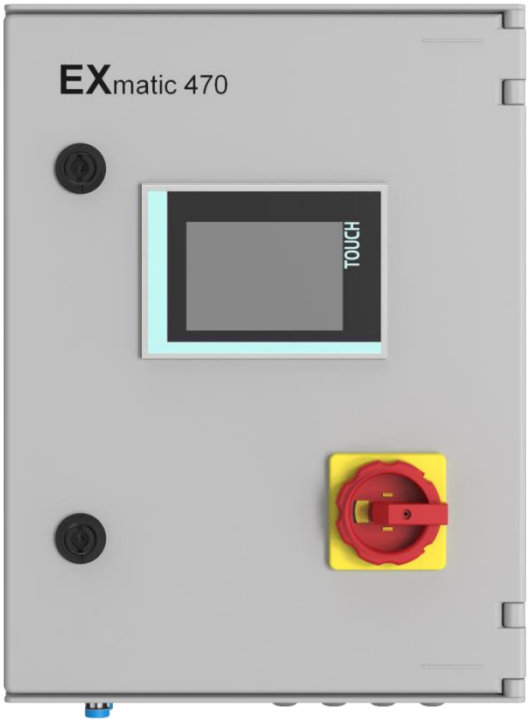
EXmatic 470 / 471

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		
	∅ - external	∅ - 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	200 mm	200 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	
	» 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

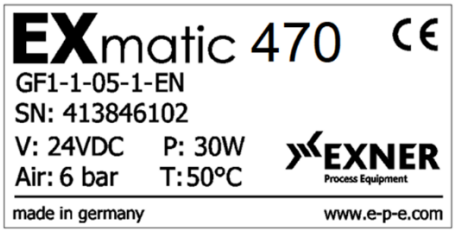


Fig. 1: Identification plate (example EXmatic 470)

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

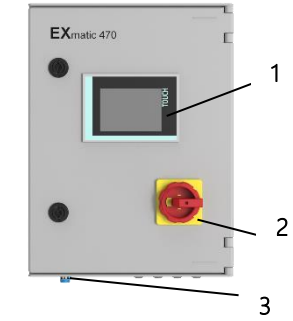
In case of queries, please contact your retailer directly!

2 Product description

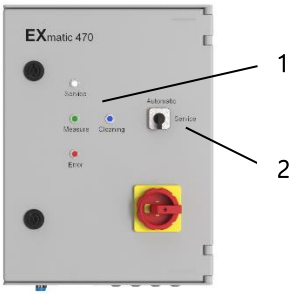
2.1 EXmatic 470 / 471 electro-pneumatic control unit

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



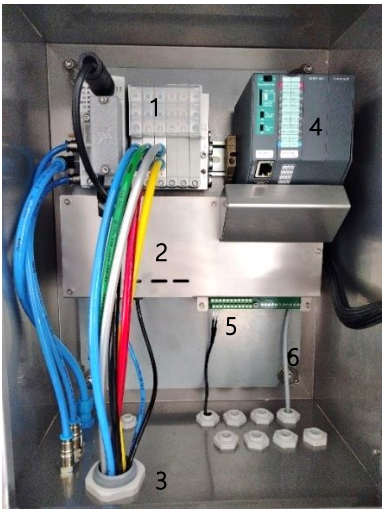
1	Control panel
2	Main switch
3	Compressed air connection



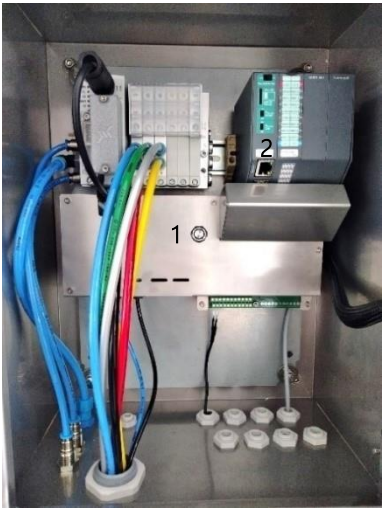
1	Status or position indicator via LED
2	Automatic/service switch

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

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.

The maintenance unit, optional on the EXmatic 470 and standard on the EXmatic 471, dehumidifies the compressed air and provides the optimal operating pressure for the cleaning control unit via an adjustable pressure regulator. Additionally, the compressed air supply can be manually interrupted using a lockable rotary handle.

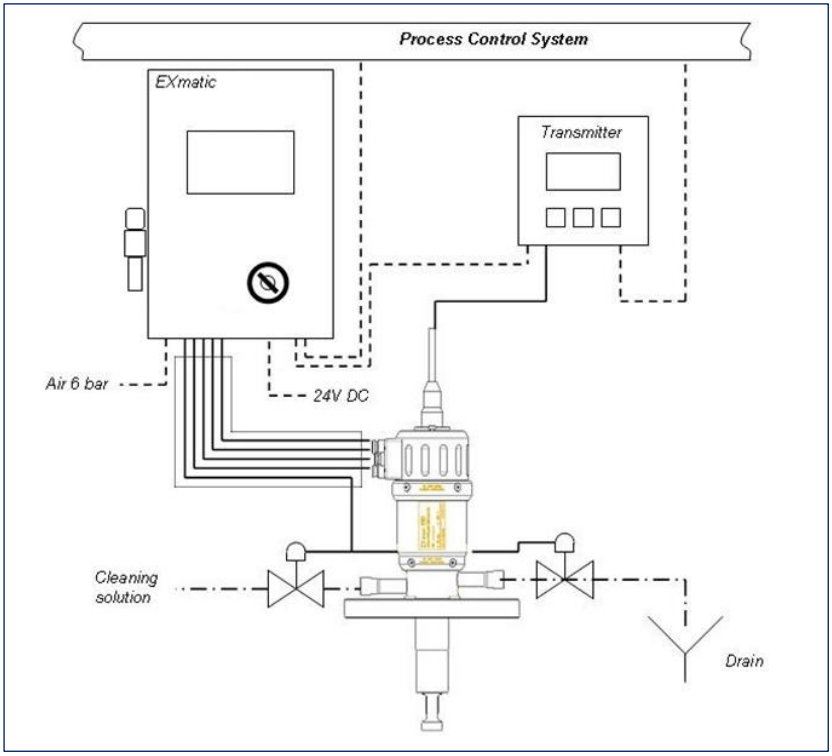


Fig. 4: Process flow (example EXmatic 470)

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	Discrete I/O 24V DC
					XX	Special version
EXmatic 470						Order code

3.2 EXmatic 471

	Code	Housing			
	GF1	Plastic (GRP) with a display			
	SS1	Stainless steel with a display			
	XXX	Special version			
		Code	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		
			Code	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	Discrete I/O 24V DC
				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 compliances

All freely available certificates and conformities can be found in their most current form in the "Downloads" section of our website.

To access the following address, enter it into your browser or scan the QR code below. Then select the relevant product and document from the list.

https://e-p-e.com/en/downloads

Depending on the product, additional certificates (e.g. material, surface, etc.) are available. If necessary, please send a corresponding request to Exner Process Equipment GmbH.

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