The Rexroth Training Program 2021

Connected Know-How

www.boschrexroth.com.cn
Foreword

Despite the increase in high-grade educational and academic degrees, there is a decrease in practical know-how leaving a widening qualification gap. The Drive & Control Academy focuses on practical basic and further training.

With our learning systems with real industrial standard components, we provide you with up-to-date technical knowledge and modules that make technology “tangible”, literally. For example, With our mobile control block system module, we can provide you with practical knowledge and solutions for mobile machine in our training courses.

The increasingly intelligent sensor technology and the Internet of Things (IoT) must also remain transparent. As of now, Bosch sensor experts address themselves to this task with our training courses. This and much more can be found in the chapter “Industry 4.0”.

Technical knowledge must become wider, and more people believe that lifelong learning is becoming increasingly important, therefore we need more and more training cooperations and partners to reach and inform the participants of the training courses.

Despite all the progress, one thing remains unchanged: Qualification is exciting and enjoyable, motivates you to personal and entrepreneurial success and is a particularly efficient measure to satisfy your curiosity for new technical knowledge.

We invite you to take a look at our catalogs for our current educational programs and to browse our websites and other communication channels. Together we can achieve more!

General Manager Mr. Lau Fowai
Drive & Control Academy,
Bosch Rexroth China
January
Day 1 Fr New Year's Day
Day 2 Sa New Year's Day
Day 3 Su New Year's Day
Day 4 Mo
Day 5 Tu
Day 6 We
Day 7 Th
Day 8 Fr
Day 9 Sa
Day 10 Su
Day 11 Mo
Day 12 Tu
Day 13 We
Day 14 Th
Day 15 Fr
Day 16 Sa
Day 17 Su
Day 18 Mo
Day 19 Tu
Day 20 We
Day 21 Th
Day 22 Fr
Day 23 Sa
Day 24 Su
Day 25 Mo
Day 26 We
Day 27 Th
Day 28 Fr
Day 29 Sa
Day 30 Su
Day 31 Mo

February
Day 1 Su
Day 2 Mo
Day 3 Tu
Day 4 We
Day 5 Th
Day 6 Fr
Day 7 Sa
Day 8 Su
Day 9 Mo
Day 10 Tu
Day 11 We
Day 12 Th
Day 13 Fr
Day 14 Sa
Day 15 Su
Day 16 Mo
Day 17 We
Day 18 Th
Day 19 Fr
Day 20 Sa
Day 21 Su
Day 22 Mo
Day 23 Tu
Day 24 We
Day 25 Th
Day 26 Fr
Day 27 Sa
Day 28 Su
Day 29 Mo
Day 30 Tu
Day 31 We

March
Day 1 Su
Day 2 Mo
Day 3 Tu
Day 4 We
Day 5 Th
Day 6 Fr
Day 7 Sa
Day 8 Su
Day 9 Mo
Day 10 Tu
Day 11 We
Day 12 Th
Day 13 Fr
Day 14 Sa
Day 15 Su
Day 16 Mo
Day 17 We
Day 18 Th
Day 19 Fr
Day 20 Sa
Day 21 Su
Day 22 Mo
Day 23 Tu
Day 24 We
Day 25 Th
Day 26 Fr
Day 27 Sa
Day 28 Su
Day 29 Mo
Day 30 Tu
Day 31 We

April
Day 1 Su
Day 2 Mo
Day 3 Tu
Day 4 We
Day 5 Th
Day 6 Fr
Day 7 Sa
Day 8 Su
Day 9 Mo
Day 10 Tu
Day 11 We
Day 12 Th
Day 13 Fr
Day 14 Sa
Day 15 Su
Day 16 Mo
Day 17 We
Day 18 Th
Day 19 Fr
Day 20 Sa
Day 21 Su
Day 22 Mo
Day 23 Tu
Day 24 We
Day 25 Th
Day 26 Fr
Day 27 Sa
Day 28 Su
Day 29 Mo
Day 30 Tu
Day 31 We

May
Day 1 Su
Day 2 Mo
Day 3 Tu
Day 4 We
Day 5 Th
Day 6 Fr
Day 7 Sa
Day 8 Su
Day 9 Mo
Day 10 Tu
Day 11 We
Day 12 Th
Day 13 Fr
Day 14 Sa
Day 15 Su
Day 16 Mo
Day 17 We
Day 18 Th
Day 19 Fr
Day 20 Sa
Day 21 Su
Day 22 Mo
Day 23 Tu
Day 24 We
Day 25 Th
Day 26 Fr
Day 27 Sa
Day 28 Su
Day 29 Mo
Day 30 Tu
Day 31 We

June
Day 1 Su
Day 2 Mo
Day 3 Tu
Day 4 We
Day 5 Th
Day 6 Fr
Day 7 Sa
Day 8 Su
Day 9 Mo
Day 10 Tu
Day 11 We
Day 12 Th
Day 13 Fr
Day 14 Sa
Day 15 Su
Day 16 Mo
Day 17 We
Day 18 Th
Day 19 Fr
Day 20 Sa
Day 21 Su
Day 22 Mo
Day 23 Tu
Day 24 We
Day 25 Th
Day 26 Fr
Day 27 Sa
Day 28 Su
Day 29 Mo
Day 30 Tu
Day 31 We

National legal holidays 2021

January
Day 1 Fr New Year's Day
Day 2 Sa New Year's Day
Day 3 Su New Year's Day
Day 4 Mo
Day 5 Tu
Day 6 We
Day 7 Th
Day 8 Fr
Day 9 Sa
Day 10 Su
Day 11 Mo
Day 12 Tu
Day 13 We
Day 14 Th
Day 15 Fr
Day 16 Sa
Day 17 Su
Day 18 Mo
Day 19 Tu
Day 20 We
Day 21 Th
Day 22 Fr
Day 23 Sa
Day 24 Su
Day 25 Mo
Day 26 We
Day 27 Th
Day 28 Fr
Day 29 Sa
Day 30 Su
Day 31 Mo

February
Day 1 Su
Day 2 Mo
Day 3 Tu
Day 4 We
Day 5 Th
Day 6 Fr
Day 7 Sa
Day 8 Su
Day 9 Mo
Day 10 Tu
Day 11 We
Day 12 Th
Day 13 Fr
Day 14 Sa
Day 15 Su
Day 16 Mo
Day 17 We
Day 18 Th
Day 19 Fr
Day 20 Sa
Day 21 Su
Day 22 Mo
Day 23 Tu
Day 24 We
Day 25 Th
Day 26 Fr
Day 27 Sa
Day 28 Su
Day 29 Mo
Day 30 Tu
Day 31 We

March
Day 1 Su
Day 2 Mo
Day 3 Tu
Day 4 We
Day 5 Th
Day 6 Fr
Day 7 Sa
Day 8 Su
Day 9 Mo
Day 10 Tu
Day 11 We
Day 12 Th
Day 13 Fr
Day 14 Sa
Day 15 Su
Day 16 Mo
Day 17 We
Day 18 Th
Day 19 Fr
Day 20 Sa
Day 21 Su
Day 22 Mo
Day 23 Tu
Day 24 We
Day 25 Th
Day 26 Fr
Day 27 Sa
Day 28 Su
Day 29 Mo
Day 30 Tu
Day 31 We

April
Day 1 Su
Day 2 Mo
Day 3 Tu
Day 4 We
Day 5 Th
Day 6 Fr
Day 7 Sa
Day 8 Su
Day 9 Mo
Day 10 Tu
Day 11 We
Day 12 Th
Day 13 Fr
Day 14 Sa
Day 15 Su
Day 16 Mo
Day 17 We
Day 18 Th
Day 19 Fr
Day 20 Sa
Day 21 Su
Day 22 Mo
Day 23 Tu
Day 24 We
Day 25 Th
Day 26 Fr
Day 27 Sa
Day 28 Su
Day 29 Mo
Day 30 Tu
Day 31 We

May
Day 1 Su
Day 2 Mo
Day 3 Tu
Day 4 We
Day 5 Th
Day 6 Fr
Day 7 Sa
Day 8 Su
Day 9 Mo
Day 10 Tu
Day 11 We
Day 12 Th
Day 13 Fr
Day 14 Sa
Day 15 Su
Day 16 Mo
Day 17 We
Day 18 Th
Day 19 Fr
Day 20 Sa
Day 21 Su
Day 22 Mo
Day 23 Tu
Day 24 We
Day 25 Th
Day 26 Fr
Day 27 Sa
Day 28 Su
Day 29 Mo
Day 30 Tu
Day 31 We

June
Day 1 Su
Day 2 Mo
Day 3 Tu
Day 4 We
Day 5 Th
Day 6 Fr
Day 7 Sa
Day 8 Su
Day 9 Mo
Day 10 Tu
Day 11 We
Day 12 Th
Day 13 Fr
Day 14 Sa
Day 15 Su
Day 16 Mo
Day 17 We
Day 18 Th
Day 19 Fr
Day 20 Sa
Day 21 Su
Day 22 Mo
Day 23 Tu
Day 24 We
Day 25 Th
Day 26 Fr
Day 27 Sa
Day 28 Su
Day 29 Mo
Day 30 Tu
Day 31 We
A whole factory in miniature: understand and learn Industry 4.0 with the mMS4.0 training system

The mMS 4.0 training system – a complete Industry 4.0 system in miniature. The system addresses a real-life cube assembly, from the removal out of a rack to processing with a pressing machine and through to storage in the high-bay storage. Assembled from standard components, completely interconnected, programmable and extensively secured. Cells can be flexibly added to the system, such as with a 6 axis robot. The entire system or individual stations are shipped fully assembled, installed, and programmed. You can get started right away.

1. Cyber-physical system
Functional adaptations to the manufacturing process are made via smart devices, data capturing and fault diagnostics in real time. Solutions can be simulated and then seamlessly implemented into the production line – without physical adjustments.

2. Connectivity
PLC control units can communicate with almost any programs and other participants via the all-round Open Core interface. For example, for controlling a 6 axis robot with the Rexroth PLC.

3. New configuration in production
Thanks to vertical data flow the operating times are maximized. Newly-configured data, such as parts lists, are transferred to each level in the corporate structure. The MES-system monitors and controls.

4. Cloud engineering
Cloud platforms collect and store process data. The cloud provides engineering data whenever a module is accessed. With mMS 4.0, for example, maintenance instructions or the stock status can be sent all over the world via the cloud.

5. Smart workstations
The operators are detected, and there is an automatic adaptation of the workplace preferences, such as language or workplace height. In addition, there is simple and individually adaptable worker guidance in real time.

6. Interactive communication platform
In Industry 4.0, digital boards, such as the ActiveCockpit, collect, filter, and visually depict data continuously in order to indicate possible improvements and problems. This happens in real time, so that downtime is minimized and productivity increased.

7. RFID in production
Industry 4.0 products carry an RFID tag that tells each manufacturing station precisely what is to be done – decentralized and autonomously. This includes, for instance, data for documentation, material or quality control. The data is then accessed via a smart device.
Knowledge is power – Employees’ specialist knowledge and expertise create a decisive advantage in the competitive global market. Under the umbrella of the Drive & Control Academy, Rexroth provides a consistent, practically focused range of knowledge products – suitable for all fields of education. Using the mMS 4.0 training system as an example, you can see the applications in the different educational fields. A flexible system that grows with your needs.

Professional development

- Exercises for training to become a mechatronics engineer
- Getting started in robotics and CNC programming
- Understanding safety technology

Getting started with Industry 4.0:

- Using tablets and smartphones in an industrial environment
- Learning about integrated augmented reality
- Applying apps for status information and error recognition
- Operating the system (production line and robots) using apps via OCE (Open Core Engineering)
- Identifying opportunities for the use of RFID in manufacturing
- Customization of manual workstations using RFID or other identification possibilities
- Understanding an industrial plant (from production to the MES and ERP systems)
- Understanding horizontal and vertical communication using the ActiveCockpit
- Installing, setting up and implementing communication via open standards
- Understanding approaches to distributed intelligence and analyzing communication between systems
- And many more Industry 4.0 topics

Qualification / vocational education

- A general understanding of mechatronics, automation and manufacturing processes
- Advanced programming of robots
- Integration of safety technology

Industry 4.0:

- Rexroth Open Core Engineering (OCE): How to transfer data directly from a controller to an analysis software program without the use of a PLC program
- Receiving and storing data from the machine by means of the PLC, especially with OCE
- Using big data use to analyze information and to depict it on the ActiveCockpit (e.g. energy efficiency, production deviations,...)
- Setting up and understanding predictive maintenance
- Setting up and understanding automatic service alerts
- Integration of troubleshooting for the ActiveCockpit (such as a selection of possible errors, repair videos ...)
- Integration of RFID-assisted manufacturing
- Integration of an MES or ERP system

Colleges / Universities:

- A general understanding of mechatronics, automation and manufacturing processes
- Planning and implementation of machine communication vertically and horizontally using open standards
- Setting up of systems with decentralized controls and integration into an overall system
- Implementation of self diagnostics in decentralized machines, as well
Bosch Rexroth benefits from being both a supplier and a user, as do our clients, from the full force of our synergies. Our practical experiences in manufacturing simultaneously flow into our customer solutions and into our training concepts. We can therefore promote Industry 4.0 in small, quick steps worldwide.


Contents

General information
Drive & Control Academy, Training Systems, Media, Knowledge Portal, Training, Topic Areas, Rexroth LearnWorld, eDrive & Control Academy, Contacts, Icons, Certificate

23

eDrive & Control Academy
eLearning

Hydraulics

Electric Drives and Controls
IndraDrive Maintenance, IndraDrive Cs Application, IndraLogic Programming and HMI, MLD Project Planning, MLC Project Planning, MTX Maintenance, customer-required training

68

Linear Motion
Basic Training, Design and Calculation, Installation and Maintenance, Customer Required Training

73

Assembly Technology
Customer Required Training

75

Tightening Technology
Basic Training, Customer Required Training

Welding Technology
Basic Training, Customer Required Training

79

i 4.0
modular Mechatronic System 4.0., Basics of Open Core Engineering

Registration
Bosch Rexroth Training Customer Registration Form

87
Drive & Control Academy
Knowledge – the decisive competitive advantage

Bosch Rexroth is one of the globally leading specialists in drive and control technology and has unique technological know-how. The Drive & Control Academy passes this knowledge on and supports the customized training and further development as well as the qualification of technical experts.

www.boschrexroth.com/academy
**Knowledge is everything**

Expert knowledge and competence of the employees provide a company with the decisive advantage in global competition. Under the roof of the Drive & Control Academy, Rexroth offers an extensive portfolio of knowledge products in the area of drive and control technologies which is continuously based on the industrial practice.

The Drive & Control Academy sets standards particularly in the didactic presentation of specialized and integrated know-how for customers, employees and institutions for training and further education.

Our offers have been compiled according to the following principles:

- Practice-oriented, state-of-the-art equipment
- Target group-specific training offers
- The latest training methods

**Training systems**

The training systems impart inexperienced and experienced users practice-oriented knowledge in the areas hydraulics, pneumatics, electric drive and control technology, mechatronics and automation. They comprise industrial serial components and have internationally standardized programming languages and open interfaces.

**Media**

Rexroth's software-based training and learning media distinguish themselves by high practical relevance and are adjusted exactly to the training courses and training systems. They contain eLearning modules, technology and application trainers, animations of components and systems as well as simulation-based learning units. Apart from that, there are dictionaries, technical books, manuals for trainers and trainees as well as working equipment.

**Knowledge Portal**

The Knowledge Portal will become the multimedia contact point for all drive, control and movement technology topics in industrial and academic further education and training as well as qualification. This unique contact point on the Internet will offer the user access to high-quality information and structured exchange of knowledge and experience.

**Training**

New training courses and the continuous further development of the training methods guarantee that the knowledge transfer is always state-of-the-art. The method repertoire includes face-to-face training, eLearning, practical training and Blended Learning, combining the advantages of face-to-face training sessions and eLearning. The principle of proximity to our customers is of utmost importance in our training sessions.
The Drive & Control Academy. Providing access to unique knowledge.

As a leading specialist in drive and control technology, Bosch Rexroth has unparalleled technological know-how.
We are keen to pass on this knowledge, to apprentices and students and to specialists and employees. At the Drive & Control Academy, we support the tailored training, development and qualification of technical specialists. Hands-on, tailored to the target groups, and using the most modern methods.
Trainint Systems

Rexroth's technical know-how and the solution competence in the area of industrial applications are seamlessly integrated into our modularly structured training systems. In this way, they exactly meet the qualification levels required by the industry and educational institutions.

Practical exercises with device sets for certain learning content, adjusted training and learning media as well as special training sessions impart the necessary expert knowledge and competencies to the employees and trainees. The used components are standard components from an industrial environment. This enables trainees to gain knowledge by working with components that are also used later on in professional practice.

Training systems from Bosch Rexroth are available for the fields of hydraulics, pneumatics and automation.

www.boschrexroth.com/trainingsystems
Hydraulics

The Bosch Rexroth hydraulic training systems clearly illustrate the operating behavior of modern, hydraulic circuits and perfectly prepare trainees for work in the company as industrial standard components are used. For different practical applications, exercises and device sets are available, e.g., for on/off hydraulics, proportional technology, control technology or mobile applications. The exercise manuals contain examples for all learners, beginners and professionals.

Pneumatics

In the field of pneumatics, Bosch Rexroth offers exercises and device sets for standard pneumatics, electro-pneumatics and control technology. The patented component mounting system offers flexibility and safe mounting of components at the same time. The industrial standard components used in the exercises provide direct reference to practical application. The exercises are derived from practice and offer examples for inexperienced and experienced users in all the fields mentioned.

Automation

The training systems for automation technology integrate control and drive technologies in one system. In drive technology, hydraulic, pneumatic and electric drives as well as linear motion technology are used. With the help of control technology (sensors and PLC), drives are combined in a complete system. The exercises in the field of automation help to understand the complex concept of automation and offer the perfect basis for comprehensive understanding of the system.

WS200 work station: Hydraulic equipment with Basic" device set

WS200 work station: With grooved plate and "Pneumatics" device set

WS501 work station: Scara robots with control system, drives and safety technology from Rexroth
Media

Rexroth's extensive training and learning media provide knowledge and are tailor-made to training and training systems for control and drive specialists. In this connection, digital media are becoming more and more important as both information and learning media.

References
Despite the increasing spread of digital media, printing products still continue to be important. For this reason, dictionaries, technical books, manuals for trainers and trainees as well as training and working equipment in printed form will also round off the training and learning media portfolio in the future.

Software
Software, software-based training and learning media and apps complement our product offer and competent transfer of knowledge.

Videos and animations
Videos and interactive 2D and 3D animations illustrate complex motion sequences and explain complicated technical concepts.

www.boschrexroth.com/trainingmedia
Knowledge Portal

The Drive & Control Academy’s newly developed Knowledge Portal will establish itself as the multimedia benchmark in industrial and academic education and further training. It includes all essential topics and aspects of drive, control and motion technology and illustrates secure knowledge at first hand.

The Knowledge Portal of the Drive & Control Academy for people who ...
Training

For a long time, Rexroth has established itself in the market as a competent partner for further training for numerous companies and institutions. The Training Program 2021 comprises customized offers for almost any educational requirement. The training courses impart the necessary knowledge in a practice-oriented form to participants, suitable for the relevant target group.

New training courses and the continuous further development of existing training courses as well as experienced and highly qualified trainers moreover guarantee that the qualification is always up-to-date. The combination of conventional and digitalized teaching and learning methods stands for customized realization of employee qualification.

Methods

Face-to-face and practical training with personal contact, direct communication and particularly "touching" the components consolidate the theoretical knowledge. That is why the majority of the Rexroth training courses comprise practical exercises. With the support of their trainers, the participants set up exercises at practical training systems. The interaction of eLearning and face-to-face courses – be it during the preparation, during and/or after the training – or, however, eLearning alone considerably extend(s) the set of methods with numerous advantages.

Bosch trainer qualification

Bosch’s modular and certified trainer education guarantees high-quality, sustainable and refreshing training for trainers regarding soft skills and technical topics. Even very experienced trainers hit the books again in order to be on the pulse of the times – so that knowledge can be smoothly transferred from trainers to participants.

www.boschrexroth.com/training
Topic Areas

Rexroth is one of the globally leading specialists in drive and control technology and has unique technological know-how with regard to products and their application as well as solutions. The company passes this knowledge on and supports customized education and further training as well as qualification of technical experts via the Drive & Control Academy.

The huge portfolio of knowledge of technology available to Rexroth offers perfect preconditions for the transfer of technical knowledge. The extensive scope of electric drive and control solutions, hydraulics, pneumatics as well as linear motion and assembly technology allows for cross-technology insights and comparative representations.
Rexroth LearnWorld

Training
In your registration confirmation, you receive the access data for the Rexroth LearnWorld

- Server LMS
- Training Program 2021
- Information
- Newsletter
- more

- Videos, animations
- Project manuals
- Software/Tools
  - Automation Studio
  - Scheme Editor
  - MTX micro Trainer
  - Hyvos

- Technical books
- Knowledge check depending on the training
- eLearning
- eTraining Virtual Classroom
- Training documents

www.boschrexroth.com/learnworld
eDrive & Control Academy

In the eDrive & Control Academy (eDCA), Rexroth offers you electronic sequences transferring knowledge. Often available irrespective of time and place, in different languages and 24 hours a day. Use the offer as alternative learning method, as amendment and preparation for the classical face-to-face or practical training or also as straightforward knowledge transfer variant for autodidactic qualification.

**eLearning**

Today, independent learning at a computer is an integral part of knowledge transfer.

We offer you qualified and certified training with maximum flexibility.

The eLearning offer of the Drive & Control Academy includes all Drive & Control Technologies.

**eTraining**

We all know it – YouTube, learning videos, online seminars, WebEx, online news and much more: Today, digital knowledge and transfer of knowledge is an inherent part of qualification.

Simply and concisely, a trainer informs you on exciting topics around technical education and further training in a Rexroth eTraining (live or recorded).

**eBook**

Technical literature: Comfortable operation, individually adjustable font size, uncomplicated selection of chapters, didactically prepared graphics, no physical space requirement. eBooks – a clever addition to further autodidactic training and a useful reference. Rexroth eBooks can be found in our LearnWorld or in our Amazon shop:

www.boschrexroth.com/academy
Contacts

We would be happy to advise you regarding our training! Any questions, please contact us by following information.

Bosch Rexroth China
Drive & Control Academy

17 Longmen Road Wujin National Hi-tech Development Part, 213164

Phone: +86 519 8351-5769
Fax: +86 519 8351-5008
technicaltraining@boschrexroth.com.cn
## Icons

In this training program, we use the following icons to help guide you through our training methods, products and general information:

<table>
<thead>
<tr>
<th>GENERAL INFORMATION</th>
<th>TRAINING METHODS</th>
<th>DRIVE &amp; CONTROL ACADEMY PRODUCTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive &amp; Control Academy</td>
<td>eLearning</td>
<td>Media</td>
</tr>
<tr>
<td>NEW</td>
<td>eTraining</td>
<td>Animations</td>
</tr>
<tr>
<td>3</td>
<td>Blended learning</td>
<td>Literature</td>
</tr>
<tr>
<td>Training/items available through Didactic eShop</td>
<td>Project planning</td>
<td>Training systems</td>
</tr>
<tr>
<td>Industry 4.0</td>
<td>Theoretical training</td>
<td>eBooks</td>
</tr>
<tr>
<td>Connected Hydraulics</td>
<td>Practical training with error analysis</td>
<td>Working materials</td>
</tr>
<tr>
<td>Connected Hydraulics</td>
<td>Face-to-face training (face-to-face)</td>
<td>Posters/Cutaway Models</td>
</tr>
<tr>
<td>Connected Hydraulics</td>
<td>Digital training documents (tablet use)</td>
<td>Multimedia</td>
</tr>
<tr>
<td>Rexroth LearnWorld</td>
<td>Software</td>
<td></td>
</tr>
</tbody>
</table>
We provide related certificate to trainees who passed the training course.

Certificate

We herewith confirm that

Nama: 王露露
Date: 05.07~09.2019, Changzhou

His successfully participated in the BHT course:

Basic Hydraulic Technology
05.07~09.2019, Changzhou

With the following contents:
- Fluid and Hydraulic Basics
- Basic properties of hydraulic system
- Function & setup of hydraulic system
- Symbols according to DIN ISO 1219
- Hydraulic pumps, motor and cylinders
- Control technology (isolator, directional, pressure and flow valves)
- Fluids
- Filter technique and products
- Reading and understanding circuit diagrams
- Practice on didactic workstations

The certification fulfilled the requirement of Bosch Rexroth Drive & Control Academy.

Instructor

Shen Yi
DCCN/SSD2
Bosch Rexroth China
Bosch Rexroth is your global partner for powerful, proven hydraulic drive solutions for every application, continually setting new benchmarks for performance, functionality and lifetime. We help our customers to master force and torque.

Our complete portfolio cost-effectively serves standard applications as well as complex motion tasks with the most demanding requirements.

We exceed your expectations, applying our unique expertise to go beyond limits. Our connected hydraulics solutions fit seamlessly into modern control architectures: from small to large, from series to project business, all backed by worldwide service.

We move everything - mastering force and torque
Contents

eDrive & Control Academy

All eLearnings marked with this icon can also be ordered via our Didactic eShop.

eLearning

For maximum flexibility in the further training, we offer you qualified and certified eLearning. Try our eLearnings on: www.boschrexroth.de/eLearning

eHTG
  Basic knowledge of the hydraulics ................................................. 24

eHTGM
  Basic knowledge of the mobile hydraulics ........................................ 25

eEATG
  Basic knowledge of the electric drive technology .............................. 26

eESTG
  Basic knowledge of the electrical control engineering .................... 27

ePTG
  Basic knowledge of the pneumatics ................................................ 28

eLTG
  Basic knowledge of the linear technology ....................................... 29

eFSi
  Basic knowledge of the functional safety ....................................... 30

e4EE
  Basic knowledge of the energy efficiency ...................................... 31

e4EE Sytronix
  Energy efficiency of variable speed pump drives ........................... 32

eSEK
  Secondary controlled drives ......................................................... 34

eSER
  Sercos – the automation bus ......................................................... 35

Languages

All eLearnings are available in German and English; some also in other languages such as Italian, French or Chinese. Have you got questions about the availability of eLearnings in certain languages? Please contact e-learning@boschrexroth.de.

eTraining

Exciting topics of technical training, briefly and compactly conveyed by a trainer in one recording - that is what awaits you at the eTrainings of Rexroth. Try our eTrainings on: www.boschrexroth.de/eTraining

PM_eT_HY_Filter
  Basic knowledge of hydraulic filters .............................................. 36

PM_eT_HY_Filt
  Maintenance of hydraulic filters .................................................... 37

PM_eT_MT_Ergo
  Ergonomics in the workplace ........................................................... 38

DCA_eT_Regelung
  Hydraulic control technology for the motion control ....................... 39

eT-BODAS-BT
  Basic training of BODAS mobile electronics .................................. 40
eHTG

Basic Knowledge of The Hydraulics

From the function and the characteristics of selected components to the construction of hydraulic circuit diagrams - many essential basic knowledge for the hydraulic engineer. This eLearning is recommended to all who would like to study the training courses. The contents of the eLearning eHTG are identical to those of the conventional four-day HTG presence training.

Content
- Hydraulics in general, characteristics of hydraulics
- Design and function of a hydraulic system
- Physical basic knowledge and their importance in hydraulics
- Symbols according to DIN ISO 1219
- Pressure fluids
- Hydropumps, hydromotors and cylinders
- Control technology (stop valve, way valve, pressure and flow valve)
- Creating and reading simple wiring diagrams

Learning objectives
- Understanding the basic structure of a hydraulic system
- Understanding the function and structure of selected hydraulic components
- Creating a hydraulic circuit diagram
- Effectively applying the technical documentation (data sheets, DIN ISO 1219, etc.)
- Dealing with hydraulic systems during the planning and in everyday operations

Training times
The eLearning is available at any time during the license period that is 12 months after release. Learning duration: approx. 20 to 25 hours.

Industrial companies
- Single license R961006626
- 6Licenses R961006637
- 12Licenses R961006638
- 24Licenses R961006639
- 48Licenses R961006641
- 100Licenses R961006640
- 500Licenses R961006642

Educational institutions / schools / universities
- Single license R961006643
- 12Licenses R961006644
- 24Licenses R961006645
- 48Licenses R961006646
- 100Licenses R961006647
- 500Licenses R961006648

Conditions
- Technical understanding
- PC with Internet access, Flash Player 10 or higher: http://get.adobe.com/de/flashplayer
- E-mail address for the personal login

Target group
- Bosch Rexroth customers: Hydraulic-interested people, planning staff, operating, maintenance and assembly personnel, constructors
eHTGM
Basic Knowledge of The Mobile Hydraulics

From the function and the characteristics of selected components of the mobile hydraulics to the construction of hydraulic circuit diagrams - many essential basic knowledge for the hydraulic engineer. This eLearning is recommended to all who want to study the training courses.

Content
- Hydraulics in general, characteristics of hydraulics
- Design and function of a hydraulic system from the mobile application area
- Physical basic knowledge and their importance in hydraulics
- Pressure fluids in mobile working machines
- Design and function of hydropumps and hydromotors (axial piston units, radial piston units and outer gear units)
- Open and closed circuit in mobile working machines
- Symbols in wiring diagrams according to DIN ISO 1219
- Creating and reading simple wiring diagrams

Learning objectives
- Knowledge about the physical fundamentals of hydraulics
- Understanding the basic design of a hydraulic system from the mobile application area
- Understand the design and function of selected hydraulic components

Conditions
- Technical understanding
- PC with Internet access, Flash Player 10 or higher:http://get.adobe.com/de/flashplayer
- E-mail address for the personal login

Target group
- Bosch Rexroth customers: Technical specialists

Training times
The eLearning is available at any time during the license period that is 12 months after release. Learning duration: approx. 20 to 25 hours.

<table>
<thead>
<tr>
<th>Dustrial companies</th>
<th>Order no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single license</td>
<td>R901429065</td>
</tr>
<tr>
<td>6 Licenses</td>
<td>R901429066</td>
</tr>
<tr>
<td>12 Licenses</td>
<td>R901429067</td>
</tr>
<tr>
<td>24 Licenses</td>
<td>R901429068</td>
</tr>
<tr>
<td>48 Licenses</td>
<td>R901429070</td>
</tr>
<tr>
<td>100 Licenses</td>
<td>R901429071</td>
</tr>
<tr>
<td>500 Licenses</td>
<td>R901429072</td>
</tr>
</tbody>
</table>

Educational institutions / schools / universities
- Single license
- 12 Licenses
- 24 Licenses
- 48 Licenses
- 100 Licenses
- 500 Licenses

Order no.
- R901429073
- R901429074
- R901429075
- R901429076
- R901429078
- R901429079
eEATG
Basic Knowledge of The Electric Drive Technology

This eLearning is about the functions and characteristics of selected drive components. It is recommended to all those who want to study the training courses. The participants will get to know the connections of the electric drive systems and gain an insight into the industrial drive technology.

Content
- Basic introduction to electric drive technology
- Electric motors, operation principles and characteristics
- Fundamentals of encoder systems
- Drive controllers and control methods
- Gearboxes in the drive technology

Learning objectives
- Obtaining an overview of the electric drive technology
- Understanding connections in the drive system
- Obtaining knowledge about the different drive components
- Learning about the different types of motors (synchronous, asynchronous) and their operation modes
- Insight into encoder systems and their functions
- Learning about different drive controllers, control and regulation procedures
- Transmission and its operation mode

Conditions
- Technical understanding
- PC with Internet access, Flash Player 10 or higher: http://get.adobe.com/de/flashplayer
- E-mail address for the personal login

Training times
The eLearning is available at any time during the license period that is 12 months after release. Learning duration: approx. 4 to 6 hours.

Industrial companies
- Single license: R961009230
- 6 Licenses: R961009231
- 12 Licenses: R961009232
- 24 Licenses: R961009233
- 48 Licenses: R961009234
- 100 Licenses: R961009235
- 500 Licenses: R961009236

Educational institutions / schools / universities
- Single license: R961009237
- 12 Licenses: R961009238
- 24 Licenses: R961009239
- 48 Licenses: R961009240
- 100 Licenses: R961009241
- 500 Licenses: R961009242

Target group
- Bosch Rexroth customers: Newcomer to electric drive technology
Basic Knowledge of The Electrical Control Technology

This eLearning is about the functions and characteristics of the electrical control technology. It is recommended to all those who wish to study the training courses. The participants will get to know the contexts of electrical control engineering and get an insight into the industrial applications.

Content
- Basic introduction to electrical control technology
- Programmable logic controllers (PLC)
- Numerical controllers (CNC)
- Motion controllers (MC)
- Robot controllers (RC)
- Application examples and programming
- Interfaces

Learning objectives
- Obtaining an overview of electrical controllers
- Familiarizing with different types of control systems, including their areas of application (PLC, CNC, etc.)
- Obtaining an insight into the programming of a control system and its programming languages
- Obtaining knowledge of interfaces between control systems and the machine (e.g. HMI or field bus systems)
- Learning about application examples

Training times
The eLearning is available at any time during the license period that is 12 months after release. Learning duration: approx. 3 to 4 hours

Industrial companies
- Single license: R901414926
- 6 Licenses: R901414935
- 12 Licenses: R901414937
- 24 Licenses: R901414940
- 48 Licenses: R901414948
- 100 Licenses: R901414949
- 500 Licenses: R901414950

Educational institutions / schools / universities
- Single license: R901414952
- 12 Licenses: R901414953
- 24 Licenses: R901414955
- 48 Licenses: R901414960
- 100 Licenses: R901414965
- 500 Licenses: R901414970

Conditions
- Technical understanding
- PC with Internet access, Flash Player 10 or higher: http://get.adobe.com/de/flashplayer
- E-mail address for the personal login

Target group
- Bosch Rexroth customers: Newcomer in control engineering technology
ePTG

Basic Knowledge of The Pneumatics

From the function and the characteristics of selected components to the construction of pneumatic circuit diagrams - much necessary basic knowledge for the pneumatic engineers. This eLearning is recommended to all who would like to study the training courses. The contents of the eLearning ePTG are identical to those of the conventional four-day PTG presence training.

Content
- Introduction to the pneumatics
- Physical basic knowledge of pneumatics
- Compressed air generation, compressor types, compressed air drying
- Maintenance units for preparation and compressed air nets
- Stop valve, way valve, pressure and flow valve
- Pneumatic actuators
- Graphical symbols, circuit diagrams according to DIN ISO 1219
- Basic principles for the design of components
- Pneumatic basic circuits

Training times
The eLearning is available at any time during the license period that is 12 months after release. Learning duration: approx. 10 to 15 hours.

Industrial companies

<table>
<thead>
<tr>
<th>Order no.</th>
<th>Single license</th>
<th>6Licenses</th>
<th>12Licenses</th>
<th>24Licenses</th>
<th>48Licenses</th>
<th>100Licenses</th>
<th>500Licenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>R961007056</td>
<td>R961007082</td>
<td>R961007060</td>
<td>R961007059</td>
<td>R961007063</td>
<td>R961007062</td>
<td>R961007061</td>
<td></td>
</tr>
</tbody>
</table>

Educational institutions / schools / universities

<table>
<thead>
<tr>
<th>Order no.</th>
<th>Single license</th>
<th>12Licenses</th>
<th>24Licenses</th>
<th>48Licenses</th>
<th>100Licenses</th>
<th>500Licenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>R961007066</td>
<td>R961007065</td>
<td>R961007064</td>
<td>R961007069</td>
<td>R961007068</td>
<td>R961007067</td>
<td></td>
</tr>
</tbody>
</table>

Learning objectives
- Understanding the basic structure of a pneumatic system
- Understanding the function and structure of selected pneumatic components
- Reading and creating pneumatic circuit diagrams
- Handling of pneumatic systems during planning and in everyday operations

Conditions
- Technical understanding
- PC with Internet access, Flash Player 10 or higher: http://get.adobe.com/de/flashplayer
- E-mail address for the personal login

Target group
- Bosch Rexroth customers: Pneumatic-interested people, planning staff, operating, maintenance and assembly personnel, constructors
eLTG

Basic Knowledge of The Linear Technology

From the physical bases to the products to the applications and the basic principles of the interpretation - this eLearning is recommended to all who want to study the foundation courses.

Content
- Introduction to the technology of linear technology
- Design, function and application of profile rail guides
- Design, function and application of ball bearing guides
- Design, function and application of threaded drives
- Design of linear systems
- Overview of the built-in linear systems

Learning objectives
- Learning about the physical and theoretical basics of linear technology
- Knowledge about the design, function and application of linear technology components
- Selection of suitable components for linear technology

Conditions
- Technical understanding
- PC with Internet access, Flash Player 10 or higher: http://get.adobe.com/de/flashplayer
- E-mail address for the personal login

Target group
- Bosch Rexroth customers: Planning staff, operating, maintenance and assembly personnel, constructors

Training times
The eLearning is available at any time during the license period that is 12 months after release. Learning duration: approx. 12 to 18 hours.
If you are interested in a two-day of LTG presence training, please contact training@boschrexroth.de.

Industrial companies
- Single license: R961006682
- 6 Licenses: R961006683
- 12 Licenses: R961006714
- 24 Licenses: R961006684
- 48 Licenses: R961006685
- 100 Licenses: R961006686
- 500 Licenses: R961006687

Educational institutions / schools / universities
- Single license: R961006688
- 12 Licenses: R961006689
- 24 Licenses: R961006690
- 48 Licenses: R961006691
- 100 Licenses: R961006692
- 500 Licenses: R961006693

Note
We would be pleased to perform the training LTG - basic knowledge of liner technology as a two-day presence training at your premises or in our company. In this case, the eLearning eLTG is included in the training package for all participants.
Try our eLearning with free guest access: www.boschrexroth.de/eLearning
eFSi

**Basic Knowledge of The Functional Safety**

We provide you with eLearning eFSi with multimedia learning contents on the topics "Basics of machine safety" and "10 steps to the performance level" according to the latest didactic knowledge.

**Content**
- Basic knowledge of the machine safety
- Machine guidelines, laws and standards
- 10steps to the performance level

**Learning objectives**
- Learning about the machine guidelines and relevant standards
- Basic knowledge of functional safety according to ISO 13849

**Conditions**
- Sound knowledge of automation technology
- PC with Internet access, Flash Player 10 or higher: http://get.adobe.com/de/flashplayer
- E-mail address for the personal login

**Target group**
- Bosch Rexroth customers: Developers, constructors, planners, safety engineers in mechanical engineering

**Training times**
The eLearning is available at any time during the license period that is 12 months after release. Learning duration: approx. 4 to 5 hours

**Industrial companies**

<table>
<thead>
<tr>
<th>Order no.</th>
<th>6Licenses</th>
<th>12Licenses</th>
<th>24Licenses</th>
<th>48Licenses</th>
<th>100Licenses</th>
<th>500Licenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>R961007035</td>
<td>R961007036</td>
<td>R961007037</td>
<td>R961007038</td>
<td>R961007039</td>
<td>R961007040</td>
<td>R961007041</td>
</tr>
</tbody>
</table>

**Educational institutions / schools / universities**

<table>
<thead>
<tr>
<th>Order no.</th>
<th>12Licenses</th>
<th>24Licenses</th>
<th>48Licenses</th>
<th>100Licenses</th>
<th>500Licenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>R961007042</td>
<td>R961007043</td>
<td>R961007044</td>
<td>R961007045</td>
<td>R961007046</td>
<td>R961007047</td>
</tr>
</tbody>
</table>

**Note**
Try our eLearning with free guest access:
www.boschrexroth.de/eLearning
e4EE
Basic Knowledge of The Energy Efficiency

Energy is becoming increasingly scarce and expensive. However, the global demand is rising at the same time. This puts technology in the focus, which helps to solve the problem. Intelligent automation solutions make a decisive contribution to this. The prerequisites are the sensitization to the topic of energy efficiency and effective implementation. In this eLearning, we provide you with the necessary basic knowledge of energy efficiency.

Content
- Energy, a scarce commodity
- Definition of the energy efficiency
- Framework conditions
- Energy efficiency in the company
- 4EE system by Rexroth
- Useful information about energy efficiency

Learning objectives
- Identifying the importance of energy efficiency for society and companies
- 4EE concept from Rexroth for optimizing the energy efficiency
- Identifying typical approaches to optimize an installation
- Understanding the costs and benefits of energy-efficient solutions

Conditions
- Interest in the topic energy efficiency
- PC with Internet access, Flash Player 10 or higher: http://get.adobe.com/de/flashplayer
- E-mail address for the personal login

Target group
- Bosch Rexroth customers: Commercial and technical employees

Training times
The eLearning is available at any time during the license period that is 12 months after release. Learning duration: approx. 1 to 2 hours.

<table>
<thead>
<tr>
<th>Industrial companies</th>
<th>Order no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single license</td>
<td>R961006661</td>
</tr>
<tr>
<td>6 Licenses</td>
<td>R961006662</td>
</tr>
<tr>
<td>12 Licenses</td>
<td>R961006663</td>
</tr>
<tr>
<td>24 Licenses</td>
<td>R961006904</td>
</tr>
<tr>
<td>48 Licenses</td>
<td>R961006665</td>
</tr>
<tr>
<td>100 Licenses</td>
<td>R961006660</td>
</tr>
<tr>
<td>500 Licenses</td>
<td>R961006666</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Educational institutions / schools / universities</th>
<th>Order no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single license</td>
<td>R961006670</td>
</tr>
<tr>
<td>12 Licenses</td>
<td>R961006675</td>
</tr>
<tr>
<td>24 Licenses</td>
<td>R961006680</td>
</tr>
<tr>
<td>48 Licenses</td>
<td>R961006667</td>
</tr>
<tr>
<td>100 Licenses</td>
<td>R961006672</td>
</tr>
<tr>
<td>500 Licenses</td>
<td>R961006930</td>
</tr>
</tbody>
</table>
e4EE Sytronix

Energy Efficiency of Variable Speed Pump Drives

The reliability of high-performance hydraulics as well as the energy efficiency and dynamics of compact electronics go hand in hand with Rexroth's Sytronix pump drives. We provide you with the eLearning e4EE Sytronix with the necessary basic knowledge as well as technical background and expertise on "Smart Interplay of Hydraulics and Electronics".

Content

- Energy, a scarce commodity
- Definition of the energy efficiency
- Framework conditions
- Energy efficiency in the company
- 4EE systems by Rexroth
- Useful information about the energy efficiency
- Valve and displacement control
- Requirements regulation
- Components of speed-variable pump drives
- Parameter for selecting such a drive
- Wiring examples
- System comparison

Learning objectives

- Importance of energy efficiency for society and enterprises
- The 4EE system from Rexroth for optimizing energy efficiency
- Typical approaches to optimizing a system
- Costs and benefits of energy-efficient solutions
- System knowledge
- Adaptation to the operating behavior of the individual components
- Project planning aids for the design of complete systems
- Knowledge of working cycles and possibilities of energy recovery
- Units design
- Selection of drive components

Conditions

- Participation in the training courses HTG/eHTG, EATG-1 and HTPPuor with comparable knowledge
- PC with Internet access, Flash Player 10 or higher: http://get.adobe.com/de/flashplayer
- E-mail address for the personal login

Target group

- Bosch Rexroth customers: Service technicians and engineers in the areas of operation and commissioning

Training times

The eLearning is available at any time during the license period that is 12 months after release. Learning duration: approx. 3 to 4 hours
<table>
<thead>
<tr>
<th></th>
<th>Order no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial companies</td>
<td></td>
</tr>
<tr>
<td>Single license</td>
<td>R961006677</td>
</tr>
<tr>
<td>6 Licenses</td>
<td>R961006931</td>
</tr>
<tr>
<td>12 Licenses</td>
<td>R961006668</td>
</tr>
<tr>
<td>24 Licenses</td>
<td>R961006932</td>
</tr>
<tr>
<td>48 Licenses</td>
<td>R961006673</td>
</tr>
<tr>
<td>100 Licenses</td>
<td>R961006933</td>
</tr>
<tr>
<td>500 Licenses</td>
<td>R961006678</td>
</tr>
<tr>
<td>Educational institutions / schools / universities</td>
<td></td>
</tr>
<tr>
<td>Single license</td>
<td>R961006934</td>
</tr>
<tr>
<td>12 Licenses</td>
<td>R961006669</td>
</tr>
<tr>
<td>24 Licenses</td>
<td>R961006935</td>
</tr>
<tr>
<td>48 Licenses</td>
<td>R961006674</td>
</tr>
<tr>
<td>100 Licenses</td>
<td>R961006936</td>
</tr>
<tr>
<td>500 Licenses</td>
<td>R961006679</td>
</tr>
</tbody>
</table>
eSEK

Secondary Controlled Drives

The hydraulic drive technology secondary regulation is presented in theory and practice in this eLearning. In addition to the comparison to electrical and conventional hydraulic drives, the advantages and disadvantages of the different systems are shown. The Rexroth drive technology is brought to the participant by means of application examples from practice. Various possible applications are explained.

Content
► Comparison of different drive systems
► Introduction of electrical and conventional hydraulic drive technology
► Introduction of secondary controlled drives
► Components of a secondary unit
► Components of a secondary unit
► Application examples from the practice

Learning objectives
► Obtaining an overview of the various drive systems
► Identifying the advantages and disadvantages of these drive technologies
► Insight into the secondary regulation technology
► Understanding application examples of secondary-controlled drives
► Finding application possibilities for secondary controlled drives

Target group
► Bosch Rexroth customers: Technicians and engineers from the areas of project planning and commissioning

Training times
The eLearning is available at any time during the license period that is 12 months after release. Learning duration: approx. 2 to 3 hours.

Industrial companies
Single license R901453662

Educational institutions / schools / universities
Single license R901453663

Conditions
► Technical understanding
► PC with Internet access, Flash Player 10 or higher: http://get.adobe.com/de/flashplayer
► E-mail address for the personal login
eSER

Sercos – The Automation Bus

From the basic data about Sercos to technical details and application examples - much that a user needs from controls, electrical and hydraulic drives, valves and I/Os. The eLearning is recommended to anyone who wants to use Sercos interface or to learn more about the Sercos automation bus.

Content
- Overview of the Sercos automation bus
- Sercos applications in industrial automation
- Technical details for Sercos
- Features and benefits of Sercos

Learning objectives
- Understanding the Sercos automation bus
- Sercos applications in industrial automation
- Describing the technical details of Sercos
- Describing the characteristics and advantages of Sercos

Conditions
- Technical understanding
- PC with Internet access, Flash Player 10 or higher: http://get.adobe.com/de/flashplayer
- E-mail address for the personal login

Target group
- Bosch Rexroth customers: Persons who distribute Sercos products, Employees from the mechanical engineering sector, Partner of Bosch Rexroth

Training times
Learning duration: approx. 1 to 2 hours
The training contents are available 24 hours a day

Price
Free

Note
- Start the eLearning with free guest access: www.boschrexroth.de/eLearning
PM_eT_HY_Filter

Basic Knowledge of Hydraulic Filters

Content
- The most important basic knowledge of filtration
- The filter product program from Rexroth
- Rexroth filters and their application
- Filter design with the Onlinetool Filter Select
- Replacement filter element can be found with Fit4Filter
- Oil measurement technology: How do you determine the condition of your fluid?
- Preparation of the oil
- Service, oil analysis
- Filter element change

Learning objectives
- Basic knowledge of filtration, oil measurement and oil preparation
- Learning and distinguishing the products
- Identifying application areas
- Stand-alone installation of a filter
- Finding, ordering and changing replacement filters
- Getting to know the Rexroth filter service

Conditions
- Basic knowledge of the hydraulics

Target group
- Bosch Rexroth customers: Sales staff

Training times
Learning duration: approx. 45 minutes
The training contents are available 24 hours a day

Price
Free

Note
- Introduction via www.boschrexroth.de/eTraining
- No previous registration required
PM_eT_HY_Filter
Maintenance of Hydraulic Filters 110LEN

Content
- Preparing the system for filter replacement
- Preparing the filter for installation
- Correct filter replacement

Learning objectives
- Correct exchange of the filter cartridge and the complete filter

Conditions
- Technical understanding
- Basic knowledge of hydraulics through participation in training HTG/eHTG

Target group
- Bosch Rexroth customers: Engineers and technicians who plan, design or construct hydraulic systems, as well as maintenance personnel

Training times
Learning duration: approx. 5 minutes
The training contents are available 24 hours a day

Price
Free

Note
- Introduction via www.boschrexroth.de/eTraining
- No previous registration required
Content

- Basic knowledge of ergonomics (including standards) and MTM
- Approaches according to ergonomics guide: working height, working area, gripping area, part preparation, viewing areas, lighting, adjustment of the work equipment, planning aids
- Practical tips and profitability calculation
- Implementation with Rexroth components

Learning objectives

- Acquiring basic knowledge of ergonomic workplace design (functional areas and anthropometry, energetic work, informative work)
- Basic knowledge of the anatomy
- Implementation of healthy workplace design

Conditions

- First experiences with assembly lines

Target group

- Bosch Rexroth customers: Sales engineers, project engineers, design engineers, internal staff

Training times

Learning duration: approx. 25 minutes
The training contents are available 24 hours a day

Note

- Introduction via www.boschrexroth.de/eTraining
- No previous registration required
DCA_eT_Regelung

Hydraulic Control Technology for The Motion Control

Content

- Why a regulated system?
- System components: valve, cylinder, distance measuring systems
- Cavitation: formation and avoidance
- Positive and negative feedback
- Compressibility and spring-mass system

Learning objectives

- Differentiating control / regulation
- Identifying the influence / effects of the components
- Evaluating hydraulic influence factors on the circle reinforcement
- Detecting and avoiding cavitation
- Understanding and assessing the special features of hydraulic control technology

Conditions

- Technical understanding
- Basic knowledge of hydraulics through participation in training HTG/eHTG

Target group

- Bosch Rexroth customers: Sales engineers, project engineers, design engineers, service staff, PLC programmers

Training times

Learning duration: approx. 60 minutes
The training contents are available 24 hours a day

Note

- Introduction via www.boschrexroth.de/eTraining
- No previous registration required
eT-BODAS-BT
Basic Training of BODAS Mobile Electronics

Have you heard more of BODAS, the Bosch Rexroth Design & Application System in your work with Rexroth hydraulic components? Find out the potential of the connection between mobile electronics and hydraulics.

Content
- Requirements for mobile electronics
- Design and function of electronic components:
  - Control units
  - Sensors, joysticks, displays
  - Software, tools
- Learning how to connect the RC control units
- Functions and possibilities of software and the programming tools BODAS design and BODAS service

Learning objectives
- Learning about the electronic basics of sensors, actuators and control devices in mobile electronics
- Understanding how software and software tools work
- Obtaining knowledge of BODAS systems and components

Conditions
- Technical understanding
- PC with Internet access, Flash Player 10 or higher: http://get.adobe.com/de/flashplayer
- E-mail address for the personal login on the Rexroth LernWelt

Target group
- Bosch Rexroth customers: Technical specialists

Training times
Training time approx. 2 hours
Training contents are available 24 hours a day

Further Trainings
BODAS-AS, BODAS-ASrun-DRC, BODAS-ASrun-AFC, BODAS-Tools
## Contents

### Hydraulics

<table>
<thead>
<tr>
<th>Page</th>
<th>Code</th>
<th>Training</th>
<th>Method</th>
<th>Duration (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Face-to-face training</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>eLearning</td>
<td></td>
</tr>
<tr>
<td><strong>Hydraulic Basics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>BHT</td>
<td>Basic Hydraulic Technology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>HPM</td>
<td>Hydraulic pumps and motors</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Industrial Hydraulics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>PCT</td>
<td>Proportional Control Technology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>46</td>
<td>DCH-I</td>
<td>Design Consideration of Hydraulic System for Industrial Application</td>
<td></td>
<td></td>
</tr>
<tr>
<td>47</td>
<td>MRS-I</td>
<td>Maintenance, Assembly, Repair &amp; Setup of Industrial Hydraulic System</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>NEW</strong> 48</td>
<td>HIT</td>
<td>Hydraulic Intensive Training</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mobile Hydraulics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>HCC</td>
<td>Hydraulic closed circuit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>MHT</td>
<td>Mobile Hydraulic Technology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>BODAS-BT</td>
<td>Basic Training in BODAS Mobile Electronics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>52</td>
<td>BODAS-Tools</td>
<td>Introduction to BODAS-design and BODAS-service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>53</td>
<td>BODAS-EHC</td>
<td>BODAS-EHC function, Electronics diagnosis And Calibration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>54</td>
<td>BODAS-d-BR3x</td>
<td>Programming Series 3x RCs with BODAS-design</td>
<td></td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>BODAS-FuSa</td>
<td>Introduction to Functional Safety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>BODAS-DI4</td>
<td>Programming display DI4 with Codesys</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Customer Required Training</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>CRT</td>
<td>Customer Required Training</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Basic Hydraulic Technology

From the function and the properties of selected components to the set-up of hydraulic diagrams – Many basics that hydraulic engineers need to know. The training is recommended to anybody who wants to attend more advanced training courses.

Contents

- Fluid and Hydraulic Basics
- Basic properties of hydraulic system
- Function & set-up of hydraulic system
- Symbols according to DIN ISO 1219
- Hydraulic pump, motor and cylinders
- Control technology (isolator, directional, pressure and flow valves)
- Fluids
- Filter technique and products
- Reading and understanding circuit diagrams
- Practice on didactic workstation

Training language

- Chinese

Training times

3 days:

2021/03/16-03/18
2021/05/11-05/13
2021/07/20-07/22
2021/10/12-10/14

Training location

Chang Zhou
Chang Zhou
Chang Zhou
Chang Zhou

Learning targets

- Understanding basic parameters and set-up of hydraulic system
- Understanding the assembly and characteristic of hydraulic system
- Knowing theories, structure and parameters of typical hydraulic components
- Understanding set-up, operation and troubleshooting of basic hydraulic circuits

Prerequisites

- Technical understanding

Target group

- Bosch Rexroth customers: Sales engineer, Design engineer, Project engineer, Service Engineer, Maintenance & Assembly personnel

Price

¥ 3,800.00 (without tax)
Note: The price is only for training charge, not including any travel cost.

Teaching material information

- Hydraulic Basic Principles and Components
- Project Manual Industrial Hydraulics
- Internal Training Material

From the function and the properties of selected components to the set-up of hydraulic diagrams – Many basics that hydraulic engineers need to know. The training is recommended to anybody who wants to attend more advanced training courses.
Hydraulic pumps and motors

It is very import for correct type selection and using of pump and motor – as important parts of the hydraulic system. This training introduce the function, set-up and parameters of axial piston units, and shows how to select correct component for different conditions.

Contents
- Set-up and principle of variable displacement vane pump PV7
- Basic principle, classification and parameters of axial piston unit
- Axial piston pump A4VSO/A4VSG/A10VSO/A7VO for industrial application
- Axial piston pump A4VG/A10VO/A11VO/A8VO for mobile application
- Axial piston motor A2FM/A6VM
- Didactic practice of vane pump PV7
- Assembling and disassembling of A4VSO/A10VSO/A11VO

Training language
- Chinese

Timetable
- 2021/04/27-04/29
- 2021/08/17-08/19

Training location
- Chang Zhou

Training times
- 3 days:

Price
- ¥ 3,800.00 (without tax)
Note: The price is only for training charge, not including any travel cost.

Teaching material information
- Training Mobile Hydraulic Axial Piston Unit
- Mobile Hydraulic of throttle, LS and LUDV control

Learning targets
- Understanding basic principle of axial piston unit
- Correct type selection of axial piston pump and motor
- Understanding the function, set-up and control principle of different axial piston pump and motor

Prerequisites
- Participation in “Basic Hydraulic Technology-BHT” or comparable training
- Recommend participation of “Proportional control technology-PCT”

Target group
- Bosch Rexroth customers: Engineer, Sales Engineer, Field Service Engineer, Educational institutions
PCT
Proportional Control Technology

Hydraulic prop. control is the basis for industrial high-precision axis control. The training shows characteristics and advantages of hydraulic prop. control technology.

Contents
- Basic proportional control principles
- Prop. directional valve
- Prop. flow control valve
- Prop. pressure valve
- Prop. control card
- Practice on hydraulic workstation

Timetable
- 2021/03/30-04/01
- 2021/06/22-06/24
- 2021/08/31-09/02
- 2021/10/26-10/28

Training location
- Chang Zhou
- Chang Zhou
- Chang Zhou
- Chang Zhou

Learning targets
- Understanding the basic prop. control theory
- Knowing the function, set-up and parameter of prop. & servo valves
- Understanding basic function of the open & close-loop prop. system
- Knowing adjustment of the prop. control card

Training times
- 3 days:

Price
- ¥ 3,800.00 (without tax)
Note: The price is only for training charge, not including any travel cost.

Teaching material information
- Proportional and servo valve Technology
- Project Manual Proportional valve technology
- Internal Training Material

Prerequisites
- Technical understanding
- Participation in "Basic Hydraulic Technology-BHT" or comparable training

Target group
- Bosch Rexroth customers: Technical Engineer, Sales Engineer, Field Service Engineer, Logistic and Purchase, Educational institutions

Training language
- Chinese
DCH-I

Design Consideration of Hydraulic System for Industrial Application

There are many kinds of hydraulic system. This training explains the key points of hydraulic system design, such as: design process, system classification, function analysis and theory calculation.

**Contents**
- Standard process of hydraulic system design
- Basic and typical of hydraulic system
- Valve control and pump control system
- Open-loop and closed-loop control system
- Heating balance analysis and calculation
- Accumulator system design and analysis
- Practice on didactic workstation

**Timetable**
- 2021/06/16-06/17

**Training location**
- Chang Zhou

**Training times**
- 2 days:

**Price**
- ¥ 3,800.00 (without tax)
  Note: The price is only for training charge, not including any travel cost.

**Teaching material information**
- HyControl Training Manual
- Internal Training Material

**Prerequisites**
- Participation in "Basic Hydraulic Technology-BHT", "Proportional control technology-PCT" and "Axial Piston Units" or comparable training

**Target group**
- Bosch Rexroth customers: Technical Engineer, Sales Engineer, Field Service Engineer, Educational institutions

**Training language**
- Chinese
MRS-I

Maintenance, Assembly, Repair & Setup of Industrial Hydraulic System

This training explains the importance of daily maintenance to life cycle of the hydraulic system, focus on analysis of the key points in installation and commissioning of the hydraulic system.

Contents
- Installation, commissioning and maintenance of hydraulic cylinder
- Installation, commissioning and maintenance of axial units
- Installation and maintenance of control valve
- Installation and maintenance of pipe work
- Hydraulic oil selection and cleanliness control
- Commissioning and daily check of hydraulic system

Timetable
- 2021/04/13-04/14
- 2021/08/03-08/04

Training location
- Chang Zhou
- Chang Zhou

Training times
- 2 days:

Price
- ¥ 3,800.00 (without tax)
- Note: The price is only for training charge, not including any travel cost.

Teaching material information
- Trouble shooting operation manual
- Internal Training Material

Learning targets
- Understanding installation, commissioning and maintenance of typical hydraulic components
- Correct analysis the faults of hydraulic system and possible causes. Provide optimal solutions for daily maintenance of hydraulic system

Prerequisites
- Participation in "Basic Hydraulic Technology-BHT", "Proportional control technology-PCT" and "Axial Piston Units" or comparable training

Target group
- Bosch Rexroth customers: Technical Engineer, Field Service Engineer, Educational institutions

Training language
- Chinese
HIT
Hydraulic Intensive Training

This training covers a variety of contents such as hydraulic components, electro-hydraulic control basics, typical hydraulic application and complex hydraulic circuit analysis, by which you can upgrade from “trainee” to “expert”

Contents
- Fluid and Hydraulic Basics
- Symbols according to DIN ISO 1219
- Hydraulic pump, motor and cylinders
- Control components (directional/pressure/flow valves and 2-way cartridge valves)
- Hydraulic accessories
- Electric-hydraulic and relay control circuits
- PLC in application of industrial electro-hydraulics
- Typical hydraulic application and big-circuit analysis
- Practice on didactic workstation

Target group
- Bosch Rexroth customers: Sales engineer, Design engineer, Project engineer, Service Engineer, Maintenance & Assembly personnel

Training language
- Chinese

Timetable
- 2021/06/08-06/10
- 2021/11/09-11/11

Training location
- Chang Zhou
- Chang Zhou

Training times
- 3 days:

Price
- ¥ 3,800.00 (without tax)
Note: The price is only for training charge, not including any travel cost.

Teaching material information
- Hydraulic Basic Principles and Components
- Project Manual Industrial Hydraulics
- Internal Training Material

Prerequisites
- Background of mechanical and electric technology
HCC

Hydraulic closed circuit

Hydraulic closed circuit is a typical system used in vehicle travelling, slewing, winching operations of mobile hydraulic applications, also in industrial hydraulic application such as material handling equipment. This training shows hydraulic closed circuit technology, so the participants can understand the system overview, principle, typical components and applications.

Contents
- Overview and principle of hydraulic closed circuit
- Function and principle of A4VG pump & A6VM motor
- DA control and e-DA technology
- Other axial piston unit for hydraulic closed circuit
- Typical application of hydraulic closed circuit

Learning targets
- Understand the function and principle of hydraulic closed circuit
- Function and principle of A4VG and A6VM
- Understand the principle and application DA control

Price
¥ 3,800.00 (without tax)
Note: The price is only for training charge, not including any travel cost.

Teaching material information
- Internal Training Material

Target group
- Bosch Rexroth customers: Engineer, Sales Engineer, Field Service Engineer, Educational institutions

Training language
- Chinese
MHT
Mobile Hydraulic Technology

Hydraulic technology has widely used in mobile machinery and non-road vehicles, including some typical products like hydraulic pump & motor for open-loop or closed-loop circuits, and mobile control blocks based on throttle control, load-sensing and LUDV.

Contents
- Characteristic and typical application of mobile hydraulics
- 6/3 throttle control principle and SM valve
- Load-sensing control principle and M4 valve
- LUDV control principle and SX valve
- Axial piston unit basics for mobile application
- Typical axial piston pump and motor A10VO/A11VO/A4VG/A6VM
- Didactic practice of mobile control blocks
- Assembling and disassembling of A11VO

Training language
- Chinese

Timetable
2021/05/25-05/27
2021/11/23-11/25

Training location
Chang Zhou
Chang Zhou

Training times
3 days:

Price
¥ 3,800.00 (without tax)
Note: The price is only for training charge, not including any travel cost.

Teaching material information
- Training Mobile Hydraulic Axial Piston Unit
- Mobile Hydraulic of throttle, LS and LUDV control

Learning targets
- Knowing technical characteristics of mobile hydraulics
- Understand the function and principle of mobile control blocks
- Understand the function and principle of typical pump & motor

Prerequisites
- Participation in “Basic Hydraulic Technology-BHT” or comparable training
- Recommend participation of “Proportional control technology-PCT”

Target group
- Bosch Rexroth customers: Engineer, Sales Engineer, Field Service Engineer, Educational institutions
BODAS-BT

Basic Training in BODAS Mobile Electronics

You have already heard of BODAS, the Bosch Rexroth Design & Application System, in your experiences with Rexroth hydraulic components? Find out the potential that can be utilized in conjunction with mobile electronics and hydraulics.

Contents

- Requirements on mobile electronics
- Structure and function of electronic component
  - Control units
  - Sensors, joysticks, displays
  - Software, tools
- Introduction to the pin assignments of RC control units
- Software functions and options and the BODAS-design and BODAS-service programming tools
- Sample commissioning of a standard application software program

Learning targets

- Being familiar with the electronic basics of sensors, actuators and control units in mobile electronics
- Understanding how software and software tools function
- Knowing about BODAS systems and components

Training language

- Chinese

Timetable

2021/04/20-04/21
Beijing

Training times

2 days:

Price

¥ 3,800.00 (without tax)
Note: The price is only for training charge, not including any travel cost.

Teaching material information

- Internal Training Material

Prerequisites

- Completion of the eHTGM training course or comparable knowledge

Target group

- Bosch Rexroth customers: Technicians, engineers
BODAS-Tools

Introduction to BODAS-design and BODAS-service

Gain insight into how software is created and tested for Rexroth BODAS RC control units. Practical examples will be used in a test environment for parameterize the software and interpret diagnostic messages.

Contents
- Introduction to using and applying BODAS-design and BODAS-service
- Introduction to programming according to IEC61131-3
- Application scenarios for BODAS-design
- Parameterizing and flashing with BODAS-service
- Diagnostic messages
- Simple examples with practical exercises

Timetable
- 2021/04/22-04/22
- 2021/06/01-06/01
- 2021/08/10-08/10
- 2021/09/09-09/09
- 2021/11/02-11/02

Training location
- Beijing
- Chang Zhou

Training times
- 1 days:

Price
- ¥ 3,800.00 (without tax)
Note: The price is only for training charge, not including any travel cost.

Teaching material information
- Internal Training Material

Learning targets
- Being familiar with the core properties and options for using BODAS-design and BODAS-service
- Understanding simple BODAS-design programs
- Understanding how BODAS-service works

Prerequisites
- Completion of the BODAS-BT training course or comparable knowledge

Target group
- Bosch Rexroth customers: Technicians, engineers

Training language
- Chinese
BODAS-EHC

EHC function, Electronics diagnosis And Calibration

You are already familiar with the concept of the BODAS standard application software. Now you will be able to configure and parameterize a hitch control in a test environment and learn about the various control options with Rexroth BODAS-EHC control EHC.

Contents
- EHC Electro-hydraulic hitch control function Introduction
- EHC Control panel function introduction and operation
- Electronics diagnosis with error led and problem solving
- EOL test procedure and angle/position sensor calibration
- Other requirements from customer

Target group
- Bosch Rexroth customers: Technicians, engineers, application engineers

Training language
- Chinese

Timetable
2021/09/07-09/08

Training location
Chang Zhou

Training times
2 days:

Price
¥ 3,800.00 (without tax)
Note: The price is only for training charge, not including any travel cost.

Teaching material information
- Internal Training Material

Learning targets
- Understanding how EHC function works and know how to operate on control panel
- Could check and make EHC function work after tractor get off the assembly line and could locate the error of the system and know solve method

Prerequisites
- EHC valve basic knowledge and know basic tractor plough working knowledge or comparable knowledge
- Completion of the BODAS-Tools training course or comparable knowledge

You are already familiar with the concept of the BODAS standard application software. Now you will be able to configure and parameterize a hitch control in a test environment and learn about the various control options with Rexroth BODAS-EHC control EHC.
BODAS-d-BR3x
Programming Series 3x RCs with BODAS-design

The powerful Rexroth 3x series BODAS RC control units offer a variety of functions and connection options. Learn how to effectively use the software and hardware features and implement your own requirements with BODAS-design.

Contents
- Knowing and defining different input/output uses and configurations
- Programming with BODAS-design based on the template application
- Using task management and follow-up functions
- Knowing and using control system safety functions
- Working practically on a training set-up
- Offline and online debugging possibilities
- Creating a project-specific diagnosis interface for BODAS-service
- Working with the diagnostic information for BODAS-service

Target group
- Bosch Rexroth customers: Software developers

Training language
- Chinese

Timetable
- 2021/06/02-06/03
- 2021/08/11-08/12
- 2021/11/03-11/04

Training location
- Chang Zhou

Price
- ¥ 3,800.00 (without tax)
Note: The price is only for training charge, not including any travel cost.

Learning targets
- Knowing how to access the peripherals of BODAS RC control units and use the control unit-specific system functions
- Knowing the I/Os of the control unit family
- Being able to program using BODAS-design templates
- Being able to use safety functions

Prerequisites
- Completion of basic training for CoDeSys at 3S Smart Software Solutions or multiple years of programming experience
- Knowledge of programming with BODAS-design or completion of the BODAS-Tools training course
- Completion of the BODAS-BT training course preferable
- Knowledge of another IEC 61131-3 programming tool and/or good programming knowledge with C preferable

Teaching material information
- Internal Training Material
BODAS-FuSa

**Introduction to Functional Safety**

In this training, basic knowledge of FuSa (Functional safety) will be introduced, including risk assessment and analysis, design of FuSa system architecture and requirement about electrical type selection.

**Contents**

- Why is FuSa required
- Legal responsibilities, directives and standard of FuSa
- Introduction to responsibilities of different party
- Development of FuSa
- Develop FuSa with RC controller
- Successful experience

**Learning targets**

- Understanding the importance of FuSa and the related directives and standard
- Being familiar with how to finish FuSa in 10 steps
- Understanding input & output configuration for development of FuSa

**Prerequisites**

- Basic knowledge of electronic control
- Completion of the BODAS-BT training course or comparable knowledge

**Target group**

- Bosch Rexroth customers: Engineers, application engineers

**Training language**

- Chinese

**Timetable**

2021/07/06-07/06

**Training location**

Beijing

**Training times**

1 days:

**Price**

¥ 3,800.00 (without tax)

Note: The price is only for training charge, not including any travel cost.

**Teaching material information**

- Internal Training Material
BODAS-Display DI4

Programming display DI4 with Codesys

The powerful Rexroth display DI4 offer a variety of functions and connection options. Learn how to effectively use the software and hardware features and implement your own requirements with codesys.

Contents
- Short presentation of DI4-mid hardware with main features
- Overview of available tooling, accessories, documentation
- SW-license conditions in the context of OSS / OSSL / Codesys – be aware!
- First steps with development environment Code-sys 3.5 and Bosch Rexroth software package
- Practical work – Create your own project with new pages, elements, properties, ...
- Run your project on DI4
- Rexroth demo application for DI4 – parts of the project file.

Learning targets
- Knowing the main features of display DI4
- Knowing how to access the BODAS display DI4 use different connections
- Being able to program using DI4 templates

Prerequisites
- Notebook with Codesys 3.5 and Bosch Rexroth package pre-installed
- Download package and installation guide will be provided with confirmation for training participation
- Programming knowledge in Codesys (structured text)
- Optional: basics in working with graphic editors

Target group
- Bosch Rexroth customers: Technicians, Application Engineer, Software Engineer

Training language
- Chinese

Timetable
<table>
<thead>
<tr>
<th>Training location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beijing</td>
</tr>
<tr>
<td>Chang Zhou</td>
</tr>
</tbody>
</table>

Training times
2 days:

Price
¥ 3,800.00 (without tax)
Note: The price is only for training charge, not including any travel cost.

Teaching material information
- Internal Training Material
CRT

Customer Required Training

The special training outline will be made according to customer's actual requirements, including the hydraulic technology which is not covered in standard training courses. Help to give solution for customer's questions.

Contents
- Offer necessary documents
- According the customer's requirements to make training plan, and offer a quotation, make and execute the contract before the training
- Offer Bosch Rexroth training certificate after training

Learning targets
- Understanding contents in training outline
- Provide reasonable solutions for questions from customer

Prerequisites
- Have technical experience, with similar technical background

Price
¥ 13,800.00/day (without tax)
Note: The price includes training charge and domestic travel cost of the trainer.

Teaching material information
- Internal Training Material

Training language
- Chinese
## Contents

### Electric Drives and Controls

<table>
<thead>
<tr>
<th>Page</th>
<th>Code</th>
<th>Training</th>
<th>Method</th>
<th>Duration (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>Electric Drives and Controls</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>INDRV-SVF1</td>
<td>IndraDrive Maintenance</td>
<td><img src="image" alt="Face-to-face training" /> <img src="image" alt="eLearning" /></td>
<td></td>
</tr>
<tr>
<td><strong>NEW</strong></td>
<td>61</td>
<td>INDRV-SVF2</td>
<td>IndraDrive Maintenance</td>
<td><img src="image" alt="Face-to-face training" /> <img src="image" alt="eLearning" /></td>
</tr>
<tr>
<td>62</td>
<td>INDRV-CS</td>
<td>IndraDrive Cs Application</td>
<td><img src="image" alt="Face-to-face training" /> <img src="image" alt="eLearning" /></td>
<td></td>
</tr>
<tr>
<td>63</td>
<td>INLOG-HMI</td>
<td>IndraLogic Programming and HMI</td>
<td><img src="image" alt="Face-to-face training" /> <img src="image" alt="eLearning" /></td>
<td></td>
</tr>
<tr>
<td>64</td>
<td>MLD-PP</td>
<td>MLD Project Planning</td>
<td><img src="image" alt="Face-to-face training" /> <img src="image" alt="eLearning" /></td>
<td></td>
</tr>
<tr>
<td>65</td>
<td>MLC-PP</td>
<td>MLC Project Planning</td>
<td><img src="image" alt="Face-to-face training" /> <img src="image" alt="eLearning" /></td>
<td></td>
</tr>
<tr>
<td>66</td>
<td>MTX-SVF</td>
<td>MTX Maintenance</td>
<td><img src="image" alt="Face-to-face training" /> <img src="image" alt="eLearning" /></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CRT</td>
<td>Customer Required Training</td>
<td><img src="image" alt="Face-to-face training" /> <img src="image" alt="eLearning" /></td>
<td></td>
</tr>
</tbody>
</table>
# Electric Drives and Controls Training Calendar 2021

<table>
<thead>
<tr>
<th>January</th>
<th>February</th>
<th>March</th>
<th>April</th>
<th>May</th>
<th>June</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>New Year's Day</strong></td>
<td><strong>Spring Festival</strong></td>
<td><strong>Mid Autumn Festival</strong></td>
<td><strong>Tomb Sweeping Day</strong></td>
<td><strong>Labor Holiday</strong></td>
<td><strong>Birthday</strong></td>
</tr>
<tr>
<td><strong>Tomb Sweeping Day</strong></td>
<td><strong>New Year's Day</strong></td>
<td><strong>Spring Festival</strong></td>
<td><strong>National Holiday</strong></td>
<td><strong>Labor Holiday</strong></td>
<td><strong>Birthday</strong></td>
</tr>
<tr>
<td><strong>New Year's Day</strong></td>
<td><strong>Spring Festival</strong></td>
<td><strong>Mid Autumn Festival</strong></td>
<td><strong>Tomb Sweeping Day</strong></td>
<td><strong>Labor Holiday</strong></td>
<td><strong>Birthday</strong></td>
</tr>
</tbody>
</table>

**Note:** The above calendar includes important holidays and festivals in China, such as New Year's Day, Spring Festival, Mid Autumn Festival, Tomb Sweeping Day, Labor Holiday, and National Holiday. These events are significant in Chinese culture and are typically observed with family gatherings and special activities. The calendar also highlights other standard days such as working days, which are typically Monday through Friday.
INDRV-SVF1

IndraDrive Maintenance

This training introduce the replacing of drive components and related diagnostics and troubleshooting

Contents
- Structure of IndraDrive system
- Functions of communication interface, firmware and optional function packages
- Parameter handling and data backup using IndraWorks
- Measurement with drive-integrated oscilloscope
- Diagnostics and troubleshooting

Timetable
2021/04/27-04/28
2021/07/27-07/28
2021/11/16-11/17

Training location
Chang Zhou
Chang Zhou
Chang Zhou

Training times
2 days:

Price
¥ 3,800.00 (without tax)
Note: The price is only for training charge, not including any travel cost.

Teaching material information
- Internal Training Material

Learning targets
- Replacing of drive components
- Learning diagnostics and troubleshooting

Prerequisites
- Basic knowledge for electrics, NC and PC Windows
- Personnel from operation, application, maintenance and has relative requirement

Target group
- Bosch Rexroth customers: End-user, Service engineer, Operator

Training language
- Chinese
INDRV-SVF2
IndraDrive Maintenance

This training introduce the replacing of motion control (MLC/XM21/XM22) components and related diagnostics and troubleshooting.

Contents
- Structure of motion control system (MLC/XM21/XM22)
- Functions of communication interface, firmware, I/O slave station terminal
- Parameter handling and data backup using Web version software
- Web version software measurement with integrated oscilloscope
- Diagnostics and troubleshooting

Training language
- Chinese

Timetable
2021/05/18-05/19
2021/08/24-08/25

Training location
Chang Zhou
Chang Zhou

Training times
2 days:

Price
¥ 3,800.00 (without tax)
Note: The price is only for training charge, not including any travel cost.

Teaching material information
- Internal Training Material

Learning targets
- Replacing of drive components
- Learning diagnostics and troubleshooting

Prerequisites
- Basic knowledge for electrics, NC and PC Windows
- Personnel from operation, application, maintenance and has relative requirement

Target group
- Bosch Rexroth customers: End-user, Service engineer, Operator, Bosch Rexroth customers
INDRV-CS
IndraDrive Cs Application

This training introduce the components of IndraDrive Cs system and how to do the drive parameterization with IndraWorks

Contents
- Structure of IndraDrive Cs system
- Functions of communication interface, firmware and optional function packages
- Parameter handling and data backup using IndraWorks
- Measurement with drive-integrated oscilloscope

Learning targets
- Components of IndraDrive Cs system
- Learn to drive parameterization with IndraWorks

Prerequisites
- Basic knowledge for electrics, NC and PC Windows
- Personnel from operation, application, maintenance and has relative requirement

Target group
- Bosch Rexroth customers: OEM, Sales, Technical engineer, Other personnel interested on drive technology

Training language
- Chinese

Timetable
- 2021/04/07-04/08

Training location
- Chang Zhou

Training times
- 2 days:

Price
- ¥ 3,800.00 (without tax)
Note: The price is only for training charge, not including any travel cost.

Teaching material information
- Internal Training Material
INLOG-HMI

IndraLogic Programming and HMI

This training introduce the program structure in IndraLogic, and how to create a new visualization project.

Contents
- System structure of IndraControl L/V
- Project creating, setting and backup
- IndraLogic programming basics
- HMI communication and visualization

Learning targets
- Understanding program structure in IndraLogic
- Learn to create a new visualization project

Prerequisites
- Basic knowledge for electrics, NC and PC Windows
- Personnel from operation, application, maintenance and has relative requirement

Target group
- Bosch Rexroth customers: OEM, End-user, Sales, Technical engineer, Service engineer, Other personnel interested on PLC technology

Training language
- Chinese

Timetable
2021/06/08-06/09

Training location
Chang Zhou

Training times
2 days:

Price
¥ 3,800.00 (without tax)
Note: The price is only for training charge, not including any travel cost.

Teaching material information
- Internal Training Material
MLD-PP

MLD Project Planning

This training introduce the MLD basis on single axis and how to control slave axis through master axis.

Contents
- Motion control system based on Drive
- Structure of IndraDrive system and interface configuration
- Setting-up MLD system mode
- Axis data structure
- IndraLogic motion programming basis and PLCo-open function libraries
- Control of slave axis through master axis

Learning targets
- Understanding MLD basis on single axis
- Learn to control of slave axis through master axis

Prerequisites
- Knowledge for electrics, NC and PC windows
- Personnel from design and installation in related application

Target group
- Bosch Rexroth customers: OEM, Sales, Technical engineer, Other personnel interested on Motion Control technology

Training language
- Chinese

Timetable
- 2021/10/19-10/20

Training location
- Chang Zhou

Training times
- 2 days:

Price
- ¥ 3,800.00 (without tax)
Note: The price is only for training charge, not including any travel cost.

Teaching material information
- Internal Training Material
MLC-PP

MLC Project Planning

This training introduce the overview of IndraMotion MLC motion system and how to make a motion programming by using IndraLogic.

Contents
- Motion control system based on Control
- Structure of MLC and IndraDrive system and interface configuration
- IndraLogic motion programming basis and PLCopen function libraries
- CAM disks in the drive
- Motion profiles in the control system

Learning targets
- Overview of IndraMotion MLC motion system
- Making a motion programming using IndraLogic

Prerequisites
- Knowledge for electrics, NC and PC windows
- Personnel from design and installation in related application

Target group
- Bosch Rexroth customers: OEM, Sales, Technical engineer, Other personnel interested on Motion Control technology

Training language
- Chinese

Timetable
- 2021/08/10-08/11

Training location
- Chang Zhou

Training times
- 2 days:

Price
- ¥ 3,800.00 (without tax)

Note: The price is only for training charge, not including any travel cost.

Teaching material information
- Internal Training Material
MTX-SVF

MTX Maintenance

This training introduce the relationship in HMI, CNC, PLC and the Drives, and IndraDrive parameter handling, diagnostics and data back-up

Contents
- Structure of MTX system
- Operating the standard user interface
- Basis of NC programming
- CNC/PLC interface
- IndraDrive parameters, diagnostics and data backup
- Backup and restore of projects

Learning targets
- Understanding relationship HMI/CNC/PLC/Drives
- Learning IndraDrive parameter handling, diagnostics and data back-up

Prerequisites
- Basic knowledge for electrics, NC and PC Windows
- Basic knowledge for CNC application
- Personnel from operation, application, maintenance and relative requirement

Target group
- Bosch Rexroth customers: End-user, Service engineer, Operator

Training language
- Chinese

Timetable
- 2021/06/29-07/01
- 2021/09/14-09/16

Training location
- Chang Zhou

Training times
- 3 days

Price
- ¥ 3,800.00 (without tax)
Note: The price is only for training charge, not including any travel cost.

Teaching material information
- Internal Training Material
Customer Required Training

The special outline will be made according to customer's requirement. Help to solve the customer's questions.

Contents

- Offer necessary documents
- According the customer's requirements to make training plan, and offer a quotation, make and execute the contract before the training
- Offer Bosch Rexroth training certificate after training

Learning targets

- The special outline will be made according to customer's requirement
- Help to solve the customer's questions

Prerequisites

- Basic knowledge for electrics and PC Windows
- Personnel from operation, application, maintenance and relative requirement

Price

¥ 13,800.00/day (without tax)
Note: The price includes training charge and domestic travel cost of the trainer.

Teaching material information

- Internal Training Material

Training language

- Chinese
# Contents

## Linear Motion

<table>
<thead>
<tr>
<th>Page</th>
<th>Code</th>
<th>Training</th>
<th>Method</th>
<th>Duration (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Face-to-face training</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>eLearning</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linear Motion</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70</td>
<td>LPT</td>
<td>Basic Technology of Linear Motion Product</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>71</td>
<td>LET-LMT</td>
<td>Calculation and Maintenance of Linear Motion Products</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Customer Required Training</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>72</td>
<td>CRT</td>
<td>Customer Required Training</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Linear Motion
Training Calendar 2021

January
- Day 1: New Year's Day
- Day 2: Tu
- Day 3: Th
- Day 4: Fr
- Day 5: Sa
- Day 6: Su
- Day 7: Mo
- Day 8: Tu
- Day 9: Th
- Day 10: Sa
- Day 11: Su
- Day 12: Mo
- Day 13: Tu
- Day 14: We
- Day 15: Th
- Day 16: Fr
- Day 17: Sa
- Day 18: Su
- Day 19: Mo
- Day 20: Tu
- Day 21: We
- Day 22: Th
- Day 23: Fr
- Day 24: Sa
- Day 25: Su
- Day 26: Mo
- Day 27: Tu
- Day 28: We
- Day 29: Th
- Day 30: Fr
- Day 31: Sa

February
- Day 1: Mo
- Day 2: Tu
- Day 3: We
- Day 4: Th
- Day 5: Fr
- Day 6: Sa
- Day 7: Su
- Day 8: Mo
- Day 9: Tu
- Day 10: We
- Day 11: Th
- Day 12: Fr
- Day 13: Sa
- Day 14: Su
- Day 15: Mo
- Day 16: Tu
- Day 17: We
- Day 18: Th
- Day 19: Fr
- Day 20: Sa
- Day 21: Su
- Day 22: Mo
- Day 23: Tu
- Day 24: We
- Day 25: Th
- Day 26: Fr
- Day 27: Sa
- Day 28: Su
- Day 29: Mo
- Day 30: Tu
- Day 31: We

March
- Day 1: Mo
- Day 2: Tu
- Day 3: We
- Day 4: Th
- Day 5: Fr
- Day 6: Sa
- Day 7: Su
- Day 8: Mo
- Day 9: Tu
- Day 10: We
- Day 11: Th
- Day 12: Fr
- Day 13: Sa
- Day 14: Su
- Day 15: Mo
- Day 16: Tu
- Day 17: We
- Day 18: Th
- Day 19: Fr
- Day 20: Sa
- Day 21: Su
- Day 22: Mo
- Day 23: Tu
- Day 24: We
- Day 25: Th
- Day 26: Fr
- Day 27: Sa
- Day 28: Su
- Day 29: Mo
- Day 30: Tu
- Day 31: We

April
- Day 1: Th
- Day 2: Fr
- Day 3: Sa
- Day 4: Su
- Day 5: Mo
- Day 6: Tu
- Day 7: We
- Day 8: Th
- Day 9: Fr
- Day 10: Sa
- Day 11: Su
- Day 12: Mo
- Day 13: Tu
- Day 14: We
- Day 15: Th
- Day 16: Fr
- Day 17: Sa
- Day 18: Su
- Day 19: Mo
- Day 20: Tu
- Day 21: We
- Day 22: Th
- Day 23: Fr
- Day 24: Sa
- Day 25: Su
- Day 26: Mo
- Day 27: Tu
- Day 28: We
- Day 29: Th
- Day 30: Fr
- Day 31: Sa

May
- Day 1: Mo
- Day 2: Tu
- Day 3: We
- Day 4: Th
- Day 5: Fr
- Day 6: Sa
- Day 7: Su
- Day 8: Mo
- Day 9: Tu
- Day 10: We
- Day 11: Th
- Day 12: Fr
- Day 13: Sa
- Day 14: Su
- Day 15: Mo
- Day 16: Tu
- Day 17: We
- Day 18: Th
- Day 19: Fr
- Day 20: Sa
- Day 21: Su
- Day 22: Mo
- Day 23: Tu
- Day 24: We
- Day 25: Th
- Day 26: Fr
- Day 27: Sa
- Day 28: Su
- Day 29: Mo
- Day 30: Tu
- Day 31: We

June
- Day 1: Sa
- Day 2: Su
- Day 3: Mo
- Day 4: Tu
- Day 5: We
- Day 6: Sa
- Day 7: Mo
- Day 8: Tu
- Day 9: We
- Day 10: Th
- Day 11: Fr
- Day 12: Sa
- Day 13: Su
- Day 14: Mo
- Day 15: Tu
- Day 16: We
- Day 17: Th
- Day 18: Fr
- Day 19: Sa
- Day 20: Su
- Day 21: Mo
- Day 22: Tu
- Day 23: We
- Day 24: Th
- Day 25: Fr
- Day 26: Sa
- Day 27: Su
- Day 28: Mo
- Day 29: Tu
- Day 30: We
- Day 31: Sa

July
- Day 1: Tu
- Day 2: We
- Day 3: Th
- Day 4: Fr
- Day 5: Sa
- Day 6: Su
- Day 7: Mo
- Day 8: Tu
- Day 9: We
- Day 10: Th
- Day 11: Fr
- Day 12: Sa
- Day 13: Su
- Day 14: Mo
- Day 15: Tu
- Day 16: We
- Day 17: Th
- Day 18: Fr
- Day 19: Sa
- Day 20: Su
- Day 21: Mo
- Day 22: Tu
- Day 23: We
- Day 24: Th
- Day 25: Fr
- Day 26: Sa
- Day 27: Su
- Day 28: Mo
- Day 29: Tu
- Day 30: We
- Day 31: Sa

August
- Day 1: Mo
- Day 2: Tu
- Day 3: We
- Day 4: Th
- Day 5: Fr
- Day 6: Sa
- Day 7: Su
- Day 8: Mo
- Day 9: Tu
- Day 10: We
- Day 11: Th
- Day 12: Fr
- Day 13: Sa
- Day 14: Su
- Day 15: Mo
- Day 16: Tu
- Day 17: We
- Day 18: Th
- Day 19: Fr
- Day 20: Sa
- Day 21: Su
- Day 22: Mo
- Day 23: Tu
- Day 24: We
- Day 25: Th
- Day 26: Fr
- Day 27: Sa
- Day 28: Su
- Day 29: Mo
- Day 30: Tu
- Day 31: We

September
- Day 1: Mo
- Day 2: Tu
- Day 3: We
- Day 4: Th
- Day 5: Fr
- Day 6: Sa
- Day 7: Su
- Day 8: Mo
- Day 9: Tu
- Day 10: We
- Day 11: Th
- Day 12: Fr
- Day 13: Sa
- Day 14: Su
- Day 15: Mo
- Day 16: Tu
- Day 17: We
- Day 18: Th
- Day 19: Fr
- Day 20: Sa
- Day 21: Su
- Day 22: Mo
- Day 23: Tu
- Day 24: We
- Day 25: Th
- Day 26: Fr
- Day 27: Sa
- Day 28: Su
- Day 29: Mo
- Day 30: Tu
- Day 31: We

October
- Day 1: Mo
- Day 2: Tu
- Day 3: We
- Day 4: Th
- Day 5: Fr
- Day 6: Sa
- Day 7: Su
- Day 8: Mo
- Day 9: Tu
- Day 10: We
- Day 11: Th
- Day 12: Fr
- Day 13: Sa
- Day 14: Su
- Day 15: Mo
- Day 16: Tu
- Day 17: We
- Day 18: Th
- Day 19: Fr
- Day 20: Sa
- Day 21: Su
- Day 22: Mo
- Day 23: Tu
- Day 24: We
- Day 25: Th
- Day 26: Fr
- Day 27: Sa
- Day 28: Su
- Day 29: Mo
- Day 30: Tu
- Day 31: We

November
- Day 1: Mo
- Day 2: Tu
- Day 3: We
- Day 4: Th
- Day 5: Fr
- Day 6: Sa
- Day 7: Su
- Day 8: Mo
- Day 9: Tu
- Day 10: We
- Day 11: Th
- Day 12: Fr
- Day 13: Sa
- Day 14: Su
- Day 15: Mo
- Day 16: Tu
- Day 17: We
- Day 18: Th
- Day 19: Fr
- Day 20: Sa
- Day 21: Su
- Day 22: Mo
- Day 23: Tu
- Day 24: We
- Day 25: Th
- Day 26: Fr
- Day 27: Sa
- Day 28: Su
- Day 29: Mo
- Day 30: Tu
- Day 31: We

December
- Day 1: Mo
- Day 2: Tu
- Day 3: We
- Day 4: Th
- Day 5: Fr
- Day 6: Sa
- Day 7: Su
- Day 8: Mo
- Day 9: Tu
- Day 10: We
- Day 11: Th
- Day 12: Fr
- Day 13: Sa
- Day 14: Su
- Day 15: Mo
- Day 16: Tu
- Day 17: We
- Day 18: Th
- Day 19: Fr
- Day 20: Sa
- Day 21: Su
- Day 22: Mo
- Day 23: Tu
- Day 24: We
- Day 25: Th
- Day 26: Fr
- Day 27: Sa
- Day 28: Su
- Day 29: Mo
- Day 30: Tu
- Day 31: We
LPT

Basic Technology of Linear Motion Product

This training introduce classification, set-up and function of linear motion products, and their typical applications.

Contents

- Structure and function of linear products
- The Profiled Rail System, Ball Screw Assemblies, Linear Bushing & Shaft, Linear Motion Systems
- Typical application of different linear motion products

Learning targets

- Structure and function of linear products
- Typical applications of linear motion products

Prerequisites

- Technical backgrounds

Target group

- Bosch Rexroth customers: Technical Application Engineer, Service Engineer, Sales Engineer, administrator, marketing personnel, logistics, sales and education institutions

Training language

- Chinese

Timetable

<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021/05/11-05/12</td>
<td>Chang Zhou</td>
</tr>
<tr>
<td>2021/10/19-10/20</td>
<td>Chang Zhou</td>
</tr>
</tbody>
</table>

Training location

- Chang Zhou

Training times

- 2 days:

Price

- ¥ 3,800.00 (without tax)

Note: The price is only for training charge, not including any travel cost.

Teaching material information

- disc with sample information
- Internal training material
LET-LMT
Calculation and Maintenance of Linear Motion Products

This training introduces the type-selection criteria of rail guides & BSA, how to use professional software to do parameter calculation and verification. It also shows key points about installation and maintenance of linear motion system.

Contents
- Selection criteria & Calculation of linear products
- Calculation of linear axis containing rail guides & BSA by using softwares
- Professional mounting of profiled rails and BSA
- Knowing maintenance (installation and lubrication) for profiled rails and BSA

Timetable
- 2021/05/13-05/14
- 2021/10/21-10/22

Training location
- Chang Zhou

Training times
- 2 days:

Price
- ¥ 3,800.00 (without tax)
- Note: The price is only for training charge, not including any travel cost.

Teaching material information
- disk with the software to copy
- Internal training material

Learning targets
- Selection criteria of linear motion products
- Design and calculation of linear axis (including profiled rails and BSA) by using professional software
- Professional mounting of profiled rails and BSA
- Knowing daily maintenance of profiled rails and BSA

Prerequisites
- Basic LT products knowledge

Target group
- Bosch Rexroth customers: Technical Application Engineer, Sales Engineer, Service Engineer

Training language
- Chinese
CRT

Customer Required Training

The special outline will be made according to customer's requirement. Help to solve the customer's questions.

Contents
- Offer necessary documents
- According the customer's requirements to make training plan, and offer a quotation, make and execute the contract before the training
- Offer Bosch Rexroth training certificate after training

Learning targets
- The special outline will be made according to customer's requirement
- Help to solve the customer's questions

Prerequisites
- Basic knowledge for electrics and PC Windows

Price
¥ 13,800.00/day (without tax)
Note: The price includes training charge and domestic travel cost of the trainer.

Teaching material information
- Internal Training Material

Training language
- Chinese
## Contents

### Assembly Technology

<table>
<thead>
<tr>
<th>Page</th>
<th>Code</th>
<th>Training</th>
<th>Method</th>
<th>Duration (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>74</td>
<td>CRT</td>
<td>Customer Required Training</td>
<td><a href="#">Face-to-face</a> <a href="#">eLearning</a></td>
<td>[ ]</td>
</tr>
</tbody>
</table>

Assembly Technology

Drive & Control Academy | Training Program 2021

Contents
**CRT**

**Customer Required Training**

The special outline will be made according to customer's requirement. Help to solve the customer's questions.

**Contents**

- Offer necessary documents
- According the customer’s requirements to make training plan, and offer a quotation, make and execute the contract before the training
- Offer Bosch Rexroth training certificate after training

**Learning targets**

- The special outline will be made according to customer's requirement
- Help to solve the customer's questions

**Prerequisites**

- Basic knowledge for mechanics

**Price**

¥ 13,800.00/day (without tax)

Note: The price includes training charge and domestic travel cost of the trainer.

**Teaching material information**

- Internal Training Material

**Training language**

- Chinese
## Contents

### Tightening Technology

<table>
<thead>
<tr>
<th>Page</th>
<th>Code</th>
<th>Training</th>
<th>Method</th>
<th>Duration (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Tightening Technology</td>
<td>Face-to-face training</td>
<td></td>
</tr>
<tr>
<td>77</td>
<td>BRST1</td>
<td></td>
<td>eLearning</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Customer Required Training</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>78</td>
<td>CRT</td>
<td>Customer Required Training</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Training Program 2021

## Drive & Control Academy

### Tightening Technology

#### Training Calendar 2021

<table>
<thead>
<tr>
<th>January</th>
<th>February</th>
<th>March</th>
<th>April</th>
<th>May</th>
<th>June</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 1 Fr</td>
<td>Day 1 Su</td>
<td>Day 1 Mo</td>
<td>Day 1 Th</td>
<td>Day 1 Sa</td>
<td>Day 1 Tu</td>
</tr>
<tr>
<td>Day 2 Sa</td>
<td>Day 2 Tu</td>
<td>Day 2 Th</td>
<td>Day 2 Fr</td>
<td>Day 2 Su</td>
<td>Day 2 We</td>
</tr>
<tr>
<td>Day 3 Su</td>
<td>Day 3 Fr</td>
<td>Day 3 Wd</td>
<td>Day 3 Sa</td>
<td>Day 3 Mo</td>
<td>Day 3 Mo</td>
</tr>
<tr>
<td>Day 4 Mo</td>
<td>Day 4 Th</td>
<td>Day 4 Su</td>
<td>Day 4 Sa</td>
<td>Day 4 Tu</td>
<td>Day 4 We</td>
</tr>
<tr>
<td>Day 5 Tu</td>
<td>Day 5 Fr</td>
<td>Day 5 Mo</td>
<td>Day 5 Th</td>
<td>Day 5 Wd</td>
<td>Day 5 Su</td>
</tr>
<tr>
<td>Day 6 We</td>
<td>Day 6 Th</td>
<td>Day 6 Su</td>
<td>Day 6 Mo</td>
<td>Day 6 Tu</td>
<td>Day 6 Sa</td>
</tr>
<tr>
<td>Day 7 Th</td>
<td>Day 7 Fr</td>
<td>Day 7 Wd</td>
<td>Day 7 Sa</td>
<td>Day 7 Mo</td>
<td>Day 7 Mo</td>
</tr>
<tr>
<td>Day 8 Fr</td>
<td>Day 8 Th</td>
<td>Day 8 Su</td>
<td>Day 8 Mo</td>
<td>Day 8 Tu</td>
<td>Day 8 Su</td>
</tr>
<tr>
<td>Day 9 Sa</td>
<td>Day 9 Wd</td>
<td>Day 9 Fr</td>
<td>Day 9 Sa</td>
<td>Day 9 Mo</td>
<td>Day 9 Tu</td>
</tr>
<tr>
<td>Day 10 Su</td>
<td>Day 10 Th</td>
<td>Day 10 Wd</td>
<td>Day 10 Mo</td>
<td>Day 10 Tu</td>
<td>Day 10 We</td>
</tr>
<tr>
<td>Day 11 Mo</td>
<td>Day 11 Fr</td>
<td>Day 11 Su</td>
<td>Day 11 Sa</td>
<td>Day 11 Tu</td>
<td>Day 11 We</td>
</tr>
<tr>
<td>Day 12 Tu</td>
<td>Day 12 Th</td>
<td>Day 12 Wd</td>
<td>Day 12 Fr</td>
<td>Day 12 Sa</td>
<td>Day 12 Mo</td>
</tr>
<tr>
<td>Day 13 We</td>
<td>Day 13 Wd</td>
<td>Day 13 Fr</td>
<td>Day 13 Sa</td>
<td>Day 13 Mo</td>
<td>Day 13 Tu</td>
</tr>
<tr>
<td>Day 14 Th</td>
<td>Day 14 Th</td>
<td>Day 14 Fr</td>
<td>Day 14 Sa</td>
<td>Day 14 Mo</td>
<td>Day 14 We</td>
</tr>
<tr>
<td>Day 15 Fr</td>
<td>Day 15 Th</td>
<td>Day 15 Fr</td>
<td>Day 15 Sa</td>
<td>Day 15 Mo</td>
<td>Day 15 Su</td>
</tr>
<tr>
<td>Day 16 Sa</td>
<td>Day 16 Wd</td>
<td>Day 16 Fr</td>
<td>Day 16 Sa</td>
<td>Day 16 Mo</td>
<td>Day 16 Mo</td>
</tr>
<tr>
<td>Day 17 Sa</td>
<td>Day 17 Wd</td>
<td>Day 17 Fr</td>
<td>Day 17 Mo</td>
<td>Day 17 Tu</td>
<td>Day 17 Mo</td>
</tr>
<tr>
<td>Day 18 Su</td>
<td>Day 18 Wd</td>
<td>Day 18 Fr</td>
<td>Day 18 Mo</td>
<td>Day 18 Th</td>
<td>Day 18 Su</td>
</tr>
<tr>
<td>Day 19 Tu</td>
<td>Day 19 Th</td>
<td>Day 19 Sa</td>
<td>Day 19 Mo</td>
<td>Day 19 Wd</td>
<td>Day 19 Fr</td>
</tr>
<tr>
<td>Day 20 We</td>
<td>Day 20 Wd</td>
<td>Day 20 Th</td>
<td>Day 20 Sa</td>
<td>Day 20 Mo</td>
<td>Day 20 Mo</td>
</tr>
<tr>
<td>Day 21 Th</td>
<td>Day 21 Th</td>
<td>Day 21 Fr</td>
<td>Day 21 Sa</td>
<td>Day 21 Mo</td>
<td>Day 21 Tu</td>
</tr>
<tr>
<td>Day 22 Fr</td>
<td>Day 22 Fr</td>
<td>Day 22 Wd</td>
<td>Day 22 Th</td>
<td>Day 22 Sa</td>
<td>Day 22 Mo</td>
</tr>
<tr>
<td>Day 23 Sa</td>
<td>Day 23 Wd</td>
<td>Day 23 Fr</td>
<td>Day 23 Sa</td>
<td>Day 23 Mo</td>
<td>Day 23 Tu</td>
</tr>
<tr>
<td>Day 24 Su</td>
<td>Day 24 Wd</td>
<td>Day 24 Fr</td>
<td>Day 24 Mo</td>
<td>Day 24 Tu</td>
<td>Day 24 Su</td>
</tr>
<tr>
<td>Day 26 Tu</td>
<td>Day 26 Tu</td>
<td>Day 26 Sa</td>
<td>Day 26 Su</td>
<td>Day 26 Th</td>
<td>Day 26 Tu</td>
</tr>
<tr>
<td>Day 27 We</td>
<td>Day 27 Wd</td>
<td>Day 27 Fr</td>
<td>Day 27 Sa</td>
<td>Day 27 Mo</td>
<td>Day 27 We</td>
</tr>
<tr>
<td>Day 28 We</td>
<td>Day 28 Wd</td>
<td>Day 28 Fr</td>
<td>Day 28 Sa</td>
<td>Day 28 Mo</td>
<td>Day 28 We</td>
</tr>
<tr>
<td>Day 29 Th</td>
<td>Day 29 Th</td>
<td>Day 29 Fr</td>
<td>Day 29 Sa</td>
<td>Day 29 Mo</td>
<td>Day 29 Th</td>
</tr>
<tr>
<td>Day 30 Fr</td>
<td>Day 30 Fr</td>
<td>Day 30 Th</td>
<td>Day 30 Sa</td>
<td>Day 30 Su</td>
<td>Day 30 Fr</td>
</tr>
<tr>
<td>Day 31 Sa</td>
<td>Day 31 Sa</td>
<td>Day 31 Tu</td>
<td>Day 31 Su</td>
<td>Day 31 Th</td>
<td>Day 31 Fr</td>
</tr>
</tbody>
</table>

#### Important Dates

- **New Year’s Day**: January 1
- **Spring Festival**: February 12
- **Mid-Autumn Day**: October 1
- **Tomb Sweeping Day**: April 4
- **Labor Holiday**: May 1
- **National Holiday**: New Year’s Day, Spring Festival, Mid-Autumn Day, Tomb Sweeping Day, Labor Holiday

Valid for 2021 only.
Tightening Technology

Introduction of Tightening technology basics and relative factors; Working with the software BS300/350, hardware configuration, process programming, and other functions. And Periodical calibration, maintenance of BOSCH Rexroth tightening system, and troubleshooting.

Contents
- Tightening Basic
- BOSCH Rexroth tightening system introduction and How to use the catalogue
- Hardware configuration, calibration and tightening programming
- Troubleshooting

Learning targets
- With the introduction of Tightening technology basics, engineers will know what the tightening is and a good foundation of process is laid
- Have a general knowledge of BOSCH Rexroth tightening system, and learn to use the catalogue
- Have a general knowledge of BOSCH Rexroth tightening system software BS300/350, and learn to use it for configuration, programming

Prerequisites
- Technical understanding

Target group
- Bosch Rexroth customers: Sales engineer, Design engineer, Project engineer, Service Engineer, maintenance & Assembly personnel

Training language
- Chinese

Timetable
- 2021/06/01-06/02
- 2021/11/02-11/03

Training location
- Chang Zhou

Price
- ¥ 3,800.00 (without tax)
Note: The price is only for training charge, not including any travel cost.

Teaching material information
- internal training material
CRT
Customer Required Training

The special outline will be made according to customer's requirement. Help to solve the customer's questions.

Contents
- Offer necessary documents
- According the customer's requirements to make training plan, and offer a quotation, make and execute the contract before the training
- Offer Bosch Rexroth training certificate after training

Learning targets
- The special outline will be made according to customer's requirement
- Help to solve the customer's questions

Prerequisites
- Basic knowledge for tightening

Price
¥ 13,800.00/day (without tax)
Note: The price includes training charge and domestic travel cost of the trainer.

Teaching material information
- Internal Training Material

Training language
- Chinese
## Contents

### Welding Technology

<table>
<thead>
<tr>
<th>Page</th>
<th>Code</th>
<th>Training</th>
<th>Method</th>
<th>Duration (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Welding Technology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>81</td>
<td>BRWT1</td>
<td>Basic Resistance Welding Technology</td>
<td>eLearning</td>
<td></td>
</tr>
<tr>
<td>82</td>
<td>CRT</td>
<td>Customer Required Training</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**General Information**

**Electric Drives and Controls**

**Linear Motion**

**Hydraulics**

**Tightening Technology**

**Assembly Technology**

**Drive & Control Academy**

**Registration**
# Welding Technology Training Calendar 2021

## January

<table>
<thead>
<tr>
<th>Day</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>New Year's Day</td>
</tr>
<tr>
<td>2</td>
<td>Tu</td>
</tr>
<tr>
<td>3</td>
<td>Mo</td>
</tr>
<tr>
<td>4</td>
<td>We</td>
</tr>
<tr>
<td>5</td>
<td>Th</td>
</tr>
<tr>
<td>6</td>
<td>Sa</td>
</tr>
<tr>
<td>7</td>
<td>Su</td>
</tr>
<tr>
<td>8</td>
<td>Mo</td>
</tr>
<tr>
<td>9</td>
<td>Tu</td>
</tr>
<tr>
<td>10</td>
<td>We</td>
</tr>
<tr>
<td>11</td>
<td>Th</td>
</tr>
<tr>
<td>12</td>
<td>Sa</td>
</tr>
<tr>
<td>13</td>
<td>Su</td>
</tr>
<tr>
<td>14</td>
<td>Mo</td>
</tr>
<tr>
<td>15</td>
<td>Tu</td>
</tr>
<tr>
<td>16</td>
<td>We</td>
</tr>
<tr>
<td>17</td>
<td>Th</td>
</tr>
<tr>
<td>18</td>
<td>Sa</td>
</tr>
<tr>
<td>19</td>
<td>Su</td>
</tr>
<tr>
<td>20</td>
<td>Mo</td>
</tr>
<tr>
<td>21</td>
<td>Tu</td>
</tr>
<tr>
<td>22</td>
<td>We</td>
</tr>
<tr>
<td>23</td>
<td>Th</td>
</tr>
<tr>
<td>24</td>
<td>Sa</td>
</tr>
<tr>
<td>25</td>
<td>Su</td>
</tr>
<tr>
<td>26</td>
<td>Mo</td>
</tr>
<tr>
<td>27</td>
<td>Tu</td>
</tr>
<tr>
<td>28</td>
<td>We</td>
</tr>
<tr>
<td>29</td>
<td>Th</td>
</tr>
<tr>
<td>30</td>
<td>Sa</td>
</tr>
<tr>
<td>31</td>
<td>Su</td>
</tr>
</tbody>
</table>

## February

<table>
<thead>
<tr>
<th>Day</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mo</td>
</tr>
<tr>
<td>2</td>
<td>Tu</td>
</tr>
<tr>
<td>3</td>
<td>We</td>
</tr>
<tr>
<td>4</td>
<td>Th</td>
</tr>
<tr>
<td>5</td>
<td>Sa</td>
</tr>
<tr>
<td>6</td>
<td>Su</td>
</tr>
<tr>
<td>7</td>
<td>Mo</td>
</tr>
<tr>
<td>8</td>
<td>Tu</td>
</tr>
<tr>
<td>9</td>
<td>We</td>
</tr>
<tr>
<td>10</td>
<td>Th</td>
</tr>
<tr>
<td>11</td>
<td>Sa</td>
</tr>
<tr>
<td>12</td>
<td>Su</td>
</tr>
<tr>
<td>13</td>
<td>Mo</td>
</tr>
<tr>
<td>14</td>
<td>Tu</td>
</tr>
<tr>
<td>15</td>
<td>We</td>
</tr>
<tr>
<td>16</td>
<td>Th</td>
</tr>
<tr>
<td>17</td>
<td>Sa</td>
</tr>
<tr>
<td>18</td>
<td>Su</td>
</tr>
<tr>
<td>19</td>
<td>Mo</td>
</tr>
<tr>
<td>20</td>
<td>Tu</td>
</tr>
<tr>
<td>21</td>
<td>We</td>
</tr>
<tr>
<td>22</td>
<td>Th</td>
</tr>
<tr>
<td>23</td>
<td>Sa</td>
</tr>
<tr>
<td>24</td>
<td>Su</td>
</tr>
<tr>
<td>25</td>
<td>Mo</td>
</tr>
<tr>
<td>26</td>
<td>Tu</td>
</tr>
<tr>
<td>27</td>
<td>We</td>
</tr>
<tr>
<td>28</td>
<td>Th</td>
</tr>
<tr>
<td>29</td>
<td>Sa</td>
</tr>
<tr>
<td>30</td>
<td>Su</td>
</tr>
</tbody>
</table>

## March

<table>
<thead>
<tr>
<th>Day</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mo</td>
</tr>
<tr>
<td>2</td>
<td>Tu</td>
</tr>
<tr>
<td>3</td>
<td>We</td>
</tr>
<tr>
<td>4</td>
<td>Th</td>
</tr>
<tr>
<td>5</td>
<td>Sa</td>
</tr>
<tr>
<td>6</td>
<td>Su</td>
</tr>
<tr>
<td>7</td>
<td>Mo</td>
</tr>
<tr>
<td>8</td>
<td>Tu</td>
</tr>
<tr>
<td>9</td>
<td>We</td>
</tr>
<tr>
<td>10</td>
<td>Th</td>
</tr>
<tr>
<td>11</td>
<td>Sa</td>
</tr>
<tr>
<td>12</td>
<td>Su</td>
</tr>
<tr>
<td>13</td>
<td>Mo</td>
</tr>
<tr>
<td>14</td>
<td>Tu</td>
</tr>
<tr>
<td>15</td>
<td>We</td>
</tr>
<tr>
<td>16</td>
<td>Th</td>
</tr>
<tr>
<td>17</td>
<td>Sa</td>
</tr>
<tr>
<td>18</td>
<td>Su</td>
</tr>
<tr>
<td>19</td>
<td>Mo</td>
</tr>
<tr>
<td>20</td>
<td>Tu</td>
</tr>
<tr>
<td>21</td>
<td>We</td>
</tr>
<tr>
<td>22</td>
<td>Th</td>
</tr>
<tr>
<td>23</td>
<td>Sa</td>
</tr>
<tr>
<td>24</td>
<td>Su</td>
</tr>
<tr>
<td>25</td>
<td>Mo</td>
</tr>
<tr>
<td>26</td>
<td>Tu</td>
</tr>
<tr>
<td>27</td>
<td>We</td>
</tr>
<tr>
<td>28</td>
<td>Th</td>
</tr>
<tr>
<td>29</td>
<td>Sa</td>
</tr>
<tr>
<td>30</td>
<td>Su</td>
</tr>
</tbody>
</table>

## April

<table>
<thead>
<tr>
<th>Day</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mo</td>
</tr>
<tr>
<td>2</td>
<td>Tu</td>
</tr>
<tr>
<td>3</td>
<td>We</td>
</tr>
<tr>
<td>4</td>
<td>Th</td>
</tr>
<tr>
<td>5</td>
<td>Sa</td>
</tr>
<tr>
<td>6</td>
<td>Su</td>
</tr>
<tr>
<td>7</td>
<td>Mo</td>
</tr>
<tr>
<td>8</td>
<td>Tu</td>
</tr>
<tr>
<td>9</td>
<td>We</td>
</tr>
<tr>
<td>10</td>
<td>Th</td>
</tr>
<tr>
<td>11</td>
<td>Sa</td>
</tr>
<tr>
<td>12</td>
<td>Su</td>
</tr>
<tr>
<td>13</td>
<td>Mo</td>
</tr>
<tr>
<td>14</td>
<td>Tu</td>
</tr>
<tr>
<td>15</td>
<td>We</td>
</tr>
<tr>
<td>16</td>
<td>Th</td>
</tr>
<tr>
<td>17</td>
<td>Sa</td>
</tr>
<tr>
<td>18</td>
<td>Su</td>
</tr>
<tr>
<td>19</td>
<td>Mo</td>
</tr>
<tr>
<td>20</td>
<td>Tu</td>
</tr>
<tr>
<td>21</td>
<td>We</td>
</tr>
<tr>
<td>22</td>
<td>Th</td>
</tr>
<tr>
<td>23</td>
<td>Sa</td>
</tr>
<tr>
<td>24</td>
<td>Su</td>
</tr>
<tr>
<td>25</td>
<td>Mo</td>
</tr>
<tr>
<td>26</td>
<td>Tu</td>
</tr>
<tr>
<td>27</td>
<td>We</td>
</tr>
<tr>
<td>28</td>
<td>Th</td>
</tr>
<tr>
<td>29</td>
<td>Sa</td>
</tr>
<tr>
<td>30</td>
<td>Su</td>
</tr>
</tbody>
</table>

## May

<table>
<thead>
<tr>
<th>Day</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mo</td>
</tr>
<tr>
<td>2</td>
<td>Tu</td>
</tr>
<tr>
<td>3</td>
<td>We</td>
</tr>
<tr>
<td>4</td>
<td>Th</td>
</tr>
<tr>
<td>5</td>
<td>Sa</td>
</tr>
<tr>
<td>6</td>
<td>Su</td>
</tr>
<tr>
<td>7</td>
<td>Mo</td>
</tr>
<tr>
<td>8</td>
<td>Tu</td>
</tr>
<tr>
<td>9</td>
<td>We</td>
</tr>
<tr>
<td>10</td>
<td>Th</td>
</tr>
<tr>
<td>11</td>
<td>Sa</td>
</tr>
<tr>
<td>12</td>
<td>Su</td>
</tr>
<tr>
<td>13</td>
<td>Mo</td>
</tr>
<tr>
<td>14</td>
<td>Tu</td>
</tr>
<tr>
<td>15</td>
<td>We</td>
</tr>
<tr>
<td>16</td>
<td>Th</td>
</tr>
<tr>
<td>17</td>
<td>Sa</td>
</tr>
<tr>
<td>18</td>
<td>Su</td>
</tr>
<tr>
<td>19</td>
<td>Mo</td>
</tr>
<tr>
<td>20</td>
<td>Tu</td>
</tr>
<tr>
<td>21</td>
<td>We</td>
</tr>
<tr>
<td>22</td>
<td>Th</td>
</tr>
<tr>
<td>23</td>
<td>Sa</td>
</tr>
<tr>
<td>24</td>
<td>Su</td>
</tr>
<tr>
<td>25</td>
<td>Mo</td>
</tr>
<tr>
<td>26</td>
<td>Tu</td>
</tr>
<tr>
<td>27</td>
<td>We</td>
</tr>
<tr>
<td>28</td>
<td>Th</td>
</tr>
<tr>
<td>29</td>
<td>Sa</td>
</tr>
<tr>
<td>30</td>
<td>Su</td>
</tr>
</tbody>
</table>

## June

<table>
<thead>
<tr>
<th>Day</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tu</td>
</tr>
<tr>
<td>2</td>
<td>We</td>
</tr>
<tr>
<td>3</td>
<td>Th</td>
</tr>
<tr>
<td>4</td>
<td>Fr</td>
</tr>
<tr>
<td>5</td>
<td>Sa</td>
</tr>
<tr>
<td>6</td>
<td>Su</td>
</tr>
<tr>
<td>7</td>
<td>Mo</td>
</tr>
<tr>
<td>8</td>
<td>Tu</td>
</tr>
<tr>
<td>9</td>
<td>We</td>
</tr>
<tr>
<td>10</td>
<td>Th</td>
</tr>
<tr>
<td>11</td>
<td>Sa</td>
</tr>
<tr>
<td>12</td>
<td>Su</td>
</tr>
<tr>
<td>13</td>
<td>Mo</td>
</tr>
<tr>
<td>14</td>
<td>Tu</td>
</tr>
<tr>
<td>15</td>
<td>We</td>
</tr>
<tr>
<td>16</td>
<td>Th</td>
</tr>
<tr>
<td>17</td>
<td>Sa</td>
</tr>
<tr>
<td>18</td>
<td>Su</td>
</tr>
<tr>
<td>19</td>
<td>Mo</td>
</tr>
<tr>
<td>20</td>
<td>Tu</td>
</tr>
<tr>
<td>21</td>
<td>We</td>
</tr>
<tr>
<td>22</td>
<td>Th</td>
</tr>
<tr>
<td>23</td>
<td>Sa</td>
</tr>
<tr>
<td>24</td>
<td>Su</td>
</tr>
<tr>
<td>25</td>
<td>Mo</td>
</tr>
<tr>
<td>26</td>
<td>Tu</td>
</tr>
<tr>
<td>27</td>
<td>We</td>
</tr>
<tr>
<td>28</td>
<td>Th</td>
</tr>
<tr>
<td>29</td>
<td>Sa</td>
</tr>
<tr>
<td>30</td>
<td>Su</td>
</tr>
</tbody>
</table>
BRWT1
Basic Resistance Welding Technology

Welding engineer need to know the basic resistance welding knowledge, including resistance welding principle, welding technology and welding material. The training is recommended to anybody who wants to attend more advanced resistance welding training courses.

Contents
- Resistance spot principle and technology, how to weld the normal steel materials
- Principle of the project and seaming and its technology
- Classification and set-up of the resistance welding device
- Resistance welding technology and its development in the future
- Using BOS6000 software
- PSI hardware structure introduction
- PSG trans-former hardware introduction

Learning targets
- Understanding three kind of principle and technology of resistance welding, and will have a comprehensive basis knowledge to the resistance welding
- Have a general knowledge of DCCN welding products

Training language
- Chinese

Timetable
Training location
2021/04/20-04/21 Chang Zhou
2021/09/28-09/29 Chang Zhou

Training times
2 days:

Price
¥ 3,800.00 (without tax)
Note: The price is only for training charge, not including any travel cost.

Teaching material information
- Internal training material

Prerequisites
- Technical understanding

Target group
- Bosch Rexroth customers: Sales engineer, Design engineer, Project engineer, Service Engineer, maintenance & Assembly personnel
CRT

Customer Required Training

The special outline will be made according to customer's requirement. Help to solve the customer's questions.

Contents

- Offer necessary documents
- According the customer's requirements to make training plan, and offer a quotation, make and execute the contract before the training
- Offer Bosch Rexroth training certificate after training

Learning targets

- The special outline will be made according to customer's requirement
- Help to solve the customer's questions

Prerequisites

- Basic knowledge for welding

Price

¥ 13,800.00/day (without tax)
Note: The price includes training charge and domestic travel cost of the trainer.

Teaching material information

- Internal Training Material

Training language

- Chinese
## Contents

### i 4.0

<table>
<thead>
<tr>
<th>Page</th>
<th>Code</th>
<th>Training</th>
<th>Method</th>
<th>Duration (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEW</td>
<td>85</td>
<td>mMS 4.0 modular Mechatronic System 4.0</td>
<td>eLearning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>86</td>
<td>ESTG-OCI Basics of Open Core Engineering</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# i 4.0 Training Calendar 2021

<table>
<thead>
<tr>
<th>January</th>
<th>February</th>
<th>March</th>
<th>April</th>
<th>May</th>
<th>June</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 1 Fr New Year's Day</td>
<td>Day 1 Mo</td>
<td>Day 1 Th</td>
<td>Day 1 Sa Labor Holiday</td>
<td>Day 1 Tu</td>
<td>Day 1 Tu</td>
</tr>
<tr>
<td>Day 2 Sa New Year's Day</td>
<td>Day 2 Tu</td>
<td>Day 2 Fr</td>
<td>Day 2 Su Labor Holiday</td>
<td>Day 2 We</td>
<td>Day 2 We</td>
</tr>
<tr>
<td>Day 3 Su New Year's Day</td>
<td>Day 3 We</td>
<td>Day 3 Mo Labor Holiday</td>
<td>Day 3 Mo</td>
<td>Day 3 Th</td>
<td>Day 3 Th</td>
</tr>
<tr>
<td>Day 4 Mo</td>
<td>Day 4 Th</td>
<td>Day 4 Tu</td>
<td>Day 4 Tu</td>
<td>Day 4 Fr</td>
<td>Day 4 Fr</td>
</tr>
<tr>
<td>Day 5 Tu</td>
<td>Day 5 Fr</td>
<td>Day 5 Fr</td>
<td>Day 5 Fr</td>
<td>Day 5 Su</td>
<td>Day 5 Su</td>
</tr>
<tr>
<td>Day 6 We</td>
<td>Day 6 Sa</td>
<td>Day 6 Mo</td>
<td>Day 6 Mo</td>
<td>Day 6 Sa</td>
<td>Day 6 Sa</td>
</tr>
<tr>
<td>Day 7 Th</td>
<td>Day 7 Su Working day</td>
<td>Day 7 Su</td>
<td>Day 7 Su</td>
<td>Day 7 Tu</td>
<td>Day 7 Tu</td>
</tr>
<tr>
<td>Day 8 Fr</td>
<td>Day 8 Mo</td>
<td>Day 8 Mo</td>
<td>Day 8 Mo</td>
<td>Day 8 We</td>
<td>Day 8 We</td>
</tr>
<tr>
<td>Day 9 Sa</td>
<td>Day 9 Tu</td>
<td>Day 9 We</td>
<td>Day 9 We</td>
<td>Day 9 Sa</td>
<td>Day 9 Sa</td>
</tr>
<tr>
<td>Day 10 Su</td>
<td>Day 10 Mo</td>
<td>Day 10 Mo</td>
<td>Day 10 Mo</td>
<td>Day 10 Tu</td>
<td>Day 10 Tu</td>
</tr>
<tr>
<td>Day 11 Mo</td>
<td>Day 11 Th Spring festival</td>
<td>Day 11 Th</td>
<td>Day 11 Th</td>
<td>Day 11 Fr</td>
<td>Day 11 Fr</td>
</tr>
<tr>
<td>Day 12 Tu</td>
<td>Day 12 Fr Spring festival</td>
<td>Day 12 Fr</td>
<td>Day 12 Fr</td>
<td>Day 12 Su</td>
<td>Day 12 Su</td>
</tr>
<tr>
<td>Day 13 We</td>
<td>Day 13 Sa Spring festival</td>
<td>Day 13 Sa</td>
<td>Day 13 Sa</td>
<td>Day 13 Mo</td>
<td>Day 13 Mo</td>
</tr>
<tr>
<td>Day 14 Th</td>
<td>Day 14 Su Spring festival</td>
<td>Day 14 Su</td>
<td>Day 14 Su</td>
<td>Day 14 Tu</td>
<td>Day 14 Tu</td>
</tr>
<tr>
<td>Day 15 Fr</td>
<td>Day 15 Mo Spring festival</td>
<td>Day 15 Mo</td>
<td>Day 15 Mo</td>
<td>Day 15 Fr</td>
<td>Day 15 Fr</td>
</tr>
<tr>
<td>Day 16 Sa</td>
<td>Day 16 Tu Spring festival</td>
<td>Day 16 Tu</td>
<td>Day 16 Tu</td>
<td>Day 16 Su</td>
<td>Day 16 Su</td>
</tr>
<tr>
<td>Day 17 St</td>
<td>Day 17 We Spring festival</td>
<td>Day 17 We</td>
<td>Day 17 We</td>
<td>Day 17 Mo</td>
<td>Day 17 Mo</td>
</tr>
<tr>
<td>Day 18 Th</td>
<td>Day 18 Th</td>
<td>Day 18 Th</td>
<td>Day 18 Th</td>
<td>Day 18 Fr</td>
<td>Day 18 Fr</td>
</tr>
<tr>
<td>Day 19 Fr</td>
<td>Day 19 Fr</td>
<td>Day 19 Fr</td>
<td>Day 19 Fr</td>
<td>Day 19 Tu</td>
<td>Day 19 Tu</td>
</tr>
<tr>
<td>Day 20 Sa Working day</td>
<td>Day 20 Sa Working day</td>
<td>Day 20 Sa Working day</td>
<td>Day 20 Sa Working day</td>
<td>Day 20 Fr</td>
<td>Day 20 Fr</td>
</tr>
<tr>
<td>Day 21 Su</td>
<td>Day 21 Su</td>
<td>Day 21 Su</td>
<td>Day 21 Su</td>
<td>Day 21 Tu</td>
<td>Day 21 Tu</td>
</tr>
<tr>
<td>Day 22 Mo</td>
<td>Day 22 Mo</td>
<td>Day 22 Mo</td>
<td>Day 22 Mo</td>
<td>Day 22 We</td>
<td>Day 22 We</td>
</tr>
<tr>
<td>Day 23 Tu</td>
<td>Day 23 Tu</td>
<td>Day 23 Tu</td>
<td>Day 23 Tu</td>
<td>Day 23 Fr</td>
<td>Day 23 Fr</td>
</tr>
<tr>
<td>Day 24 We</td>
<td>Day 24 We</td>
<td>Day 24 We</td>
<td>Day 24 We</td>
<td>Day 24 Sa</td>
<td>Day 24 Sa</td>
</tr>
<tr>
<td>Day 26 Fr</td>
<td>Day 26 Fr</td>
<td>Day 26 Fr</td>
<td>Day 26 Fr</td>
<td>Day 26 Su</td>
<td>Day 26 Su</td>
</tr>
<tr>
<td>Day 27 Sa</td>
<td>Day 27 Sa</td>
<td>Day 27 Sa</td>
<td>Day 27 Sa</td>
<td>Day 27 Tu</td>
<td>Day 27 Tu</td>
</tr>
<tr>
<td>Day 28 Su</td>
<td>Day 28 Su</td>
<td>Day 28 Su</td>
<td>Day 28 Su</td>
<td>Day 28 We</td>
<td>Day 28 We</td>
</tr>
<tr>
<td>Day 29 Mo</td>
<td>Day 29 Mo</td>
<td>Day 29 Mo</td>
<td>Day 29 Mo</td>
<td>Day 29 Fr</td>
<td>Day 29 Fr</td>
</tr>
<tr>
<td>Day 30 Tu</td>
<td>Day 30 Tu</td>
<td>Day 30 Tu</td>
<td>Day 30 Tu</td>
<td>Day 30 Sa</td>
<td>Day 30 Sa</td>
</tr>
<tr>
<td>Day 31 We</td>
<td>Day 31 We</td>
<td>Day 31 We</td>
<td>Day 31 We</td>
<td>Day 31 Su</td>
<td>Day 31 Su</td>
</tr>
</tbody>
</table>

**Notes:**
- **Holiday Days:**
  - New Year's Day
  - Spring festival
  - Mid autumn day
  - Working day
  - Labor Holiday
  - National Holiday
  - Mid autumn day
  - Working day

**References:**
- Drive & Control Academy
- i 4.0 Training Program 2021
mMS 4.0
modular Mechatronic System 4.0

mMS4.0 is a training device developed by Bosch Rexroth for industrial mechatronic education, which covers several technologies such as electrics, pneumatics, sensors, automation and i4.0, and merges industry 4.0 concept into factory automation sequence.

Contents
- Introduction of mMS4.0 and it’s work stations
- Using IndraWorks for programing and commissioning of automatic sequence
- Measurement and monitoring of air flow and electric current
- Data visualization based on OPC-UA
- Using TC Mobile for configuration of SMS alarm system
- Practice on mMS4.

Target group
- Bosch Rexroth customers: Sales engineer, Project engineer, Educational institutions

Timelanguage
- chinese

Timetable
2021/09/07-09/10

Training location
Chang Zhou

Training times
4 days

Price
¥ 5800.00 (without tax)
Note: The price is only for training charge, not including any travel cost.

Teaching material information
- Internal Training Material

Prerequisites
- Back-ground of mechanical and electric technology
ESTG-OCI

Basics of Open Core Engineering

Open Core Engineering combines classic automation with the possibilities of modern high-level language-based applications and IT-based technologies. For the first time, the previously separate worlds of PLC and IT automation are ideally joined in an integrated engineering portfolio. This course teaches the background and benefits of Open Core Engineering.

Contents
- What is Open Core Engineering and what is the Open Core Interface (OCI)?
- What kind of applications are in the spotlight?
- What applications have already been implemented?
- Practical demonstrations

Learning targets
- Knowing the background of Open Core Engineering
- Being able to classify the Open Core Interface in Open Core Engineering
- Knowing the functions of the Open Core Interface
- Recognizing potential areas of use

Prerequisites
- Interest in Open Core Engineering and the Open Core Interface

Target group
- Bosch Rexroth customers: Planners/application engineers, managers and trainers

Timetable (GE/EN) Training location
Dates and training locations available on request

Training times
2 days:
Day 1  10:00 AM–5:00 PM
Day 2   8:30 AM–3:00 PM

Price
¥ 13,000.00 (without tax)
Note: The price is only for training charge, not including any travel cost.

NOTE
- This training course is not primarily intended for high-level language programmers and only depicts the use of development environments for exemplary purposes.
Bosch Rexroth Technical Training Registration Form(1/2)

Customer number(if applicable):  

Please complete the following:

<table>
<thead>
<tr>
<th>Name:</th>
<th>Application Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Name:</td>
<td>Full Name of Invoice Payer:</td>
</tr>
<tr>
<td>Bank Accout Number:</td>
<td>Bank Information:</td>
</tr>
<tr>
<td>TAX I.D.:</td>
<td></td>
</tr>
<tr>
<td>Contact Number:</td>
<td>Fax:</td>
</tr>
<tr>
<td>Mobile Number:</td>
<td>Address:</td>
</tr>
<tr>
<td>Postal Code:</td>
<td>Email:</td>
</tr>
</tbody>
</table>

Approved By:  

Supervisor:  

Date:  

Please submit the application form to "technicaltraining@boschrexroth.com.cn" two weeks before the course started.  
We have the right to change the date, location of training and cancel the training, course admission and information will sent to your mailbox.  
Please prepare your own travelling accident and working insurance to cover the training and travelling period.
Bosch Rexroth Technical Training Registration Form (2/2)

Please complete the following:
Appendix 2

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course Name</th>
<th>Training Period</th>
<th>Location</th>
<th>Name of Trainee</th>
<th>Email</th>
<th>Contact Number</th>
<th>Training fee</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total RMB without tax:

Please submit the application form to "technicaltraining@boschrexroth.com.cn" two weeks before the course started.
We have the right to change the date, location of training and cancel the training, course admission and information will sent to your mailbox.
Please prepare your own travelling accident and working insurance to cover the training and travelling period.