*#4Wins*

# 4-AXIS UNIVERSAL MACHINING CENTERS

*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

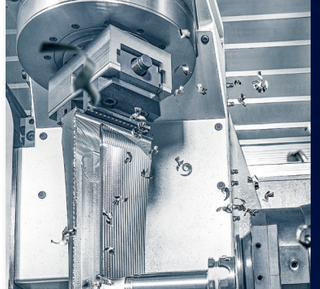
With simulation techniques and virtual commissioning, we achieve the highest adherence to delivery dates and product quality.

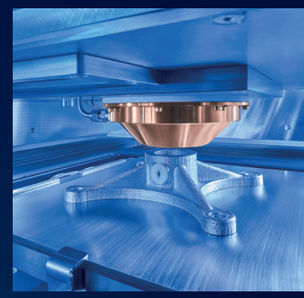
## PRODUCTION

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.

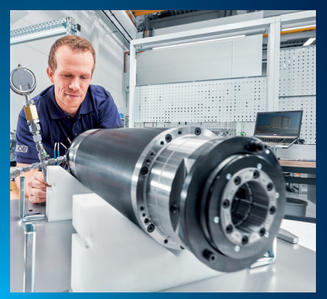
## TECHNICAL APPLICATION CENTERS

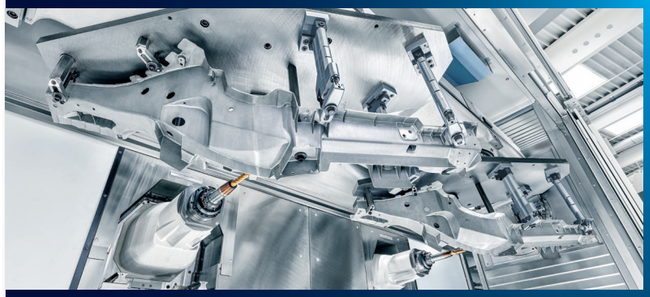
Our production plants in Germany, Brazil, the USA, China, Italy and India have technical application centers for the machining and electromobility sectors, where our customers can experience GROB technologies up close.

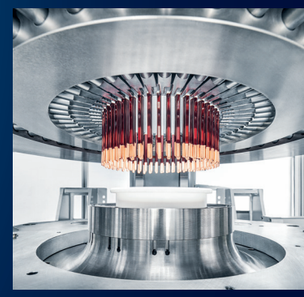


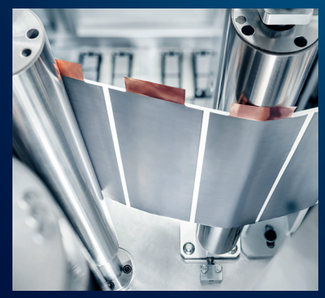









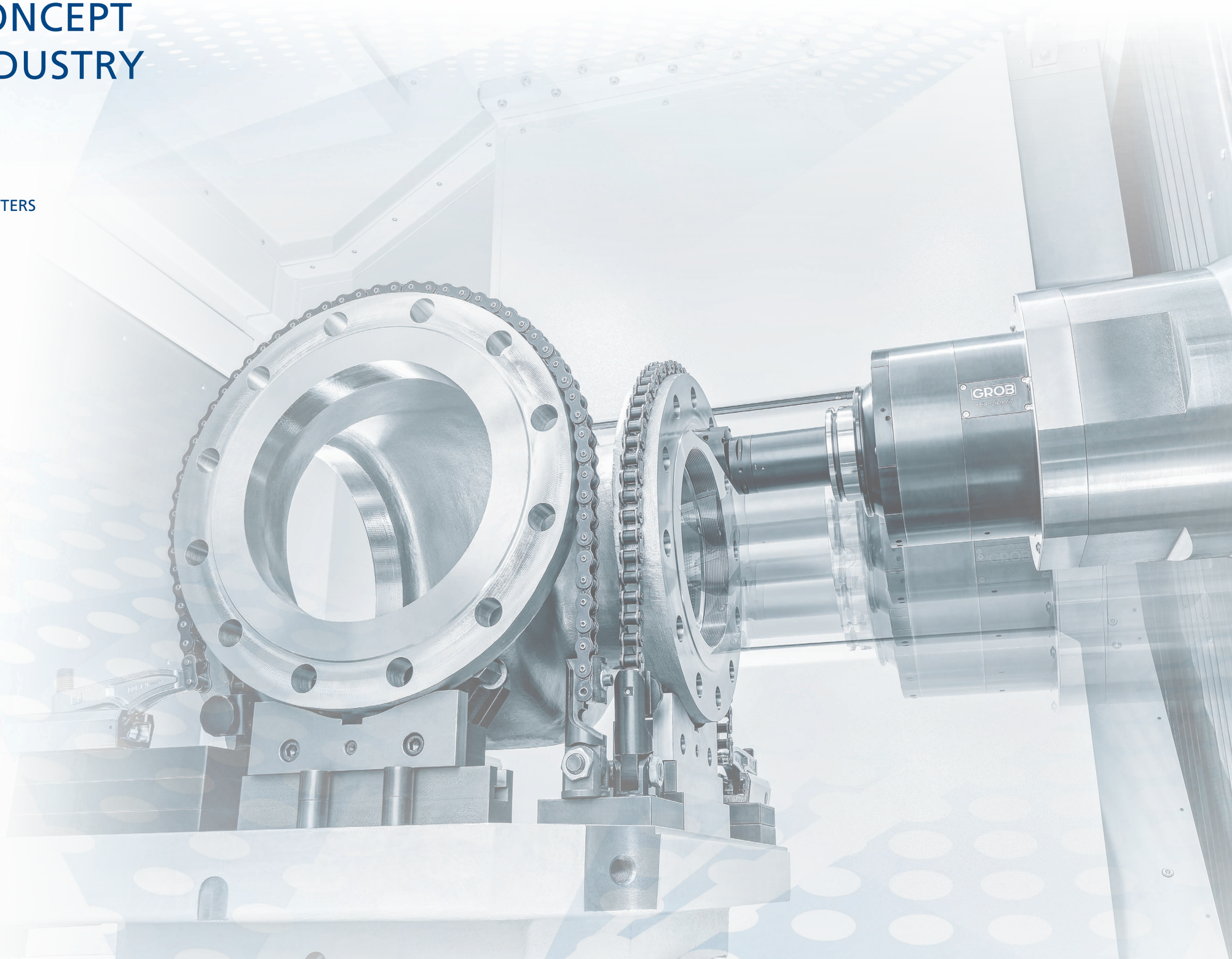




*4-axis universal machining centers by GROB*

# THE RIGHT CONCEPT FOR YOUR INDUSTRY





*A machine series*
*tailored to your needs*

# 4-AXIS UNIVERSAL MACHINING CENTERS BY GROB

The 4-axis universal machining centers G440, G640 and G840 offer our customers a heavy-duty machine series, which at the same time guarantees robust, optimal, and dynamic processes.

No matter whether aerospace, mechanical engineering, die and mold industries, automotive or energy technology – our 4-axis universal machining centers cover a convincingly broad range of possible applications.

- High productivity and process reliability
- Optimized availability and durability
- Excellent maintainability
- Extensive configuration possibilities
- Designed for automation solutions

*OUR PORTFOLIO*
*#G440 #G640 #G840*

*Highly resilient and dynamic*

# OPTIMALLY DESIGNED AXIS AND DRIVE CONCEPT

High productivity, reliable components, and unique durability characterize the 4-axis series. Thanks to extensive configuration options, our machining centers can be perfectly matched to the requirements of your production.

Depending on the equipment, the drive concept is based on one ball screw drive arranged in the mass center or two symmetrically arranged ball screw drives in the Y-axis. The torque motor in the B-axis, which is already installed in the standard model, also enables a fast positioning movement with maximum precision.

## WIDE SELECTION OF MOTORIZED SPINDLES

- Different spindle types are available depending on the machine type

## PALLET CHANGER

- Already included in the basic model

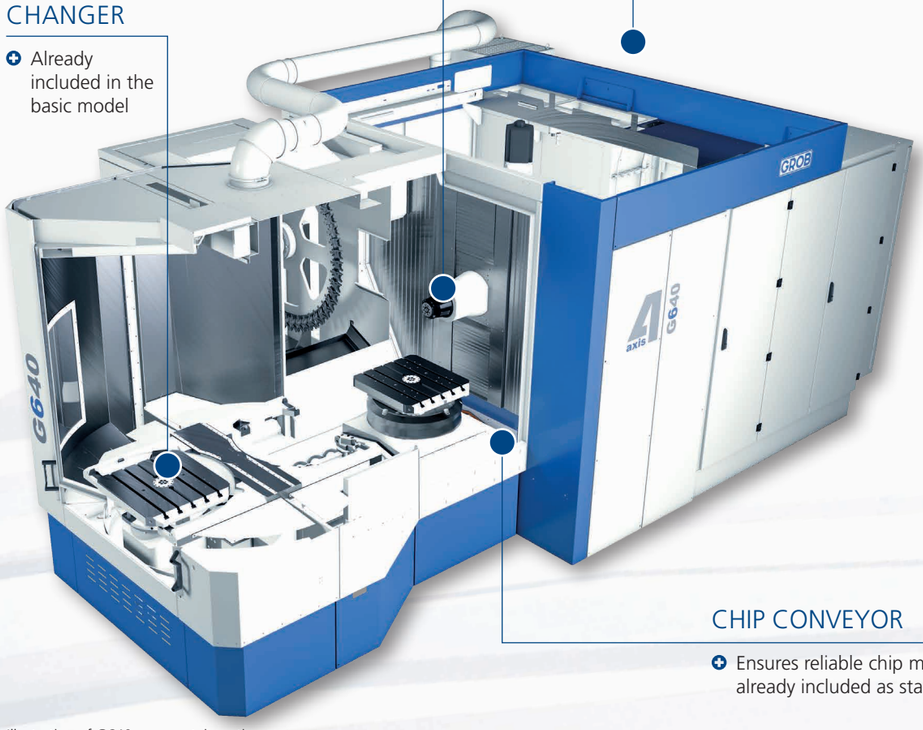



Illustration of G640 may contain options

## EFFICIENT MACHINE COOLING

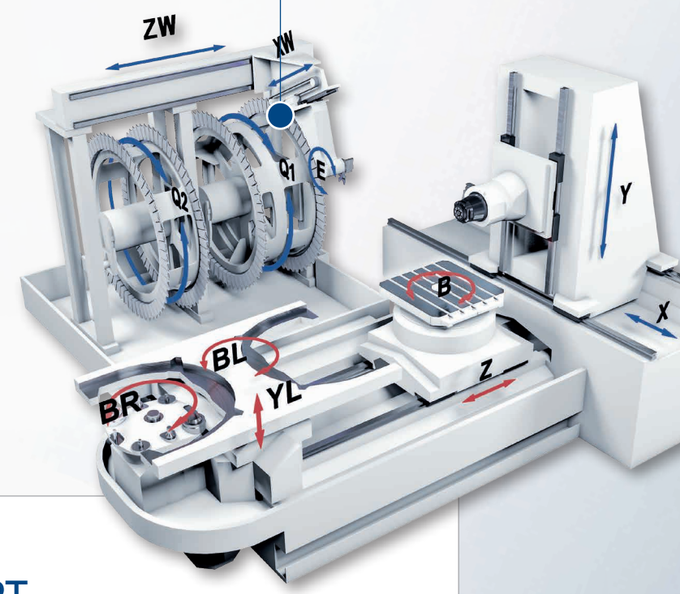
- Available in different packages and can be extended with various additional options

## CHIP CONVEYOR

- Ensures reliable chip management; already included as standard

## DISK-TYPE TOOL MAGAZINE

- Individually configurable as desired




## UNIQUE AXIS CONCEPT

- Topology optimization for a perfect combination between stability, cushioning, and dynamics
- A diverse range of options in a modular design for customized machines

*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

## 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**[1] for hollow taper shanks acc. to ISO 12164-1/ taper shanks[2] acc. to DIN ISO 7388 | **HSK-A63** | | | **HSK-A100** | **HSK-A100/ SK50**[3] | | **HSK-A100** | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Spindle type | 5 | 13 | 9/25 | 3 | HTS F3/HTS F5 | 7/37 | HTS F4 | 29 | 8 | F2 |
| Speed $n_{max}$ [rpm] | 12,000 | 30,000 | 16,000 | 10,000 | 8,000 | 9,000 | 8,000 | 13,000 | 7,200 | 6,000 |
| Max. spindle torque at 100 %/40 % duty cycle [Nm] | 63.7/ 82.8 | 47.7/ 63.2 | 159/ 206 | 262/ 345 | 699/ 900 | 470/ 575 | 1,107/ 1,404 | 226/ 265 | 1,273/ 1,666 | 2,000[4]/ 2,400 |
| Spindle bearing Ø at front bearing [mm] | 70 | 65 | 80 | 100 | 120 | 110 | 120 | 100 | 120 | 120 |
| Max. drive power at 100 %/40 % duty cycle [kW] | 40/ 52 | 40/ 53 | 25/ 32 | 20/ 26 | 52/ 66 | 54/ 65 | 80/ 100 | 64/ 75 | 80/ 100 | 63/ 78 |
| **G440** | • | ○ | ○ | ○ | — | — | — | ○ | — | — |
| **G640** | • | ○ | ○ | ○ | ○* | ○ | ○* | ○ | ○ | — |
| **G840** | — | — | — | • | ○ | ○ | ○ | ○ | ○ | ○ |

[1] Optional tool interfaces on request
[2] Spindles with BIG PLUS® interface
[3] DIN ISO 7388 form A/U/J (45°)
[4] Gear spindle

*Only available in conjunction with the optional work area expansion

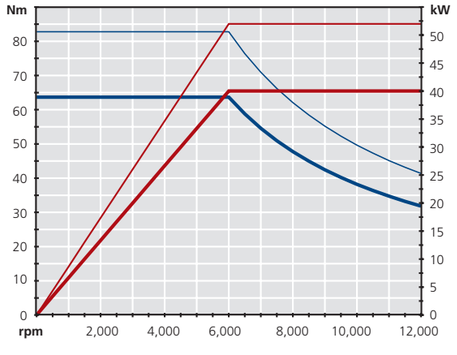
• Standard version with HSK application ○ Optional — Not available

Subject to technical changes without prior notice

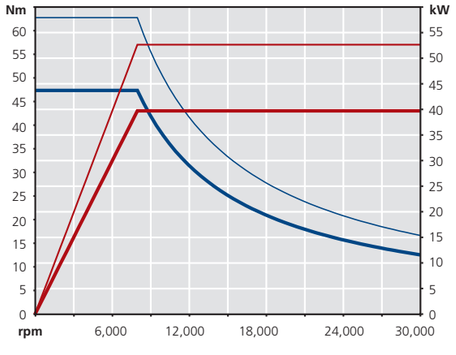
*Torque – rotational speed – output*

# MOTORIZED SPINDLE VERSIONS

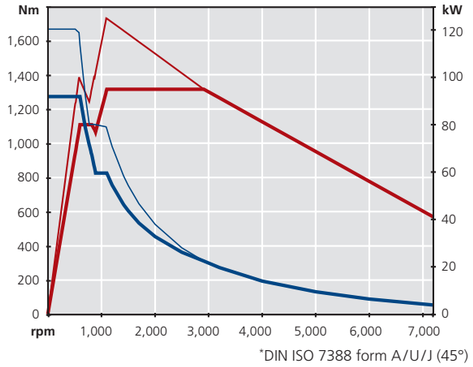
**TYPE 5:**
HSK-A63 ▸ Motorized spindle 83 Nm, 12,000 rpm




**TYPE 13:**
HSK-A63 ▸ Motorized spindle 63 Nm, 30,000 rpm

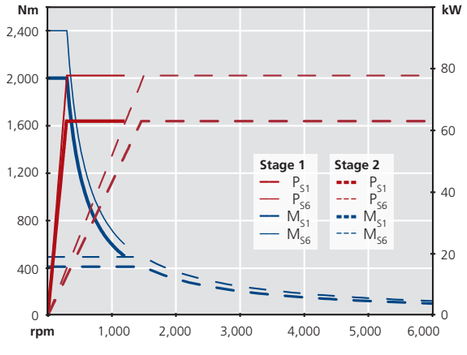



**TYPE 8:**
HSK-A100 ▸ Motorized spindle 1,666 Nm, 7,200 rpm

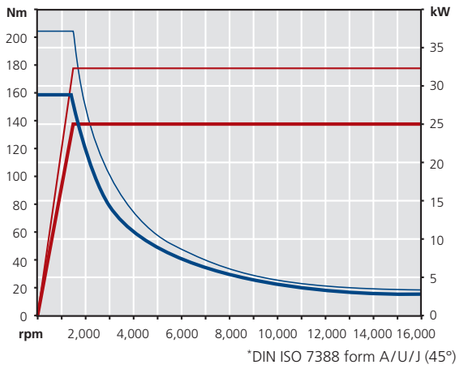



*DIN ISO 7388 form A/U/J (45°)

**TYPE F2:**
HSK-A100 ▸ Gear spindle 2,400 Nm, 6,000 rpm

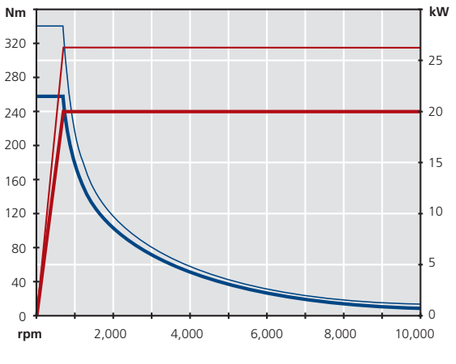



**TYPE 9/25:**
HSK-A63 ▸ Motorized spindle 206 Nm, 16,000 rpm

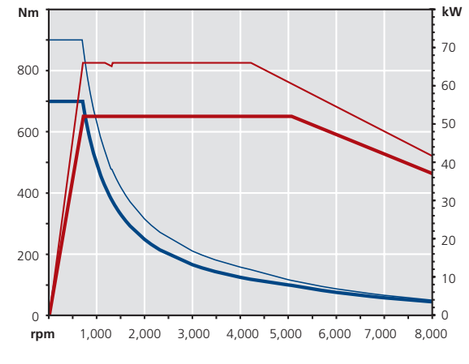



*DIN ISO 7388 form A/U/J (45°)

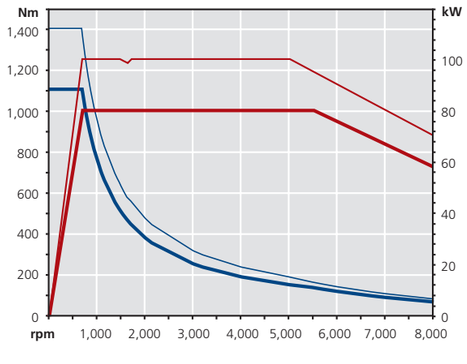
**TYPE 3:**
HSK-A100 ▸ Motorized spindle 345 Nm, 10,000 rpm



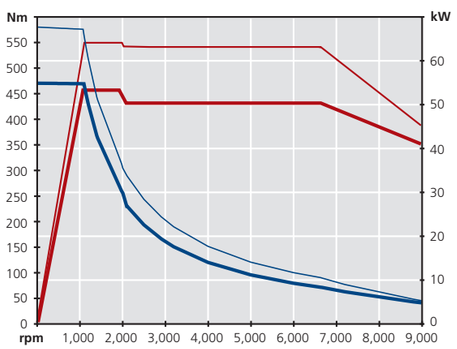

**TYPE HTS F3/HTS F5:**
HSK-A100/SK50 ▸ Main spindle 900 Nm, 8,000 rpm



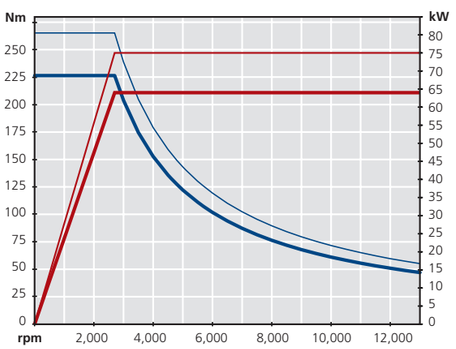

**TYPE HTS F4:**
HSK-A100 ▸ Main spindle 1,404 Nm, 8,000 rpm




**TYPE 7/37:**
HSK-A100/SK50 ▸ Motorized spindle 575 Nm, 9,000 rpm




**TYPE 29:**
HSK-A100 ▸ Motorized spindle 265 Nm, 13,000 rpm




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

*Versatile combinations*

# TOOL MAGAZINES BY GROB

The 4-axis universal machining centers offer versatile possibilities in the area of the tool magazine.
Depending on the machine type, the tool magazine can be configured according to your needs and desires.
It is very easy to extend or replace the magazines in your machine even after delivery via "Plug&Play".

You can also benefit from the use of a highly dynamic tool changer arm or a pick-up variant.

## SINGLE-DISK TO SIX-DISK MAGAZINES

- Vertical, serial magazine disks for the G440, G640, and G840
- Fast tool change with a highly dynamic tool changer arm or pick-up variant

## TOWER MAGAZINE

- Magazine disks arranged on top of each other for the G440, G640, and G840
- Loading during the machining operation
- Parallel setup of up to five tools

**G440 ▸ BASIC MACHINE ◂▸ DISK-TYPE TOOL MAGAZINE**

| Disk-type tool magazine | Single~ | Compact double~ | | Compact three~ | | Four~ | | Six~ | Tower~ |
|---|---|---|---|---|---|---|---|---|---|
| **Tool interface**[1] for hollow taper shanks acc. to ISO 12164-1/ taper shanks[2] acc. to DIN ISO 7388 | HSK-A63 | HSK-A63 | HSK-A100 | HSK-A63 | HSK-A100 | HSK-A63 | HSK-A100/ SK50[3] | HSK-A100 | HSK-A100 |
| Number of tool pockets | 50 | 117 (107)[4] | 57 (52)[4] | 177 (167)[4] | 87 (82)[4] | 237 (227)[4] | 117 (112)[4] | 172 (167)[4] | 238/ 476 |
| Max. tool length [mm][5] | 500 | 500 (530)[4] | 500 (530)[4] | 280 (530)[4] | 260 (530)[4] | 500 (530)[4] | 500 (530)[3, 4] | 260 (530)[4] | 500 (530)[4] |
| Max. tool diameter [mm] ▸ No diameter restrictions for adjacent pockets | 90 | 72 | 120 | 72 | 120 | 72 | 120 | 120 | 152/ 120 |
| ▸ Diameter restrictions for adjacent pockets | 170 | 170 | 280 | 170 | 280 | 170 | 280 | 280 | 280 |
| Max. tool weight [kg] | 12 | 12 | 35 | 12 | 35 | 12 | 35 | 35 | 35 |
| Max. torque around gripper groove [Nm] | 12 | 12 | 40 | 12 | 40 | 12 | 40 | 40 | 40 |
| Pick-up magazine | • | — | — | — | — | — | — | — | — |
| Tool changer arm | — | • | • | • | • | • | • | • | • |

[1] Optional tool interfaces upon request
[2] Spindles with BIG PLUS® interface
[3] DIN ISO 7388 form A/U/J (45°) (number of tool pockets and the max. tool length differs for SK50)
[4] Long tool only possible on first disk
[5] Lengths in relation to HSK

Subject to technical changes without prior notice

*Number of tool pockets*

# G440 / G640 / G840

**G640 ▸ BASIC MACHINE ◂▸ DISK-TYPE TOOL MAGAZINE**

| Disk-type tool magazine | Single~ | Compact double~ | | Compact three~ | | Four~ | | Six~ | Tower~ |
|---|---|---|---|---|---|---|---|---|---|
| **Tool interface**[1] for hollow taper shanks acc. to ISO 12164-1/ taper shanks[2] acc. to DIN ISO 7388 | HSK-A63 | HSK-A63 | HSK-A100 | HSK-A63 | HSK-A100 | HSK-A63 | HSK-A100/ SK50[3] | HSK-A100 | HSK-A100 |
| Number of tool pockets | 50 | 117 (107)[4] | 57 (52)[4] | 177 (167)[4] | 87 (82/77)[4] | 237 (227)[4] | 117 (112)[4] | 172 (167)[4] | 238 (476)[4] |
| Max. tool length [mm][5] | 500 | 500 (680)[4] | 500 (680)[4] | 280 (545)[4] | 260 (545/680)[4] | 500 (680)[4] | 500 (680)[3, 4] | 260 (545/680)[4] | 500 (680)[4] |
| Max. tool diameter [mm] ▸ No diameter restrictions for adjacent pockets | 90 | 72 | 120 | 72 | 120 | 72 | 120 | 120 | 152/ 120 |
| ▸ Diameter restrictions for adjacent pockets | 170 | 170 | 280 | 170 | 280 | 170 | 280 | 280 | 280 |
| Max. tool weight [kg] | 12 | 12 | 35 | 12 | 35 | 12 | 35 | 35 | 35 |
| Max. torque around gripper groove [Nm] | 12 | 12 | 40 | 12 | 40 | 12 | 40 | 40 | 40 |
| Pick-up magazine | • | — | — | — | — | — | — | — | — |
| Tool changer arm | — | • | • | • | • | • | • | • | • |

**G840 ▸ BASIC MACHINE ◂▸ DISK-TYPE TOOL MAGAZINE**

| Disk-type tool magazine | Compact double~ | Compact three~ | Four~ | Six~ | Tower~ |
|---|---|---|---|---|---|
| **Tool interface**[1] for hollow taper shanks acc. to ISO 12164-1/ taper shanks[2] acc. to DIN ISO 7388 | HSK-A100 | HSK-A100 | HSK-A100/ SK50[3] | HSK-A100 | HSK-A100 |
| Number of tool pockets | 57 (52)[4] | 87 (82/77)[4] | 117 (112)[4] | 172 (167)[4] | 238/476 |
| Max. tool length [mm][5] | 500 (830)[4] | 500 (545/830)[4] | 500 (830)[3, 4] | 260 (545/830)[4] | 500 (830)[4] |
| Max. tool diameter [mm] ▸ No diameter restrictions for adjacent pockets | 120 | 120 | 120 | 120 | 152/ 120 |
| ▸ Diameter restrictions for adjacent pockets | 280 | 280 | 280 | 280 | 280 |
| Max. tool weight [kg] | 35 | 35 | 35 | 35 | 35 |
| Max. torque around gripper groove [Nm] | 40 | 40 | 40 | 40 | 40 |
| Pick-up magazine | — | — | — | — | — |
| Tool changer arm | • | • | • | • | • |

[1] Optional tool interfaces upon request
[2] Spindles with BIG PLUS® interface
[3] DIN ISO 7388 form A/U/J (45°) (number of tool pockets and the max. tool length differs for SK50)
[4] Long tool only possible on first disk
[5] Lengths in relation to HSK

Subject to technical changes without prior notice

*GROB⁴Pilot*

# YOUR POWERFUL MACHINE CONTROL PANEL

The innovative GROB⁴Pilot machine control panel offers the machine operator a convenient working environment on the machine through a multi-functional user interface. The entire production process – from the CAD model to the NC simulation – is now digitally mapped on the GROB⁴Pilot control system itself.

- Enhanced user comfort thanks to simplified and intuitive machine operation
- Access to the GROB-NET⁴Industry platform
- Expanded applications for increased efficiency
- Paperless production is possible

## FLEXIBLE DISPLAY LAYOUT

- Free division into up to three apps

## 24" MULTI-TOUCH DISPLAY

- For intuitive operation

## 2x POWERRIDE

- Convenient operation thanks to multifunctional assignment

## OPTIMIZED KEYBOARD

- For easy input

## FULLY-AUTOMATED HOMING AT THE PUSH OF A BUTTON

- From any position – our universal machining centers as well as automated systems automatically move to the home position in several steps

## 3D-SPACEMOUSE® (OPTION)

- For controlling CAD applications

## TRACKBALL

- For alternative screen use in addition to the multi-touch function


Example illustration

**AVAILABLE CNC CONTROL SYSTEM PROVIDERS FOR GROB⁴PILOT**

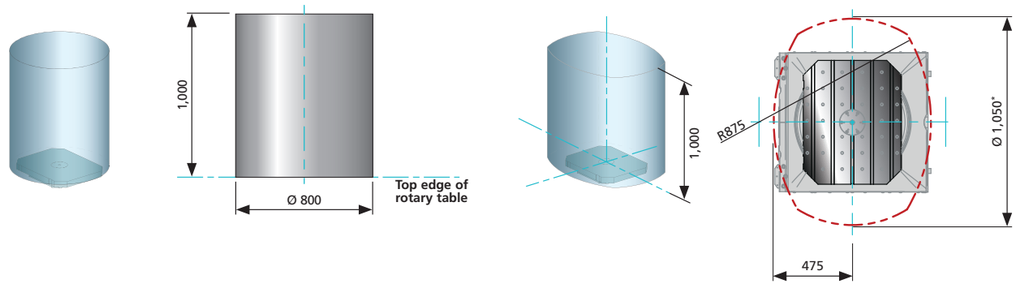
| | SIEMENS SINUMERIK ONE |
|---|---|
| G440 | • |
| G640 | • |
| G840 | • |

# *Maximum part size and loading specifications footprint*

# G440

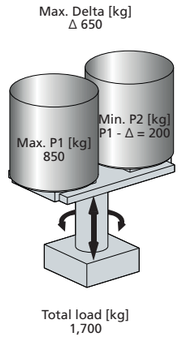
## Maximum part size [mm]

| Standard | Option |
|---|---|




## Loading specifications

**Standard**

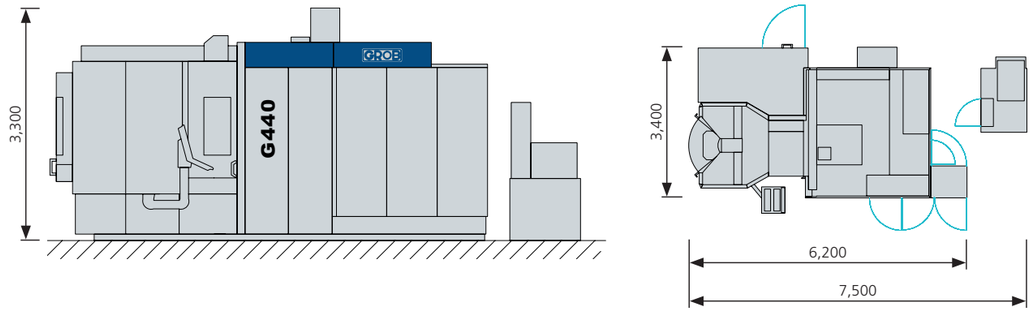



*Optionally extended interference diameter with flattened diameter

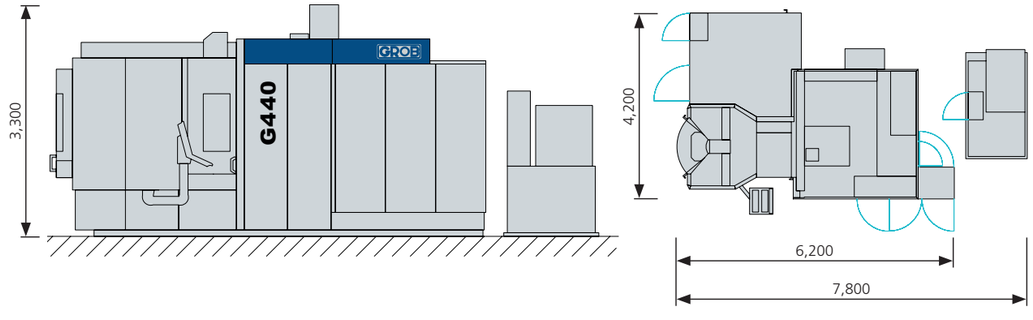
Illustrations may contain options
Subject to technical changes without prior notice

## Side view / top view max. [mm]

**Basic machine with compact magazine and basic cutting fluid system**




**Basic machine with large tool magazine and premium cutting fluid system**




Dimension values [mm], not taking into account preventive maintenance and operating areas

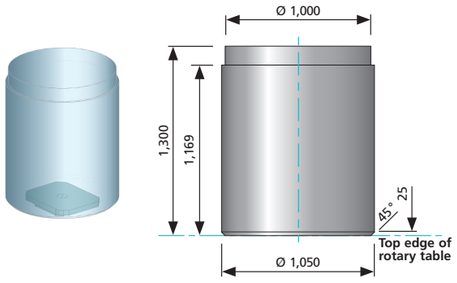
Illustrations may contain options
Subject to technical changes without prior notice

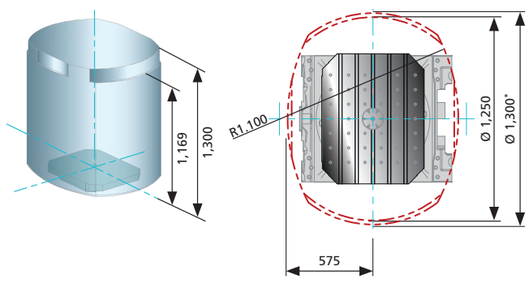
*Maximum part size and loading specifications footprint*

# G640

## Maximum part size [mm]

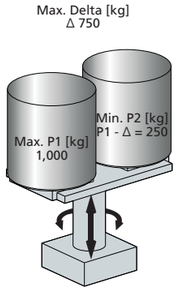
| Standard | Option |
|---|---|

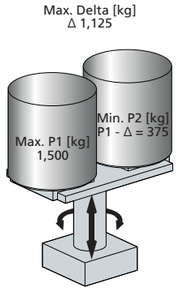



## Loading specifications

| Standard | Option |
|---|---|

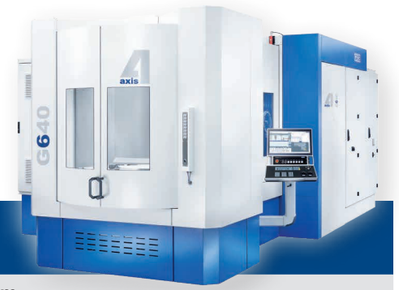


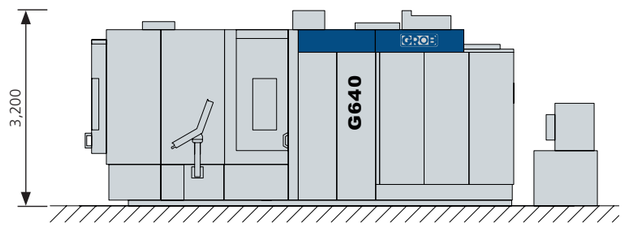

*Optionally extended interference diameter with flattened diameter

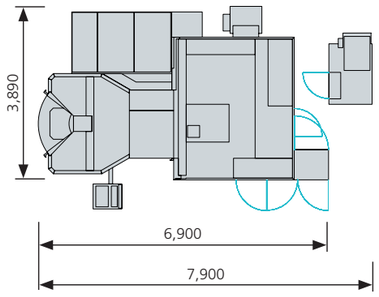
Illustrations may contain options
Subject to technical changes without prior notice

## Side view / top view max. [mm]

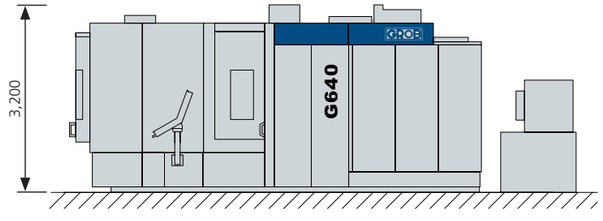


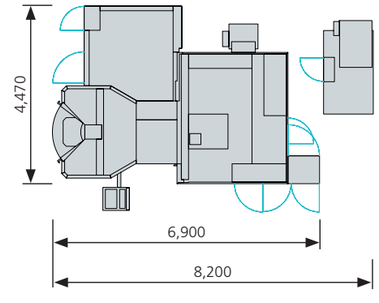

**Basic machine with compact magazine and basic cutting fluid system**




**Basic machine with large tool magazine and premium cutting fluid system**




Dimension values [mm], not taking into account preventive maintenance and operating areas

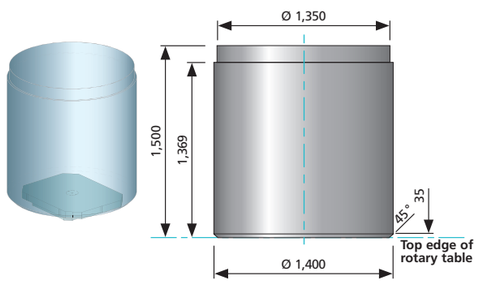
Illustrations may contain options
Subject to technical changes without prior notice

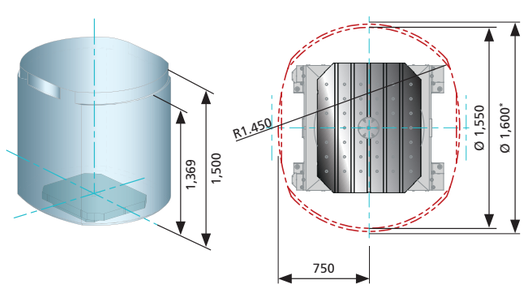
# *Maximum part size and loading specifications footprint*

# G840

## Maximum part size [mm]

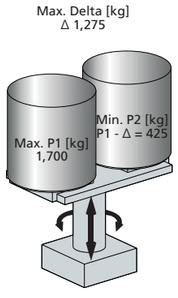
| Standard | Option |
|---|---|

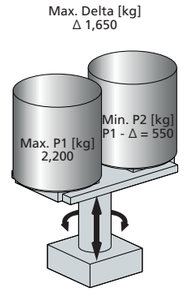



## Loading specifications

| Standard | Option |
|---|---|



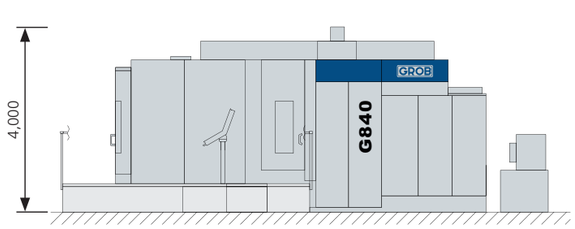



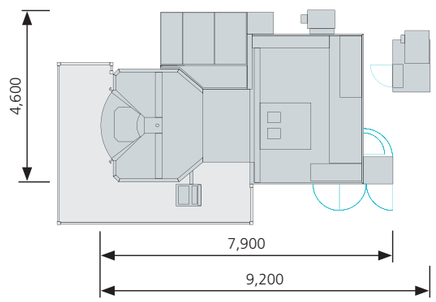

*Optionally extended interference diameter with flattened diameter

Illustrations may contain options
Subject to technical changes without prior notice

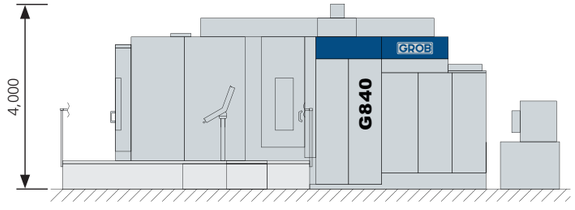
## Side view / top view max. [mm]

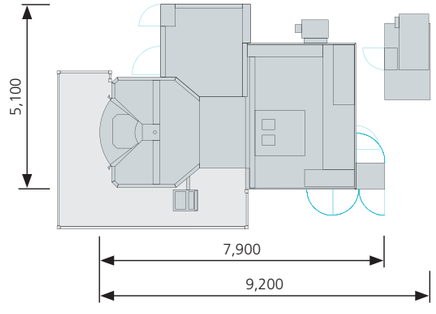
**Basic machine with compact magazine and basic cutting fluid system**




**Basic machine with large tool magazine and premium cutting fluid system**




Dimension values [mm], not taking into account preventive maintenance and operating areas

Illustrations may contain options
Subject to technical changes without prior notice

*Technical data – overview*

# G440/G640/G840

| MACHINE TYPE | G440 | | | | G640 | | | | | | | | G840 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SLIDE** | | | | | | | | | | | | | | | | | | |
| Working travels in X-/Y-/Z-axis [mm] | 800/800/800 | | | | 1,050/800/1,050 | | | | 1,050/1,000/1,050 [9] | | | | 1,400 (1,500) [13]/1,200 [15]/1,400 | | | | 1,400 (1,500) [13]/1,400/1,400 [9] | |
| Max. speeds in X-/Y-/Z-axis [m/min] | 70/60/60 (80/70/70) [8] | | | | 70/60/60 (80/70/70) [8] | | | | 60/60/60 (70/70/70) [5] | | | | 50/50/50 | | | | | |
| Max. accelerations in X-/Y-/Z-axis [m/s²] [1] | 6/6.5/6 (6.5/8/8.8) [8] | | | | 6/6.5/6 (6.5/8/8.2) [8] | | | | 4.5/5.5/6 (4.5/6.5/8.2) [5] | | | | 4.5/5.5/4.5 | | | | | |
| Max. feed forces in X-/Y-/Z-axis [kN] [1] | 8/8/10 | | | | 10/10/12 | | | | | | | | 12/12/15 | | | | | |
| Positioning accuracy [2] in X-/Y-/Z-axis [mm] | 0.006 | | | | 0.006 | | | | | | | | 0.006 | | | | | |
| Repeat precision of positioning [2] in X-/Y-/Z-axis [mm] | <0.0025 | | | | <0.003 | | | | | | | | <0.003 | | | | | |
| **MAIN SPINDLE** | | | | | | | | | | | | | | | | | | |
| Drive: Standard — Tool interface for hollow taper shanks ISO 12164/ taper shanks [3] acc. to DIN ISO 7388 | HSK-A63 | | | | HSK-A63 | | | | | | | | HSK-A100 | | | | | |
| Drive: Standard — Diameter of front spindle bearing [mm] | 70 | | | | 70 | | | | | | | | 100 | | | | | |
| Drive: Standard — Speed $n_{max}$ [rpm] | 12,000 | | | | 12,000 | | | | | | | | 10,000 | | | | | |
| Drive: Standard — Max. drive power at 100%/40% duty cycle [kW] | 40/52 | | | | 40/52 | | | | | | | | 20/26 | | | | | |
| Drive: Standard — Max. spindle torque at 100%/40% duty cycle [Nm] | 63.7/82.8 | | | | 63.7/82.8 | | | | | | | | 262/340 | | | | | |
| Drive: Standard — Chip-to-chip time $t_1$ according to VDI 2852 [s] [4] Pick-up magazine/tool changer arm | 3.4/3.0 | | | | 3.6/3.2 (3.9/3.5) [10] | | | | | | | | —/5.3 | | | | | |
| Drive: Options — Tool interface for hollow taper shanks ISO 12164/ taper shanks [3] acc. to DIN ISO 7388 | HSK-A63 | HSK-A63 | HSK-A100 | HSK-A100 | HSK-A63 | HSK-A63 | HSK-A100 | HSK-A100/SK50 [6][11] | HSK-A100 [11] | HSK-A100/SK50 [6][11] | HSK-A100 | HSK-A100 [11] | HSK-A100 | HSK-A100/SK50 [6] | HSK-A100 | HSK-A100/SK50 [6] | HSK-A100 | HSK-A100 [14] |
| Drive: Options — Diameter of front spindle bearing [mm] | 65 | 80 | 100 | 100 | 65 | 80 | 100 | 120 | 120 | 110 | 100 | 120 | 100 | 120 | 120 | 110 | 120 | 120 |
| Drive: Options — Speed $n_{max}$ [rpm] | 30,000 | 16,000 | 10,000 | 13,000 | 30,000 | 16,000 | 10,000 | 8,000 | 8,000 | 9,000 | 13,000 | 7,200 | 13,000 | 8,000 | 8,000 | 9,000 | 7,200 | 6,000 |
| Drive: Options — Max. drive power at 100%/40% duty cycle [kW] | 40/53 | 25/32 | 20/26 | 64/75 | 40/53 | 25/32 | 20/26 | 52/66 | 80/100 | 54/65 | 64/75 | 80/100 | 64/75 | 52/66 | 80/100 | 54/65 | 80/100 | 63/78 |
| Drive: Options — Max. spindle torque at 100%/40% duty cycle [Nm] | 48/63 | 159/206 | 262/340 | 226/265 | 48/63 | 159/206 | 262/340 | 699/900 | 1,107/1,404 | 470/575 | 226/265 | 1,273/1,666 | 226/265 | 699/900 | 1,107/1,404 | 470/575 | 1,273/1,666 | 2,000/2,400 |
| Drive: Options — Chip-to-chip time $t_1$ according to VDI 2852 [s] [4] Pick-up magazine/tool changer arm | 3.4/3.0 | 3.4/3.0 | —/3.5 | —/3.5 | 3.6/3.2 (3.9/3.5) [10] | 3.6/3.2 | —/4.0 [10] | —/4.8 | —/4.8 | —/4.0 | —/4.0 [10] | —/4.0 | —/5.3 | —/6.2 | —/6.2 | —/5.5 | —/5.5 | —/6.2 |
| **PART** | | | | | | | | | | | | | | | | | | |
| Max. load on pallet [kg] (standard/option) | 850/— | | | | 1,000/1,500 [12] | | | | | | | | 1,700/2,200 [12] | | | | | |
| B-axis interference diameter [mm] | 800 (1,050) [13] | | | | 1,050 (1,300) [13] | | | | | | | | 1,400 (1,600) [13] | | | | | |
| Max. part height [mm] (with pallet) | 1,000 | | | | 1,300 | | | | | | | | 1,500 | | | | | |
| **CUTTING FLUID / CHIP DISPOSAL** | | | | | | | | | | | | | | | | | | |
| Volume of cutting fluid tank basic/premium [l] | 900/2100 | | | | 900/2100 | | | | | | | | 900/2100 | | | | | |
| Cutting fluid filter flow rate [l] | 400 | | | | 400 | | | | | | | | 400 | | | | | |
| **WEIGHT (approx.)** | | | | | | | | | | | | | | | | | | |
| Total weight [kg] (with pallet changer, without tool magazine) | 18,000 | | | | 23,500 | | | | | | | | 37,600 | | | | | |
| **PROCESS STAGES** | | | | | | | | | | | | | | | | | | |
| Pallet size [mm] (standard/option) | 500x500/500x630; 630x630 | | | | 630x630/630x800; 800x800 | | | | | | | | 800x800/800x1,000 | | | | | |
| Pallet change time according to VDI 2852 [s] [7] | 12.0 | | | | 14.0 | | | | | | | | 17.0 | | | | | |

[1] Depending on type of motorized spindle and load weight
[2] According to ISO 230-2:2014
[3] Spindles with BIG PLUS® interface
[4] Depending on tool length/opt. dynamic package
[5] Opt. work area expansion with dynamic package
[6] DIN ISO 7388 form A/U/J (45°)
[7] Without seating check
[8] Dynamic package
[9] Opt. work area expansion
[10] With opt. work area expansion, depending on tool length/opt. dynamic package
[11] Available in combination with the opt. work area expansion
[12] Available independent of opt. work area expansion
[13] Extended interference with flattened diameter
[14] Gear spindle
[15] Y-axis working travel deviates in case of gear spindle: 1,180 mm

* Only available in conjunction with the optional work area expansion

*Perfect accuracy –*
*automatic – any time*

# TECHNOLOGY OPTIONS

Our innovative technologies enable you to monitor the process in real-time and react immediately to changes. By accurately recording process forces, we identify deviations and potential problems early on before they lead to costly failures.

- Process monitoring
- Accuracy
- Productivity
- Precision machining

*OUR PORTFOLIO*
*#G440 #G640 #G840*

*The ideal automation solution for your project*

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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
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- Turn-key project management

*OUR AUTOMATION PORTFOLIO*

*#PSS-R #PSS-T #PSS-L #GRC*
*#FlexibleManufacturingSystems*
*#TurnkeyManufacturingLines*

*Automation overview*

# THE IDEAL AUTOMATION SOLUTION FOR YOUR MACHINE

GROB offers components manufactured in-house for the entire product portfolio for semi to fully automatic manufacturing with the highest quality standards.

## ROTARY PALLET STORAGE SYSTEM (PSS-R)

- Optimum entry into automated and highly efficient production



## LINEAR PALLET STORAGE SYSTEM (PSS-L)

- Highly automated, flexible manufacturing line for a wide variety of part machining processes

*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]INTERFACE – easy route to machine communication
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- GROB[4]LINE – watch the machine on your smartphone
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- GROB[4]ANALYZE-OFFICECLIENT – flexible data analysis with hall layout function
- GROB[4]BROWNFIELD – digital interconnection of various machines
- GROB[4]TDX – transfer tool data automatically
- GROB[4]PARTFLOW – process transparency for parts
- GROB[4]TRACK – machine axes in view at all times
- GROB[4]OPTIMIZATION – motorized spindle process evaluation

*OUR SOFTWARE PORTFOLIO*

*#GrobNet4Industry #InteractiveApplication #Cloud4Machine*

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*committed, competent*

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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.

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

*OUR SERVICE PORTFOLIO*

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*#SpareParts #RepairCenter #Overhaul&Optimization*
*#MotorizedSpindleService #GrobTechnicalAcademy*

*Worldwide throughout the machine service life*

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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.

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