



Operating Instructions *perfect*Melt Hot glue system



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Introduction

UES hot glue systems meet your highest expectations in terms of quality, labour and production reliability as well as maintenance and user friendliness.

By combining cutting-edge control technology with comfortable and complete features, you have the greatest possible benefit. An extremely compact design and the modular extension option assure variable use for versatile applications.

The UES tank system "*perfectMelt*" is equipped with carefully selected components of very high quality. When adhering to these Operating Instructions, a long-term and unlimited use of the device is possible.

Along with a full range of standard applications of adhesive technology with tank systems, hose and gun systems, we also offer individual solutions and system components for special applications in various industrial sectors.

With the adhesive application systems of the "perfectMelt" series, the process is conducted in the context of the hotmelt adhesive application. In other words, depending on the application, the adhesive systems are incorporated into production or packaging machines, and, as such, are part of the equipment.

In the operation of adhesive application systems for hotmelt, the adhesive is processed at high temperatures and with high-pressure material. For this reason, safety precautions are to be taken during installation, operation and maintenance.

In the description of the operation of the system, these safety precautions are marked by safety symbols and, if applicable, further information.

The safety precautions described here refer exclusively to the handling of the adhesive system.

Before commissioning, the Operating Instructions are to be read in full in order to ensure safety and proper operation. The device owner or operator is responsible for compliance with the safety regulations.

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These Operating Instructions are subject to changes.

UES AG Krefeld, February 2016



Safety Instructions

The following Safety Instructions must be observed!



Caution:

Before any repair and adjustment work, unplug from the mains!

Installation and maintenance work may only be performed by trained personnel. Only those individuals shall be considered suitable who are qualified by specialised training and experience in dealing with these or similar devices, who know the relevant safety and accident prevention regulations, and who therefore can recognise and avoid hazards.

Work on the adhesive application system may generally only be conducted when the voltage has been turned off and the compressed air has been blocked (depressurise the system).

The system must not be operated without the appropriate covers and safety panels. Be careful of non-covered moving and rotating parts, such as motor and pump shafts, hub and swivelling mechanisms!

Caution: Do not use the system for any purpose other than that for which it is intended!

On many non-covered parts of the applicator device, the hot glue hoses and application guns consist of high temperatures during operation. Hot and pressurised adhesive may cause severe skin burns. Therefore, always wear protective clothing, gloves and safety goggles when working on the system, such as when filling the melting tank or connecting and installing the hoses and valves. Some adhesives produce toxic fumes that have to be extracted. The hot melt adhesive application equipment may not be operated under the following circumstances:

- In the vicinity of volatile substances or explosive materials and gasses
- Without adequate protection
- At temperatures of less than 5 °C or more than 45 °C

Security measures with respect to the adhesive

When working with molten hot glue, always be extremely careful! These materials solidify very quickly, even at high temperatures, so they can still be very hot even in their solid state and can result in burns when in brought into contact with the skin. The safety precautions of the adhesive manufacturer are to be observed. These can be found on the data sheet of the adhesive. Comply with the processing temperatures recommended by the glue manufacturer!



When working with hot melt, wear gloves, safety glasses and long sleeves to prevent burns. In the case of a burn, do not attempt to remove the glue from a person's skin; instead, hold the wounded site under cold water until the glue has cooled and then contact a physician.

Safeguards with respect to the production machine

For the safety regulations in dealing with the production or packaging machine, please refer to the documentation supplied with these devices.

For installation and maintenance work, the Safety Instructions for the parent machine in which the adhesive application system is installed must be observed.



Safety symbols

The safety symbols below highlight activities in this manual where increased caution is necessary. The proposed safety precautions should be observed in any case.



Attention, general safety information: Information regarding compliance with the Safety Information for adhesives and other equipment. Special instructions may follow.



Warning about hot surfaces: Machine parts may have an operating temperature.



Danger – high voltage: The work may only be performed by qualified personnel.



Warning of hand injury: Unsafe handling may lead to crushing.



Warning - hot liquids may escape uncontrollably!



Unplug before opening!



Use protective clothing!



Unlock before starting work!



Wear eye protection!



Wear protective gloves!



Wear face protection!



Example of a hot glue system

(Connecting parts are not supplied with the perfect Melt)



| Tankdeckel | Tank cap |
|------------------|----------------|
| Pumpe | Pump |
| Tank | Tank |
| Heißleim | Hot glue |
| Inline Filter | In-line filter |
| Tankfilter | Tank filter |
| Heizschlauch | Heat tube |
| Versorgungsblock | Supply block |
| Düse | Valve |
| Modul | Module |

The **fuel tank cap** closes the tank. After filling, please use the fuel tank cap to close the tank of your *perfectMelt* system.

The hot glue is melted in the **tank**. Your *perfectMelt* has two adjustable heating zones: the tank "t1" and the manifold block "t2" (distribution block to connect the hot glue hoses).

The **pump** places the melted glue under pressure. UES-pumps have a translation ratio of 14:1. In other words, at a set air pressure of 2 bar, there is a material pressure of 28 bar.

To prevent contamination in the hoses and application guns, the *perfect*Melt has a (tank) glue filter.

The **hot glue hoses** are connected to the glue dispenser. They are heated electrically and are connected with the *perfect***Melt** by a plug.

As an option, an **in-line filter** can be installed between the hose end and the gun.

The supply block is supplied with **hot glue** via the tube. It is also heated and is connected to the hose electrically.



One or more **modules** are bolted onto the supply block. The modules open and close by air control (via a solenoid valve).

For standard modules, **screwable vents** are necessary. Different nozzles are available for different applications.



Installation

Checking the components

After unpacking, please check all the components of your *perfect***Melt** and (if applicable) the hot glue hoses and application heads for any damage.

If you notice any damage, please contact UES AG immediately.

perfectMelt parts list

- *perfect***Melt** system
- Manual
- Filter wrench

Assembly and mounting of the tank system



Warning! To prevent injury caused by falling, the tank system has to be firmly screwed together with the production machine in any case.

The tank system is equipped with two mounting brackets. These angles have 9 mm holes to secure the tank system with M8 bolts to the production machine. For this purpose, holes that are about 9 mm in diameter have to be drilled in the seat for the tank system of the production machine.

The tank system should be positioned so that an operator is not ergonomically impaired. This particularly applies to settings on the control panel, filling the tank and maintenance work, such as filter changes.

Warning!

Please make sure that, when drilling holes, no cables, pipes or other equipment installations are damaged!



Connection of the tank system

(necessary connections)

Electrical connection



Warning! The work may only be performed by qualified personnel. The power supply has to be interrupted.

Necessary: 400-V-(3L/N/PE/50 Hz) plug/connection. The fuse for each phase cannot be more than 16A. As an option, the tank system can be factory fitted with a connection cable. The power supply is connected directly in the control box Please only use the provided and designated terminals. Only use the lines with the appropriate wire size as a feed.

For the performance data, please refer to the technical data.

Air connection

Compressed air supply 6 bar (oil and anhydrous) Connection via PK 8* 1.25 pneumatic hose. Hose connection



Luftanschluss

| Luftanschluss | Air connection |
|---------------|----------------|
|---------------|----------------|

Hose connection

Hose connecting nipple (fittings)

The system is equipped with two glue nipples by the factory.

The corresponding electrical connections are labelled 1 & 2 accordingly.

To connect a hose, the end cap has to be placed under resistance with an SW 17 wrench.

The electrical connection is made by inserting the plug located on the hose into the socket located on the system.



Application head connection

The glue connection nipple on the application head has to be connected to the hose connection nipple on the hose. You will also need an SW 19 wrench.

The electrical connection is established by inserting the plug located on the application head into the socket located on the glue hose.

Warning!

Make sure that there is an absolutely tight connection between the system, the hoses and the guns via the screwed glue nipple. Otherwise, any escaping glue can lead to severe burns. Pneumatic components are designed and constructed according to the applicable standards and calculations such that, under the intended conditions of use, rupture or failure due to fatigue or wear is not expected to occur.

Add glue

Caution:

When refilling the glue, any spouting hot glue can cause injuries. In any case, observe the safety regulations for handling melted adhesives.



- Do not leave the adhesive supply open; only store it in sealed containers.
- The fuel tank lid should be able to be opened without foreign bodies (such as scraps of paper) being able to fall into it.
- Before filling, check to see whether the tank and the adhesive supply are clean and free of debris.
- Do not overfill your system. Add adhesive carefully to a max. 20 mm below the tank opening.
- Close the tank lid after filling. This prevents unwanted foreign matter from entering the tank or hot adhesive vapours from escaping.
- The tank lid should be closed without it coming into direct contact with the adhesive.
- Do not run your device when it is completely empty. If there is too little adhesive in the tank, localised overheating can result in
- glue burns and deposits in your system, leading to a malfunction.
- Refer to the data sheet of your adhesive supplier and set your device appropriately.



Service (general)



Our *perfect***Melt** is equipped with a touch-sensitive 4.3" colour touch display. You will be guided through the menu intuitively. If you wish to enter data, touch the screen at the desired location and enter your values via the input field. Confirm this by pressing ENTER. The display then automatically jumps back to the so-called Overview after a few seconds. All the important information is displayed here during operation.



In addition, the *perfect***Melt** has a one-hand safety input wheel. Turn the input wheel until the desired number is entered. By pressing the wheel, this field is activated. Now activate the input field. Now set the desired value by turning the wheel again. Confirm this value by pressing the wheel again. Through these two methods, you can make your entries quickly, easily and intuitively.



Through the menu, you will be informed about the current settings via our traffic light system. In the heating phase, the corresponding fields are entered in yellow. The percentage of colouring of these fields provides information on the heating progress. Once all the temperatures have been reached, these fields are displayed in green. As soon as the ready signal is activated, the entire display switches to green. You can therefore already see from a distance that your system is ready. If there is still a problem, the corresponding area is displayed in red. Here, as well, the entire display will change after a few seconds and turn red. This allows you to see from a distance that something is wrong.



Warning!

Never use sharp objects to adjust the touch panel. This could lead to irreparable damage. Likewise, the display can be damaged if too much pressure is used when entering data. Always keep the screen clean so that you can enter data without any problem.



Commissioning Quick start

In order to be able to work with your perfectMelt, you only need a few steps to put it into operation. All the parameters are pre-set so that you only have to adjust the values to your requirements. You have made all the electrical and pneumatic connections and connected your peripherals.

Now, turn on the perfectMelt with the main switch. The system is now in the off-line mode. Touch the screen in the middle of the switch symbol until the system jumps to the on-line mode.



You can also turn the system on via the one-hand safety input wheel. Hold this down until the system likewise switches to the on-line mode. After a few seconds, the display jumps to the Overview display. Set the appropriate temperature tank by tapping on the Tank Temperature field. This opens the input window. Here, enter your value and confirm your entry with Enter. Then, set the temperatures for each channel that you need. You either enter this area by using the "down arrow key" or the Overview by touching the Channel temperatures field. Here, activate the hose and the application head and set the corresponding temperatures. At the end, confirm your entries with ENTER. The system starts to heat up the individual temperature ranges. Once the temperatures have been reached, the READY signal will be activated. Now please set the appropriate working pressure on the pressure regulator.

Your system is ready!



Setting the pump pressure

The pump working pressure is set at the pressure regulator. The pressure regulator can be secured against unintended changes by pressing the control knob into a grid position. If you want to adjust the knob again, first pull it out of the catch position. The set pump pressure can be read on the pressure gauge. The maximum pump pressure in the perfectMelt is reduced to max. 5.3 bar by the safety valve. If you need a higher working pressure, please contact our technicians.



Automatic pressure release

Upon removal of the air supply to the hot glue system, a safety valve opens and pressure in the hydraulic circuit is released.

When using this function, please note:

- You need an input pressure to the system of at least 4 bar with a quick exhaust function upon shutdown
- The removal of the input pressure has to be conducted by the customer, such as by opening a security door and then by switching the main air supply.
- For maintenance tasks in hydraulics, inadvertent switching on of the air after removal of the input pressure has to be prevented; please follow the instructions in the machine manual for this purpose. It is also urgently necessary to activate the manual pressure relief devices (chapter-> Bleeding the system). Of course, the Safety Instructions regarding adhesives are to be observed (PSA, among others).

The pressure relief function has to be checked regularly, depending on your operating conditions!



Individual settings

Menu structure = Settings

The settings consist of 4 fields, which are constructed as follows.

In these areas, you can customise your settings and adapt them to your needs.



Caution!

In the Setting area, you can define your settings simply by using the one-hand safety input wheel. At the end of the settings, you need to save these settings/changes by clicking on the icon. If you leave the area without saving, your entries will be lost. The previously pre-set parameters apply.



Menu overview

Pump:

| Menu item | Setting Description | |
|---------------------|--|--|
| | | |
| Piston pump | Dea / Man / Auto Deactivate / Manual / Automatic | |
| Delay [min.] | 0-120 min | Pump released only after the delay time |
| Turn on manually | Off / On | Activating the pump only possible in manual mode |
| | | mandalmouc |
| Gear pump 1 | Dea / Man / Auto | Deactivate / Manual / Automatic |
| Delay [min.] | 0-120 | Pump released only after the delay time |
| max. speed [U/min] | 0-90 | Maximum speed |
| max. pressure [bar] | | greatest permissible pressure |
| Turn on manually | Off / On | Activating the pump only possible in manual mode |
| | | |
| Gear pump 1 | Dea / Man / Auto | Deactivate / Manual / Automatic |
| Delay [min.] | 0-120 | Pump released only after the delay time |
| max. speed [U/min] | 0-90 | Maximum speed |
| max. pressure [bar] | | greatest permissible pressure |
| Turn on manually | Off / On | Activating the pump only possible in |
| | | manual mode |
| | | ⊡ |

In this menu section, you can change all settings relative to the pump. From the pump selection through delays up to turning on manually for maintenance purposes.

Warning!

When the pump is activated and the housing flap is open, there is a danger of getting caught on the movable piston rod. Therefore, when the housing flap is open, always turn off the air pressure.



Options:

| Menu item | Setting | Description |
|--------------------------|---|--|
| | | |
| Setting time / date | XX:XX XX:XX:XXXX | current time current date |
| Timer | MonSun. On-Standby-Off Input of the starting time-pause-stop time | |
| Timer On / Off | Off / On | activate, deactivate the timer |
| Standby | Off / On activate / deactivate the standby | |
| Reduced temperature [°C] | 0-100 Reduction of the set temperature | |
| Standby time [min.] | 0-120 | Duration of the reduction |
| Language | Ger / Eng / Ita Menu language | |
| PowerFill | On / Off | activate / deactivate the PowerFill |
| PowerFill min. [sec.] | 0-15 | Min. filling time |
| PowerFill max. [sec.] | 0-180 | Max. filling time after the end of the alarm |
| FU 1 | On / Off activate / deactivate the FU 1 | |
| FU 2 | On / Off activate / deactivate the FU 2 | |
| | | L |

In this menu section, you can adjust the settings related to the language, date and time, from the current time to the weekly program, incl. the standby times and temperatures.



Service:

| Menu item | Setting | Description |
|-----------------------------|----------------------|---|
| | | |
| Sensor type | NI120/PT100/NTC/FeCu | Selection of the sensor type of the channels |
| Max. temperature [°C] | 0-250 | Max. permissible heating temperature |
| Max. over-temperature [°C] | 0-270 | highest permissible temperature before the alarm sounds |
| Warning temperature [°C] | -8 / +10 | Deviation from the target value |
| Temperature of the system | °C / °F | Setting Celsius or Fahrenheit |
| Start hose [%] | 0-100 | Engagement of the hose heater to X% of the tank temperature |
| Start head [%] | 0-100 | Engagement of the head heater to X% of the hose temperature |
| Maintenance date xx:xx:xxxx | | next maintenance |
| Maintenance time | 0-4000 | Operating hour meter until the next maintenance |
| Alarm memory | 0-99 | 99 Alarm messages |
| Operating times | Tank - Hoses - Heads | Operating hour meter of the connected channels PW7873 |
| CPU Temperature [°C] | 0-65 | current CPU temperature |
| Software version | 1.0 | Software Update PW7873 |
| Temperature difference | -30 / +30 | Difference between tank and manifold heating |
| Password Temp. Parameter | 1507 | Protects the temperature settings |
| Password Service | 7873 | Protects the service settings |
| Alarm/ Ready display | On / Off | Turning off the entire screen display Green / Red |
| | | 🕒 |

In this menu section, you can change all temperature settings. From sensor type to password protection, settings can be made here.

Caution:

All the parameters of your system have been pre-set as they are needed. Only change these parameters in consultation with a service technician.

An incorrect setting could cause considerable damage to or even a total loss of your system.



Format:

| Ν | Menu iten | n | Setting | | | Des | cription | | | |
|--------|-------------|--------|---------|-------------|-----|-----|---------------------------------|------------------------------|-----|--|
| | | | | | | | | | | |
| S | tatus Forma | at | 0 | n / Off | | act | ivate / dea | vate / deactivate the format | | |
| Quanti | ty Channel | Boards | | 1-4 | | Swi | Switching on the channel boards | | | |
| | | | | | | | | | | |
| | | | Fo | rmat select | ion | | | | | |
| | CH1 | CH2 | CH3 | CH4 | (| CH5 | CH6 | CH7 | CH8 | |
| F_A | | | | | | | | | | |
| F_B | | | | | | | | | | |
| F_C | | | | | | | | | | |
| F_D | | | | | | | | | | |
| F_E | | | | | | | | | | |
| F_F | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | G | | |

In this menu section, you can change all settings relative to the necessary formats.

You have the option to pre-set up to 6 formats, with up to 8 channels.

Select the channels that you need for your format.

Switch between the formats to activate the other channels.

The standard setting is F_A CH1.

When you turn on the system, Channel 1 is always activated until the settings are changed. Activate the Status / Format with ON. If you switch the Format to ON, you can directly reach the format setting in Overview by tapping on the Format field.

Here, you can now easily switch between pre-set formats.

A format can be activated in the background via the Format Plus process. That means that the required channels will be heated in the background. When the set temperature has been reached, the new format can be activated without any time being wasted. This format can also be selected via the RS 485 interface.

Caution:

If you disable the individual channels over the temperature setting, you will automatically be activated via the format after the system is turned off.



Standby (temperature reduction)

Temperature reduction for all zones during production breaks. You have adjusted your parameters regarding standby functions in the settings.

Caution: They represent the respective difference temperatures compared to your target temperatures!

For longer downtimes, you can activate the standby function, thereby protecting your system as well as the adhesive.

What opportunities do you have to use the standby function?

| Manual | The standby button is located on the right side in the overview |
|--------|--|
| | This activates and deactivates standby |
| | When you activate standby, an entered time expires and standby is automatically disabled |
| Timer | The Standby times are recorded in your timer program (week program) |
| Remote | A superordinate control (e.g. SPS) activates and deactivates standby |

You would like to set the parameters for Standby (temperature reduction)

- You reach the setting level over Settings / Options / Standby.
- You can make your entries with the one-hand safety input wheel.
- Save the change at the end of the menu.

Temp

Differential temperature (by how many degrees do you want to reduce the temperature?)

Time

Do you want a manual reduction followed by an automatic heating after a certain time? If so, set a time. After the set time, the standby function is disabled and your system heats up. If not, then set the time to 0 min. In this case, the standby function is to be deactivated manually.

Remote

You can also use the standby function with a superordinated controller (see interface signals). The drive is always superordinated, so when Signal Standby "On" is active, the aforementioned functions will not be taken into consideration.

Manual activation / deactivation of Standby

By pressing the standby button, the function is activated / deactivated and the system reduces or raises the temperature accordingly. The Standby LED goes out.



Maintenance

Caution: All work is to be performed only in a voltage-free and unpressurised state and by qualified personnel.

When performing maintenance work, the following precautions should be observed:

- Do not conduct any inspection or adjustment work without a second worker being present who can provide immediate help in the event of an accident!
- Disconnect the power supply before opening the cabinet or removing the electrical components!
- Before performing maintenance work, remove any jewellery, such as rings, watches, necklaces, bracelets, etc.!
- If possible, stand with your feet on an insulated rubber carpet and avoid working on wet or damp floors!
- Always wear safety glasses, protective gloves and protective clothing that covers those parts of the body that can be reached by splashes of hot adhesive or that come in contact with hot parts!
- Set the operating pressure of the adhesive to zero before performing any work! In addition, the pump is shut down and drained by opening the application valves of the pressurised adhesive.
- To clean the spray nozzles, do not use any open flames, sharp objects or needles, because these could damage the nozzles!
- If adhesive begins to leak out, stop operation immediately!
- Only use original spare parts!

Before cleaning, the system should be completely drained and heated up. Hoses and nozzles are only to be connected or removed when warm.

Never use hard tools to remove the melted adhesive in the tank; this could damage the non-stick coating.

The cooled hot melt adhesive can normally be easily peeled from the walls of the melting tank. If necessary, only use a wooden spatula.

The UES TANK SYSTEMS correspond to the state of adhesive technology and have a variety of special features that simplify daily work with hot glue and contribute to highly reliable production.



Bleeding the system

Before conducting all maintenance and repair work on adhesive application systems, the system must be "completely depressurised".

Through the pressure relief valve, the glue pressure in the system is reduced after the air pressure has been disconnected.

When working on the adhesive application system, follow the safety regulations for handling hot media.



The following steps have to be conducted:

- Set the pump inlet pressure to 0 bar. Unscrew the nozzle on the application head.
- Position the collecting container under the application head to avoid equipment contamination. Press the manual release at the solenoid valve until no more adhesive emerges from the application head.
- Release residual pressure in the manifold block by removing the tank filter cover and opening the drain screw.



Changing the filter

Before changing the filter, please follow the "relieve pressure" steps!



The following steps have to be conducted:

- Set the working temperature and wait until the desired temperature is shown on the display.
- Remove the tank filter cover.
- Unscrew the complete filter.
- Remove the complete filter from the manifold.
- Check the filter for damage and contaminants.
- Replace the tank filter with either a new or a cleaned filter.
- Re-install the tank filters in the reverse order.

| Required parts: | |
|-----------------------------|-----------|
| perfectMelt Complete filter | Item No.: |
| Filter screen | Item No.: |



Basic cleaning

- Drain the old glue via the tank filter.
- Loosen coarse debris from the tank by using a wooden spatula. If the contaminants are very strong, please contact UES AG for information on alternative cleaning options. Fill new glue into the tank and set the temperatures for the material hoses down to about 90 °C so that the glue becomes more viscous.
- Loosen the hoses from the heads and hang them in a collection container.
- Set a high pump pressure so that the viscous glue is pumped through the system and hardened glue can mostly be rinsed out.
- If only clean adhesive flows out of the hoses, switch off the pump and attach the application heads.
- Screw off the nozzles and repeat step 6. (Follow the safety instructions)
- Screw the nozzles back on.
- After the nozzles are heated, your system is ready for use again.



Mechanical malfunctions

| Problem | Possible causes |
|---|---|
| The pump does not work. | Tank temperature is too low. The module is clogged. The filter is clogged. The reed contact on the pump switch is defective |
| The pump is very fast. | Too little glue in the tank Connections are not sealed Ball seats in the pump are clogged => Remove the pump and clean the valve seats; they might be coking there (carbon storage), which prevents proper sealing |
| The application head is not applying any glue, although the valve is activated. | Nozzles are clogged (clean) Application head is not at the right temperature The pump does not work |

Problems with the glue application

| Problem | Possible causes | Recommended solutions |
|--|---|--|
| Glue bead is wavy or | Temperature is too low | Raise the temperature |
| broken | The pump pressure is too high | Raise the pump pressure |
| | The glue is too old | Let out and renew the glue |
| | Draft at application head and / or low ambient temperature | Cover application head with protective screen, slightly increase the temperature of the adhesive |
| | Nozzle is clogged | Replace or clear the nozzle |
| | Nozzle is too large | Screw on a smaller nozzle |
| Amount of glue is too high or the adhesive is receding from the | Pump pressure too high Adhesive too hot | Reduce the pump pressure, reduce the |
| The glue is forming bubbles | Temperature is too high | Reduce the temperature |
| | The tank is empty | Refill glue |
| | Moisture in the glue or on the cardboard | |
| Glue is dripping from the application head | Needle and / or seat worn or dirty | Clean the dirty parts and / or replace the worn parts |
| | Insufficient spring pre-load | Turn the Allen screw on the module to increase the spring tension |
| Nozzle clogs frequently | Glue crusting in the system (due to overly-high temperature, prolonged downtime or soiled glue reservoir) | Clean the system, change the in- line filter and check the tank filter, change or clean the nozzle, check the cause! (e.g. temperature too high in the tank) |



Socket assignment on UES systems, depending on the model



| UES | 5 Series 3000 (NI120) |
|-----|----------------------------|
| 1 | Heating head |
| 2 | Heating head |
| 3 | Sensor head (NI120) |
| 4 | Heating hose |
| 5 | Sensor hose + head (NI120) |
| 6 | Heating hose |
| PE | Protective conductor |
| 8 | Sensor hose (NI120) |
| 9 | not assigned |
| 10 | not assigned |
| 11 | not assigned |
| 12 | not assigned |



| HAN 7 (PT100) | | |
|---------------|---------------------------|--|
| 1 | Heating head | |
| 2 | Heating head | |
| 3 | Sensor head (PT120) | |
| 4 | Heating hose | |
| 5 | Sensor head/hose (PT100) | |
| 6 | Heating hose | |
| 7 | Sensor hose (PT100) | |
| 8 | PF (Protective conductor) | |

Sensor type set to PT100 in the "Service" menu!



perfectMelt Replacement parts

| Item description | Item No.: | Supply quantity |
|------------------------------------|-----------|---|
| P14 Pump complete | 018223 | 1x Pump complete <i>perfect</i> Melt |
| Pump – pneumatic | 018393 | 1x BG Air motor P14E <i>perfect</i> Melt |
| Pressure relief valve | 018227 | 1x Pressure relief valve <i>perfect</i> Melt |
| Solenoid valve for pressure relief | 100238 | 1x Solenoid valve 24V DC 8.5W 1/8'' 3/2-way |
| Solenoid valve for P14E pump | 103702 | 1x Solenoid valve 24V DC 5.4 W1/8" 4/2-way |
| Switching electronics for P14E | 119046 | 1x Board <i>perfect</i> Melt |
| Solenoid M5 for switching | 136585 | 1x Solenoid <i>perfect</i> Melt |
| Tank filter complete | 018226 | 1x Tank filter complete <i>perfect</i> Melt |
| Filter screen | 018225 | 1x Filter screen <i>perfect</i> Melt |
| Pressure regulator | 130446 | 1x Pressure regulator <i>perfect</i> Melt |
| Manometer | 102639 | 1x Manometer <i>perfect</i> Melt |
| Main switch | 000711 | 1x Main switch 4-pole <i>perfect</i> Melt |
| Main board | 133510 | 1x Main board with LCD display <i>perfect</i> Melt |
| Transformer | 133513 | 1x Transformer for main board <i>perfect</i> Melt |
| Channel board | 133512 | 1x Channel board <i>perfect</i> Melt |
| Tank board | 133511 | 1x Tank board <i>perfect</i> Melt |
| Tank thermostat | 130399 | 1x Tank thermostat <i>perfect</i> Melt |
| RTD – Sensor kit PT 100 | 002153 | 1x RTD Sensor kit PT 100 <i>perfect</i> Melt |
| Heat cartridge | 132743 | 1x Heat cartridge <i>perfect</i> Melt <i>perfect</i> Melt |



Recycling

Proper disposal of old electrical devices avoids contamination of the environment and enables valuable materials to be recycled. The main concern is the reduction of <u>harmful substances</u> in electronic products as well as the prevention and reduction of electronic waste through reuse.

According to the WEEE and the ElektroG, manufacturers and importers of electrical equipment are not required to take their marketed devices back from consumers or to recycle the devices after the end of the equipment's life cycle.

However, we, the UES AG, are glad to offer you, as a customer, the service of taking back your old unit.

If the equipment you had acquired from us is irreparably damaged, please feel free to send this to us; we will then recycle it professionally.

For the environment

Your UES Team



Electrical connections



Main board item: 133510



Mains connection

Connection as a plug-L1-L2-L3-N PE lockable (removable) The electrical conjunction to the network is made with these connections.

Connecting digital outputs

| Klemme | Klemme M4 | | | | | |
|--------|-------------|---------|-----------------------------------|--|--|--|
| PIN | DESCRIPTIO | N | | | | |
| 13 | Digital OUT | Relay 5 | OPTIONAL | | | |
| 14 | Digital OUT | | Relay 5 OPTIONAL | | | |
| 15 | Digital OUT | Relay 4 | Alarm for external devices | | | |
| 16 | Digital OUT | Relay 4 | Alarm for external devices | | | |
| 17 | Digital OUT | Relay 3 | ready signal for external devices | | | |
| 18 | Digital OUT | Relay 3 | ready signal for external devices | | | |
| 19 | Digital OUT | Relay 2 | cut-out Temperature | | | |
| 20 | Digital OUT | Relay 2 | cut-out Temperature | | | |
| 21 | Digital OUT | Relay l | Filler | | | |
| 22 | Digital OUT | Relay l | Filler | | | |

Connecting digital inputs

| Klemme M8 | | | | |
|-----------|-----------------|--|--|--|
| PIN | DESCRIPTIO | DESCRIPTION | | |
| 31 | Digital Input | OP24Vdc rectified | | |
| 32 | Digital Input | ID5 Glue level sensor | | |
| 33 | Digital Input | ID4 No used now | | |
| 34 | Digital Input | ID3 No used now | | |
| 35 | Digital Input | ID2 Digital standby (Digital signal from mother machine) | | |
| 36 | Digital Input . | ID1 Digital start (Digital signal from mother machine) | | |
| 37 | Digital Input | GND Opto Common Input ID (OP24Vdc rectified) | | |

| Klemme | Terminal |
|--------|----------|



Fuses

The external heaters are connected to the board via plug connections. Each channel is individually protected. For outlets and fuses, please refer to the table below.

| Main fuses | | | Fuse |
|-------------------------|----------------|---------------|--------|
| L1 | | | F1 |
| L2 | | | F2 |
| L3 | | | F3 |
| 24 Volt control circuit | | | F4 |
| | | | |
| Channel | | | Fuse |
| | 2 Channe | l Board 1 | · |
| Hose 1 | | | F2 |
| Head 1 | | | F4 |
| Hose 2 | | | F1 |
| Head 2 | | | F3 |
| | 2 Channe | el Board 2 | |
| Hose 3 | | | F2 |
| Head 3 | | | F4 |
| Hose 4 | | | F1 |
| Head 4 | | | F3 |
| | 2 Channe | l Board 3 | |
| Hose 5 | | | F2 |
| Head 5 | | | F4 |
| Hose 6 | | | F1 |
| Head 6 | | | F3 |
| | 2 Channe | l Board 4 | |
| Hose 7 | | | F2 |
| Head 7 | | | F4 |
| Hose 8 | | | F1 |
| Head 8 | | | F3 |
| | Internal heati | ng tank board | |
| Tank 1 | | | TK F1 |
| Manifold | | | PTK F2 |

Pump connection

The glue pump is connected to the board Intake plug for pump: P

Thermostat and fuse

The system has an over-temperature shutdown feature with a thermostat. This safety circuit is connected to the board Intake plug for thermostat: Thermostats:



Technical data

| | perfectMelt 4kg / 8kg | perfectMelt 14kg |
|-------------------------------------|------------------------------|----------------------------|
| | | |
| Weight (kg) ca. | 48 / 50 | 55 |
| Housing protection type | IP 53 dust proc | of control box |
| Ambient temperature | 5 - 45 °C | 5 - 45 °C |
| Glue pump(s) 1 | Pistons | Pistons |
| Pressure relief when the pressure | As standard 2 | As standard 2 |
| Min. air pressure storage | 4 bar | 4 bar |
| Working area pump | 0.5 - 4.5 bar | 0.5 - 4.5 bar |
| Tank size ca. | 4 / 8 | 14 |
| Melting power ⁴ | 4 l/h / 8 l/h | 14 l/h |
| Conveying capacity 5 | 50 l/h | 50 l/h |
| Viscosity range MaxPas ⁶ | Max. 20 | Max. 20 |
| Operating temperature range | 50 - 19 | 95 °C |
| Over-temperature off switch | Hardware: | Thermostat |
| | Software: a | djustable (max. 230 °C) |
| Temperature sensor | Unit: P | T 100 |
| | External heating: Switchable | PT 100 / Ni120/ NTC / FeCu |
| Control accuracy | +/-: | 1 °C |
| Heating (unit) | 2 Heat zones, tank ar | nd |
| | Distribution block, di | fference temp. |
| Heating (external) | (2 hoses + 2 | 2 heads) |
| | (4 hoses + 4 | 4 heads) |
| | (6 hoses + | 6 heads) |
| | (7 hoses + | 7 heads) |
| | (8 hoses + 2 | 8 heads) |



| | perfectMelt 20kg | perfectMelt 30kg |
|-------------------------------------|------------------------------|----------------------------|
| | | |
| Weight (kg) ca. | 60 | 65 |
| Housing protection type | IP 53 dust proc | f control box |
| Ambient temperature | 5 - 45 °C | 5 - 45 °C |
| Glue pump(s) 1 | Pistons | Pistons |
| Pressure relief when the pressure | As standard 2 | As standard 2 |
| Min. air pressure storage | 4 bar | 4 bar |
| Working area pump | 0.5 - 4.5 bar | 0.5 - 4.5 bar |
| Tank size ca. | 201 | 301 |
| Melting power ⁴ | 20 l/h | 30l/h |
| Conveying capacity 5 | 50 l/h | 50 l/h |
| Viscosity range MaxPas ⁶ | Max. 20 | Max. 20 |
| Operating temperature range | 50 - 195 °C | |
| Over-temperature off switch | Hardware: The | rmostat |
| | Software: adjus | stable (max. 230 °C) |
| Temperature sensor | Unit: P | Г 100 |
| | External heating: Switchable | PT 100 / Ni120/ NTC / FeCu |
| Control accuracy | +/-1 | °C |
| Heating (unit) | 2 Heat zones, tank ar | d |
| | Distribution block, dif | ference temp. |
| Heating (external) | (2 hoses + 2 | 2 heads) |
| | (4 hoses + 4 | 4 heads) |
| | (6 hoses + | 5 heads) |
| | (7 hoses + | 7 heads) |
| | (8 hoses + 2 | 8 heads) |

- 1.
- ¹ Pump type: Piston pump driven by compressed air.
 ⁴ The melting power depends on the glue. (Provided with XP2505 at 150 °C) 2.
- 5 The conveying capacity depends on the glue. (Provided with XP2505 at 150 °C) 3.
- ⁶ The characteristics of the system performance depend on the viscosity of the glue. 4.
- ⁷ The conveying capacity depends on the pump that is used. 5.



Electrical data

| | <i>perfect</i> Melt 4kg / 8kg | <i>perfect</i> Melt 14kg |
|---------------------------------|-------------------------------|--------------------------|
| Operating voltage | 230/400 V, 3L/N/PE | 230/400 V, 3L/N/PE |
| Permissible voltage deviation | +/- 10 % | +/- 10 % |
| Preliminary fuse max. | 3 x 16 A | 3 x 16 A |
| Frequency range | 50/60Hz | 50/60Hz |
| Connected load 1 min. (system) | 2290 W / 2800 W | 6000 W |
| Connected load 1 min. (system + | 10000 W / 11000 W | 14000 W |
| Preliminary fuse tank manifold | 4A | 4A |
| Preliminary fuse hose / head | 4A | 4A |
| Preliminary fuse L1,L2,L3 | 6.3A | 16A |
| Preliminary fuse control board | 2A | 2A |

| | <i>perfect</i> Melt 20kg | <i>perfect</i> Melt 30kg |
|---------------------------------|--------------------------|--------------------------|
| Operating voltage | 230/400 V, 3L/N/PE | 230/400 V, 3L/N/PE |
| Permissible voltage deviation | +/- 10 % | +/- 10 % |
| Preliminary fuse max. | 3 x 16 A | 3 x 16 A |
| Frequency range | 50/60Hz | 50/60Hz |
| Connected load 1 min. (system) | 9000 W | 11000 W |
| Connected load 1 min. (system + | 17000 W | 19000 W |
| Preliminary fuse tank manifold | 4A | 4A |
| Preliminary fuse hose / head | 4A | 4A |
| Preliminary fuse L1,L2,L3 | 6.3A | 16A |
| Preliminary fuse control board | 2A | 2A |

The actual power input is determined by the consumers connected to the *perfect*Melt system













Pin assignment:

| Klemme M1 | | | | |
|-----------|--------------|----------------------------|--|--|
| PIN | DESCRIPTION | | | |
| 1 | Power supply | Pwr (19Vac 1,5A) for Opto | | |
| 2 | Power supply | Pwr (19Vac 1,5A) for Opto | | |
| 3 | Power supply | Pwr (19Vac 0,5A) for Micro | | |
| 4 | Power supply | Pwr (19Vac 0,5A) for Micro | | |

| Klemme M2 | | | | |
|-----------|-------------|------------------------|--|--|
| PIN | DESCRIPTION | | | |
| 5 | An.In.1 | PT100 1 Tank input | | |
| 6 | An.In.1 | PT100 1 | | |
| 7 | An.In.2 | PT100 2 Manifold input | | |
| 8 | An.In.2 | PT100 2 | | |

| Klemme | e M3 | | |
|--------|------------|--|--|
| PIN | DESCRIPTIO | Ň | |
| 9 | An.In.1 | Power supply 24Vdc - Pressure sensor 0-10Vdc - | |
| 10 | An.In.1 | Signal 1 - Pressure sensor 0-10Vdc - | |
| 11 | An.In.2 | Signal 2 - Pressure sensor 0-10Vdc - OPTIONAL | |
| 12 | An.In.2 | Power supply 0Vdc - Pressure sensor 0-10Vdc - | |

| Klemme | • M4 | |
|--------|------------|---|
| PIN | DESCRIPTIO | N |
| 13 | Out relè | Relay 5 OPTIONAL |
| 14 | Out relè | Relay 5 OPTIONAL |
| 15 | Out relè | Relay 4 Alarm for external devices |
| 16 | Out relè | Relay 4 Alarm for external devices |
| 17 | Out relè | Relay 3 ready signal for external devices |
| 18 | Out relè | Relay 3 ready signal for external devices |
| 19 | Out relè | Relay 2 cut-out Temperature |
| 20 | Out relè | Relay 2 cut-out Temperature |
| 21 | Out relè | Relay 1 Filler |
| 22 | Out relè | Relay 1 Filler |

| Klemme | e M5 | |
|--------|------------|---|
| PIN | DESCRIPTIO | N |
| 23 | RS485-opto | OPGND |
| 24 | RS485-opto | RS485-2 for Inverter device |
| 25 | RS485-opto | + RS485-2 for inverter device |

| Klemme M6 | | | | |
|-----------|-------------|--------------|--------------------------------|--|
| PIN | DESCRIPTIO | N | | |
| 26 | Digital OUT | Pump 1 | (OUT OP24Vdc) | |
| 27 | Digital OUT | OPGND | | |
| 28 | Digital OUT | Pump 2 | (OUT OP24Vdc) | |
| Klemm | e M7 | | | |
| PIN | DESCRIPTIO | N | | |
| 29 | Digital OUT | Flashing Lam | p or generic OUT (OUT OP24Vdc) | |
| 30 | Digital OUT | OPGND | | |

Klemme

Terminal

| Klemme | M8 | | |
|--------|---------------|--|--|
| PIN | DESCRIPTION | | |
| 31 | Digital Input | OP24Vdc rectified | |
| 32 | Ingressi Dig. | ID5 Glue level sensor | |
| 33 | Ingressi Dig. | ID4 No used now | |
| 34 | Ingressi Dig. | ID3 No used now | |
| 35 | Ingressi Dig. | ID2 Digital standby (Digital signal from mother machine) | |
| 36 | Ingressi Dig. | ID1 Digital start (Digital signal from mother machine) | |
| 37 | Ingressi Dig. | GND Opto Common Input ID (OP24Vdc rectified) | |

Klemme M9

| DESCRIPTIO | N |
|------------|--|
| RS485-opto | OPGND |
| RS485-opto | RS485-3 for external device (example SSP) |
| RS485-opto | + RS485-3 for external device (example SSP) |
| RS485-opto | OP +24Vdc |
| | DESCRIPTIO RS485-opto RS485-opto RS485-opto RS485-opto |

Klemme CN4

I-Drive Connector (Rotary switch) (4 position)

Klemme CN7

Tank Power Board connection (3 position) // Tank1 - Tank2 - 24Vdc rectified

Klemme CN9

Hose and Gun Power Board connection (4 position) // OP8V. RS485+. RS485-. OPGND

Klemme CN10

Piston pump input connection (4 position) // OP24V-ID sensor switch 1-ID sensor switch 2- OPGND

Klemme

Terminal



Tank board item 133511







Pin assignment

| Klemm | Klemme M1 | | | |
|-------|--------------|---------|--|--|
| PIN | DESCRIPTIO | N | | |
| S | Power supply | S Phase | | |
| R | Power supply | R Phase | | |
| Ne | Power supply | NEUTRAL | | |
| | | | | |

| Klemme M3+M4 | | |
|--------------|-------------|--------------|
| PIN | DESCRIPTION | N |
| 1 | TK | Out Tank |
| 2 | TK | NEUTRAL |
| 3 | PTK | Out Manifold |
| 4 | PTK | NEUTRAL |

| Klemme CN1 | | |
|------------|-------------|---------------------|
| PIN | DESCRIPTIO | N |
| 1 | Ues Connect | Common |
| 2 | Ues Connect | Driver Out TK |
| 3 | Ues Connect | Driver Out Manifold |

| Klemme | Terminal |
|--------|----------|

Connect terminal CN1 (Tank board) with CN7 (main board)



2 Channel boards item 133512



Caution:

Please note that the number of channel boards depends on your type of system. Find out what type of system you have purchased.

- 2 Hose system = 1 channel board
- 4 Hose system = 2 channel boards
- 6 Hose system = 3 channel boards
- 8 Hose system = 4 channel boards







1

Pin assignment

| PIN | DESCRIPTIO | \$ | |
|-----|--------------|---------|--|
| Ne | Power supply | NEUTRAL | |
| Т | Power supply | T Phase | |
| R | Power supply | R Phase | |

Klemme M2

| ruenme | -11.4 | |
|--------|--------------|---------|
| PIN | DESCRIPTION | N |
| R | Power supply | R Phase |
| Т | Power supply | T Phase |
| Ne | Power supply | NEUTRAL |

Klemme M3

| PIN | DESCRIPTION | N |
|-----|-------------|---------------------|
| El- | Out | Electrovalve gun 1- |
| El+ | Out | Electrovalve gun 1+ |
| E2- | Out | Electrovalve gun 2- |
| E2+ | Out | Electrovalve gun 2+ |

| Klemme | CN1 | |
|--------|-------------|--------------------------|
| PIN | DESCRIPTIO | N |
| 1 | Ues Connect | OUT Gun A |
| 2 | Ues Connect | NEUTRAL (for OUT Gun A) |
| 3 | Ues Connect | PT100 Gun A |
| 4 | Ues Connect | NEUTRAL (for OUT Hose A) |
| 5 | Ues Connect | GND (for PT100 Gun A) |
| 6 | Ues Connect | OUT Hose A |
| 7 | Ues Connect | GROUND |
| 8 | Ues Connect | PT100 Hose A |
| 9 | Ues Connect | GND (for PT100 Hose A) |
| 10 | Ues Connect | Not Connected |
| 11 | Ues Connect | Out Electrovalve 1+ |
| 12 | Ues Connect | Out Electrovalve 1- |

| Klemme | CN2 | |
|--------|-------------|--------------------------|
| PIN | DESCRIPTIO | N |
| 1 | Ues Connect | OUT Gun B |
| 2 | Ues Connect | NEUTRAL (for OUT Gun B) |
| 3 | Ues Connect | PT100 Gun B |
| 4 | Ues Connect | NEUTRAL (for OUT Hose B) |
| 5 | Ues Connect | GND (for PT100 Gun B) |
| 6 | Ues Connect | OUT Hose B |
| 7 | Ues Connect | GROUND |
| 8 | Ues Connect | PT100 Hose B |
| 9 | Ues Connect | GND (for PT100 Hose B) |
| 10 | Ues Connect | Not Connected |
| 11 | Ues Connect | Out Electrovalve 2+ |
| 12 | Ues Connect | Out Electrovalve 2- |

| Klemme | e CN4 | |
|--------|------------|-------------|
| PIN | DESCRIPTIO | N |
| 1 | Alim-RS485 | +8Volt |
| 2 | Alim-RS485 | +RS485 |
| 3 | Alim-RS485 | -RS485 |
| 4 | Alim-RS485 | 0Volt (GND) |

Klemme

Terminal



| 1 Alim-RS485 +8Volt 2 Alim-RS485 +RS485 3 Alim-RS485 -RS485 | Alim-RS485 +8Volt | Alim-RS485 | 1 |
|---|------------------------|------------|---|
| 2 Alim-RS485 +RS485 3 Alim-RS485 -RS485 | Alim PCARS _PCARS | | 1 |
| 3 Alim-RS485 -RS485 | Aum-103403 +103403 | Alim-RS485 | 2 |
| 2 FEEDER AND TWO FEEDER | Alim-RS485 -RS485 | Alim-RS485 | 3 |
| 4 Alim-RS485 0Volt (GND) | Alim-RS485 0Volt (GND) | Alim-RS485 | 4 |

CN4 and CN5 have the same pin assignment

Board 1 B→ channel 1; Board 1 A → channel 2. Board 2 B→ channel 3; Board 2 A → channel 4.



Connection scheme





EC Installation Declaration according to Machinery Directive 20061421EG Annex II 1.B

The manufacturer / distributor

UES AG Breuershofstrasse 48 47807 Krefeld

hereby declares that the following product

| Product description: | perfectMe | elt with pistor | i pump | | |
|----------------------------------|-----------|------------------------|----------------|--------|--------|
| Make: Model/type description: | 4kg / 8kg | / 14kg / 20kg | / 30kg | | |
| | 150042 | 150082 | 150142 | 150202 | 150302 |
| | 150044 | 150084 | 150144 | 150204 | 150304 |
| | 150046 | 150086 | 150146 | 150206 | 150306 |
| | 150048 | 150088 | 150148 | 150208 | 150308 |
| Description: | UES Tank | system perfe | ct Melt | | |

corresponds to the following essential requirements of the Directive: see Annex "List of requirements met according to Annex I of EC Machinery Directive 2006/42/EC"

The following additional EU directives have been applied: EMC Directive 2004/108/EG Low Voltage Directive 2006/95/EG

The safety objectives of EC Directive 2006/95/EC as well as those of DIN VDE 0100 have been met. The commissioning of this product is prohibited until the machine or system into which this product is to be incorporated or of which it represents a component complies with the provisions of all relevant guidelines.



The following harmonised standards have been applied:

| EN 55011:2009/A1:2010 | Industrial, scientific and medical equipment – Radio disturbance– Value limits and methods of measurement (CISPR 11:2009/A1:2010) |
|---------------------------|--|
| EN 60204-1:2006/A1:2009 | Machinery safety – Electrical equipment of machines – Part 1: General requirements (IEC 60204-1:2005/A1:2008) |
| EN 60204-1:2006/A1:2009 | Machinery safety – Electrical equipment of machines – Part 1: General requirements (IEC 60204-1:2005/A1:2008) |
| EN 60204-1:2006/AC:2010 | Machinery safety – Electrical equipment of machines – Part 1: General requirements (IEC 60204-1:2005 [modified]) |
| EN 60204-1:2006/AC:2010 | Machinery safety – Electrical equipment of machines – Part 1: General requirements (IEC 60204-1:2005 [modified]) |
| EN 60204-1:2006 | Machinery safety – Electrical equipment of machines – Part 1: General requirements (IEC 60204-1:2005 [modified]) |
| EN 60204-1:2006 | Machinery safety – Electrical equipment of machines – Part 1: General requirements (IEC 60204-1:2005 [modified]) |
| EN 61000-6-2:2005/AC:2005 | Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial environments (IEC 61000-6-2:2005) |
| EN 61000-6-2:2005/AC:2005 | Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial environments (IEC 61000-6-2:2005) |
| EN 61000-6-2:2005 | Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial environments (IEC 61000-6-2:2005) |
| EN 61000-6-2:2005 | Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial environments (IEC 61000-6-2:2005) |
| EN 61000-6-4:2007/A1:2011 | Electromagnetic compatibility (EMC) – Part 6-4: Generic standards – Interference emission for industrial environments (IEC 61000-6-4:2006/A1:2010) |
| EN 61000-6-4:2007/A1:2011 | Electromagnetic compatibility (EMC) – Part 6-4: Generic standards – Interference emission for industrial environments (IEC 61000-6-4:2006/A1:2010) |
| EN 61000-6-4:2007 | Electromagnetic compatibility (EMC) – Part 6-4: Generic standards – Interference emission for industrial environments (IEC 61000-6-4:2006) |



| EN 61000-6-4:2007 | Electromagnetic compatibility (EMC) – Part 6-4: Generic standards – Interference emission for industrial environments (IEC 61000-6-4:2006) |
|-----------------------------|---|
| EN 61310-2:2008 | Machinery safety – Displays, labelling and service – Part 2: Labelling requirements (IEC 61310-2:2007) |
| EN 61310-2:2008 | Machinery safety – Displays, labelling and service – Part 2: Labelling requirements (IEC 61310-2:2007) |
| EN 809:1998+A1:2009/AC:2010 | Pumps and pump units for liquids – Common safety requirements |
| EN 809:1998+A1:2009 | Pumps and pump units for liquids – Common safety requirements |
| EN ISO 12100:2010 | Safety of machinery – General principles for design – Risk assessment and risk reduction (ISO 12100:2010) |
| EN ISO 13732-1:2008 | Ergonomics of the thermal environment – Assessment procedure for human responses in the case of contact with surfaces – Part 1: Hot surfaces (ISO 13732-1:2006) |
| EN ISO 4413:2010 | Fluid power technology – General rules and safety requirements for hydraulic systems and their components (ISO 4413:2010) |
| EN ISO 4414:2010 | Fluid power technology – General rules and safety requirements for pneumatic systems and their components (ISO 4414:2010) |

The special technical documents for the product have been prepared in accordance with Annex VII, Part B; upon reasonable request, these documents can be sent to a national authority by mail.

Name and address of the person who is authorised to compile the technical documentation:

Andreas Ripke, Breuershofstrasse 48, 47807 Krefeld

City: Krefeld Date: 24 March 2014

(Signature) Managing Director Andreas Zehmisch (Signature) CE Coordinator Andreas Ripke