Oxiperm® Pro OCD-162

Reliable preparation and dosing of chlorine dioxide from diluted solutions for water disinfection

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1. Product introduction

Oxiperm® Pro systems produce chlorine dioxide using diluted solutions of sodium chlorite ($NaClO_2$ 7.5 %) and hydrochloric acid (HCl 9 %). They are available in four capacity levels, producing up to 5, 10, 30 and 60 g/h of chlorine dioxide respectively. This capacity is sufficient to treat up to 150 m^3 of drinking water per hour at a maximum concentration of 0.4 mg/l ClO_2. Chlorine dioxide is produced on demand from diluted solutions using the reliable sodium chlorite / hydrochloric acid, in accordance with the German Drinking Water Directive.

The chlorine dioxide solution produced is stored in an integrated or external batch tank and is added to the drinking water pipe as required using the integrated dosing pump or an external dosing pump. It is recommended to use a digital dosing pump for continuous dosing of the chlorine dioxide solution.

Applications

Usually, disinfection is the first step of pathogen reduction, in order to continue operating a drinking water installation. An ideal means of ensuring the sterility of drinking water is to use chlorine dioxide as a disinfectant. Chlorine dioxide is highly effective against all types of germs and has a long dwell time in the tubing system, which means it disinfects even without re-dosing. The big advantage of chlorine dioxide over other disinfectants is its effectiveness against biofilms. It destroys the existing biofilm, thus removing the breeding ground for microorganisms, and prevents it from building up again.

Ideal application areas for Oxiperm Pro include combating germs and pathogens, such as legionella in building installations, disinfecting cooling water systems, and disinfecting drinking water in water plants or industrial processes.

Chlorine dioxide is often used in the food and beverage industry for disinfection of process water or for CIP and bottle washing because it doesn't change the taste or smell of the treated water.

Remark

Legislation on the use of disinfection products in water treatment applications is country-specific.

Please contact your local Grundfos sales office for further details on the use of our products in your application and area.

No chance for pathogens

Legionella are rod-shaped bacteria that enter drinking water systems and start to reproduce. Especially in temperatures between 30 °C and 40 °C legionella reproduce quickly. The bacteria can enter the lungs when a person inhales aerosols containing legionella when showering. They can cause a life-threatening form of pneumonia known as legionellosis. The ideal breeding ground for legionella in drinking water systems can be found in biofilm, a slimy layer on the inside of water pipes, where other pathogens also build up and reproduce. Legionella also establish themselves in amoebae, which offer them protection against conventional disinfection methods.

Using Oxiperm Pro ensures reliable removal of the biofilm with all pathogens and legionella present in piping and prevents reinfestation. For decontamination, disinfection represents only a part of the accompanying measures, such as constructional modifications.

Oxiperm Pro OCD-162-5 and -10 systems are designed for small or medium-sized buildings with water flows up to 25 m^3/h. Oxiperm Pro OCD-162-30 and -60 systems are suited for disinfection tasks in waterworks or applications in the food and beverage industry.

The Oxiperm Pro principle

The Oxiperm Pro system produces chlorine dioxide (ClO_2) by mixing two reagents:

- Sodium chlorite ($NaClO_2$) 7.5 %
- Hydrochloric acid (HCl) 9 %

The following reaction takes place:

$$5NaClO_2 + 4HCl => 4ClO_2 + 5NaCl + 2H_2O$$

To obtain a safe concentration (approx. 2 g/l) of the chlorine dioxide solution, dilution water is added.

Effectiveness diagram

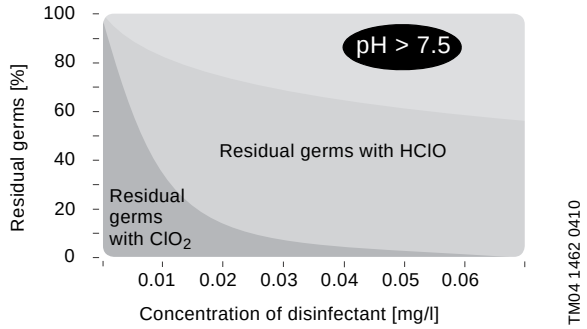

Fig. 1 Effectiveness diagram: hypochlorous acid (HClO) compared with chlorine dioxide (ClO_2)

Product benefits

Compact system

Oxiperm Pro can also be installed in confined spaces, as operation and maintenance are performed exclusively from the front.

Low operating costs

This intelligent method for producing chlorine dioxide functions with minimal need for chemicals and thus saves up to 67 % of hydrochloric acid over other systems on the market with comparable capacity.

In comparison with thermal disinfection, up to 90 % of the operating costs can be saved.

Stable product solution

With a chlorine dioxide concentration of approx. 2 g/l (2000 ppm), the product solution can be stored for several days. The low concentration makes the solution safe to handle.

Integrated measurement value logging device

A chlorine dioxide control unit can be easily retrofitted. The connection for a measuring device for chlorine dioxide as well as pH or Redox (measuring cell) is already in place in the system controller.

Little installation work

In fact, the system can be connected and taken into operation without even interrupting the building's water supply. This represents a decisive cost factor when it comes to decontaminating hospitals or nursing homes. Optional accessories simplify assembly and start-up.

Robust design

Oxiperm Pro's robust design ensures high operational reliability and lower maintenance costs.

Furthermore, the control system makes for straightforward and user-friendly operation and opens up a number of application areas for discrete disinfection of drinking water installations.

Wide field of applications

Besides continuous operation, the optional external batch tank allows the use of Oxiperm Pro for shock disinfection or in cleaning applications, such as CIP.

Conditions for installation

- No outdoor installation, installation site must be protected against sun and frost, and well-ventilated.
- Protection against unauthorized access.
- The system has to be wall- or floor-mounted vertically, the component containers have to be situated below or next to the Oxiperm Pro.
- Temperature of dilution water 10 to 30 °C.
- Water connection with 3 to 6 bar, floor drain and appropriate mains supply must be provided.

Note: In case of fluctuations in the main water flow, it is recommended to use an Oxiperm Pro version with digital dosing pump, in order to optimise the blending and to minimise the risk of corrosion.

Components overview

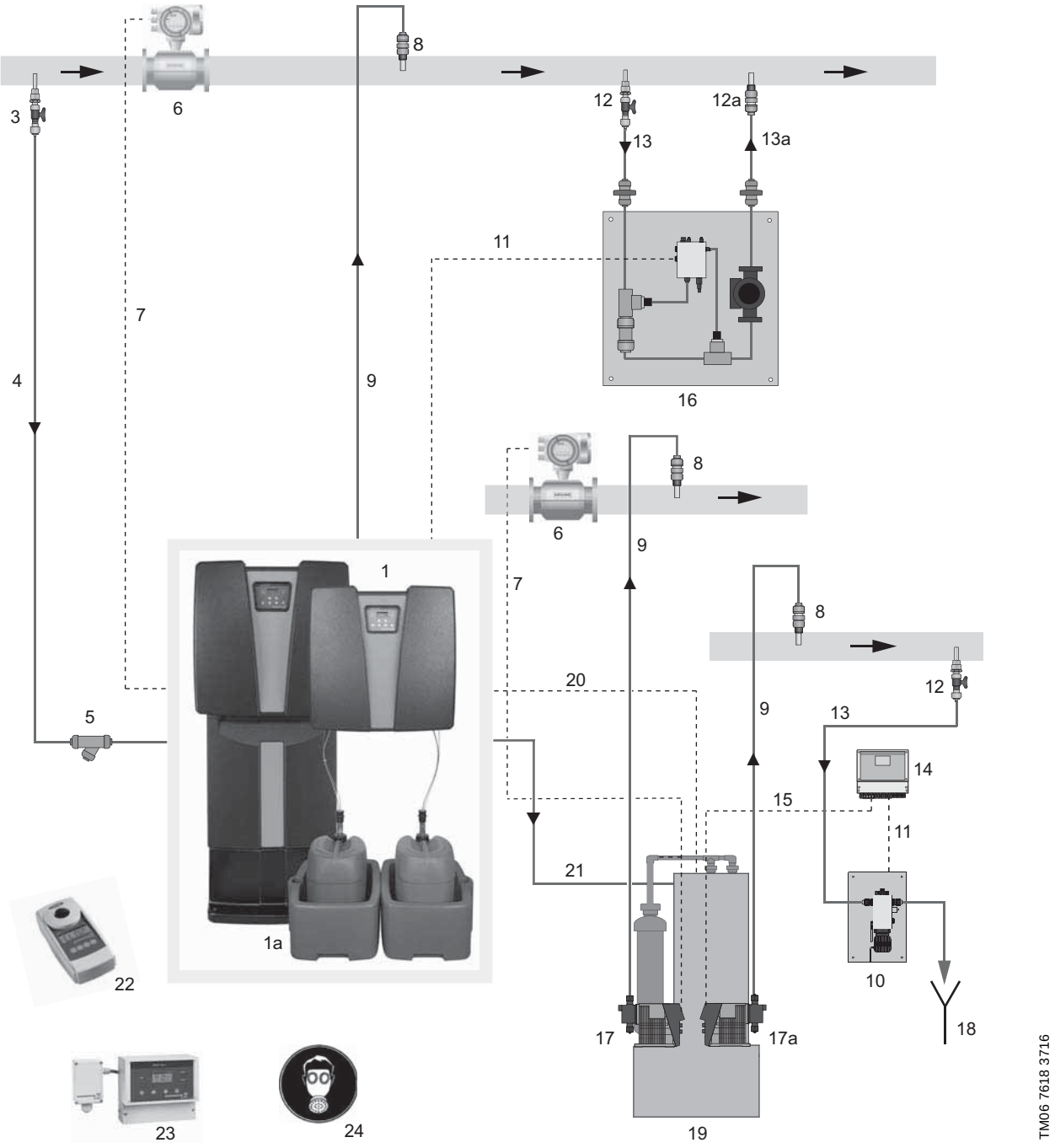

Fig. 2 Components of an installation for chlorine dioxide preparation

Installation components

Item	Component	Page
	Basic unit	
1	Oxiperm Pro OCD-162 ClO_2 preparation system	11-12
1a	Collecting tray for chemical container	19
	Dilution water for Oxiperm Pro	
3	Dilution water extraction device	20
4	Dilution water line	19
5	Dirt trap	20
	Flow measurement	
6	Flowmeter	20-21
7	Signal line of flowmeter	
	Dosing of chlorine dioxide	
8	Injection unit (for the continuous dosing of chlorine dioxide into the water pipe)	22
9	ClO_2 dosing line (for connecting the chlorine dioxide dosing pump with the injection unit)	19
	Chlorine dioxide measurement	
10	ClO_2 measuring cells (for cold water or hot water with free outlet)	22
11	Signal line of ClO_2 measurement	
12	Measuring water extraction device	
12a	Measuring water return piece	
13	Measuring water line	19
13a	Measuring water return line	
14	Measuring amplifier	
15	Signal line of ClO_2 dosing pump	
16	Measuring module (for hot water with measuring water recycling)	22
17	ClO_2 dosing pump	
17a	Additional ClO_2 dosing pump	
18	Drain	
19	External batch tank (for peak demand)	24
20	Signal line of external batch tank	
21	ClO_2 line to the batch tank	
22	Compact photometer DIT with reagents for check measurement	23
	Safety equipment	
23	Gas warning unit for control of the air in a room	25
24	Personal protective equipment (gloves, apron, goggles), warning signs	25
	Maintenance	
	Maintenance kit for Oxiperm Pro	25

2. Identification

Type key

Example: Oxiperm Pro OCD-162-30-P/G1

OCD-162		-30	-P	/G	1
Max. capacity					
5	5 g/h				
10	10 g/h				
30	30 g/h				
60	60 g/h (230 V), 55 g/h (115 V)				
Chlorine dioxide dosing pump					
P	Integrated digital dosing pump DDI (only for 30 g/h and 60 g/h)				
D	Integrated mechanical dosing pump DMX (only for 30 g/h and 60 g/h)				
S	Integrated SMART Digital dosing pump DDA (only for 5 g/h and 10 g/h)				
N	Without dosing pump				
Supply voltage					
G	220-240 V, 50/60 Hz				
H	110-120 V, 50/60 Hz				
Suction lance					
No number	For 30-litre chemical container (length of suction hose 1.3 m) (only for 5 g/h and 10 g/h)				
1	For 60-litre chemical container (length of suction hose 3.0 m) (only for 30 g/h and 60 g/h)				
2	For 200-litre / 1000-litre chemical container (length of suction hose 4.3 m) (only for 30 g/h and 60 g/h)				
3	For 55-gallon chemical container (length of suction hose 3.0 m) (only for 30 g/h and 60 g/h)				

3. Installation schemes

Preparation, one dosing point

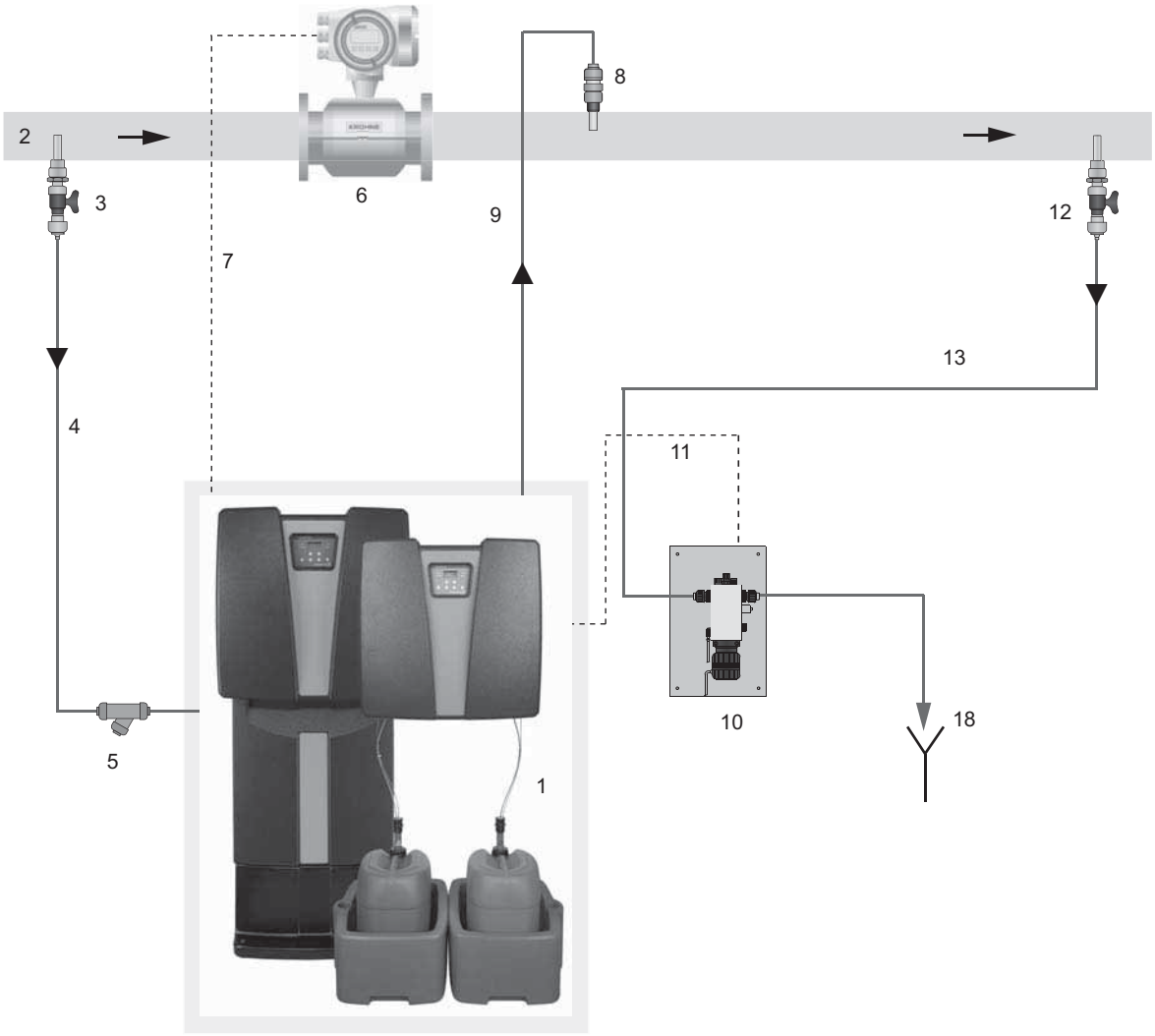

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Fig. 3 Oxiperm Pro basic module with optional measuring cell for chlorine dioxide in cold water

Legend

1	Oxiperm Pro OCD-162
2	Main water pipe
3	Dilution water extraction device
4	Dilution water line
5	Dirt trap
6	Flowmeter
7	Signal line of flowmeter
8	Injection unit
9	ClO_2 dosing line
10	ClO_2 measuring cell
11	Signal line of ClO_2 measurement
12	Measuring water extraction device (minimum distance to injection unit 5 m)
13	Measuring water line
18	Drain

Preparation, two dosing points

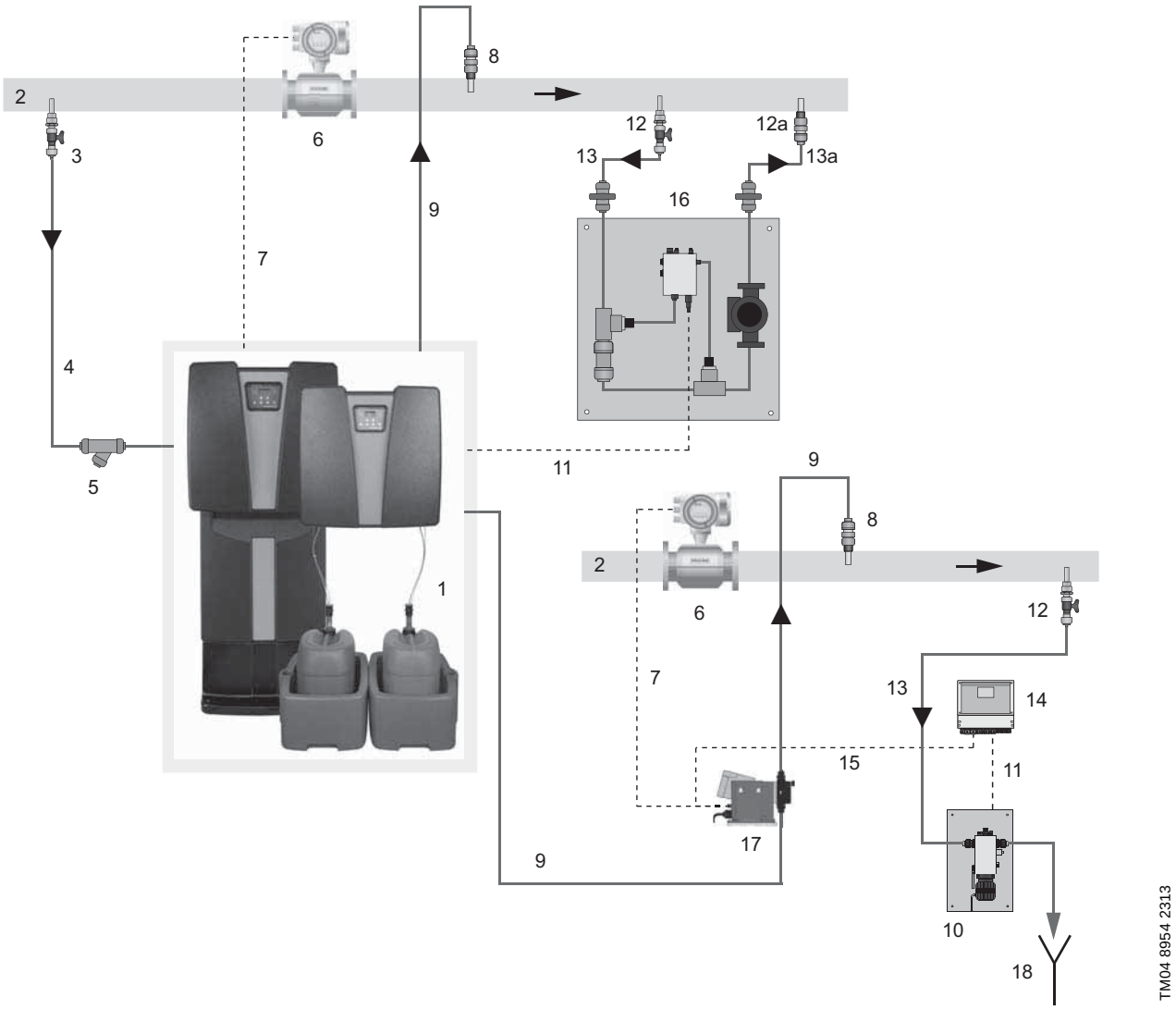

Fig. 4 Oxiperm Pro basic module with additional dosing pump and optional chlorine dioxide measurement

Legend

1	Oxiperm Pro OCD-162
2	Main water pipe
3	Dilution water extraction device
4	Dilution water line
5	Dirt trap
6	Flowmeter
7	Signal line of flowmeter
8	Injection unit
9	ClO_2 dosing line
10	ClO_2 measuring cell
11	Signal line of ClO_2 measurement
12	Measuring water extraction device (minimum distance to injection unit 5 m)
12a	Measuring water return piece
13	Measuring water line
13a	Measuring water return line
14	Measuring amplifier
15	Signal line of dosing pump
16	Measuring module
17	Additional ClO_2 dosing pump
18	Drain

Preparation, several dosing points with batch tank

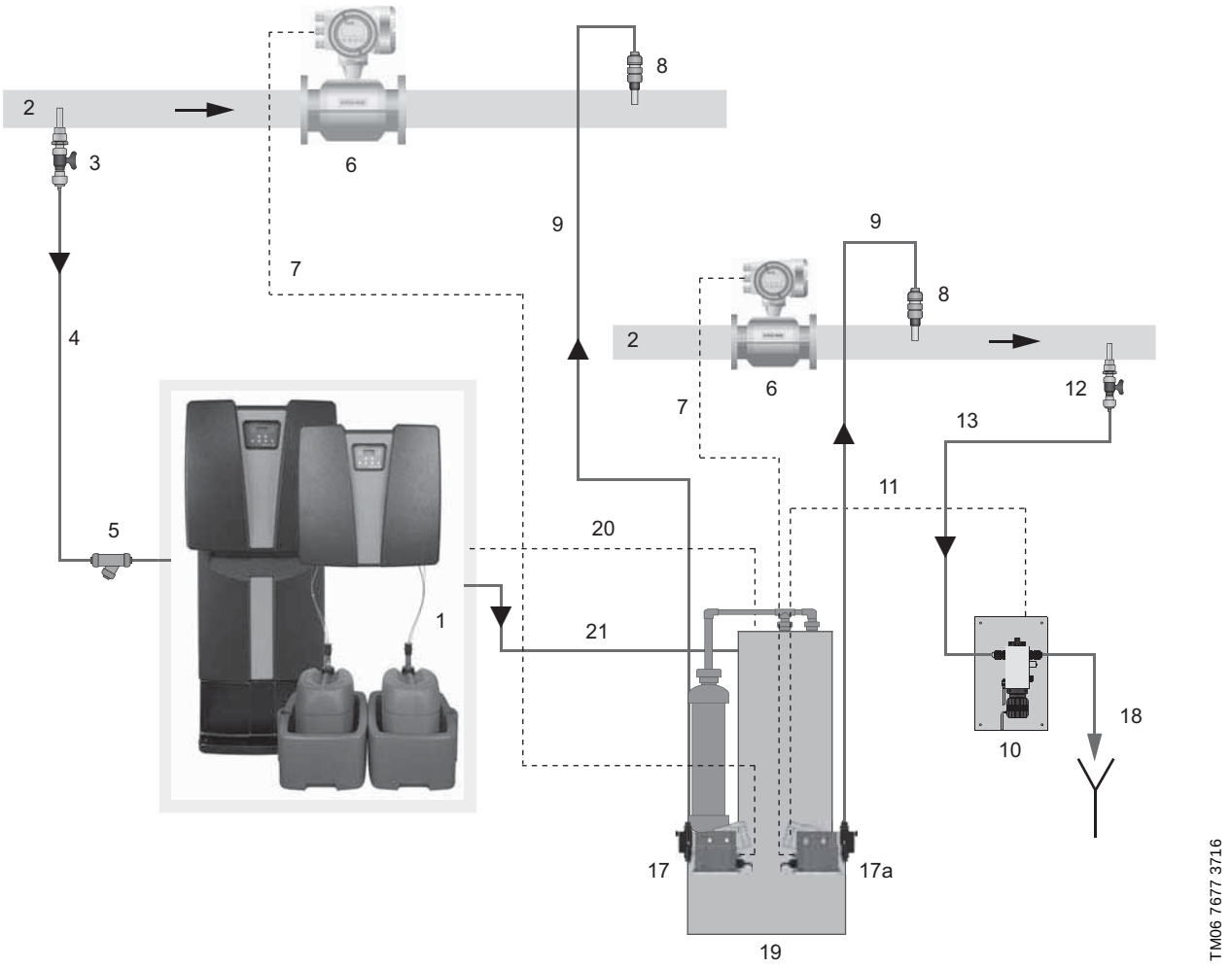

Fig. 5 Oxiperm Pro basic module with additional dosing pumps on an external batch tank and optional chlorine dioxide measurement

Legend

1	Oxiperm Pro OCD-162
2	Main water pipe
3	Dilution water extraction device
4	Dilution water line
5	Dirt trap
6	Flowmeter
7	Signal line of flowmeter
8	Injection unit
9	ClO_2 dosing line
10	ClO_2 measuring cell
11	Signal line of ClO_2 measurement
12	Measuring water extraction device (minimum distance to injection unit 5 m)
13	Measuring water line
17	ClO_2 dosing pumps
17a	Additional ClO_2 dosing pumps
18	Drain
19	External batch tank
20	Signal line of external batch tank
21	ClO_2 line to the batch tank

4. Construction

Oxiperm Pro OCD-162-5 and OCD-162-10

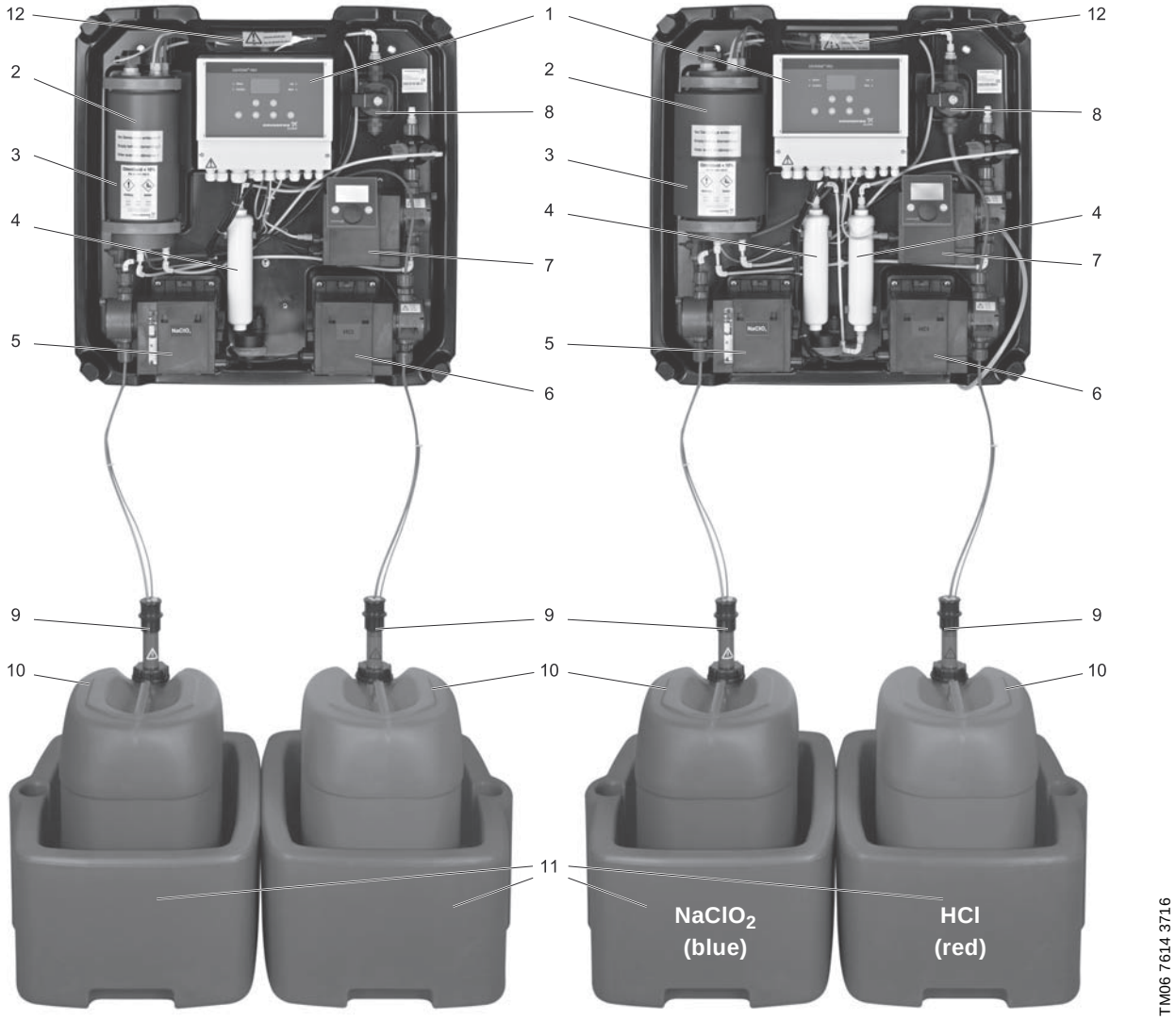

Fig. 6 Oxiperm Pro OCD-162-5 (left) and Oxiperm Pro OCD-162-10 (right) without cover

Legend

1	Control unit
2	Reaction tank
3	Batch tank
4	Adsorption filter
5	Dosing pump for sodium chlorite
6	Dosing pump for hydrochloric acid
7	Dosing pump for chlorine dioxide
8	Solenoid valve for dilution water
9	Suction lance
10	Chemical container (not in standard delivery)
11	Collecting tray (not in standard delivery)
12	Compensation bag (behind the control unit)

Oxiperm Pro OCD-162-30 and OCD-162-60

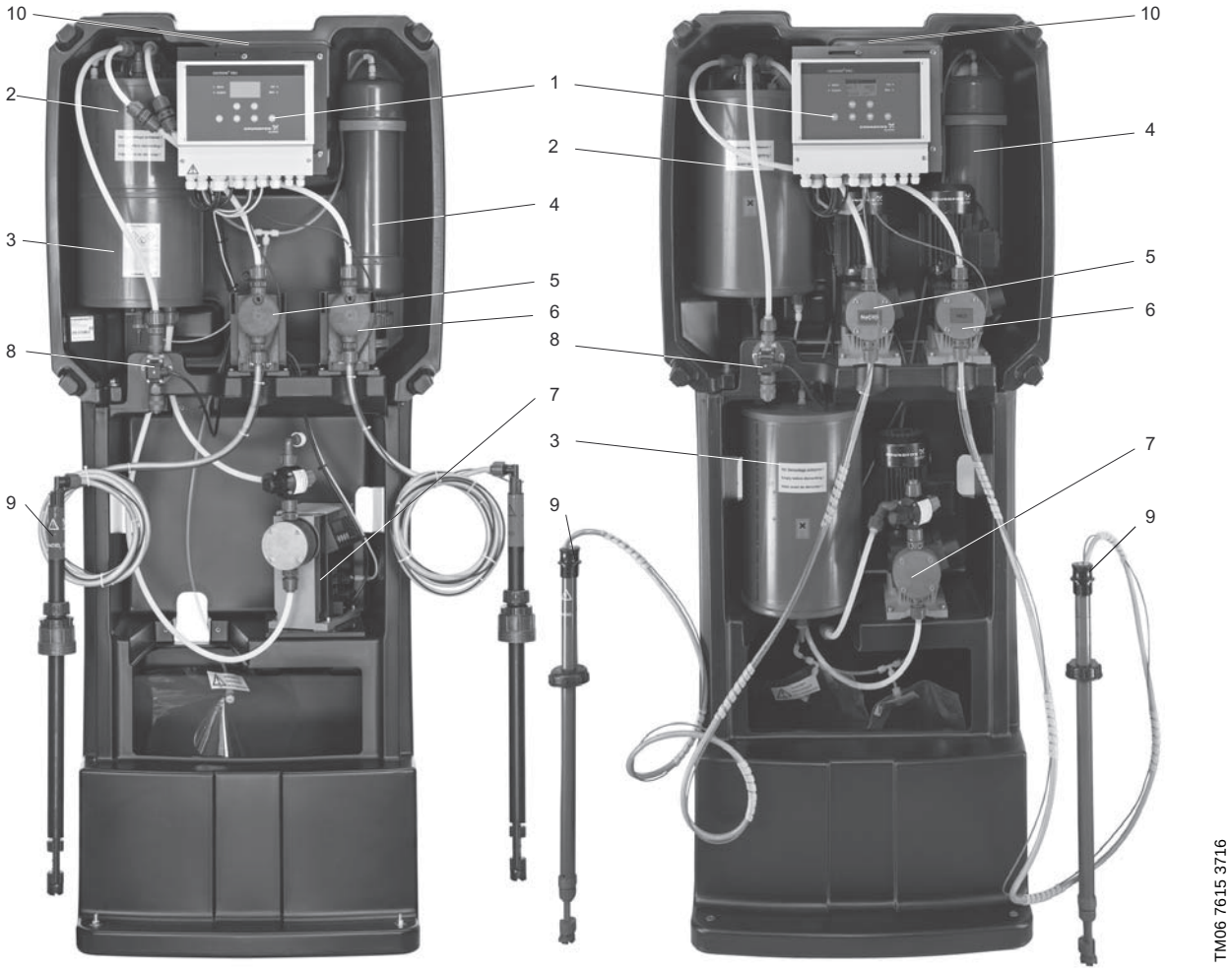

Fig. 7 Oxiperm Pro OCD-162-30 (left) and Oxiperm Pro OCD-162-60 (right) without cover

Legend

1	Control unit
2	Reaction tank
3	Batch tank
4	Adsorption filter
5	Dosing pump for sodium chlorite
6	Dosing pump for hydrochloric acid
7	Dosing pump for chlorine dioxide
8	Solenoid valve for dilution water
9	Suction lance
10	Compensation bag (behind the control unit)

5. Technical data

General technical data

Adjustment of the preparation capacity	Manual by menu-controlled operator prompting, automatic by input signal		
Enclosure class	IP65 (electronics, dosing pumps, solenoid valve)		
Required concentration of chemicals	• HCl (EN 939) • $NaClO_2$ (EN 938)		9 percent by weight 7.5 percent by weight
Permissible temperature	• Ambience: • Dilution water: • Chemicals:		+5 to +40 °C +10 to +30 °C +10 to +35 °C
Permissible operation water pressure	3 to 6 bar (with open solenoid valve)		
Permissible relative air humidity	Max. 80 %, non-condensing		
Total volume of reaction tank and batch tank	Reaction tank OCD-162-5: 1.00 litre OCD-162-10: 1.80 litres OCD-162-30: 6.10 litres OCD-162-60: 13.40 litres		Batch tank (up to max. level alarm) OCD-162-5: 1.00 litre OCD-162-10: 1.80 litres OCD-162-30: 7.00 litres OCD-162-60: 13.90 litres
Filling volume of reaction tank and batch tank	Reaction tank OCD-162-5: 0.87 litres OCD-162-10: 1.67 litres OCD-162-30: 5.52 litres OCD-162-60: 11.96 litres		Batch tank OCD-162-5: 0.87 litres OCD-162-10: 1.67 litres OCD-162-30: 6.50 litres OCD-162-60: 13.00 litres
Concentration of chlorine dioxide solution	approx. 2 g/l (2000 ppm)		
Safety equipment	Monitoring of the capacity via level measurement		
Material	System frame Fastening sleeves Solenoid valve Reaction/batch tank Internal hoses Gaskets		PP Stainless steel PVC PVC PTFE FKM
Full-text menu control for	• Commissioning • Entering operating parameters		• Flushing • Maintenance
Connections	Chlorine dioxide dosing line Dilution water 	230 V version 115 V version 230 V version 115 V version	Hose 4/6, 6/9 and 9/12 Hose 1/8" x 1/4", 1/4" x 3/8" and 1/3" x 1/2" Hose 6/9 or 6/12 or PVC-pipe DN 8 Hose 1/4" x 3/8"

Electrical and electronic data

Mains connection	OCD-162-5 and OCD-162-10: 115 V, 50/60 Hz or 230 V, 50/60 Hz OCD-162-30 and OCD-162-60: 115 V, 60 Hz or 230 V, 50 Hz
Power consumption	OCD-162-5 and OCD-162-10: approx. 50 VA OCD-162-30: approx. 180 VA OCD-162-60: approx. 320 VA
Analog inputs	• Input 0(4)-20 mA (water meter) • Measuring cell (chlorine dioxide, pH or Redox, temperature) (option)
Digital inputs	• Contact water meter (min. 3 pulses/minute, max. 50 pulses/second) • Remote On/Off • Fault gas warning unit
Analog outputs	• Output 0(4)-20 mA (pump regulation) • Measured value chlorine dioxide 0(4)-20 mA
Potential-free outputs	• Alarm relay, 250 V / 2 A, max. max. 500 VA (chemicals-empty signal, dosing time monitoring, preparation process time monitoring, wire break current output) • Warning relay, 250 V / 2 A, max. 500 VA (low level of chemicals, maintenance) • Chlorine dioxide dosing pump

6. Dimensions

Oxiperm Pro OCD-162-5 and OCD-162-10

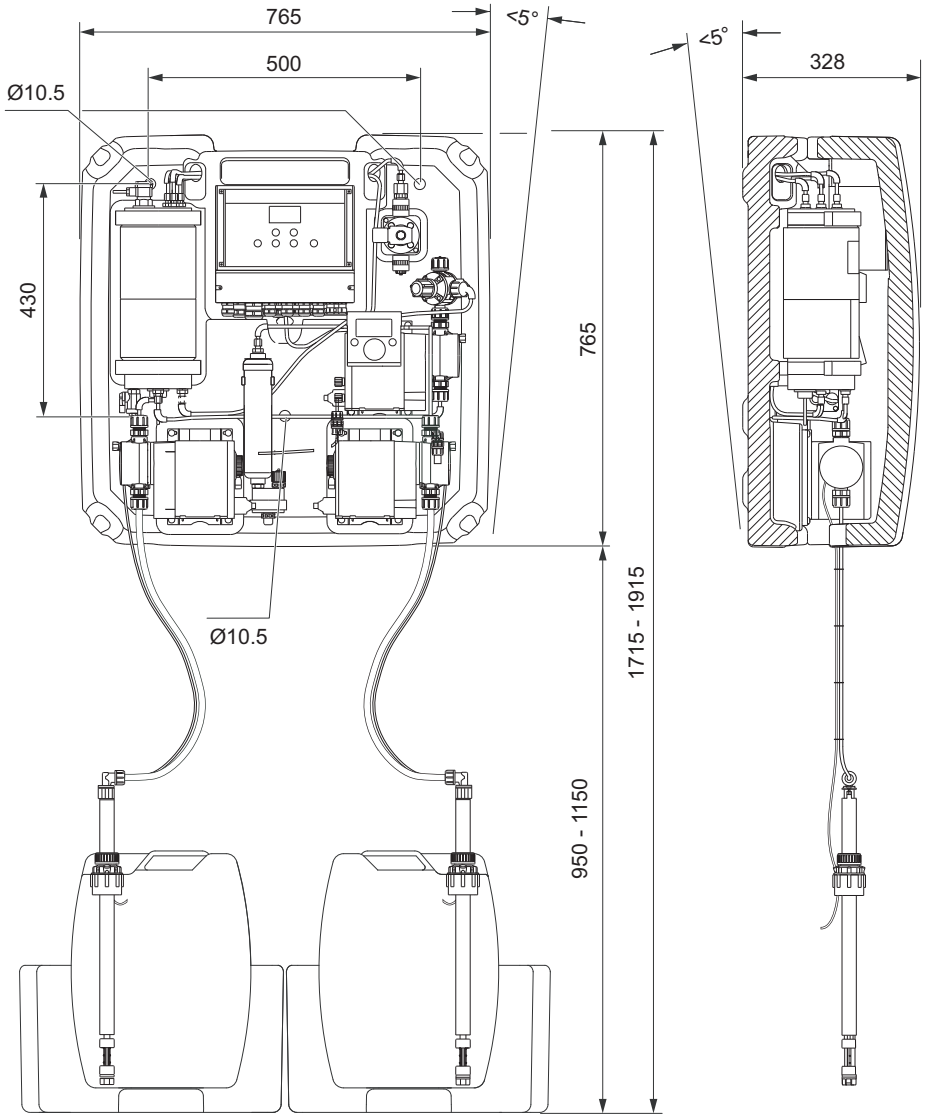

Fig. 8 Oxiperm Pro OCD-162-5 and OCD-162-10

Oxiperm Pro OCD-162-30 and OCD-162-60

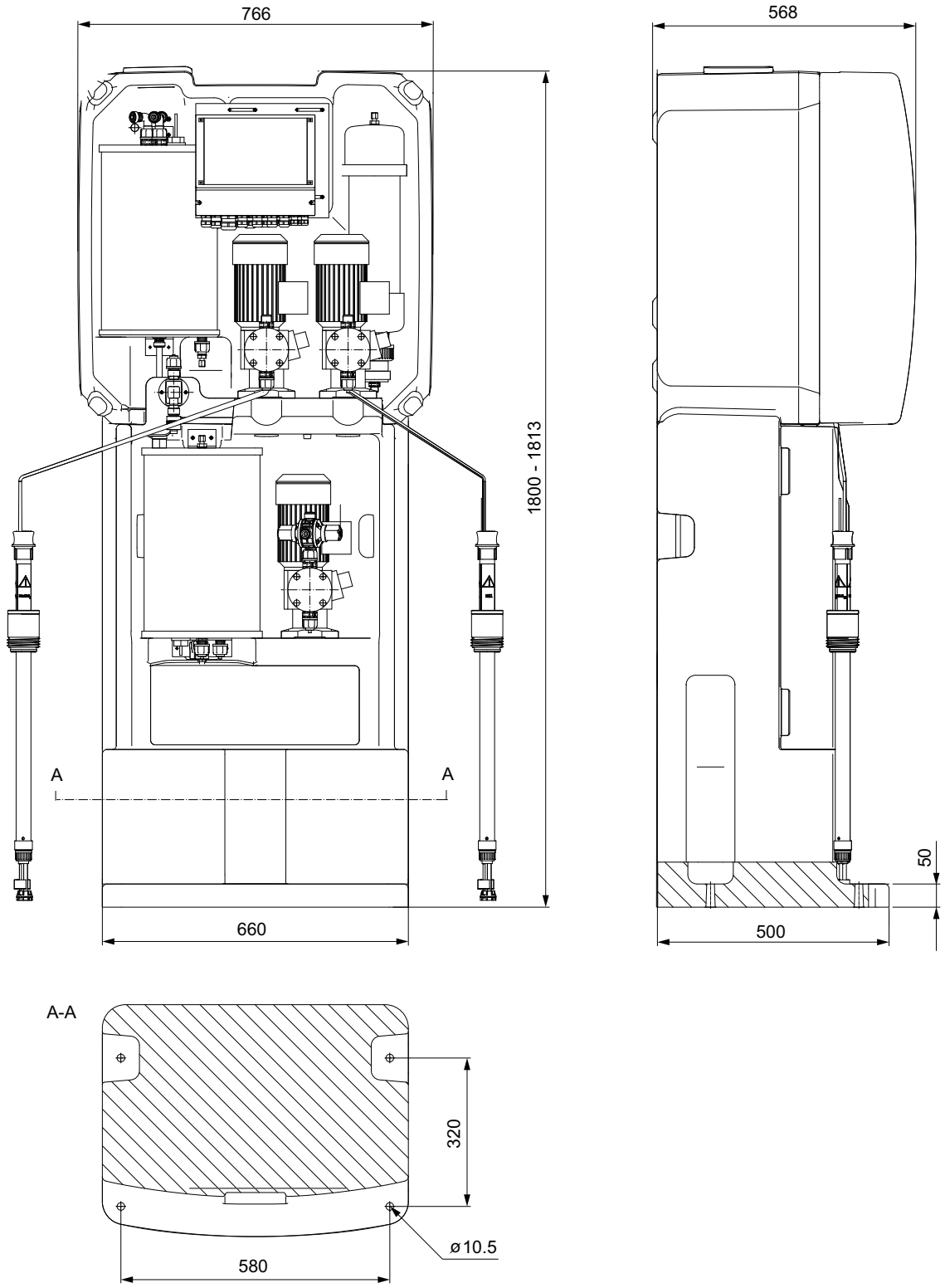

Fig. 9 Oxiperm Pro OCD-162-30 and OCD-162-60

Suction lance adaptors for chemical containers

The adaptor suitable for the respective container is included in the standard delivery of the suction lance.

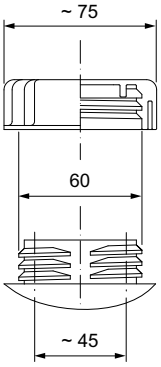

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Fig. 10 Suction lance adaptor for 30-litre container (Oxiperm Pro OCD-162-5, -10, -30)

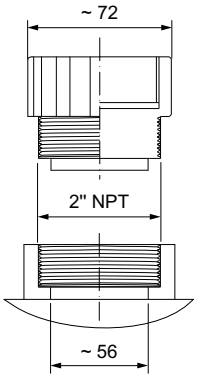

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Fig. 11 Suction lance adaptor for 55-gallon container (Oxiperm Pro OCD-162-5, -10, -30, -60)

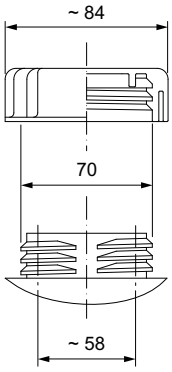

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Fig. 12 Suction lance adaptor for 60-litre container (Oxiperm Pro OCD-162-30, -60)

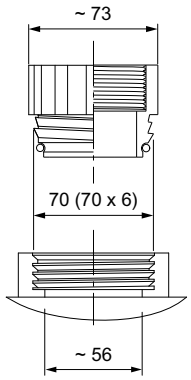

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Fig. 13 Suction lance adaptor for 200-litre container (IBC) (Oxiperm Pro OCD-162-30, -60)

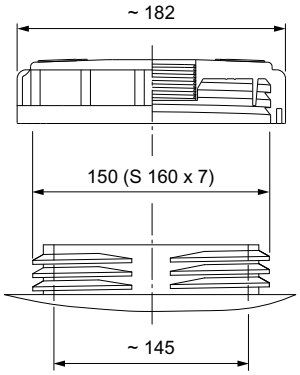

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Fig. 14 Suction lance adaptor for 1000-litre container (IBC) (Oxiperm Pro OCD-162-30, -60)

7. Product range

Standard: Oxiperm Pro with chlorine dioxide dosing pump

- For systems in combination with an external batch tank we recommend to use a mechanical dosing pump.
- Digital dosing pumps are designed for direct dosing.
- The maximum counterpressure at the outlet of the Oxiperm Pro is 9 bar.

Preparation capacity	Consumption of chemicals, ± 10 %			Weight** (netto)	Chlorine dioxide dosing pump	Voltage	Product type	Product No.
ClO_2	HCl	$NaClO_2$	H_2O					
[g/h]	[l/h]*	[l/h]*	[l/h]	[kg]				
Standard: with SMART Digital dosing pump DDA with suction lance for 30-litre container								
5	0.17	0.16	2.7	28	DDA	230 V, 50/60 Hz	OCD-162-5-S/G	95735153
10	0.30	0.28	4.3	30	DDA		OCD-162-10-S/G	95735161
5	0.17	0.16	2.7	28	DDA	115 V, 50/60 Hz	OCD-162-5-S/H	95735154
10	0.30	0.28	4.3	30	DDA		OCD-162-10-S/H	95735162
Standard: with mechanical dosing pump DMX or digital dosing pump DDI with suction lance for 60-litre container								
30	0.92	0.86	15.2	89	DMX	230 V, 50 Hz	OCD-162-30-D/G1	95735169
30	0.92	0.86	15.2	87	DDI		OCD-162-30-P/G1	95735171
60	1.85	1.63	30.4	107	DMX	230 V, 50 Hz	OCD-162-60-D/G1	95718452
60	1.85	1.63	30.4	104	DDI		OCD-162-60-P/G1	95718454
30	0.92	0.86	15.2	86	DDI	115 V, 60 Hz	OCD-162-30-P/H1	95735172
55	1.63	1.44	26.8	93	DDI		OCD-162-60-P/H1	95736300
Standard: with mechanical dosing pump DMX or digital dosing pump DDI with suction lance for 200- or 1000-litre container								
30	0.92	0.86	15.2	89	DMX	230 V, 50 Hz	OCD-162-30-D/G2	95735173
30	0.92	0.86	15.2	87	DDI		OCD-162-30-P/G2	95735175
60	1.85	1.63	30.4	107	DMX	230 V, 50 Hz	OCD-162-60-D/G2	95718456
60	1.85	1.63	30.4	105	DDI		OCD-162-60-P/G2	95718458
30	0.92	0.86	15.2	87	DDI	115 V, 60 Hz	OCD-162-30-P/H2	95735176
55	1.63	1.44	26.8	93	DDI		OCD-162-60-P/H2	95736302
Standard: with mechanical dosing pump DMX or digital dosing pump DDA or DDI with suction lance for 55-gallon container								
5	0.17	0.16	2.7	28	DDA	115 V, 50/60 Hz	OCD-162-5-S/H3	95735155
10	0.30	0.28	4.3	30	DDA		OCD-162-10-S/H3	95735163
30	0.92	0.86	15.2	87	DDI	115 V, 60 Hz	OCD-162-30-P/H3	95735178
55	1.63	1.44	26.8	93	DDI		OCD-162-60-P/H3	95736304

* When running at maximum capacity

** Approximately

Oxiperm Pro without chlorine dioxide dosing pump

- Without integrated dosing pump for chlorine dioxide, in case an external dosing pump will be connected.
- A standard delivery comprises multi-function valve and hose connections for product storage containers.
- The maximum admissible counterpressure depends on the local used dosing pump.

Preparation capacity	Consumption of chemicals, ± 10 %			Weight** (net)	Voltage	Product type	Product No.
ClO_2	HCl	$NaClO_2$	H_2O				
[g/h]	[l/h]*	[l/h]*	[l/h]	[kg]			
Without chlorine dioxide dosing pump, with suction lance for 30-litre container							
5	0.17	0.16	2.7	25	230 V, 50/60 Hz	OCD-162-5-N/G	95735156
10	0.30	0.28	4.3	27		OCD-162-10-N/G	95735164
5	0.17	0.16	2.7	25	115 V, 50/60 Hz	OCD-162-5-N/H	95735157
10	0.30	0.28	4.3	27		OCD-162-10-N/H	95735165
Without chlorine dioxide dosing pump, with suction lance for 60-litre container							
30	0.92	0.86	15.2	81	230 V, 50 Hz	OCD-162-30-N/G1	95735179
60	1.85	1.63	30.4	99		OCD-162-60-N/G1	95725956
Without chlorine dioxide dosing pump, with suction lance for 200-litre container							
30	0.92	0.86	15.2	81	230 V, 50 Hz	OCD-162-30-N/G2	95735180
60	1.85	1.63	30.4	99		OCD-162-60-N/G2	95725957
Without chlorine dioxide dosing pump, with suction lance for 55-gallon container							
5	0.17	0.16	2.7	26	115 V, 50/60 Hz	OCD-162-5-N/H3	95735158
10	0.30	0.28	4.3	28		OCD-162-10-N/H3	95735166
30	0.92	0.86	15.2	81	115 V, 60 Hz	OCD-162-30-N/H3	95735181
55	1.63	1.44	26.8	87		OCD-162-60-N/H3	95736305

* When running at max. capacity

** Approximately

8. Accessories

Collecting trays

- For chemical storage containers

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Fig. 15 Collecting tray for containers of max. 33 litres

Description	Product No.
Collecting tray, blue, for sodium chlorite containers of max. 33 litres, with support for suction lance	95702450
Collecting tray, red, for hydrochloric acid containers of max. 33 litres, with support for suction lance	95702451
Collecting tray, blue, for sodium chlorite containers of max. 60 litres	96726830
Collecting tray, red, for hydrochloric acid containers of max. 60 litres	96726829

Hoses

Description	Product No.
Hose PTFE 4/6 mm, 5 metres (chlorine dioxide solution: multifunction valve to dosing point for OCD-162-5 and -10)	96697911
Hose PTFE 4/6 mm, 10 metres (chlorine dioxide solution: multifunction valve to dosing point for OCD-162-5 and -10)	96692437
Hose PTFE 4/6 mm, 25 metres (chlorine dioxide solution: multifunction valve to dosing point for OCD-162-5 and -10)	96727484
Hose PTFE 9/12 mm, 10 metres (chlorine dioxide solution: multifunction valve to dosing point for OCD-162-30 and -60)	96727490
Hose PTFE 9/12 mm, 25 metres (chlorine dioxide solution: multifunction valve to dosing point for OCD-162-30 and -60)	96727492
Hose PE 6/9 mm, 10 metres (dilution water inlet solenoid valve)	96727412
Hose PVC 6/12, with reinforcement, 10 metres (measuring water connection for measuring cell AQC-D11)	96653571
Hose PE 6/8, mm, 10 metres (measuring water connection for measuring cell AQC-D6)	95709108

Connections

For	Description	Product No.
PTFE hose 4/6, 6/9 or 9/12 (see 1, fig. 16)	Connection set for multifunction valve DN 8, G 5/8	97691904
PTFE hose 1/4" x 3/8" or 1/8" x 1/4" (see 1, fig. 16)	Connection set for multifunction valve DN 8, G 5/8	97691907
PVC hose connection 6/9 or 6/12 with G 5/8 female thread for dilution water (please order separately)	G 1/2 male thread for direct screwing into water supply line and G 5/8 male thread for hose connection (see fig. 17)	95702448
PVC hose connection 6/9 or 6/12 with G 5/8 female thread for dilution water (please order separately)	G 3/4 male thread for direct screwing into water supply line and G 5/8 male thread for hose connection (see fig. 17)	95702449
PVC hose 6/9 for dilution water (see 2, fig. 16)	Hose connection with G 5/8 female thread (see fig. 18)	97702488
PVC hose 6/12 for dilution water (see 2, fig. 16)	Hose connection with G 5/8 female thread (see fig. 18)	97702489
PTFE hose 4/6 for dosing pumps (see 3, fig. 16) (OCD-162-5 and-10)	T-piece (3 x 4/6), PVDF	95714891
PTFE hose 6/9, 6/12 or 9/12 for 2 dosing pumps (see 3, fig. 16) (OCD-162-30 and -60)	T-piece (6/9, 6/12 or 9/12), PVDF	95730391
PTFE hose 9/12	PVC/FKM ball valve, DN 10, with PTFE connection 9/12	95721555

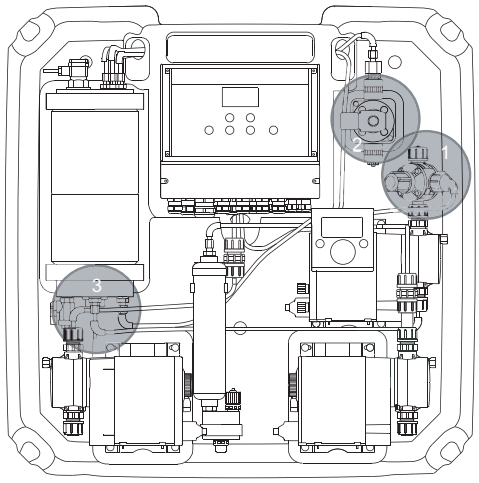

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Fig. 16 Overview connections

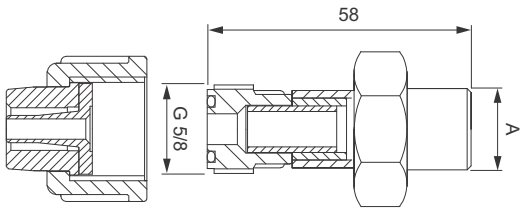

Fig. 17 Hose connection (fig. 18) with adaptor G 1/2 or G 3/4, and G 5/8 male thread (95702448 for A = G 1/2 or 95702449 for A = G 3/4)

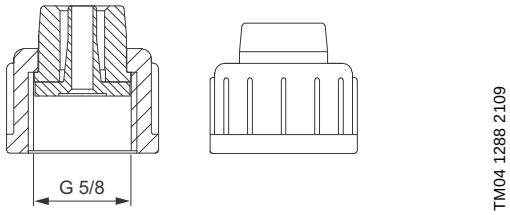

Fig. 18 Hose connections G 5/8 female thread (97702488 for PVC 6/9 or 97702489 for PVC 6/12)

Extraction device

- For dilution water or measuring water
- PVC, max. 10 bar
- With ball valve
- With FKM gasket.

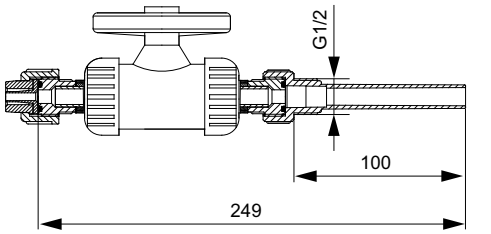

Fig. 19 Extraction device

Description	Connection	Product No.
Connection for 6/9, 6/12 hoses and DN 10 PVC pipe	G 1/2 male thread	95707159

Dirt trap

External dirt trap for dilution water connection.

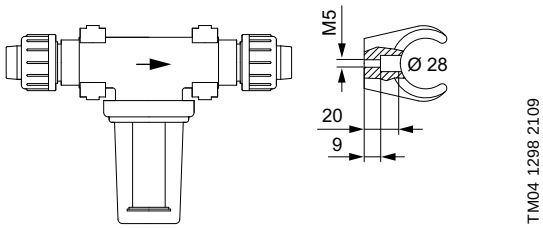

Fig. 20 Dirt trap

Description	Product No.
Connection for 6/9, 6/12 hoses and DN 10 PVC pipe	95709473

Inductive flowmeter

- 100-230 V AC, 50/60 Hz
- 4-20 mA analog output and pulse output
- With annexed flow transformer, PP lining.

Fig. 21 Inductive flow meter

Description	Flange	Product No.
Inductive flow meter G 1/2, min. 0.2 m^3/h, max. 7.6 m^3/h	DN 15	95702399
Inductive flow meter G 3/4, min. 0.3 m^3/h, max. 13.6 m^3/h	DN 20	95702400
Inductive flow meter G 1, min. 0.5 m^3/h, max. 21.2 m^3/h	DN 25	95702401
Inductive flow meter G 1 1/4, min. 0.9 m^3/h, max. 34.7 m^3/h	DN 32	95702402
Inductive flow meter G 1 1/2, min. 1.4 m^3/h, max. 54.2 m^3/h	DN 40	95702403
Inductive flow meter G 2, min. 2.1 m^3/h, max. 84.8 m^3/h	DN 50	95702288
Inductive flow meter G 2 1/2, min. 3.6 m^3/h, max. 143.4 m^3/h	DN 65	95702404
Inductive flow meter G 3, min. 5.4 m^3/h, max. 217.2 m^3/h	DN 80	95702405
Inductive flow meter G 4, min. 8.5 m^3/h, max. 339.3 m^3/h	DN 100	95702406
Inductive flow meter G 5, min. 13.3 m^3/h, max. 530.1 m^3/h	DN 125	95702407
Inductive flow meter G 6, min. 19.1 m^3/h, max. 763.4 m^3/h	DN 150	95702350

Water meter

The in-line water meter with potential-free pulse signal is suitable for use in flow-proportional dosing applications.

- Qn 1.5 and Qn 2.5 meters are of the multi-jet, dry dial type, for cold water up to 30 °C, or hot water up to 90 °C.
- Qn 15 meters and up are of the helical vane type, for cold water up to 50 °C, or hot water up to 120 °C.
- Max. pressure: 16 bar.

If the water meter is connected directly to the pump pulse input, use a control plug (PN 96698715).

- Qn 1.5 to Qn 15 meters are threaded.
- Qn 40 to Qn 150 meters are flanged.
- Cable length: 3 m.

TM06 6910 2716

Fig. 22 Water meter

Qn	Pulse rate	Maximum short-period capacity	Maximum pressure	Transitional capacity with error ± 2 %	Minimum capacity with error ± 5	Product number			
						Maximum water temperature			
[m^3/h	[l/pulse]	[m^3/h]	[bar]	[l/h]	[l/h]	30 °C	50 °C	90 °C	120 °C
1.5*	1	3	16	120	50	96446846	-	96446897	-
2.5*	2.5	5	16	200	70	96446847	-	96446898	-
2.5*	1	5	16	250	30			96693258	
15*	10	30	16	3000	450	-	96446848	-	96446899
1.5*	0.25	3	16	120	50	96482640	-	96482643	-
2.5*	0.25	5	16	200	70	96482641	-	96482644	-
15*	2.5	30	16	3000	450	96482642	-	96482645	-
40**	100	80	10	4000	700	-	96446849	-	96446900
60**	25	120	10	6000	1200	-	96446850	-	96446901
150**	100	300	10	12000	3000	-	96446851	-	96446902

* Maximum load, Reed contact: 30 VAC/VDC, 0.2 A.
** Maximum load, Namur contact: 8-12 VDC, 1 kOhm (requires external power supply).

Dimensions

Size	Connections	Installation kit connection	Port-to-port length	Port-to-port length incl. kit
			[mm]	[mm]
Threaded connection				
Qn 1.5	G 3/4	G 1/2	165	245
Qn 2.5	G 1	G 3/4	190	288
Qn 15	G 2.5	G 2	300	438
Flanged connection				
Qn 40	DN 80		225	-
Qn 60	DN 100		250	-
Qn 150	DN 150		300	-

Injection unit

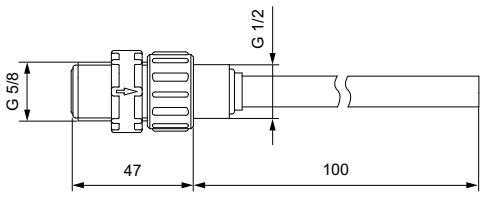

Fig. 23 Injection unit

Description	Product No.
Injection unit DN 8, PVDF, 16 bar, G 1/2, threaded connection G 5/8 for PTFE hose 4/6, 6/9, 6/12 and 9/12	95730932

Measuring module

- Chlorine dioxide measurement in cold and hot water
- Material: PP-R
- Operating voltage: 230 V, 50 Hz.

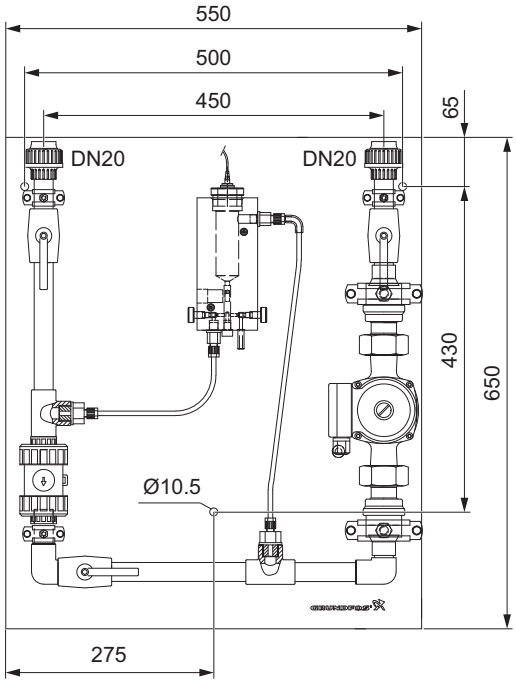

Fig. 24 Measuring module

Description	Product No.
For water up to 70 °C, max. 8 bar, with measuring water recirculation, connections inlet and outlet measuring water DN 20, with 2 m of connection cable for the measuring cell	95708029

Measuring cells

- Chlorine dioxide measurement in cold or hot water
- Free measuring water outlet
- Operating voltage: 230 V, 50/60 Hz.

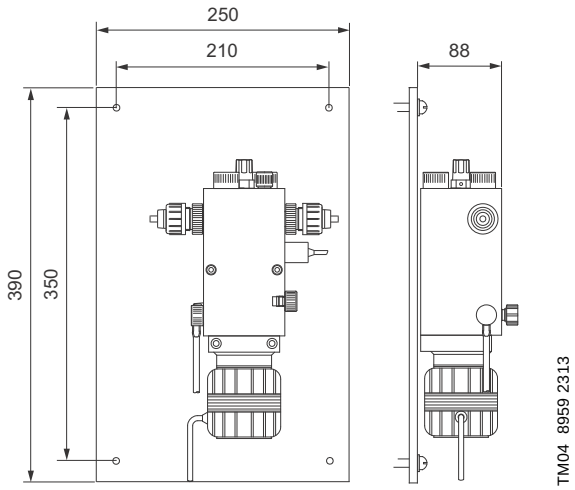

Fig. 25 AQC-D11 measuring cell

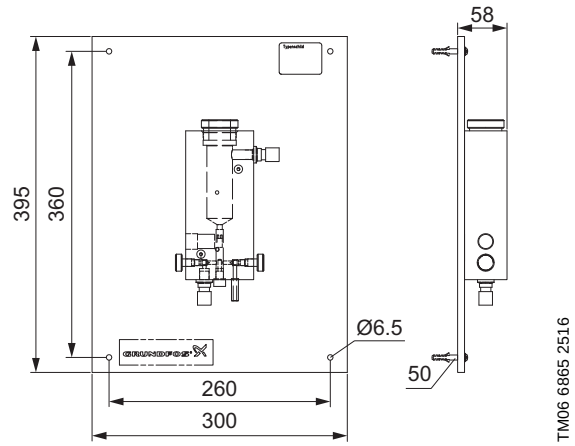

Fig. 26 AQC-D6 measuring cell

Description	Product No.
AQC-D11, P-AU-X-X, QS-T-G: • For cold water up to 40 °C, connection measuring water inflow (hose 6/12, PVC pipe DN 8), with 3 m connection cable, integrated temperature compensation, cleaning motor	95737681
AQC-D11, P-AU-PCB-X, QS-T-G: • For cold water up to 40 °C, connection measuring water inflow (hose 6/12, PVC pipe DN 8), with 3 m connection cable, integrated temperature compensation, pH electrode, cleaning motor, pH calibrating solution	95737679
AQC-D11, P-AU-X-RCB, QS-T-G: • For cold water up to 40 °C, connection measuring water inflow (hose 6/12, PVC pipe DN 8), with 3 m connection cable, integrated temperature compensation, Redox electrode, Redox calibrating solution, cleaning motor	95738089
AQC-D6: • For cold and hot water, up to 8 bar, 70 °C, connection measuring water inflow 6/8, with 2 m connection cable, integrated temperature compensation	95708118

For more detailed information on AQC, please see the data booklet Measurement and control accessories.

DIT-L photometer

Compact photometer for quick determination of the concentration of chlorine dioxide and chlorite at the extraction point.

TM04 8452 4711

Fig. 27 DIT-L photometer

Description	Product No.
DIT-L photometer with case • Chlorine dioxide measuring range: 0.02 - 11.0 mg/l • Chlorite measuring range: 0.01 - 6.0 mg/l • Supplied with: 4 batteries, 1 manual, 1 Certificate of Compliance, 3 round vials with cap and gasket, 1 cleaning brush, 1 plastic stirring rod, 1 starter kit for 100 chlorine dioxide measurements	95727743
Testing reagents for the determination of chlorine dioxide, for 250 measurements:	
• DPD No. 1 tablets	95727747
• DPD No. 3 tablets	95727750
• Glycine tablets	95727752
Additional testing reagents for the determination of chlorite, for 100 measurements (not included in DIT-L starter kit):	
• DPD Acidifying tablets	98032751
• DPD Neutralising tablets	98032752

For more detailed information on DIT-L, please see the data booklet DIT-M, DIT-L, DIT-IR.

External batch tank

- For chlorine dioxide product solution
- Material: PVC
- With adsorption filter, collecting tray, level switch

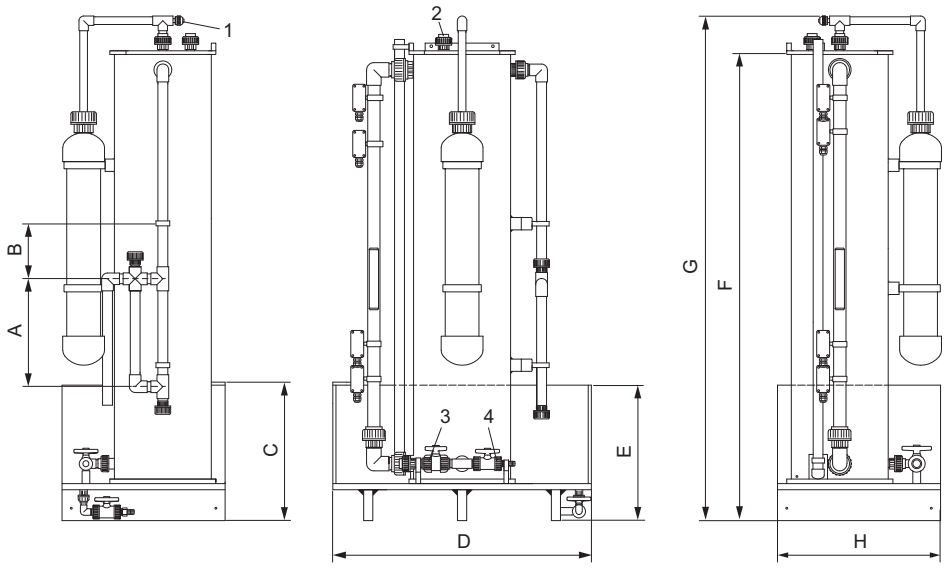

Fig. 28 External batch tank

Dimensions

Volume [l]	Tank diameter [mm]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	Product No.
20	200	350	180	270	840	260	1395	1520	400	96726824
50	315	350	180	450	840	440	1527	1369	530	96688079
100	315	350	180	450	840	440	1897	2010	530	96726825
200	500	350	180	510	1150	520	1855	1970	790	96688080

Connections

Pos.	Description
1	Connection for PE hose 8/11 (exhaust device)
2	Connection DN 20 for filling pipe (cementing)
3	Outlet DN 20 to dosing pump
4	Drain DN 10

Exhaust device for external batch tank

- With injector, dirt trap, solenoid valve, pressure reducing valve, shut-off valve
- Flow rate: 1100-1300 l/h

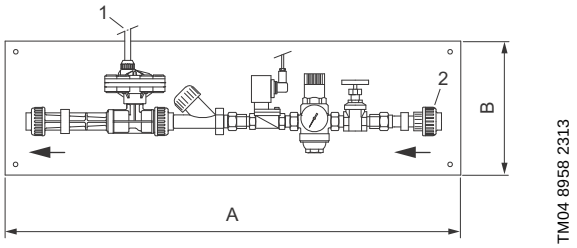

Fig. 29 Exhaust device

Voltage	A [mm]	B [mm]	Product No.
220-240 V, 50 Hz	850	250	96681155
110-120 V, 60 Hz	850	250	96709043

Conex DIA-G gas warning unit

- With amperometric chlorine dioxide sensor
- Measuring range 0.00 to 5.00 ppm

TM06 7918 4216

Fig. 30 Gas warning unit Conex DIA-G

Description	Product No.
Conex DIA-G-P,CCA-X-X,W-J: 110/240 V, 50-60 Hz	95700081

For more detailed information on Conex DIA-G, please see the data booklet Conex DIA-G, DIS-G.

Protective equipment

Description	Product No.
Protective gloves	96727012
Protective apron	96727013
Protective goggles	96727014
Set of warning signs (local version of Germany)	95701992

CIU-271 Communication Interface Unit

Communication interface unit for connection to the Oxiperm Pro controller. Reads out the measured chlorine dioxide concentration and emits alarm or warning. Status message can be displayed via web browser or via SMS on mobile phone.

TM04 8528 1212

Fig. 31 CIU-271 communication interface unit

Description	Fieldbus protocol	Electrical data	Product No.
CIU-271	GSM/GPRS	24-240 V, 0-60 Hz	96898819

Maintenance kits

Oxiperm Pro OCD-162-5	Dosing pump for chlorine dioxide	Product No.
Until July 2016	SMART Digital DDA	98153636
From August 2016		99136353
Until July 2016	Without	98153651
From August 2016		99136354

Oxiperm Pro OCD-162-10	Dosing pump for chlorine dioxide	Product No.
Until July 2016	SMART Digital DDA	98153962
From August 2016		99136355
Until July 2016	Without	98153966
From August 2016		99136356

Oxiperm Pro OCD-162-30	Dosing pump for chlorine dioxide	Product No.
	Mechanical DMX	98162637
	Digital DDI	98162644
	Without	98162647

Oxiperm Pro OCD-162-60

Dosing pumps for hydrochloric acid and sodium chlorite	Dosing pump for chlorine dioxide	Product No.
DMX (230 V)	Mechanical DMX	95717919
	Digital DDI	95717920
	Without	95717921
DDE (115 V)	Digital DDI	98382087
	Without	98382297

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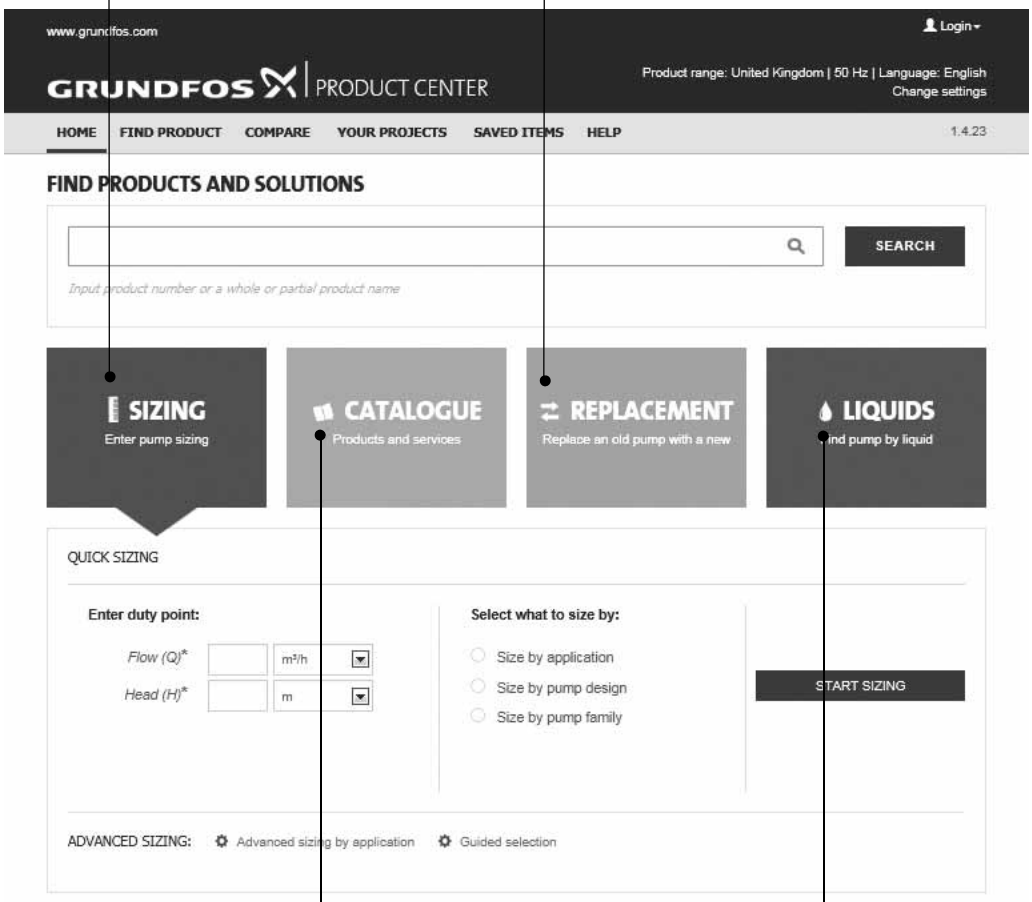

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95718614 1116
ECM: 1195294

GRUNDFOS A/S
DK-8850 Bjerringbro . Denmark
Telephone: +45 87 50 14 00
www.grundfos.com

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