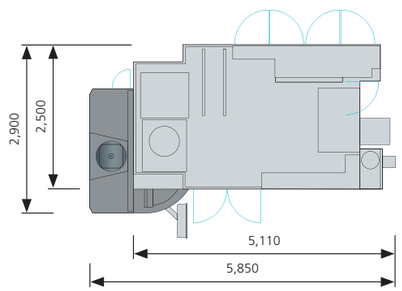
Basic machine with pallet changer





Basic machine with optional pallet changer





Dimension values [mm], not taking into account preventive maintenance and operating areas or emulsion and chip disposal; *Flattening for top/front loading

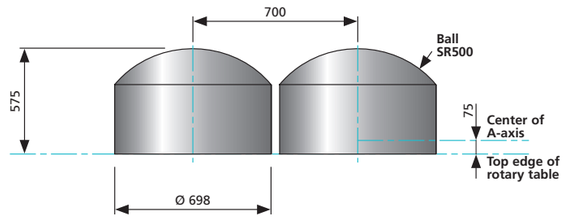
Illustrations may contain options
Subject to technical changes without prior notice

Maximum part size
Minimal footprint

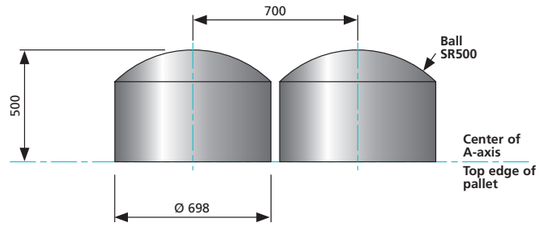
G320

A- / B-axis max. [mm]

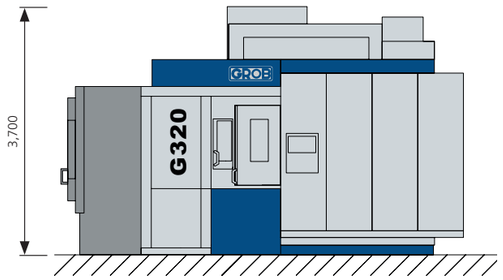
Basic machine

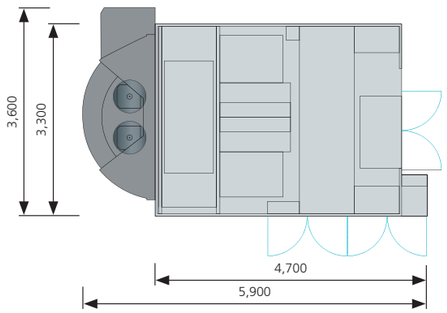


Basic machine with pallet changer



Basic machine with optional pallet changer





Dimension values [mm], not taking into account preventive maintenance and operating areas or emulsion and chip disposal

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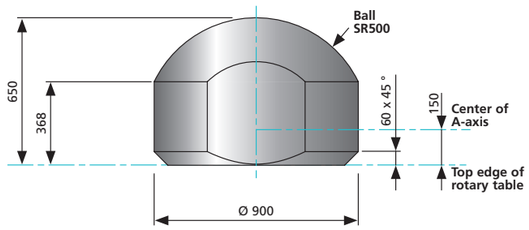
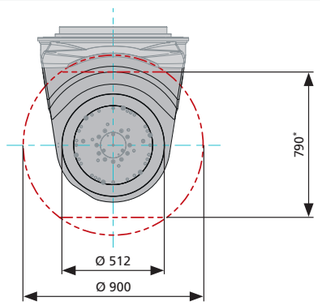
Maximum part size
Minimal footprint

G500

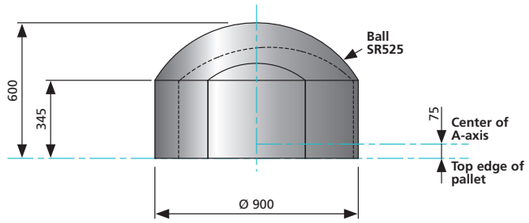
A- / B-axis max. [mm]	Top view max. [mm]

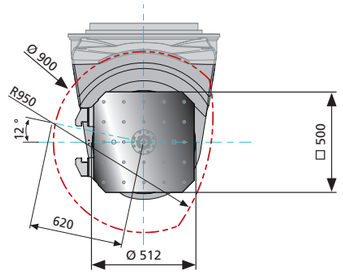
Basic machine



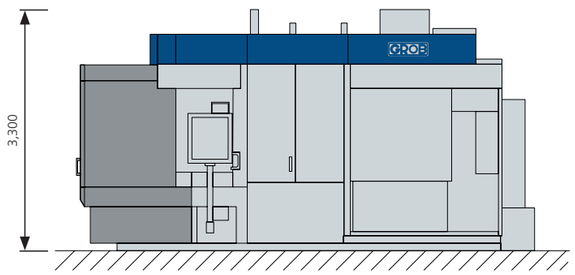


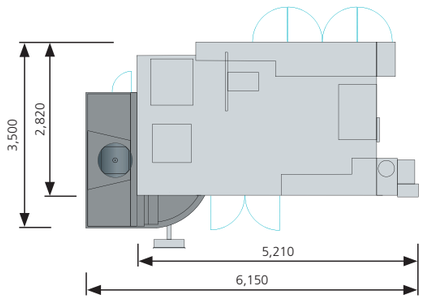
Basic machine with pallet changer





Basic machine with optional pallet changer





Dimension values [mm], not taking into account preventive maintenance and operating areas or emulsion and chip disposal; *Flattening for top/front loading

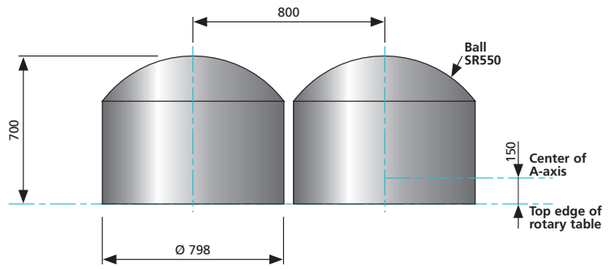
Illustrations may contain options
Subject to technical changes without prior notice

Maximum part size
Minimal footprint

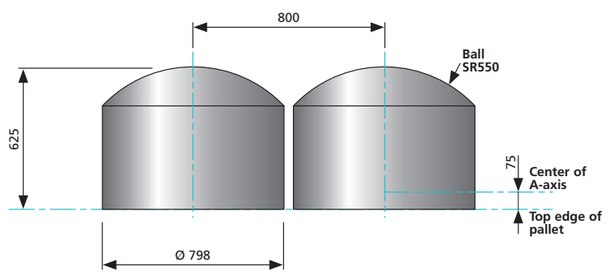
G520

A- / B-axis max. [mm]

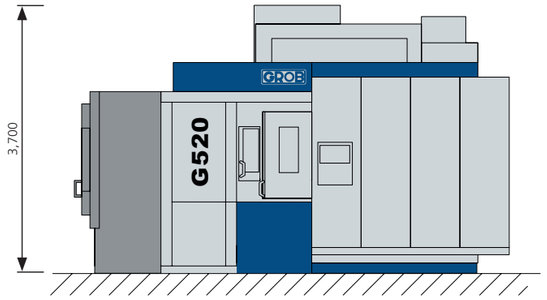
Basic machine

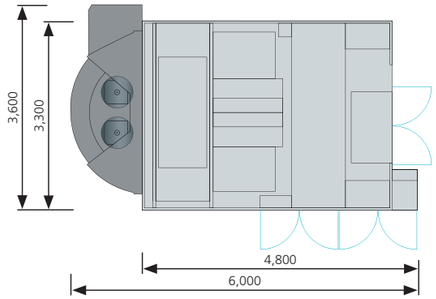


Basic machine with pallet changer



Basic machine with optional pallet changer





Dimension values [mm], not taking into account preventive maintenance and operating areas or emulsion and chip disposal

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Technical data – overview

G300 / G320 / G500 / G520

MACHINE TYPE	G300	G320	G500	G520
Spindle distance [mm]	—	700	—	800
Working travels in X-/Y-/Z-axis [mm]	600/770 (870)[3]/810	650/850/870	800/950 (1,055)[3]/905	750/1,000/870
Max. speeds in X-/Y-/Z-axis [m/min]	95/45/100	95/60/120	90/50/100	95/70/120
Max. accelerations in X-/Y-/Z-axis [m/s²][1]	7.5/4/15	6[6]/6/20.5	9/4.5/15	7.5/5.5/20.5
Max. feed forces in X-/Y-/Z-axis [kN][1]	8/8/8	5/5/8	8/8/8[5]	5/5/8
Positioning accuracy* in X-/Y-/Z-axis [mm]	0.006	0.006	0.006	0.006
Repeat precision of positioning* in X-/Y-/Z-axis [mm]	<0.0025	<0.0025	<0.0025	<0.0025

DISK-TYPE TOOL MAGAZINE	STM[4]	DTM	DTM	STM	DTM	TTD	STM	DTM	TTD	STM[4]	DTM	STM[4]	DTM	STM	DTM	TTD	STM	DTM	TTD
TOOL INTERFACE	HSK-A63	HSK-A63	HSK-A100	HSK-A63			HSK-A100			HSK-A63	HSK-A63	HSK-A100	HSK-A100	HSK-A63			HSK-A100		
Number of tool pockets per motorized spindle with full occupancy	40	34	77	67	37	32	36	69	105	18	33	51	45	39	87	77	25	23	47	42	36	69	105	18	33	51
Max. tool length [mm] (vertical disk arrangement)	365		300	500	280	500	500		500				400		400	600	400		400	600	500			500		
Max. tool diameter [mm] ▸ No diameter restrictions for adjacent pockets ▸ Diameter restrictions for adjacent pockets	72 170		72 170		130 280		72 170			130 280			70 170		70 170		118 260		118 280		72 170			130 280		
Max. tool weight [kg]	10		10		22		10			22			10		10		22		22		10			22		
Chip-to-chip time t_1 according to VDI 2852 [s] SIEMENS control system **	2.3		2.3		2.8		2.0			2.5			2.6		2.6		3.0		3.0		2.0			2.5		

PART				
Table diameter [mm]	512	512	512	512
Table load [kg] (without/with pallet) (A-/B-axis)	400/340	2x 350/2x 275	525/525	2x 625/2x 525
Pallet size [mm]	400x400	400x400	500x500	500x500
Interference diameter [mm]	720	2x 698	900	2x 798
WEIGHT (approx.)				
Total weight [kg] (without/with pallet changer)	15,000/17,500	20,000/27,000	19,000/22,000	22,500/28,500
PROCESS STAGES				
Automatic pallet changer	•	•	•	•
Pallet change time according to VDI 2852 [s][2]	12	9	13	9

[1] Depends on motorized spindle type
[2] Time value without seating check system (depending on the loading weight)
[3] With pallet changer
[4] Only available in combination with a pick-up magazine
[5] Feed forces depend on spindle type and HSK tool holder
[6] A faster acceleration of 7.5 m/s² is possible with the decoupled X-axis

STM = single disk-type tool magazine; DTM = double disk-type tool magazine; TTD = three disk-type tool magazine
Subject to technical changes without prior notice
*According to ISO230-2:2014 **The chip-to-chip time depends on motorized spindle type and tool holder

Flexible, dynamic & productive

THE GROB F-SERIES

Profound know-how and use of the latest technologies make GROB a recognized expert in the machining technology sector. GROB's machine concepts help you master any challenge.

- In-house tool and clamping fixture design as well as clamping fixture construction – ensure the optimal solutions for your success
- Greatest process and engineering experience among machine tool manufacturers
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OUR PORTFOLIO

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#G500F #G520F #G700F #G720F #G800F #G600F
#G920X
#G900F[4] #G920F[4] #G900F[5] #G920F[5]

Available as single and two-spindle machining centers

THE GROB F-SERIES

The GROB F-series guarantees optimal conditions for efficient series production of frame structure and chassis parts, as well as battery housings. Regardless of which of the two machine concepts is selected, your GROB machine can stand alone, or be interlinked with other machines in an automated production line.

Benefit from the **PROCESS RELIABILITY, EFFICIENCY**, and **DURABILITY** of our machine concept.

OUTSTANDING DESIGN FOR MINIMUM QUANTITY LUBRICATION MACHINING

- Thanks to the A- and B-axis combination in the part and optimized work area design

UNHINDERED CHIP FALL AND OPTIMAL HEAT DISSIPATION

- Thanks to steep machine bed slants in the work area and optimized axis configuration

HIGH DYNAMICS AND SHORT CHIP-TO-CHIP TIMES

- Thanks to optimized and coordinated axis drives

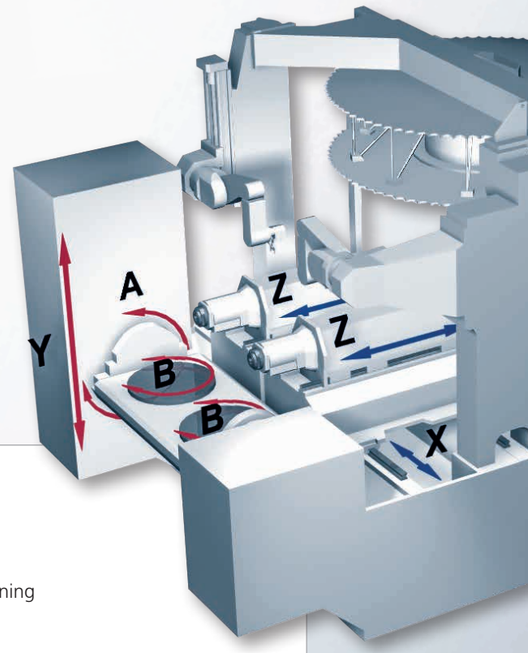
HIGH MACHINING ACCURACY

- Thanks to the rigid design and horizontal spindles in cross slide construction

HIGH MANUFACTURING FLEXIBILITY

- Thanks to the modular design and ease of retooling

Illustration of G520F may contain options



UNIQUE AXIS CONCEPT

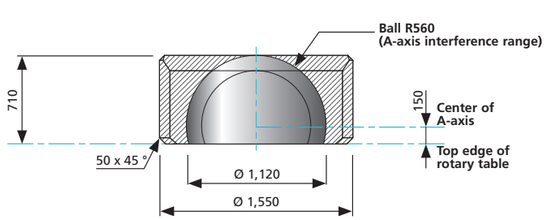
- Three linear axes and two rotary axes permit 5- and 6-sided machining
- The linear axes X and Z move the machining spindle
- Optimal temperature concept
- X- and Z-axis with optimized dynamics and rigidity
- Perfected for automated loading

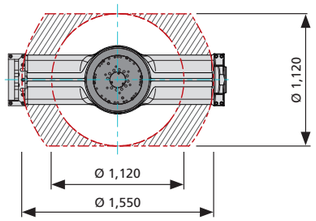
Maximum part size
Minimal footprint

G500F

A- / B-axis max. [mm]	Top view max. [mm]

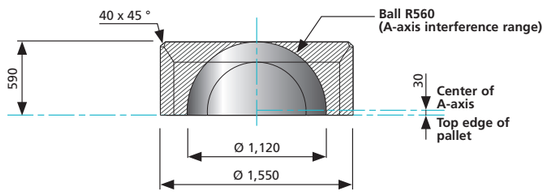
Basic machine

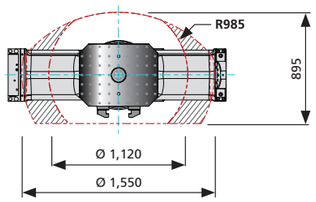




Unrestricted A-axis/B-axis operation for B-axis diameters ≤ 1,120 mm Pendulum mode for B-axis diameters > 1,550 mm

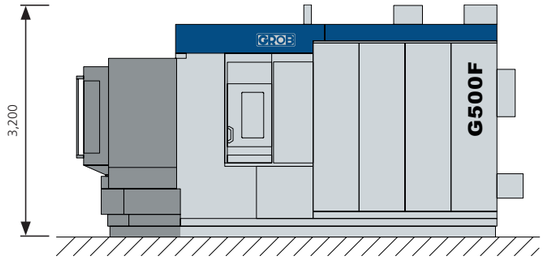
Basic machine with pallet changer

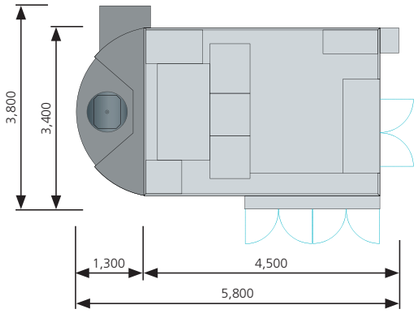




Unrestricted A-axis/B-axis operation for B-axis diameters ≤ 1,120 mm Pendulum mode for B-axis diameters > 1,550 mm

Basic machine with optional pallet changer





Dimension values [mm], not taking into account preventive maintenance and operating areas or emulsion and chip disposal

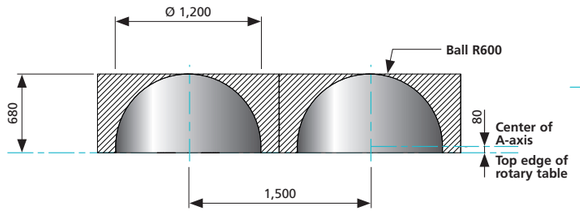
Illustrations may contain options
Subject to technical changes without prior notice

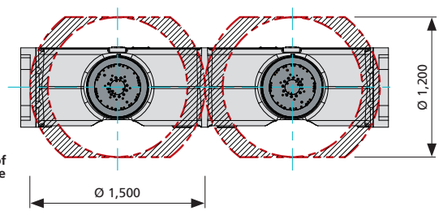
Maximum part size
Minimal footprint

G520F

A- / B-axis max. [mm]	Top view max. [mm]

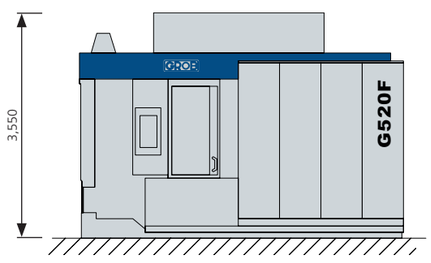
Basic machine

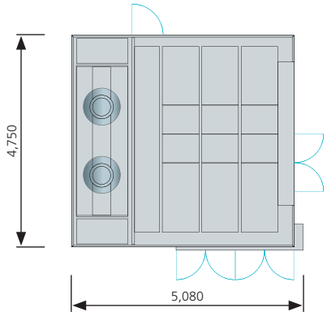




Unrestricted A-axis/B-axis operation for B-axis diameters ≤ 1,200 mm Pendulum mode for B-axis diameters ≥ 1,500 mm

Basic machine





Dimension values [mm], not taking into account preventive maintenance and operating areas or emulsion and chip disposal

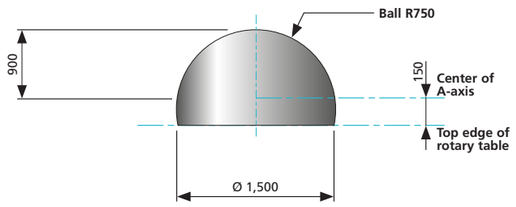
Illustrations may contain options
Subject to technical changes without prior notice

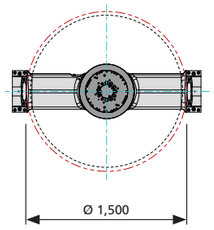
Maximum part size
Minimal footprint

G700F

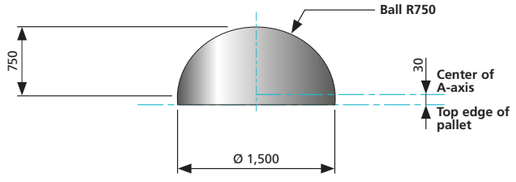
A- / B-axis max. [mm]	Top view max. [mm]

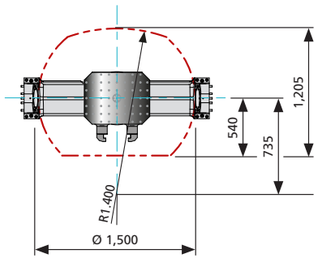
Basic machine



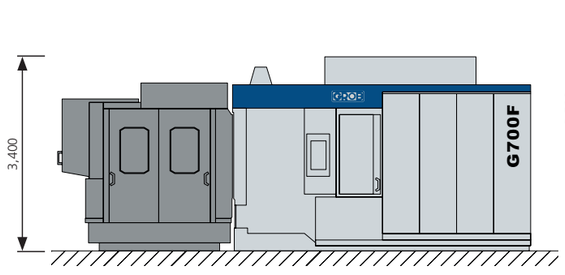


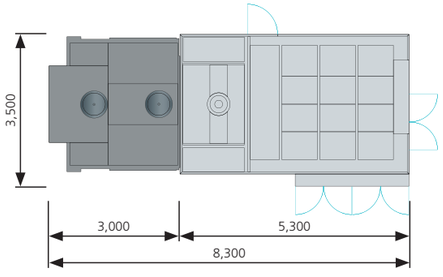
Basic machine with pallet changer





Basic machine with optional pallet changer





Dimension values [mm], not taking into account preventive maintenance and operating areas or emulsion and chip disposal

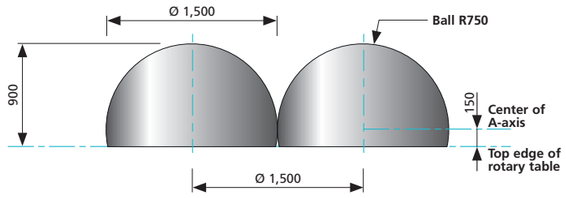
Illustrations may contain options
Subject to technical changes without prior notice

Maximum part size
Minimal footprint

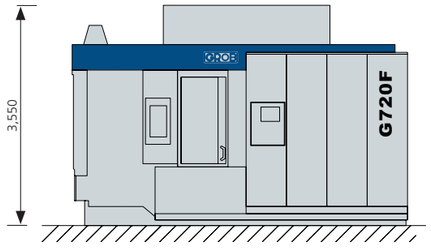
G720F

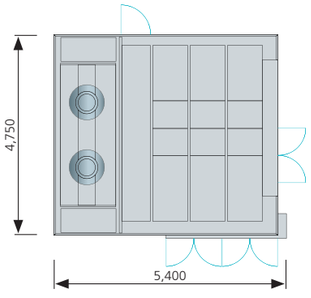
A- / B-axis max. [mm]

Basic machine



Basic machine





Dimension values [mm], not taking into account preventive maintenance and operating areas or emulsion and chip disposal

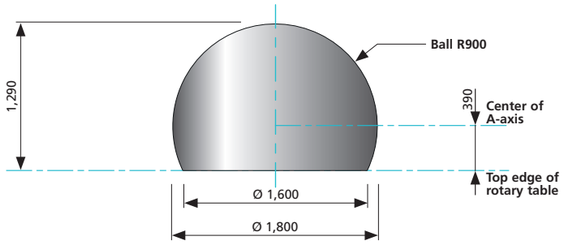
Illustrations may contain options
Subject to technical changes without prior notice

Maximum part size
Minimal footprint

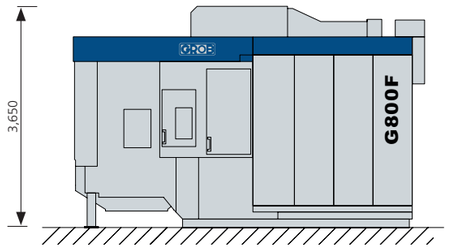
G800F

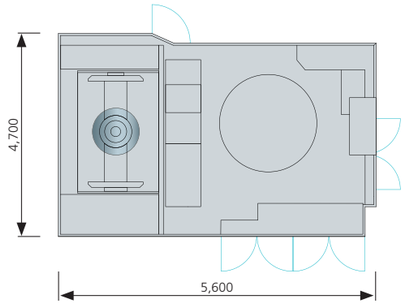
A- / B-axis max. [mm]

Basic machine



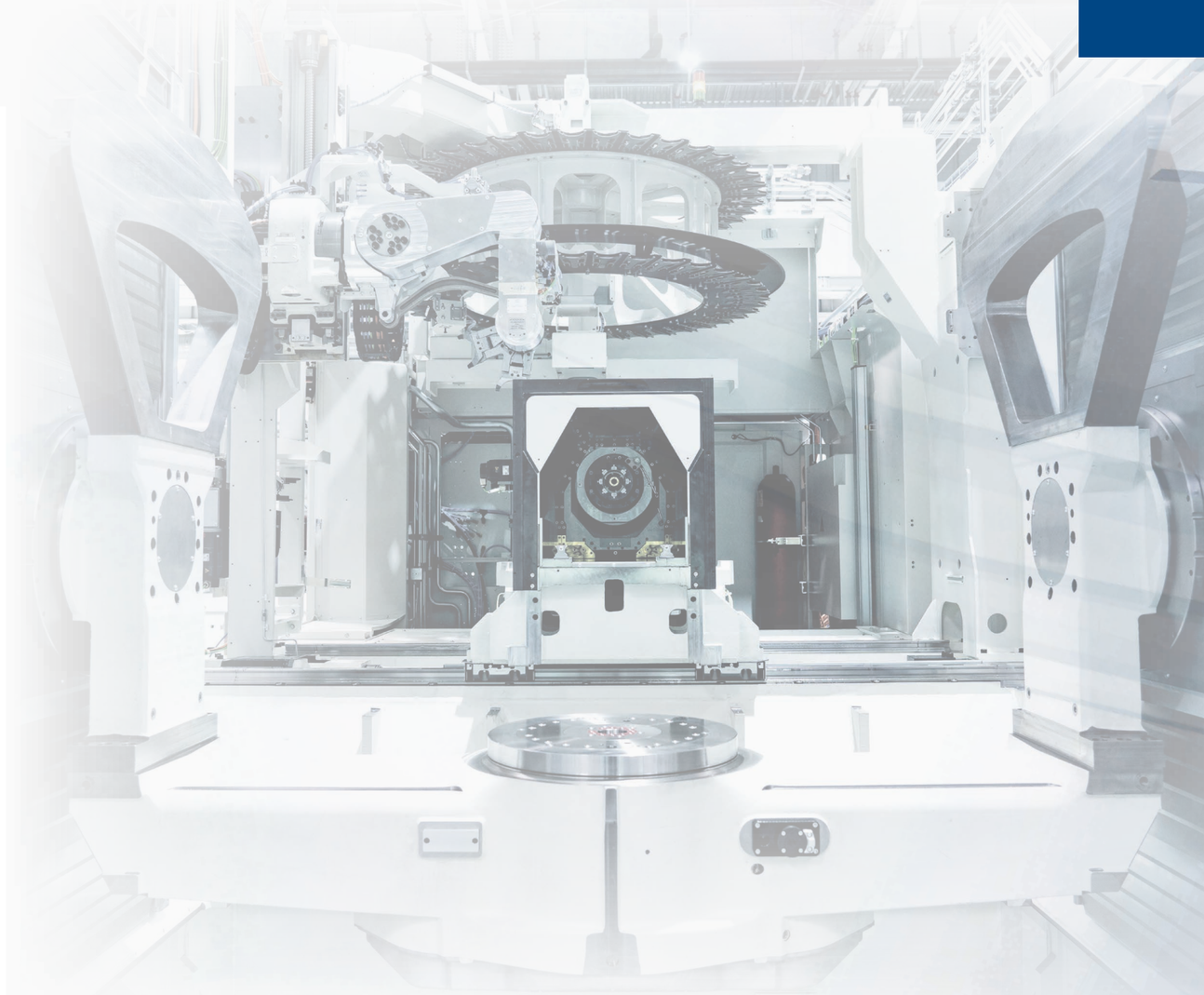
Basic machine





Dimension values [mm], not taking into account preventive maintenance and operating areas or emulsion and chip disposal

Illustrations may contain options
Subject to technical changes without prior notice



SPECIFIC CONCEPT ADVANTAGES

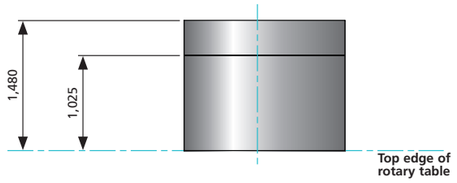
- Three linear and two rotary axes permit 5- and 6-sided machining
- The linear axes X and Z move the machining spindle
- Optimal temperature concept
- X- and Z-axis with highest rigidity
- Perfected for automated loading

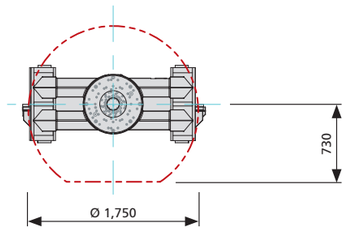
Maximum part size

G600F

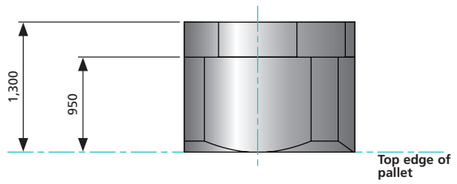
A- / B-axis max. [mm]	Top view max. [mm]

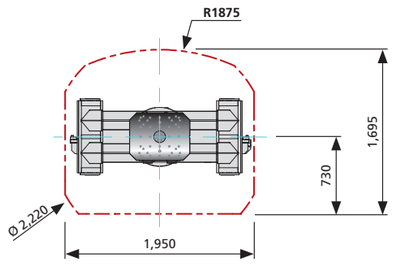
Basic machine with standard interference range



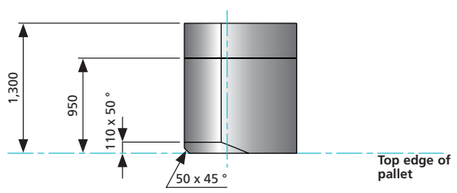


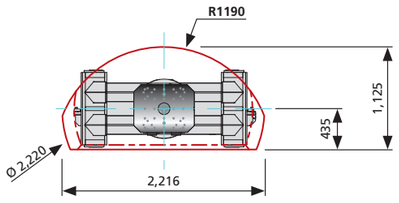
Basic machine with max. interference range with/without optional pallet changer with displacement axis





Basic machine with optional pallet changer





Dimension values [mm], not taking into account preventive maintenance and operating areas or emulsion and chip disposal

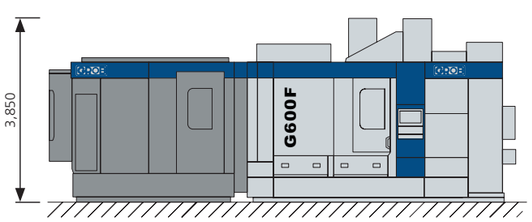
Illustrations may contain options
Subject to technical changes without prior notice

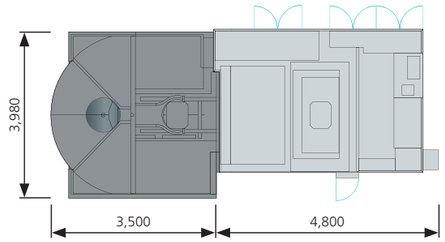
Minimal footprint

G600F

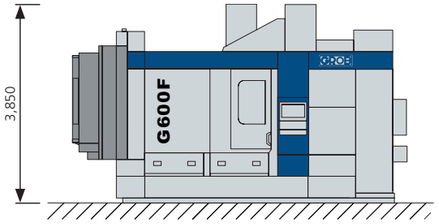
Side view max. [mm]	Top view max. [mm]

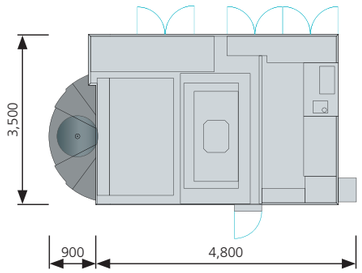
Basic machine with optional pallet changer and displacement axis





Basic machine with optional pallet changer





SPECIFIC CONCEPT ADVANTAGES

- Optimized view of the work area
- Small footprint combined with the maximum work area
- Version with AC-kinematics and long travel paths in the X-, Y- and Z-axes
- Highly dynamic, 5- to 6-sided machining
- Automation possible with manual/automatic front loading or automatic top loading
- Motorized spindle head with 180° swivel range supported on both sides
- Automatic chip transport to the rear of the machine

Technical data – overview

G500F / G520F / G700F / G720F / G800F / G600F

MACHINE TYPE	G500F	G520F	G700F	G720F	G800F	G600F
Spindle distance [mm]	—	1,500	—	1,500	—	—
Working travels in X-/Y-/Z-axis [mm]	1,550/875/790	1,450/1,200/1,035	1,450/990/1,035	1,450/1,200/1,035	1,450/990/1,035	1,730/1,265/1,100
Max. speeds in X-/Y-/Z-axis [m/min]	70/50/90	80/50/100	60/75/100	80/50/100	60/75/100	95/60/50
Max. accelerations in X-/Y-/Z-axis [m/s²] (1)	6.5/4.5/11	8/4/14	6.5/5.5/14	8/4/14	6.5/5/12.5	9.5/7/4.5
Max. feed forces in X-/Y-/Z-axis [kN] (1)	5/5/5	5/5/5	6/6/6	5/5/5	6/6/6	3/3/3
Positioning accuracy* in X-/Y-/Z-axis [mm]	0.01	0.01	0.01	0.01	0.01	0.01
Repeat precision of positioning* in X-/Y-/Z-axis [mm]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
DISK-TYPE TOOL MAGAZINE	**STM**	**STM / DTM / DTM / TTD**	**STM / DTM / STM / DTM**	**STM / DTM / DTM / TTD**	**STM / DTM**	**STM / DTM / TTD**
TOOL INTERFACE	**HSK-A63**	**HSK-A63 / HSK-A100**	**HSK-A63 / HSK-A100**	**HSK-A63 / HSK-A100**	**HSK-A100**	**HSK-A63**
Number of tool pockets per motorized spindle with full occupancy	60	40 / 80 / 40 / 35 / 55	80 / 160 / 40 / 80 / 40 / 80 / 40 / 35 / 55		40 / 80	50 / 117 / 177
Max. tool length [mm] (horizontal disk arrangement)	400 / 500	400 / 400 / 400 / 635 / 590	400 / 600 / 400 / 635 / 400 / 600 / 400 / 635 / 590		635	465
Max. tool diameter [mm] ▸ No diameter restrictions for adjacent pockets ▸ Diameter restrictions for adjacent pockets	70 170	70 170 / 130 260 / 130 260	70 170 / 130 260 / 70 170 / 130 260 / 130 260		130 260	70 170 / 72 170
Max. tool weight [kg]	8	8 / 22 / 22	8 / 22 / 8 / 22 / 22		22	8
Chip-to-chip time t_1 according to VDI 2852 [s] SIEMENS control system **	2.6	2.7 / 3.4 / 3.4	2.9 / 3.4 / 2.9 / 3.4 / 3.4		3.5	3.3
PART						
Table diameter [mm]	512	512	512	512	512	615
Table load [kg] (without/with pallet)	640/460	2x 750/–	750/600	2x 750/–	1,000/–	1,150/635/(1,000) (3)
Pallet size [mm]	500x630	—	500x630	—	—	500x630
Interference diameter [mm] (oscillating)	1,120 (1,550)	2x 1,200 (2x 1,500)	1,500	2x 1,500	1,800	2,220
WEIGHT (approx.)						
Total weight [kg] (without/with pallet changer)	18,500/23,000	35,000	24,800/31,500	35,000	26,500/–	20,400/22,100/(27,400) (3)
PROCESS STAGES						
Automatic pallet changer	•	—	•	—	—	•
Pallet change time according to VDI 2852 [s] (2)	10	—	26	—	—	11

(1) Depends on motorized spindle type
(2) Time value without seating check system
(3) Pallet changer with displacement axis

STM = single disk-type tool magazine; DTM = double disk-type tool magazine; TTD = three disk-type tool magazine
Subject to technical changes without prior notice
*According to ISO 230-2:2006 **The chip-to-chip time depends on motorized spindle type and tool holder

Flexible, dynamic & productive

F-SERIES FOR MEGA & GIGA CASTINGS BY GROB

Profound know-how and use of the latest technologies make GROB a recognized expert in the machining technology sector. GROB's machine concepts help you master any challenge for machining mega and giga castings.

- In-house tool and clamping fixture design as well as clamping fixture construction – ensure the optimal solutions for your success
- Greatest process and engineering experience among machine tool manufacturers
- Automation solutions tailored to your needs
- One single supplier responsible:
  From individual machines to turn-key production lines

OUR PORTFOLIO

#G300 #G320 #G500 #G520
#G500F #G520F #G700F #G720F #G800F #G600F
#G920X
#G900F[4] #G920F[4] #G900F[5] #G920F[5]

From battery to body component

F-SERIES FOR MEGA & GIGA CASTINGS BY GROB

Discover the future of milling: Our F[4/5]-series is specifically tailored to the demands of mega and giga castings, giving you unsurpassed results from battery production to body construction. Our specialized milling machines for mega and giga castings bring the future of manufacturing directly to your production. Increase efficiency, improve precision and set new standards in the aluminum industry.

Benefit from the **PROCESS RELIABILITY, EFFICIENCY**, and **DURABILITY** of our machine concept.

UNHINDERED CHIP FALL AND OPTIMAL HEAT DISSIPATION

- Thanks to steep machine bed slants in the work area and optimized axis configuration

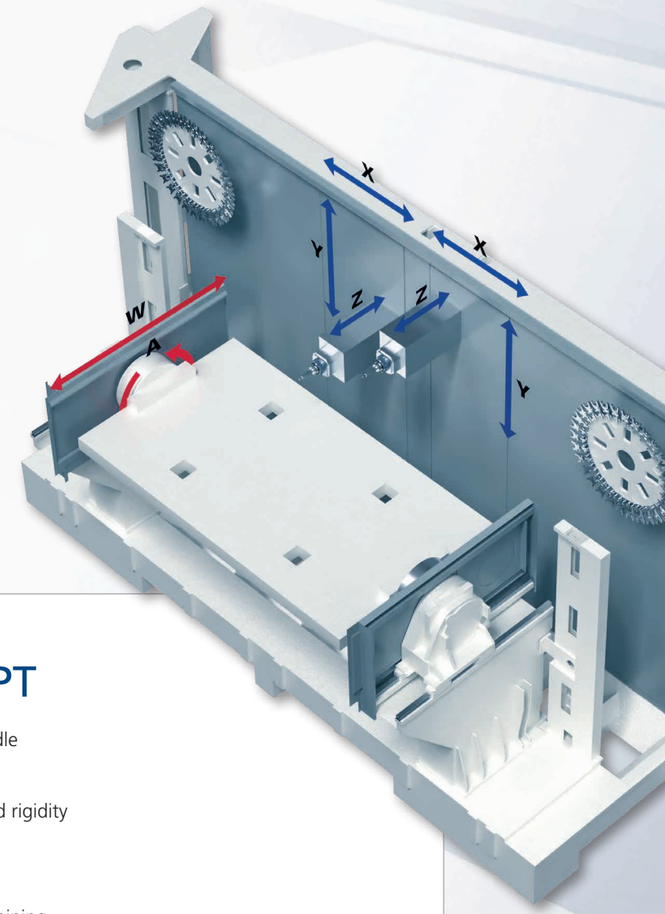
HIGH DYNAMICS AND SHORT CHIP-TO-CHIP TIMES

- Thanks to optimized and coordinated axis drives

HIGH MANUFACTURING FLEXIBILITY

- Thanks to the modular design and ease of retooling

Illustration of G920F[4] may contain options



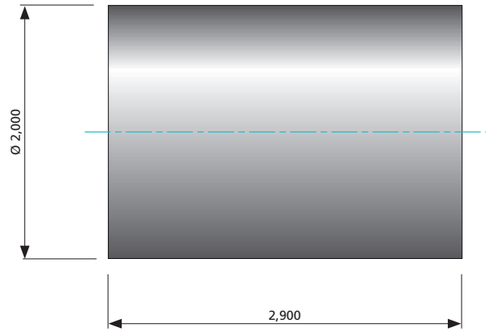
UNIQUE AXIS CONCEPT

- The linear axes X and Z move the machining spindle
- Optimal temperature concept
- X-, Y-, Z- and W-axis with optimized dynamics and rigidity
- Perfected for automated loading
- Good view and access into the work area
- Smart axis concept for next-level mechanical machining

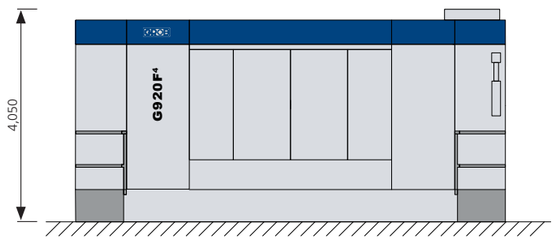
Maximum part size
Minimal footprint

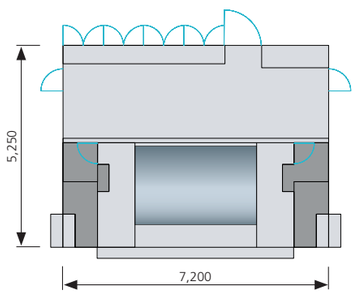
G900F4/G920F4

Max. A-axis [mm]
Basic machine



Basic machine





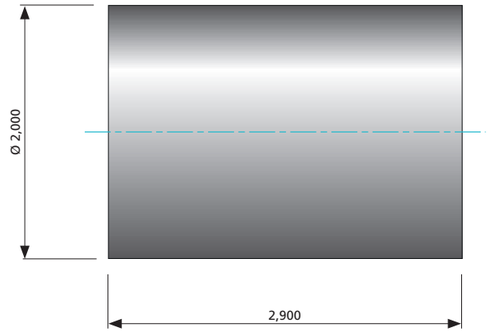
Dimension values [mm], not taking into account preventive maintenance and operating areas or emulsion and chip disposal

Illustrations may contain options
Subject to technical changes without prior notice

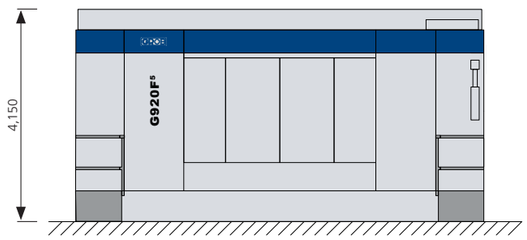
Maximum part size
Minimal footprint

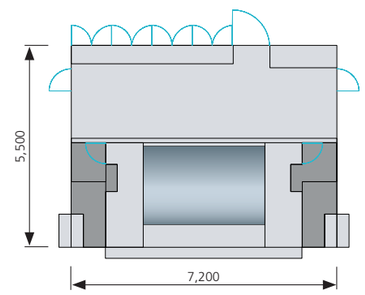
G900F5/G920F5

Max. A-axis [mm]
Basic machine



Basic machine





Dimension values [mm], not taking into account preventive maintenance and operating areas or emulsion and chip disposal

Illustrations may contain options
Subject to technical changes without prior notice

Technical data – overview

G900F4 / G920F4 / G900F5 / G920F5

MACHINE TYPE	G900F4		G920F4	G900F5	G920F5
Number of spindles	1		2	1	2
Work area in X-/Y-/Z-/W-axis [mm]	2,900/1,800/630/750		2,900/1,800/630/750	2,950/2,050/900/750	2,950/2,050/900/750
Max. speeds in X-/Y-/Z-/W-axis [m/min]	90/75/120/60		90/75/120/60	80/60/100/60	80/60/100/60
Max. accelerations in X-/Y-/Z-/W-axis [m/s²] (1)	7/12.5/16/4.5		7/12.5/16/4.5	7/8.5/11.5/4.5	7/8.5/11.0/4.5
Max. feed forces in X-/Y-/Z-axis [kN] (1)	3/3/6		3/3/6	3/3/3	3/3/3
Positioning accuracy* in X-/Y-/Z-/W-axis [mm]	0.01		0.01	0.01	0.01
Repeat precision of positioning* in X-/Y-/Z-/W-axis [mm]	<0.005		<0.005	<0.005	<0.005
DISK-TYPE TOOL MAGAZINE	**STM**		**STM**	**STM**	**STM**
TOOL INTERFACE	**HSK-A63**		**HSK-A63**	**HSK-A63**	**HSK-A63**
Number of tool pockets per motorized spindle with full occupancy	35 / 50		35 / 50	30 / 50	30 / 50
Max. tool length [mm] (vertical disk arrangement)	450		450	450	450
Max. tool diameter [mm] ▸ No diameter restrictions for adjacent pockets ▸ Diameter restrictions for adjacent pockets	 85 170		 85 170	 100 170	 100 170
Max. tool weight [kg]	12		12	12	12
Chip-to-chip time t_1 according to VDI 2852 [s] SIEMENS control system **	4.1		3.6	5.1	4.3
PART					
Table load [kg] (table incl. clamping fixture)	2,750		2,750	2,750	2,750
Interference diameter [mm]	2,000		2,000	2,000	2,000
WEIGHT (approx.)					
Total weight [kg]	40,900		43,700	42,800	47,000

(1) Depends on motorized spindle type

STM = single disk-type tool magazine
Subject to technical changes without prior notice
*According to ISO 230-2:2006 **The chip-to-chip time depends on motorized spindle type and tool holder

Flexible, dynamic & productive

THE GROB X-SERIES

Profound know-how and use of the latest technologies make GROB a recognized expert in the machining technology sector. GROB's machine concepts help you master any challenge, even when it comes to profile machining.

- In-house tool and clamping fixture design as well as clamping fixture construction – ensure the optimal solutions for your success
- Greatest process and engineering experience among machine tool manufacturers
- Automation solutions tailored to your needs
- One single supplier responsible:
  From individual machines to turn-key production lines

OUR PORTFOLIO

#G300 #G320 #G500 #G520
#G500F #G520F #G700F #G720F #G800F #G600F
#G920X
#G900F[4] #G920F[4] #G900F[5] #G920F[5]

For the machining of tomorrow

THE GROB X-SERIES

Our X-series is specially designed for machining aluminum profiles, it offers the perfect combination of speed, precision and efficiency to meet the requirements of modern industry. You can use your GROB machine stand-alone or in combination with other machines in an automated production line.

Benefit from the **PROCESS RELIABILITY, EFFICIENCY**, and **DURABILITY** of our machine concept.

OUTSTANDING DESIGN FOR MINIMUM QUANTITY LUBRICATION MACHINING

- Optimum work area design and large chip funnel into the conveyor system

UNHINDERED CHIP FALL AND OPTIMAL HEAT DISSIPATION

- Thanks to steep machine bed slants in the work area and optimized axis configuration

HIGH DYNAMICS AND SHORT CHIP-TO-CHIP TIMES

- Thanks to optimized and coordinated axis drives

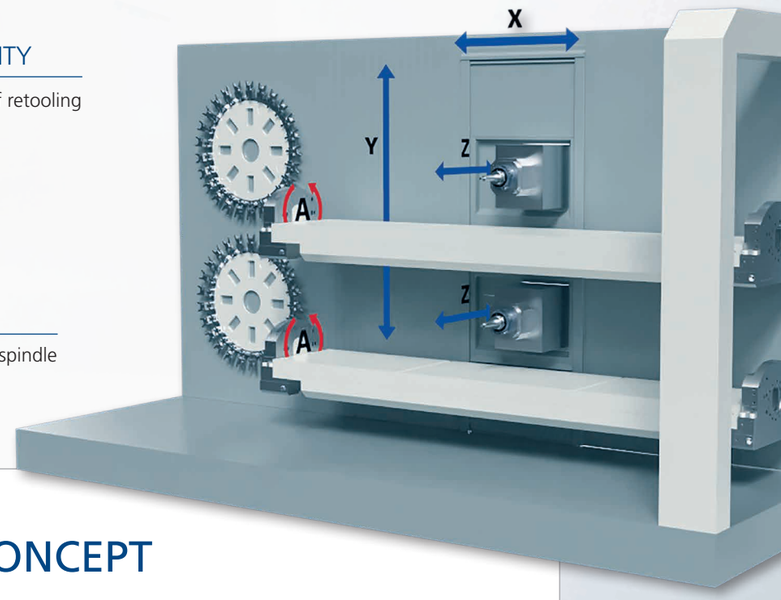
HIGH MANUFACTURING FLEXIBILITY

- Thanks to the modular design and ease of retooling

HIGH MACHINING ACCURACY

- Thanks to the rigid design and horizontal spindle

Illustration of G920X may contain options



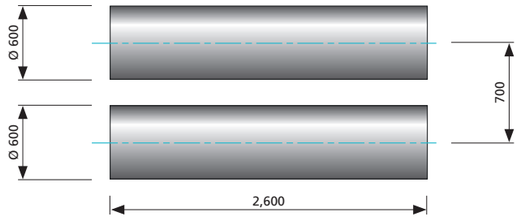
UNIQUE AXIS CONCEPT

- The linear axes X and Z move the machining spindle
- Optimal temperature concept
- X-, Y- and Z-axis with optimized dynamics and rigidity
- Perfected for automated loading
- Good view and access into the work area
- Intelligent clamping concept for profile machining

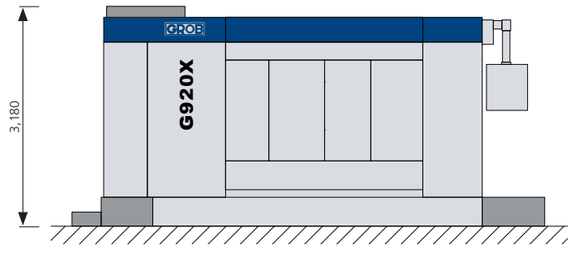
Maximum part size
Minimal footprint

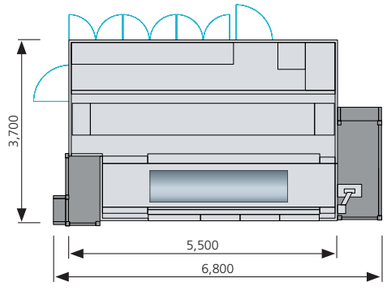
G920X

Max. A-axis [mm]
Basic machine



Basic machine





Dimension values [mm], not taking into account preventive maintenance and operating areas or emulsion and chip disposal

Illustrations may contain options
Subject to technical changes without prior notice

Technical data – overview

G920X

MACHINE TYPE	G920X
Spindle distance [mm]	700
Working travels in X-/Y-/Z-axis [mm]	2,550/500/580
Max. speeds in X-/Y-/Z-axis [m/min]	100/65/120
Max. accelerations in X-/Y-/Z-axis [m/s²] (1)	10/7.5/16
Max. feed forces in X-/Y-/Z-axis [kN] (1)	3/3/6
Positioning accuracy* in X-/Y-/Z-axis [mm]	0.01
Repeat precision of positioning* in X-/Y-/Z-axis [mm]	<0.005
DISK-TYPE TOOL MAGAZINE	**STM**
TOOL INTERFACE	**HSK-A63**
Number of tool pockets per motorized spindle	25
Max. tool length [mm] (vertical disk arrangement)	300
Max. tool diameter [mm] ▸ No diameter restrictions for adjacent pockets ▸ Diameter restrictions for adjacent pockets	 85 170
Max. tool weight [kg]	12
Chip-to-chip time t_1 according to VDI 2852 [s] SIEMENS control system **	3.6
PART	
Table load [kg]	2x 1,000
Interference diameter [mm]	2x 600
WEIGHT (approx.)	
Total weight [kg]	25,700

(1) Depends on motorized spindle type

STM = single disk-type tool magazine
Subject to technical changes without prior notice
*According to ISO 230-2:2006 **The chip-to-chip time depends on motorized spindle type and tool holder

The heart of our machines

GROB MOTORIZED SPINDLES

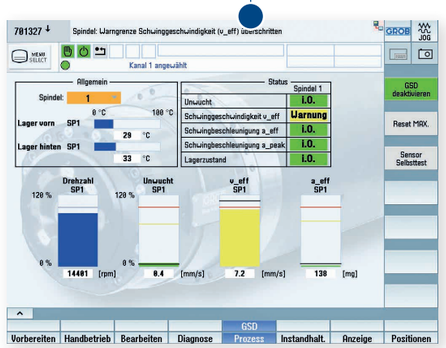
Besides the broad range of spindles, the motorized spindles designed and produced by GROB itself are the preferred choice for optimized process design. These are perfectly tailored to our machining centers and have optimized quality features.

- In-house development tailored to market requirements
- Inventory of the main spindles
- Global repair centers
- Replacement program ensures short delivery times, attractive prices, and sustainability

Machine components

GROB MOTORIZED SPINDLES

GROB SPINDLE DIAGNOSTICS (GSD) – OPTION



GROB Spindle Diagnostics is a system that automatically monitors both the condition of the motorized spindle (condition monitoring) and the vibrations that occur during machining.

- System for automatic condition monitoring of the motorized spindle
- Vibrations that occur are monitored during machining and switched off if they exceed limits
- Service life of the motorized spindle extended through identification of critical operating states
- Perfect process optimization is possible
- Machine downtimes avoided through scheduled maintenance

GROB CHIP-IN-SPINDLE DETECTION SYSTEM (SiS)* – OPTION

Detection of deformations within a few milliseconds

- Inspection and detection of chip and foreign body errors between flat and tapered surfaces
- Automatic interruption if a clamping error is detected
- System independently takes fault clearance measures

*When selecting a HSK-A63 spindle, the motorized spindle is already mechanically prepared for the SPIKE® process force monitoring system.

SPIKE® PROCESS FORCE MONITORING SYSTEM** – OPTION

Monitoring of bending moments and pull-in forces. Based on these values, the system detects and monitors:

- Tool wear and incipient tool breakage
- Vibrations and rattling
- Tool change planning based on system data
- Reduction of tool damage and optimal utilization of the tool life
- Continuous monitoring during the machining process

**The GROB chip-in-spindle detection system (SiS) is always included in this option

Spindle types – Availability at a glance!

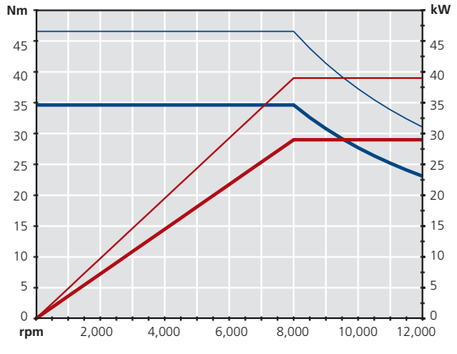
SPINDLE TYPE ⇹ MACHINE											
Tool interface for hollow taper shanks acc. to ISO 12164-1	**HSK-A63**	**HSK-A63**	**HSK-A63**	**HSK-A63**	**HSK-A63**	**HSK-A63**	**HSK-A100**	**HSK-A100**	**HSK-A100***	**HSK-A100**	**HSK-A100**
Spindle type	4	1	5	33	38	2	31	6	22	3	7
Spindle bearing Ø at front bearing [mm]	70	70	70	70	70	80	100	100	100	100	110
Speed n_{max} [rpm]	12,000	18,000	12,000	18,000	17,000	8,000	12,000	6,000	6,000	10,000	9,000
Max. drive power at 100 %/40 % duty cycle [kW]	29/ 39	29/ 39	40/ 52	20/ 26	40/ 52	20/ 25	40/ 50	20/ 26	31.5/ 36	20/ 26	54/ 65
G300	•	•	•	—	•	•	•	•	•	•	—
G320	•	•	•	—	•	—	•	•	•	•	—
G500	•	•	•	—	•	•	•	•	•	•	•
G520	•	•	•	—	•	—	•	•	•	•	—
G500F	•	•	•	—	•	—	—	—	—	—	—
G520F	•	•	•	—	•	—	•	•	—	•	—
G700F	•	•	•	—	•	—	•	•	—	•	—
G720F	•	•	•	—	•	—	•	•	—	•	—
G800F	—	—	—	—	—	—	•	—	—	—	—
G600F	—	—	—	•	—	—	—	—	—	—	—
G900F[4]	—	•	•	—	•	—	—	—	—	—	—
G920F[4]	—	•	•	—	•	—	—	—	—	—	—
G900F[5]	—	—	—	•	—	—	—	—	—	—	—
G920F[5]	—	—	—	•	—	—	—	—	—	—	—
G920X	—	•	•	—	•	—	—	—	—	—	—

*Motorized spindle with cross-feed; only in combination with tool changer arm and a SIEMENS control system

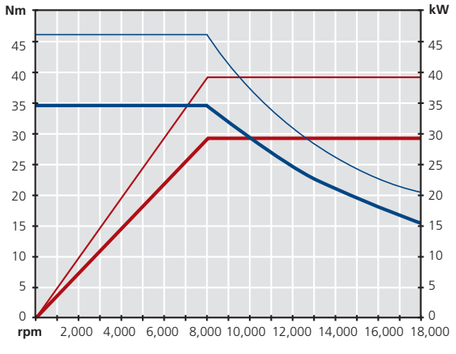
Torque – rotational speed – output

MOTORIZED SPINDLE VERSIONS

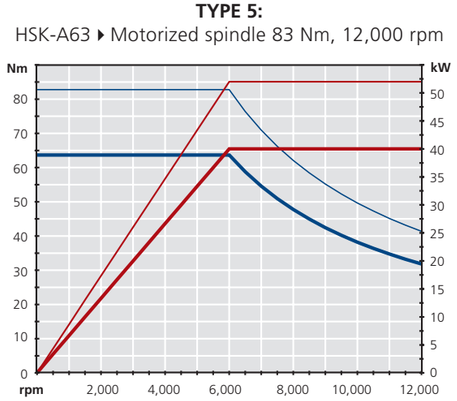
TYPE 4:
HSK-A63 ▸ Motorized spindle 47 Nm, 12,000 rpm



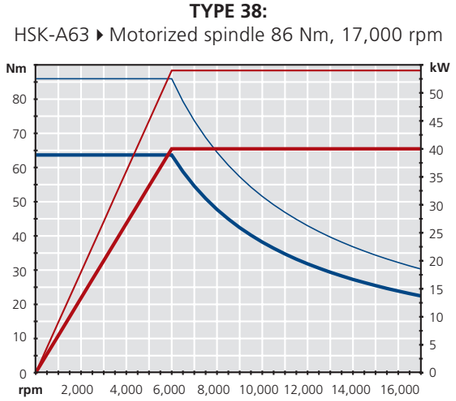
TYPE 1:
HSK-A63 ▸ Motorized spindle 47 Nm, 18,000 rpm



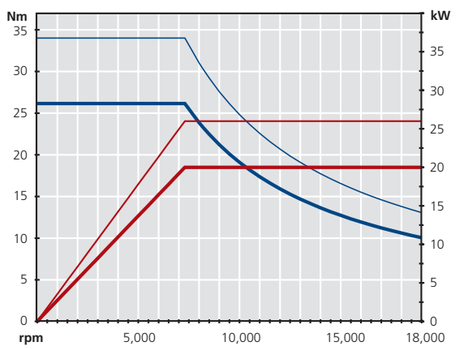
TYPE 5:
HSK-A63 ▸ Motorized spindle 83 Nm, 12,000 rpm



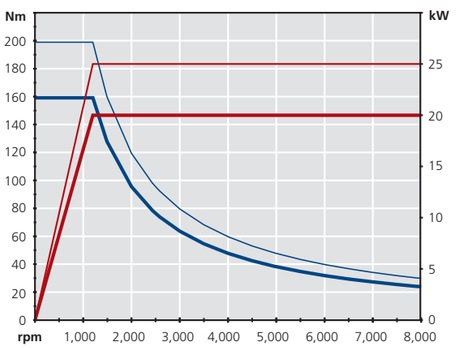
TYPE 38:
HSK-A63 ▸ Motorized spindle 86 Nm, 17,000 rpm



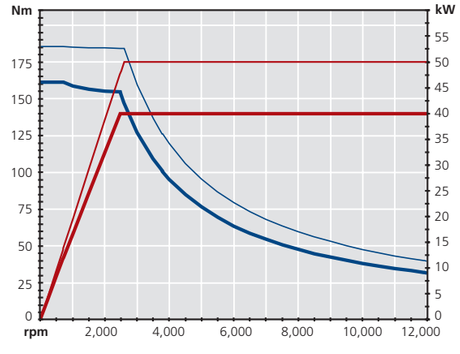
TYPE 33:
HSK-A63 ▸ Motorized spindle 34 Nm, 18,000 rpm



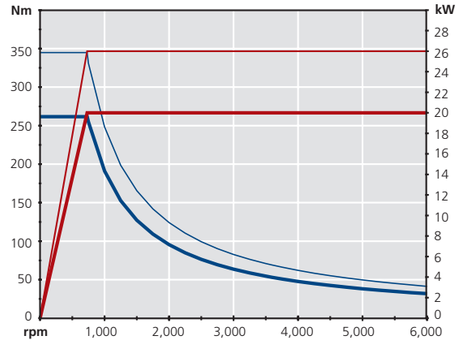
TYPE 2:
HSK-A63 ▸ Motorized spindle 199 Nm, 8,000 rpm



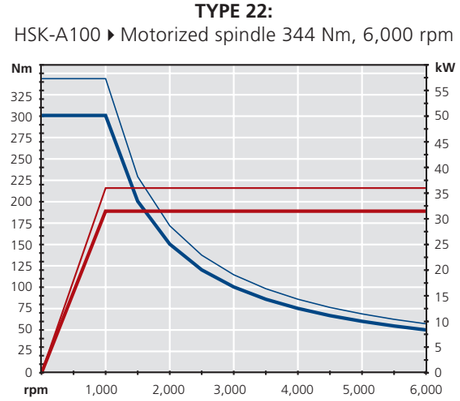
TYPE 31:
HSK-A100 ▸ Motorized spindle 186 Nm, 12,000 rpm



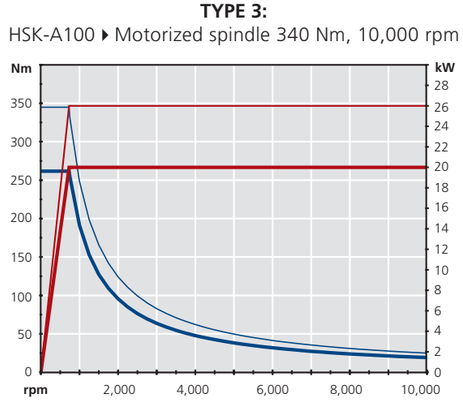
TYPE 6:
HSK-A100 ▸ Motorized spindle 340 Nm, 6,000 rpm



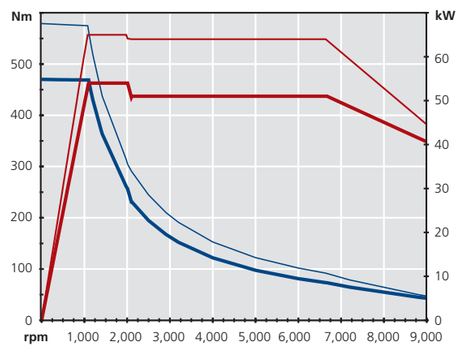
TYPE 22:
HSK-A100 ▸ Motorized spindle 344 Nm, 6,000 rpm



TYPE 3:
HSK-A100 ▸ Motorized spindle 340 Nm, 10,000 rpm



TYPE 7:
HSK-A100 ▸ Motorized spindle 575 Nm, 9,000 rpm



Power S1: 100 % duty cycle
Torque S1: 100 % duty cycle
Power S6: 40 % duty cycle
Torque S6: 40 % duty cycle

The ideal automation solution for your project

AUTOMATION MADE BY GROB

Our customers in small, medium, and large-scale production have been relying on GROB automation solutions for decades. The experience gained is fed straight into our automation solutions, making GROB a strong partner – for solutions with pallet or part storage systems to highly flexible, turn-key manufacturing lines. GROB automation technology allows you to flexibly adapt to capacities and guarantees pallet and part handling perfectly in tune with your needs.

- Mechanical machining and automation from a single source
- Optimal automation for your production plant
- Responsibility for quality and scheduling with one partner
- Turn-key project management

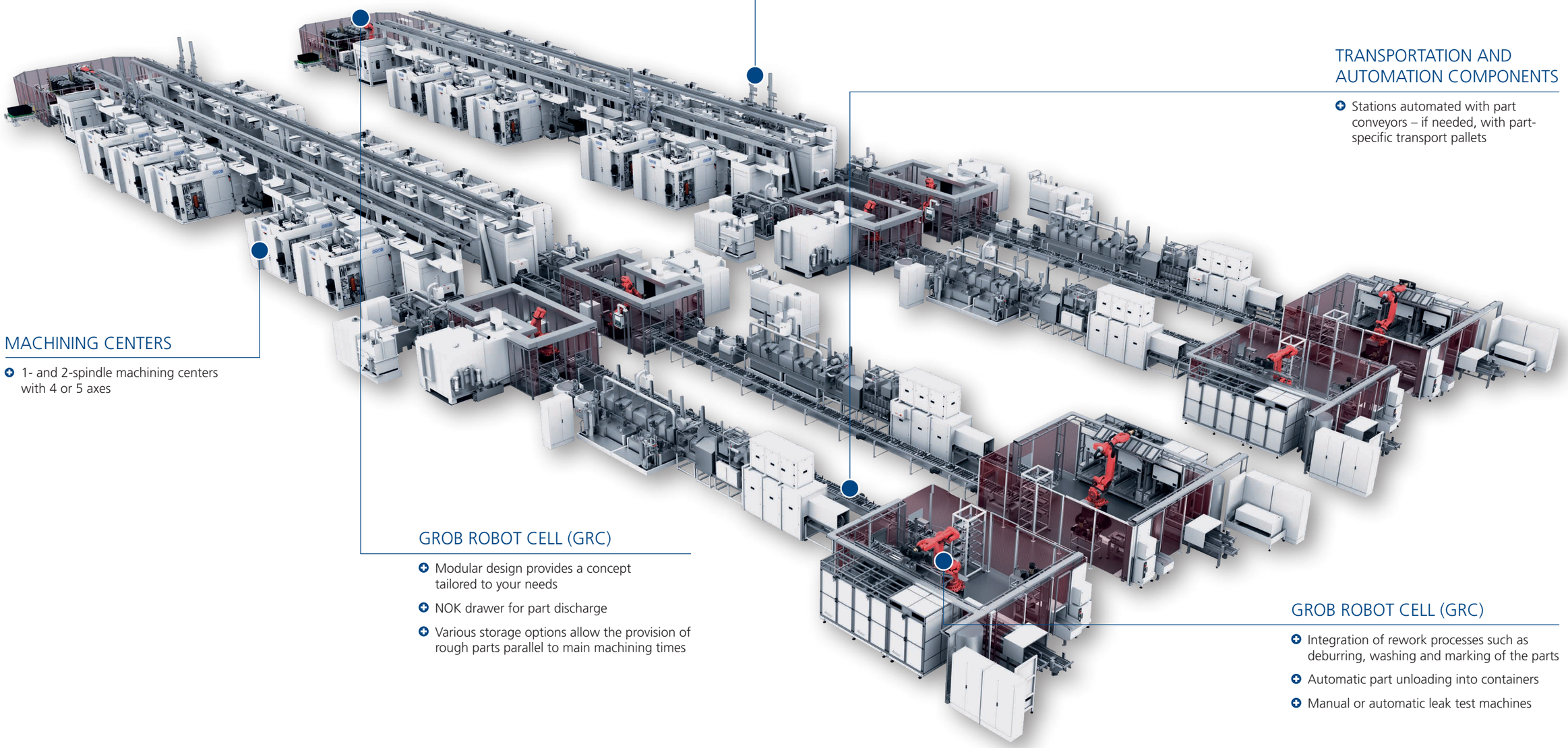
OUR AUTOMATION PORTFOLIO

#SwivelChangers #LinearGantries #GRC #FlexibleManufacturingSystems #TurnkeySystem

Turn-key manufacturing line

ALL VALUE ADDED FROM A SINGLE SOURCE

The customer plant illustrated has a highly efficient GROB manufacturing line for machining transmission cases and clutch housings. In this turn-key project, GROB designed and built the machining centers, and also the complete automation system. The linear gantry can be designed as an I- or H-loader. It has one or two vertical axes per carriage.



HIGHLY DYNAMIC GROB LINEAR GANTRIES

- Designed as I- and H-loaders

TRANSPORTATION AND AUTOMATION COMPONENTS

- Stations automated with part conveyors – if needed, with part-specific transport pallets

MACHINING CENTERS

- 1- and 2-spindle machining centers with 4 or 5 axes

GROB ROBOT CELL (GRC)

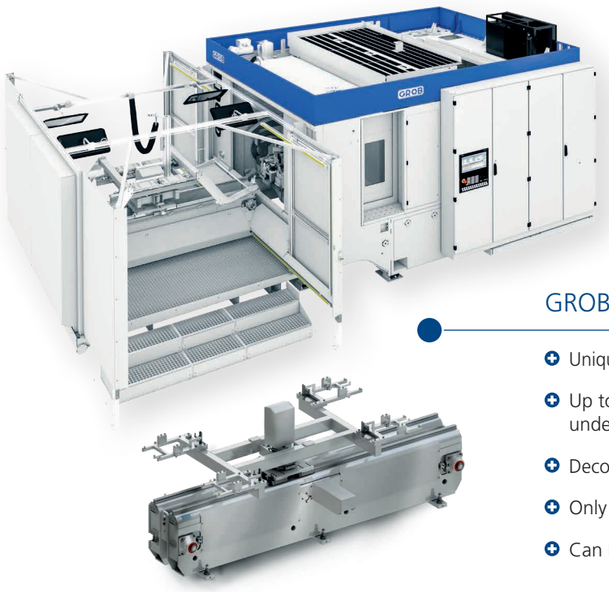
- Modular design provides a concept tailored to your needs
- NOK drawer for part discharge
- Various storage options allow the provision of rough parts parallel to main machining times

GROB ROBOT CELL (GRC)

- Integration of rework processes such as deburring, washing and marking of the parts
- Automatic part unloading into containers
- Manual or automatic leak test machines

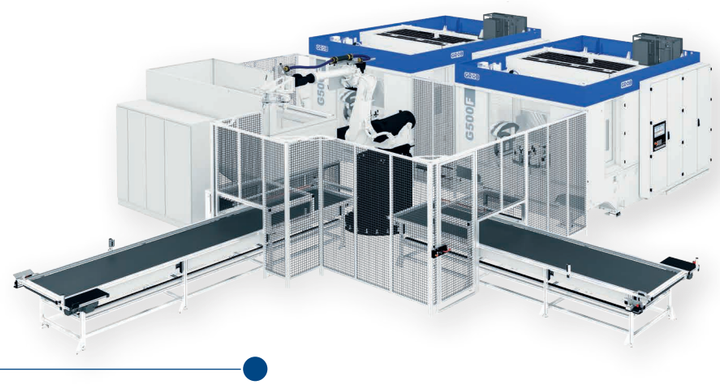
Automation overview

THE IDEAL AUTOMATION SOLUTION FOR YOUR PROJECT



GROB SWIVEL CHANGER

- Unique loading system for up to 2 machines per unit
- Up to 8 swivel changer units and up to 16 machines under one linear gantry
- Decoupling of the automation during machine run times
- Only one fixture set required
- Can be upgraded from manual to automatic loading

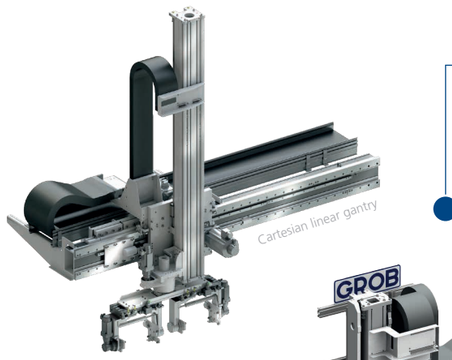


GROB ROBOT CELL (GRC)

- Automation to fit your needs
- Loading directly into the work area via double gripper
- Integration of accompanying processes, e.g. deburring, washing, or marking of the parts
- Standardized components allow quick installation and short commissioning times

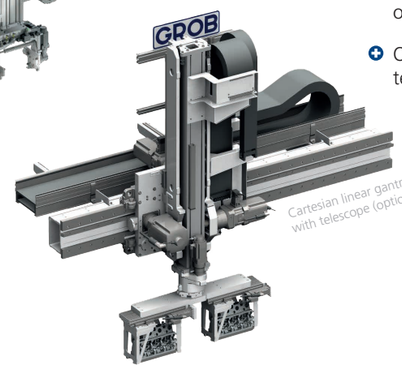
AUTOMATION SYSTEM

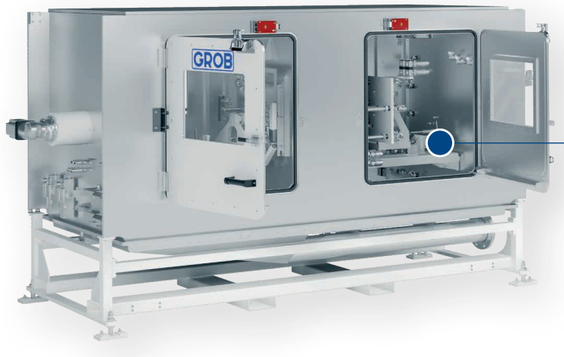
- Usable for all GROB machines
- Zone and combination drive possible
- Individual adjustment of the roller conveyor height
- Adaptable to third-party products



CARTESIAN LINEAR GANTRY

- Fully automated direct loading from above
- Available in three different versions
- High efficiency thanks to simultaneous movement of both the horizontal and vertical level
- Top loading provides free accessibility of the machine on the ground
- Optionally available as a version with telescope for low hall heights





GROB BLOW-OFF BOX

- Unique solution on the market
- Cleaning with compressed air
- "One-stop" solution, perfectly integrated into our automation solutions

Moving into a digital future

INDUSTRY 4.0

Transparency and connectivity – our modular GROB-NET[4]Industry web applications let you network and digitalize your production processes across all plants to make your production even more efficient. From planning to engineering to maintenance, GROB-NET[4]Industry combines relevant modules for increasing productivity and offers you an all-round package for modern production in the Industry 4.0 era.

- GROB[4]LINE – watch the machine on your smartphone
- GROB[4]ANALYZE – machine feedback for the CIP
- GROB[4]INTERFACE – easy route to machine communication
- GROB[4]TRACK – machine axes in view at all times

OUR SOFTWARE PORTFOLIO

#GrobNet4Industry #InteractiveApplication #Cloud4Machine

Friendly,
committed, competent

GROB SERVICE

From 24-hour service and a comprehensive range of spare parts and training courses to professional machine maintenance and analysis: The GROB service spectrum offers you a comprehensive range of products and services and is available to you worldwide thanks to our global production plants and service branches.

- Worldwide service network
- Available 24/7/360
- One hotline for everything
- We are right where our customers are

OUR SERVICE PORTFOLIO

#Hotline #Webshop #ServiceAgreements
#SpareParts #RepairCenter #Overhaul&Optimization
#MotorizedSpindleService #GrobTechnicalAcademy

Worldwide throughout the machine service life

GROB – GLOBAL AND INTERNATIONAL

From Bavaria to the world: Since our founding in 1926 in Munich, we as a global, family-managed company have been on a constant growth trajectory developing and manufacturing systems and machine tools. Our customers include the world's leading automotive manufacturers, their suppliers, and renowned companies from the aerospace, mechanical engineering, and other industries. With our production facilities in Germany, Brazil, the USA, China, Italy and India, as well as 16 worldwide service centers and sales branches, we are represented around the globe, ensuring the highest quality.

FOUNDED IN 1926

NORTH AMERICA

Bluffton, Ohio, USA
Detroit, Michigan, USA
Querétaro, Mexico

6 PLANTS

16 SALES AND
SERVICE BRANCHES WORLDWIDE

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Lyon, France
Baar, Switzerland
Poznań, Poland
Győr, Hungary
Istanbul, Türkiye
Steyr, Austria

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Bangalore, India
Beijing, China
Shanghai, China
Yokohama, Japan
Suwon, South Korea
Haiphong, Vietnam
Bangkok, Thailand

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São Paulo, Brazil

Bluffton, USA

Dalian, China

Pianezza, Italy

Bangalore, India

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GROB-WERKE GmbH & Co. KG

Pioneers in designing and building highly innovative production and automation systems for almost 100 years.

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