

2022

PRICE LIST

valid as of 01.03.2022



Dosing | Liquids
Conveying | Gases
Control | Systems

Measurement and Control Technology
for swimming pools



Price list 2022

valid as of 01.03.2022

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We supply according to our attached general terms and conditions.
Please be informed that this Price list supersedes all Price lists issued before.
Technical modifications, changes in price and misprints reserved.

Prices ex works Wedemark excluding packing and without V.A.T.
One set of documentation included in scope of delivery.

Minimum order amount (Germany): EUR 50.-
Minimum order amount (outside Germany): EUR 100.-
Surcharge for quantities below minimum: EUR 15.-
Service surcharge for despatch on the order date (if possible): EUR 50.-

Additional services:

Declaration of compliance 2.1 according to DIN EN 10204: EUR 15.- /order
Declaration of compliance 2.2 according to DIN EN 10204: EUR 15.- /item
Certificate of origin, certified by the chamber of commerce: EUR 25,- /order
Performance curve: EUR 15.- /curve
Material- and test certificates upon request.

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Teflon® is a registered trademark of the DuPont Company
Hastelloy® is a registered trademark of Haynes International, Inc.*

Measurement and Control Technology for Swimming Pools

Multi-Channel Controller

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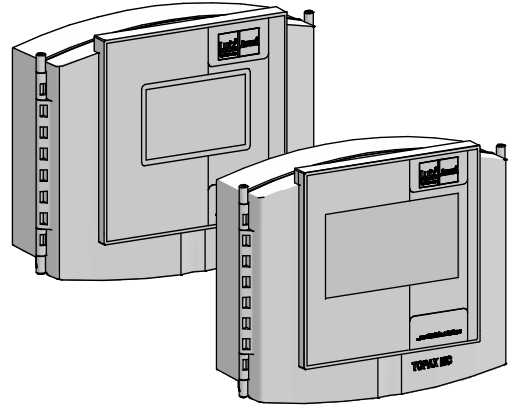
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General

- Modular structure of the inputs and outputs
- Up to four sensors and additionally up to four temperature sensors
- Freely-configurable overviews
- Difference value measurement (e.g. Δ pH)
- Graphical display of the deviation from the desired setpoint
- Up to four reference sets can be configured and loaded via a digital input or time control
- Service entries and sensor change can be saved
- Limit value control (can be used as a DIN contact for partial load operation in accordance with DIN 19643)
- 1 – 9 potential-free relay outputs
- Web server and Modbus protocol via Ethernet
- Trend Display
- Large colour touch-display
- Data is saved on a USB flash drive
- Many languages (DE, EN, FR, ES, PT, NL, DK, CZ, RU, PL, HU, LT) are already included in the scope of delivery. Other languages on request



Technical data

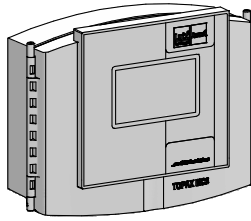
TOPAX® MC		
Housing dimensions (WxHxD)	mm	302 x 240 x 107
Voltage supply		100 – 240 V AC, 50/60 Hz
Power consumption	W	max. 20
Analogue outputs for remote transmission		4 x 0/4 – 20 mA, working resistance max. 500 Ω
Disturbance variable input	mA	0/4 – 20
Interfaces		Ethernet TCP/IP or RS485 Modbus RTU (optional)
Protection class		IP65
Ambient temperature	°C	-5 to +45 (no exposure to direct sunlight)
Control characteristic		P, PI, PID or PD behaviour, control direction selectable with disturbance variable feed forward, 2-side control selectable

Technical data			
TOPAX® MC			
Measuring inputs (depending on version)			
Number of measuring inputs			up to 4*
Free chlorine	Amperometric 3-electrode measuring cell with potentiostat (DMZ3.1)	mg/l	0 – 2 or 0 – 15 (dependant on the input module and the measuring cell transconductance)
	CS120 excess chlorine measuring cell	mg/l	0 – 10 (dependant on the measuring cell transconductance)
	Diaphragm-covered measuring cell	mg/l	0 – 2 or 0 – 10 (depending on the measuring cell)
Chlorine dioxide	Amperometric 3-electrode measuring cell with potentiostat (DMZ3.1)	mg/l	0 – 2 or 0 – 15 (dependant on the input module and the measuring cell transconductance)
	CS120 excess chlorine measuring cell	mg/l	0 – 10 (dependant on the measuring cell transconductance)
	Diaphragm-covered measuring cell	mg/l	0 – 2 or 0 – 10 (depending on the measuring cell)
Total chlorine	Diaphragm-covered measuring cell	mg/l	0 – 10 (dependant on the measuring cell)
pH value	pH single-rod measuring cell	pH	0 – 14 (dependant on the single-rod measuring chain)
Redox value	Redox single-rod measuring cell	mV	-1000 to +1000 (dependant on the single-rod measuring chain)
Conductivity	Conductive conductivity measuring cell, c = 1	mS/cm	0 – 2, 0 – 20 or 0 – 100 (dependant on the configuration)
Temperature	Pt100	°C	-10 to +90
Output modules (depending on version)			
Servomotor relay			2 x 230 V AC, 5 A (ohmic load)
	kΩ		Potentiometer feedback: 1 – 10
Servomotor 20 mA with feedback or 0/4 – 20 mA			Constant 0/4 – 20 mA output
	mA		Servomotor with 20 mA feedback
Relays			2 x 230 V AC, 5 A (ohmic load)
Relay High Current			2 x 230 V AC, 8 A (ohmic load)
Optocoupler			2 x 80 V DC, 5 mA
Digital universal			selectable: 2 x 230 V AC, 5 A (ohmic load) relay or 2 x 80 V DC, 5 mA optocoupler

* An additional temperature sensor can be connected per sensor input.

Standard version

TOPAX® MC2 multi-channel controller



The TOPAX® MC2 can additionally measure two temperatures via two temperature sensors.

TOPAX® MC2

Display: 5"

Item No.	40620064	40620065	40620066
Price [EUR]	2,119.70	2,139.60	2,118.80

Measuring inputs

Amperometric 3-electrode measuring cell: Free chlorine (0 – 15 mg/l)	•	-	-
CS120 excess chlorine measuring cell Free chlorine (0 – 10 mg/l)	-	•	-
pH single-rod measuring chain: pH value (pH 0 – 14)	•	•	•
Redox single-rod measuring cell: Redox value (-1000 to +1000 mV)	-	-	•

Output modules

1 x Servomotor relay, 1 x Servomotor 20 mA with feedback or 0/4 – 20 mA, 2 x Digital universal (optocoupler or relay*)	•	•	•
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* With relay connections, inductive loads need to be suppressed using item no. 78614.

- Standard
- Not contained

Output modules	Selectable products
Servomotor relay	<ul style="list-style-type: none"> • Chlorine gas regulation valve C 7700 3-point step
Servomotor 20 mA with feedback or 0/4 – 20 mA	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LA, LP, MEMDOS LA, LP, MEMDOS SMART LP • Chlorine gas regulation valve C 7700 20 mA • Flow-trough chlorine electrolysis systems TECHNOSTAR
Relay*	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LK, LP, LDp, MEMDOS LB, LA, LP, MEMDOS SMART LB, LD, LK, LP • Peristaltic pumps • Flow-trough chlorine electrolysis systems TECHNOMAT PS
Relay High Current* (can be configured via the Matchcode order system)	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LA, LK, LP, LDp, MEMDOS LB, LA, LP, MEMDOS SMART LB, LD, LK, LP, MIDIDOS E, MINIDOS A • Peristaltic pumps • Flow-trough chlorine electrolysis systems TECHNOMAT PS
Optocoupler	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LK, LP, LDp, MEMDOS LP, MEMDOS SMART LD, LK, LP • CHC dosing stations EASYCHLORMIX, SAFETYCHLORMIX

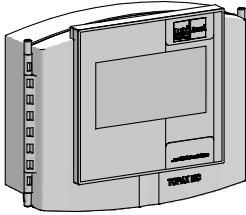
* With relay connections, inductive loads need to be suppressed using item no. 78614.

Note

TOPAX® MC2 multi-channel controller

The measuring cells and sensors required are not included in the scope of delivery and must be ordered separately (PL 4 41 00, PL 4 43 00, PL 4 47 00).

Standard version TOPAX® MC3 multi-channel controller



The TOPAX® MC3 can additionally measure three temperatures via three temperature sensors.

TOPAX® MC3			
Display: 7"			
Item No.	40637026	40637027	40637028
Price [EUR]	3,233.90	3,278.40	3,253.90
Measuring inputs			
Amperometric 3-electrode measuring cell: Free chlorine (0 – 15 mg/l)	•	-	-
CS120 excess chlorine measuring cell Free chlorine (0 – 10 mg/l)	-	-	•
Membrane-covered measuring cell Free chlorine (0 – 2 mg/l)	-	•	-
pH single-rod measuring chain: pH value (pH 0 – 14)	•	•	•
Redox single-rod measuring cell: Redox value (-1000 to +1000 mV)	•	•	•
Output modules			
1 x Servomotor relay, 1 x Servomotor 20 mA with feedback or 0/4 – 20 mA, 2 x Digital universal (optocoupler or relay*)	•	•	•
Interface			
RS485	•	•	•
Supports TopView 3	•	•	•

* With relay connections, inductive loads need to be suppressed using item no. 78614.

- Standard
- Not contained

Output modules	Selectable products
Servomotor relay	<ul style="list-style-type: none"> • Chlorine gas regulation valve C 7700 3-point step
Servomotor 20 mA with feedback or 0/4 – 20 mA (can be configured via the Matchcode order system)	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LA, LP, MEMDOS LA, LP, MEMDOS SMART LP • Chlorine gas regulation valve C 7700 20 mA • Flow-trough chlorine electrolysis systems TECHNOSTAR
Relay*	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LK, LP, LDp, MEMDOS LB, LA, LP, MEMDOS SMART LB, LD, LK, LP • Peristaltic pumps • Flow-trough chlorine electrolysis systems TECHNOMAT PS
Relay High Current* (can be configured via the Matchcode order system)	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LA, LK, LP, LDp, MEMDOS LB, LA, LP, MEMDOS SMART LB, LD, LK, LP, MIDIDOS E, MINIDOS A • Peristaltic pumps • Flow-trough chlorine electrolysis systems TECHNOMAT PS
Optocoupler	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LK, LP, LDp, MEMDOS LP, MEMDOS SMART LD, LK, LP • CHC dosing stations EASYCHLORMIX, SAFETYCHLORMIX

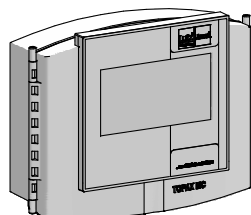
* With relay connections, inductive loads need to be suppressed using item no. 78614.

Note TOPAX® MC3 multi-channel controller

The measuring cells and sensors required are not included in the scope of delivery and must be ordered separately (PL 4 41 00, PL 4 43 00, PL 4 47 00).

Standard version

TOPAX® MC4 multi-channel controller



The TOPAX® MC4 can additionally measure four temperatures via four temperature sensors.

TOPAX® MC4			
Display: 7"			
Item No.	40647031	40647032	40647033
Price [EUR]	4,039.40	4,048.60	4,068.60
Measuring inputs			
Amperometric 3-electrode measuring cell: Free chlorine (0 – 15 mg/l)	•	•	-
CS120 excess chlorine measuring cell Free chlorine (0 – 10 mg/l)	-	-	•
Membrane-covered measuring cell Total chlorine (0 – 2 mg/l)	•	-	-
pH single-rod measuring chain: pH value (pH 0 – 14)	•	•	•
Redox single-rod measuring cell: Redox value (-1000 to +1000 mV)	•	•	•
Conductivity measuring cell (conductive): Conductivity (0 – 20 mS/cm)	-	•	•
Output modules			
1 x Servomotor relay, 1 x Servomotor 20 mA with feedback or 0/4 – 20 mA, 2 x Digital universal (optocoupler or relay*)	•	•	•

* With relay connections, inductive loads need to be suppressed using item no. 78614.

- Standard
- Not contained

Output modules	Selectable products
Servomotor relay	<ul style="list-style-type: none"> • Chlorine gas regulation valve C 7700 3-point step
Servomotor 20 mA with feedback or 0/4 – 20 mA (can be configured via the Matchcode order system)	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LA, LP, MEMDOS LA, LP, MEMDOS SMART LP • Chlorine gas regulation valve C 7700 20 mA • Flow-trough chlorine electrolysis systems TECHNOSTAR
Relay*	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LK, LP, LDp, MEMDOS LB, LA, LP, MEMDOS SMART LB, LD, LK, LP • Peristaltic pumps • Flow-trough chlorine electrolysis systems TECHNOMAT PS
Relay High Current* (can be configured via the Matchcode order system)	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LA, LK, LP, LDp, MEMDOS LB, LA, LP, MEMDOS SMART LB, LD, LK, LP, MIDIDOS E, MINIDOS A • Peristaltic pumps • Flow-trough chlorine electrolysis systems TECHNOMAT PS
Optocoupler	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LK, LP, LDp, MEMDOS LP, MEMDOS SMART LD, LK, LP • CHC dosing stations EASYCHLORMIX, SAFETYCHLORMIX

* With relay connections, inductive loads need to be suppressed using item no. 78614.

Note

The measuring cells and sensors required are not included in the scope of delivery and must be ordered separately (PL 4 41 00, PL 4 43 00, PL 4 47 00).

Matchcode order system TOPAX® MC1 and MC2 Surcharge [EUR]

0406	Controller		
	W	Wall mounted device	
		Display	
	A	5" Touchscreen	
		Number of measuring inputs	
		1	1 953.90
		2	2 1,627.20
		Measuring input 1	
		00	not equipped -
		C1	Free chlorine, DMZ3.1, 0 – 15 mg/l, up to 6 bar 87.70
		C2	Free chlorine, CS120 (Pt-Cu), 0 – 10 mg/l 107.70
		C4	Free chlorine, diaphragm-covered measuring cell, 0 – 0.5 mg/l 132.20
		C5	Free chlorine, diaphragm-covered measuring cell, 0 – 2 mg/l 132.20
		C6	Free chlorine, diaphragm-covered measuring cell, 0 – 5 mg/l 132.20
		C7	Free chlorine, diaphragm-covered measuring cell, 0 – 10 mg/l 132.20
		CH	Free chlorine, DMZ3.1, 0 – 2 mg/l, high resolution, up to 6 bar 87.70
		D1	Chlorine dioxide, DMZ3.1, 0 – 15 mg/l 87.70
		D2	Chlorine dioxide, CS120, 0 – 10 mg/l 107.70
		D3	Chlorine dioxide, diaphragm-covered measuring cell, 0 – 0.5 mg/l 132.20
		D4	Chlorine dioxide, diaphragm-covered measuring cell, 0 – 2 mg/l 132.20
		DH	Chlorine dioxide, DMZ3.1, 0 – 2 mg/l, high resolution, up to 6 bar 87.70
		G1	Total chlorine, diaphragm-covered measuring cell, 0 – 2 mg/l, max. 1 bar 132.20
		G2	Total chlorine, diaphragm-covered measuring cell, 0 – 5 mg/l, max. 1 bar 132.20
		G3	Total chlorine, diaphragm-covered measuring cell, 0 – 10 mg/l, max. 1 bar 132.20
		P1	pH value, pH 0 – 14 86.90
		R1	Redox value, -1000 to +1000 mV 86.90
		L2	Conductivity (conductive), 0 – 20 mS/cm (1 %), up to 6 bar 141.50
		L3	Conductivity (conductive), 0 – 100 mS/cm (5 %), up to 6 bar 141.50
		See above Sensor input 2, the selection is identical with sensor input 1.	
		Measuring input 3	
		00	not equipped -
		See above Sensor input 4, the selection is identical with sensor input 1.	
		Output module 1	
		0	without -
		A	2 Relay, 230 V AC, 5 A (ohmic load) 66.10
		B	2 optocoupler, 48 V DC, 250 mA 35.30
		C	Servomotor 20 mA with feedback or 0/4 – 20 mA 68.40
		D	Servomotor relay with feedback 114.20
		E	2 Relay High Current, 230 V AC, 8 A (ohmic load) 70.70
		U	Digital universal (optocoupler or relay) 67.80
		See above Output module 2, the selection is identical with output module 1.	
		See above Output module 3, the selection is identical with output module 1.	
		See above Output module 4, the selection is identical with output module 1.	
		Temperature sensor Pt100 (The maximum number is equal to the number of measuring inputs.)	
		0	without -
		1	1 pcs 72.50
		2	2 pcs 145.00
		3	3 pcs 217.60
		4	4 pcs 290.00
		Data transfer - wire-connected	
		0	Ethernet -
		A	Ethernet + RS485 73.70
		Data transfer - wireless	
		0	without -
		Operating voltage	
		A	100 – 240 VAC, 50/60 Hz -
		Electrical connection	
		00	without -
		1A	1.8 m power cable with plug, Europe (for 230 V AC) 25.00
		2A	1.8 m power cable with plug, USA (for 115 V AC) 25.00
		3A	1.8 m power cable with plug, Switzerland 25.00
		4A	1.8 m power cable with plug, Australia 25.00
		5A	1.8 m power cable without plug, 230 V 25.00
		6A	1.8 m power cable with plug, Great Britain 25.00
		Language	
		LG	DE, EN, FR, ES, PT, NL, DK, CZ, RU, PL, HU, LT (other languages are available on request) -

0406 W A 4 C2 D4 00 00 B A A 0 3 A 0 A 1A LG


Matchcode order system TOPAX® MC3 and MC4		Surcharge [EUR]
0406	Controller	
W	Wall mounted device	
	Display	
B	7" Touchscreen	280.50
	Number of measuring inputs	
3	3	2,300.40
4	4	2,973.70
	Measuring input 1	
00	not equipped	-
C1	Free chlorine, DMZ3.1, 0 – 15 mg/l, up to 6 bar	87.70
C2	Free chlorine, CS120 (Pt-Cu), 0 – 10 mg/l	107.70
C4	Free chlorine, diaphragm-covered measuring cell, 0 – 0.5 mg/l	132.20
C5	Free chlorine, diaphragm-covered measuring cell, 0 – 2 mg/l	132.20
C6	Free chlorine, diaphragm-covered measuring cell, 0 – 5 mg/l	132.20
C7	Free chlorine, diaphragm-covered measuring cell, 0 – 10 mg/l	132.20
CH	Free chlorine, DMZ3.1, 0 – 2 mg/l, high resolution, up to 6 bar	87.70
D1	Chlorine dioxide, DMZ3.1, 0 – 15 mg/l	87.70
D2	Chlorine dioxide, CS120, 0 – 10 mg/l	107.70
D3	Chlorine dioxide, diaphragm-covered measuring cell, 0 – 0.5 mg/l	132.20
D4	Chlorine dioxide, diaphragm-covered measuring cell, 0 – 2 mg/l	132.20
DH	Chlorine dioxide, DMZ3.1, 0 – 2 mg/l, high resolution, up to 6 bar	87.70
G1	Total chlorine, diaphragm-covered measuring cell, 0 – 2 mg/l, max. 1 bar	132.20
G2	Total chlorine, diaphragm-covered measuring cell, 0 – 5 mg/l, max. 1 bar	132.20
G3	Total chlorine, diaphragm-covered measuring cell, 0 – 10 mg/l, max. 1 bar	132.20
P1	pH value, pH 0 – 14	86.90
R1	Redox value, -1000 to +1000 mV	86.90
L2	Conductivity (conductive), 0 – 20 mS/cm (1 %), up to 6 bar	141.50
L3	Conductivity (conductive), 0 – 100 mS/cm (5 %), up to 6 bar	141.50
	See above Sensor input 2, the selection is identical with sensor input 1.	
	Measuring input 3	
00	not equipped	-
C1	Free chlorine, DMZ3.1, 0 – 15 mg/l, up to 6 bar	87.70
C2	Free chlorine, CS120 (Pt-Cu), 0 – 10 mg/l	107.70
D1	Chlorine dioxide, DMZ3.1, 0 – 15 mg/l	87.70
D2	Chlorine dioxide, CS120, 0 – 10 mg/l	107.70
P1	pH value drinking water, pH 0 – 14	86.90
R1	Redox value, -1000 to +1000 mV	86.90
L2	Conductivity (conductive), 0 – 20 mS/cm (1 %), up to 6 bar	141.50
L3	Conductivity (conductive), 0 – 100 mS/cm (5 %), up to 6 bar	141.50
	See above Sensor input 4, the selection is identical with sensor input 3.	
	Output module 1	
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC, 250 mA	35.30
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40
D	Servomotor relay with feedback	114.20
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70
U	Digital universal (optocoupler or relay)	67.80
	See above Output module 2, the selection is identical with output module 1.	
	See above Output module 3, the selection is identical with output module 1.	
	See above Output module 4, the selection is identical with output module 1.	
	Temperature sensor Pt100 (The maximum number is equal to the number of measuring inputs.)	
0	without	-
1	1 pcs	72.50
2	2 pcs	145.00
3	3 pcs	217.60
4	4 pcs	290.00
	Data transfer - wire-connected	
0	Ethernet	-
A	Ethernet + RS485	73.70
	Data transfer - wireless	
0	without	-
	Operating voltage	
A	100 – 240 VAC, 50/60 Hz	-
	Electrical connection	
00	without	-
1A	1.8 m power cable with plug, Europe (for 230 V AC)	25.00
2A	1.8 m power cable with plug, USA (for 115 V AC)	25.00
3A	1.8 m power cable with plug, Switzerland	25.00
4A	1.8 m power cable with plug, Australia	25.00
5A	1.8 m power cable without plug, 230 V	25.00
6A	1.8 m power cable with plug, Great Britain	25.00
	Language	
LG	DE, EN, FR, ES, PT, NL, DK, CZ, RU, PL, HU, LT (other languages are available on request)	-

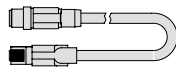
0406 W A 4 C2 D4 P1 R1 B A A 0 3 A 0 A 1A LG

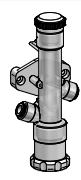
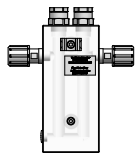
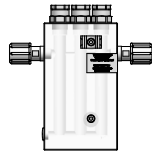
Standard accessories

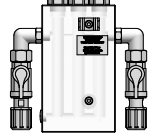
PL 4 06 00 / 8

Note	Photometer
	Photometer and accessories can be found on PL 4 38 00.

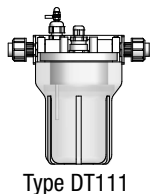
Standard accessories	Switching device interference suppression module						
	<table border="1"> <tr> <td>Switching device suppression module/spark suppressor</td> <td>Item No.</td> <td>Price [EUR]</td> </tr> <tr> <td></td> <td>78614</td> <td>28.20</td> </tr> </table>	Switching device suppression module/spark suppressor	Item No.	Price [EUR]		78614	28.20
Switching device suppression module/spark suppressor	Item No.	Price [EUR]					
	78614	28.20					

Standard accessories	Ethernet cable														
	<table border="1"> <tr> <td>Ethernet network connection, d-coded</td> <td>Cable length</td> <td>Item No.</td> <td>Price [EUR]</td> </tr> <tr> <td rowspan="3">Cable with RJ45 connector, straight version</td> <td>2 m</td> <td>79369</td> <td>112.30</td> </tr> <tr> <td>5 m</td> <td>79370</td> <td>115.60</td> </tr> <tr> <td>10 m</td> <td>79371</td> <td>161.00</td> </tr> </table>	Ethernet network connection, d-coded	Cable length	Item No.	Price [EUR]	Cable with RJ45 connector, straight version	2 m	79369	112.30	5 m	79370	115.60	10 m	79371	161.00
Ethernet network connection, d-coded	Cable length	Item No.	Price [EUR]												
Cable with RJ45 connector, straight version	2 m	79369	112.30												
	5 m	79370	115.60												
	10 m	79371	161.00												

Standard accessories	Fittings																																																																								
	<table border="1"> <tr> <th>Fittings type</th> <th>PRMZ</th> <th>LMZ</th> <th>DC111-2</th> <th>DC111-3</th> <th>DW111-3</th> </tr> <tr> <td>Part number</td> <td>44302004</td> <td>44302007</td> <td>37700</td> <td>37701</td> <td>37702</td> </tr> <tr> <td>Price [EUR]</td> <td>93.10</td> <td>98.80</td> <td>275.90</td> <td>357.90</td> <td>467.50</td> </tr> <tr> <td>Version</td> <td>PRMZ measuring cells fitting</td> <td>LMZ measuring cells fitting</td> <td colspan="3">Throughflow fitting</td> </tr> <tr> <td>Measuring water connection</td> <td colspan="2">hose 6/8 mm</td> <td colspan="3">hose 6/12 mm</td> </tr> <tr> <td>Number take-up electrodes</td> <td colspan="2">1</td> <td>2</td> <td colspan="2">3</td> </tr> <tr> <td>Type of the electrodes</td> <td>Single-rod measuring cells</td> <td>Conductivity electrode</td> <td colspan="3">Single-rod measuring cells, conductivity measuring cells</td> </tr> <tr> <td>for connection</td> <td colspan="5">Screw-in thread PG 13.5</td> </tr> <tr> <td>Temperature</td> <td colspan="2">°C 0 – 60</td> <td colspan="3">0 – 40</td> </tr> <tr> <td>Pressure</td> <td colspan="2">bar</td> <td colspan="3">0 – 6</td> </tr> <tr> <td>Material</td> <td colspan="2">LURAN®</td> <td colspan="3">PMMA</td> </tr> <tr> <td>Can be shut-off</td> <td colspan="4">Cannot be shut-off</td> <td>Can be shut-off</td> </tr> </table>	Fittings type	PRMZ	LMZ	DC111-2	DC111-3	DW111-3	Part number	44302004	44302007	37700	37701	37702	Price [EUR]	93.10	98.80	275.90	357.90	467.50	Version	PRMZ measuring cells fitting	LMZ measuring cells fitting	Throughflow fitting			Measuring water connection	hose 6/8 mm		hose 6/12 mm			Number take-up electrodes	1		2	3		Type of the electrodes	Single-rod measuring cells	Conductivity electrode	Single-rod measuring cells, conductivity measuring cells			for connection	Screw-in thread PG 13.5					Temperature	°C 0 – 60		0 – 40			Pressure	bar		0 – 6			Material	LURAN®		PMMA			Can be shut-off	Cannot be shut-off				Can be shut-off
Fittings type		PRMZ	LMZ	DC111-2	DC111-3	DW111-3																																																																			
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Material	LURAN®		PMMA																																																																						
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	<table border="1"> <tr> <th>Fittings type</th> <th>DC111-DN20</th> <th>DC111-DN25</th> <th>DP111</th> </tr> <tr> <td>Part number</td> <td>41100101</td> <td>41100102</td> <td>41100103</td> </tr> <tr> <td>Price [EUR]</td> <td>507.50</td> <td>548.50</td> <td>1,659.50</td> </tr> <tr> <td>Version</td> <td colspan="3">Throughflow fitting</td> </tr> <tr> <td>Sample water connection</td> <td>Cemented connection PVC DN20</td> <td>Cemented connection PVC DN25</td> <td>Threaded connection G1/2</td> </tr> <tr> <td>Number take-up electrodes</td> <td colspan="2">1</td> <td>3</td> </tr> <tr> <td>Type of the electrodes</td> <td colspan="3">Single-rod measuring cells, conductivity measuring cells</td> </tr> <tr> <td>for connection</td> <td colspan="3">Screw-in thread PG 13.5</td> </tr> <tr> <td>Temperature</td> <td colspan="2">°C 0 – 40</td> <td>0 – 95</td> </tr> <tr> <td>Pressure</td> <td colspan="2">bar max. 10 at 20 °C</td> <td>6 at 25 °C</td> </tr> <tr> <td>Material</td> <td colspan="2">PVC</td> <td>PP</td> </tr> <tr> <td>Can be shut-off</td> <td colspan="3">Cannot be shut-off</td> </tr> </table>	Fittings type	DC111-DN20	DC111-DN25	DP111	Part number	41100101	41100102	41100103	Price [EUR]	507.50	548.50	1,659.50	Version	Throughflow fitting			Sample water connection	Cemented connection PVC DN20	Cemented connection PVC DN25	Threaded connection G1/2	Number take-up electrodes	1		3	Type of the electrodes	Single-rod measuring cells, conductivity measuring cells			for connection	Screw-in thread PG 13.5			Temperature	°C 0 – 40		0 – 95	Pressure	bar max. 10 at 20 °C		6 at 25 °C	Material	PVC		PP	Can be shut-off	Cannot be shut-off		
Fittings type		DC111-DN20	DC111-DN25	DP111																																													
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Pressure	bar max. 10 at 20 °C		6 at 25 °C																																														
Material	PVC		PP																																														
Can be shut-off	Cannot be shut-off																																																
Type DW111-3																																																	

Standard accessories Fittings



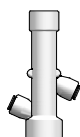
Fittings type		DT111	EC111-500 mm	EC111-1000 mm	EP111-426 mm
Part number		41131288	41100104	41100110	41100105
Price [EUR]		303.20	319.70	361.30	744.00
Version		Throughflow fitting	Immersion fitting		
Sample water connection		Bonded connection Ø12 mm	-	-	-
Number take-up electrodes		2	1		3
Type of the electrodes		Single-rod measuring cells, conductivity measuring cells			
for connection		Screw-in thread PG 13.5			
Temperature	°C	0 – 40	0 – 95		
Pressure	bar	6 at 25 °C	Pressure-free		
Material		Plastic housing	PP		
Can be shut-off		Cannot be shut-off			
Immersion tube length	mm	-	500	1000	426

Fittings type		DW111-PP	DW111-PVDF	DT01
Part number		41100115	41100116	37699
Price [EUR]		345.50	477.90	347.50
Version		Changeover device		Throughflow fitting
Sample water connection		-	-	hose 6/12 mm
Number take-up electrodes		1		
Type of the electrodes		Single-rod measuring cells pH value or redox		Membrane-covered measuring cells
for connection		3/4"		Total chlorine measuring cell
Temperature	°C	70	120	40
Pressure	bar	5 at 50 °C		depending on the measuring cell used
Material		PP	PVDF	PMMA
Can be shut-off		Cannot be shut-off		
Immersion tube length	mm	-		

The following accessories are available for the fittings:

Clamping collar	for immersion fitting type	Material	Nominal width	Item No.	Price [EUR]
	EC111	PP	DN32	78030	342.50
	EC111	PP	DN50	78019	450.90
	EP111	PP	DN50	78031	606.90
	EP111	PP	DN65	78032	753.00

Wet holding clamps	For immersion fitting type	Material	Item No.	Price [EUR]
	EC111	PP	78036	450.90
	EP111	PP	78037	651.20



Type B measuring cell housing inc. press-in cartridges	for fitting type	Material	Item No.	Price [EUR]
	PRMZ and LMZ	LURAN 388 S, transparent	41191	63.10

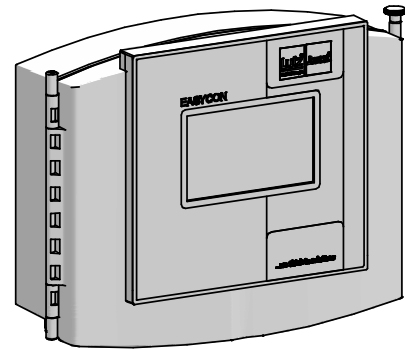
EASYCON GW gas warning device

PL 4 09 00 / 1

EASYCON GW

General

- For use with chlorine gas, chlorine dioxide and ozone (other gases on request)
- Compact wall casing
- Up to four sensors and additionally up to four temperature sensors
- Two alarm thresholds freely-settable per alarm sensor
- 3 – 9 potential-free relay outputs
- 4 Analogue outputs 0/4 – 20 mA
- Large colour touch-display
- Data is saved on a USB flash drive
- Ethernet Modbus TCP/IP and webservice

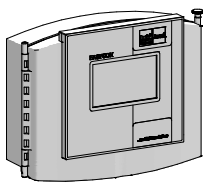


Technical data

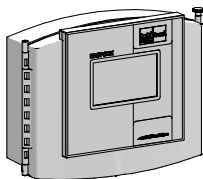
EASYCON GW			
Measuring range	Chlorine gas	ppm	0 – 20
	Chlorine dioxide		0 – 5
	Ozone		0 – 5
Number of sensors	Up to 4 sensors and additionally up to 4 temperature sensors		
Relay outputs	max. 5 A, 250 V AC		
Switch point alarm	2 per sensor		
analog outputs	4 x 0/4 – 20 mA, working resistance max. 500 Ohm		
Display	Colour touch-display (5.0 inch; 800 x 480 pixels)		
Voltage supply	100 – 240 V AC, 50/60 Hz		
Power consumption	W	max. 20	
Protection class	Gas warning device	IP65	
	Sensor	IP54 (except for gas inlet)	

Standard version

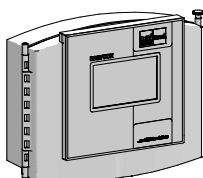
EASYCON GW gas warning device



EASYCON GW	Number sensor(s):	Item No.	Price [EUR]
Chlorine gas	1	40900001	1,686.60
Measuring range: 0 – 20 ppm	2	40900002	2,148.90
Cable length sensor(s): 10 m	3	40900013	2,611.10
	4	40900014	3,073.30



EASYCON GW	Number sensor(s):	Item No.	Price [EUR]
Chlorine dioxide	1	40900003	1,736.90
Measuring range: 0 – 5 ppm	2	40900004	2,249.50
Cable length sensor(s): 10 m	3	40900015	2,762.00
	4	40900016	3,274.70



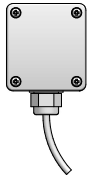
EASYCON GW	Number sensor(s):	Item No.	Price [EUR]
Ozone	1	40900005	1,884.30
Measuring range: 0 – 5 ppm	2	40900006	2,544.10
Cable length sensor(s): 10 m	3	40900017	3,204.10
	4	40900018	3,864.00

Matchcode order system EASYCON GW																
0409	Gas warning device															
W	Wall mounted device															
	Number of enabled inputs															
1	1															
2	2															
3	3															
4	4															
	Input slot 1															
1	Module potentiostat (nA), without sensor															
A	Module potentiostat (nA), chlorine sensor, 10 m cable															
B	Module potentiostat (nA), chlorine dioxide sensor, 10 m cable															
C	Module potentiostat (nA), ozone sensor, 10 m cable															
D	Module potentiostat (nA), chlorine sensor, 50 m cable															
E	Module potentiostat (nA), chlorine dioxide sensor, 50 m cable															
F	Module potentiostat (nA), ozone sensor, 50 m cable															
	Input slot 2															
0	not equipped															
1	Module potentiostat (nA), without sensor															
A	Module potentiostat (nA), chlorine sensor, 10 m cable															
B	Module potentiostat (nA), chlorine dioxide sensor, 10 m cable															
C	Module potentiostat (nA), ozone sensor, 10 m cable															
D	Module potentiostat (nA), chlorine sensor, 50 m cable															
E	Module potentiostat (nA), chlorine dioxide sensor, 50 m cable															
F	Module potentiostat (nA), ozone sensor, 50 m cable															
	Input slot 3															
0	not equipped															
1	Module potentiostat (nA), without sensor															
A	Module potentiostat (nA), chlorine sensor, 10 m cable															
B	Module potentiostat (nA), chlorine dioxide sensor, 10 m cable															
C	Module potentiostat (nA), ozone sensor, 10 m cable															
D	Module potentiostat (nA), chlorine sensor, 50 m cable															
E	Module potentiostat (nA), chlorine dioxide sensor, 50 m cable															
F	Module potentiostat (nA), ozone sensor, 50 m cable															
	Input slot 4															
0	not equipped															
1	Module potentiostat (nA), without sensor															
A	Module potentiostat (nA), chlorine sensor, 10 m cable															
B	Module potentiostat (nA), chlorine dioxide sensor, 10 m cable															
C	Module potentiostat (nA), ozone sensor, 10 m cable															
D	Module potentiostat (nA), chlorine sensor, 50 m cable															
E	Module potentiostat (nA), chlorine dioxide sensor, 50 m cable															
F	Module potentiostat (nA), ozone sensor, 50 m cable															
	Output slot 1															
A	2 Relay, 230 VAC, 5 A (ohmic load)															
B	2 optocoupler, 48 VDC; 250 mA															
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)															
	Output slot 2															
0	not equipped															
A	2 Relay, 230 VAC, 5 A (ohmic load)															
B	2 optocoupler, 48 VDC; 250 mA															
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)															
	Output slot 3															
0	not equipped															
A	2 Relay, 230 VAC, 5 A (ohmic load)															
B	2 optocoupler, 48 VDC; 250 mA															
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)															
	Output slot 4															
0	not equipped															
A	2 Relay, 230 V AC, 5 A (ohmic load)															
B	2 optocoupler, 48 VDC; 250 mA															
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)															
	Temperature measuring (Pt100)															
0	without															
A	1 pcs															
B	2 pcs															
C	3 pcs															
D	4 pcs															
	Data transmission (wired)															
0	Ethernet															
	Data transmission (wireless)															
0	not equipped															
	Operating voltage															
A	100 – 240 VAC, 50/ 60 Hz															
	Electrical connection															
00	without															
1A	Mains cable with plug, European (for 230V)															
2A	Mains cable with plug, USA (for 115V)															
3A	Mains cable with plug, Switzerland															
4A	Mains cable with plug, Australia															
5A	Mains cable without plug															
6A	Mains cable with plug, United Kingdom															
	Languages															
LG	DE, EN, FR, ES, PT, NL, DK, CZ, RU, PL, HU, LT (other languages are available on request)															
0409	W	1	A	0	0	0	A	0	0	0	0	0	0	A	00	LG

Standard accessories

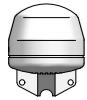
PL 4 09 00 / 3

Standard accessories Resistance thermometer

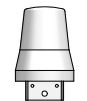


Resistance thermometer	operating temperature	Item No.	Price [EUR]
Outside temperature sensor with Pt100 sensor incl. 10 m cable	-50 to +90 °C	41100043	52.30

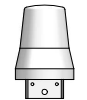
Standard accessories Signals



Alarm horn	Voltage supply	Item No.	Price [EUR]
	230 V AC, 50/60 Hz	78009	157.20

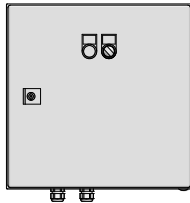


Strobe	Voltage supply	Item No.	Price [EUR]
Incl. wall holder	230 V AC, 50/60 Hz	77214	408.40



Flashing light	Voltage supply	Item No.	Price [EUR]
	230 V AC 50 Hz	77215	457.30

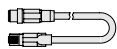
Standard accessories Security system



Security system	Current (Input/Output)	Battery type	Protection class	Item No.	Price [EUR]
Power supply for max. 4 hours* (without alarm).	230 V AC 50 Hz	12 V-Bloc, 7.0 Ah	IP66	23600131	2,624.80

* Depending on the nature and number of the connected devices.

Standard accessories Ethernet network connection



Ethernet	Description	Cable length	Item No.	Price [EUR]
Networkconnection D-coded	Cable with RJ-45 connector, straight version	2 m	79369	112.30
M12x1 plug on the side of the EASYCON GW	Cable with RJ-45 connector, straight version	5 m	79370	115.60
	Cable with RJ-45 connector, straight version	10 m	79371	161.00

Spare and wearing parts

Sensors



Note: A complete sensor unit consisting of a sensor bracket, pipe clips and sensor.
Please take the required part numbers from the tables below.

Sensor bracket	Cable length	Item No.	Price [EUR]
	10 m incl. temperature sensor	79898	323.40
	50 m incl. temperature sensor	79901	545.10
	without	79902	186.20



Sensor* (Wearing part)	for the measurement of	Item No.	Price [EUR]
	Chlorine gas	79903	325.10
	Chlorine dioxide	75204	360.80
	Ozone	75205	362.20

* The sensors should be replaced annually.

Spare and wearing parts

Spare generator cell



Spare generator cell Cl ₂ Suitable for 23600240	Generator cell for approx.350 tests	Item No.	Price [EUR]
		23600241	676.50

Spare and wearing parts

Battery



Battery	Type	Voltage	Capacity	Item No.	Price [EUR]
	CR1220	3 V	36 mAh	75130	3.00

Spare and wearing parts

Hardware



Hardware	EASYCON GW module	Item No.	Price [EUR]
	Input module potentiostat (nA)	75200	99.10
	Output module 2 Relay	79831	51.90
	Output module 2 Optocoupler	79832	27.60
	Output module 2 Relay High Current	79770	72.70

GW 601 gas warning device - spare and wearing parts

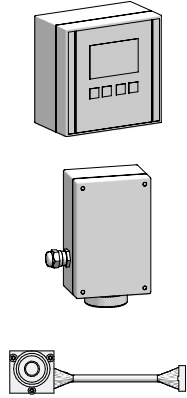
PL 4 10 00

Note

The gas warning device GW 601 has been replaced by the gas warning device EASYCON GW (see PL 4 09 00).

Spare and wearing parts

Gas warning system and transmitter



Gas warning system	Type	Item No.	Price [EUR]
	GW 601	78390	1,070.10

Transmitter	for the measurement of	Measuring range	Item No.	Price [EUR]
	Chlorine gas	0 – 10.00 ppm	78391	1,177.80
	Chlorine dioxide	0 – 1.00 ppm	78393	1,436.30
	Ozone	0 – 1.00 ppm	78395	1,436.30

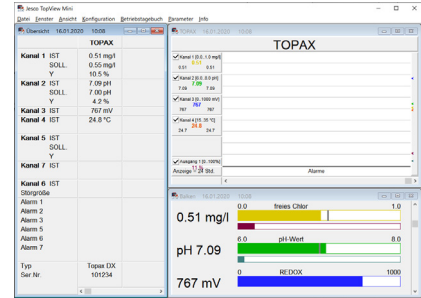
Sensor block (wear part of the transmitter)	for the measurement of	Measuring range	Item No.	Price [EUR]
	Chlorine gas	0 – 10.00 ppm	78392	633.30
	Chlorine dioxide	0 – 1.00 ppm	78394	1,149.80
	Ozone	0 – 1.00 ppm	78396	1,149.80

The following cable is available for connecting the gas warning system and transmitter:

Connection cable	Description	Item No.	Price [EUR] per m
	Yellow, screened 3x0.8 mm ²	78017	5.20

General

- Visualisation and monitoring of TOPAX controllers*
- RS485 bus network
- Automatic recognition of the TOPAX versions
- Connection of up to 15 controllers
- Connection of a crossbar switch unit with up to 8 inputs and outputs
- Display and storage of all alarms issued
- Automatic daily log
- Journal
- Free test version
- Compatible from Microsoft Windows XP



* the following controllers are supported:

- TOPAX NT
- TOPAX L
- TOPAX DE
- TOPAX DX
- TOPAX MC3 (free chlorine, pH and redox value)
- TOPAX MC4 (free chlorine, total chlorine, pH and redox value)

Standard version

Visualisation software TopView 3

TopView 3	Type	Description	Item No.	Price [EUR]
	Mini*	Testversion (Download: www.lutz-jesco.com)	41900010	0.00
	Standard - USB	Full version with hardware protection (USB dongle)	41900011	835.00
	Standard - parallel	Full version with hardware protection (parallel dongle)	41900012	835.00

* with strongly-restricted function range. Data saving and remote setting not possible.

Upon purchase of a TopView 3 standard software, owners of a TopView 1 or 2 will receive a refund for return of the old dongle.

Return refund	Item No.	Price [EUR]
	41900015	362.10

Standard accessories

Connector converter

Connector converter	Type	Item No.	Price [EUR]
	RS485 ↔ RS232	41900101	149.00
	RS485 ↔ USB (compatible up to Windows 8.1)	44300102	269.50

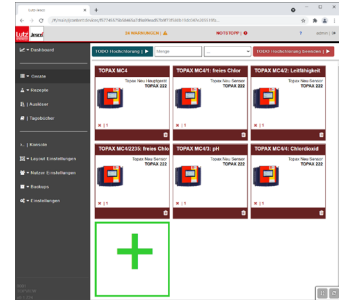
Standard accessories

Cable

Computer cable Cat 5	Description	Item No.	Price [EUR] per m
	4 two-wire lines	78107	5.20

General

- Visualisation and monitoring of the following controllers: TOPAX DX Net (no longer produced) and TOPAX MC 1 – 4
- Pre-installed TopView licence and operating system on energy-saving mini PC
- Connection to controller via Modbus TCP network
- Easy configuration and remote access via LAN/WLAN
- Secure connection via VPN technology and https
- Retrieval and display of data from the browser (compatible with current versions of Mozilla Firefox, Microsoft Edge and Google Chrome)
- Connection of up to 16 controllers
- Up to 10 users with user-specific view configurations
- Archiving of all occurring alarms and all measured values
- Automatic daily log
- Journal (optional)



Standard version Visualisation software TopView 4

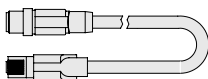
TopView 4	Type	Description	Item No.	Price [EUR]
	Mini	TopView basic component*	41901000	782.20
	Standard	TopView basic component + Extension with journals according to DIN 19643	41901001	817.10

* TopView basic component consisting of a mini PC, power supply unit, SD card with pre-installed operating system and TopView licence, USB stick for data logging

Owners of a TopView 3 will receive a refund for returning the old dongle when purchasing a TopView 4:

Return refund	Item No.	Price [EUR]
	41900015	362.10

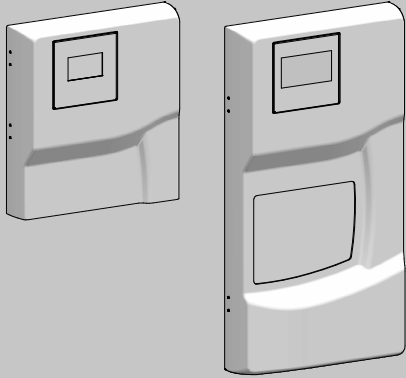
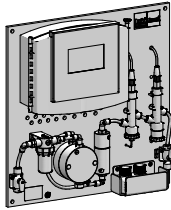
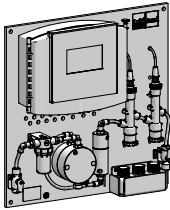
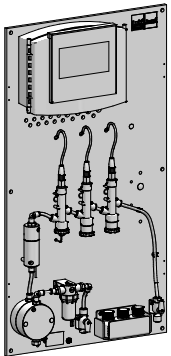
Standard accessories Cable



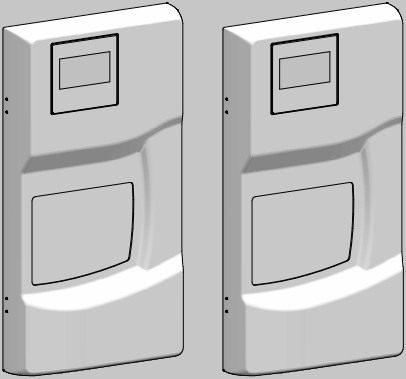
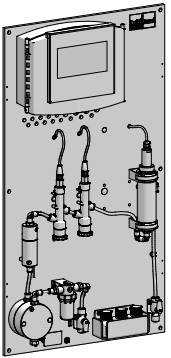
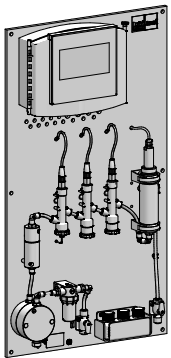
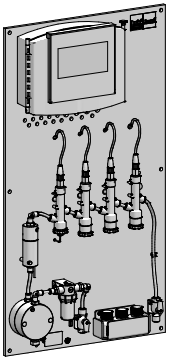
Ethernet cable for network connection

Ethernet cable D-coded	Connection	Cable length	Item No.	Price [EUR]
Cable with RJ-45 connector, straight version	M12x1 plug	2 m	79369	112.30
	M12x1 plug	5 m	79370	115.60
	M12x1 plug	10 m	79371	161.00

Standard version

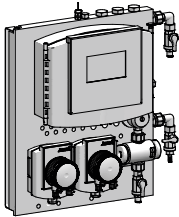
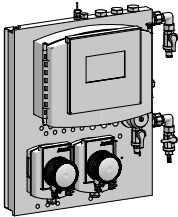
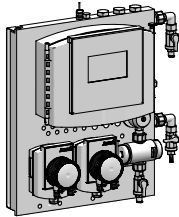
EASYPRO		MB-C	ME-C	MC-C
				
Controller		TOPAX® MC2	TOPAX® MC2	TOPAX® MC3
Measuring inputs	Channel 1	Free chlorine	Redox value	Free chlorine
	Channel 2	pH value	pH value	pH value
	Channel 3	-	-	Redox value
	Channel 4	-	-	-
Replaces water sampling station		EASYPRO CP and EASYPRO LB-C	EASYPRO LE-C	EASYPRO LC-C, PM 01 and PM 03
PL sheet		PL 4 28 00 / 4 – 6	PL 4 28 00 / 7 – 9	PL 4 28 00 / 10 – 12

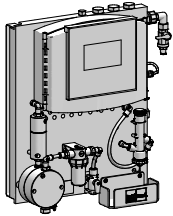
Note: The standard versions are delivered with a cover.

EASYPRO		MD-C	MP-C	MK-C
				
Controller		TOPAX® MC3	TOPAX® MC4	TOPAX® MC4
Measuring inputs	Channel 1	Free chlorine	Total chlorine	Free chlorine
	Channel 2	pH value	Free chlorine	pH value
	Channel 3	Redox value	pH value	Redox value
	Channel 4	-	Redox value	Conductivity
Replaces water sampling station		EASYPRO LD-C	EASYPRO LP-C and DCM 01	EASYPRO LK-C
PL sheet		PL 4 28 00 / 13 – 15	PL 4 28 00 / 16 – 18	PL 4 28 00 / 19 – 21

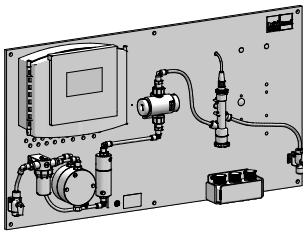
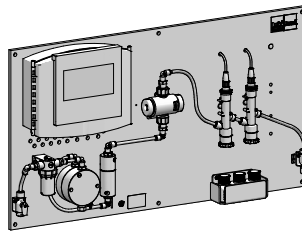
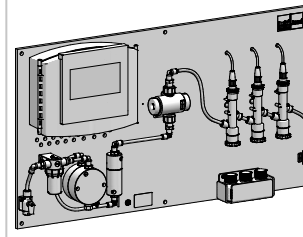
Note: The standard versions are delivered with a cover.

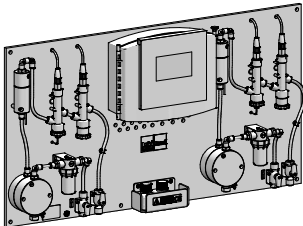
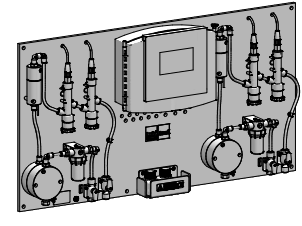
Standard versions

EASYPRO SMART		CP	RP	CPL
				
Controller		TOPAX® MC2	TOPAX® MC2	TOPAX® MC3
Measuring inputs	Channel 1	Free chlorine	Redox value	free chlorine
	Channel 2	pH value	pH value	pH value
	Channel 3	-	-	Conductivity
	Channel 4	-	-	-
Replaces water sampling station		EASYPOL SMART 02 CP	EASYPOL SMART 02 RP	EASYPOL SMART 02 CPL
PL sheet		PL 4 28 00 / 22 – 23	PL 4 28 00 / 22 – 23	PL 4 28 00 / 22 – 23

EASYPRO COMPACT	
	
Controller	
TOPAX® MC3	
Measuring inputs	Channel 1
	Channel 2
	Channel 3
	Channel 4
Free chlorine	
pH value	
Redox value	
-	
Replaces water sampling station	
EASYPRO Compact (until 08/2019)	
PL sheet	
PL 4 28 00 / 24 – 25	

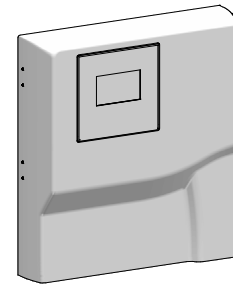
Standard version

EASYPRO CS		2	3	4
				
Controller		TOPAX® MC2	TOPAX® MC3	TOPAX® MC4
Measuring inputs	Channel 1	Free chlorine	Free chlorine	Free chlorine
	Channel 2	pH value	pH value	pH value
	Channel 3	-	Redox value	Redox value
	Channel 4	-	-	Conductivity or total chlorine
PL sheet		PL 4 28 00 / 26 – 31	PL 4 28 00 / 26 – 31	PL 4 28 00 / 26 – 31

EASYPRO		MBB-C	MEE-C
			
Controller		TOPAX® MC4	TOPAX® MC4
Measuring inputs	Channel 1	Free chlorine	pH value
	Channel 2	pH value	Redox value
	Channel 3	Free chlorine	pH value
	Channel 4	pH value	Redox value
PL sheet		PL 4 28 00 / 32 – 33	PL 4 28 00 / 32 – 33

General

The **EASYPRO MB-C** water sampling station serves the measurement and control of the free chlorine and the pH value in swimming pools. The sampling station is characterised by its well-arranged design and high pressure resistance. The cover provides additional protection for the fittings. The **TOPAX® MC2** multi-channel controller ensures simple operation. The standard versions of the **EASYPRO MB-C** are compatible with the visualisation software TopView 4.

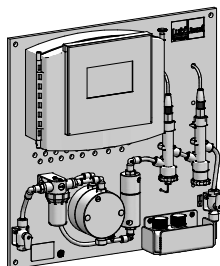

Technical data

EASYPRO MB-C			
Dimensions (WxHxD)	With cover	mm	500 x 530 x 117 approx.
	Without cover	mm	490 x 490 x 117 approx.
Sample water requirement		l/h	30 approx.
Sample water inflow and discharge		mm	PE hose 6/8 + stop valve with G1/4 connection
Pressure resistance		bar	max. 6
Pressure loss in the water sampling station		bar	0.3 approx.
Mesh size sample water filter		µm	300
Voltage supply			100 – 240 V AC, 50/60 Hz
Power consumption		W	max. 20
Analogue outputs for remote transmission			4 x 0/4 – 20 mA, working resistance max. 500 Ω
Disturbance variable input		mA	0/4 – 20
Interfaces			Ethernet TCP/IP or RS485 Modbus RTU (optional)
Protection class			IP65 (electronic controller)
Ambient temperature		°C	-5 to +45 (no exposure to direct sunlight)
Control characteristic			P, PI, PID or PD behaviour, control direction selectable with disturbance variable feed forward, 2-side control selectable
Measuring inputs (depending on version)			
Number of measuring inputs			2*
Free chlorine	Amperometric 3-electrode measuring cell with potentiostat (DMZ3.1)	mg/l	0 – 2 or 0 – 15 (dependant on the input module and the measuring cell transconductance)
pH value	pH single-rod measuring cell	pH	2 – 12 or 0 – 14 (depending on the single-rod measuring chain)
Temperature	Pt100	°C	5 – 45
Output modules (depending on version)			
Number of output modules			up to 4
Servomotor relay			2 x 230 V AC, 5 A (ohmic load)
		kΩ	Potentiometer feedback: 1 – 10
Servomotor 20 mA with feedback or 0/4 – 20 mA			Constant 0/4 – 20 mA output
			Servomotor with 20 mA feedback
Relays			2 x 230 V AC, 5 A (ohmic load)
Relay High Current			2 x 230 V AC, 8 A (ohmic load)
Optocoupler			2 x 80 V DC, 5 mA
Digital universal			selectable: 2 x 230 V AC, 5 A (ohmic load) relay or 2 x 80 V DC, 5 mA optocoupler

* A temperature sensor can also be connected.

Standard version

EASYPRO MB-C water sampling station



Delivery inc. cover

The **EASYPRO MB-C** water sampling station for drinking water, swimming pool water and brine water

Measuring inputs EASYPRO MB-C:

- Measurement and control of free chlorine (0 – 15 mg/l)
- Measurement and control of the pH value (pH 2 – 12)
- Measurement of the temperature (5 – 45 °C)

Output modules EASYPRO MB-C:

- 1 x Servomotor relay*
- 1 x Servomotor 20 mA with feedback or 0/4 – 20 mA
- 2 x Digital universal (optocoupler or relay*)

EASYPRO MB-C	Display	Item No.	Price [EUR]
	5" Touchscreen	42820519	4,481.60

* With relay connections, inductive loads need to be suppressed using item no. 78614.

Note

Selectable products

Output modules	Selectable products
Servomotor relay	<ul style="list-style-type: none"> • Chlorine gas regulation valve C 7700 3-point step
Servomotor 20 mA with feedback or 0/4 – 20 mA	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LA, LP, MEMDOS LA, LP, MEMDOS SMART LP • Chlorine gas regulation valve C 7700 20 mA • Flow-trough chlorine electrolysis systems TECHNOSTAR
Relay*	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LK, LP, LDp, MEMDOS LB, LA, LP, MEMDOS SMART LB, LD, LK, LP • Peristaltic pumps • Flow-trough chlorine electrolysis systems TECHNOMAT PS
Relay High Current* (can be configured via the Matchcode order system)	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LA, LK, LP, LDp, MEMDOS LB, LA, LP, MEMDOS SMART LB, LD, LK, LP, MIDIDOS E, MINIDOS A • Peristaltic pumps • Flow-trough chlorine electrolysis systems TECHNOMAT PS
Optocoupler	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LK, LP, LDp, MEMDOS LP, MEMDOS SMART LD, LK, LP • CHC dosing stations EASYCHLORMIX, SAFETYCHLORMIX

* With relay connections, inductive loads need to be suppressed using item no. 78614.

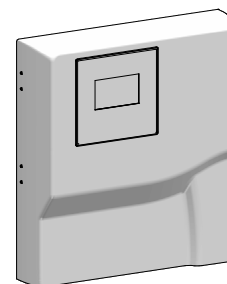
Matchcode order system EASYPRO MB-C Surcharge [EUR]

0428B EASYPRO MB-C		
Controller type		
0	without	1,427.50
5	TOPAX® MC2, 5" Touchscreen	3,054.60
Measuring input 1		
C1	Free chlorine, DMZ3.1, 0 – 15 mg/l, up to 6 bar	506.70
CH	Free chlorine, DMZ3.1, 0 – 2 mg/l, high resolution, up to 6 bar	506.70
Measuring input 2		
P1	pH value, drinking water, swimming pool water, pH 2 – 12, up to 6 bar, max. 50 °C	251.40
P2	pH value, process water, light soiling, pH 0 – 14, up to 6 bar	524.40
Temperature sensor Pt100		
0	without	-
1	with	72.50
Temperature range		
4	5 – 45 °C	-
Cover		
0	without	-
1	With cover	278.70
Additional input (only with TOPAX® controller)		
00	without	-
Output module 1 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC, 250 mA	35.30
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40
D	Servomotor relay with feedback	114.20
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70
U	Digital universal (optocoupler or relay)	67.80
Output module 2 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC, 250 mA	35.30
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40
D	Servomotor relay with feedback	114.20
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70
U	Digital universal (optocoupler or relay)	67.80
Output module 3 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC, 250 mA	35.30
U	Digital universal (optocoupler or relay)	67.80
Output module 4 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC, 250 mA	35.30
U	Digital universal (optocoupler or relay)	67.80
Data transfer - wire-connected (only with TOPAX® controller)		
0	Ethernet	-
A	Ethernet + RS485	73.70
Data transfer - wireless (only with TOPAX® controller)		
0	without	-
Operating voltage (only with TOPAX® controller)		
A	100 – 240 VAC, 50/60 Hz	-
Electrical connection (only with TOPAX® controller)		
00	without	-
1A	1.8 m power cable with plug, Europe (for 230 V AC)	25.00
2A	1.8 m power cable with plug, USA (for 115 V AC)	25.00
6A	1.8 m power cable with plug, Great Britain	25.00
6C	1.8 m power cable with plug, USA (for 230 V AC)	on request
9A	4.8 m power cable with plug, Europe (for 230 V AC)	66.50
Language (only with TOPAX® controller)		
LG	DE, EN, FR, ES, PT, NL, DK, CZ, RU, PL, HU, LT (other languages are available on request)	-

0428B 5 C1 P1 1 4 1 00 A B 0 B A 0 A 1A LG

General

The **EASYPRO ME-C** water sampling station serves the measurement and control of disinfection via the Redox value and the pH value in swimming pools. The sampling station is characterised by its well-arranged design and high pressure resistance. The cover provides additional protection for the fittings. The **TOPAX® MC2** two-channel controller ensures simple operation. The standard versions of the **EASYPRO ME-C** are compatible with the visualisation software TopView 4.

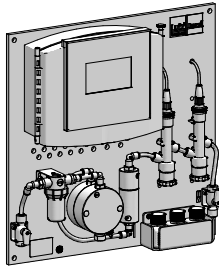


Technical data

EASYPRO ME-C			
Dimensions (WxHxD)	With cover	mm	500 x 530 x 117 approx.
	Without cover	mm	490 x 490 x 117 approx.
Sample water requirement		l/h	30 approx.
Sample water inflow and discharge		mm	PE hose 6/8 + stop valve with G1/4 connection
Pressure resistance		bar	max. 6
Pressure loss in the water sampling station		bar	0.3 approx.
Mesh size sample water filter		µm	300
Voltage supply			100 – 240 V AC, 50/60 Hz
Power consumption		W	max. 20
Analogue outputs for remote transmission			4 x 0/4 – 20 mA, working resistance max. 500 Ω
Disturbance variable input		mA	0/4 – 20
Interfaces			Ethernet TCP/IP or RS485 Modbus RTU (optional)
Protection class			IP65 (electronic controller)
Ambient temperature		°C	-5 to +45 (no exposure to direct sunlight)
Control characteristic			P, PI, PID or PD behaviour, control direction selectable with disturbance variable feed forward, 2-side control selectable
Measuring inputs (depending on version)			
Number of measuring inputs			2*
pH value	pH single-rod measuring cell	pH	2 – 12 or 0 – 14 (depending on the single-rod measuring chain)
Redox value	Redox single-rod measuring cell	mV	-1000 to +1000
Temperature	Pt100	°C	5 – 45
Output modules (depending on version)			
Number of output modules			up to 4
Servomotor relay			2 x 230 V AC, 5 A (ohmic load)
		kΩ	Potentiometer feedback: 1 – 10
Servomotor 20 mA with feedback or 0/4 – 20 mA			Constant 0/4 – 20 mA output
			Servomotor with 20 mA feedback
Relays			2 x 230 V AC, 5 A (ohmic load)
Relay High Current			2 x 230 V AC, 8 A (ohmic load)
Optocoupler			2 x 80 V DC, 5 mA
Digital universal			selectable: 2 x 230 V AC, 5 A (ohmic load) relay or 2 x 80 V DC, 5 mA optocoupler

* A temperature sensor can also be connected.

Standard version EASYPRO ME-C water sampling station



Delivery inc. cover

EASYPRO ME-C water sampling station for drinking water and swimming pool water

Measuring inputs EASYPRO ME-C:

- Measurement and control of the pH value (pH 2 – 12)
- Measurement and control of the Redox value (-1000 to +1000 mV)
- Measurement of the temperature (5 – 45 °C)

Output modules EASYPRO ME-C:

- 1 x Servomotor relay*
- 1 x Servomotor 20 mA with feedback or 0/4 – 20 mA
- 2 x Digital universal (optocoupler or relay*)

EASYPRO ME-C	Display	Item No.	Price [EUR]
	5" Touchscreen	42820520	4,637.70

* With relay connections, inductive loads need to be suppressed using item no. 78614.

Note Selectable products

Output modules	Selectable products
Servomotor relay	<ul style="list-style-type: none"> • Chlorine gas regulation valve C 7700 3-point step
Servomotor 20 mA with feedback or 0/4 – 20 mA	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LA, LP, MEMDOS LA, LP, MEMDOS SMART LP • Chlorine gas regulation valve C 7700 20 mA • Flow-trough chlorine electrolysis systems TECHNOSTAR
Relay*	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LK, LP, LDp, MEMDOS LB, LA, LP, MEMDOS SMART LB, LD, LK, LP • Peristaltic pumps • Flow-trough chlorine electrolysis systems TECHNOMAT PS
Relay High Current* (can be configured via the Matchcode order system)	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LA, LK, LP, LDp, MEMDOS LB, LA, LP, MEMDOS SMART LB, LD, LK, LP, MIDIDOS E, MINIDOS A • Peristaltic pumps • Flow-trough chlorine electrolysis systems TECHNOMAT PS
Optocoupler	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LK, LP, LDp, MEMDOS LP, MEMDOS SMART LD, LK, LP • CHC dosing stations EASYCHLORMIX, SAFETYCHLORMIX

* With relay connections, inductive loads need to be suppressed using item no. 78614.

EASYPRO ME-C

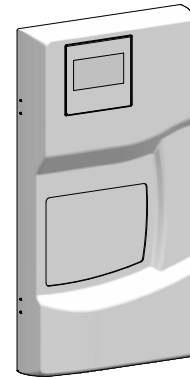
Matchcode order system EASYPRO ME-C Surcharge [EUR]

0428E EASYPRO ME-C		
Controller type		
0	without	1,427.50
5	TOPAX® MC2, 5" Touchscreen	3,054.60
Measuring input 1		
R1	Redox value (platinum electrode), swimming pool water, -1000 to +1000 mV, up to 6 bar	1,427.50
R5	Redox value (gold electrode), brine water, -1000 to +1000 mV, up to 6 bar, max. 50 °C	3,054.60
Measuring input 2		
P1	pH value, drinking water, swimming pool water, pH 2 – 12, up to 6 bar, max. 50 °C	251.40
P2	pH value, process water, light soiling, pH 0 – 14, up to 6 bar	524.40
Temperature sensor Pt100		
0	without	-
1	with	72.50
Temperature range		
4	5 – 45 °C	-
Cover		
0	without	-
1	With cover	278.70
Additional input (only with TOPAX® controller)		
00	without	-
Output module 1 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC, 250 mA	35.30
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40
D	Servomotor relay with feedback	114.20
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70
U	Digital universal (optocoupler or relay)	67.80
Output module 2 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC, 250 mA	35.30
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40
D	Servomotor relay with feedback	114.20
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70
U	Digital universal (optocoupler or relay)	67.80
Output module 3 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC; 250 mA	35.30
U	Digital universal (optocoupler or relay)	67.80
Output module 4 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC; 250 mA	35.30
U	Digital universal (optocoupler or relay)	67.80
Data transfer - wire-connected (only with TOPAX® controller)		
0	Ethernet	-
A	Ethernet + RS485	73.70
Data transfer - wireless (only with TOPAX® controller)		
0	without	-
Operating voltage (only with TOPAX® controller)		
A	100 – 240 VAC, 50/60 Hz	-
Electrical connection (only with TOPAX® controller)		
00	without	-
1A	1.8 m power cable with plug, Europe (for 230 V AC)	25.00
2A	1.8 m power cable with plug, USA (for 115 V AC)	25.00
6A	1.8 m power cable with plug, Great Britain	25.00
6C	1.8 m power cable with plug, USA (for 230 V AC)	on request
9A	4.8 m power cable with plug, Europe (for 230 V AC)	66.50
Language (only with TOPAX® controller)		
LG	DE, EN, FR, ES, PT, NL, DK, CZ, RU, PL, HU, LT (other languages are available on request)	-

0428E 5 R1 P1 0 4 1 00 A B 0 0 A 0 A 1A LG

General

The **EASYPRO MC-C** water sampling station serves the measurement and control of the free chlorine and the pH value in swimming pools. It also measures the Redox potential. The water sampling station is characterised by its well-arranged design and high pressure resistance. The cover provides additional protection for the fittings. The **TOPAX® MC3** multi-channel controller ensures simple operation. The standard versions of the **EASYPRO MC-C** are compatible with the visualisation software TopView 3 and 4.

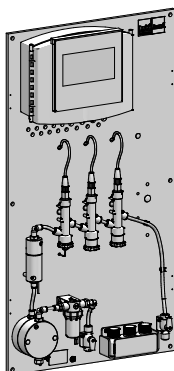

Technical data

EASYPRO MC-C			
Dimensions (WxHxD)	With cover	mm	500 x 933 x 128 approx.
	Without cover	mm	490 x 900 x 117 approx.
Sample water requirement		l/h	30 approx.
Sample water inflow and discharge		mm	PE hose 6/8 + stop valve with G1/4 connection
Pressure resistance		bar	max. 6
Pressure loss in the water sampling station		bar	0.3 approx.
Mesh size sample water filter		µm	300
Voltage supply			100 – 240 V AC, 50/60 Hz
Power consumption		W	max. 20
Analogue outputs for remote transmission			4 x 0/4 – 20 mA, working resistance max. 500 Ω
Disturbance variable input		mA	0/4 – 20
Interfaces			Ethernet TCP/IP or RS485 Modbus RTU (optional)
Protection class			IP65 (electronic controller)
Ambient temperature		°C	-5 to +45 (no exposure to direct sunlight)
Control characteristic			P, PI, PID or PD behaviour, control direction selectable with disturbance variable feed forward, 2-side control selectable
Measuring inputs (depending on version)			
Number of measuring inputs			3*
Free chlorine	Amperometric 3-electrode measuring cell with potentiostat (DMZ3.1)	mg/l	0 – 2 or 0 – 15 (dependant on the input module and the measuring cell transconductance)
pH value	pH single-rod measuring cell	pH	2 – 12 or 0 – 14 (depending on the single-rod measuring chain)
Redox value	Redox single-rod measuring cell	mV	-1000 to +1000
Temperature	Pt100	°C	5 – 45
Output modules (depending on version)			
Number of output modules			up to 4
Servomotor relay			2 x 230 V AC, 5 A (ohmic load)
		kΩ	Potentiometer feedback: 1 – 10
Servomotor 20 mA with feedback or 0/4 – 20 mA			Constant 0/4 – 20 mA output
			Servomotor with 20 mA feedback
Relays			2 x 230 V AC, 5 A (ohmic load)
Relay High Current			2 x 230 V AC, 8 A (ohmic load)
Optocoupler			2 x 80 V DC, 5 mA
Digital universal			selectable: 2 x 230 V AC, 5 A (ohmic load) relay or 2 x 80 V DC, 5 mA optocoupler

* Additionally, up to two temperature sensors can be connected.

Standard version

EASYPRO MC-C water sampling station



Delivery inc. cover

EASYPRO MC-C water sampling station for drinking water and swimming pool water

EASYPRO MC-C measuring inputs:

- Measurement and control of free chlorine (0 – 15 mg/l)
- Measurement and control of the pH value (pH 2 – 12)
- Measurement of the Redox value (-1000 to +1000 mV)
- Measurement of the temperature (5 – 45 °C)

Output modules EASYPRO MC-C:

- 1 x Servomotor relay*
- 1 x Servomotor 20 mA with feedback or 0/4 – 20 mA
- 2 x Digital universal (optocoupler or relay*)

EASYPRO MC-C	Display	Item No.	Price [EUR]
	7" Touchscreen	42837512	5,937.80

* With relay connections, inductive loads need to be suppressed using item no. 78614.

Note

Selectable products

Output modules	Selectable products
Servomotor relay	<ul style="list-style-type: none"> • Chlorine gas regulation valve C 7700 3-point step
Servomotor 20 mA with feedback or 0/4 – 20 mA	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LA, LP, MEMDOS LA, LP, MEMDOS SMART LP • Chlorine gas regulation valve C 7700 20 mA • Flow-trough chlorine electrolysis systems TECHNOSTAR
Relay*	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LK, LP, LDp, MEMDOS LB, LA, LP, MEMDOS SMART LB, LD, LK, LP • Peristaltic pumps • Flow-trough chlorine electrolysis systems TECHNOMAT PS
Relay High Current* (can be configured via the Matchcode order system)	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LA, LK, LP, LDp, MEMDOS LB, LA, LP, MEMDOS SMART LB, LD, LK, LP, MIDIDOS E, MINIDOS A • Peristaltic pumps • Flow-trough chlorine electrolysis systems TECHNOMAT PS
Optocoupler	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LK, LP, LDp, MEMDOS LP, MEMDOS SMART LD, LK, LP • CHC dosing stations EASYCHLORMIX, SAFETYCHLORMIX

* With relay connections, inductive loads need to be suppressed using item no. 78614.

Matchcode order system EASYPRO MC-C Surcharge [EUR]

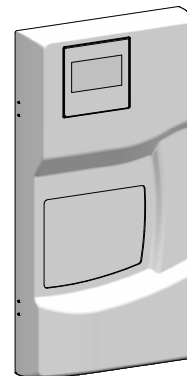
0428C EASYPRO MC-C		
Controller type		
0	without	1,527.70
7	TOPAX® MC3, 7" Touchscreen	4,108.50
Measuring input 1		
C1	Free chlorine, DMZ3.1, 0 – 15 mg/l, up to 6 bar	506.70
CH	Free chlorine, DMZ3.1, 0 – 2 mg/l, high resolution, up to 6 bar	506.70
Measuring input 2		
P1	pH value, drinking water, swimming pool water, pH 2 – 12, up to 6 bar, max. 50 °C	251.40
P2	pH value, process water, light soiling, pH 0 – 14, up to 6 bar	524.40
Measuring input 3		
R1	Redox value (platinum electrode), swimming pool water, -1000 to +1000 mV, up to 6 bar	270.50
R5	Redox value (gold electrode), brine water, -1000 to +1000 mV, up to 6 bar, max. 50 °C	662.70
Measuring input 4		
00	without	-
Temperature sensor Pt100		
0	without	-
1	with	72.50
Temperature range		
4	5 – 45 °C	-
Cover		
0	without	-
1	With cover	336.90
Output module 1 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC, 250 mA	35.30
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40
D	Servomotor relay with feedback	114.20
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70
U	Digital universal (optocoupler or relay)	67.80
Output module 2 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC, 250 mA	35.30
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40
D	Servomotor relay with feedback	114.20
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70
U	Digital universal (optocoupler or relay)	67.80
Output module 3 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC, 250 mA	35.30
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40
D	Servomotor relay with feedback	114.20
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70
U	Digital universal (optocoupler or relay)	67.80
Output module 4 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC, 250 mA	35.30
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40
D	Servomotor relay with feedback	114.20
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70
U	Digital universal (optocoupler or relay)	67.80
Data transfer - wire-connected (only with TOPAX® controller)		
0	Ethernet	-
A	Ethernet + RS485	73.70
Data transfer - wireless (only with TOPAX® controller)		
0	without	-
Operating voltage (only with TOPAX® controller)		
A	100 – 240 VAC, 50/60 Hz	-
Electrical connection (only with TOPAX® controller)		
00	without	-
1A	1.8 m power cable with plug, Europe (for 230 V AC)	25.00
2A	1.8 m power cable with plug, USA (for 115 V AC)	25.00
6A	1.8 m power cable with plug, Great Britain	25.00
6C	1.8 m power cable with plug, USA (for 230 V AC)	on request
9A	4.8 m power cable with plug, Europe (for 230 V AC)	66.50
Language (only with TOPAX® controller)		
LG	DE, EN, FR, ES, PT, NL, DK, CZ, RU, PL, HU, LT (other languages are available on request)	-

0428C 5 C1 P1 R5 00 1 4 1 B C D 0 A 0 A 8A LG

EASYPRO MD-C

General

The **EASYPRO MD-C** water sampling station serves the measurement and control of the free chlorine and the pH value in swimming pools. A highly-exact diaphragm-covered measuring cell is used for the measurement of free chlorine. It also measures the Redox potential. The water sampling station is characterised by its well-arranged design. The cover provides additional protection for the fittings. The **TOPAX® MC3** multi-channel controller ensures simple operation. The standard versions of the **EASYPRO MD-C** are compatible with the visualisation software TopView 3 and 4.

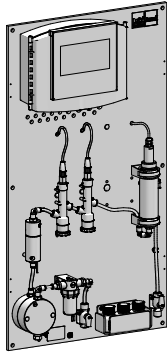


Technical data

EASYPRO MD-C			
Dimensions (WxHxD)	With cover	mm	500 x 933 x 128 approx.
	Without cover	mm	490 x 900 x 117 approx.
Sample water requirement		l/h	30 approx.
Sample water inflow and discharge		mm	PE hose 6/8 + stop valve with G1/4 connection
Pressure resistance		bar	max. 6, air gap required
Pressure loss in the water sampling station		bar	0.3 approx.
Mesh size sample water filter		µm	300
Voltage supply			100 – 240 V AC, 50/60 Hz
Power consumption		W	max. 20
Analogue outputs for remote transmission			4 x 0/4 – 20 mA, working resistance max. 500 Ω
Disturbance variable input		mA	0/4 – 20
Interfaces			Ethernet TCP/IP or RS485 Modbus RTU (optional)
Protection class			IP65 (electronic controller)
Ambient temperature		°C	-5 to +45 (no exposure to direct sunlight)
Control characteristic			P, PI, PID or PD behaviour, control direction selectable with disturbance variable feed forward, 2-side control selectable
Measuring inputs (depending on version)			
Number of measuring inputs			3*
Free chlorine	Diaphragm-covered measuring cell	mg/l	0 – 10 (dependant on the measuring cell)
pH value	pH single-rod measuring cell	pH	2 – 12 or 0 – 14 (depending on the single-rod measuring chain)
Redox value	Redox single-rod measuring cell	mV	-1000 to +1000
Temperature	Pt100	°C	5 – 45
Output modules (depending on version)			
Number of output modules			up to 4
Servomotor relay			2 x 230 V AC, 5 A (ohmic load)
		kΩ	Potentiometer feedback: 1 – 10
Servomotor 20 mA with feedback or 0/4 – 20 mA			Constant 0/4 – 20 mA output
			Servomotor with 20 mA feedback
Relays			2 x 230 V AC, 5 A (ohmic load)
Relay High Current			2 x 230 V AC, 8 A (ohmic load)
Optocoupler			2 x 80 V DC, 5 mA
Digital universal			selectable: 2 x 230 V AC, 5 A (ohmic load) relay or 2 x 80 V DC, 5 mA optocoupler

* Additionally, up to two temperature sensors can be connected.

Standard version **EASYPRO MD-C water sampling station**



Delivery inc. cover

EASYPRO MD-C water sampling station for drinking water and swimming pool water

Measuring inputs EASYPRO MD-C:

- Measurement and control of free chlorine (0 – 2 mg/l)
- Measurement and control of the pH value (pH 2 – 12)
- Measurement of the Redox value (-1000 to +1000 mV)
- Measurement of the temperature (5 – 45 °C)

Output modules EASYPRO MD-C:

- 1 x Servomotor relay*
- 1 x Servomotor 20 mA with feedback or 0/4 – 20 mA
- 2 x Digital universal (optocoupler or relay*)

EASYPRO MD-C	Display	Item No.	Price [EUR]
	7" Touchscreen	42837513	7,731.00

* With relay connections, inductive loads need to be suppressed using item no. 78614.

Note **Selectable products**

Output modules	Selectable products
Servomotor relay	<ul style="list-style-type: none"> • Chlorine gas regulation valve C 7700 3-point step
Servomotor 20 mA with feedback or 0/4 – 20 mA	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LA, LP, MEMDOS LA, LP, MEMDOS SMART LP • Chlorine gas regulation valve C 7700 20 mA • Flow-trough chlorine electrolysis systems TECHNOSTAR
Relay*	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LK, LP, LDp, MEMDOS LB, LA, LP, MEMDOS SMART LB, LD, LK, LP • Peristaltic pumps • Flow-trough chlorine electrolysis systems TECHNOMAT PS
Relay High Current* (can be configured via the Matchcode order system)	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LA, LK, LP, LDp, MEMDOS LB, LA, LP, MEMDOS SMART LB, LD, LK, LP, MIDIDOS E, MINIDOS A • Peristaltic pumps • Flow-trough chlorine electrolysis systems TECHNOMAT PS
Optocoupler	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LK, LP, LDp, MEMDOS LP, MEMDOS SMART LD, LK, LP • CHC dosing stations EASYCHLORMIX, SAFETYCHLORMIX

* With relay connections, inductive loads need to be suppressed using item no. 78614.

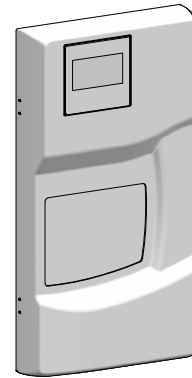
EASYPRO MD-C

Matchcode order system EASYPRO MD-C		Surcharge [EUR]
0428D EASYPRO MD-C		
Controller type		
0	without	1,527.70
7	TOPAX® MC3, 7" Touchscreen	4,108.50
Measuring input 1		
C4	Free chlorine, diaphragm-covered measuring cell, 0 – 0.5 mg/l, max. 0.5 bar	1,907.70
C5	Free chlorine, diaphragm-covered measuring cell, 0 – 2 mg/l, max. 0.5 bar	1,907.70
C6	Free chlorine, diaphragm-covered measuring cell, 0 – 5 mg/l, max. 0.5 bar	1,907.70
C7	Free chlorine, diaphragm-covered measuring cell, 0 – 10 mg/l, max. 0.5 bar	1,907.70
Measuring input 2		
P1	pH value, drinking water, swimming pool water, pH 2 – 12, up to 6 bar, max. 50 °C	251.40
P2	pH value, process water, light soiling, pH 0 – 14, up to 6 bar	524.40
Measuring input 3		
R1	Redox value (platinum electrode), swimming pool water, -1000 to +1000 mV, up to 6 bar	270.50
R5	Redox value (gold electrode), brine water, -1000 to +1000 mV, up to 6 bar, max. 50 °C	662.70
Measuring input 4		
00	without	-
Temperature sensor Pt100		
0	without	-
1	with	72.50
Temperature range		
4	5 – 45 °C	-
Cover		
0	without	-
1	With cover	336.90
Output module 1 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC, 250 mA	35.30
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40
D	Servomotor relay with feedback	114.20
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70
U	Digital universal (optocoupler or relay)	67.80
Output module 2 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC, 250 mA	35.30
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40
D	Servomotor relay with feedback	114.20
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70
U	Digital universal (optocoupler or relay)	67.80
Output module 3 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC, 250 mA	35.30
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40
D	Servomotor relay with feedback	114.20
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70
U	Digital universal (optocoupler or relay)	67.80
Output module 4 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC, 250 mA	35.30
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40
D	Servomotor relay with feedback	114.20
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70
U	Digital universal (optocoupler or relay)	67.80
Data transfer - wire-connected (only with TOPAX® controller)		
0	Ethernet	-
A	Ethernet + RS485	73.70
Data transfer - wireless (only with TOPAX® controller)		
0	without	-
Operating voltage (only with TOPAX® controller)		
A	100 – 240 VAC, 50/60 Hz	-
Electrical connection (only with TOPAX® controller)		
00	without	-
1A	1.8 m power cable with plug, Europe (for 230 V AC)	25.00
2A	1.8 m power cable with plug, USA (for 115 V AC)	25.00
6A	1.8 m power cable with plug, Great Britain	25.00
6C	1.8 m power cable with plug, USA (for 230 V AC)	on request
9A	4.8 m power cable with plug, Europe (for 230 V AC)	66.50
Language (only with TOPAX® controller)		
LG	DE, EN, FR, ES, PT, NL, DK, CZ, RU, PL, HU, LT (other languages are available on request)	-

0428D 5 C5 P1 R1 00 1 4 1 D B B A A 0 A 9A LG

General

The **EASYPRO MP-C** water sampling station serves the measurement and control of the free chlorine and the pH value in swimming pools. It also measures the Redox potential. The bound chlorine is calculated via the total chlorine measuring cell. The water sampling station is characterised by its well-arranged design. The cover provides additional protection for the fittings. The **TOPAX® MC4** multi-channel controller ensures simple operation. The standard versions of the **EASYPRO MP-C** are compatible with the visualisation software TopView 4.


Technical data

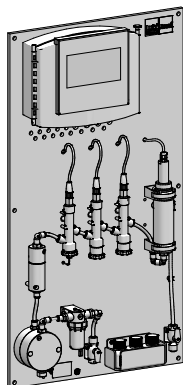
EASYPRO MP-C			
Dimensions (WxHxD)	With cover	mm	500 x 933 x 128 approx.
	Without cover	mm	490 x 900 x 117 approx.
Sample water requirement		l/h	30 approx.
Sample water inflow and discharge		mm	PE hose 6/8 + stop valve with G1/4 connection
Pressure resistance		bar	max. 6, air gap required
Pressure loss in the water sampling station		bar	0.3 approx.
Mesh size sample water filter		µm	300
Voltage supply			100 – 240 V AC, 50/60 Hz
Power consumption		W	max. 20
Analogue outputs for remote transmission			4 x 0/4 – 20 mA, working resistance max. 500 Ω
Disturbance variable input		mA	0/4 – 20
Interfaces			Ethernet TCP/IP or RS485 Modbus RTU (optional)
Protection class			IP65 (electronic controller)
Ambient temperature		°C	-5 to +45 (no exposure to direct sunlight)
Control characteristic			P, PI, PID or PD behaviour, control direction selectable with disturbance variable feed forward, 2-side control selectable
Measuring inputs (depending on version)			
Number of measuring inputs			4*
Free chlorine	Amperometric 3-electrode measuring cell with potentiostat (DMZ3.1)	mg/l	0 – 2 or 0 – 15 (dependant on the input module and the measuring cell transconductance)
Total chlorine	Diaphragm-covered measuring cell	mg/l	0 – 10 (dependant on the measuring cell)
pH value	pH single-rod measuring cell	pH	2 – 12 or 0 – 14 (depending on the single-rod measuring chain)
Redox value	Redox single-rod measuring cell	mV	-1000 to +1000
Temperature	Pt100	°C	5 – 45
Output modules (depending on version)			
Number of output modules			up to 4
Servomotor relay			2 x 230 V AC, 5 A (ohmic load)
		kΩ	Potentiometer feedback: 1 – 10
Servomotor 20 mA with feedback or 0/4 – 20 mA			Constant 0/4 – 20 mA output
			Servomotor with 20 mA feedback
Relays			2 x 230 V AC, 5 A (ohmic load)
Relay High Current			2 x 230 V AC, 8 A (ohmic load)
Optocoupler			2 x 80 V DC, 5 mA
Digital universal			selectable: 2 x 230 V AC, 5 A (ohmic load) relay or 2 x 80 V DC, 5 mA optocoupler

* Additionally, up to three temperature sensors can be connected.

EASYPRO MP-C

Standard version

EASYPRO MP-C water sampling station



Delivery inc. cover

EASYPRO MP-C water sampling station for drinking water and swimming pool water

Measuring inputs EASYPRO MP-C:

- Measurement and control of free chlorine (0 – 15 mg/l)
- Measurement of the total chlorine* (0 – 2 mg/l)
- Measurement and control of the pH value (pH 2 – 12)
- Measurement of the Redox value (-1000 to +1000 mV)
- Measurement of the temperature (5 – 45 °C)

* Calculating the bound chlorine using the difference value between the total chlorine and the free chlorine

Output modules EASYPRO MP-C:

- 1 x Servomotor relay**
- 1 x Servomotor 20 mA with feedback or 0/4 – 20 mA
- 2 x Digital universal (optocoupler or relay**)

EASYPRO MP-C	Display	Item No.	Price [EUR]
	7" Touchscreen	42847510	8,743.20

** With relay connections, inductive loads need to be suppressed using item no. 78614.

Note

Selectable products

Output modules	Selectable products
Servomotor relay	<ul style="list-style-type: none"> • Chlorine gas regulation valve C 7700 3-point step
Servomotor 20 mA with feedback or 0/4 – 20 mA	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LA, LP, MEMDOS LA, LP, MEMDOS SMART LP • Chlorine gas regulation valve C 7700 20 mA • Flow-trough chlorine electrolysis systems TECHNOSTAR
Relay*	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LK, LP, LDp, MEMDOS LB, LA, LP, MEMDOS SMART LB, LD, LK, LP • Peristaltic pumps • Flow-trough chlorine electrolysis systems TECHNOMAT PS
Relay High Current* (can be configured via the Matchcode order system)	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LA, LK, LP, LDp, MEMDOS LB, LA, LP, MEMDOS SMART LB, LD, LK, LP, MIDIDOS E, MINIDOS A • Peristaltic pumps • Flow-trough chlorine electrolysis systems TECHNOMAT PS
Optocoupler	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LK, LP, LDp, MEMDOS LP, MEMDOS SMART LD, LK, LP • CHC dosing stations EASYCHLORMIX, SAFETYCHLORMIX

* With relay connections, inductive loads need to be suppressed using item no. 78614.

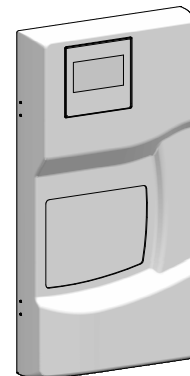
Matchcode order system EASYPRO MP-C Surcharge [EUR]

0428P EASYPRO MP-C		
Controller type		
0	without	1,527.70
7	TOPAX® MC4, 7" Touchscreen	4,781.90
Measuring input 1		
G1	Total chlorine, diaphragm-covered measuring cell, 0 – 2 mg/l, max. 1 bar	2,132.10
G2	Total chlorine, diaphragm-covered measuring cell, 0 – 5 mg/l, max. 1 bar	2,132.10
G3	Total chlorine, diaphragm-covered measuring cell, 0 – 10 mg/l, max. 1 bar	2,132.10
Measuring input 2		
C1	Free chlorine, DMZ3.1, 0 – 15 mg/l, up to 6 bar	506.70
CH	Free chlorine, DMZ3.1, 0 – 2 mg/l, high resolution, up to 6 bar	506.70
Measuring input 3		
P1	pH value drinking water, swimming pool water, pH 2 – 12, up to 6 bar, max. 50 °C	251.40
P2	pH value, process water, light soiling, pH 0 – 14, up to 6 bar	524.40
Measuring input 4		
R1	Redox value (platinum electrode), swimming pool water, -1000 to +1000 mV, up to 6 bar	270.50
R5	Redox value (gold electrode), brine water, -1000 to +1000 mV, up to 6 bar, max. 50 °C	662.70
Temperature sensor Pt100		
0	without	-
1	with	72.50
Temperature range		
4	5 – 45 °C	-
Cover		
0	without	-
1	With cover	336.90
Output module 1 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC, 250 mA	35.30
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40
D	Servomotor relay with feedback	114.20
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70
U	Digital universal (optocoupler or relay)	67.80
Output module 2 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC, 250 mA	35.30
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40
D	Servomotor relay with feedback	114.20
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70
U	Digital universal (optocoupler or relay)	67.80
Output module 3 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC, 250 mA	35.30
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40
D	Servomotor relay with feedback	114.20
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70
U	Digital universal (optocoupler or relay)	67.80
Output module 4 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC, 250 mA	35.30
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40
D	Servomotor relay with feedback	114.20
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70
U	Digital universal (optocoupler or relay)	67.80
Data transfer - wire-connected (only with TOPAX® controller)		
0	Ethernet	-
A	Ethernet + RS485	73.70
Data transfer - wireless (only with TOPAX® controller)		
0	without	-
Operating voltage (only with TOPAX® controller)		
A	100 – 240 VAC, 50/60 Hz	-
Electrical connection (only with TOPAX® controller)		
00	without	-
1A	1.8 m power cable with plug, Europe (for 230 V AC)	25.00
2A	1.8 m power cable with plug, USA (for 115 V AC)	25.00
6A	1.8 m power cable with plug, Great Britain	25.00
6C	1.8 m power cable with plug, USA (for 230 V AC)	on request
9A	4.8 m power cable with plug, Europe (for 230 V AC)	66.50
Language (only with TOPAX® controller)		
LG	DE, EN, FR, ES, PT, NL, DK, CZ, RU, PL, HU, LT (other languages are available on request)	-

0428P 5 G1 C1 P1 R1 1 4 1 A B A D A 0 A 00 LG

General

The **EASYPRO MK-C** water sampling station serves the measurement and control of the free chlorine, the pH value and salt content (via conductivity) in swimming pools. It also measures the Redox potential. The sampling station is characterised by its well-arranged design and high pressure resistance. The cover provides additional protection for the fittings. The **TOPAX® MC4** multi-channel controller ensures simple operation. The standard versions of the **EASYPRO MK-C** are compatible with the visualisation software TopView 4.

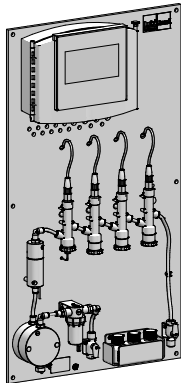


Technical data

EASYPRO MK-C			
Dimensions (WxHxD)	With cover	mm	500 x 933 x 128 approx.
	Without cover	mm	490 x 900 x 117 approx.
Sample water requirement		l/h	30 approx.
Sample water inflow and discharge		mm	PE hose 6/8 + stop valve with G1/4 connection
Pressure resistance		bar	max. 6
Pressure loss in the water sampling station		bar	0.3 approx.
Mesh size sample water filter		µm	300
Voltage supply			100 – 240 V AC, 50/60 Hz
Power consumption		W	max. 20
Analogue outputs for remote transmission			4 x 0/4 – 20 mA, working resistance max. 500 Ω
Disturbance variable input		mA	0/4 – 20
Interfaces			Ethernet TCP/IP or RS485 Modbus RTU (optional)
Protection class			IP65 (electronic controller)
Ambient temperature		°C	-5 to +45 (no exposure to direct sunlight)
Control characteristic			P, PI, PID or PD behaviour, control direction selectable with disturbance variable feed forward, 2-side control selectable
Measuring inputs (depending on version)			
Number of measuring inputs			4*
Free chlorine	Amperometric 3-electrode measuring cell with potentiostat (DMZ3.1)	mg/l	0 – 2 or 0 – 15 (dependant on the input module and the measuring cell transconductance)
pH value	pH single-rod measuring cell	pH	2 – 12 or 0 – 14 (depending on the single-rod measuring chain)
Redox value	Redox single-rod measuring cell	mV	-1000 to +1000
Conductivity	Conductive conductivity measuring cell, c = 1	mS/cm	0 – 2, 0 – 20 or 0 – 100 (depending on the configuration) corresponds to approx. 0 – 1 % or 0 – 5 % salt content
Temperature	Pt100	°C	5 – 45
Output modules (depending on version)			
Number of output modules			up to 4
Servomotor relay			2 x 230 V AC, 5 A (ohmic load)
		kΩ	Potentiometer feedback: 1 – 10
Servomotor 20 mA with feedback or 0/4 – 20 mA			Constant 0/4 – 20 mA output
			Servomotor with 20 mA feedback
Relays			2 x 230 V AC, 5 A (ohmic load)
Relay High Current			2 x 230 V AC, 8 A (ohmic load)
Optocoupler			2 x 80 V DC, 5 mA
Digital universal			selectable: 2 x 230 V AC, 5 A (ohmic load) relay or 2 x 80 V DC, 5 mA optocoupler

* Additionally, up to three temperature sensors can be connected.

Standard version **EASYPRO MK-C water sampling station**



Delivery inc. cover

The **EASYPRO MK-C** water sampling station for drinking water, swimming pool water and brine water

Measuring inputs EASYPRO MK-C:

- Measurement and control of free chlorine (0 – 15 mg/l)
- Measurement and control of the pH value (pH 2 – 12)
- Measurement of the Redox value (-1000 to +1000 mV)
- Measurement and control of conductivity (0 – 20 mS)
- Measurement of the temperature (5 – 45 °C)

Output modules EASYPRO MK-C:

- 1 x Servomotor relay*
- 1 x Servomotor 20 mA with feedback or 0/4 – 20 mA
- 2 x Digital universal (optocoupler or relay*)

EASYPRO MK-C	Display	Item No.	Price [EUR]
	7" Touchscreen	42847511	7,478.60

* With relay connections, inductive loads need to be suppressed using item no. 78614.

Note **Selectable products**

Output modules	Selectable products
Servomotor relay	<ul style="list-style-type: none"> • Chlorine gas regulation valve C 7700 3-point step
Servomotor 20 mA with feedback or 0/4 – 20 mA	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LA, LP, MEMDOS LA, LP, MEMDOS SMART LP • Chlorine gas regulation valve C 7700 20 mA • Flow-trough chlorine electrolysis systems TECHNOSTAR
Relay*	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LK, LP, LDp, MEMDOS LB, LA, LP, MEMDOS SMART LB, LD, LK, LP • Peristaltic pumps • Flow-trough chlorine electrolysis systems TECHNOMAT PS
Relay High Current* (can be configured via the Matchcode order system)	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LA, LK, LP, LDp, MEMDOS LB, LA, LP, MEMDOS SMART LB, LD, LK, LP, MIDIDOS E, MINIDOS A • Peristaltic pumps • Flow-trough chlorine electrolysis systems TECHNOMAT PS
Optocoupler	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LK, LP, LDp, MEMDOS LP, MEMDOS SMART LD, LK, LP • CHC dosing stations EASYCHLORMIX, SAFETYCHLORMIX

* With relay connections, inductive loads need to be suppressed using item no. 78614.

EASYPRO MK-C

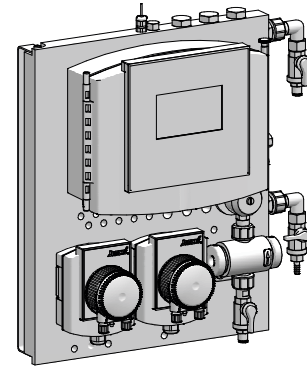
Matchcode order system EASYPRO MK-C Surcharge [EUR]

0428K EASYPRO MK-C		
Controller type		
0	without	1,527.70
7	TOPAX® MC4, 7" Touchscreen	4,781.90
Measuring input 1		
C1	Free chlorine, DMZ3.1, 0 – 15 mg/l, up to 6 bar	506.70
CH	Free chlorine, DMZ3.1, 0 – 2 mg/l, high resolution, up to 6 bar	506.70
Measuring input 2		
P1	pH value drinking water, swimming pool water, pH 2 – 12, up to 6 bar, max. 50 °C	251.40
P2	pH value, process water, light soiling, pH 0 – 14, up to 6 bar	524.40
Measuring input 3		
R1	Redox value (platinum electrode), swimming pool water, -1000 to +1000 mV, up to 6 bar	270.50
R5	Redox value (gold electrode), brine water, -1000 to +1000 mV, up to 6 bar, max. 50 °C	662.70
Measuring input 4		
L2	Conductivity (conductive), 0 – 20 mS/cm (1 %), up to 6 bar	475.20
L3	Conductivity (conductive), 0 – 100 mS/cm (5 %), up to 6 bar	475.20
Temperature sensor Pt100		
0	without	-
1	with	72.50
Temperature range		
4	5 – 45 °C	-
Cover		
0	without	-
1	With cover	336.90
Output module 1 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC, 250 mA	35.30
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40
D	Servomotor relay with feedback	114.20
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70
U	Digital universal (optocoupler or relay)	67.80
Output module 2 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC, 250 mA	35.30
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40
D	Servomotor relay with feedback	114.20
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70
U	Digital universal (optocoupler or relay)	67.80
Output module 3 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC, 250 mA	35.30
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40
D	Servomotor relay with feedback	114.20
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70
U	Digital universal (optocoupler or relay)	67.80
Output module 4 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC, 250 mA	35.30
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40
D	Servomotor relay with feedback	114.20
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70
U	Digital universal (optocoupler or relay)	67.80
Data transfer - wire-connected (only with TOPAX® controller)		
0	Ethernet	-
A	Ethernet + RS485	73.70
Data transfer - wireless (only with TOPAX® controller)		
0	without	-
Operating voltage (only with TOPAX® controller)		
A	100 – 240 VAC, 50/60 Hz	-
Electrical connection (only with TOPAX® controller)		
00	without	-
1A	1.8 m power cable with plug, Europe (for 230 V AC)	25.00
2A	1.8 m power cable with plug, USA (for 115 V AC)	25.00
6A	1.8 m power cable with plug, Great Britain	25.00
6C	1.8 m power cable with plug, USA (for 230 V AC)	on request
9A	4.8 m power cable with plug, Europe (for 230 V AC)	66.50
Language (only with TOPAX® controller)		
LG	DE, EN, FR, ES, PT, NL, DK, CZ, RU, PL, HU, LT (other languages are available on request)	-

0428K 5 C1 P1 R1 L2 1 4 1 A B A D A 0 A 00 LG

General

The **EASYPRO SMART** serves the monitoring and control of various water parameters in your swimming pool. The water parameters are subject to constant measurement; the **TOPAX® MC** electronic multi-channel controller holds them in the correct range. The controller installed on the **EASYPRO SMART** as standard works directly with the peristaltic pumps installed on the water sampling station. Additional actuators can be actuated. The standard versions of the **EASYPRO SMART** are compatible with the visualisation software TopView 4.



Technical data

EASYPRO SMART			CP	RP	CPL
Dimensions of the baseplate with add-on components (WxHxD)	mm		454 x 465 x 167 approx.		
Sample water requirement	l/h		45 approx.		
Sample water inflow and discharge	mm		Stop valve with hose clamp connector 6/8		
Pressure resistance	bar		max. 3		
Pressure loss in the water sampling station	bar		0.3 approx.		
Voltage supply			100 – 240 V AC, 50/60 Hz		
Power consumption	W		max. 30		
Analogue outputs for remote transmission			4 x 0/4 – 20 mA, working resistance max. 500 Ω		
Disturbance variable input	mA		0/4 – 20		
Interfaces			Ethernet TCP/IP or RS485 Modbus RTU (optional)		
Protection class			IP65 (electronic controller)		
Ambient temperature	°C		-5 to +45 (no exposure to direct sunlight)		
Control characteristic			P, PI, PID or PD behaviour, control direction selectable with disturbance variable feed forward, 2-side control selectable		
Measuring inputs (depending on version)					
Number of measuring inputs			2 ^a		3 ^b
Free chlorine	CS120 excess chlorine measuring cell	mg/l	0 – 15 ^c	-	0 – 15 ^c
pH value	pH single-rod measuring cell	pH	2 – 12 or 0 – 14 ^d		
Redox value	Redox single-rod measuring cell	mV	-	-1000 to +1000	-
Conductivity	Conductive conductivity measuring cell, c = 1	mS/cm	-	-	0 – 2, 0 – 20 or 0 – 100 ^e
Temperature	Pt100	°C	5 – 45		
Output modules (depending on version)					
Number of output modules			up to 4		
Servomotor relay			2 x 230 V AC, 5 A (ohmic load)		
	kΩ		Potentiometer feedback: 1 – 10		
Servomotor 20 mA with feedback or 0/4 – 20 mA			Constant 0/4 – 20 mA output		
			Servomotor with 20 mA feedback		
Relays			2 x 230 V AC, 5 A (ohmic load)		
Optocoupler			2 x 80 V DC, 5 mA		
Digital universal			selectable: 2 x 230 V AC, 5 A (ohmic load) relay or 2 x 80 V DC, 5 mA optocoupler		

^a A temperature sensor can also be connected.

^c Dependant on the measuring cell transconductance.

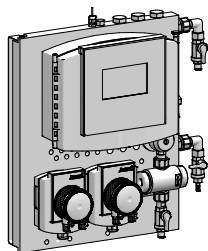
^e Corresponds to 0 – 5 % salt content

^b Additionally, up to two temperature sensors can be connected.

^d Dependant on the single-rod measuring chain.

Standard version

EASYPRO SMART CP water sampling station



Delivery inc.
Peristaltic pumps

The **EASYPRO SMART CP** water sampling station for drinking water, swimming pool water and brine water

Measuring inputs EASYPRO SMART CP:

- Measurement and control of free chlorine (0 – 15 mg/l)
- Measurement and control of the pH value (pH 2 – 12)
- Measurement of the temperature (5 – 45 °C)

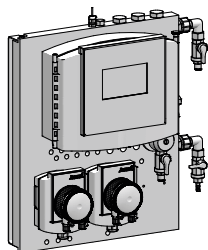
EASYPRO SMART CP	Output modules**	Item No.	Price [EUR]
	3 x relay*, 1 x optocoupler	42800001	4,483.00

* With relay connections, inductive loads need to be suppressed using item no. 78614.

** The products that can be controlled via the different output modules are listed in the table below.

Standard version

EASYPRO SMART RP water sampling station



Delivery inc.
Peristaltic pumps

The **EASYPRO SMART RP** water sampling station for drinking water and swimming pool water

Measuring inputs EASYPRO SMART RP:

- Measurement and control of the pH value (pH 2 – 12)
- Measurement and control of the Redox value (-1000 to +1000 mV)
- Measurement of the temperature (5 – 45 °C)

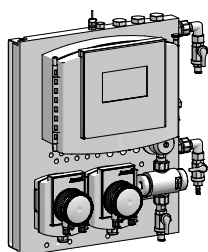
EASYPRO SMART RP	Output modules**	Item No.	Price [EUR]
	3 x relay*, 1 x optocoupler	42800002	4,192.40

* With relay connections, inductive loads need to be suppressed using item no. 78614.

** The products that can be controlled via the different output modules are listed in the table below.

Standard version

EASYPRO SMART CPL water sampling station



Delivery inc.
Peristaltic pumps

The **EASYPRO SMART CPL** water sampling station for drinking water, swimming pool water and brine water

Measuring inputs EASYPRO SMART CPL:

- Measurement and control of free chlorine (0 – 15 mg/l)
- Measurement and control of the pH value (pH 2 – 12)
- Measurement and control of conductivity (0 – 20 mS/cm)
- Measurement of the temperature (5 – 45 °C)

EASYPRO SMART CPL	Output modules**	Item No.	Price [EUR]
	3 x relay*, 1 x optocoupler	42800003	5,037.90

* With relay connections, inductive loads need to be suppressed using item no. 78614.

** The products that can be controlled via the different output modules are listed in the table below.

Note

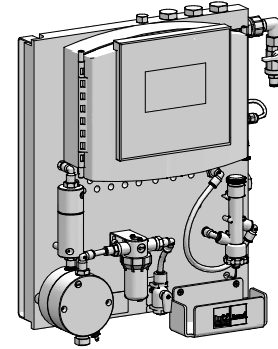
Selectable products

Output modules	Selectable products
Relay*	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LK, LP, LDp, MEMDOS LB, LA, LP, MEMDOS SMART LB, LD, LK, LP • Peristaltic pumps • Flow-trough chlorine electrolysis systems TECHNOMAT PS
Optocoupler	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LK, LP, LDp, MEMDOS LP, MEMDOS SMART LD, LK, LP

* With relay connections, inductive loads need to be suppressed using item no. 78614.

General

The **EASYPRO COMPACT** combines all the components of the **EASYPRO MC-C** on a small baseplate with a width of 454 mm and a height of 496 mm. The highly compact structure of the device is achieved by the location of the water flow and the sensor recording (except for chlorine) within the station. Together with the **TOPAX® MC controller**, it permits the comprehensive measurement, display, control and recording of all important water parameters. The standard versions of the **EASYPRO COMPACT** are compatible with the visualisation software TopView 4.



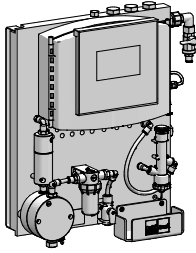
Technical data

EASYPRO COMPACT			
Dimensions of the baseplate with add-on components (WxHxD)		mm	454 x 496 x 161 approx.
Sample water requirement		l/h	30 approx.
Sample water inflow and discharge		mm	PE hose 6/8 + stop valve with G1/4 connection
Pressure resistance		bar	max. 6
Pressure loss in the water sampling station		bar	0.3 approx.
Mesh size sample water filter		µm	300
Voltage supply			100 – 240 V AC, 50/60 Hz
Power consumption		W	max. 20
Analogue outputs for remote transmission			4 x 0/4 – 20 mA, working resistance max. 500 Ω
Disturbance variable input		mA	0/4 – 20
Interfaces			Ethernet TCP/IP or RS485 Modbus RTU (optional)
Protection class			IP65 (electronic controller)
Ambient temperature		°C	-5 to +45 (no exposure to direct sunlight)
Control characteristic			P, PI, PID or PD behaviour, control direction selectable with disturbance variable feed forward, 2-side control selectable
Measuring inputs (depending on version)			
Number of measuring inputs			3*
Free chlorine	Amperometric 3-electrode measuring cell with potentiostat (DMZ3.1)	mg/l	0 – 2 or 0 – 15 (dependant on the input module and the measuring cell transconductance)
pH value	pH single-rod measuring cell	pH	2 – 12 or 0 – 14 (depending on the single-rod measuring chain)
Redox value	Redox single-rod measuring cell	mV	-1000 to +1000
Temperature	Pt100	°C	5 – 45
Output modules (depending on version)			
Number of output modules			4
Relays			2 x 230 V AC, 5 A (ohmic load)
Optocoupler			2 x 80 V DC, 5 mA

* Additionally, up to two temperature sensors can be connected.

Standard version

EASYPRO COMPACT water sampling station



EASYPRO COMPACT water sampling station for drinking water and swimming pool water

Measuring inputs EASYPRO COMPACT:

- Measurement and control of free chlorine (0 – 15 mg/l)
- Measurement and control of the pH value (pH 2 – 12)
- Measurement of the Redox value (-1000 to +1000 mV)
- Measurement of the temperature (5 – 45 °C)

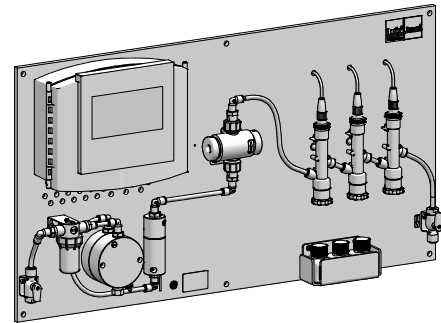
EASYPRO COMPACT	Output modules	Item No.	Price [EUR]
	2 x relay*, 2 x optocoupler	42803001	5,156.30

Output modules	Selectable products
Relay*	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LK, LP, LDp, MEMDOS LB, LA, LP, MEMDOS SMART LB, LD, LK, LP • Peristaltic pumps
Optocoupler	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LK, LP, LDp, MEMDOS LP, MEMDOS SMART LD, LK, LP • CHC dosing stations EASYCHLORMIX, SAFETYCHLORMIX

* With relay connections, inductive loads need to be suppressed using item no. 78614.

General

The variably configurable water sampling station **EASYPRO CS** relies on precise measurement of disinfection in swimming pool water with the amperometric 2-electrode measuring cell CS120. In combination with the pH value and other measured variables such as redox potential, total chlorine content or conductivity, this water sampling station can be optimally configured for both private and public swimming pool use. The **TOPAX® MC** multi-channel controller ensures easy operation. The standard versions of the **EASYPRO CS** are compatible with the visualisation software TopView 4.



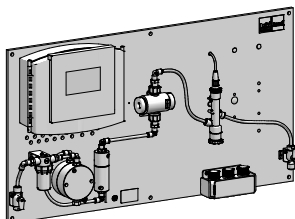
Technical data

EASYPRO CS			2	3	4
Dimensions (WxHxD)	mm		900 x 490 x 117 approx.		
Sample water requirement	l/h		45 approx.		
Sample water inflow and discharge	mm		PE hose 6/8 + stop valve with G1/4 connection		
Pressure resistance	bar		max. 6, air gap required		
Pressure loss in the water sampling station	bar		0.3 approx.		
Mesh size sample water filter	µm		300		
Voltage supply			100 – 240 V AC, 50/60 Hz		
Power consumption	W		max. 20		
Analogue outputs for remote transmission			4 x 0/4 – 20 mA, working resistance max. 500 Ω		
Disturbance variable input	mA		0/4 – 20		
Interfaces			Ethernet TCP/IP or RS485 Modbus RTU (optional)		
Protection class			IP65 (electronic controller)		
Ambient temperature	°C		-5 to +45 (no exposure to direct sunlight)		
Control characteristic			P, PI, PID or PD behaviour, control direction selectable with disturbance variable feed forward, 2-side control selectable		
Measuring inputs (depending on version)					
Number of measuring inputs			2 ^{a)}	3 ^{b)}	4 ^{c)}
Free chlorine	CS120 excess chlorine measuring cell	mg/l	0 – 10 (dependant on the measuring cell transconductance)		
Total chlorine	Diaphragm-covered measuring cell	mg/l	0 – 10 (dependant on the measuring cell)		
Conductivity	Conductivity measuring cell (conductive)	mS/cm	0 – 20 or 0 – 100 (depending on the configuration, corresponds to approx. 0 – 1 % or 0 – 5 % salt content)		
pH value	pH single-rod measuring cell	pH	2 – 12 or 0 – 14 (depending on the single-rod measuring chain)		
Redox value	Redox single-rod measuring cell	mV	-1000 to +1000		
Temperature	Pt100	°C	5 – 45		
Output modules (depending on version)					
Number of output modules			up to 4		
Servomotor relay		kΩ	2 x 230 V AC, 5 A (ohmic load)		
			Potentiometer feedback: 1 – 10		
Servomotor 20 mA with feedback or 0/4 – 20 mA			Constant 0/4 – 20 mA output		
			Servomotor with 20 mA feedback		
Relays			2 x 230 V AC, 5 A (ohmic load)		
Relay High Current			2 x 230 V AC, 8 A (ohmic load)		
Optocoupler			2 x 80 V DC, 5 mA		
Digital universal			selectable: 2 x 230 V AC, 5 A (ohmic load) relay or 2 x 80 V DC, 5 mA optocoupler		

^{a)} A temperature sensor can also be connected.
^{b)} Additionally, up to two temperature sensors can be connected.
^{c)} Additionally, up to three temperature sensors can be connected.

Standard version

EASYPRO CS 2 water sampling station



The **EASYPRO CS 2** water sampling station for drinking water, swimming pool water and brine water

Measuring inputs EASYPRO CS 2:

- Measurement and control of free chlorine (0 – 10 mg/l)
- Measurement and control of the pH value (pH 2 – 12)
- Measurement of the temperature (5 – 45 °C)

Output modules EASYPRO CS 2:

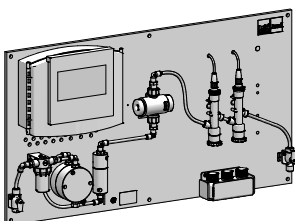
- 1 x Servomotor relay*
- 1 x Servomotor 20 mA with feedback or 0/4 – 20 mA
- 2 x Digital universal (optocoupler or relay*)

EASYPRO CS 2	Display	Item No.	Price [EUR]
	5" Touchscreen	42870203	4,257.40

* With relay connections, inductive loads need to be suppressed using item no. 78614.

Standard version

EASYPRO CS 3 water sampling station



The **EASYPRO CS 3** water sampling station for drinking water and swimming pool water

Measuring inputs EASYPRO CS 3:

- Measurement and control of free chlorine (0 – 10 mg/l)
- Measurement and control of the pH value (pH 2 – 12)
- Measurement of the Redox value (-1000 to +1000 mV)
- Measurement of the temperature (5 – 45 °C)

Output modules EASYPRO CS 3:

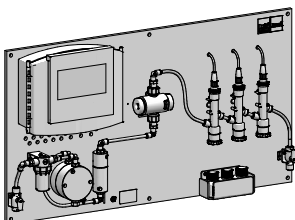
- 1 x Servomotor relay*
- 1 x Servomotor 20 mA with feedback or 0/4 – 20 mA
- 2 x Digital universal (optocoupler or relay*)

EASYPRO CS 3	Display	Item No.	Price [EUR]
	7" Touchscreen	42877303	5,655.40

* With relay connections, inductive loads need to be suppressed using item no. 78614.

Standard version

EASYPRO CS 4 water sampling station



The **EASYPRO CS 4** water sampling station for drinking water and swimming pool water

Measuring inputs EASYPRO CS 4:

- Measurement and control of free chlorine (0 – 10 mg/l)
- Measurement and control of the pH value (pH 2 – 12)
- Measurement of the Redox value (-1000 to +1000 mV)
- Measurement and control of conductivity (0 – 20 mS)
- Measurement of the temperature (5 – 45 °C)

Output modules EASYPRO CS 4:

- 1 x Servomotor relay*
- 1 x Servomotor 20 mA with feedback or 0/4 – 20 mA
- 2 x Digital universal (optocoupler or relay*)

EASYPRO CS 4	Display	Item No.	Price [EUR]
	7" Touchscreen	42877402	7,196.10

* With relay connections, inductive loads need to be suppressed using item no. 78614.

Note	Selectable products
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Output modules	Selectable products
Servomotor relay	<ul style="list-style-type: none"> • Chlorine gas regulation valve C 7700 3-point step
Servomotor 20 mA with feedback or 0/4 – 20 mA	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LA, LP, MEMDOS LA, LP, MEMDOS SMART LP • Chlorine gas regulation valve C 7700 20 mA • Flow-trough chlorine electrolysis systems TECHNOSTAR
Relay*	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LK, LP, LDp, MEMDOS LB, LA, LP, MEMDOS SMART LB, LD, LK, LP • Peristaltic pumps • Flow-trough chlorine electrolysis systems TECHNOMAT PS
Relay High Current* (can be configured via the Matchcode order system)	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LA, LK, LP, LDp, MEMDOS LB, LA, LP, MEMDOS SMART LB, LD, LK, LP, MIDIDOS E, MINIDOS A • Peristaltic pumps • Flow-trough chlorine electrolysis systems TECHNOMAT PS
Optocoupler	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LK, LP, LDp, MEMDOS LP, MEMDOS SMART LD, LK, LP • CHC dosing stations EASYCHLORMIX, SAFETYCHLORMIX

* With relay connections, inductive loads need to be suppressed using item no. 78614.

Matchcode order system EASYPRO CS 2		Surcharge [EUR]															
04287 EASYPRO CS																	
Controller type																	
0	without	-															
5	TOPAX® MC2, 5" Touchscreen	3,054.60															
Measuring input 1																	
C2	Free chlorine, CS120 Pt-Cu, 0 – 10 mg/l, up to 6 bar	561.10															
C3	Free chlorine, CS120 Pt-Ag, 0 – 10 mg/l, up to 6 bar	640.80															
Measuring input 2																	
G1	Total chlorine, diaphragm-covered measuring cell, 0– 2 mg/l, up to 1 bar	2,132.10															
G2	Total chlorine, diaphragm-covered measuring cell, 0– 5 mg/l, up to 1 bar	2,132.10															
G3	Total chlorine, diaphragm-covered measuring cell, 0– 10 mg/l, up to 1 bar	2,132.10															
L2	Conductivity (conductive), up to 20 mS (1 %), 6 bar	475.20															
L3	Conductivity (conductive), up to 100 mS (5 %), up to 6 bar	475.20															
P1	pH value, drinking water, swimming pool water, 2 – 12 pH up to 6 bar, max. 50 °C	251.40															
P2	pH value, process water light soiling, 2 – 14 pH, up to 6 bar	524.40															
R1	Redox value, process water light soiling, -1000 to +1000 mV, up to 6 bar	270.50															
R5	Redox value, brine water, -1000 to +1000 mV, up to 6 bar, max. 50 °C	662.70															
Measuring input 3																	
00	without	-															
Measuring input 4																	
00	without	-															
Temperature sensor Pt100																	
0	without	-															
1	with	72.50															
Temperature range																	
4	5 – 45 °C	-															
Cover																	
0	without	-															
Output module 1 (only with TOPAX® controller)																	
0	without	-															
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10															
B	2 optocoupler, 48 V DC, 250 mA	35.30															
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40															
D	Servomotor relay with feedback	114.20															
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70															
U	Digital universal (optocoupler or relay)	67.80															
Output module 2 (only with TOPAX® controller)																	
0	without	-															
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10															
B	2 optocoupler, 48 V DC, 250 mA	35.30															
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40															
D	Servomotor relay with feedback	114.20															
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70															
U	Digital universal (optocoupler or relay)	67.80															
Output module 3 (only with TOPAX® controller)																	
0	without	-															
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10															
B	2 optocoupler, 48 V DC, 250 mA	35.30															
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40															
D	Servomotor relay with feedback	114.20															
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70															
U	Digital universal (optocoupler or relay)	67.80															
Output module 4 (only with TOPAX® controller)																	
0	without	-															
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10															
B	2 optocoupler, 48 V DC, 250 mA	35.30															
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40															
D	Servomotor relay with feedback	114.20															
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70															
U	Digital universal (optocoupler or relay)	67.80															
Data transfer - wire-connected (only with TOPAX® controller)																	
0	Ethernet	-															
A	Ethernet + RS485	73.70															
Data transfer - wireless (only with TOPAX® controller)																	
0	without	-															
Operating voltage (only with TOPAX® controller)																	
A	100 – 240 VAC, 50/60 Hz	-															
Electrical connection (only with TOPAX® controller)																	
00	without	-															
1A	1.8 m power cable with plug, Europe (for 230 V AC)	25.00															
2A	1.8 m power cable with plug, USA (for 115 V AC)	25.00															
6A	1.8 m power cable with plug, Great Britain	25.00															
6C	1.8 m power cable with plug, USA (for 230 V AC)	on request															
9A	4.8 m power cable with plug, Europe (for 230 V AC)	66.50															
Language (only with TOPAX® controller)																	
LG	DE, EN, FR, ES, PT, NL, DK, CZ, RU, PL, HU, LT (other languages are available on request)	-															
04287	5	C2	P1	00	00	1	4	0	A	A	0	0	A	0	A	00	LG

Matchcode order system EASYPRO CS 3 Surcharge [EUR]

04287 EASYPRO CS		
Controller type		
0	without	-
7	TOPAX® MC3, 7" Touchscreen	4,108.50
Measuring input 1		
C2	Free chlorine, CS120 Pt-Cu, 0 – 10 mg/l, up to 6 bar	561.10
C3	Free chlorine, CS120 Pt-Ag, 0 – 10 mg/l, up to 6 bar	640.80
Measuring input 2		
G1	Total chlorine, diaphragm-covered measuring cell, 0– 2 mg/l, up to 1 bar	2,132.10
G2	Total chlorine, diaphragm-covered measuring cell, 0– 5 mg/l, up to 1 bar	2,132.10
G3	Total chlorine, diaphragm-covered measuring cell, 0– 10 mg/l, up to 1 bar	2,132.10
L2	Conductivity (conductive), up to 20 mS (1 %), 6 bar	475.20
L3	Conductivity (conductive), up to 100 mS (5 %), up to 6 bar	475.20
P1	pH value, drinking water, swimming pool water, 2 – 12 pH up to 6 bar, max. 50 °C	251.40
P2	pH value, process water light soiling, 2 – 14 pH, up to 6 bar	524.40
R1	Redox value, process water light soiling, -1000 to +1000 mV, up to 6 bar	270.50
R5	Redox value, brine water, -1000 to +1000 mV, up to 6 bar, max. 50 °C	662.70
Measuring input 3		
L2	Conductivity (conductive), up to 20 mS (1 %), 6 bar	475.20
L3	Conductivity (conductive), up to 100 mS (5 %), up to 6 bar	475.20
P1	pH value, drinking, swimming pool water, 2 – 12 pH up to 6 bar, max. 50 °C	251.40
P2	pH value, process water light soiling, 0 – 14, up to 6 bar	524.40
R1	Redox value, process water light soiling, -1000 to +1000 mV, up to 6 bar	270.50
R5	Redox value, brine water, -1000 to +1000 mV, up to 6 bar, max. 50 °C	662.70
Measuring input 4		
00	without	-
Temperature sensor PT100		
0	without	-
1	with	72.50
Temperature range		
4	5 – 45 °C	-
Cover		
0	without	-
Output module 1 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC, 250 mA	35.30
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40
D	Servomotor relay with feedback	114.20
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70
U	Digital universal (optocoupler or relay)	67.80
Output module 2 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC, 250 mA	35.30
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40
D	Servomotor relay with feedback	114.20
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70
U	Digital universal (optocoupler or relay)	67.80
Output module 3 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC, 250 mA	35.30
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40
D	Servomotor relay with feedback	114.20
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70
U	Digital universal (optocoupler or relay)	67.80
Output module 4 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC, 250 mA	35.30
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40
D	Servomotor relay with feedback	114.20
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70
U	Digital universal (optocoupler or relay)	67.80
Data transfer - wire-connected (only with TOPAX® controller)		
0	Ethernet	-
A	Ethernet + RS485	73.70
Data transfer - wireless (only with TOPAX® controller)		
0	without	-
Operating voltage (only with TOPAX® controller)		
A	100 – 240 VAC, 50/60 Hz	-
Electrical connection (only with TOPAX® controller)		
00	without	-
1A	1.8 m power cable with plug, Europe (for 230 V AC)	25.00
2A	1.8 m power cable with plug, USA (for 115 V AC)	25.00
6A	1.8 m power cable with plug, Great Britain	25.00
6C	1.8 m power cable with plug, USA (for 230 V AC)	on request
9A	4.8 m power cable with plug, Europe (for 230 V AC)	66.50
Language (only with TOPAX® controller)		
LG	DE, EN, FR, ES, PT, NL, DK, CZ, RU, PL, HU, LT (other languages are available on request)	-

04287 5 C2 G1 R1 00 1 4 0 A A 0 0 0 0 0 0 A 00 LG

Matchcode order system EASYPRO CS 4

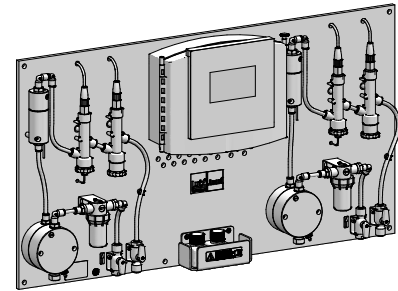
Surcharge [EUR]

04287 EASYPRO CS		
Controller type		
0	without	-
7	TOPAX® MC4, 7" Touchscreen	4,781.70
Measuring input 1		
C2	Free chlorine, CS120 Pt-Cu, 0 – 10 mg/l, up to 6 bar	561.10
C3	Free chlorine, CS120 Pt-Ag, 0 – 10 mg/l, up to 6 bar	640.80
Measuring input 2		
G1	Total chlorine, diaphragm-covered measuring cell, 0– 2 mg/l, up to 1 bar	2,132.10
G2	Total chlorine, diaphragm-covered measuring cell, 0– 5 mg/l, up to 1 bar	2,132.10
G3	Total chlorine, diaphragm-covered measuring cell, 0– 10 mg/l, up to 1 bar	2,132.10
L2	Conductivity (conductive), up to 20 mS (1 %), 6 bar	475.20
L3	Conductivity (conductive), up to 100 mS (5 %), up to 6 bar	475.20
P1	pH value, drinking water, swimming pool water, 2 – 12 pH up to 6 bar, max. 50 °C	251.40
P2	pH value, process water light soiling, 2 – 14 pH, up to 6 bar	524.40
R1	Redox value, process water light soiling, -1000 to +1000 mV, up to 6 bar	270.50
R5	Redox value, brine water, -1000 to +1000 mV, up to 6 bar, max. 50 °C	662.70
Measuring input 3		
L2	Conductivity (conductive), up to 20 mS (1 %), 6 bar	475.20
L3	Conductivity (conductive), up to 100 mS (5 %), up to 6 bar	475.20
P1	pH value, drinking, swimming pool water, 2 – 12 pH up to 6 bar, max. 50 °C	251.40
P2	pH value, process water light soiling, 0 – 14, up to 6 bar	524.40
R1	Redox value, process water light soiling, -1000 to +1000 mV, up to 6 bar	270.50
R5	Redox value, brine water, -1000 to +1000 mV, up to 6 bar, max. 50 °C	662.70
Measuring input 4		
L2	Conductivity (conductive), up to 20 mS (1 %), 6 bar	475.20
L3	Conductivity (conductive), up to 100 mS (5 %), up to 6 bar	475.20
P1	pH value, drinking, swimming pool water, 2 – 12 pH up to 6 bar, max. 50 °C	251.40
P2	pH value, process water light soiling, 0 – 14, up to 6 bar	524.40
R1	Redox value, process water light soiling, -1000 to +1000 mV, up to 6 bar	270.50
R5	Redox value, brine water, -1000 to +1000 mV, up to 6 bar, max. 50 °C	662.70
Temperature sensor Pt100		
0	without	-
1	with	72.50
Temperature range		
4	5 – 45 °C	-
Cover		
0	without	-
Output module 1 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC, 250 mA	35.30
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40
D	Servomotor relay with feedback	114.20
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70
U	Digital universal (optocoupler or relay)	67.80
Output module 2 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC, 250 mA	35.30
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40
D	Servomotor relay with feedback	114.20
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70
U	Digital universal (optocoupler or relay)	67.80
Output module 3 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC, 250 mA	35.30
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40
D	Servomotor relay with feedback	114.20
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70
U	Digital universal (optocoupler or relay)	67.80
Output module 4 (only with TOPAX® controller)		
0	without	-
A	2 Relay, 230 V AC, 5 A (ohmic load)	66.10
B	2 optocoupler, 48 V DC, 250 mA	35.30
C	Servomotor 20 mA with feedback or 0/4 – 20 mA	68.40
D	Servomotor relay with feedback	114.20
E	2 Relay High Current, 230 V AC, 8 A (ohmic load)	70.70
U	Digital universal (optocoupler or relay)	67.80
Data transfer - wire-connected (only with TOPAX® controller)		
0	Ethernet	-
A	Ethernet + RS485	73.70
Data transfer - wireless (only with TOPAX® controller)		
0	without	-
Operating voltage (only with TOPAX® controller)		
A	100 – 240 VAC, 50/60 Hz	-
Electrical connection (only with TOPAX® controller)		
00	without	-
Language (only with TOPAX® controller)		
LG	DE, EN, FR, ES, PT, NL, DK, CZ, RU, PL., HU, LT (other languages are available on request)	-

04287 5 C2 G1 L2 L2 1 4 0 A A 0 0 0 0 0 0 A 00 LG

General

The **EASYPRO MBB-C** water sampling station serves the measurement and control of 2 x free chlorine and 2 pH values in the swimming pool. With the **EASYPRO MEE-C**, 2 pH and 2 redox values can be measured and controlled. The sampling stations are characterised by its well-arranged design and high pressure resistance. The **TOPAX® MC4** multi-channel controller ensures easy operation. In addition, 2 measuring water circuits can be controlled with one controller, which reduces costs. The standard versions of the **EASYPRO MBB-C** and **MEE-C** are compatible with the visualisation software TopView 4.



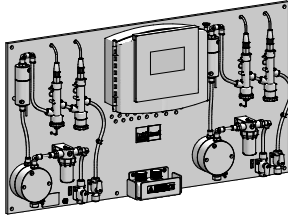
Technical data

EASYPRO			MBB-C	MEE-C
Dimensions (WxHxD)	mm		900 x 490 x 117 approx.	
Sample water requirement	l/h		2 x 30 approx.	
Sample water inflow and discharge	mm		PE hose 6/8 + stop valve with G1/4 connection	
Pressure resistance	bar		max. 6	
Pressure loss in the water sampling station	bar		2 x 0.3 approx.	
Mesh size sample water filter	µm		300	
Voltage supply			100 – 240 V AC, 50/60 Hz	
Power consumption	W		max. 20	
Analogue outputs for remote transmission			4 x 0/4 – 20 mA, working resistance max. 500 Ω	
Disturbance variable input	mA		0/4 – 20	
Interfaces			Ethernet TCP/IP or RS485 Modbus RTU (optional)	
Protection class			IP65 (electronic controller)	
Ambient temperature	°C		-5 to +45 (no exposure to direct sunlight)	
Control characteristic			P, PI, PID or PD behaviour, control direction selectable with disturbance variable feed forward, 2-side control selectable	
Measuring inputs (depending on version)				
Number of measuring inputs			2 x 2*	
Free chlorine	Amperometric 3-electrode measuring cell with potentiostat (DMZ3.1)	mg/l	0 – 2 (dependant on the input module and the measuring cell transconductance) or 0 – 15 (dependant on the input module and the measuring cell transconductance)	-
pH value	pH single-rod measuring cell	pH	2 x 2 – 12 (depending on the single-rod measuring cell) or 2 x 0 – 14 (depending on the single-rod measuring cell)	2 x 2 – 12 (depending on the single-rod measuring cell) or 2 x 0 – 14 (depending on the single-rod measuring cell)
Redox value	Redox single-rod measuring cell	mV	-	2 x -1000 to +1000
Temperature	Pt100	°C	2 x 5 – 45	2 x 5 – 45
Output modules (depending on version)				
Number of output modules			up to 4	
Servomotor relay		kΩ	2 x 230 V AC, 5 A (ohmic load)	
			Potentiometer feedback: 1 – 10	
Servomotor 20 mA with feedback or 0/4 – 20 mA			Constant 0/4 – 20 mA output	
			Servomotor with 20 mA feedback	
Relays			2 x 230 V AC, 5 A (ohmic load)	
Relay High Current			2 x 230 V AC, 8 A (ohmic load)	
Optocoupler			2 x 80 V DC, 5 mA	
Digital universal			selectable: 2 x 230 V AC, 5 A (ohmic load) relay or 2 x 80 V DC, 5 mA optocoupler	

* A temperature sensor can also be connected.

Standard version

EASYPRO MBB-C water sampling station



The **EASYPRO MBB-C** water sampling station for drinking water, swimming pool water and brine water

Measuring inputs EASYPRO MBB-C:

- Measurement and control of 2 x free chlorine (0 – 15 mg/l)
- Measurement and control of 2 pH values (pH 2 – 12)
- Measurement of 2 temperatures (5 – 45 °C)

Output modules EASYPRO MBB-C:

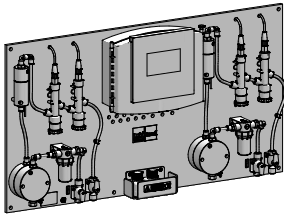
- 2 x Digital universal (optocoupler or relay*)

EASYPRO MBB-C	Display	Item No.	Price [EUR]
	5" Touchscreen	42850010	6,360.60

* With relay connections, inductive loads need to be suppressed using item no. 78614.

Standard version

EASYPRO MEE-C water sampling station



The **EASYPRO MEE-C** water sampling station for drinking water, swimming pool water and brine water

Measuring inputs EASYPRO MEE-C:

- Measurement and control of 2 pH values (pH 2 – 12)
- Measurement and control of 2 redox values (-1000 to +1000 mV)
- Measurement of 2 temperatures (5 – 45 °C)

Output modules EASYPRO MEE-C:

- 2 x Digital universal (optocoupler or relay*)

EASYPRO MEE-C	Display	Item No.	Price [EUR]
	5" Touchscreen	42850011	8,202.20

* With relay connections, inductive loads need to be suppressed using item no. 78614.

Note

Selectable products

Output modules	Selectable products
Relay*	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LK, LP, LDp, MEMDOS LB, LA, LP, MEMDOS SMART LB, LD, LK, LP • Peristaltic pumps • Flow-trough chlorine electrolysis systems TECHNOMAT PS
Optocoupler	<ul style="list-style-type: none"> • Dosing pumps MAGDOS LB, LD, LK, LP, LDp, MEMDOS LP, MEMDOS SMART LD, LK, LP • CHC dosing stations EASYCHLORMIX, SAFETYCHLORMIX

* With relay connections, inductive loads need to be suppressed using item no. 78614.

Standard version Maintenance sets

Scope of delivery maintenance set for water sampling station EASYPRO MB-C, MC-C, MP-C, MK-C, ME-C, MC-C, MBB-C, MEE-C and CS:

- Spare parts set for sample water filter (seal, support body, stainless steel tube)
- Vent screw
- O rings
- Ring diaphragm
- Pressure springs
- Counter electrode for disinfection measuring cell (only for MB-C, MC-C, MP-C und MK-C)
- Cleaning balls (only for CS)

Scope of delivery maintenance set for water sampling station EASYPRO SMART CP, CPL, RP:

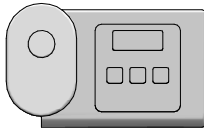
- O rings
- Cleaning balls (nur für CP, CPL)

Note: Corresponding measuring electrodes must be ordered separately.

Maintenance set	suitable for EASYPRO	Wartungsintervall	Item No.	Price [EUR]
	MB-C*, MC-C, MP-C, MK-C	annual	42884	114.20
	ME-C*, MC-C	annual	42885	91.30
	SMART CP, CPL	annual	42887	57.50
	SMART RP	annual	42888	34.00
	CS	annual	43536	93.30

* 2 maintenance sets are required for EASYPRO MBB-C or MEE-C!

Standard accessories Photometer

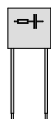


- Internal memory for 16 data sets
- Automatic switch off
- Real-time clock and date
- Adjustable functional display
- Illuminated display
- Water-tight (analogue IP68, 1 hour at 0.1 metre)

Photometer	Type	Item No.	Price [EUR]
Incl. batteries	MD100	23800007	858.50
	MD200	23800008	743.30

Photometer			MD100	MD200
Measuring range	Chlorine dioxide	mg/l	0.02 – 11	-
	Free chlorine / total chlorine	mg/l	-	0.01 – 6
	pH value		-	pH 6.5 – 8.4
	Cyanuric acid		-	0 – 160 mg/l / 0.1 – 4 mmol/l
	Acid capacity		-	Ks4.3
Wave length accuracy	nm	± 1		
Photometric accuracy (in standard solution)	%	3 FS (T = 20 °C – 25 °C)		
Photometric resolution	A	0.01		
Power supply		4 AAA batteries, Capacity c. 17 h or 5.000 measurements	4 AA batteries, Capacity c. 53 h or 15.000 measurements	
Interface		IR interface for measurement data transfer		
Dimensions (L x W x H)	mm	155 x 75 x 35	190 x 110 x 55	
Weight	g	Basic device c. 455	Basic device c. 260	
Ambient temperature	°C	5 – 40		
Rel. Air humidity	%	30 – 90 non condensing		

Standard accessories **Switching device interference suppression module**



Switching device suppression module/spark suppressor	Item No.	Price [EUR]
	78614	28.20

Spare parts **Sample water filter**



Sample water filter	Filter unit	Connections	Item No.	Price [EUR]
	300 µm	G1/4" connections	38681	102.00

The following spare parts set is available for the sample water filter.

Scope of delivery Spare parts set:

- Seal
- Support
- Stainless steel screen



Spare parts sets	suitable for	Item No.	Price [EUR]
Sample water filter	Sample water filter 300 µm	38702	26.60

Use the following filter insert with aggressive media or brine water:



Filter insert	Filter unit	Material	Item No.	Price [EUR]
	250 µm	PE	42678	28.10

Spare parts **Reed contact**



Reed contact	suitable for	Item No.	Price [EUR]
	Flow control	79252	23.70

Spare parts **Resistance thermometer**



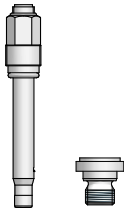
Resistance thermometer	Type	Dimensions (Ø x length)	Item No.	Price [EUR]
	TE110	6 x 50 mm	41100022	74.90

Spare parts **Hose**



Hose 6/8	Material	Item No.	Price [EUR] per m
	LD-PE natural	97175	3.40
	PTFE	97620	10.30

Spare parts **Measuring cells for the measurement of disinfection**



DMZ3.1* measuring cell		Measuring electrode incl. cleaning balls	Counter electrode
Measuring unit		all oxidizing ions	
Part number		44302005	79801
Price [EUR]		311.40	27.50
Fits		EASYPRO MB-C, MC-C, MP-C, MK-C, MBB-C, EASYPRO COMPACT	
Applications		Swimming pool water, saline water	
Measuring range	mg/l Cl ₂	0 – 15	
Connection		N attachment head	
Pressure range	bar	0 – 6	
Flow rate	l/h	30	
Measuring principle		Amperometric 3-electrode measuring cell with potentiostat	

* This measuring cell has a restricted life span and is excluded from refunded returns.

The following spare parts are available for the DMZ3.1 measuring cell:



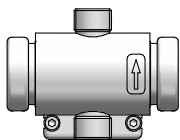
Cleaning balls	Quantity / material	Item No.	Price [EUR]
	40 x glass, 60 x PP	41215	17.70



O-ring	Material	Ø	Item No.	Price [EUR]
	FPM	17 x 1.5 mm	80064	4.20
	FPM	14 x 1.5 mm	80961	1.10

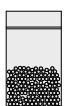


Special measuring cable with N plug connector	Length	Fits	Item No.	Price [EUR]
	0.8 m	EASYPRO MC-C, MP-C	78148	69.60
	1.0 m	EASYPRO MB-C, COMPACT	75157	87.00



Measuring cell		CS120 - Pt/Cu	CS120 - Pt/Ag
Measuring unit		all oxidizing ions	
Part number		23722968	23732271
Price [EUR]		842.80	1,057.80
Fits		EASYPRO SMART CP, CPL, EASYPRO CS	
Applications		Swimming pool water	Swimming pool water, saline water
Measuring range	mg/l Cl ₂	0 – 20	
Connection		Free wire end	
Pressure range	bar	0 – 6	
Flow rate	l/h	40 – 50	
Measuring principle		Amperometric 2-electrode measuring cell	

The following spare parts are available for the CS120 measuring cells:



Electrodes	Description	for measuring cell type	Item No.	Price [EUR]
	Measuring electrode platinum	CS120 - Pt/Cu, CS120 - Pt/Ag	22306	480.20
	Counter electrode copper	CS120 - Pt/Cu	22307	101.40
	Counter electrode silver	CS120 - Pt/Ag	35506	359.40

Cleaning balls	Material	Quantity	Item No.	Price [EUR]
	Glass	200 pc.	31613	46.40

O-ring*	Material	Ø	Item No.	Price [EUR]
	FPM	25 x 3 mm	80138	3.20

2 pieces are required per measuring cell.

Spare parts Measuring cells for the measurement of disinfection



Measuring cell		CI 4.2	CI 4.2	CI 4.2	CI 4.2
Measuring unit		free chlorine			
Part number		23700613	23700608	23700614	23700616
Price [EUR]		1,530.20	1,530.20	1,530.20	1,127.10
Fits		EASYPRO MD-C			
Applications		Swimming pool water	Swimming pool water, saline water	Swimming pool water	
Measuring range	mg/l Cl ₂	0 – 0.5	0 – 2	0 – 5	0 – 10
Connection		Free wire end			
Pressure range	bar	0 – 0.5			
Flow rate	l/h	30			
Measuring principle		amperometric diaphragm covered cell measuring cell			

The following maintenance parts are available for the CI 4.2 measuring cells:



Membrane cap	Maintenance interval	Item No.	Price [EUR]
	Membrane cap change: once a year	35988	125.50



Electrolyte	Maintenance interval	Item No.	Price [EUR]
	Electrolyte change: every 3 – 6 months	35989	53.60



Emery	Item No.	Price [EUR]
	89182	14.80

O-ring	Maintenance interval	Item No.	Price [EUR]
	O-ring change: in case of embrittlement or permanent deformation	80004	4.90



Measuring cell		GCM	GCM	GCM
Measuring unit		Total chlorine		
Part number		23700751	23700752	23700753
Price [EUR]		2,191.60	2,163.10	2,163.10
Fits		EASYPRO MP-C, EASYPRO CS		
Applications		Swimming pool water		
Measuring range	mg/l Cl _{total}	0 – 2	0 – 5	0 – 10
Connection		Free wire end		
Pressure range	bar	0 – 1		
Flow rate	l/h	30		
Measuring principle		Amperometric diaphragm covered cell measuring cell		

The following maintenance parts are available for the GCM measuring cells:



Membrane cap	Maintenance interval	Item No.	Price [EUR]
	Membrane cap change: once a year	35367	163.80



Electrolyte	Maintenance interval	Item No.	Price [EUR]
	Electrolyte change: every 3 – 6 months	35341	64.30



O-ring	Maintenance interval	Item No.	Price [EUR]
	O-ring change: in case of embrittlement or permanent deformation	80944	4.00

Spare parts **Measuring cells for measuring the pH value value**



pH single-rod measuring cell		PE110	PE110
Part number		44101001	44101004
Price [EUR]		377.90	93.80
Fits		EASYPRO MB-C, ME-C, MC-C, MD-C, MP-C, MK-C, MBB-C, MEE-C, EASYPRO SMART CP, RP, EASYPRO CS	
Applications		Swimming pool water, warm water	Swimming pool water
Measuring range	pH	0 – 14	2 – 12
Connection		N plug head with screw-in thread PG 13.5	
Pressure resistance	bar	max. 6	max. 6
Temperature range	°C	0 – 80	0 – 50
Installation lengths	mm	120	120
Shaft diameter	mm	12 approx.	

Note: Single-rod measuring cells have a restricted life span and are excluded from refunded returns.

The following spare parts are available for the PE110 single-rod measuring chains.



pH buffer solution	pH value	Quantity	Item No.	Price [EUR]
	pH 6.8	50 ml	77011	14.10
	pH 6.8	250 ml	78063	25.50
	pH 9.27	50 ml	77012	14.10
	pH 9.27	250 ml	78064	25.50



O-ring	Material	Ø	Fits	Item No.	Price [EUR]
	FPM	19 x 2 mm	EASYPRO MB-C, ME-C, MD-C, MP-C	80947	4.00



Special measuring cable with N plug connector	Length	Fits	Item No.	Price [EUR]
	0.8 m	EASYPRO MC-C, MD-C, MP-C	78148	69.60
	1.0 m	EASYPRO MB-C, ME-C, EASYPRO SMART CP, RP	75157	87.00

Spare parts

Measuring cells for measuring the Redox value



Redox single-rod measuring cell		ME110	ME110
Part number		44102011	44102019
Price [EUR]		145.10	500.20
Fits		EASYPRO ME-C, MC-C, MD-C, MP-C, MEE-C EASYPRO SMART CP, RP, EASYPRO COMPACT, EASYPRO CS	
Applications		Swimming pool water	Salty waters
Measuring range	mV	0 – 1000	
Connection		N plug head with screw-in thread PG 13.5	
Pressure resistance	bar	max. 6	max. 0.6
Temperature range	°C	0 – 80	0 – 50
Installation lengths	mm	120	
Shaft diameter	mm	12 approx.	

Note: Single-rod measuring cells have a restricted life span and are excluded from refunded returns.

The following spare parts are available for the ME110 single-rod measuring chains.



Redox buffer solution	Redox value	Quantity	Item No.	Price [EUR]
	468 mV	50 ml	77014	14.10
	468 mV	250 ml	78065	44.10



O-ring	Material	Ø	Fits	Item No.	Price [EUR]
	FPM	19 x 2 mm	EASYPRO MB-C, ME-C, MC-C, MD-C, MP-C	80947	4.00



Special measuring cable with N plug connector	Length	Fits	Item No.	Price [EUR]
	0.8 m	EASYPRO MC-C, MD-C, MP-C	78148	69.60
	1.0 m	EASYPRO MB-C, ME-C, EASYPRO SMART CP, RP	75157	87.00

Spare parts Measuring cell for measuring the conductivity



Conductivity measuring cell (conductive)		
Part number		41100044
Price [EUR]		358.70
Fits		EASYPRO MK-C, EASYPRO SMART CPL
Applications		Swimming pool water, saline water
Measuring range	mS/cm	0 – 20 or 0 – 100 (depending on the configuration of the controller)
Connection		N plug head with screw-in thread PG 13.5
Pressure resistance	bar	max. 6
Temperature range	°C	0 – 60
Installation lengths	mm	120
Shaft diameter	mm	12 approx.

Note: This measuring cell has a restricted life span and is excluded from refunded returns.

The following spare parts are available for the conductivity measuring cell:

Conductivity buffer solution	Conductivity	Quantity	Item No.	Price [EUR]
	12,88 mS/cm	50 ml	75189	18.50
	12,88 mS/cm	250 ml	75190	26.90
	50 mS/cm	50 ml	75191	18.50
	50 mS/cm	250 ml	75192	26.90



O-ring	Material	Ø	Fits	Item No.	Price [EUR]
	FPM	19 x 2 mm	EASYPRO MK-C	80947	4.00

Special measuring cable with M12x1 coupling	Length	Fits	Item No.	Price [EUR]
	2.0 m	EASYPRO MK-C, EASYPRO SMART CPL	79113	49.60

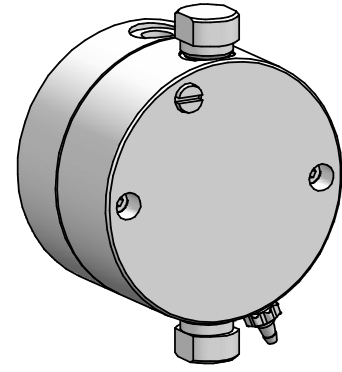
DFR 45 flow controller

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Flow controller DFR 45

General

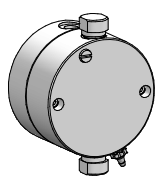
- Controlling the water flow with a fluctuating system pressure
- The required volume flow can be adjusted exactly within the range 15 to 45 l/h
- Possibility for water sampling
- Possibility for incorporating a temperature sensor (Pt100)



Technical data

DFR 45			
Materials			PVC / FPM / 1.4310 PVDF / FPM / 1.4310
Throughflow volumes	l/h		15 – 45
Inlet pressure	bar		0.2 – 6
Max. water temperature	°C		PVC: 40 PVDF: 60
Max. ambient temperature	°C		40
Inflow and outflows			G1/4 female
Temperature measurement point			M12x1,5

Standard version DFR 45 flow controller



PVC	Item No.	Price [EUR]
Seals: FPM	43900001	230.40
PVDF	Item No.	Price [EUR]
Seals: FPM	43900002	428.50

Standard version Maintenance kit

Scope of delivery maintenance kit for flow controller:

- Ring diaphragm Ø68/32x0.8 FPM
- all O-rings

Maintenance kit	for flow controller type	Item No.	Price [EUR]
	DFR 45	41510	31.20

Standard accessories Resistance thermometer



Resistance thermometer	Type	Shaft material	Item No.	Price [EUR]
	TE110	Metal protective pipe (stainless steel)	41100022	74.90

Spare and wearing parts Setting screw



Setting screw	Item No.	Price [EUR]
	38630	28.10

Spare and wearing parts Control cone



Control cone	Item No.	Price [EUR]
	41179	32.10

Spare and wearing parts Compression spring



Compression spring	Ø outside	Length	Item No.	Price [EUR]
	7.9	20	41186	3.40
	11	21.4	41185	4.20

Spare and wearing parts Control nozzle



Control nozzle	Material	Item No.	Price [EUR]
	PVDF	41271	15.40

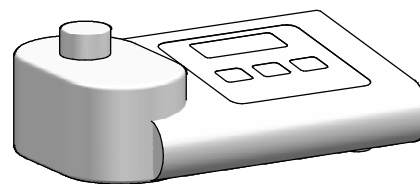
Spare and wearing parts Valve at the extraction point



Valve at the extraction point	Material	Item No.	Price [EUR]
	PVC	38950	2.90
	PVDF	38951	4.30

General

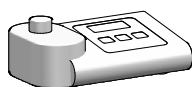
- Internal memory for 16 data sets
- Automatic switch off
- Real-time clock and date
- Adjustable functional display
- Illuminated display
- Memory function
- Water-tight (analogue IP 68, 1 hour at 0.1 metre)



Technical data

Photometer		MD100	MD200
Wave length accuracy	nm	± 1	
Photometric accuracy (in standard solution)	%	3 FS (T = 20 °C – 25 °C)	
Photometric resolution	A	0.01	
Power supply		4 AAA batteries, Capacity c. 17 h or 5.000 measurements	4 AA batteries, Capacity c. 53 h or 15.000 measurements
Memory		Internal memory for 16 data sets	
Interface		IR interface for measurement data transfer	
Dimensions (L x W x H)	mm	155 x 75 x 35	190 x 110 x 55
Weight	g	Basic device c. 455	Basic device c. 260
Ambient temperature	°C	5 – 40	
Rel. air humidity	%	30 – 90 non condensing	

Standard version Photometer



Scope of delivery photometer (in a plastic case):

- Reagent tablets
- 3 round cuvettes (glass) w/ lid
- 1 stirrer
- 1 brush
- 1 syringe (only at type MD200)
- Written guarantee
- Certificate

Photometer	Type	Measuring range	Item No.	Price [EUR]
Incl. batteries	MD100	Chlorine dioxide (0.02 – 11 mg/l)	23800007	858.50
	MD200	Free chlorine / total chlorine (0.01 – 6 mg/l), pH value (pH 6.5 – 8.4), Cyanuric acid (0 – 160 mg/l / 0.1 – 4 mmol/l), Acid capacity	23800008	743.30

Standard version **pH-Meter Portable Measuring Instrument**

Scope of delivery pH-Meter (in a plastic case):

- Carrying strap
- 10 test tablets pH 4, 7 and 10

pH-Meter Incl. batteries	Type	Measuring range	Item No.	Price [EUR]
	SD50	Temperature (0 – 60 °C), pH value (pH 0 – 14), Redox value (-1800 to c. +1800 mV)	41187	249.50

The following spare electrode is available for the pH meter:

Spare electrode pH meter	Measuring range	Item No.	Price [EUR]
	pH 0 – 14	41188	167.20

Standard accessories **Reagents**



DPD1 (free chlorine and chlorine dioxide)	Form	Quantity	Item No.	Price [EUR]
	Tablets	500 pc.	35693	199.50
	Tablets	100 pc.	35694	52.60
	Drops	for c. 70 measurements	35695	52.60



DPD1 High Calcium (free chlorine with high water hardness or high salt content)	Form	Quantity	Item No.	Price [EUR]
	Tablets	500 pc.	35696	204.40
	Tablets	100 pc.	35697	56.60



DPD3 (Total chlorine)	Form	Quantity	Item No.	Price [EUR]
	Tablets	500 pc.	35698	199.50
	Tablets	100 pc.	35699	52.60
	Drops	for c. 70 measurements	35700	27.30



Phenol red (pH value)	Form	Quantity	Item No.	Price [EUR]
	Tablets	500 pc.	35701	199.50
	Tablets	100 pc.	35702	52.60
	Drops	for c. 70 measurements	35703	27.30



Cyanuric acid	Form	Quantity	Item No.	Price [EUR]
	Tablets	250 pc.	35704	204.40
	Tablets	100 pc.	35705	92.40



Alka-M(K _{S4,3} value)	Form	Quantity	Item No.	Price [EUR]
	Tablets	250 pc.	35706	161.30
	Tablets	100 pc.	35707	72.20

Standard accessories **measuring instruments**

Measuring instruments for manual ClO₂ measurement in water.

measuring instruments	Measuring range	Item No.	Price [EUR]
	0.01 – 0.2 mg/l	23800006	161.50

Spare and wearing parts

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Spare and wearing parts Spare cuvettes



Spare cuvettes	Quantity	Item No.	Price [EUR]
incl. cover and sealing ring	5 pcs	35690	50.80

Spare and wearing parts Plastic stirrer

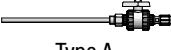

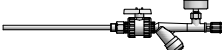
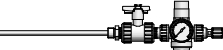


Plastic stirrer	Item No.	Price [EUR]
	35691	6.90

Spare and wearing parts Cover for battery compartment



Cover for battery compartment	Item No.	Price [EUR]
	35692	20.80

Standard accessories	Sample water removal																																																
 Type A	Water sampling point (pool or main line) . Scope of delivery: <ul style="list-style-type: none"> • Immersion tube with threaded socket • Type A: with PVC ball valve • Type AS: additionally with PVC angle dirt trap • Type ASM: additionally with 6 bar pressure gauge • Type AS-DM: additionally with pressure-relief valve and 6 bar pressure gauge 																																																
 Type AS	<table border="1"> <thead> <tr> <th>Sample water removal</th> <th>Type</th> <th>Screw-in thread</th> <th>Connection</th> <th>Item No.</th> <th>Price [EUR]</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>G1/2 male</td> <td>Hose Ø6/8 mm</td> <td></td> <td>23700055</td> <td>182.50</td> </tr> <tr> <td>A</td> <td>G1/2 male</td> <td>Hose Ø6/12 mm</td> <td></td> <td>23733813</td> <td>160.10</td> </tr> <tr> <td>A</td> <td>G3/4 male</td> <td>PVC screw connection DN15 / Ø20 mm</td> <td></td> <td>23734501</td> <td>221.90</td> </tr> <tr> <td>AS</td> <td>G1/2 male</td> <td>Hose Ø6/12 mm</td> <td></td> <td>23733814</td> <td>275.90</td> </tr> <tr> <td>AS</td> <td>G3/4 male</td> <td>PVC screw connection DN15 / Ø20 mm</td> <td></td> <td>23734502</td> <td>419.70</td> </tr> <tr> <td>ASM</td> <td>G1/2 male</td> <td>Hose Ø6/12 mm</td> <td></td> <td>23733815</td> <td>334.80</td> </tr> <tr> <td>AS-DM</td> <td>G3/4 male</td> <td>Hose Ø6/12 mm</td> <td></td> <td>23734988</td> <td>712.30</td> </tr> </tbody> </table>	Sample water removal	Type	Screw-in thread	Connection	Item No.	Price [EUR]	A	G1/2 male	Hose Ø6/8 mm		23700055	182.50	A	G1/2 male	Hose Ø6/12 mm		23733813	160.10	A	G3/4 male	PVC screw connection DN15 / Ø20 mm		23734501	221.90	AS	G1/2 male	Hose Ø6/12 mm		23733814	275.90	AS	G3/4 male	PVC screw connection DN15 / Ø20 mm		23734502	419.70	ASM	G1/2 male	Hose Ø6/12 mm		23733815	334.80	AS-DM	G3/4 male	Hose Ø6/12 mm		23734988	712.30
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Standard accessories	Sample water pump										
	Sample water pump as circulation pump for the by-pass line										
	<table border="1"> <thead> <tr> <th>Sample water pump</th> <th>Max. delivery rate</th> <th>Max. delivery head</th> <th>Item No.</th> <th>Price [EUR]</th> </tr> </thead> <tbody> <tr> <td>230 V 50 Hz 0.18 kW</td> <td>5.5 m³/h</td> <td>10 m</td> <td>23700024</td> <td>655.60</td> </tr> </tbody> </table>	Sample water pump	Max. delivery rate	Max. delivery head	Item No.	Price [EUR]	230 V 50 Hz 0.18 kW	5.5 m³/h	10 m	23700024	655.60
Sample water pump	Max. delivery rate	Max. delivery head	Item No.	Price [EUR]							
230 V 50 Hz 0.18 kW	5.5 m³/h	10 m	23700024	655.60							
	The following accessories are available for the sample water pump:										
	<table border="1"> <thead> <tr> <th>Wall bracket</th> <th>Material</th> <th>Item No.</th> <th>Price [EUR]</th> </tr> </thead> <tbody> <tr> <td></td> <td>PP</td> <td>23700060</td> <td>393.10</td> </tr> </tbody> </table>	Wall bracket	Material	Item No.	Price [EUR]		PP	23700060	393.10		
Wall bracket	Material	Item No.	Price [EUR]								
	PP	23700060	393.10								

Standard accessories **Sample water filter**



Sample water filter inc. mounting bracket	Filter unit	Connections	Item No.	Price [EUR]
	300 µm	Hose clamp connections 6/8 mm	38744	193.20
	300 µm	Hose clamp connections 6/12 mm	38745	166.40
	75 µm	Hose clamp connections 6/12 mm	23733816	277.20

The following spare parts set is available for the sample water filter.

Scope of delivery Spare parts set:

- Seal
- Support
- Stainless steel pipe



Spare parts set	suitable for	Item No.	Price [EUR]
	Sample water filter 300 µm	38702	26.60

The following spare cartridge is available for the sample water filter:



Spare cartridge	suitable for	Item No.	Price [EUR]
	Sample water filter 75 µm	33817	54.40

Standard accessories **flow limiter**



Flow limiter for the sample water line restricts the sample water flow to 48 l/h.

ATTENTION: Pressure decrease via the restrictor min. 1 bar

flow limiter	Connections	Item No.	Price [EUR]
	G1/2 female	32977	167.70
	Hose clamp connections 6/12 mm	23700021	178.60

Standard accessories **Flow meter (rotameter)**



Flow meter for installation in the sample water line.

Flow meter 60 l/h	Material	Connections	Item No.	Price [EUR]
	PVC	DN 10 / Ø16 stick-on connections	34442	247.30

Standard accessories **Hose**

Hose	Material	Øfemale/ Ømale	Item No.	Price [EUR] per m
	LD-PE natural	6/8 mm	97175	3.40
	Transparent perlon-reinforced PVC	6/12 mm	97120	3.20
	Transparent perlon-reinforced PVC	9/15 mm	97121	4.00

Accessories for Water Sampling Stations

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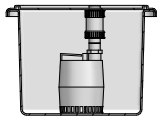
Accessories for Water sampling stations

Standard accessories **Hose coupling**



Hose coupling	Øfemale/Ømale	Item No.	Price [EUR]
	6/8 mm - 6/12 mm	98216	42.20

Standard accessories **Sample water return**



- Sample water return consisting of:
- Collecting pan 55l
 - 230 V immersion pump with float switch
 - Non-return valve DN25

Sample water return	Item No.	Price [EUR]
	23700045	1,019.70

Standard accessories **Rabbasol**

Rabbasol H4	Quantity	Item No.	Price [EUR]
Cleaner for fittings	12 kg can	1511	129.40

Technical data
Isolating amplifier and potential separator TV 430

Design	mm	22.5 standard housing
Fixing type		Mounting on supporting rail
Protection class		IP00
Load	Ω	500
Supply voltage		230 V / 50/60 Hz (other auxiliary power on request)

Signal doubler SV 430

Design	mm	12.5 modular housing
Input signal	mA	4 – 20
Output signal 1 + 2	mA	4 – 20
Protection class		IP20
Auxilliary voltage		80 – 240 V AC, + 10%, 48 – 62 Hz, approx. 3 VA

Level relay NR 430

Fixing type		Standard rails
Protection class		IP20
Electrode voltage		12 V / 50 Hz
Tripping value	k Ω	5 – 100 (adjustable)
Output relay		1 changer, max. 8 A with 250 V / 50 Hz
Supply voltage		24 – 240 V AC/DC
Dimensions (WxHxD)	mm	22.5 x 90 x 68

Level relay NR 430/2W

Fixing type		Standard rails
Protection class		IP00
Electrode voltage	V AC	15
Electrode current	mA	max. 2
Tripping value	k Ω	5 – 100
Response delay	ms	100
Output relay		2 changers (switchable)
Supply voltage		24 – 240 V AC/DC / 50/60 Hz
Switching capacity	max. 250 V AC / 5 A ohmic load	2 A inductively loaded
	max. 24 V DC / 5 A ohmic load	1 A inductively loaded
Dimensions (WxHxD)	mm	35 x 90 x 69

LF431 conductivity measuring amplifier

Measuring principle		Conductive, without display
Measurement output		4 – 20 mA galvanically isolated
Working resistance load	Ω	max. 500
Protection class		IP65
Supply voltage		230 V, 50/60 Hz
Measuring cell	Cell constant	K = 1
	Temperature	$^{\circ}\text{C}$
	Shaft material	PP
	Electrode material	Stainless steel
	Screw-in thread	PG 13,5
Connection		Connector

Posistor relay KT 430 2W CM-MSS.33S

Contact load		max. 230 V, 4 A (ohmic resistive load) / 3 A (inductive)
Protection class		IP20
Fixture		Mounting on supporting rail or screw fastening

Standard version Isolating amplifier and potential separator

The isolating amplifier and potential separator separate and amplify the signals during signal transfer.

Isolating amplifier and potential separator	Type	Item No.	Price [EUR]
	TV 430	44300021	392.30

Standard version Signal duplicator

Signal duplicator for the galvanic separation, conversion and distribution of standard signals.

Signal duplicator	Type	Item No.	Price [EUR]
	SV 430	44300020	508.80

Standard version Level relay

Level relay	Type	Item No.	Price [EUR]
	NR 430	44300071	223.30
	NR 430/2W	44300078	228.40

Standard version Conductivity measurement amplifier

Conductivity measurement amplifier With measuring cell and connection cable	Type	Measuring range	Item No.	Price [EUR]
	LF431	0 – 20 mS/cm ² (1% salt content)	44300098	1,021.20
	LF431	0 – 60 mS/cm ² (3% salt content)	44300099	1,021.20

Standard version Posistor relay

Posistor relay for connection of the posistor temperature sensor in accordance with DIN 44081 / 44082.

Posistor relay	Type	Item No.	Price [EUR]
	KT 430 2W CM-MSS.33S	44300081	250.40

P-CONTROL

P-Control Basic and Advance - modular controller boxes

No two fluid applications are alike. Often the standard components on the market are sufficient, but with increasing diversification and complexity of the installations, the need for components that perform better than the standard also increases. Nobody wants to pay for functions which they might never use. These components should remain within defined price segments. Thereby providing the correct mixture of functionality, equipment and costs. The P-Control fills this gap between standard component and bespoke individual system. These controllers can be fitted with a range of functions in a modular fashion. The P-Control is available in two versions, the Basic and Advance. They all use the same controller; the differences are found in the number of inputs and outputs which they can process and in their dimensions.



General

- Up to four analogue inputs
- Optional Analogue output
- Switching capacity up to 4 Kw via mini shooter
- Integrated, password-protected web server, provided via Ethernet
- Integrated display with an indicator lamp function behind a transparent lid (Basic)
- Multiple-row, integrated in the cover. Multiple-row text display with four function keys (Advance) and indicator lamp function.
- Housing protection class IP67 made of robust polycarbonate
- Data logging on a micro SD card
- Wall mounting
- Quick outputs via optocouplers
- Main switch with an EMERGENCY-STOP function (Advance)

Areas of application

- Standalone systems with the connection of up to four pumps (Advance, Basic two) and multiple sensors to be evaluated.
- Analogue and digital fill level monitoring as a threshold switch. Secure deactivation of the participants.
- The deployment as a data logger via multiple channels on an SD card
- The use of more than one dosing container as a changeover unit with critical applications.
- Evaluation of pressure sensors for system monitoring.
- Tele-maintenance and control via the integrated web server.
- Dosing of various concentrations with a dosing pump.
- Timer operation of multiple pumps.

Standard version P-CONTROL

P-CONTROL	Type	Dimensions (WxHxD)	Item No.	Price [EUR]
	P-Control Basic	270 x 170 x 90 mm	48101000	1,038.40
	P-Control Advanced	284 x 364 x 120 mm		on request

P-CONTROL NETWORK GATEWAY

P-Control Network Gateway Profibus DP

There are a range of very different bus systems for industrial communication all with a different basic structure. Depending on which region of the world you are in and which manufacturer supplies the controls within the plants, different bus connections are required. To connect a product which contains the incorrect bus system requires a translation controller called a gateway. The P-Control as a network gateway represents such a translator. It can be used to transfer up to four Lutz-Jesco dosing pumps in the LP Net variant from the factory-integrated MODBUS TCP to the PROFIBUS DP.



General

- Up to four LP.Net dosing pumps can be transferred in a PROFIBUS DP slave
- Flexible due to cable entry points for the PROFIBUS lines
- Can be used as the last participant in the PROFIBUS line, through switchable final resistance
- Easy integration via the .gsd files included in the scope of delivery
- A robust polycarbonate housing
- Simple to adapt via windows software
- Integrated industrial 5-port switch

Standard version

P-CONTROL

P-CONTROL	Type	Dimensions (WxHxD)	Item No.	Price [EUR]
	P-Control Network Gateway	275 x 170 x 90 mm	48101001	3,012.80

1. General conditions

1.1 (Scope) These General Terms and Conditions are only intended for use in commercial transactions with business entities.

1.2 (Conflicting General Terms and Conditions, confirmation in writing) These Terms and Conditions of Business are applicable for the contract; no other conditions shall become a constituent part of the contract, even if we do not expressly contradict them. The customer may only invoke ancillary agreements made prior to or at the conclusion of the contract where the same have been confirmed in text form.

1.3 (Installation Conditions) For agreed installation, commissioning, maintenance and/or service outside our works our Installation Conditions shall apply additionally.

1.4 (Offers, right to make modifications, electronic data storage) Our offers are made free of obligation. We reserve the right to make technical improvements to our products. We may store information which is important for the performance of the contract in data processing systems.

1.5 (Set-off, right of withholding) A set-off by the customer shall not be permitted unless the counterclaims are undisputed or legally established or arising from the right to refuse payment according to Section 320 BGB (German Civil Code).

1.6 (Place of performance, Court of jurisdiction, choice of law) The place of performance shall be our works, for agreed installation the place of the work. For our commercial transactions with customers having no general place of jurisdiction in Germany, with business people, public law legal persons or special funds under public law the place of jurisdiction shall be Wertheim / Mosbach as competent courts of our registered office. We can also take legal action against the customer at his registered office. The contract shall be construed and interpreted in accordance with the laws of the Federal Republic of Germany with exception of the 'UN Convention on the International Sale of Goods' (CISG).

1.7 (Contractual language) The language of the contract is English.

2. Risk; Transport costs

2.1 Risk shall pass to the customer when the goods to be delivered leave our works, even where we assume the tasks of despatch, export or installation.

2.2 The customer shall bear all packing, transport and insurance costs to the place of delivery as well as customs duties.

3. Delivery period, Force majeure, Delay

3.1 Delivery periods are quoted ex works. They shall only start to run following clarification of all technical questions still open at the point in time of the conclusion of the contract, following receipt of all documents to be procured by the customer, such as drawings and approvals, and/or following any advance payments to be made, as well as any production releases.

3.2 Force majeure and also strikes or lockouts for which we are not responsible shall extend the delivery periods by the period of delay thereby occasioned. The same shall apply in case of

- a) shortages of supplies for which we are not responsible and/or
- b) delayed deliveries or failure of delivery by our suppliers and/or
- c) compliance with national and international statutory provisions, embargoes or other sanctions of the European Community or the United States of America, obligations to obtain consents or the imposition of official orders (e.g. export control law) and/or
- d) additional or changed performances requested by the customer. We shall inform the customer without delay about the delivery obstacles of the delivery products.

3.3 In any case the customer has to send us a reminder setting a reasonable period of grace before claiming default of delivery.

3.4 In the event of damage suffered through default, we limit our liability for damages in addition to the performance to 5 %, and for damages in lieu of performance to 10 % of the value of our delivery/performance. The limitation shall not apply in the case of intent, gross negligence and/or in the case of injury to life, body or health

3.5 The foregoing provisions shall apply also for installation times. An installa-

tion time shall commence only after completion of any preparatory works by the customer (according to the installation conditions).

4. Prices, Conditions of payment, Provision of security

4.1 Prices quoted shall be EXW (ex-works). If applicable, VAT will be added. We may raise prices in accordance with Section 315 BGB (German Civil Code) in proportion to cost increases (including tax increases) if a period of more than four months lies between conclusion of contract and delivery.

4.2. Subject to any separate written agreement, invoices are due for payment immediately without any deduction to our account in the Federal Republic of Germany, in EURO (!). We shall accept bills of exchange or checks only on account of performance and at the customer's expense.

4.3 In case of any delay in payment and/or justified doubts as to the creditworthiness of the customer, we may at any time make any individual delivery dependent upon its settlement in advance or upon the provision of security in the amount of the respective invoice sum.

5. Reservation of title, Advance assignment

5.1 The goods delivered shall remain our property until unconditional payment has been made for the same in full. Should we also have further claims against the customer, the reservation of title shall continue in existence until they have been settled.

5.2 The customer may not pledge or otherwise encumber the goods subject to the reservation of title. The customer may re-sell goods subject to the reservation of title only in the normal course of business and provided that title shall pass to his purchaser when his purchaser has paid in full. The customer may not combine the goods subject to the reservation of title with other items in relation to which rights of third parties exist.

5.3. Should goods subject to the reservation of title become a component part of a new (complete) object through combination with other items, we shall become a proportionate co-owner of the same directly, even where it is to be regarded as the main object. Our share of co-ownership shall be determined according to the ratio of the invoice value of the goods subject to the reservation of title to the value of the new object at the point in time of the combination.

5.4 By way of security, the customer assigns to us already in advance the claims against its purchasers arising from the sale of goods subject to the reservation of title (Clause 5.2) and/ or the newly created objects (Clause 5.3) in the amount of our invoice for the goods subject to the reservation of title. As long as the customer does not fall into default with payment for the goods subject to the reservation of title, it may collect the assigned claims in the normal course of business. It may, however, only use the proportional proceeds for the purpose of payment to us of the goods subject to the reservation of title.

5.5 At the demand of the customer, we shall release securities of our choice if and to the extent the nominal value of the total securities exceeds 120 % of the nominal value of our open claims against the customer.

5.6 In case the customer is in culpable breach of material duties of the contract, namely default in payment, we shall be entitled to demand the return of any goods subject to the reservation of title which are still in the customer's possession after an unsuccessful warning. The demand of return shall not constitute a withdrawal from the contract unless we expressly declare so.

5.7 For the purpose of establishing our rights, we may demand access to the facilities of the customer and have all documents/books of the customer relating to the goods subject to our reservation of title inspected by a person bound by a duty of professional secrecy.

6. Liability for defects

6.1 We are liable that our products are free of defects at the transfer of risk. Immaterial deviations from the agreed quality or insignificant impairments to the usability are, however, to be disregarded. The quality, durability and use in respect of the goods shall be determined exclusively according to the agreed specifications, product descriptions and/or operating instructions. Statements made above and beyond the foregoing, in particular in preliminary discussions

General Terms and Conditions of delivery of Lutz-Jesco GmbH valid from June 2017

or advertising, and/or industrial norms to which reference is made shall only become an integral part of the contract through express written inclusion.

6.2 Should the customer wish to use the goods delivered for purposes other than those agreed, it shall itself, upon its own responsibility, carefully examine the suitability and/or the admissibility of the goods for such purposes. We exclude all liability for any use not expressly confirmed by us in writing.

6.3 The customer shall, without delay following receipt, carefully inspect the goods delivered - also in relation to product safety - and notify any evident defects in writing without delay. Hidden defects are to be notified without delay following their discovery. The customer shall report any transport damage immediately to the carrier. In the case of failure to observe these obligations of inspection and notification, warranty claims of the customer shall be excluded.

6.4 In case of a defect the customer has to set us a reasonable period of time to enable us to eliminate the defect either - subject to our discretion - by repairing the product or supplying a product free from defects (subsequent performance according to Section 439 BGB(German Civil Code). In the event of rejection, impossibility or failure of subsequent performance, the customer has the right to demand a reduction of the purchase price or to withdraw from the contract.

6.5 In case that additional expenses to repair or replace the products arise because the customer has transferred the products after delivery to another place than the agreed place of performance the customer has to bear the additional costs.

6.6 We are not liable for any damages following improper handling, use, maintenance or operation by the customer or its vicarious agents of the goods delivered, or for normal wear and tear. This also applies, in particular, in relation to the consequences of thermal, chemical, electro-chemical or electrical influences, and to breaches of our operating instructions. The same shall apply if the defects result from interventions or arrangements made by the customer which have not been confirmed by us.

6.7 Should the customer use the delivered goods in conjunction with environmentally harmful, toxic, radioactive or otherwise hazardous materials, he shall be obliged to inform us and to clean the goods before returning them to us. If applicable, we may charge any necessary costs for decontamination/cleaning and disposal to the customer's account.

6.8 Our liability for slight negligence shall be limited to claims based on injury to life, body or health, to claims arising from the Produkthaftungsgesetz [Product Liability Act] and to claims arising from the breach of essential contractual duties. Further, our liability for the breach of essential contractual duties through slight negligence shall be limited to such damage as is foreseeable for us at the time of the conclusion of the contract and may typically arise

6.9 Claims against us based on defects are subject to a statute of limitations of one year as of the delivery of the goods to the customer. This shall not apply in the cases in which Section 438 Para. 1 No. 2, Section 479 Para. 1 and Section 634a Para. 1 No. 2 BGB (German Civil Code) stipulate longer periods. The restriction of the limitation period shall not apply for claims under the Produkthaftungsgesetz [Product Liability Act] or for damage arising from injury to life, body or health or for other damage resulting from intent or gross negligence or for claims based on fraudulent concealment of a defect.

6.10 Should it prove that the customer lodged a complaint without justification through gross negligence, we may demand reasonable remuneration for the examination and/or repair works.

7. Liability for defects of title, Indemnification

7.1 We shall only be liable that the customer can purchase and use the delivered goods without infringing industrial property rights of third parties in the territory of the Federal Republic of Germany and the EU.

7.2 Claims of the customer for defects of title are excluded in case that industrial property rights of third parties are infringed because we have supplied the goods in accordance with engineering, design, models and forms prescribed by the customer, because of export of the goods by the customer to other countries than the EU and because of types of use of the goods in a manner not agreed with us.

7.3 If we are liable for a defect of title, we shall, at our discretion, either obtain a licence for the respective construction elements in question or replace them with elements free of industrial property rights. If this is not possible for legal or technical reasons or not reasonable for equitable economic reasons, we shall take the construction elements, appliances or appliance parts in question back, reimbursing the purchase price.

7.4 Claims against us based on defects of title are subject to a statute of limitations according to Clause 6.9.

7.5 The customer may not change the delivered goods, nor connect them to or combine them with other objects or use them in any other way, if this would involve the infringement of industrial property rights of third parties. The customer shall indemnify us for all and any claims by third parties due to the infringement of industrial property rights through customer use in the sense of sentence 1, and shall reimburse any costs incurred to us as a result thereof.

7.6 Where we deliver goods in accordance with designs etc. prescribed by the customer, the customer shall be liable towards us that no industrial property rights or other rights of third parties are infringed through the manufacture and delivery of the same. If the customer is at fault he shall reimburse us all damage resulting from any such infringement of rights.

8. Spare parts

If we assume an obligation to maintain / deliver spare parts the obligation shall be limited to a period of five years following the delivery of the original product. Spare parts shall be charged at our currently valid list prices.

9. Industrial property rights, secrecy

9.1 We reserve ownership as well as all industrial property rights and copyrights in relation to all our designs, samples, illustrations, photos, technical documents, quotations and offers, even where the customer has assumed the costs for the designs etc. This shall also apply in case of digital transmission of the designs etc.. The customer may only use the designs etc. in the manner agreed with us. Without our written consent, it may not itself manufacture the goods delivered or have the same manufactured by third parties.

9.2 The customer shall maintain secrecy as towards third parties in relation to all knowledge acquired through the business relationship with ourselves which is not in the public domain.

1. General

1.1 The following conditions and price determinations apply - together with our General Terms and Conditions - to arranged installations and contractually defined products outside of our factory. Other conditions are not subject matters of contract even in case of absence of an explicit contradiction on our part. An additional agreement before and during the conclusion of the contract can be appointed to only by means of an immediate written confirmation.

2. Preparation and supply duties of the customer

2.1 The duty of care on the installation site is to be provided by the customer. The customer is obliged to enable an accident-free performance of the assembly for us. It includes observance of all relevant regulations for occupational safety and health and accident prevention regulations.

2.2 The customer is obliged to meet the following requirements on site at his own cost:

- a) Preparation of the site to enable free installation.
- b) Supply of power, water, heating, light and required connections.
- c) Provision of all additional workers necessary to carry out the installation in the required time.
- d) Completion of all earth, construction and installation works before assembling starts.
- e) Provision of necessary equipment, heavy tools and articles.
- f) Provision of lockable rooms to keep the tools and the clothing of the assemblers, and of an appropriate washing facility.
- g) Transportation of the assembly parts to the installation site. Protection of the parts and material against any kind of damage.
- h) Other support of our assemblers during the process of assembly if objectively justified.

2.3 The customer must ensure that technical assistance is available so that installation can be started immediately after arrival of the assemblers and is carried out without delay until completion and acceptance through the customer. The by the customer provided additional workers will be instructed by our person in charge. We are neither responsible for the assistance nor for the additional workers.

2.4 Any comments made by our assemblers are only binding on us if confirmed by us in writing.

3. Prices for installation

3.1 In case no fixed prices are arranged, hourly wage rates for installations will be calculated as follows:

- a) Engineers as well as employees on the same level Euro 99.50
- b) Service technicians Euro 59.0

3.2 The hourly wage rates apply to each time spent for working, waiting, travelling. Full working time is 38.5 hours per week and 7.7 hours per day from Monday to Friday.

3.3 It's our decision to calculate additionally for extra, night work and work on Saturday or Sunday or holiday the following surcharges:

- 25 % - 1st to 6th extra working hour per week or as of the 9th hour per day
- 40 % - as of the 7th extra working hour per week or for Saturday work
- 50 % - from 8 p.m. to 6 a.m. Saturday and Sunday work
- 100 % - holiday working hours, if the holiday is a Sunday
- 125 % - holiday working hours, if the holiday is a Sunday

3.4 Beside the hourly wage rates and surcharges a remote compensation of 5.00 Euro for each hour of absence from the factory will be charged. A compensation will also be paid for the duration of a temporary disablement caused by an accident.

3.5 For installation trips, we are entitled to select the means of transportation. If a motor vehicle is used, the mileage will be charged with 0.75 Euro. Mileage allowance for the daily trip from the hotel to the installation site and vice versa will be charged according to the aforementioned rates.

3.6 Overnight stays will be charged with a flat rate of 79.00 Euro; the actual costs will be charged in case of higher costs.

3.7 Extra payments for extremely difficult, high-altitude or dirty work, etc.

will be charged as they occur, according to the contractual regulations or the relevant local conditions. If no agreement is reached, we are entitled to determine allowances in its equitable discretion according to § 315 of the German Civil Code.

4. Terms of billing and payment

4.1 The customer must confirm the working time and output (on request everyday) in writing to our authorized representative. The installation costs accumulated will be charged on the basis of these confirmed working records.

4.2 We are entitled to demand instalments for the provided services on every third day of the assembly.

4.3 Our installation invoices are subject to payment on receipt without discount. Unless the customer has undisputed counterclaims, he shall neither be entitled to offset nor to withhold payments.

4.4 If the customer voluntarily pays our assemblers in cash of kind without our agreement in writing at the time of accepting the order, this cannot be taken into account on the invoice.

Lutz-Jesco GmbH

Resistance list

1/5

The information in this list is based on specifications given by the material manufacturers and on the experience gained by Lutz-Jesco GmbH in handling the materials.

As the resistance of materials depends on many factors, the list can only be an initial guide for material selection.

Be sure to test the equipment with the chemicals you use under operating conditions.

Lutz-Jesco does not warrant the accuracy or completeness of this list.

Warranty claims cannot be derived from the use of the list.

Variations in temperature, pressure and concentration can cause equipment to fail, even though it passed an initial test. Serious injury may result. Use suitable guards and/or personal protection when handling chemicals.

The corrosiveness of chemical compounds cannot be deducted by the sum of the individual chemical components.

The list does not replace the safety data sheets.

Subject to technical changes.

A special adhesive for PVC (Tangit Dytex) has to be taken by using the following chemicals:

- Sulphuric acid, H₂SO₄, > 70% concentration
- Hydrochloric acid, HCl, > 25% concentration
- Nitric acid, HNO₃, > 20% concentration
- Hydrofluoric acid, HF, in each concentration

Legende:

GL = saturated solution

+ = resistant

o = limited resistant

- = not resistant

Short term	Description
1.4401	X 5 CrNiMo 17 12 2
1.4571	V4A, X 6 CrNiMoTi 17 12 2
AF	asbestos-free
Aramid	aramid
ASA	acrylonitrile Styrene Acrylate
CSM	chlorinesulfonated polyethylene
EPDM	ethylene propylene caoutchouc
FPM	fluorine caoutchouc
Hastelloy C-4	NiMo 16Cr 16 Ti
PE	polyethylene
PMMA	polymethylmethacrylate
PP	polypropylene
PTFE	polyterafluor ethylene
PVC	polyvinyl chloride
PVDF	polyvinylidene fluoride

Resistance list

Name	Chemical formular	Concentration (%)	Temperature (°C)	PVC-U	PE	PP	PVDF	Acryl glass / PMMA	1.4571 / 1.4401	ASA	PVC tube	PTFE	Hastelloy C	EPDM	FPM	CSM	Norprene	Glass, borosilicate	Ceramic F 99,7	Aramid	AF (Asbest-free)		
Acetic acid	C ₂ H ₄ O ₂	10	20	+	+	+	+	-	+	+	+	+	+	+	-	0	+	+	+	+	+		
			40	+	+	+	+		+	+		+	+	0	-	-		+	+			+	
			60	0	+	+	+		+		0	+	+	0		-			+	+			+
		50	20	+	+	+	+	-	+	+	0	+	+	+	-	0	+	+	+	+	+	+	+
			40	+	+	+	+		+	0		+	+						+	+			+
			60		+	+	+		+		-	+	+						+	+			+
		70	20	+	+	+	+	-	+			+	+	-	-	-	-	+	+	+	+	+	+
			40	0	+	+	+		+			+	+						+	+			+
			60						+				+	+						+	+		+
		100	20	0	+	+	+	-	+	-	-	+	+	0	-	0	+	+	+	+	+	+	+
			40	-	+	+	+		+	-	-	+	+							+	+		+
			60	-	0	0	0					-	+	+						+	+		+
Acetone	CH ₃ -CO-CH ₃	10	20	-	+	+	0		+	-		+	+	+	0	0	-	+	+		+		
			40	-	+	+	0		+	-		+	+	+	0	0			+				
			60	-	+	+	0		+			+		+	-	0			+				
		100	20	-	+	+	-	-	+	-	-	+	+	+	-	0	-	+	+			+	
	40	-	+	+	-	-	+	-	-	+	+	+	-	0			+						
	60	-	+	+	-	-	+		-	+		+	-	0			+						
Acid sulphur (see sulfuric acid)																							
Aluminium chloride	AlCl ₃	GL	20	+	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+			
			40	+	+	+	+		-	+	+	+	+	+	+	+	+		+	+			
			60	+	+	+	+		-		+	+	+	+	+	+	+	+		+	+		
Aluminium nitrate	Al(NO ₃) ₃	GL	20	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+				
			40	+	+	+	+				+	+			+	+	+	+	+				
			60	+	+	+	+					+	+			+	+	+	+	+			
Aluminium potassium sulphate	KAl(SO ₄) ₂	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			
			40	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+			
			60	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+		
Aluminium sulphate	Al ₂ (SO ₄) ₃	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			
			40	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+			
			60	+	+	+	+		+	+	+	+	+	+	+	0			+	+			
Ammonium hydroxide	NH ₃ +H ₂ O	25	20	+	+	+	0	+	+	+	+	+	+	+	0	+	+	+	+	+	-	0	
			40	+	+	+	0		+	+		+	+	+	0	+			+	+			0
			60	0	+	+	0		+		-	+	+	+	-	0			+	+			0
Azotic acid (see nitric acid)																							
Benzoic acid	C ₇ H ₆ O ₂	100	20	+	+	+	+	+	+	+	+	+	-	+	-	+	+	+	+		+		
			40	+	+	+	+		+	+		+	+	-	+	-			+				
			60	0	+	+	+		+		-	+	+	-	+	-			+				
Brine (see salt water)																							
Calcium carbonate	CaCO ₃	GL	20	+	+	+	+	+	+		+	+	+	+			+	+			+		
			40	+	+	+	+		+			+	+	+	+				+				
			60	+	+	+	+		+			+	+	+	+					+			
Calcium hydroxide	Ca(OH) ₂	GL	20	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+			+	
			40	+	+	+	0		+			+		+	+	+	+		+				
			60	+	+	+	0		+			+		+	+	+	+		+				
Calcium hypochlorite	Ca(OCl) ₂	GL	20	+	+	+	+	+	0	+		+	+	+	+	+	+	+	+	+			
			40	+	+	+	+		0	+		+	+	+	0	+			+	+			
			60		+	+	0					+		+	-	0				+			
Calcium nitrate	Ca(NO ₃) ₂	GL	20	-	+	-	+	+	+		+	+	+	+	+			+	+	+			
			60									+	+						+				
		50	20	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+		
			40	+	+	+	+		0		+	+	+	+	+	+	+		+				
	60		+	+	+					+	+		+	+	+		+						
Calcium sulphate	CaSO ₄	GL	20	+	+	+	+	+	+		+	+	+	+			+	+	+				
			40	+	+	+	+					+							+	+			
			60		+	+	+						+							+	+		

Resistance list

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Resistance list

Name	Chemical formular	Concentration (%)	Temperature (°C)	PVC-U	PE	PP	PVDF	Acryl glass / PMMA	1.4571 / 1.4401	ASA	PVC tube	PTFE	Hastelloy C	EPDM	FPM	CSM	Norprene	Glass, borosilicate	Ceramic F 99,7	Aramid	AF (Asbest-free)			
Carbonate of lime (see calcium carbonate)																								
Caustic potash (see potassium hydroxide)																								
Caustic soda (see sodium hydroxide)																								
Chlorinated lime (see calcium hypochlorite)																								
Chlorine dioxide dilution **	ClO ₂ + H ₂ O	0,50	20	+	0	0	+	0	-			+	+	-	0			+						
Citric Acid	C ₆ H ₈ O ₇	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+					
			40	+	+	+	+		+	+		+	+	+	+	+	+	+	+	+				
			60	0	+	+	+		+				+	+	+	+	+	+	+	+	+			
Ethyl alcohol	CH ₃ -CH ₂ -OH	100	20	+	+	+	+	-	+	+		+	+	+	0	+		+			+			
			40	+	+	+	+		+	0		+	+	+	0	+		+				+		
			60	+	+	+	+		+				+	+	+	-	+		+				+	
Ferric chloride	FeCl ₂	GL	20	+	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	-				
			40	+	+	+	+		-	+	+	+		+	+	+		+	+					
			60	+	+	+	+		-		+	+		+	+	+		+	+					
Ferric sulphate	FeSO ₄	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+					
			40	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+				
			60	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			
Ferrous chloride	FeCl ₃	GL	20	+	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	-			
			40	+	+	+	+		-	+	+	+		+	+	+		+	+					
			60	+	+	+	+		-		+	+		+	+	+		+	+					
Ferrous sulphate	Fe ₂ (SO ₄) ₃	GL	20	+	+	+	+	+	0		+	+	+	+	+	+	+	+	+					
			40	+	+	+	+			+	+		+	+	+		+	+						
			60	+	+	+	+			+	+		+	+	+		+	+		+	+			
Formic acid	CH ₂ O ₂	50	20	+	+	+	+	-	+	+	-	+	+	+	+	+	+	+	+			-		
			40	+	+	+	+	-	+	0	-	+	+	+	+	+	-		+	+				
			60	0	+	0	+	-	+		-	+	+	0	0	-			+	+				
		100	20	+	+	+	+	-	+	0	-	+	+	+	-	+	+	+	+	+			-	
			40	0	+	0	+	-	+	0	-	+		0	-	+			+	+				
			60	-	+	-	0	-	+		-	+		0		+			+	+				
Glauber's salt (see sodium sulphate)																								
Gypsum (see calcium sulphate)																								
Hydrated lime (see calcium hydroxide)																								
Hydrazine hydrate	N ₂ H ₄	GL	20	+	+	+	+	+	+			+	+	+	+	+	0	+				+		
			40		+	+	+						+	+	+	+	+	+	+					
			60		+	+	0							+	+	+	+	+	+	+				
Hydrochloric acid	HCl	10	20	+	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	-	0			
			40	+	+	+	+			0	+	+	0	+	+	0		+	+					
			60	0	+	0	+					+	+	0	+	+	-		+	+				
		38	20	+	+	+	+	-	-	+	+	+	+	+	+	0	+	+	+	+	-			
			40	+	+	0	+				0		+	0	0	0	-		+	+				
			60	0	+	-	+					0	+	0	-	-	-		+	+				
Hydrogen peroxide	H ₂ O ₂	10	20	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+			+		
			40	+	+	+	+		+			+	+	0	0	+		+	+					
			60	0	+	+	+		+		0	+	+	-	-	0			+	+				
		90	20	+	+	-	+		+	-	+	+	+	+	0	0	0	+	+	+				
			40			-				+	-		+						+	+				
			60			-	-			+	0	+							+	+				
Iron chloride sulphate	FeClSO ₄	40	20	+	+	+	+		+			+		+	+		+							
			40	+	+	+	+						+					+						
			60	+	+	+	+						+						+					
Methyl alkocol	CH ₃ -OH	100	20	+	+	+	+	-	+	+		+	+	+	0	+	+	+	+	+	+	+		
			40	+	+	+	+		+	0		+		+	0	+		+	+					
			60	+	+	+	+		+				+		+	0	+		+					
Methylbenzene (see toluene)																								

Resistance list

Name	Chemical formular	Concentration (%)	Temperature (°C)	PVC-U	PE	PP	PVDF	Acryl glass / PMMA	1.4571 / 1.4401	ASA	PVC tube	PTFE	Hastelloy C	EPDM	FPM	CSM	Norprene	Glass, borosilicate	Ceramic F 99,7	Aramid	AF (Asbest-free)		
Mineral oil		100	20	+	+	+	+	-	+	+		+	+	-	+	0	-	+	+		+		
			40	+	+	+	+		+	+		+			+	-		+	+				
			60	+	0	0	+		+		+					+			+				
Muriate of soda (see sodium chloride)																							
Muriatic acid (see hydrochloric acid)																							
Nitric acid	HNO ₃	10	20	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	-	+		
			40	+	+	+	+		+	0		+	0		+				+	+		+	
			60	+	+	0	+		+		0	+	0		0				+	+		+	
		50	20	+	0	0	+	-	+	-	-	+	+	-	+			+	+	+	-	-	
			40	+	0	-	+		+	-	-	+	0		+				+	+			
			60	0	-		+		+	-	+	0		0					+	+			
		65	20	0	0	-	+	-	+	-		+	+	-	+	0	-	+	+	-	-		
			40	0	-		+		0	-		+	-	0		-	-		+	+			
60	-			+						+	-	-		-			+	+					
Peracetic acid	C ₂ H ₄ O ₃	5	20	+	+	+	+	0	-		+		+	+	+		+						
Phenylmethane (see toluene)																							
Phosphoric acid	H ₃ PO ₄	50	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+		
			40	+	+	+	+		+		+	+	+	+	+	+		+	+				
			60		+	+	+		0		+	+	+	+	+	+	+		+	+			
		85	20	+	+	+	+	-	0	+	+	+	+	+	+	+	+	+	+	+		+	
			40	+	+	+	+		+		+	+	+	+	+	0			+	+			
60	+	+	+	+		-	0	+	+	+	+	+	-	+	0		+	0					
Polyacrylamide	C ₃ H ₅ NO	GL	20	+	+	+	+	+		+	+	+	+	+	+		+						
		GL	20	+				+			+	+	+	+	+		+						
Potash (see potassium carbonate)																							
Potassium alum (see aluminium potassium sulphate)																							
Potassium carbonate	K ₂ CO ₃	GL	20	+	+	+	+	+	+		+	+	+	+	+	+	+	+					
			40	+	+	+	0		+		+	+	+	+	+	+		+					
			60	+	+	+	0		+		+	+	+	+	+	+	+		+				
Potassium hydroxide	KOH	10	20	+	+	+	0	+	+	+	+	+	+	+	+	+	+	+	+				
			40	+	+	+			+	+		+	+	+	+	+	+		+	+			
			60		+	+			+		0	+	+	+	0	+			+	+			
		50	20	+	+	+	0	+	+	+	0	+	+	+	-	+	+	+	+	+			
			40	+	+	+	0		+	+		+	+	+		0			+	+			
60	0	+	+	0		+		-	+	+	+		0			+	0						
Potassium permanganate	KMnO ₄	GL	20	+	+	+	+	+	+	0	+	+	+	+	+	+	+	+					
		GL	40	+	+	+	+		+	0		+		+	+	+		+	+				
		GL	60		+	+	+		+		+		+	+	+		+	+					
Potassium sulphate	K ₂ SO ₄	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+		
		GL	40	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+				
		GL	60	+	+	+	+		+		+	+	+	+	+	+	+	+	+				
Propionic acid	C ₃ H ₆ O ₂	100	20	+	+	+	+	0	+			+	+	+	+	-	+				0		
			40	0	0	0	+					+	+	+	+	-	+						
			60		0	0	+						+		0	+	-	+					
Salt acid (see hydrochloric acid)																							
Salt water		3,50	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+				
			40	+	+	+	+		0	+	+	+	+	+	+	+		+	+				
			60		+	+	+		0		+	+	+						+	+			
Silicic acid	SiO ₂	GL	20	+	+	+	+	+	+		+	+	+	+				+					
			40	+	+	+	+		+			+		+	+				+				
			60		+	+	+		+			+		+	+				+				
Slaked lime (see calcium hydroxide)																							
Soda (see sodium carbonate)																							
Sodium aluminat	Na ₂ Al ₂ O ₂		20	+	+	+	+	+		+		+		+	+	+	+	+			0		
			40		+	+	+					+		+	+	+		+	+				
			60		+	+	+						+		+	+	+		+	+			

Name	Chemical formular	Concentration (%)	Temperature (°C)	PVC-U	PE	PP	PVDF	Acryl glass / PMMA	1.4571 / 1.4401	ASA	PVC tube	PTFE	Hastelloy C	EPDM	FPM	CSM	Norprene	Glass, borosilicate	Ceramic F 99,7	Aramid	AF (Asbest-free)	
Sodium bisulfite	NaHSO ₃	GL	20	+	+	+	+	+	+			+	+	+	0	+		+	+		0	
			40	0	+	+	+		+				+	+	+	-	0		+	+		
			60	-	+	+	+		+				+	+	0				+	+		
Sodium carbonate	Na ₂ CO ₃	GL	20	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	0	
			40	+	+	+	+						+	+	+	+	+		+	+		
			60	+	+	+	+					0			+	+	+		+	+		
Sodium chloride	NaCl	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
			40	+	+	+	+		0	+	+	+	+	+	+	+	+		+	+		
			60		+	+	+		0		+	+	+	+	+	+	+		+	+		
Sodium chlorite	NaClO ₂	10	20	0	+	+	+	+	-	+		+	+	+	+	+	+	+	+			
			40			+	+		-	+			+	+	+	+	+		+	+		
			60			0	+		-				+	+	+	+	+		+	+		
Sodium hydroxide	NaOH	10	20	+	+	+	0	+	+	+	+	+	+	+	-	+	+	+	+	-	+	
			40	+	+	+	0		0	+		+	0	+	-	+		+	+		0	
			60	0	+	+	0		0		+	+	0	0	-	+		+	+		0	
		50	20	+	+	+	0	+	+	+	-	+	+	+	+	-	+	+	+	+	-	
			40	+	+	+	0		-	+		+	0	+	-	+		+	0			
			60	0	+	+	0		-		-	+	0	0	-	+		+	0			
Sodium hypochlorite *(produced by electrolysis)	NaClO	12,5	20	+	0	0	0	+	-	+	+	+	+	+	+	+	+	+	+	+		
			40	+	-	-	0			+		+			+	0		+	+			
			60	0			-					+			-			+	+			
Sodium phosphate	Na ₃ PO ₄	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	
			40	+	+	+	+		+	+	+	+	+	+	+	+	+		+			
			60	0	+	+	+		+	+	+	+	+	+	+	+	+		+			
Sodium sulphate	Na ₃ SO ₄	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
			40	+	+	+	+		+	+	+	+	+	+	+	+	+		+	+		
			60	0	+	+	+		+	+	+	+	0	+	+	+	+		+	+		
Sodium thiosulphate	Na ₂ S ₂ O ₃	GL	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
			40	+	+	+	+		+	+		+	+	+	+	+	+		+	+		
			60	0	+	+	+		+			+	+	+	+	0		+	+			
		25	20	+	+	+	+	+	+	+	+	+	+	+	+	+			+	+		+
			40	+	+	+	+		-	+		+	+	+	+	+		+	+			
			60	0	+	+	+		-		+	+	+	+	0		+	+		+		
Sulfuric acid	H ₂ SO ₄	10	20	+	+	+	+		0	+	+	+	+	+	+	+	+	+	+	-	0	
			40	+	+	+	+		-	+		+	+	+	+	+		+	+			
			60	0	+	+	+		-		+	+	+	+	+	0		+	+			
		50	20	+	+	+	+		-	+	+	+	+	+	+	+	+	+	+	+	-	0
			40	+	+	+	+		-	+		+	0	+	+	0		+	+			
			60	0	+	+	+		-		+	0	0	+	0		+	+		+		
< 96	20	+	-	-	+		+	-	-	+	+	-	+	-	+	-	+	+	+	-		
	40	+			+			-	-	+	0						+	0				
	60	0			+			-	-	+	0						+	0				
	98	20	0	0	0	+		+	-	-	+	+	-	-	-	-	-	+	+	-	-	
		40	0	-	-	+		-	-	-	+	+						+	0			
		60	0	-	-	+		-	-	+	+							+	0			
Toluene	C ₇ H ₈	100	20	-	0	0	+	-	+	-	-	+	+	-	0	0	-	+		+		
			40		0	-	+		+	-		+	+						+			
			60		-		+		+	-	+	+							+			
Urea	CH ₄ N ₂ O	GL	20	+	+	+	+	+	+	+	0	+	+	+	+	+	+	+	+		+	
			40	+	+	+	+			+		+		+	+	+		+	+			
			60	0	+	+	+					+		+	+	+		+	+			

Comments:

*) When choosing materials for NaClO produced by electrolysis, pay attention to the increased chemical abrasiveness of NaClO. You are welcome to contact our service at Lutz-Jesco GmbH for more information.
We recommend valve balls made of PTFE and thin-walled parts made of PVDF.

**) Not all PTFE coated membranes are suitable for chlorine dioxide solutions. Please contact our service at Lutz-Jesco GmbH.
FPM is suitable for chlorine dioxide solutions that are stable on the long term. Thin-walled parts made of PVC-U are not suitable.



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Price list 2022

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