

**360° TRAININGS** 

# Training and seminar program 2024

>>> Practice-oriented courses and seminars for the professional handling of Hennecke's machine and plant technology



## **360° TRAININGS**





## PROFESSIONAL AND PRACTICE-ORIENTED

The 360°TRAINING courses are taught at our inhouse training center with clear theoretical content which is tested and trained through practical implementation on original machines. The modularity of our portfolio ensures that the instruction and training is well customized. In addition to our standard training program we also offer online courses and special seminars.

#### **EXPLANATIONS OF THE MODULES**

The following pages contain further information about the individual modules and their content. Please note our recommendations for participating in different training modules.

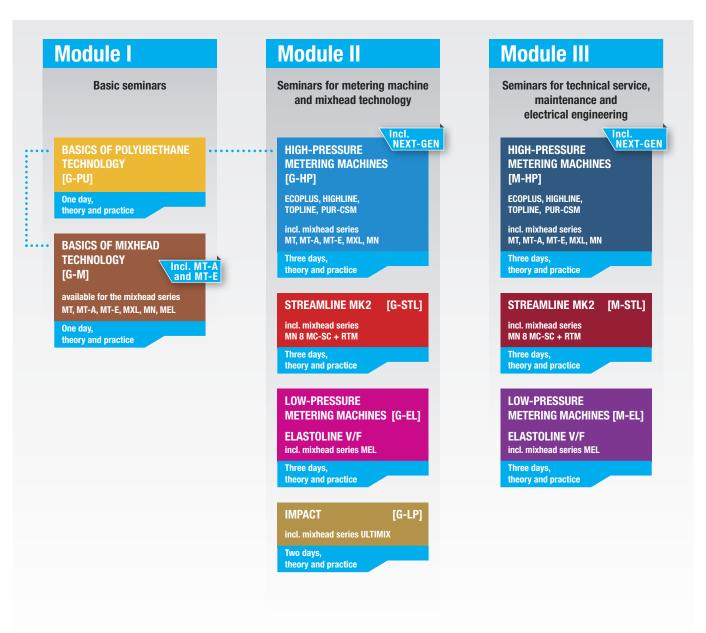
- >> We recommend that novices attend the polyurethane technology [G-PU] basics seminar as a prerequisite for attending different seminars in module group II.
- The seminars in module group III are primarily aimed at maintenance staff, fitters, machine operators and foremen. However the seminars are also recommended for applied engineering and for heads of production and maintenance.
- >> For module group IV we are offering online training. As well as three standard sessions, we can provide customized online courses upon request. Some prior knowledge is useful here.
- In module group V we can offer you a series of customer-specific seminars upon request. These are carried out exclusively on the machine or plant at your premises.
- >> All seminars are offered in English at no extra cost. For exact dates please contact our 360°Service Hotline.

If you have any questions, we can be contacted in person at all times.

## **MODULES I-V**



## SEMINARS CONDUCTED AT THE HENNECKE TRAINING CENTER OR AT THE CUSTOMER'S PREMISES

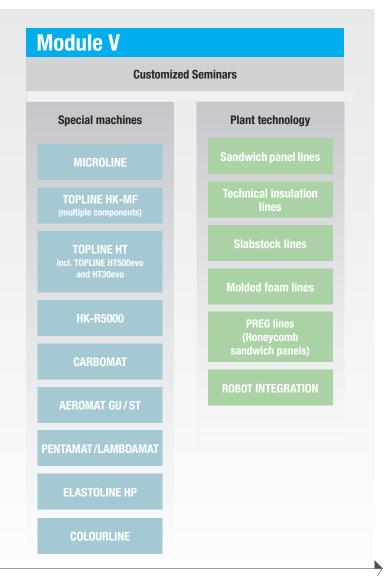




## ONLINE TRAINING

## **Module IV** Online training for metering machines and mixhead technology **ONLINE TRAINING POLYURETHANE TECHNOLOGY** [W-PU] Approx. 2 hours **ONLINE TRAINING MIXHEAD TECHNOLOGY** [W-M] Approx. 1/2 day Theory Incl. NEXT-GEN **ONLINE TRAINING HMI OPERATION** [W-HMI] ECOPLUS, HIGHLINE, TOPLINE, STREAMLINE MK2, ELASTOLINE, IMPACT, FOAMWARE, FOAMATIC IOT Approx. 1/2 day Theory **CUSTOMIZED ONLINE TRAINING Upon request Theory**

## SEMINARS CONDUCTED ONLY AT THE CUSTOMER'S PREMISES



The dates for **modules I and II** can be found in our seminar program on p. 6. The dates for **modules III** and V can be obtained **upon request**. **Modules I - III** can be conducted in the **Hennecke training center** or at **your premises**. **Module V** can **only be conducted at your premises**.

The seminar fees provided refer to the training sessions in the Hennecke training center and the online courses. Please contact us to request the fees for training courses conducted at your premises.

Just scan the QR code or click on the link.

service.hennecke-group.com/contact



## **ALL SEMINAR DATES AT A GLANCE**

| January                    |              | February          |              | March            |                 | April            |         | May               |              | June              |         |
|----------------------------|--------------|-------------------|--------------|------------------|-----------------|------------------|---------|-------------------|--------------|-------------------|---------|
| 1 Mon                      | 1 Mon G/M-EL |                   | <b>1</b> Fri |                  | <b>1</b> Mon 14 |                  | 1 Wed   |                   | <b>1</b> Sat |                   |         |
| <b>2</b> Tue               |              | 2 Fri             |              | 2 Sat            |                 | 2 Tue            |         | 2 Thu             |              | 2 Sun             |         |
| 3 Wed                      |              | 3 Sat             |              | 3 Sun            |                 | 3 Wed            |         | 3 Fri             |              | 3 Mon 23          |         |
| 4 Thu                      |              | 4 Sun             |              | 4 Mon            | G-PU            | 4 Thu            |         | 4 Sat             |              | 4 Tue             | W-PU    |
| 5 Fri                      |              | <b>5</b> Mon 6    |              | <b>5</b> Tue     | G/M-HP          | 5 Fri            |         | 5 Sun             |              | 5 Wed             | W-M     |
| 6 Sat                      |              | 6 Tue             | G-LP         | 6 Wed            | G/M-HP          | 6 Sat            |         | 6 Mon             |              | 6 Thu             | W-HMI   |
| 7 Sun                      |              | 7 Wed             | G-LP         | 7 Thu            | G/M-HP          | <b>7</b> Sun     |         | <b>7</b> Tue      |              | <b>7</b> Fri      |         |
| <b>8</b> Mon 2             |              | 8 Thu             |              | 8 Fri            |                 | 8 Mon<br>15      |         | 8 Wed             |              | 8 Sat             |         |
| 9 Tue                      | G-PU         | 9 Fri             |              | 9 Sat            |                 | 9 Tue            | G-LP    | 9 Thu             |              | 9 Sun             |         |
| <b>10</b> Wed              | G-M          | 10 Sat            |              | <b>10</b> Sun    |                 | 10 Wed           | G-LP    | <b>10</b> Fri     |              | 10 Mon 24         |         |
| <b>11</b> Thu              |              | <b>11</b> Sun     |              | <b>11</b> Mon 11 |                 | <b>11</b> Thu    |         | <b>11</b> Sat     |              | <b>11</b> Tue     | G/M-EL  |
| 12 Fri                     |              | <b>12</b> Mon 7   |              | <b>12</b> Tue    | W-PU            | 12 Fri           |         | <b>12</b> Sun     |              | <b>12</b> Wed     | G/M-EL  |
| 13 Sat                     |              | 13 Tue            |              | 13 Wed           | W-M             | 13 Sat           |         | 13 Mon 20         | G-PU         | 13 Thu            | G/M-EL  |
| <b>14</b> Sun              |              | <b>14</b> Wed     |              | 14 Thu           | W-HMI           | <b>14</b> Sun    |         | <b>14</b> Tue     | G/M-HP       | <b>14</b> Fri     |         |
| <b>15</b> Mon 3            | G-PU         | 15 Thu            |              | 15 Fri           |                 | 15 Mon 16        |         | <b>15</b> Wed     | G/M-HP       | 15 Sat            |         |
| <b>16</b> Tue              | G/M-HP       | 16 <sup>Fri</sup> |              | 16 Sat           |                 | <b>16</b> Tue    | G/M-STL | 16 Thu            | G/M-HP       | <b>16</b> Sun     |         |
| <b>17</b> Wed              | G/M-HP       | <b>17</b> Sat     |              | <b>17</b> Sun    |                 | <b>17</b> Wed    | G/M-STL | <b>17</b> Fri     |              | 17 Mon 25         |         |
| 18 Thu                     | G/M-HP       | <b>18</b> Sun     |              | 18 Mon           |                 | 18 Thu           | G/M-STL | 18 <sup>Sat</sup> |              | 18 <sup>Tue</sup> | G-LP    |
| 19 Fri                     |              | 19 Mon 8          |              | 19 Tue           | G/M-EL          | 19 Fri           |         | <b>19</b> Sun     |              | 19 Wed            | G-LP    |
| <b>20</b> Sat              |              | <b>20</b> Tue     | G/M-STL      | <b>20</b> Wed    | G/M-EL          | <b>20</b> Sat    |         | <b>20</b> Mon 21  |              | <b>20</b> Thu     |         |
| <b>21</b> Sun              |              | <b>21</b> Wed     | G/M-STL      | <b>21</b> Thu    | G/M-EL          | <b>21</b> Sun    |         | <b>21</b> Tue     |              | <b>21</b> Fri     |         |
| <b>22</b> Mon <sub>4</sub> |              | <b>22</b> Thu     | G/M-STL      | <b>22</b> Fri    |                 | <b>22</b> Mon 17 |         | <b>22</b> Wed     |              | <b>22</b> Sat     |         |
| 23 Tue                     | W-PU         | 23 Fri            |              | 23 Sat           |                 | 23 Tue           | G-PU    | 23 Thu            |              | 23 Sun            |         |
| <b>24</b> Wed              | W-M          | <b>24</b> Sat     |              | <b>24</b> Sun    |                 | <b>24</b> Wed    | G-M     | <b>24</b> Fri     |              | <b>24</b> Mon 26  |         |
| 25 Thu                     | W-HMI        | <b>25</b> Sun     |              | <b>25</b> Mon 13 |                 | <b>25</b> Thu    |         | <b>25</b> Sat     |              | <b>25</b> Tue     | G/M-STL |
| 26 Fri                     |              | <b>26</b> Mon 9   |              | <b>26</b> Tue    |                 | <b>26</b> Fri    |         | <b>26</b> Sun     |              | <b>26</b> Wed     | G/M-STL |
| <b>27</b> Sat              |              | <b>27</b> Tue     | G-PU         | <b>27</b> Wed    |                 | <b>27</b> Sat    |         | <b>27</b> Mon 22  |              | <b>27</b> Thu     | G/M-STL |
| 28 Sun                     |              | 28 Wed            | G-M          | 28 Thu           |                 | 28 Sun           |         | <b>28</b> Tue     |              | <b>28</b> Fri     |         |
| <b>29</b> Mon 5            |              | 29 Thu            |              | <b>29</b> Fri    |                 | 29 Mon<br>18     |         | <b>29</b> Wed     |              | <b>29</b> Sat     |         |
| <b>30</b> Tue              | G/M-EL       |                   |              | <b>30</b> Sat    |                 | <b>30</b> Tue    |         | <b>30</b> Thu     |              | <b>30</b> Sun     |         |
| <b>31</b> Wed              | G/M-EL       |                   |              | <b>31</b> Sun    |                 |                  |         | 31 Fri            |              |                   |         |



## Please contact us at any time if you need an individual seminar date.

Just scan the QR code or click on the link. service.hennecke-group.com/contact



| July             | August           | September        | October           | November         | December         |  |
|------------------|------------------|------------------|-------------------|------------------|------------------|--|
| 1 Mon 27         | 1 Thu            | 1 Sun            | 1 Tue             | <b>1</b> Fri     | 1 Sun            |  |
| <b>2</b> Tue     | 2 Fri            | 2 Mon G-PU       | 2 Wed             | <b>2</b> Sat     | <b>2</b> Mon 49  |  |
| <b>3</b> Wed     | 3 Sat            | 3 Tue G/M-HP     | <b>3</b> Thu      | 3 Sun            | 3 Tue G/M-STL    |  |
| 4 Thu            | 4 Sun            | 4 Wed G/M-HP     | <b>4</b> Fri      | 4 Mon G-PU       | 4 Wed G/M-STL    |  |
| <b>5</b> Fri     | <b>5</b> Mon 32  | 5 Thu G/M-HP     | <b>5</b> Sat      | 5 Tue G/M-HP     | 5 Thu G/M-STL    |  |
| 6 Sat            | 6 Tue            | 6 Fri            | 6 Sun             | 6 Wed G/M-HP     | 6 Fri            |  |
| <b>7</b> Sun     | <b>7</b> Wed     | <b>7</b> Sat     | <b>7</b> Mon 41   | 7 Thu G/M-HP     | <b>7</b> Sat     |  |
| <b>8</b> Mon 28  | 8 Thu            | 8 Sun            | 8 Tue G/M-STL     | <b>8</b> Fri     | 8 Sun            |  |
| <b>9</b> Tue     | 9 Fri            | <b>9</b> Mon 37  | 9 Wed G/M-STL     | 9 Sat            | 9 Mon 50         |  |
| <b>10</b> Wed    | <b>10</b> Sat    | 10 Tue W-PU      | 10 Thu G/M-STL    | <b>10</b> Sun    | <b>10</b> Tue    |  |
| <b>11</b> Thu    | <b>11</b> Sun    | 11 Wed W-M       | <b>11</b> Fri     | <b>11</b> Mon 46 | <b>11</b> Wed    |  |
| <b>12</b> Fri    | 12 Mon 33        | 12 Thu W-HMI     | <b>12</b> Sat     | 12 Tue W-PU      | <b>12</b> Thu    |  |
| <b>13</b> Sat    | <b>13</b> Tue    | 13 Fri           | <b>13</b> Sun     | 13 Wed W-M       | 13 Fri           |  |
| <b>14</b> Sun    | <b>14</b> Wed    | <b>14</b> Sat    | <b>14</b> Mon 42  | 14 Thu W-HMI     | <b>14</b> Sat    |  |
| 15 Mon 29        | 15 Thu           | <b>15</b> Sun    | <b>15</b> Tue     | 15 Fri           | <b>15</b> Sun    |  |
| <b>16</b> Tue    | <b>16</b> Fri    | 16 Mon 38        | <b>16</b> Wed     | <b>16</b> Sat    | 16 Mon 51        |  |
| <b>17</b> Wed    | <b>17</b> Sat    | 17 Tue G/M-EL    | 17 Thu            | <b>17</b> Sun    | <b>17</b> Tue    |  |
| 18 Thu           | <b>18</b> Sun    | 18 Wed G/M-EL    | 18 <sup>Fri</sup> | 18 Mon 47        | 18 Wed           |  |
| 19 Fri           | 19 Mon 34        | 19 Thu G/M-EL    | <b>19</b> Sat     | 19 Tue G/M-EL    | 19 Thu           |  |
| <b>20</b> Sat    | <b>20</b> Tue    | <b>20</b> Fri    | <b>20</b> Sun     | 20 Wed G/M-EL    | <b>20</b> Fri    |  |
| <b>21</b> Sun    | <b>21</b> Wed    | <b>21</b> Sat    | <b>21</b> Mon 43  | 21 Thu G/M-EL    | <b>21</b> Sat    |  |
| <b>22</b> Mon 30 | <b>22</b> Thu    | <b>22</b> Sun    | <b>22</b> Tue     | <b>22</b> Fri    | <b>22</b> Sun    |  |
| <b>23</b> Tue    | <b>23</b> Fri    | <b>23</b> Mon 39 | <b>23</b> Wed     | <b>23</b> Sat    | 23 Mon 52        |  |
| <b>24</b> Wed    | <b>24</b> Sat    | 24 Tue G-LP      | <b>24</b> Thu     | <b>24</b> Sun    | <b>24</b> Tue    |  |
| <b>25</b> Thu    | <b>25</b> Sun    | 25 Wed G-LP      | <b>25</b> Fri     | 25 Mon 48        | <b>25</b> Wed    |  |
| <b>26</b> Fri    | <b>26</b> Mon 35 | <b>26</b> Thu    | <b>26</b> Sat     | 26 Tue G-LP      | <b>26</b> Thu    |  |
| <b>27</b> Sat    | 27 Tue G-PU      | <b>27</b> Fri    | <b>27</b> Sun     | 27 Wed G-LP      | <b>27</b> Fri    |  |
| <b>28</b> Sun    | 28 Wed G-M       | <b>28</b> Sat    | 28 Mon 44         | <b>28</b> Thu    | <b>28</b> Sat    |  |
| <b>29</b> Mon 31 | <b>29</b> Thu    | <b>29</b> Sun    | 29 Tue G-PU       | <b>29</b> Fri    | <b>29</b> Sun    |  |
| <b>30</b> Tue    | <b>30</b> Fri    | <b>30</b> Mon 40 | 30 Wed G-M        | <b>30</b> Sat    | <b>30</b> Mon 53 |  |
| <b>31</b> Wed    | <b>31</b> Sat    |                  | 31 Thu            |                  | <b>31</b> Tue    |  |
|                  |                  |                  |                   |                  |                  |  |

## **BASIC SEMINARS**

BASICS OF POLYURETHANE TECHNOLOGY [G-PU]

#### **LEARNING OBJECTIVE**

The participants gain basic knowledge about polyurethane technology. They learn about the composition and behavior of the components during the chemical reaction. In addition the seminar provides valuable information relating to safe handling of chemicals and the correct storage of raw materials.

#### **SEMINAR CONTENTS**

Basics of polyurethane raw materials

Products manufactured from polyurethane

Hazards and how to avoid them when processing polyurethane materials

The reaction mixture

Practical exercises with test shots on the machine

Determining the characteristic parameters during the course of the reaction



#### **Target group**

Novices, machine fitters, machine operators, heads of production, quality assurance personnel

#### **Number of participants**

Three to six people

#### **Duration of seminar**

One day, 9:00 - 16:00 hrs

#### Seminar fee

650 euros per participant (plus VAT)

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#### **LEARNING OBJECTIVE**

The participants will learn about the functioning and operation of the respective mixhead series. They will learn everything to do with necessary maintenance work, correct disassembly and independent repair of wear parts. Furthermore, the seminar participants will be shown how to determine errors and faults on the mixhead and how to rectify them.

#### **SEMINAR CONTENTS**

Operating principle and configuration of the mixhead

Injector selection and replacement

 Conventional and constant pressure injector (series MT, MT-A, MT-E, MXL, MN, MEL)

Adjusting the foaming pressure

Throttling the mixing chamber

Electric, hydraulic and pneumatic (series MXL) control of the mixhead

Troubleshooting and rectification

Maintenance and practical instruction on mixhead

- Changing seals on ejector and injectors
- Replacing and adjusting the proximity switch in the mixhead



#### **Target group**

Novices, machine fitters, machine operators, maintenance staff

Each seminar relates to one mixhead series [MT, MT-A, MT-E, MXL, MN, MEL]

#### Number of participants

Three to six people

#### **Duration of seminar**

One day, 9:00 - 16:00 hrs

#### Seminar fee

650 euros per participant (plus VAT)

### **SEMINARS FOR METERING MACHINE OPERATORS**



HIGH-PRESSURE METERING MACHINES [G-HP]

#### **LEARNING OBJECTIVE**

After the seminar, participants will have mastered the operation and adjustment of high-pressure metering machines. They will be able to name the components used and know their function and mode of operation. They will be able to perform production adjustments and changes to the plant parameters independently and effectively. Furthermore they will be able to explain the operating principles and adjust the pumps, mixhead and injectors. In addition the participants will be able to localize errors that occur on the machine and mixhead and rectify them (error simulation).

#### **SEMINAR CONTENTS**

Configuration of a high-pressure metering machine based on the schematics (wet part and hydraulics)

Working with the documentation and spare parts lists

Safety devices and their functions

Operating principle and configuration of metering pumps

Operating principle and configuration of the mixhead MT, MT-A, MT-E, MXL, MN

Machine operation at HMI, overview of the individual menus and explanation of the adjustable parameters

Recording and function of a pump characteristic curve

Practical system operation and handling

Adjusting the foaming pressure, injector selection and injector change

Electric, hydraulic and pneumatic (MXL series) control of the mixhead

Localization and elimination of malfunctions and errors



#### **Target group**

Novices, machine fitters, machine operators, foremen, application engineers, quality assurance staff, heads of production or maintenance

For new users, we recommend taking part in our basic seminar on polyurethane technology [G-PU]

#### **Number of participants**

Three to six people

#### **Duration of seminar**

Three days, 9:00 - 16:00 hrs

#### Seminar fee

1950 euros per participant (plus VAT)

Please contact us at any time if you require a specific seminar date

#### \* ECOPLUS MK2

Duration of seminar: Two days, 9:00 – 16:00 hrs Seminar fee: 1300 euros per participant (plus VAT)

After the seminar, the participants will have mastered the operation and adjustment of the STREAMLINE MK2 high-pressure metering machines. They are able to name the components used and understand their function and mode of operation. Production adjustments and changes to the plant parameters can be performed independently and effectively. In addition, the participants will be able to localize errors that occur on the machine and mixhead and rectify them (error simulation).

#### **SEMINAR CONTENTS**

Configuration of the STREAMLINE MK2 metering machine based on the schematics (wet part and hydraulics)

Working with the documentation and spare parts lists

Safety devices and their functions

Operating principle and configuration of metering pumps

Operating principle and configuration of the mixhead

Machine operation at HMI, overview of the individual menus and explanation of the adjustable parameters

Recording and function of a pump characteristic curve

Practical system operation and handling

Adjusting the foaming pressure, injector selection and injector change

Electric, hydraulic control of the mixhead

Localization and elimination of malfunctions and errors



#### **Target group**

Novices, machine fitters, machine operators, foremen, application engineers, quality assurance staff, heads of production or maintenance

#### **Number of participants**

Three to six people

#### **Duration of seminar**

Three days, 9:00 - 16:00 hrs

#### Seminar fee

1950 euros per participant (plus VAT)



After the seminar the participants will have mastered the independent operation and adjustment of the low-pressure reaction casting machine ELASTOLINE. They will learn the function and mode of operation of all the assemblies and individual parts installed in the machine. Production adjustments and changes to the plant parameters can be performed independently and in line with processes. In addition, the participants will be able to localize errors that occur on the machine and mixhead and rectify them(error simulation).

#### **SEMINAR CONTENTS**

Configuration of the ELASTOLINE reaction casting machine based on the schematics and layouts

Working with the documentation and spare parts lists

Safety devices and their functions

Operating principle and configuration of metering pumps

Operating principle and configuration of the mixhead

Function and principle of the heating systems

Machine operation at HMI, overview of the individual menus and explanation of the adjustable parameters

Recording and function of a pump characteristic curve

Practical system operation and handling

Adjusting all relevant process pressures

Electric, hydraulic and pneumatic control of the MEL mixhead

Localization and elimination of malfunctions and errors



#### **Target group**

Novices, machine fitters, machine operators, foremen, application engineers, quality assurance staff, heads of production or maintenance

#### **Number of participants**

Three to six people

#### **Duration of seminar**

Three days, 9:00 - 16:00 hrs

#### Seminar fee

1950 euros per participant (plus VAT)



After the seminar the participants will have mastered the operation and adjustment of the IMPACT low-pressure metering machine. They learn about the function and mode of operation of all assemblies and individual parts on the machine. They will be able to make production adjustments and changes to the plant parameters independently and in line with processes. In addition, the participants will be able to localize errors that occur on the machine and mixhead and rectify them (error simulation).

#### **SEMINAR CONTENTS**

Configuration of the IMPACT metering machine based on the schematics and layouts

Working with the documentation and spare parts lists

Safety devices and their functions

Operating principle and configuration of metering pumps

Operating principle and configuration of ULTIMIX mixhead

Machine operation at HMI, overview of the individual menus and explanation of the adjustable parameters

Setting and function of the pump control

Practical system operation and handling

Adjusting all relevant process parameters

Electric, pneumatic control of the ULTIMIX mixhead

Localizing and eliminating malfunctions and errors



#### **Target group**

Novices, machine fitters, machine operators, maintenance staff

#### **Number of participants**

Three to six people

#### **Duration of seminar**

Two days, 9:00 - 16:00 hrs

#### Seminar fee

1300 euros per participant (plus VAT)

### SEMINARS FOR TECHNICAL SERVICE AND MAINTENANCE



HIGH-PRESSURE METERING MACHINES [M-HP

#### **LEARNING OBJECTIVE**

After the seminar, participants will have mastered how to maintain and service high-pressure metering machines. They will be able to carry out necessary maintenance work and repairs independently, effectively and promptly.

#### **SEMINAR CONTENTS**

Configuration of a high-pressure metering machine based on the schematics (wet part and hydraulics)

Safety devices and their function

Checking and filling the hydraulic bladder accumulators

Basic requirements for operating the machine (power supply)

Maintaining and repairing the tank periphery (refill pump)

Checking and replacing component filters

Checking the function of the metering pumps

Checking the sealant receptacle on the seals (stirrer, metering pump, high/low pressure switchover)

Checking the injectors and carrying out maintenance work

Providing instruction in the necessary maintenance work on the mixhead MT, MT-A, MT-E, MXL, MN

Troubleshooting and eliminating errors

Handling the lubrication and maintenance plan of the machine

Structural layout of circuit diagrams

Performing restores and backups on HMIs (depending on the hardware)

Hardware layout and function of the standardized interface between reaction casting machines and dry parts or robots



#### **Target group**

Maintenance, service personnel, foremen, heads of production

For new users, we recommend taking part in the seminar Metering machine technology [G-HP]

#### **Number of participants**

Three to six people

#### **Duration of seminar**

Three days, 9:00 - 16:00 hrs

#### Seminar fee

1950 euros per participant (plus VAT)

Please contact us at any time if you require a specific seminar date

#### \* ECOPLUS MK2

Duration of seminar: Two days, 9:00 – 16:00 hrs Seminar fee: 1300 euros per participant (plus VAT)

After the seminar, the participants will have mastered how to maintain and service the STREAMLINE MK2 series of high-pressure metering machines. They will be able to carry out necessary maintenance work and repairs independently, effectively and promptly.

#### **SEMINAR CONTENTS**

Configuration of a STREAMLINE MK2 metering machine based on the schematics (wet part and hydraulics)

Safety devices and their function

Checking and filling the hydraulic bladder accumulators

Basic requirements for operating the machine (power supply)

Maintaining and repairing the tank periphery (vacuum pump, refill- diaphragm pump)

Checking and replacing component filters

Checking the function of the feed and metering pumps

Checking the injectors and carrying out maintenance work

Providing instruction in the necessary maintenance work on the mixhead

Troubleshooting and eliminating errors

Handling the lubrication and maintenance plan of the machine

Structural layout of circuit diagrams

Performing restores and backups on HMIs (depending on the hardware)

Hardware layout and function of the standardized interface between reaction casting machines and dry parts or robots



#### **Target group**

Maintenance, service personnel, foremen, heads of production

For new users, we recommend taking part in the seminar metering machine technology [G-STL]

#### **Number of participants**

Three to six people

#### **Duration of seminar**

Three days, 9:00 - 16:00 hrs

#### Seminar fee

1950 euros per participant (plus VAT)

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#### LOW-PRESSURE METERING ELASTOLINE V/F [M-EL]

#### **LEARNING OBJECTIVE**

After the seminar, participants will have mastered how to maintain and service the ELASTOLINE F und ELASTOLINE V low-pressure metering machines. They will be able to carry out necessary maintenance work and repairs independently, effectively and promptly.

#### **SEMINAR CONTENTS**

Configuration of an ELASTOLINE metering machine based on the schematics (wet part and hydraulics)

Safety devices and their function

Checking and filling the hydraulic bladder accumulators

Basic requirements for operating the machine (power supply)

Maintaining and repairing the tank periphery (vacuum pump, refill- diaphragm pump)

Checking the tank temperature control (oil)

Checking and replacing component filters

Checking the function of the metering pumps

Checking the injectors and carrying out maintenance work

Performing maintenance work on the MEL stirrer mixhead

Troubleshooting and eliminating errors

Handling the lubrication and maintenance plan of the machine

Structural layout of circuit diagrams

Performing restores and backups on HMIs (depending on the hardware)

Hardware layout and function of the standardized interface between reaction casting machines and dry parts or robots



#### **Target group**

Maintenance, service personnel, foremen, heads of production

For new users, we recommend taking part in the seminar Metering machine technology [G-EL]

#### **Number of participants**

Three to six people

#### **Duration of seminar**

Three days, 9:00 - 16:00 hrs

#### Seminar fee

1950 euros per participant (plus VAT)

## **ONLINE TRAINING**



ONLINE TRAINING POLYURETHANE TECHNOLOGY [W-PU]

#### **LEARNING OBJECTIVE**

The participants gain basic knowledge about polyurethane technology. They learn about the composition and behavior of the components during the chemical reaction. In addition the seminar provides valuable information relating to safe handling of the chemicals and correct storage of raw materials.

#### **SEMINAR CONTENTS**

Basics of polyurethane raw materials

Products manufactured from polyurethane

Hazards and how to avoid them when processing polyurethane materials

The reaction mixture

Video of a "manual" exercise

Determining the characteristic parameters during the course of the reaction

Determining the bulk density of the finished product (video)



#### **Target group**

Novices, machine fitters, machine operators, heads of production, quality assurance personnel

#### **Number of participants**

Three to six people

#### **Duration of seminar**

About three hours, 9:00 – 12:00 hrs

#### Seminar fee

180 euros per participant (plus VAT)

The participants will learn about the functioning and operation of the respective mixhead series. They will learn everything to do with necessary maintenance work, correct disassembly and independent repair of wear parts. Furthermore, the seminar participants will be shown how to determine errors and faults on the mixhead and how to rectify them.

#### **SEMINAR CONTENTS**

Operating principle and configuration of the mixhead

Injector selection and replacement

- Conventional and constant pressure injector (series MT, MXL)

Adjusting the foaming pressure

Throttling the mixing chamber

Electric, hydraulic and pneumatic (series MXL) control of the mixhead

Troubleshooting and rectification

Maintenance and practical instruction on mixhead

- Changing seals on ejector and injectors
- Replacing and adjusting the proximity switch in the mixhead



#### **Target group**

Novices, machine fitters, machine operators, maintenance staff

Each seminar relates to one mixhead series [MT-A, MT, MXL, MN, MEL]

#### **Number of participants**

Three to six people

#### **Duration of seminar**

About half a day, 9:00 – 12:00 hrs

#### Seminar fee

360 euros per participant (plus VAT)

The HMI (Human Machine Interface) in the form of a touchscreen panel is the central interface between the machine operator and the machine automation. The participants learn how to operate the machine on the HMI. They are given an overview of the individual menus and the adjustable parameters are explained.

#### **SEMINAR CONTENTS**

| Machine operation at the HMI         |
|--------------------------------------|
| Overview of individual menus         |
| Explanation of adjustable parameters |
| Recording the characteristic curve   |
| Calibration                          |
| Adjusting the metering program       |
| Data backup and recovery             |
| Troubleshooting and rectification    |



#### **Target group**

Novices, machine fitters, machine operators, maintenance staff

#### **Number of participants**

Three to six people

#### **Duration of seminar**

About half a day, 9:00 – 12:00 hrs

#### Seminar fee

360 euros per participant (plus VAT)

### **CUSTOMIZED SEMINARS**



#### **SPECIAL MACHINES**

We also offer additional seminars and special topics.

Please contact us to request the terms and conditions for customized seminars

#### **MICROLINE**

Operating and adjusting the MICROLINE metering machine. Naming the components and becoming familiar with their function and mode of operation. Adjusting and changing the production parameters. Adjusting the discharge capacities of the pumps. Adjusting the metering pressure on the injectors / mixhead.

#### **TOPLINE HK-MF** (multiple components)

Operating and adjusting the TOPLINE HK-MF metering machine with four or six components. Naming the components and becoming familiar with their function and mode of operation. Adjusting and changing the production parameters. Adjusting the discharge capacities of the pumps. Adjusting the metering pressure on the injectors / mixhead.

#### TOPLINE HT / TOPLINE HT500evo / HT30evo

Operating and adjusting the HT metering machines. Naming the components and becoming familiar with their function and mode of operation. Adjusting and changing the production parameters. Adjusting the discharge capacities of the plunger pumps. Adjusting the metering pressure on the injectors / mixhead. Each seminar focuses on one HT machine system.

#### HK-R 5000

Operating and adjusting the HK-R 5000 metering machine. Naming the components and becoming familiar with their function and mode of operation. Adjusting and changing the production parameters. Highlighting the special features of the stirrer mixhead and the tandem metering pumps.

#### **CARBOMAT**

Operating and adjusting the CARBOMAT blowing agent metering unit. Naming the components and becoming familiar with their function and mode of operation. Adjusting and changing the production parameters. Device-specific advantages / savings potential of the blowing agent metering unit.

#### **AEROMAT GU/ST**

Operating and adjusting the AEROMAT gas loading unit. Naming the components and becoming familiar with their function and mode of operation. Adjusting and changing the production parameters.

#### **PENTAMAT und LAMBDAMAT**

Operating and adjusting the PENTAMAT blowing agent metering unit. Naming the components and becoming familiar with their function and mode of operation. Adjusting and changing the production parameters.

#### **ELASTOLINE HP**

Operating and adjusting the high-pressure metering machines for processing PU elastomers. Naming the components and becoming familiar with their function and mode of operation. Adjusting and changing the production parameters. Adjusting the discharge capacities on the pumps. Adjusting the metering pressure on the injectors / mixhead.

#### COLOURLINE

Operating and adjusting the COLOURLINE metering machine. Naming the components and becoming familiar with their function and mode of operation. Adjusting and changing the production parameters. Adjusting the discharge capacities on the pumps. Adjusting the metering pressure on the injectors / mixhead.



#### **PLANT TECHNOLOGY**

We also offer additional seminars and special topics.
 Please contact us to request the terms and conditions for customized seminars.

#### **Sandwich panel lines**

Operating and adjusting CONTIMAT plants. Becoming familiar with the special features of the plant's wet part. Adjusting and changing the production parameters.

#### **Technical insulation lines**

Operating and adjusting plants for technical insulation. Becoming familiar with the special features of the plant's wet part. Adjusting and changing the production parameters.

#### Slabstock lines

Operating and adjusting slabstock plants. Becoming familiar with the special features of the plant's wet part. Adjusting and changing the production parameters.

#### **Molded foam lines**

Operating and adjusting molded foam plants. Becoming familiar with the special features of the plant's wet part. Adjusting and changing the production parameters.

#### **PREG lines**

Operating and adjusting machines for the production of honeycomb sandwich panels. Becoming familiar with the special features of the plant's wet part. Adjusting and changing the production parameters.

#### **ROBOT INTEGRATION**

Participants are taught the operating sequence of the standardized interface between the coupling control and the robot controller. This includes the hardware interface with the safety signals and the software interfaces with the program number transfer and the corresponding reference signals. The course provides theoretical training.

## **HOTEL RECOMMENDATIONS**



Email: info@gcbonn.de

Gut Grossenbusch Golf Course Hotel

53757 Sankt Augustin

**Das Augustin** 

Uhlandstraße 8

www.gcbonn.de

Konrad-Adenauer-Straße 100

Phone: +49 22 41 / 39 88-0

Phone: +49 22 41 / 92 88-0 Email: info@dasaugustin.de https://www.dasaugustin.de/en

Room/Night incl. breakfast from 83 euros

53757 Sankt Augustin

Room/Night incl. breakfast from 74 euros - 129 euros

**Hotel Kaiserhof** 

Kaiserstr. 80 Phone: +49

Phone: +49 22 41 / 17 23-0 Email: info@kaiserhof-siegburg.de www.kaiserhof-siegburg.de/?lang=en

53721 Siegburg

Room/Night incl. breakfast from 75 euros - 95 euros

Cityhotel Oktopus

Zeithstraße 110

Phone: +49 22 41 / 8 46 40-0 Email: info@friendly-cityhotel-siegburg.de www.friendly-cityhotel-siegburg.de/en/

53721 Siegburg

Room/Night incl. breakfast from 115 euros - 165 euros

**Kranz Parkhotel** 

53721 Siegburg

Mühlenstraße 32-44

Phone: +49 22 41 / 5 47-0 Email: info@kranzparkhotel.de

www.kranzparkhotel.de/en/start

Room/Night incl. breakfast from 141 euros - 191 euros

Koncept Hotel Benedikt

53731 Siegburg

Europaplatz 16

Phone: +49 22 41 / 99 99 90 Email: hallo.benedikt@koncepthotels.com

www.koncepthotels.com/hotel-benedikt-siegburg

Room/Night incl. breakfast from 75 euros - 110 euros

**Euro Park Hotel** 

Reutherstr. 1 a-c Tel.: +49 22 42 / 87 60

www.euro-park-hotel.de/en/

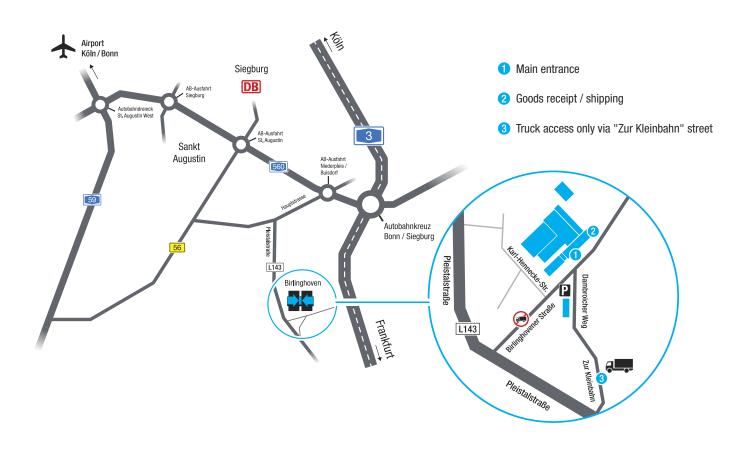
Email: info@euro-park-hotel.de

53773 Hennef

Room/Night incl. breakfast from 76 euros - 139 euros

## **DIRECTIONS**





## APPLICATION FORM AND CONDITIONS OF PARTICIPATION



It is quick and simple to register for the training courses and seminars via the 360°SERVICE portal. Just scan the QR code or click on the link. service.hennecke-group.com/trainings

Conditions of Participation (as of 2017)

General, scope: Hennecke GmbH's Conditions of Participation apply to entrepreneurs (§ 14 German Civil Code), public-sector legal entities or special bodies or funds under public law (hereinafter referred to as "participants") for all of our trainings, seminars and courses etc. (hereinafter referred to as "courses"). We do not accept any terms and conditions of the participant.

Registration: All our offers for courses are subject to confirmation and are non-binding. The participant's registration is deemed to be a binding offer of contract. Incoming applications will be considered in chronological order until the maximum number of participants has been reached.

Prices and services: The participation fees as stated in the respective course description shall apply. The fees do not include the applicable VAT. The participation fee shall be due without deduction after the issuance of the invoice. The fees include all costs for instruction material, use of technical equipment, beverages during the breaks and (in case of whole-day events) a lunch in our canteen. The participant shall bear all costs for travel and accommodation. Each participant shall receive a certificate after successfully completing the course. The description of the course contents is correct at the time of printing. We reserve the right to update and enhance the agenda of the course

Cancellation and postponement of courses: We reserve the right to cancel, postpone or combine courses in cases of insufficient number of participants, shortfall of trainers, force majeure or any other reasons beyond our control. The participant will be informed immediately and payments already effected will be reimbursed.

Cancellation by the participant: After confirmation of a participant's registration by us, requests for cancellation must be made in writing. If a participant cancels more than 14 days before the course begins, we will charge 50 percent of the participation fees. We will charge 100 percent of the fees if we receive the cancellation less than 14 days before the course begins. We will not, however, charge any lump-sums for cancellations if the participant appoints a replacement for the person not being able to take part in the course. If a participant does not attend a course without giving prior notice, the full fees shall become due.

Liability: If we are in breach of material contractual obligations, i.e. contractual obligations the performance of which characterizes the contract and which are necessary for its proper implementation, we shall be liable in accordance with the statutory provisions. For all other breaches of duty we shall only be liable for damages caused by intentional or grossly negligent acts or omissions of our statutory representatives ("gesetzlicher Vertreter") or any persons engaged by us to assist us in complying with our obligations in terms hereof ("Erfüllungsgehilfen"). In the absence of intentional conduct, we shall be liable only for reasonably foreseeable damage that occurs. The foregoing shall neither effect the liability of the Supplier under the German Product Liability Act (Produkthaftungsgesetz), nor its liability for culpable ("schuldhaft") injury to life, body or health. If a guarantee has been assumed we shall be liable in accordance with the statutory provisions.

Accommodation: A list of accommodations is included in our seminar catalogue. The participant shall make a booking directly with the respective hotel.

Information and Technical Advice: The information and recommendations we provide (whether included in instruction materials or orally or in another form) are not binding and are made excluding all liability unless we have expressly and in writing undertaken otherwise.

Choice of law, Court of jurisdiction: German law shall apply. The court of jurisdiction shall be Cologne. In addition, we shall be entitled to assert our claims at the participant's place of general jurisdiction.

## **24H** GLOBAL FIRST-LEVEL SUPPORT

+49 2241 339 360





## **SERVICE PORTAL**

service.hennecke-group.com

## CONTACT / REQUEST

service.hennecke-group.com/contact





