HE 5700

Pilot valve box

Quick guide

(Translation of Original German version)

HESCH
AUTOMATION

AXXERON
TECHNOLOGIES MEMBER

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Imprint

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1 Legal Provisions

Manufacturer

HESCH Industrie-Elektronik GmbH, Boschstraße 8, 31535 NEUSTADT, GERMANY.

Intended use

- The pilot valve boxes can be operated within the operating and environmental conditions approved in this quick guide without impairing its safety.
- The pilot valve box with up to 4 or up to 10 pilot valves can be connected to a HESCH valve controller.
- The manufacturer is not liable for improper use and any resulting personal injury or material damage; the risk is borne solely by the user. Failure to comply with the above criteria for intended use will result in the expiry of the warranty and liability for the device.

Personnel qualification

All work that requires opening the pilot valve box, may only be carried out by qualified electricians with sufficient knowledge in the field of electrical engineering.

Device Safety

The device has been constructed and tested in accordance with VDE 0411 / EN 61010-1 and has left the factory in perfect safety condition. To maintain this condition and ensure safe operation, the user must follow all instructions and warnings in this quick guide.

2 Safety Information

2.1 Symbols and Basic Safety Instructions

This chapter contains important safety regulations and notes. For protection against personal injury and material damage, it is necessary to read this chapter carefully before working with the device.

Symbols used

The following symbols are used in this manual. All safety instructions have a uniform structure.

Personal Injury Warning!
The severity of the danger is indicated by the respective signal word.

High Voltage Warning!

Warning of material damage caused by electrostatic charge!

Property Damage Warning!

Note!
Identifies possible malfunctions and indicates optimum operating conditions.

2.2 Signal words

DANGER!
Indicates an imminently hazardous *high* risk situation, which, if not avoided, will result in death or serious injury.

WARNING!
Indicates a potentially hazardous medium risk situation, which, if not avoided, could result in death or serious injury.

CAUTION!
Indicates a hazardous low risk situation, which, if not avoided, could result in minor or moderate injury.

2.3 Safety in the individual operating phases

Danger of Electrocution!
Before working on the device, switch off all power supplies used. The electrical cables must be laid according to the respective national regulations (in Germany VDE 0100). The measuring cables must laid separately from the power lines. Connect the protective earth connector (in the respective equipment carrier) to the protective earth conductor.

Danger of Electrocution!
Any interruption of the protective earth in the equipment carrier can result in the device becoming a hazard. Intentional interruptions are not permitted. If there is a suspicion that it is no longer possible to operate the device safely, it must be shut off and secured against being unintentionally switched on.

Danger of Electrocution!
Do not open the device when it is connected to the voltage! When opening the devices or removing covers and parts, live parts may be exposed. Connection points can also be live!

Attention!
The device must never be put into operation even if damage is recognisable.

Attention!
During installation, commissioning, maintenance and troubleshooting, observe the accident prevention regulations applicable to your system, e.g. DGUV Regulation 3 "Electrical installations and equipment".

Attention!
Clean dirty contacts with oil-free compressed air or ethyl alcohol and a lint-free cloth.

Warning of material damage caused by electrostatic charge!
Observe the safety measures according to BS EN 61340-51/-3 to avoid electrostatic discharge!

Power Connection!
The electrical cables must be laid according to the respective national regulations (in Germany VDE 0100). The measuring cables must be laid separately from the power lines.

Troubleshooting!
At the beginning of troubleshooting, all possible sources of faults on additional devices or supply lines (measuring lines, wiring and downstream devices) should be taken into consideration. If the fault is not found after checking these points, we recommend sending the device to the supplier.

Decommissioning!
Switch off the power supply on all poles if the device is to be decommissioned. Secure the device against being unintentionally switched on!
If the device is linked to other devices and/or equipment, consider the impacts and take appropriate precautions before switching it off.

2.4 Special Regulations

Note!
Lock cable screw connections that are not needed with a locking bolt, casing bores with dummy plugs.

Warning of material damage caused by electrostatic charge!
The device must be cleaned regularly to prevent increased dust generation on the device.
Cleaning of the housing only permitted with **moist** cleaning materials to avoid static charging!

3 Technical Data

General	
Operating voltage	24 V DC
Electrical safety	According to DIN-EN 61010-1
EMC	Emitted interference: DIN EN 61000-6-4 Interference immunity: DIN EN 61000-6-2
Display	1…10 LED for designating the triggered valve
Housing dimensions	151 mm x 125 mm x 90 mm (W x H x D) (**1…4 valves**) 231 mm x 125 mm x 90 mm (W x H x D) (**5…10 valves**)
Mounting	Wall mounted, vertical mounting position

Electrical connections	
Valve connections	up to 1.5 mm² max. 0.75 mm² with wire-end ferrule push-in spring-loaded terminals for rigid and flexible wires
Cable bushings	1 x cable terminal screw connection M20 (from the right)

Pneumatic connections	
Solenoid valves	Plug connections for Ø6 mm pneumatic hose

Environmental conditions	
Storage	-20°…+70°C
Transport	-20°…+70°C
Operation	-20°…+50°C
Relative air humidity	Relative humidity ≤ 95% annual average, climatic conditions according to 3K6 DIN EN 60721-3 with limitation, installation outdoors with protective roof only
Air pressure:	
During operation and when in storage:	80 kPa to 106 kPa
During transport:	70 kPa to 106 kPa

Valves	
Voltage	24 V DC
Duty time	10%
Cycle time	10 s
Power consumption	25 W
Operating pressure	1.5 … 7 bar
Nominal width	3.2 mm

4 Name plate

The name plate is located on the left side of each pilot valve box.

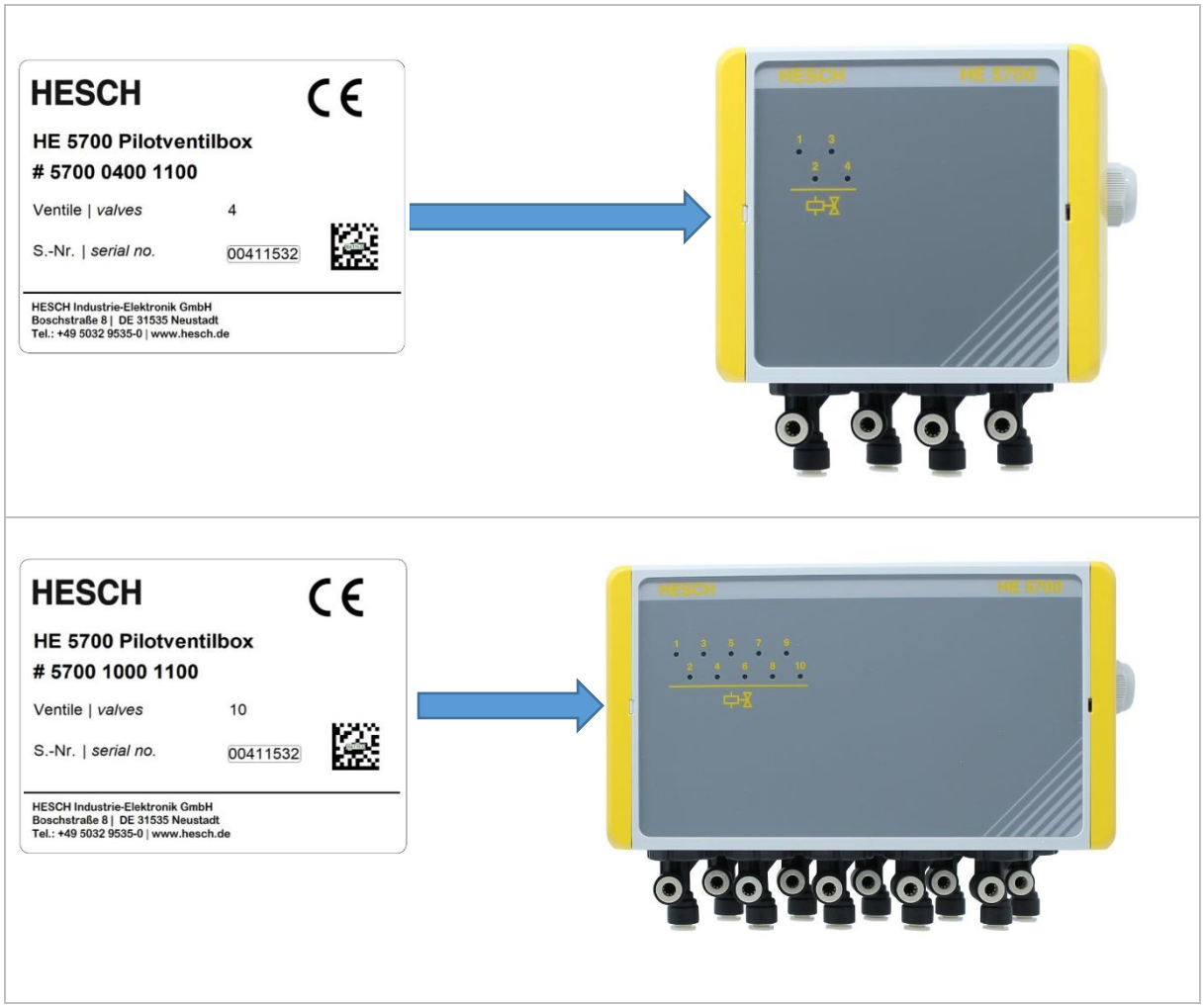

Figure 1 *Position name plate*

5 Mounting

The pilot valve is designed for wall mounting. The ambient temperature at the installation site must not exceed the permissible temperature for operation (*see chapter 3 Technical Data)*. Compliance with the special regulations is required (*see chapter 2.3 Safety in the individual operating phases).*

5.1 Dimensions

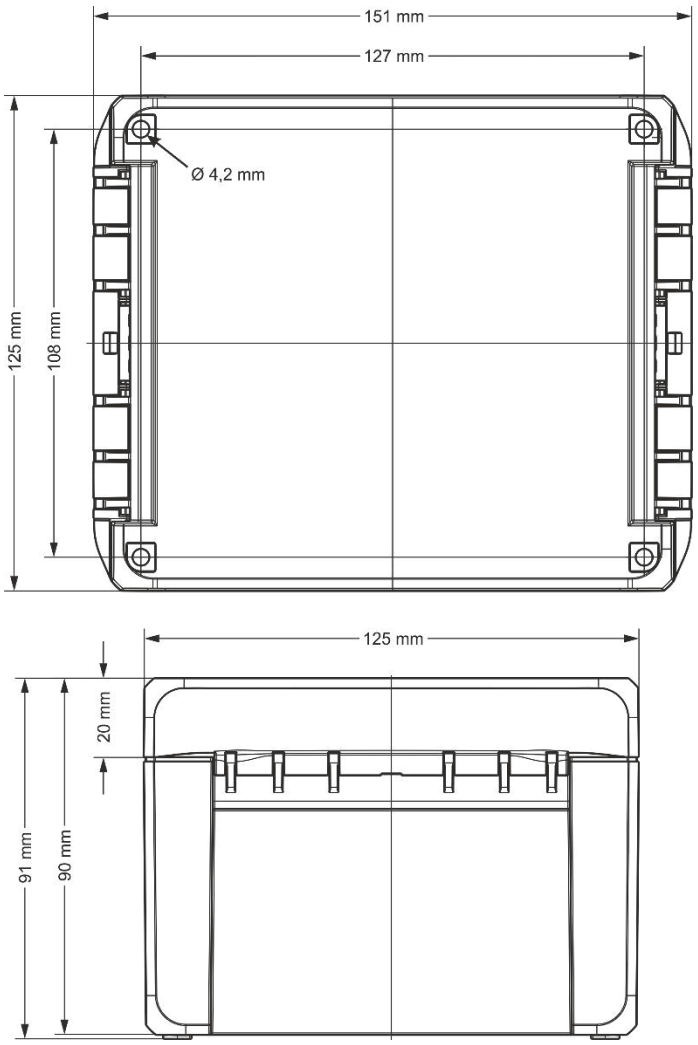

Figure 2 *Dimensions HE 5700 (1...4 valves)*

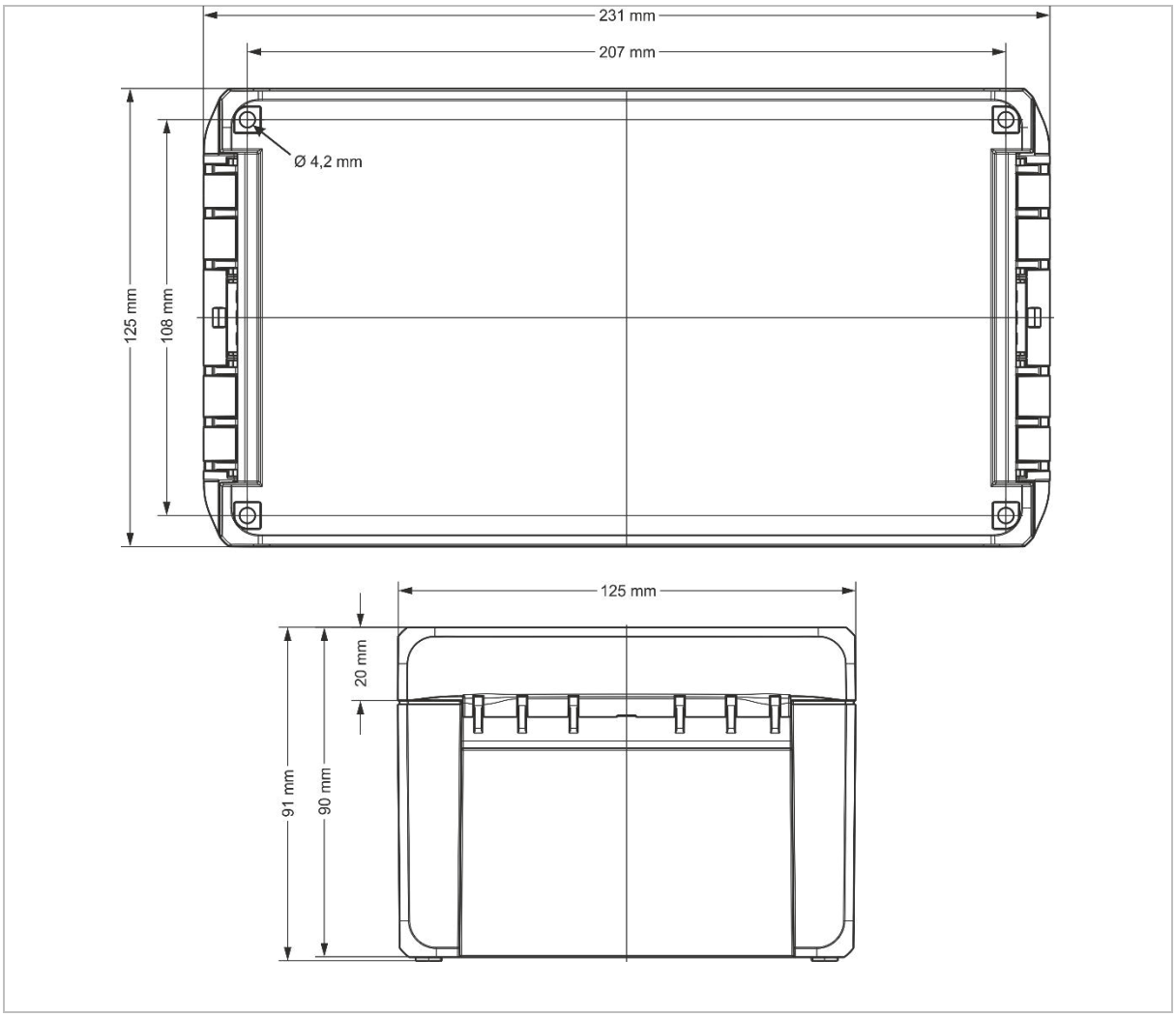

Figure 3 *Dimensions HE 5700 (5...10 valves)*

5.2 Opening the device

Danger of Electrocution!
Do not open the device when it is connected to the voltage!
When opening the devices or removing covers and parts, live parts may be exposed. Connection points can also be live! Disconnect the device from the power supply!

The opening and closing works without screws by means of hinge technology. A flat-tip screwdriver is needed to open the device. Apply the screwdriver to the respective position on the housing lid, in order to lift up the hinge (*see Figure 4*).

Note!
Make sure to move the screw driver to the right to open the hinge (*see Figure 4*). If the screwdriver is moved to the left, the housing cover can be damaged.

Open the housing cover to the left up to an angle of 105°.

Optionally, the housing cover can be closed with 4 screws to prevent the device from unauthorised access (for further information, please contact the HESCH service, *see chapter 8 Maintenance and disposal*).

The screwless hinge closure is recommended for quick service access.

Figure 4 *Open the housing cover to the left (figure shows a device with identical housing)*

6 Display elements

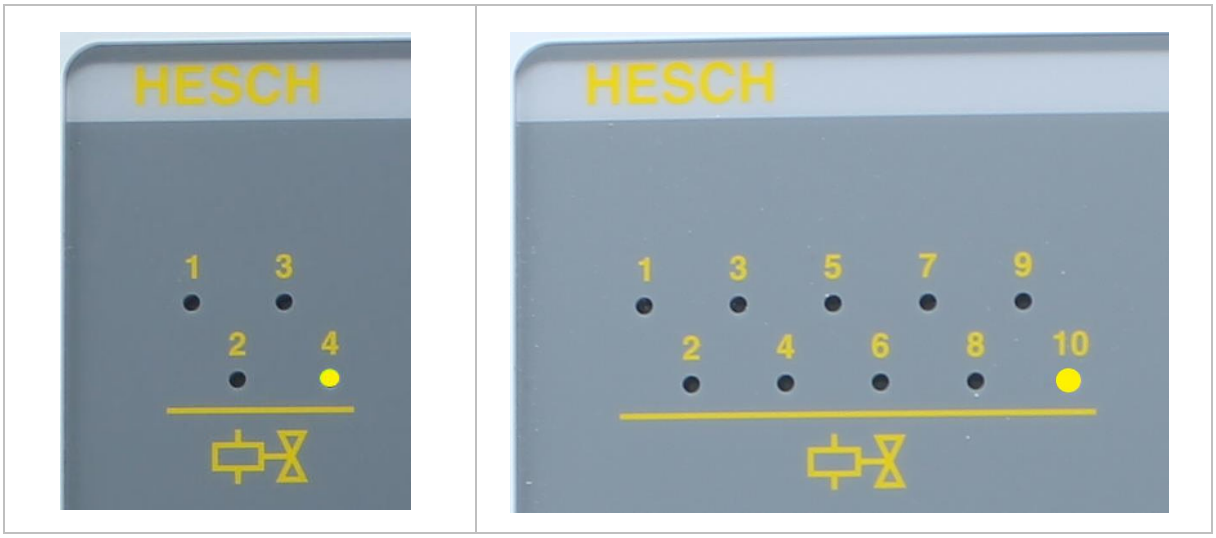

Figure 5 *Display elements HE 5700 (on the left 1...4 valves, on the right 5...10 valves)*

1 to 4 pilot valves maximum can be installed into the pilot valve box HE 5700 for 1...4 valves. 5 to 10 pilot valves maximum can be installed into the box for 5...10 valves.

When triggering a valve, the respective LED lights up yellow (*see Figure 5*).

7 Electrical Commissioning

Before switching on the device, observe the following safety instructions:

Danger of Electrocution!
Electrical installation must only be carried out when the power is disconnected.

Danger of Electrocution!
Work on the electronic parts may only be carried out by qualified personnel.

Warning of material damage caused by electrostatic charge!
Observe the safety measures according to DIN EN 61340-51/-3 to avoid electrostatic discharge!

Property damage due to incorrect supply voltage!
The supply voltage must correspond to the voltage indicated on the nameplate.

Note!
Please connect the cables to the cable screw connections properly.

Note!
The temperature limitations specified for the use of the device must be complied with before and during operation.

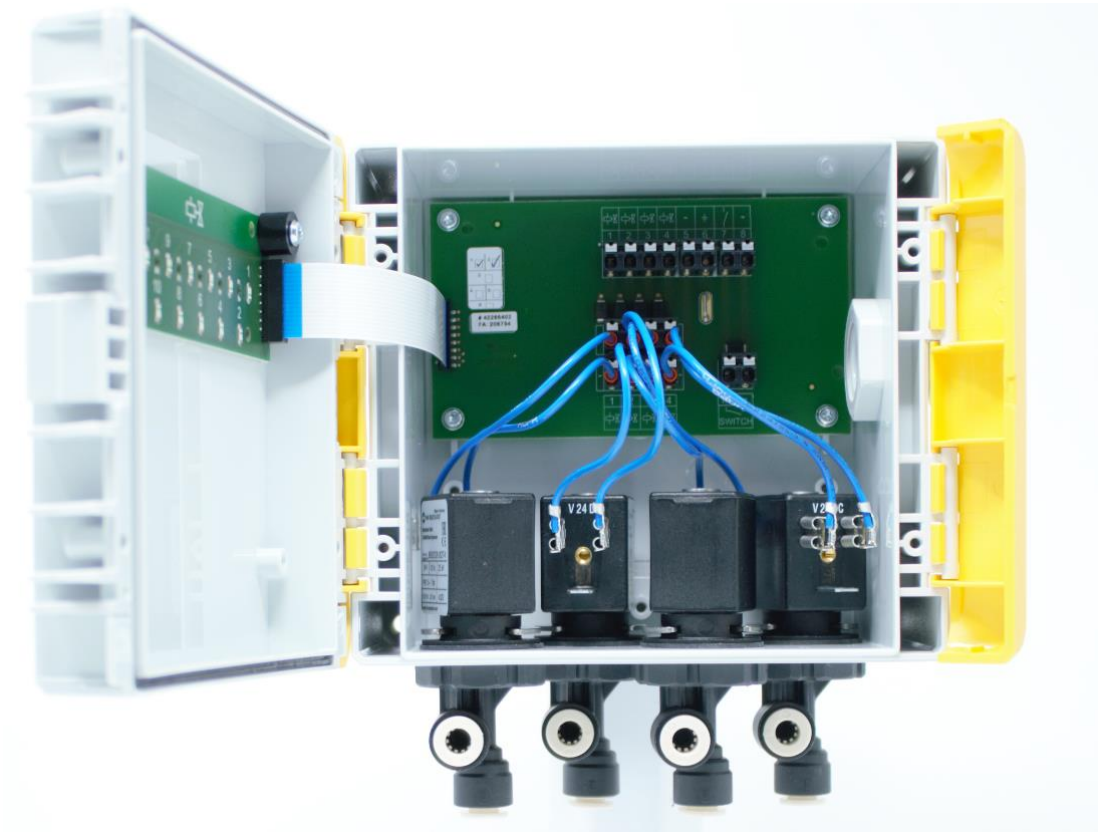

Figure 6 *Inside view HE 5700 (1...4 valves)*

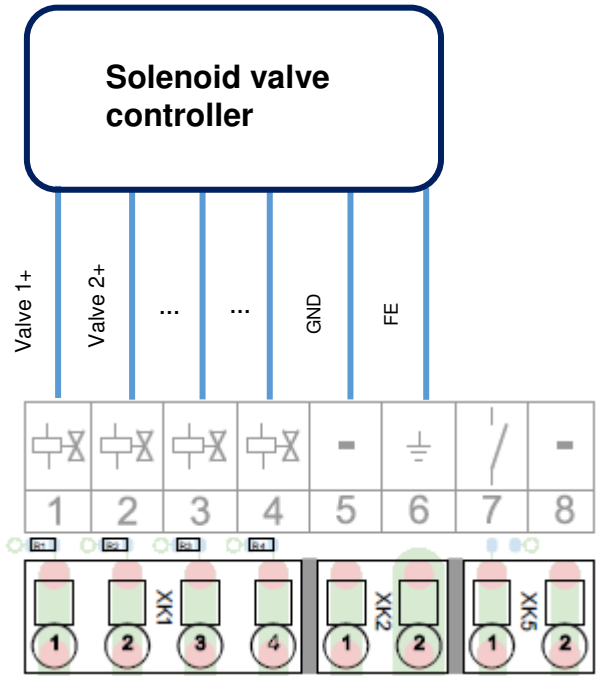

Figure 7 *Connection to solenoid valve controller (1...4 valves)*

Figure 8 *Inside view HE 5700 (5...10 valves)*

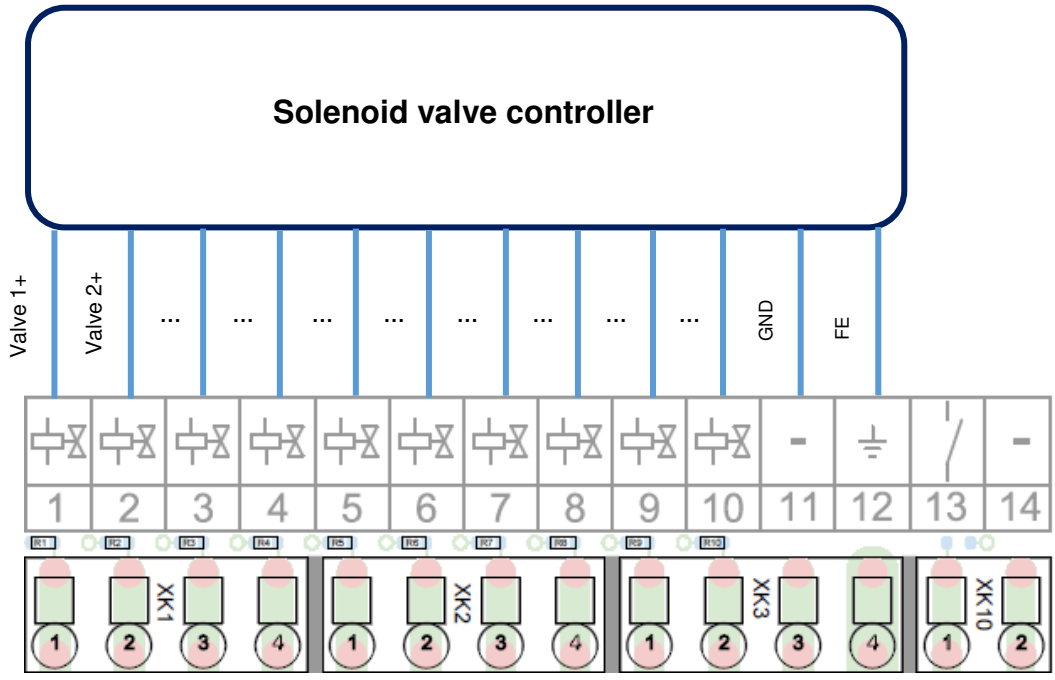

Figure 9 *Connection to solenoid valve controller (5...10 valves)*

7.1 Control air connections on solenoid valve

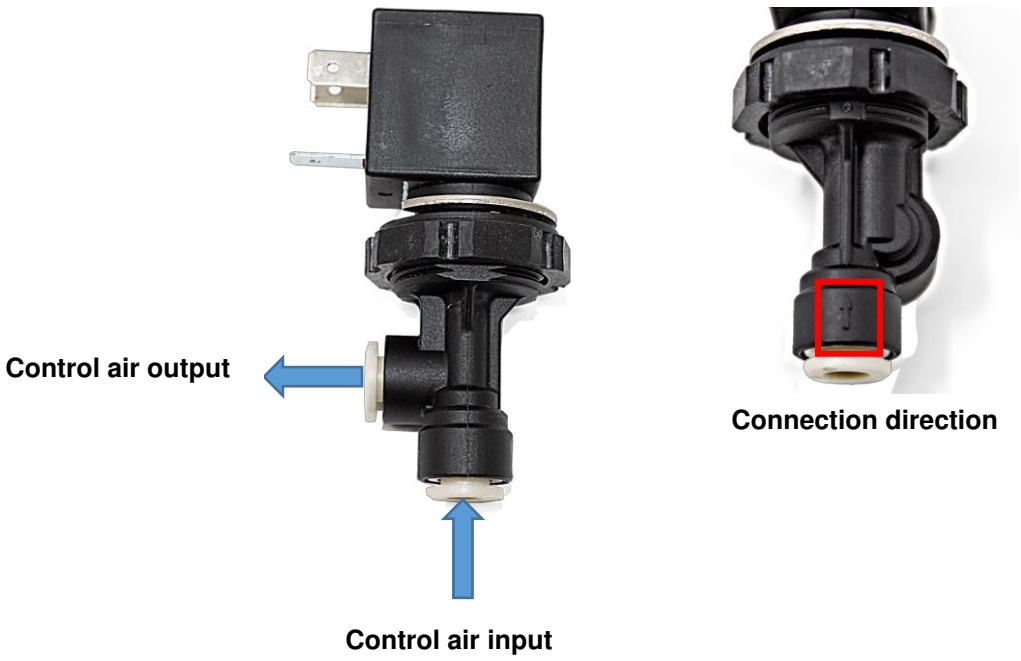

Figure 10 *Control air output solenoid valve*

8 Maintenance and disposal

Maintenance, Repair
The device must be cleaned regularly to prevent an increased generation of dust on the device.

Disposal
Dispatch metals and plastics for recycling. Electrical and electronic components must be collected separately and disposed of properly. Dispose of equipped circuit boards properly.

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