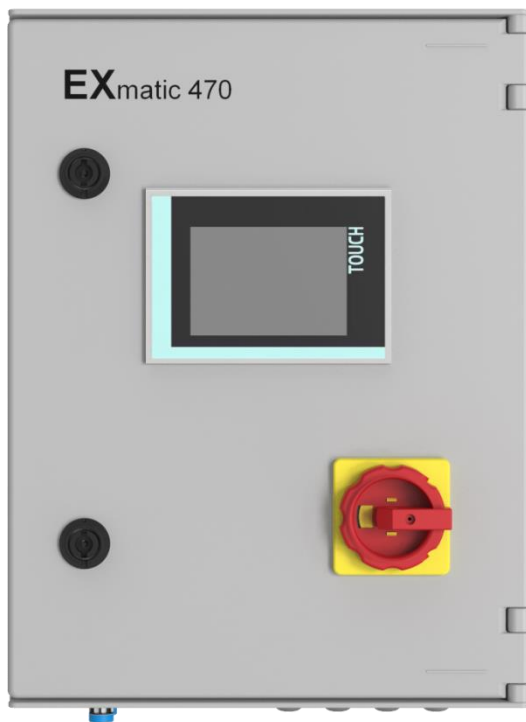


EXmatic 470 / 471

TECHNICAL INFORMATION

Control unit
for retractable probe housings



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1 Technical data

1.1 Standards and directives

The following directives were applied when manufacturing the control unit:

- » EMC-Directive 2014/30/EU Module A
- » Directive 2001/95/EC on general product safety

1.2 Material properties

| Control cabinet materials | | |
|---------------------------|-----------------|--------|
| Housing | GRP | |
| | Stainless steel | Option |
| Display | Plastic | Option |

1.3 Pneumatics

| Pneumatic hoses | | |
|---------------------------|--------------|--------------|
| | Ø - external | Ø - internal |
| For compressed air supply | 8 mm | 6 mm |
| For control air | 6 mm | 4 mm |
| For position feedback | 4 mm | 2 mm |

1.4 Dimensions

| Dimensions | | |
|------------|---------|-----------------|
| | Plastic | Stainless steel |
| Width | 300 mm | 300 mm |
| Height | 400 mm | 400 mm |
| Depth | 250 mm | 250 mm |

1.5 Environmental conditions

| Temperature | | |
|-----------------------------------|-------------|----------------|
| Ambient temperature | 0...55 °C | |
| Transport and storage temperature | -10...60 °C | |
| Environment | | |
| Relative humidity | 10... 95 % | Non-condensing |

| Protection class | | |
|--------------------------------|-------|------------------------|
| Housing with switches and LEDs | IP 54 | With guard door closed |
| Housing with display | IP 54 | With guard door closed |

1.6 Connection values

| Electrical connection values | | |
|--|---------|----------------------------------|
| Voltage supply | 24 V DC | 30 VA |
| Input for external contacts | 24 V DC | Self-supply for floating contact |
| Maximum current consumption | 1.6 A | |
| Output for external relay, Cleaning pump I, II and III | 24 V DC | Max. 250 mA |
| Output for status and alarm contacts | 24 V DC | Max. 100 mA |

1.7 Cleaning valves (optional)

| Compressed air | |
|----------------|--|
| | <ul style="list-style-type: none"> » According to ISO8573-1:2010 [5:4:4] » Filtered, 40 µm, water and oil-free » 6 bar » No continuous air consumption |

1.8 Identification plate

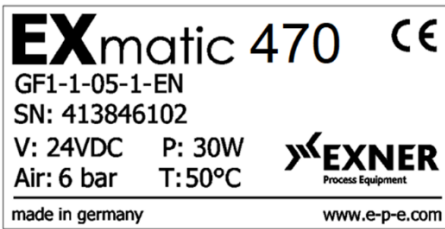


Fig. 1: Identification plate (example EXmatic 470)

The identification plate is located on the inside of the cabinet door!

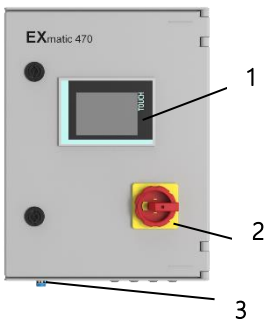
In case of queries, please contact your retailer directly!

2 Product description

2.1 EXmatic 470 / 471 electro-pneumatic control unit

The probe housing control unit EXmatic 470 is available in configurations with or without a display. The EXmatic 471 version always has a display.

External view



| | |
|---|---------------------------|
| 1 | Control panel |
| 2 | Main switch |
| 3 | Compressed air connection |

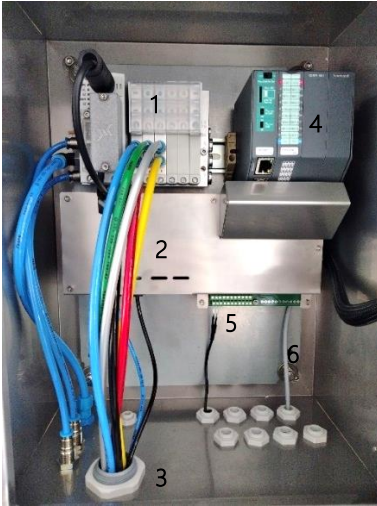


| | |
|---|--------------------------------------|
| 1 | Status or position indicator via LED |
| 2 | Automatic/service switch |

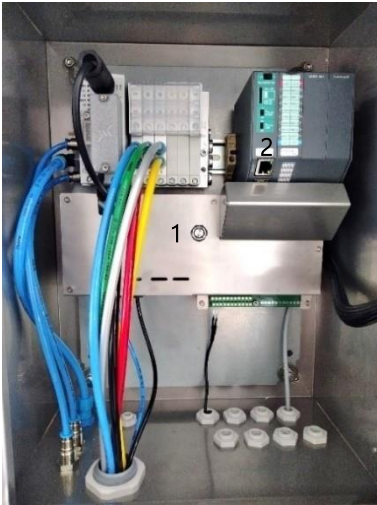
Fig. 2: Probe housing control unit from the outside (with or without a display)

2 Product description

Internal view (example EXmatic 470)



| | |
|---|-----------------------------|
| 1 | Valve manifold |
| 2 | Pressure switch |
| 3 | Multi-connection hose inlet |
| 4 | Control unit (PLC) |
| 5 | Connection terminals |
| 6 | PE connection |



| | |
|---|---|
| 1 | Push button (momentary) start/stop for the cleaning programme |
| 2 | LAN Port |

Fig. 3: Control unit from the inside (with/without display)

Function

The probe housing control unit EXmatic 470 / 471 enables fully automatic control and monitoring of measuring and cleaning cycles of one (EXmatic 470) or two (EXmatic 471) pneumatic retractable probe housing(s). Cleaning times, measuring intervals and start times can be parameterised and adjusted to individual requirements.

Input

The control unit monitors the respective position feedback from the retractable probe housing via integrated inputs.

Automatic cleaning can be started via an additional input.

Output

The respective status of the retractable housing and the control unit can be transmitted to a superordinate process control system via four contact outputs.

Retractable probe housing

The retractable probe housing and cleaning valves for control of the cleaning solution are connected to the probe housing control system via pneumatic hoses. This should be realised via the dedicated EXconnect multi-connection hose.

2.2 Process integration

The EXmatic 470 / 471 probe housing control unit is supplied with 24V DC and compressed air with a pressure of 6 bar. Connection to the retractable probe housing and the cleaning and drain valves is realised via pneumatic hoses which are bundled in a multi-connection hose.

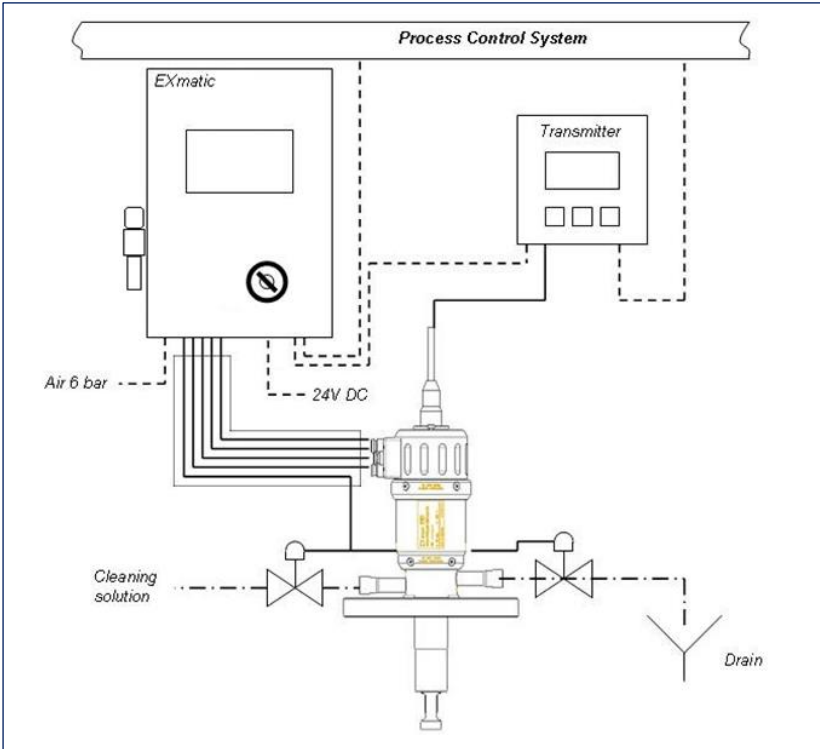


Fig. 4: Process flow (example EXmatic 470)

The respective status of the measuring unit (alarm status, measuring status, cleaning status or position service) can be reported via contacts to a superordinate process control system.

Cleaning cycles can be started via an external contact, e.g. from the pH transmitter.

The EXmatic 470 / 471 probe housing control unit is fully independent and can be operated from a transmitter or process control system without any connection.

The probe housing control unit features a manual as well as an automatic mode. In manual mode, motion of the retractable probe housing and the individual cleaning valves can be controlled manually. The probe housing control unit without a display provides this function only if the "RemoteStage" software described is used.

In automatic mode, a parameterised cleaning process runs after a cleaning cycle is started. After its completion, the retractable probe housing moves to "Measuring" position.

3 Order structure

3.1 EXmatic 470

| | Code | Housing |
|-------------|------|--|
| | GF0 | Plastic (GRP) without a display |
| | GF1 | Plastic (GRP) with a display |
| | SS0 | Stainless steel without a display |
| | SS1 | Stainless steel with a display |
| | XXX | Special version |
| | | Code Cleaning |
| | 1 | For one cleaning solution |
| | 2 | For two cleaning solutions |
| | 3 | For three cleaning solutions |
| | X | Special version |
| | | Code Multi-connection hose length |
| | 00 | Without multi-connection hose |
| | 03 | 3 metres |
| | 05 | 5 metres |
| | 10 | 10 metres |
| | XX | Special version |
| | | Code Compressed air maintenance unit |
| | 0 | Without |
| | 1 | With an integrated maintenance unit |
| | X | Special version |
| | | Code Interface |
| | EN | Without |
| | XX | Special version |
| EXmatic 470 | | Order code |

3.2 EXmatic 471

| | Co- de | Housing |
|-------------|-----------|---|
| | GF1 | Plastic (GRP) with a display |
| | SS1 | Stainless steel with a display |
| | XXX | Special version |
| | | Co- de Cleaning |
| | 11 | For one cleaning solution / For one cleaning solution |
| | 12 | For one cleaning solution / For two cleaning solutions |
| | 13 | For one cleaning solution / For three cleaning solutions |
| | 22 | For two cleaning solutions / For two cleaning solutions |
| | 23 | For two cleaning solutions / For three cleaning solutions |
| | 33 | For three cleaning solutions / For three cleaning solutions |
| | XX | Special version |
| | | Co- de Multi-connection hose length |
| | 0000 | Without multi-connection hose / Without multi-connection hose |
| | 0003 | Without multi-connection hose / 3 metres |
| | 0005 | Without multi-connection hose / 5 metres |
| | 0010 | Without multi-connection hose / 10 metres |
| | 0303 | 3 metres / 3 metres |
| | 0305 | 3 metres / 5 metres |
| | 0310 | 3 metres / 10 metres |
| | 0505 | 5 metres / 5 metres |
| | 0510 | 5 metres / 10 metres |
| | 1010 | 10 metres / 10 metres |
| | XXX | Special version |
| | | Code Interface |
| | EN | Without |
| | XX | Special version |
| EXmatic 471 | | Order code |

4 Spare parts and accessories

| Spare parts | | |
|----------------------|--|--------------|
| EXmatic 470 / 471 | Spare parts | Order number |
| | Diaphragm valve PTFE/EPDM DN12 PN6 for cleaning solution | 2-095-70-001 |
| | Pilot control valve 5/2-way monostable, 24 V DC | 2-091-10-003 |
| | Pilot control valve 2x3/2-way NC, 24 V DC | 2-091-10-004 |
| | Pressure switch 0-10 bar Ø 4 mm PNP | 2-096-00-002 |
| | Diaphragm PTFE/EPDM for cleaning valve | 2-052-45-001 |

| Accessories | | |
|---------------------------------------|--|--------------|
| Control cabinet | Accessories | Order number |
| | Wall mounting, plastic control cabinet | 2-083-73-001 |
| | Wall mounting, stainless steel control cabinet | 2-083-73-002 |
| | Pole mounting (plastic/stainless steel) | 2-083-70-003 |
| Diaphragm valves | Accessories | Order number |
| PVDF/EPDM G 3/8", DN12, PN6, NC | Cleaning valve set for one cleaning valve and one drain valve | 2-095-70-002 |
| | Cleaning valve set for two cleaning valves and one drain valve | 2-095-70-003 |
| | Cleaning valve set for three cleaning valves and one drain valve | 2-095-70-004 |
| Maintenance unit | Accessories | Order number |
| | Compressed air maintenance unit | 2-078-73-001 |

NOTE

When ordering spare parts and accessories, please specify the serial number of your unit.

5 Certificates and compliance

EU-Declaration of conformity

for
Control unit EXmatic470/471

We declare under our sole responsibility that the product, to which this declaration relates, is in conformity with the following standards and the normative documents:

| EU- Directive | harmonized standards |
|--|---|
| EMC-Directive 2014/30/EU Module A | DIN EN 61326-1:2013 IEC 61326-1: 2020 Emission: Class B Immunity: Industrial environment |
| Directive 2001/95/EC on general product safety | DIN EN 61010-1:2020-03 |
| RoHS 2 Directive 2011/65/EU + Delegated Directive 2015/863/EU | DIN EN 63000:2019-05 |

This declaration applies to all identical specimens of the product, which are manufactured according to the development-, design- and manufacturing drawings and descriptions, which are part of this declaration.

This declaration is given by the manufacturer.

Name of company: **Exner Process Equipment GmbH**
Address: Carl-Metz-Straße 26
D-76275 Ettlingen
Germany

E. Hlup
Place

26.04.2022
Date

Michael Tottewitz
Michael Tottewitz
General Manager



UKCA-Declaration of conformity

for
Control unit EXmatic470/471

We declare under our sole responsibility that the product, to which this declaration relates, is in conformity with the following standards and the normative documents:

| UK- regulation | applied standards |
|--|--|
| EMC-regulation: Electromagnetic Compatibility Regulations 2016 | BS EN IEC 61326-1: 2021 Emission: Class B Immunity: Industrial environment |
| General Product Safety Regulations 2005 | BS EN 61010-1+A1:2017 |
| RoHS regulation: The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 | BS IEC 63000:2018 |

This declaration applies to all identical specimens of the product, which are manufactured according to the development-, design- and manufacturing drawings and descriptions, which are part of this declaration.

This declaration is given by the manufacturer.

Name of company:
Address:

Exner Process Equipment GmbH
Carl-Metz-Straße 26
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Place

13.01.2023
Date


Michael Tottewitz
General Manager



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