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**CONSULTING**

Product overview 2022  
Consulting and training

# Valuable knowledge for your success

Innovative products and manufacturing solutions from Bihler secure your economic success. To ensure efficient use and operation, we offer you a wide range of consulting services and training courses (now also available online).

During our customized consulting, we show you how to optimally use your Bihler technologies with the greatest economic benefit. This starts with the design of your production process as well as your tools and continues with the optimization of your cutting tools all the way to programming your system and setting up your welding process.

In the training courses, our experts share their wealth of knowledge with your staff in a practical, exciting and easily understandable way – in our state-of-the-art training center in Halblech or directly at your site. Your employees expand their skills in basic seminars for an initial introduction to Bihler technology as well as in individual training courses perfectly matched to your application. This increases motivation for day-to-day tasks as well as safety when handling the equipment.

Obtain an overview of our wide range of consulting services and contact us.

Your Bihler Consulting Team



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# CONSULTING

Benefit from our competence

Increase the productivity of your Bihler system, increase the service life of your tools and efficiently perform programming and welding tasks. We are happy to show you how during our customized consultation. All this with the goal that you meet the requirements of your customers faster and more cost-effective. (dates by arrangement)



## Machine and tool technology

### Cutting tool optimization

Duration:  
By arrangement  
Cost per day:  
1,375.- Euro

The main focus of our consultation lies exclusively on finding and implementing approaches for increasing the service life of your cutting tools, increasing your productivity for stamping operations and improving your stamping results.

First, our in-house tool making experts analyze the design of your cutting tools. Then the actual tool components are assessed in detail. Design, process and productivity weaknesses are identified. Optimization potentials are recorded and calculated. This shows which costs lead to weak points. Then a target concept is created to describe the solutions and efforts that allow the greatest potentials to be realized. In cooperation with you we implement the optimization measures. The project is completed after verifying that the measurable objectives have led to the desired success.

**Your benefit** is that optimizing your cutting tools increases the efficiency and profitability of your systems and your equipment.

### Cutting gap test

Duration:  
By arrangement  
Cost per day:  
620,- Euro

Your task is to design a new cutting tool or optimize an existing cutting tool. One of the most important factors is the correct cutting gap.

A strip progression with different cutting gap sizes is created with a Bihler test tool and your original material. Smooth cut proportion, interruption, radius of entry and the formation of burrs are evaluated and documented. After completion of the tests, you will receive the generated strip progression together with an extensive evaluation. This includes our recommendation for the optimum cutting contour.

**Your benefit** The correct cutting gap improves your part quality, increases the tool service life and reduces the creation of chips and flakes.



## LEANTOOL first imple- mentation and setup

Duration:  
By arrangement  
Cost per day:  
1,375,- Euro

You need to implement and setup a new LEANTOOL for your machine?

This is the exact core competence of our experts. They were intensively involved in the development of this new tool technology from the start and have already designed and commissioned a large number of LEANTOOL setups. We provide you with this know-how during our consultation and lead or assist you during the initial setup of your LEANTOOL.

Your benefit is that your LEANTOOL on your machine is perfectly and effectively set up and commissioned with our experience and expertise. In addition, you learn from our know-how and can profit from this expertise for future tasks.

## Manufacturing process optimization

Duration:  
By arrangement  
Cost per day:  
1,375.- Euro

The main goal of this consultation is optimizing the tool and module setup on your system.

Together with you, our expert analyzes the current state of your production process on-site at your facilities. At the same time, you learn about the influence of various factors on your production. Our expert then presents you with necessary measures for optimum machine and tool settings and implements them directly if possible. Setup times are also examined carefully. Because they are downtime and must be kept as short as possible. Our expert provides you with a defined procedure to minimize your tool setup and adjustment times.

**Your benefit:** By optimizing your production processes, the process and economic efficiency of your system is increased significantly. Standardized setup procedures help minimize errors.

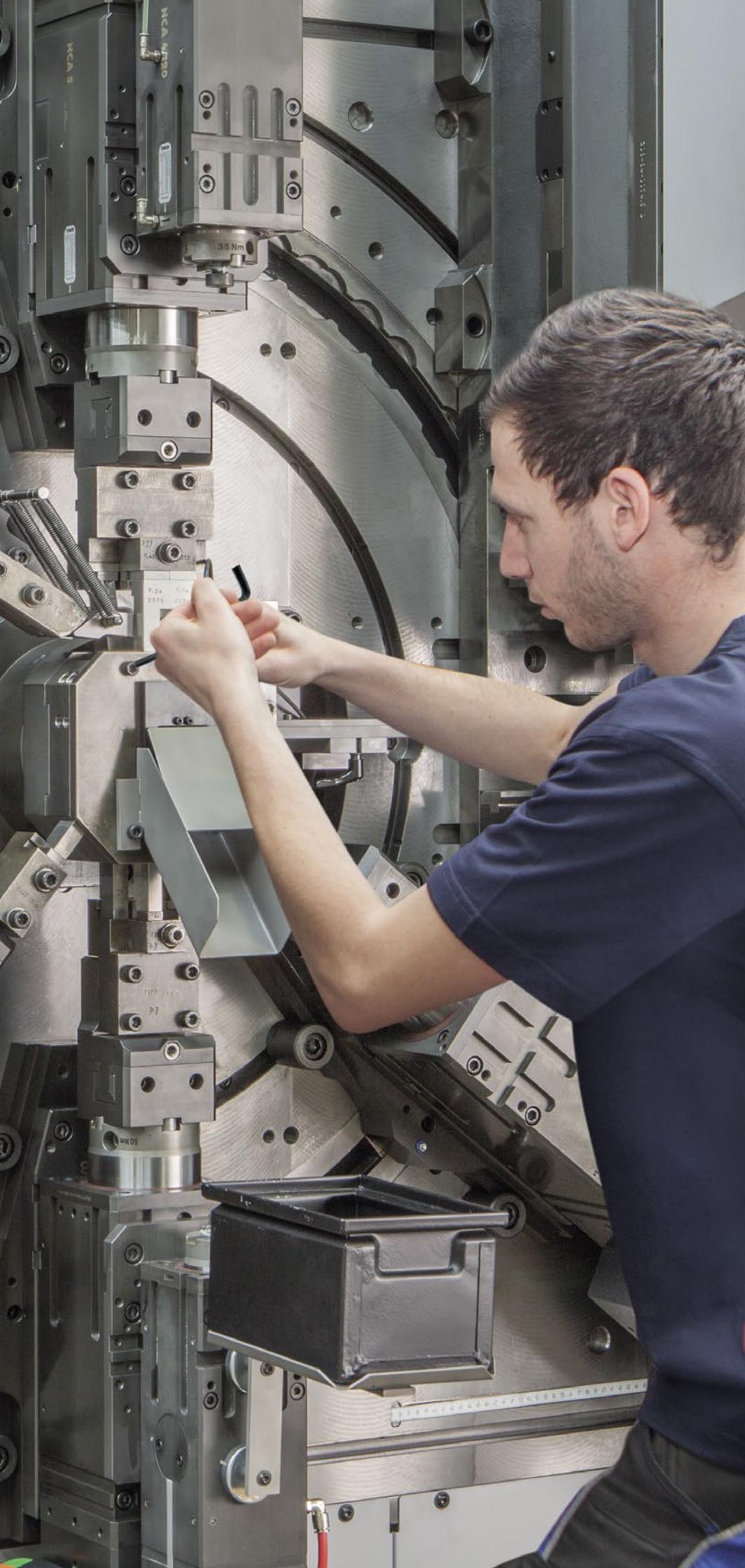
## Tool adaption

Duration:  
By arrangement  
Cost per day:  
1,375.- Euro

You want to adapt a component previously produced on a cam-controlled machine to your new servo-controlled Bihler machine.

This means you need to adapt and use an existing tool with your servo-controlled machine. This is the exact core competence of our experts. They have successfully completed more than 180 such tool adaptations. Our experts analyze your tool and specify if and which tool parts are required for an adaptation. We then manufacture these tool parts and set them up on your servo-controlled machine together with the existing tool. During setup of the tool operation, we optimize the individual movements of the servo axes.

**Your benefit:** In the shortest possible time, you produce stamped and formed parts which were formerly produced on a mechanical, cam-controlled Bihler machine on your servo machine. You profit from higher pulse rates and improved accuracy.



## → Tool design

### Manufacturing process development

Duration:  
By arrangement  
Cost per day:  
1,375.- Euro

You need to design a production concept for a Bihler system and develop tools based on this concept?

This is the exact core competence of our experts. Over the years, we have developed and implemented optimized production processes for hundreds of different parts. We provide you with this know-how during our consultation and develop specific solutions together with you as well as assist you during their implementation.

**Your benefit** is that we can find an efficient production concept and ensure optimum tool design for your application with our experience and expertise. In addition, you learn from our know-how and can profit from this expertise for future tasks.

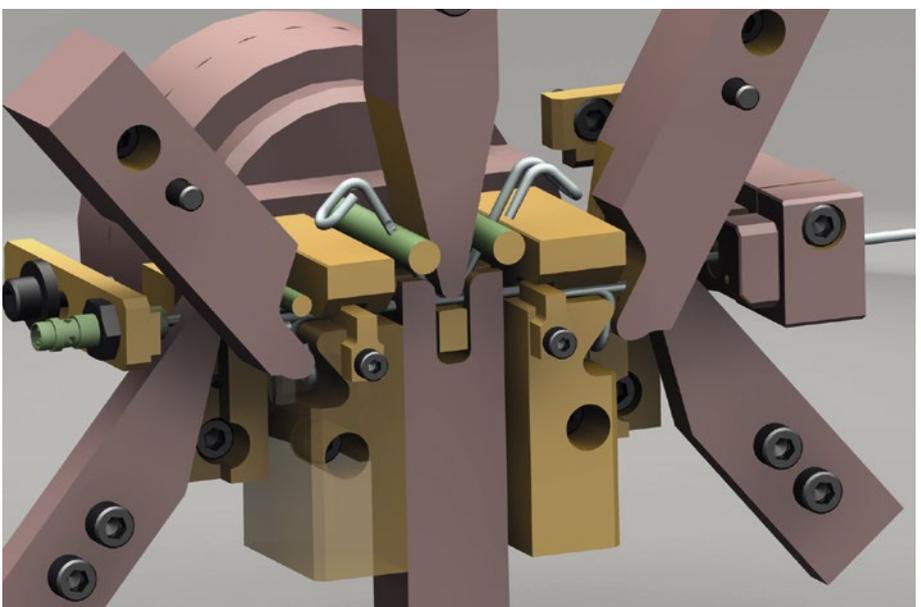
### LEANTOOL manufacturing process development

Duration:  
By arrangement  
Cost per day:  
1,375.- Euro

You need to design a production concept for a Bihler system with the new LEANTOOL technology and develop LEANTOOL tools based on this concept?

This is the exact core competence of our experts. They were involved intensively in the development of this new tool technology and have a wealth of experience in the development of manufacturing processes with LEANTOOL tools for a variety of applications. We provide you with this know-how during our consultation and develop specific solutions together with you as well as assist you during their implementation.

**Your benefit** is that we can find an efficient production concept and ensure optimum LEANTOOL design for your application with our experience and expertise. In addition, you learn from our know-how and can profit from this expertise for future tasks.



## → Control system

### Program- ming control system

Duration:  
By arrangement  
Cost per day:  
1,375.- Euro

**You need to create part specific programs for your system?**  
This is the exact core competence of our experts. During our consultation, we support you with programming your system. In cooperation with you, we develop specific solutions, create programs for your applications and accompany you during the course of your projects.

**Your benefit** is a perfectly suited and fast implementation of your programming tasks thanks to our experience and competence. In addition, you learn from our know-how and can profit from this expertise for future tasks.

## → Welding

### Setup welding process

Duration:  
By arrangement  
Cost per day:  
1,375.- Euro

**You need to create a welding application for your system?**  
This is the exact core competence of our experts. They have developed and implemented countless resistance welding processes and solutions. During our consultation, we support you with information for your resistance welding applications and answer any questions regarding theory and practice. In cooperation with you, we develop specific solutions, support the performance of your welding application and accompany you during the course of your projects.

**Your benefit** is a perfectly suited and fast implementation of your welding application thanks to our experience and competence. In addition, you learn from our know-how and can profit from this expertise for future tasks.



# BASIC SEMINARS

The perfect introduction to Bihler technology

For newcomers to Bihler technology, we offer a wide range of basic seminars. Our experts connect theory with practice on modern training machines. This provides increased confidence with machine operation and promotes independent, target-oriented working.



## System operation and maintenance

### Seminar mechanical stamping and forming machines and machining centers

This seminar provides you with the basic knowledge for handling our various mechanical machines. You will also be introduced to tool technology as well as innovative work practices.

**Your benefit:** After this seminar, you have the basic knowledge for operation, maintenance and tool setup for these systems.

Duration: 3 days  
Cost per participant:  
1,290.- Euro  
Dates:  
15.03. - 17.03.2022  
28.06. - 30.06.2022  
18.10. - 20.10.2022

### Seminar BIMERIC servo production and assembly systems

This seminar provides you with the basic knowledge for handling the BIMERIC servo production and assembly systems including their process modules. You will also be introduced to the basics of structure, function and programming of the VC 1 machine control system.

**Your benefit:** After this seminar, you have the basic knowledge for operation, maintenance and creating simple programs and applications for these systems.

Duration: 3 days  
Cost per participant:  
1,290.- Euro  
Dates:  
15.02. - 17.02.2022  
13.09. - 15.09.2022

### Seminar RM-NC and GRM-NC servo stamping and forming machines

This seminar provides you with the basic knowledge for handling the RM-NC and GRM-NC servo stamping and forming machines. You will also be introduced to the basics of structure, function and programming of the VC 1 machine control system. The seminar includes an introduction to tool technology.

**Your benefit:** After this seminar, you have the basic knowledge for operation, maintenance and creating simple programs and applications as well as tool setup for these systems.

Duration: 4 days  
Cost per participant:  
1,680.- Euro  
Dates:  
09.05. - 13.05.2022  
21.11. - 25.11.2022



## Tool design

### **Seminar tool design**

This seminar provides you with the basic knowledge for design and construction of stamping and forming tools as well as machine and tool planning. You will also be introduced to tool technology.

Duration: 3 days  
Cost per participant:  
1,290.- Euro  
Dates:  
26.04. - 28.04.2022  
25.10. - 27.10.2022

**Your benefit:** After this seminar, you have the basic knowledge to efficiently plan and design tools.

### **Seminar LEANTOOL tool design**

This seminar provides you with the basic knowledge for design and construction of stamping and forming tools using LEANTOOL technology. You are introduced to the Leantool concept and learn about standardized, simple and structured tool design using the LEANTOOL Standard Parts.

Duration: 1 day  
Cost per participant:  
510.- Euro  
Dates:  
29.03.2022  
15.11.2022

**Your benefit:** After this seminar, you have the basic knowledge to efficiently plan and design LEANTOOL tools.

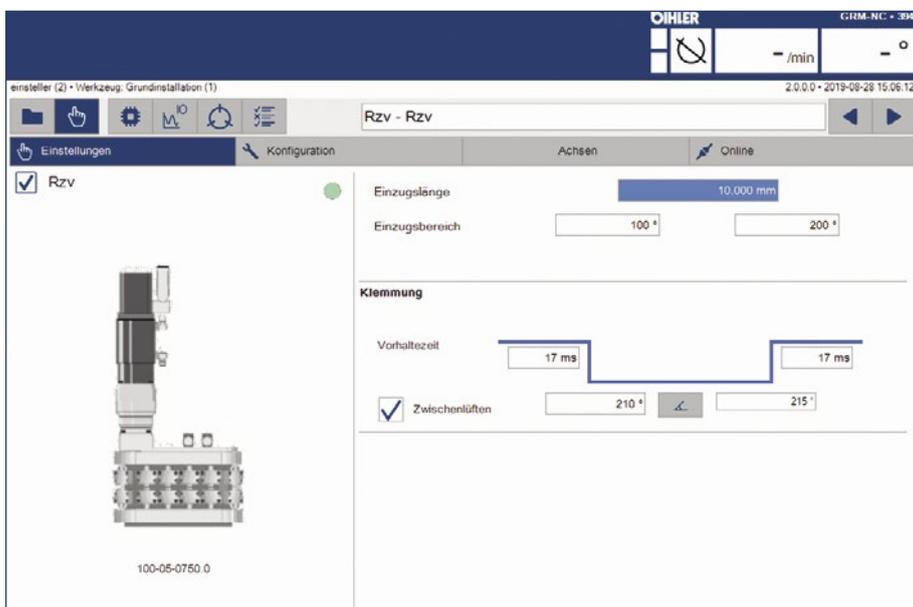
# Control system

## Seminar VC 1 control system

This seminar provides you with basic knowledge about structure, function and programming of the VC 1 control system. You learn how to create and manage system applications. You are also introduced to locating and repairing faults.

Duration: 2 days  
Cost per participant: 890.- Euro  
Dates: 18.05. - 19.05.2022  
12.10. - 13.10.2022

**Your benefit:** After this seminar, you are able to operate the VC 1 control system and create simple control programs for your systems.



## → Welding

### Seminar welding technology

This seminar provides you with basic knowledge about Bihler resistance welding technology. This includes in introduction to physical, electrical and mechanical details as well as the design of resistance welding equipment. You learn how to set and monitor welding parameters. You also learn to understand welding errors and their causes.

**Your benefit:** After this seminar, you know how resistance welding works and what it can be used for.

Duration: 2 days  
Cost per participant:  
890.- Euro  
Dates:  
05.04. - 06.04.2022  
27.09. - 28.09.2022

### Seminar B 20K welding system

This seminar provides you with basic knowledge about design, handling, maintenance and programming of the B 20K welding system. You also learn about welding parameters including monitoring options.

**Your benefit:** After this seminar, you are able to operate and maintain the B 20K welding system and adjust it for your requirements.

Duration: 1 day  
Cost per participant:  
510.- Euro  
Dates:  
03.05.2022  
08.11.2022





## bNX Software

### **Seminar bNX – Basics**

This seminar provides you with basic knowledge about operating the Siemens NX 3D-CAD system. You learn how to use standard CAD functions and receive in-depth knowledge of design and drawing generation. You also learn how to use curves, sketches and shape elements.

**Your benefit:** After this seminar, you are able to confidently use the structure of Siemens NX and design more complex elements independently.

Duration: 4,5 days  
Cost per participant:  
2,050.- Euro

### **Seminar bNX – Assemblies**

Building on the knowledge from the basic seminar, this seminar provides you with basic knowledge about handling complex assembly structures in the Siemens NX 3D-CAD system. You learn about the application of methods and WAVE links.

**Your benefit:** After this seminar, you are able to create, handle and apply complex assemblies for large designs independently and consistently.

Duration: 4,5 days  
Cost per participant:  
2,050.- Euro

### **Seminar bNX – Tool design**

Building on the knowledge of the Basic and Assemblies seminars, this seminar provides you with basic knowledge for designing tools for both Bihler machines as well as for progressive presses. You learn how to create a forming study and generate the required strip layout based on an actual item. The use of standard components from a specified tool box when setting up a cutting design will also be discussed.

**Your benefit:** After this seminar, you are able to design tools for your applications in practice.

Duration: 4,5 days  
Cost per participant:  
2,050.- Euro



### Seminar bNX – Kinematics

Building on the knowledge of the Basic, Assemblies and Tool design seminars, this seminar provides you with basic knowledge of structure and use of the simulation function of your Bihler machine including the complete tool. You learn how to design and optimize motion sequences using simulation. The deduction of optimized cam profiles or NC programs for use with the actual machine is also explained.

**Your benefit:** After this seminar, you are able to create and optimize function plans using the simulation and verify their timing.

Duration: 2,5 days  
Cost per participant:  
1,280.- Euro

### Seminar bNX – Update

Using the full potential and increasing productivity: In our three-day seminar, you learn all about the latest updates of our bNX software. You are introduced to all useful new features.

**Your benefit:** After this seminar, you will be even more efficient and more productive when using our bNX software.

Duration: 2,5 days  
Cost per participant:  
1,280.- Euro



Presence or online seminars: Dates by arrangement

# INDIVIDUAL TRAINING

Even more knowledge

For even deeper insights into Bihler technology, we offer individual training – also on-site at your premises. This training takes the individual details of your component, your requirements and your system into account. (dates by arrangement)



## System operation and maintenance

### Maintenance and mechanical service

This individual seminar provides you with knowledge about maintenance operations to be carried out on your system. You learn about valuable information for maintaining the mechanical components. In addition, this seminar includes an introduction to the basic functionality of the system.

**Your benefit:** After completing this seminar, you are able to perform maintenance activities on your systems, locate faults and repair the equipment correctly.

Duration: 1 day

Cost:  
1,375.- Euro

### Maintenance and servicing RZV radial gripper feed

This individual seminar provides you with knowledge about maintenance operations to be carried out on the RZV radial gripper feed of your system. You learn about details to perform qualified repair work. In addition, this seminar includes an introduction to the possible applications of the feed system.

**Your benefit:** After completing this seminar, you are able to perform maintenance activities on the RZV radial gripper feed, locate faults and repair the feed of your system correctly.

Duration: 1 day

Cost:  
1,375.- Euro

### BNC servo production system

This individual seminar provides you with the basic knowledge for handling the BNC servo production system. You will also be introduced to the basics of structure, function and programming of the VC 1 machine control system.

**Your benefit:** After this seminar, you have the basic knowledge for operation and maintenance as well as creating simple programs and applications and setting up tools for this system.

Duration: 3 days

Cost:  
1,375.- Euro per day



### **Bending tool installation and adjustment**

In this individual seminar, you learn how to optimally mount and adjust a bending tool on a machine. In addition, we provide you with a defined and standardized approach for optimum tool settings.

**Your benefit:** After completing this seminar, you will be able to efficiently and reproducibly set up bending tools.

Duration: 2 days

Cost:

1,375.- Euro per day

### **MSE multi-screw insertion unit**

This individual seminar provides you with knowledge about the automation of your screw insertion processes with the MSE multi-screw insertion unit. You learn about basic knowledge of design, programming and maintenance of the screw unit.

**Your benefit:** After this seminar, you are able to adjust and parametrize the MSE screw insertion unit of your system according to your specific parts and your requirements.

Duration: 1 day

Cost:

1,375.- Euro

### **GSE thread forming unit**

This individual seminar provides you with knowledge about the automation of your thread forming processes with the GSE thread forming unit. You learn about basic knowledge of design, programming and maintenance of the thread cutter unit.

**Your benefit:** After this seminar, you are able to adjust and parametrize the GSE thread forming unit of your system according to your specific parts and your requirements.

Duration: 1 day

Cost:

1,375.- Euro

### Maintenance and service control system

This individual seminar provides you with knowledge about design, handling and functions of the separate electrical components in your system. You learn about the possibilities for fast troubleshooting and the correct interpretation of error messages. In addition, you learn about system and part specific data backup and data recovery.

Duration: 1 day  
Cost per participant:  
1,375.- Euro

**Your benefit:** After completing this seminar, you are able to perform maintenance activities on your system, locate faults and repair the equipment correctly.

### Seminar VC 1E control system

This seminar provides you with basic knowledge about structure, function and programming of the VC 1E control system. You learn how to create and manage system applications. You are also introduced to locating and repairing faults.

Duration: 1,5 days  
Cost per participant:  
2,065.- Euro

**Your benefit:** After this seminar, you are able to operate the VC 1E control system and create simple control programs for your systems.

### Seminar P CNC 300/400 control system

This seminar provides you with basic knowledge about structure, function and programming of the P CNC 300/400 control system. You learn how to create and manage system applications. You are also introduced to locating and repairing faults.

Duration: 2 days  
Cost per participant:  
1,375.- Euro per day

**Your benefit:** After this seminar, you are able to operate the P CNC 300/400 control system and create simple control programs for your systems.



## Welding system

### Operation and programming of the B 5000 welding system

This individual seminar provides you with basic knowledge about design, operation, maintenance and programming of your B 5000 welding system. Participants also learn about welding parameters including monitoring options.

**Your benefit:** After this seminar, you are able to operate your B 5000 welding system specific to your parts, perform maintenance tasks, locate faults, perform professional repair measures and set up the system according to your requirements.

Duration: 2 days

Cost per participant:  
1,375.- Euro per day

### Operation and programming of B 5000-NC welding system

This individual seminar provides you with knowledge about design, handling, maintenance and programming of your B 5000-NC welding system. You learn about setting welding parameters including monitoring options.

**Your benefit:** After this seminar, you are able to operate your B 5000-NC welding system specific to your parts, perform maintenance activities, locate faults, perform correct repair measures and setup the system according to your needs.

Duration: 2 days

Cost per participant:  
1,375.- Euro per day

### Handling and maintenance of contact welding equipment

This individual seminar provides you with knowledge about design, handling and maintenance of your contact welding equipment. You learn about setting welding parameters including monitoring options.

**Your benefit:** After this seminar, you are able to operate your contact welding equipment specific to your parts, perform maintenance activities, locate faults, perform correct repair measures and setup the system according to your needs.

Duration: 1 day

Cost per participant:  
1,375.- Euro

# YOUR BIHLER CONSULTING TEAM







## General conditions

### Registration

A telephone booking is possible, but must be confirmed in writing immediately. The number of participants is limited and your registration should be made as early as possible to ensure your preferred date is available. With your registration, you agree to be bound by the general Terms and Conditions of Otto Bihler Maschinenfabrik. After your registration, you receive an immediate confirmation. Reserved, but not fully booked spots are given to other participants 3 weeks prior to the start of the course.

### Seminar location and time

All consultations and training courses take place in our training center at Lechbrucker Strasse 15  
87642 Halblech, Germany

Our training times are:

Monday – Thursday	8am – 4pm
Friday	8am – 12am

### Cancellation

The written cancellation of your registration is possible free of charge up to ten working days before the start of the course. Any cancellation fees for hotel reservations are your sole responsibility. If the cancellation is made within ten working days of the start of the course, we will charge 50% of the price. Cancellations made on the working day before the start of the course or on the day of the course are subject to a cancellation fee of 100%. The cancellation fee is waived if you name a substitute participant. Bihler reserves the right to cancel a course or change the date of a course. Paid fees will be refunded; any further claims are excluded.

### Accommodation

Accommodation is not included in the course price. We have compiled a list of selected hotels for participants who require overnight accommodation that we are happy to share. We can also assist you with your reservation.

### Prices

The cost of our various consulting and training services can be found in the product overview. The prices are valid for 2022. All prices are exclusive of any applicable sales tax. Included in the price for courses at Bihler in Halblech are training documentation and materials, refreshments during breaks and a lunch. The course fee is to be paid in full immediately after receipt of the invoice.

### Exclusion of Liability

All of our consultations and training courses are prepared and carried out with utmost care. Bihler assumes no liability for correctness, topicality and completeness of contents and documents. Bihler assumes no liability for any damage caused by the use of this information. Regarding consulting and training at the premises of the customer, Bihler is not liable to participants in case of accidents and loss of or damage to their property.

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