TRAINING CONCEPT

GROB UNIVERSAL MACHINING CENTER

TRAINING CONCEPT

GROB Customer Training

As products become more and more complex and the competition gets tougher, the importance of customer training as a key component of the GROB global range of services is constantly growing. An experienced team of qualified trainers is squaring up to this challenge at GROB.

The GROB Service Program

Besides individual customer consultation and support, the GROB service program includes a wide range of training and development modules.

From system operation, NC programming to preventive maintenance and inspection through to mechanical and electrical maintenance, these modules cover all there is to know about our extensive product range.

We offer various training modules for operators, programmers, installation engineers and maintenance engineers so that you get the best out of your GROB machining center. All training modules are available for SIEMENS 840D sl, HEIDENHAIN iTNC 530 and TNC 640, as well as FANUC 30i-B control systems. Our small group approach means that due consideration can be given to the interests and prior knowledge of all participants.

Depending on availability, individual training modules can be configured to suit particular needs.
All participants who successfully attend the GROB customer training receive a certificate.

Your Contact

GROB Customer Training
Industriestrasse 4 | 87719 Mindelheim | Germany | Tel.: +49 8261 996-5771 | Fax: +49 8261 996-959949
E-Mail: training@grob.de | **www.grobgroup.com**

The GROB training modules at a glance

TRAINING MODULES	
Operation	Electrical maintenance ▸ *Electrical maintenance, standard* ▸ *Electrical maintenance, advanced*
NC programming, basic course	
NC programming, swiveling	
NC programming, advanced courses ▸ *Advanced course* ▸ *GROB-specific programming* ▸ *GROB machine calibration* ▸ *GROB part clamping system* ▸ *Interpolation turning* ▸ *In-process tool measurement* ▸ *GROB File Input Output (FIO)*	GROB system program and function diagnostics ▸ *GROB diagnostics (PLC), basic course* ▸ *GROB diagnostics (PLC), advanced course* ▸ *Maintenance, GROB spindle diagnostics (GSD)* ▸ *Maintenance, GROB chip-in-spindle detection system (SiS)*
Mill-turn technology	Mechanical maintenance ▸ Mechanical maintenance, basic course ▸ Motorized spindle replacement, advanced course ▸ Tool change training, advanced course ▸ Alignment after collision, advanced course
Touch probe programming	
GROB pallet storage systems (PSS-R/PSS-L)	
Transfer course from Heidenhain iTNC 530 to TNC 640	Electrical & mechanical maintenance

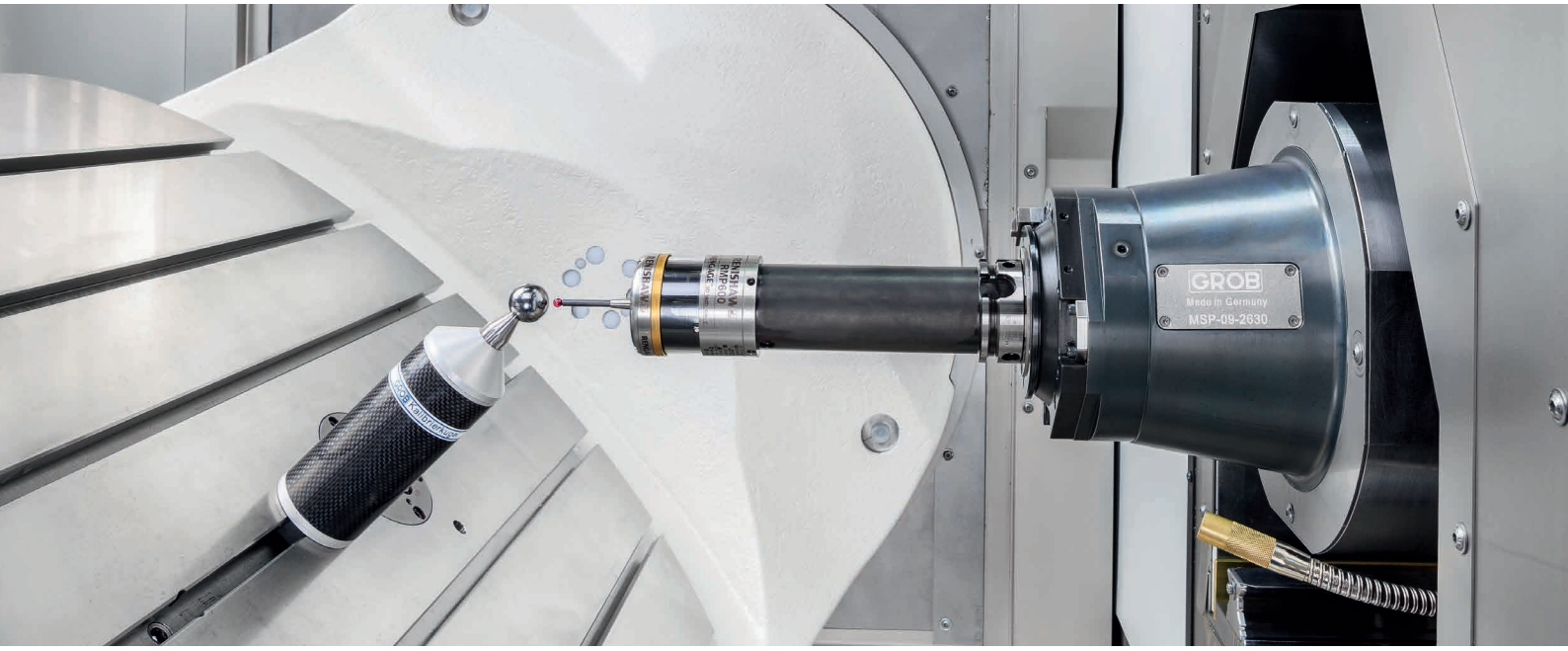
Detailed information on training inquiries and application can be found on page 18.

GROB training modules

You will be closely acquainted with GROB machining centers through various modules. No matter whether novice or experienced machine operator – we demonstrate how the machines work to optimal effect.

OPERATION	
Requirements	Basic knowledge of the control system used
Duration	3 days (4 days for mill-turn machines)
Contents	• Safety • Operation, incl. pallet change • Program entry • Tool management system • Loading and unloading tools • Touch probe calibration • Introduction to swiveling in manual mode • Touch probe in manual mode • Standard machine calibration • Daily inspection/maintenance of the universal machining centers
Learning objective	• Autonomous and safe machine operation in manual and automatic mode • Correct handling of tools and associated data • Correct handling of the touch probe • Recognizing the need for machine maintenance

NC PROGRAMMING, BASIC COURSE	
Requirements	Knowledge of milling according to drawing, basic knowledge of CNC
Duration	4.5 days
Contents	• Introduction to the functionality of the control system concerned • Axis designations and coordinate systems • File management and tables • Tool management system • Standard cycles / contour cycles • Reference points/datums • Web functions • Fundamental principles of NC programming from the control system manufacturer • Programming techniques such as program part repetition and subroutine technology
Learning objective	• Creating and testing 3-axis NC programs according to part drawings



NC PROGRAMMING, SWIVELING	
Requirements	Knowledge from the basic course
Duration	2 days
Contents	• Swiveling the machining plane with the control's own swivel cycles • Producing boreholes and surfaces on swiveled-in planes • Resetting the swivel plane • GROB manufacturer cycles
Learning objective	• Machine programming in five axes

NC PROGRAMMING, ADVANCED COURSES

ADVANCED COURSE	
Requirements	Knowledge from the basic course
Duration	2 days
Contents	• Using calculation parameters • Reading and writing system variables • Creating log files • Definition and usage of user variables
Learning objective	• Flexible program design • Fundamental principles of high-level programming language

TRAINING MODULES

GROB-SPECIFIC PROGRAMMING	
Requirements	Knowledge from the basic course
Duration	1 day
Contents	• Using GROB manufacturing cycles • Adapting the homing program • Checking the tool data • Automatic program entry after program abort
Learning objective	• Process-capable program design

GROB MACHINE CALIBRATION	
Requirements	Profound experience with GROB machining centers and knowledge from the basic course
Duration	1 day
Contents	• Backgrounds of machine calibration • Influencing the calibration via variables • Determination of individual measuring positions • Checking the calibration via measuring programs and log file • Automation possibility
Learning objective	• Understanding of necessity and individual adjustment of the calibration • Detailed insight into the calibration process and its variables • Safe handling of control programs and logs

GROB PART CLAMPING SYSTEM	
Requirements	Knowledge from the advanced course
Duration	1 day
Contents	• Naming and filing clamping programs • Basic structure of setting, clamping and unclamping programs • Program assignment • Relevant functions and signals
Learning objective	• Creating an automatic clamping and unclamping operation

INTERPOLATION TURNING	
Requirements	Knowledge from the basic course
Duration	1 day
Contents	• Tool management, defining tool data • Interpolation turning cycles • Plane switchover • Programming a part with turning contour
Learning objective	• Creating and editing turning contours

IN-PROCESS TOOL MEASUREMENT	
Requirements	Knowledge from the basic course
Duration	1 day
Contents	• Calibration • Tool measurement • Wear measurement • Tool breakage detection • Single cutting edge control
Learning objective	• Integrating the tool measurement system into the process

GROB FILE INPUT OUTPUT (FIO)	
Requirements	Knowledge from the advanced course
Duration	1 day
Contents	• Creating, reading and copying files • Creating time stamps • Output of measured value records in a protocol, for example • Creating tolerance and progress bars • Creating message boxes and selection softkeys
Learning objective	• In-process communication with the machine • Extracting machine information

TRAINING MODULES

MILL-TURN TECHNOLOGY	
Requirements	Knowledge from the basic course and machine operation
Duration	3 days
Contents	• Fundamental principles of turning mode • Balancing of parts • Expanded tool management system • In-process measurement of turning tools • Toggling between milling and turning mode • Using turning cycles • Practical exercises on the machine
Learning objective	• Operating and programming mill-turn machines

TOUCH PROBE PROGRAMMING	
Requirements	Knowledge from the basic course
Duration	1 day
Contents	• Measuring cycles in automatic mode • Positioning parts • Setting part zero points • Correcting tool geometry data
Learning objective	• Positioning parts in the work area • Checking and correcting parts

GROB PALLET STORAGE SYSTEMS (PSS-R / PSS-L)	
Requirements	Basic knowledge of the machining unit used
Duration	1 day
Contents	• Safety • Structure and function of GROB pallet storage systems (PSS-R / PSS-L) • Fundamental principles of the pallet storage system control software • Generation of work plans • Production planning
Learning objective	• Autonomous and safe operation of the PSS • Appropriate equipping and production planning

TRANSFER COURSE FROM HEIDENHAIN iTNC 530 TO TNC 640	
Requirements	Knowledge of control system iTNC 530
Duration	1 day
Contents	• New cycles (face milling cycle 233 and others) • New, fast and high-performance removal simulation • Working with the preset table • New probing functions • New TNC functions • DXF converter • Control system comparison iTNC 530 ◂ ▸ TNC 640
Learning objective	• Learning and applying special features and functions of TNC 640

TRAINING MODULES

ELECTRICAL MAINTENANCE

ELECTRICAL MAINTENANCE, STANDARD	
Requirements	• Training on electrical or electronic systems • Basic knowledge of drive and control technology, as well as the control system used
Duration	3 days
Contents	• Safety training • Functional description of electrical components • Data backup • Data recovery • Hardware replacement • Hardware settings • Diagnostic options • Fault analysis and the correct approach to machine malfunctions
Learning objective	• Minimizing machine downtimes through preventive maintenance activities • Repair of electrical components • Localizing and rectifying electrical faults • Creation and use of data backup as a frame of reference • Confident handling of the documentation

ELECTRICAL MAINTENANCE, ADVANCED	
Requirements	Knowledge from electrical maintenance, standard course
Duration	2 days
Contents	• Communication between G-module and GTY • General program overview, PLC • General program overview, NC • Position corrections, e.g. GTY • Retracting axes, e.g. after a collision • Customer-specific functions
Learning objective	• Minimizing machine downtimes following malfunctions • Modification, e.g. adjusting positions on the linear gantry (GTY)

GROB SYSTEM PROGRAM AND FUNCTION DIAGNOSTICS

SPECIAL BASIC GROB SYSTEM PROGRAM AND FUNCTION DIAGNOSIS	
Target group	• Specifically for electronic maintenance engineers
Requirements	• Electrical maintenance knowledge, standard course
Duration/ Venue	2 days – Mindelheim Training Center or in customer's plant • Course contents: combination of theory (80 %) and practical exercises (20 %)
Contents	• Use of GROB diagnostics • Functional description • Diagnosis and functional diagram • Alarms and notifications • HMI interface and operation
Learning objective	• Error analysis and procedure in case of machine malfunctions • In-depth knowledge of GROB diagnostics functions

SPECIAL ADVANCED GROB SYSTEM PROGRAM AND FUNCTION DIAGNOSIS	
Target group	• Specifically for electronic maintenance engineers
Requirements	• Completion of GROB diagnostics, basic course
Duration/ Venue	2 days – Mindelheim Training Center or in customer's plant • Course contents: combination of theory (10 %) and practical exercises (90 %)
Contents	• Tool for processing "FDUtil" diagrams • Tool for processing "GenAlarm" alarms • Basic knowledge of editing diagrams • Processing generated data in PLC and HMI • Practical exercises such as adding or changing criteria, actuators, functions, and sequences
Learning objective	• Error analysis and the correct approach to machine malfunctions • In-depth knowledge of GROB diagnostics functions and proposal engineering

SPECIAL GROB SPINDLE DIAGNOSTICS ELECTRICS	
Target group	• Specifically for electronic maintenance engineers
Requirements	• Comprehensive training on electrical systems • Basic knowledge of drive and control technology as well as the control system used
Duration/ Venue	1 day – Mindelheim Training Center or in customer's plant • Course composition: Combination of theory (30 %) and practical exercises (70 %)
Contents	• Structure and function of GROB spindle diagnostics • Fundamental principles of the software used (IFM Octavis) • Troubleshooting on the machine • Maintenance, commissioning, and hardware replacement
Learning objective	• Minimizing machine downtimes following malfunctions • Proper handling of the software

TRAINING MODULES

SPECIAL CHIP-IN-SPINDLE ELECTRICS	
Target group	• Specifically for electronic maintenance engineers
Requirements	• Comprehensive training on electrical systems • Basic knowledge of drive and control technology as well as the control system used
Duration/ Venue	1 day – Mindelheim Training Center or in customer's plant • Course contents: combination of theory (30 %) and practical exercises (70 %)
Contents	• Structure and function of the GROB Chip-in-Spindle Detection System (SiS) • Fundamental principles of the software used (SISWare software provisioned by customer) • Troubleshooting on the machine • Maintenance, commissioning, and hardware replacement
Learning objective	• Minimizing machine downtime following faults • Proper handling of the software

MECHANICAL MAINTENANCE

MECHANICAL MAINTENANCE, BASIC COURSE	
Target group	• Specifically for mechanical maintenance engineers
Requirements	• Well-founded training on mechanical systems • Basic knowledge of hydraulics and pneumatics • Basic knowledge of the control system used
Duration	3 days – Mindelheim Training Center or in customer's plant • Course contents: combination of theory (30 %) and practical exercises (70 %)
Contents	• Introduction to safety technology • Structure of the machine (assemblies, drives, tool magazine) • Using the machine documentation • Motorized spindle (inspection) • Machine zero points • Service and maintenance measures • Introduction to special equipment • Fluid technology
Learning objective	• Using the technical documentation as a frame of reference • Minimizing machine downtime through preventive maintenance activities • Implementing simple mechanical repair and maintenance activities

MOTORIZED SPINDLE, ADVANCED COURSE	
Target group	• Specifically for mechanical maintenance engineers
Requirements	• Well-founded training on mechanical systems • Technical expertise • Basic knowledge of the control system used • Knowledge of the mechanical maintenance basic course
Duration	2 days – Mindelheim Training Center • Course contents: combination of theory (10 %) and practical exercises (90 %)
Contents	• Instruction on motorized spindle installation and mode of installation • Motorized spindle removal and installation using the GROB changing device • Checking spindle geometry • Commissioning of the oil/air lubrication system (optional) • Entering analog values using the spindle log • Determining spindle orientation • Setting machine zero points • Initial program for initial commissioning • Spindle maintenance – preventive activities
Learning objective	• Minimizing machine downtime through preventive maintenance activities • Minimizing loss of production with shorter reaction times • Extending motorized spindle service life effectively

ALIGNMENT AFTER COLLISION, ADVANCED COURSE	
Target group	• Specifically for experienced mechanical maintenance engineers
Requirements	• Well-founded training on mechanical systems • Basic knowledge of the control system used • Knowledge of the mechanical maintenance basic course
Duration	4 days – Mindelheim Training Center • Course contents: combination of theory (20 %) and practical exercises (80 %)
Contents	• Checking spindle geometry • Identification of damage using GROB spindle diagnostics • Analysis of geometry errors • Restoring machine geometry • Setting machine zero points • Checking and setting up tool changers • Maintaining the geometry log
Learning objective	• Short machine downtimes • Minimizing machine downtime through preventive maintenance activities • Implementing mechanical repair and maintenance activities • Restoring machine geometry

TRAINING MODULES

TOOL CHANGE TRAINING, ADVANCED COURSE	
Target group	• Specifically for mechanical maintenance engineers
Requirements	• Well-founded training on mechanical systems • Basic knowledge of the control system used • Knowledge of the mechanical maintenance basic course
Duration	2 days – Mindelheim Training Center • Course contents: combination of theory (20 %) and practical exercises (80 %)
Contents	• Design and kinematics of tool changer axes • Operation in setup mode • Identification of zero points of the tool changer axes • Identification of change positions using the calibration tool • Drive and belt replacement – identification of reference points • Checking and setting of analog sensors for tool grippers • Alignment of machine taper brush
Learning objective	• Understanding the tool changer mode of operation • Correcting reference setting points • Localizing and rectifying mechanical faults • Minimizing machine downtime through preventive maintenance activities

ELECTRICAL & MECHANICAL MAINTENANCE	
Target group	• Specifically for engineers – masters – mechatronics engineers
Requirements	• Well-founded training in mechatronics • Basic knowledge of the Sinumerik 840D sl control system used • Training on electrical or electronic systems
Duration	5 days – Mindelheim Training Center • Course contents: combination of theory (30 %) and practical exercises (70 %)
Contents	• Functional description of electrical components • Data recovery, hardware replacement, hardware settings • Communication of the machining center, customer-specific requirements • Structure of the machine (assemblies, drives, measuring systems, tool magazine) • Using the machine documentation • Motorized spindle (inspection) • Machine reference points • Checking tool change positions
Learning objective	• Short machine downtimes • Minimizing machine downtime through preventive maintenance activities • Repair of electrical components • Rectifying and finding electrical faults • Creation and use of data backup as a frame of reference • Implementing mechanical repair and maintenance activities • Restoring machine geometry

GROB SYSTEM PROGRAM AND FUNCTION DIAGNOSTICS

SPECIAL BASIC GROB SYSTEM PROGRAM AND FUNCTION DIAGNOSIS	
Target group	• Specifically for electronic maintenance engineers
Requirements	• Electrical maintenance knowledge, standard course
Duration/ Venue	2 days – Mindelheim Training Center or in customer's plant • Course contents: combination of theory (80 %) and practical exercises (20 %)
Contents	• Use of GROB diagnostics • Functional description • Diagnosis and functional diagram • Alarms and notifications • HMI interface and operation
Learning objective	• Error analysis and procedure in case of machine malfunctions • In-depth knowledge of GROB diagnostics functions

SPECIAL ADVANCED GROB SYSTEM PROGRAM AND FUNCTION DIAGNOSIS	
Target group	• Specifically for electronic maintenance engineers
Requirements	• Completion of GROB diagnostics, basic course
Duration/ Venue	2 days – Mindelheim Training Center or in customer's plant • Course contents: combination of theory (10 %) and practical exercises (90 %)
Contents	• Tool for processing "FDUtil" diagrams • Tool for processing "GenAlarm" alarms • Basic knowledge of editing diagrams • Processing generated data in PLC and HMI • Practical exercises such as adding or changing criteria, actuators, functions, and sequences
Learning objective	• Error analysis and the correct approach to machine malfunctions • In-depth knowledge of GROB diagnostics functions and proposal engineering

SPECIAL GROB SPINDLE DIAGNOSTICS ELECTRICS	
Target group	• Specifically for electronic maintenance engineers
Requirements	• Well-founded training on electrical systems • Basic knowledge of drive and control technology as well as the control system used
Duration/ Venue	1 day – Mindelheim Training Center or in customer's plant • Course composition: Combination of theory (30 %) and practical exercises (70 %)
Contents	• Structure and function of GROB spindle diagnostics • Fundamental principles of the software used (IFM Octavis) • Troubleshooting on the machine • Maintenance, commissioning, and hardware replacement
Learning objective	• Minimizing machine downtimes following malfunctions • Proper handling of the software

DO NOT MISS
THE NEW
E-LEARNING@GROB

HAVE YOU HEARD ABOUT OUR E-LEARNING@GROB?

You already work with a GROB machining center but you need a few tricks to increase production?

The **e-Learning@GROB online courses** let you decide when and where you want to learn.
Discover e-Learning@GROB now!

How e-Learning@GROB can benefit you:

- Flexibility thanks to time- and location-independent learning
- More efficient work on the machine
- Optimal preparation for on-site trainings
- Workplace-based learning when needed
- Self-paced learning
- Access to our "GROB Campus Learning Platform" with training documents and other useful information

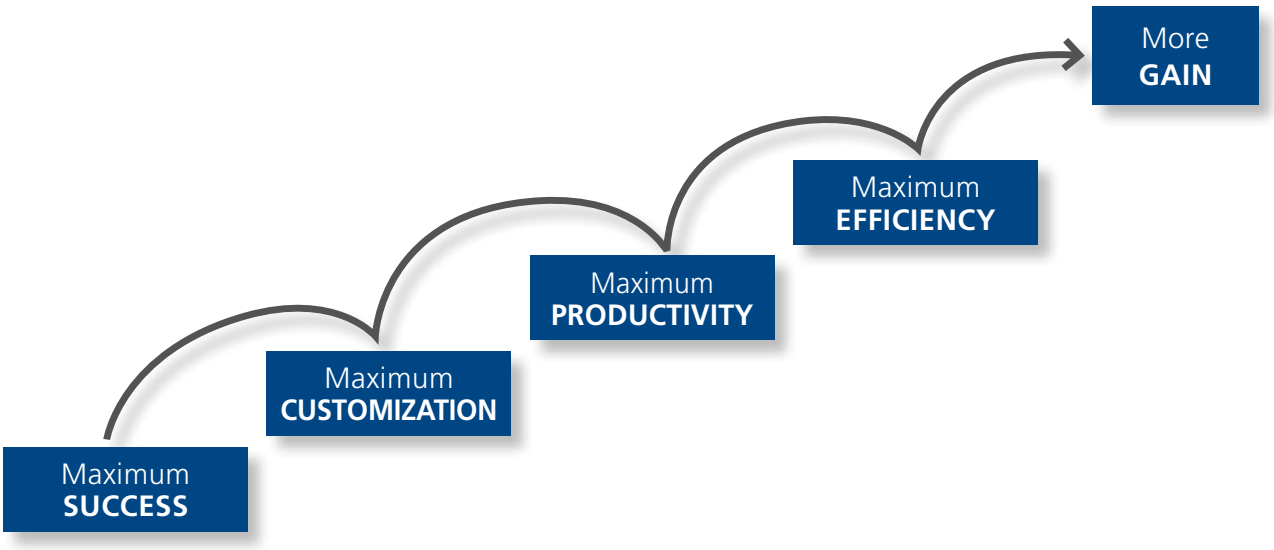
ANY QUESTIONS?

Our **GROB E-LEARNING TEAM** is always available for you:
Tel.: +49 8261 996-2413
E-mail: info@campus.grobgroup.com

We look forward to meeting you!
Your GROB Training Team

GROB CAMPUS^{4}U
INDIVIDUAL TRAINING CONCEPTS WITH GROB

If you are not sure which is the best course for you, we will be happy to create individual training concepts. We will work with you to analyze your needs and requirements to develop a customized training that fulfills your personal requirements.



Analysis

- according to your needs and requirements

Concept

- of customized trainings

Training

- to fulfill your very requirements

YOUR CONTACT

GROB Customer Training
Industriestrasse 4, 87719 Mindelheim, Germany
Tel.: +49 8261 996-5771 | Fax: +49 8261 996-959949
E-Mail: training@grob.de | www.grobgroup.com

GENERAL INFORMATION	
Registration	**Please provide the following information when you submit your training enquiry/ application:** • **Relevant training module** • **Number of participants, along with their first names and surnames** (The maximum number of participants per course is limited to five. Applications will therefore be considered in the order in which they are received in writing. If there are fewer than three participants, GROB reserves the right to postpone the course date, even at short notice.) • **Your complete contact data** (Company name, address with telephone number and e-mail address as well as a contact for queries.) *The training application is binding only after our e-mail confirmation!*
Training duration	The duration of the courses varies. One training day usually lasts seven hours, including breaks.
Language of the training	German or English. If interpreters are required, they must be provided by the customer. We will of course assist you with your search for an adequate interpreter.
Cancelation	A cancelation of the training is free of charge, provided that the written cancelation notice arrives at GROB 14 days before the start of the course at the latest. Cancelations received after this time will attract 10 % of the course fees. If a participant fails to show or leaves the course prematurely, the full fee will be charged.
Course cancelation	If the minimum participant number of three persons is not reached, or in case of force majeure, GROB shall be entitled to change the date for the purpose of merging courses or to cancel the course. GROB shall not be liable for any further costs incurred as a result of canceled courses.
Course procedure	All courses are held at GROB in professionally-equipped training rooms.
Course materials	Training documentation is offered in German or the language of the Technical Documentation delivered. Please do not hesitate to contact us if in need of further languages. The course materials are protected by copyright. They must not be copied nor otherwise reproduced, either in whole or in part, without the trainer's prior consent.
Disclaimer	The information given in the courses and in the associated materials is always conveyed to the best of our knowledge. GROB does not accept any liability for discrepancies or errors. The written information in particular does not constitute any assurance of quality or the equipment variants of the sold machines.
Accommodation during the courses	The participants must arrange their own accommodation. We will of course assist you with your search for overnight accommodation.
Safety	The training participants are under an obligation to observe and comply with the security regulations applicable on GROB company premises. Specifically, the participants are obliged to wear safety footwear. Please bring safety footwear with you to the training.
Costs	We will happily provide you with all costs on request. Generally speaking, the costs are calculated per training day and participant.
Meals	On each training day, each participant receives drinks, snacks and one lunch free-of-charge in the GROB company restaurant.

THE GROB GROUP
Tradition – Know-how spanning generations

As a global, family-owned company, we have been developing manufacturing systems and machine tools for more than 90 years. Our customers include the world's leading automotive manufacturers, their component suppliers and other companies from a broad range of sectors.
We have an international reach through our production plants in Mindelheim (Germany), Bluffton, Ohio (USA), São Paulo (Brazil), Dalian (China) and Pianezza, TO (Italy), as well as through our worldwide service and sales branches. The GROB Group employs 6,800 people and generates 1.21 billion euro in revenue from all around the world (19/20 fiscal year).

GROB product range

SYSTEM MACHINES

- G-modules
- Large machining centers
- Modular special-purpose machines
- Thermal spraying systems
- Machining centers for framework structure components
- Machine configuration for turbine housing production
- Motorized spindles

UNIVERSAL MACHINING CENTERS

- 5-axis universal milling machining centers
- 5-axis universal mill-turn machining centers
- Large machining centers
- Pallet storage systems
- Additional tool magazines
- Motorized spindles

ASSEMBLY SYSTEMS

- Individual assembly units (fully-automatic, semi-automatic, manual)
- Customer-specific assembly systems

E-MOBILITY

- Production systems for electric motors (stator, rotor and overall assembly)
- Assembly systems for batteries (cell, module and pack) and fuel cells

SOFTWARE AND AUTOMATION SOLUTIONS

- GROB-NET^{4}Industry (the Industry 4.0 solution)
- Transport systems (e.g. automation and loading systems)
- Highly complex manufacturing systems (turn-key projects)

GROB core expertise

- At GROB, all core expertise is concentrated under one roof:
  Sales • Project Management • Engineering • Production • Assembly • Commissioning • Customer Service
- Clear sales structure: You have one dedicated contact person throughout the entire project cycle
- Our production facility offers you optimized vertical integration, and enables us to dynamically control capacities and respond to bottle neck situations in a flexible manner
- You can reach our Customer Service in Mindelheim 24 hours a day

GROB-WERKE GmbH & Co. KG
Mindelheim, GERMANY
Tel.: +49 8261 996-0
E-mail: info@de.grobgroup.com

GROB SYSTEMS, Inc.
Detroit, Michigan, USA
Tel.: +1 419 3589015
E-mail: info@us.grobgroup.com

GROB SCHWEIZ AG
Baar, SWITZERLAND
Tel.: +41 76 8191381
E-mail: info@ch.grobgroup.com

GROB MACHINE TOOLS (CHINA) Co., Ltd. Shanghai Branch
Shanghai, P.R. CHINA
Tel.: +86 21 3763-3018
E-mail: shanghai@cn.grobgroup.com

B. GROB DO BRASIL S.A.
São Paulo, BRAZIL
Tel.: +55 11 4367-9100
E-mail: info@grob.com.br

GROB MEXICO S.A. de C.V.
Querétaro, MEXICO
Tel.: +52 442 713-6600
E-mail: info@mx.grobgroup.com

GROB POLSKA Sp. z o.o.
Poznań, POLAND
Tel.: +48 728 646000
E-mail: info@pl.grobgroup.com

GROB JAPAN K.K.
Yokohama, Kanagawa, JAPAN
Tel.: +81 45 414-3390
E-mail: info@jp.grobgroup.com

GROB SYSTEMS, Inc.
Bluffton, Ohio, USA
Tel.: +1 419 358-9015
E-mail: info@us.grobgroup.com

GROB MACHINE TOOLS U.K., Ltd.
Birmingham, GREAT BRITAIN
Tel.: +44 121 366-9848
E-mail: info@uk.grobgroup.com

GROB HUNGARIA Kft.
Győr, HUNGARY
Tel.: +36 30436-4471
E-mail: info@hu.grobgroup.com

GROB KOREA Co., Ltd.
Seoul, SOUTH KOREA
Tel.: +82 31 8064-1880
E-mail: info@kr.grobgroup.com

GROB MACHINE TOOLS (CHINA) Co., Ltd.
Dalian, P.R. CHINA
Tel.: +86 411 39266-488
E-mail: dalian@cn.grobgroup.com

GROB BENELUX BV
Hengelo, NETHERLANDS
Tel.: +31 74 3490207
E-mail: info@nl.grobgroup.com

GROB RUSS-MASCH GmbH
Moscow, RUSSIA
Tel.: +7 495 795-0285
E-mail: info@ru.grobgroup.com

GROB VIETNAM L.L.C.
Haiphong, VIETNAM
Tel.: +84 225 8832-415
E-mail: info@vn.grobgroup.com

GROB ITALY S.r.l.
Pianezza (TO), ITALY
Tel.: +39 011 9348292
E-mail: info@it.grobgroup.com

GROB FRANCE S.A.R.L.
Senlis, FRANCE
Tel.: +33 3650 95025
E-mail: info@fr.grobgroup.com

GROB MACHINE TOOLS (CHINA) Co., Ltd. Beijing Branch
Beijing, P.R. CHINA
Tel.: +86 10 6480-3711
E-mail: beijing@cn.grobgroup.com

GROB MACHINE TOOLS INDIA Pvt., Ltd.
Hyderabad, INDIA
Tel.: +91 40 4202-3336
E-mail: info@in.grobgroup.com

www.grobgroup.com