

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 5, 10, 30 and 60 g/h of chlorine dioxide respectively. This capacity is sufficient to treat up to 150 m³ 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.

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, e. g. constructional modifications.

Oxiperm Pro OCD-162-5 and -10 systems are designed for small or medium-sized buildings with water flows up to 25 m³/h. Oxiperm Pro OCD-162-30 and -60 systems are suited for disinfection tasks in waterworks or applications in the food and beverage industry.

Effectiveness diagram

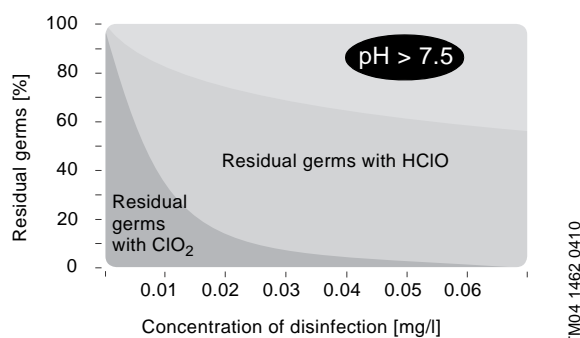


Fig. 1 Effectiveness diagram: HClO= hypochlorous acid, ClO₂=chlorine dioxide

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 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 as the connection for a measuring device for chlorine dioxide as well as pH or Redox (measuring cell) is already in place in the system control.

Little installation work

Optional accessories simplify assembly and start-up. 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.

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

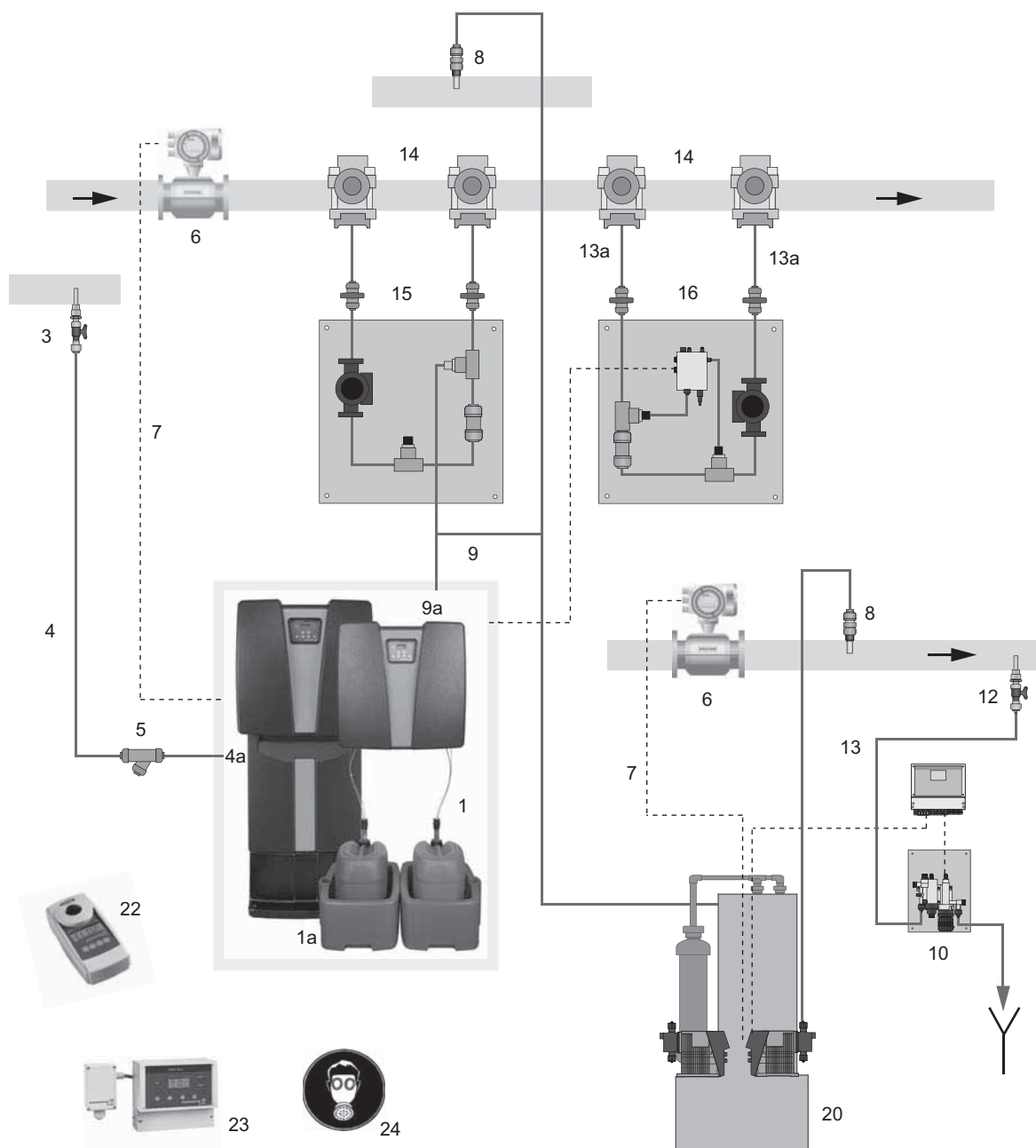
Besides continuous operation, the optional external batch tank allows the use of Oxiperm Pro for shock disinfection or in cleaning applications, such as CIP.

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 tanks have to be situated below the system.
- Temperature of dilution water 10-30 °C.
- Water connection 3-6 bar, floor drain and appropriate mains supply must be provided.

Note: In case of quantity fluctuations in the main water flow, the use of a bypass mixing module (see section 8. *Accessories*, page 21) or the version with digital dosing pump is recommended, in order to optimise the blending and to minimise the risk of corrosion.

Components overview



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Fig. 2 Components of an installation for chlorine dioxide preparation

Checklist of installation components

No.	Component	Page
	Basic unit	
1	Oxiperm Pro chlorine dioxide preparation system	13-14
1a	Collecting tray for chemical tank	21
	Dilution water for Oxiperm Pro	
3	Dilution water extraction device, connection 6/9 mm, (comprised in the bypass module for cold water)	22
5	Dirt trap for dilution water, connection 6/9 mm	22
4	PE hose 6/9 mm for dilution water connection	21
4a	Dilution water connections for differing measurements	21
	Flow measurement	
6	Flowmeters/Contact water meters	22-23
7	Connection cable for flow meters	22
	Dosing of chlorine dioxide	
8	Injection unit for the direct dosing of chlorine dioxide into the water pipe, hose connection PTFE 4/6 mm or 9/12 mm	23
15	Bypass modules for pre-mixing with integrated injection unit for hot and cold water, connections DN 20	23
9	PTFE hose 4/6 mm or 9/12 mm for connecting the chlorine dioxide dosing pump with the injection unit	21
9a	Connections for chlorine dioxide dosing pump with differing measurements	21
14	Tapping sleeves for the connection of extracting or adding points	25
	Chlorine dioxide measurement	
10	Measuring cells for cold water (connection 6/12 mm) or hot water (connection 6/8 mm) with free outlet	24
16	Measuring module for hot water with measuring water recycling (connection DN 20)	24
12	Extraction device for dilution water/measuring water (connection 6/12 mm)	22
13	PVC hose 6/12 mm for measuring water extraction device	21
13a	PE hose 6/8 mm for measuring water extraction device	21
22	Compact photometer DIT-L with reagents for check measurement	25
20	External batch tanks for peak demand (50 litres, 100 litres)	25
	Safety equipment	
23	Gas warning unit for control of the air in a room	26
24	Personal protective equipment (gloves, apron, goggles), warning signs	26
	Maintenance	
	Maintenance kit for Oxiperm Pro	26

2. Identification

Type key

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

Oxiperm Pro		OCD-162	-30	-D	/G	1
Max. capacity						
5	5 g/h					
10	10 g/h					
30	30 g/h					
60	60 g/h					
Chlorine dioxide dosing pump						
D	integrated mechanical dosing pump DMX					
P	integrated digital dosing pump DDI*					
S	integrated SMART Digital dosing pump DDA*					
N	without integrated dosing pump					
Supply voltage						
G	220-240 V, 50/60 Hz					
H	110-120 V, 50/60 Hz					
Suction lance						
	for 30-litre chemical tank (length of suction hose 1.3 m)					
1	for 60-litre chemical tank (length of suction hose 3.0 m)					
2	for 200-litre / 1000-litre chemical tank (length of suction hose 6.0 m)					
3	for 55-gallon chemical tank (length of suction hose 3.0 m)					

* Note: It is recommended to use a digital dosing pump for direct dosing of the product solution.

3. Installation schemes

Preparation, one dosing point

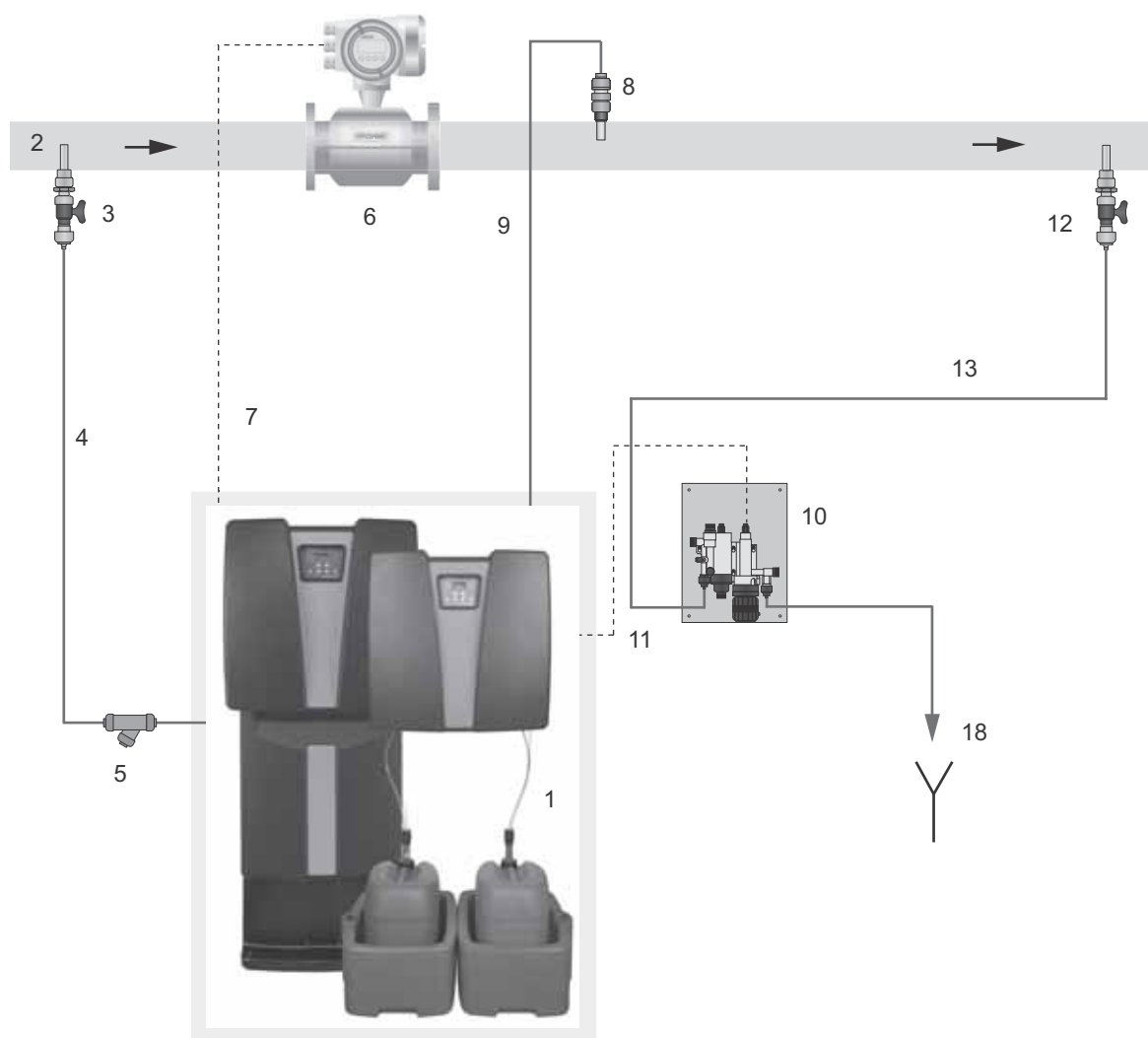


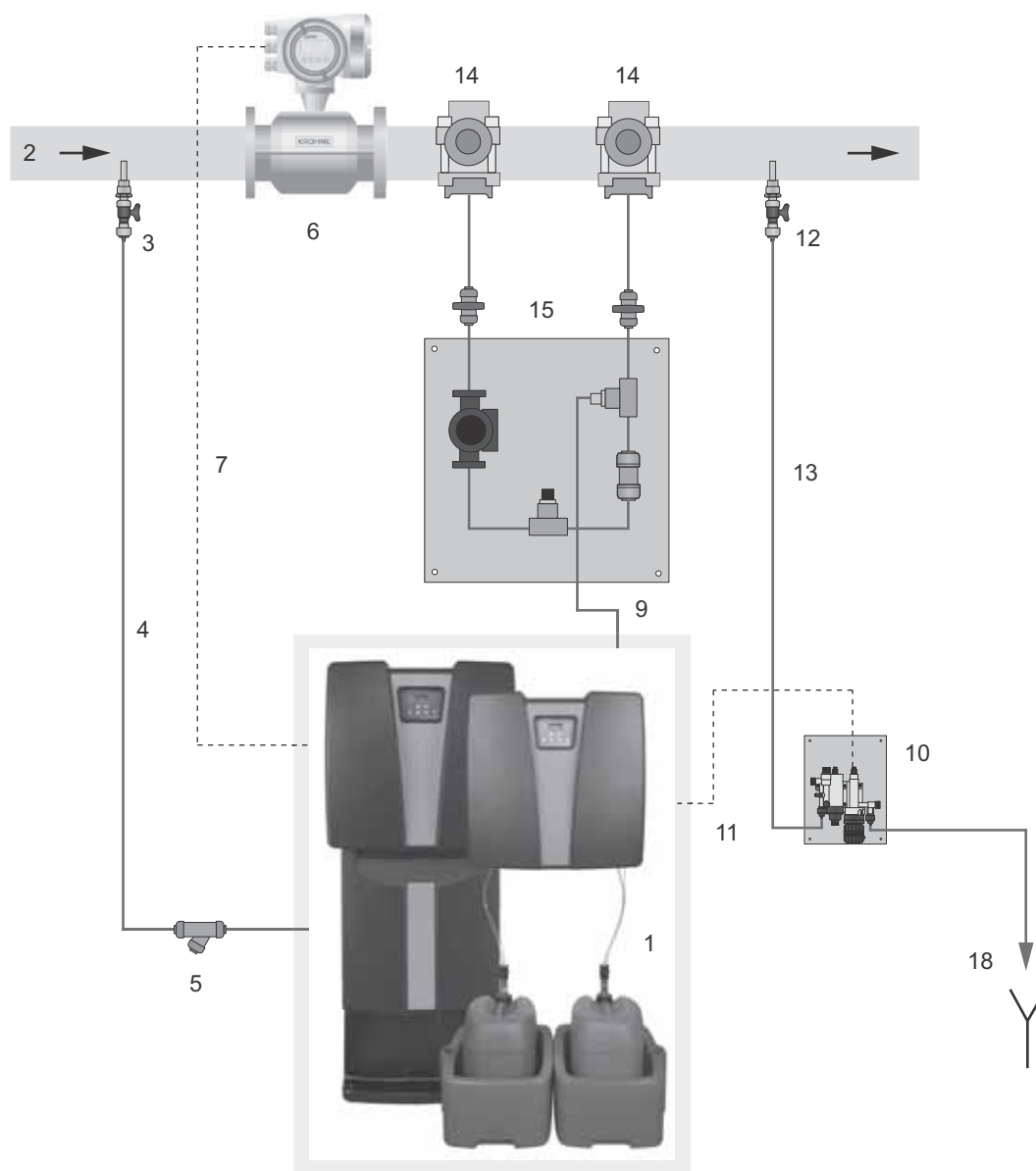
Fig. 3 Oxiperm Pro basic module with optional measuring cell for chlorine dioxide in cold water

Legend

1	Oxiperm Pro OCD-162-5, -10, -30 or -60
2	Main water pipe
3	Dilution water extraction point
4	Dilution water pipe
5	Dirt trap
6	Flow measurement
7	Signal line of flow measurement
8	Injection unit
9	Dosing line
10	Chlorine dioxide measuring cell
11	Signal line chlorine dioxide measurement
12	Measuring water extraction point (minimum distance to injection unit 5 m)
13	Measuring water pipe
18	Drain

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Preparation, one dosing point, bypass



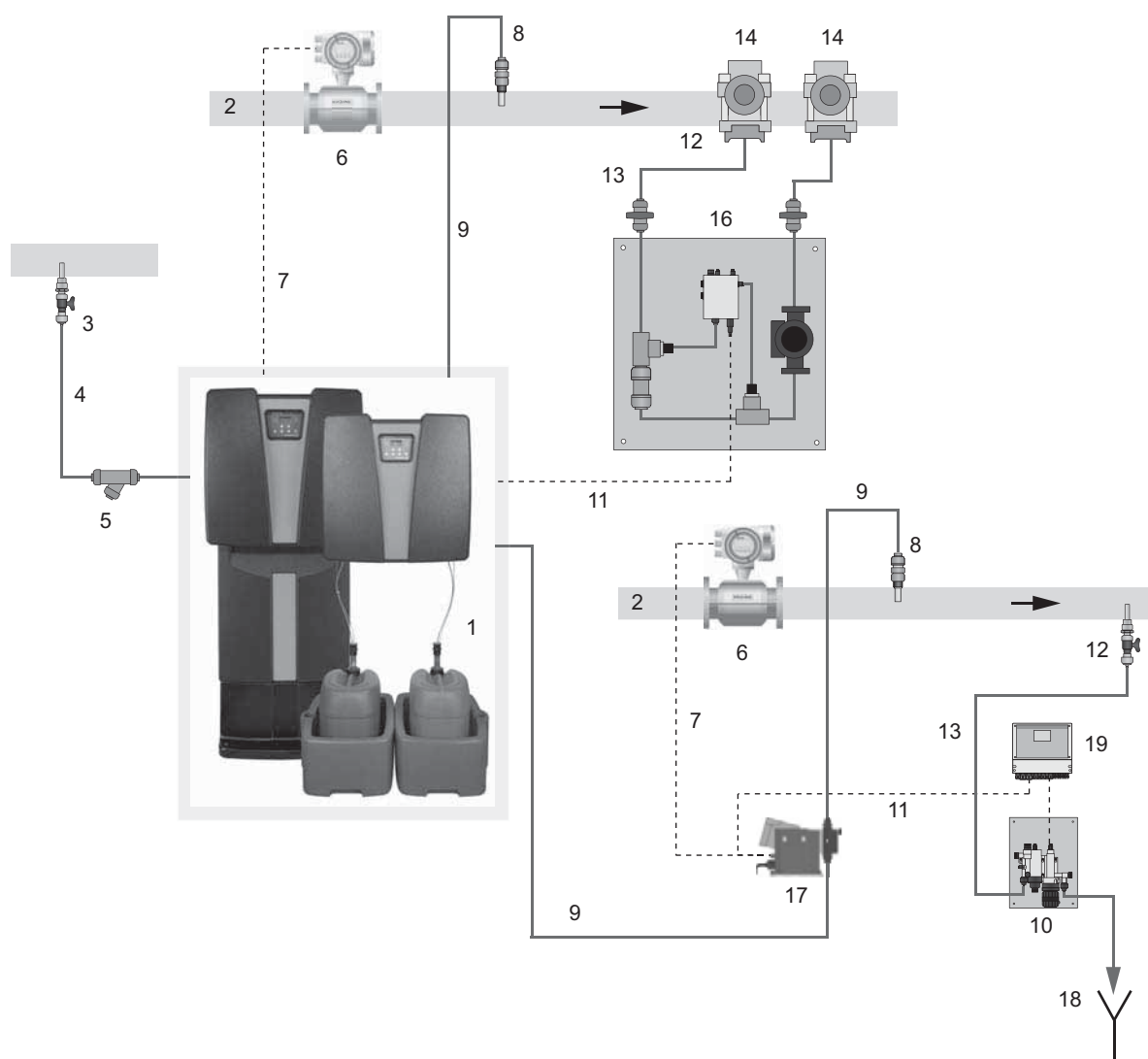
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Fig. 4 Oxiperm Pro basic module with optional measuring cell for chlorine dioxide with bypass in cold water

Legend

1	Oxiperm Pro OCD-162-5, -10, -30 or -60
2	Main water pipe
3	Dilution water extraction point
4	Dilution water pipe
5	Dirt trap
6	Flow measurement
7	Signal line of flow measurement
9	Dosing line
10	Chlorine dioxide measuring cell
11	Signal line chlorine dioxide measurement
12	Measuring water extraction point (minimum distance to injection unit 5 m)
13	Measuring water pipe
14	Tapping sleeve
15	Mixing module
18	Drain

Preparation, two dosing points



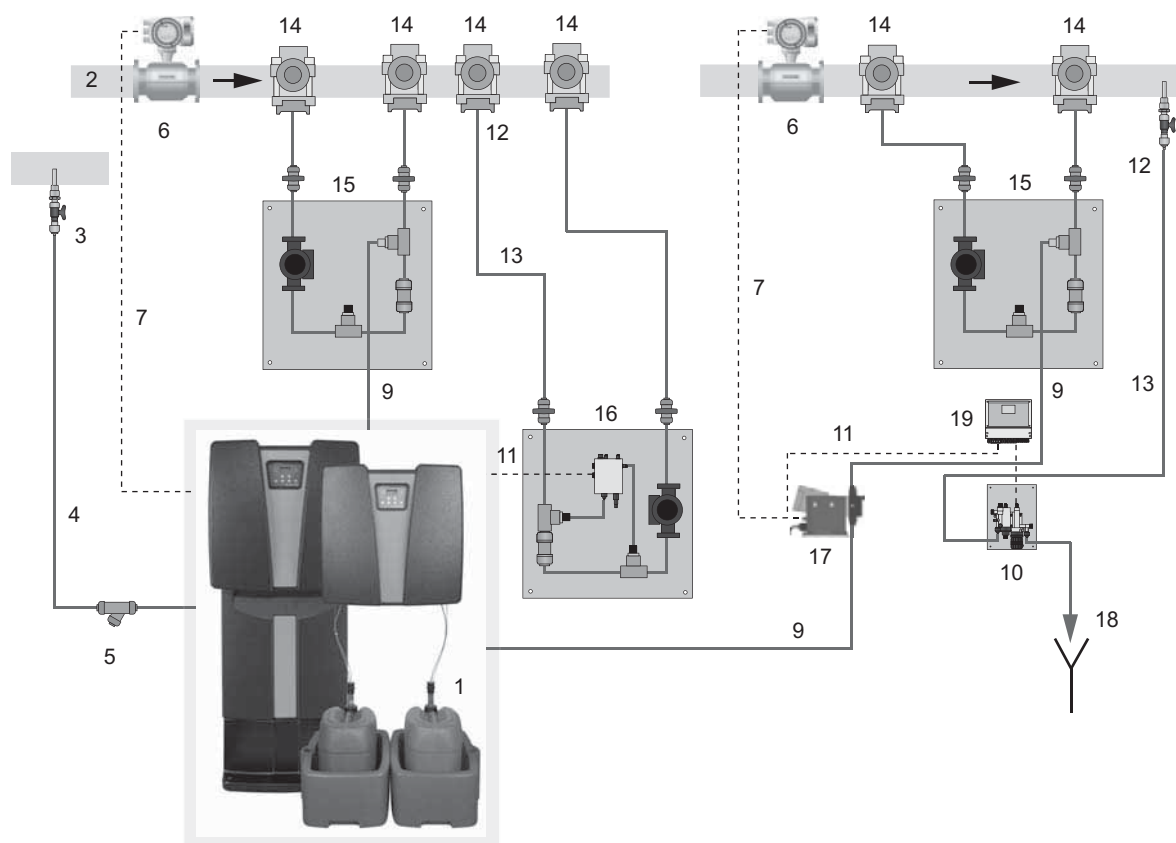
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Fig. 5 Oxiperm Pro basic module with additional dosing pump and optional chlorine dioxide measurement

Legend

1	Oxiperm Pro OCD-162-5, -10, -30 or -60
2	Main water pipe
3	Dilution water extraction point
4	Dilution water pipe
5	Dirt trap
6	Flow measurement
7	Signal line of flow measurement
8	Injection unit
9	Dosing line
10	Chlorine dioxide measuring cell
11	Signal line chlorine dioxide measurement
12	Measuring water extraction point (minimum distance to injection unit 5 m)
13	Measuring water pipe
14	Tapping sleeve
16	Measuring module
17	Additional ClO ₂ dosing pump
18	Drain
19	Measuring amplifier

Preparation, two dosing points, bypass



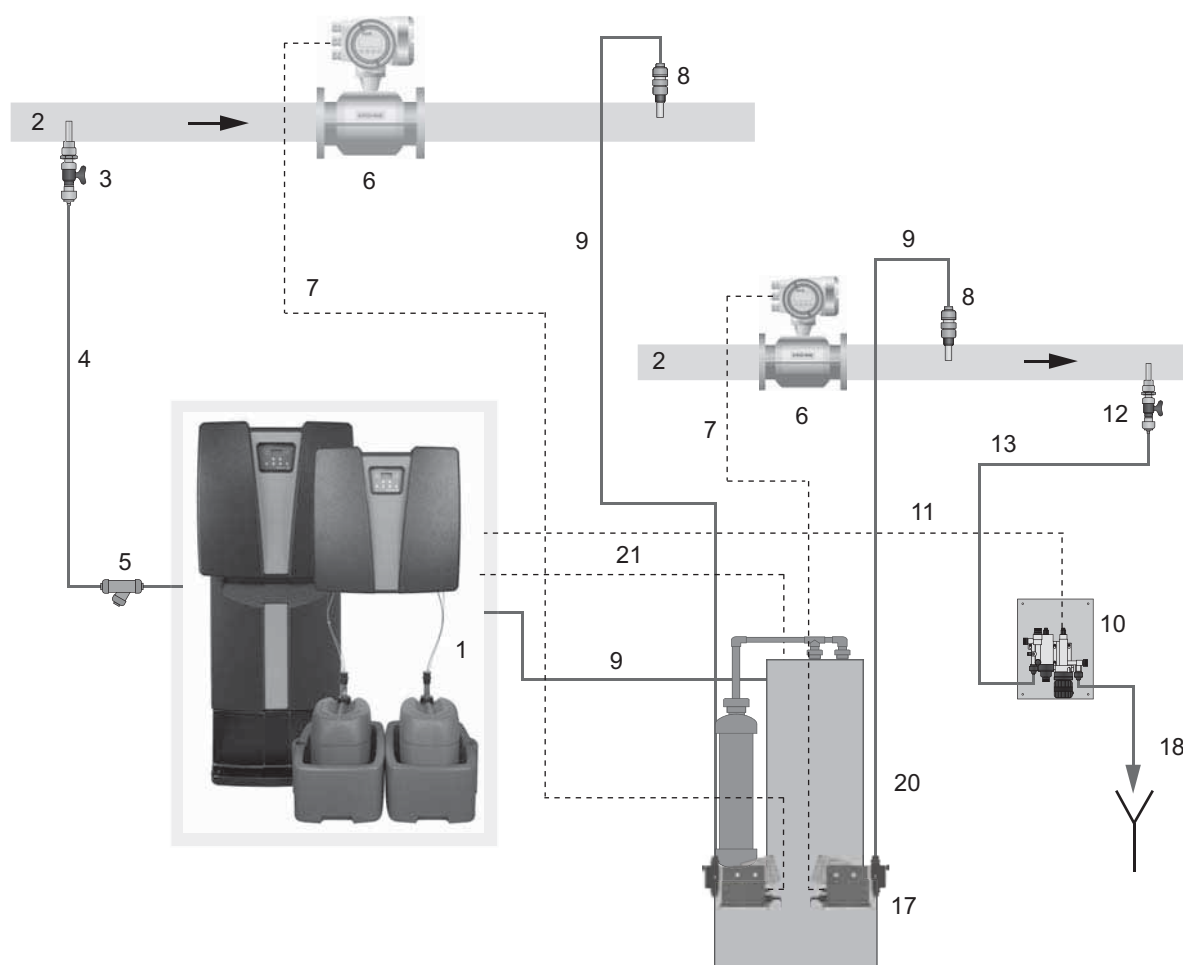
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Fig. 6 Oxiperm Pro basic module with additional dosing pump and optional chlorine dioxide measurement with bypass

Legend

1	Oxiperm Pro OCD-162-5, -10, -30 or -60
2	Main water pipe
3	Dilution water extraction point
4	Dilution water pipe
5	Dirt trap
6	Flow measurement
7	Signal line of flow measurement
9	Dosing line
10	Chlorine dioxide measuring cell
11	Signal line chlorine dioxide measurement
12	Measuring water extraction point (minimum distance to injection unit 5 m)
13	Measuring water pipe
14	Tapping sleeve
15	Mixing module
16	Measuring module
17	Additional ClO ₂ dosing pump
18	Drain
19	Measuring amplifier

Preparation, several dosing points with batch tank



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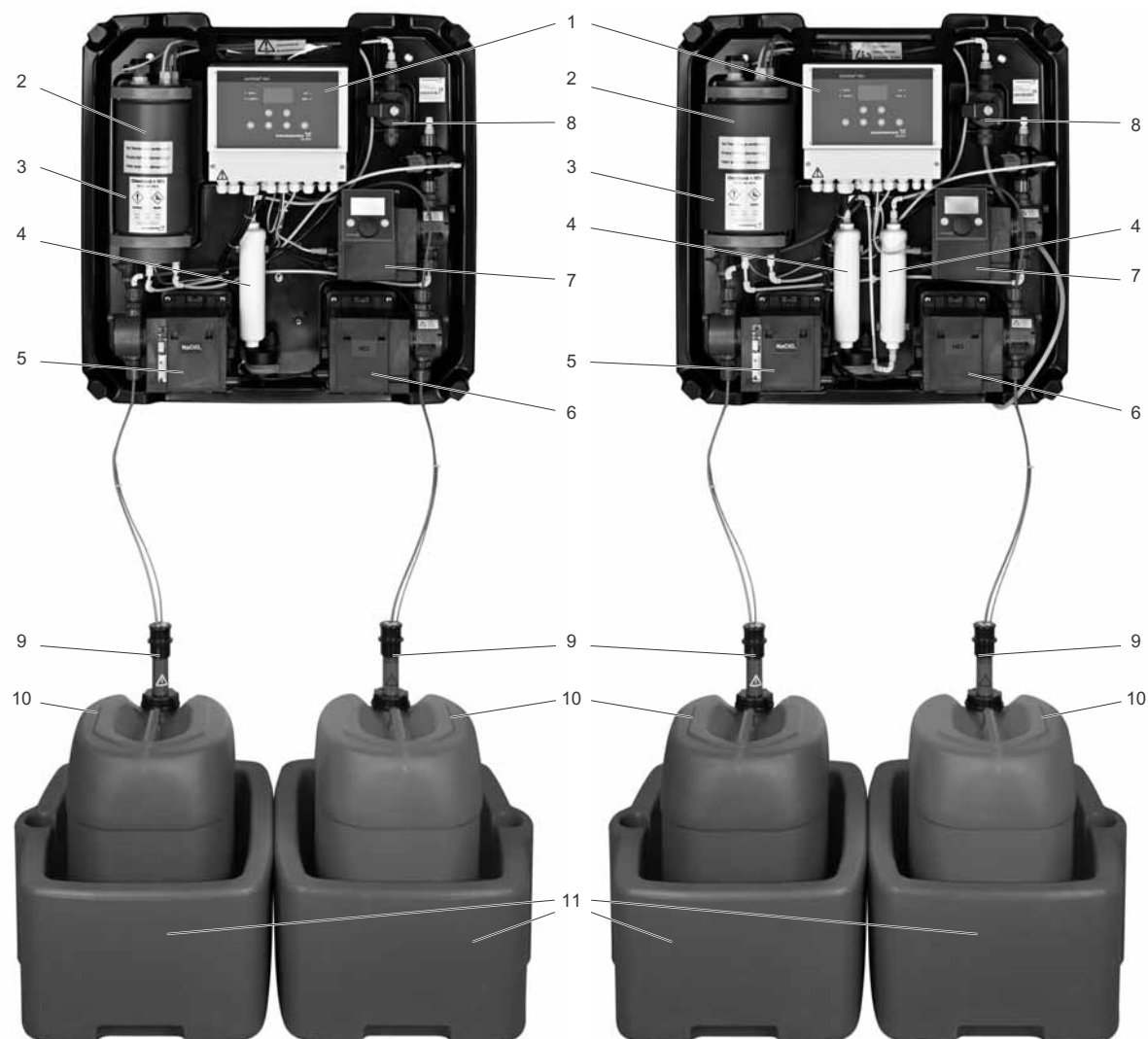
Fig. 7 Oxiperm Pro basic module with additional dosing pumps on a batch tank and optional chlorine dioxide measurement

Legend

1	Oxiperm Pro OCD-162-5, -10, -30 or -60
2	Main water pipe
3	Dilution water extraction point
4	Dilution water pipe
5	Dirt trap
6	Flow measurement
7	Signal line of flow measurement
8	Injection unit
9	Dosing line
10	Chlorine dioxide measuring cell
11	Signal line chlorine dioxide measurement
12	Measuring water extraction point (minimum distance to injection unit 5 m)
13	Measuring water pipe
17	Additional ClO ₂ dosing pumps
18	Drain
20	Batch tank
21	Signal line batch tank

4. Construction

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



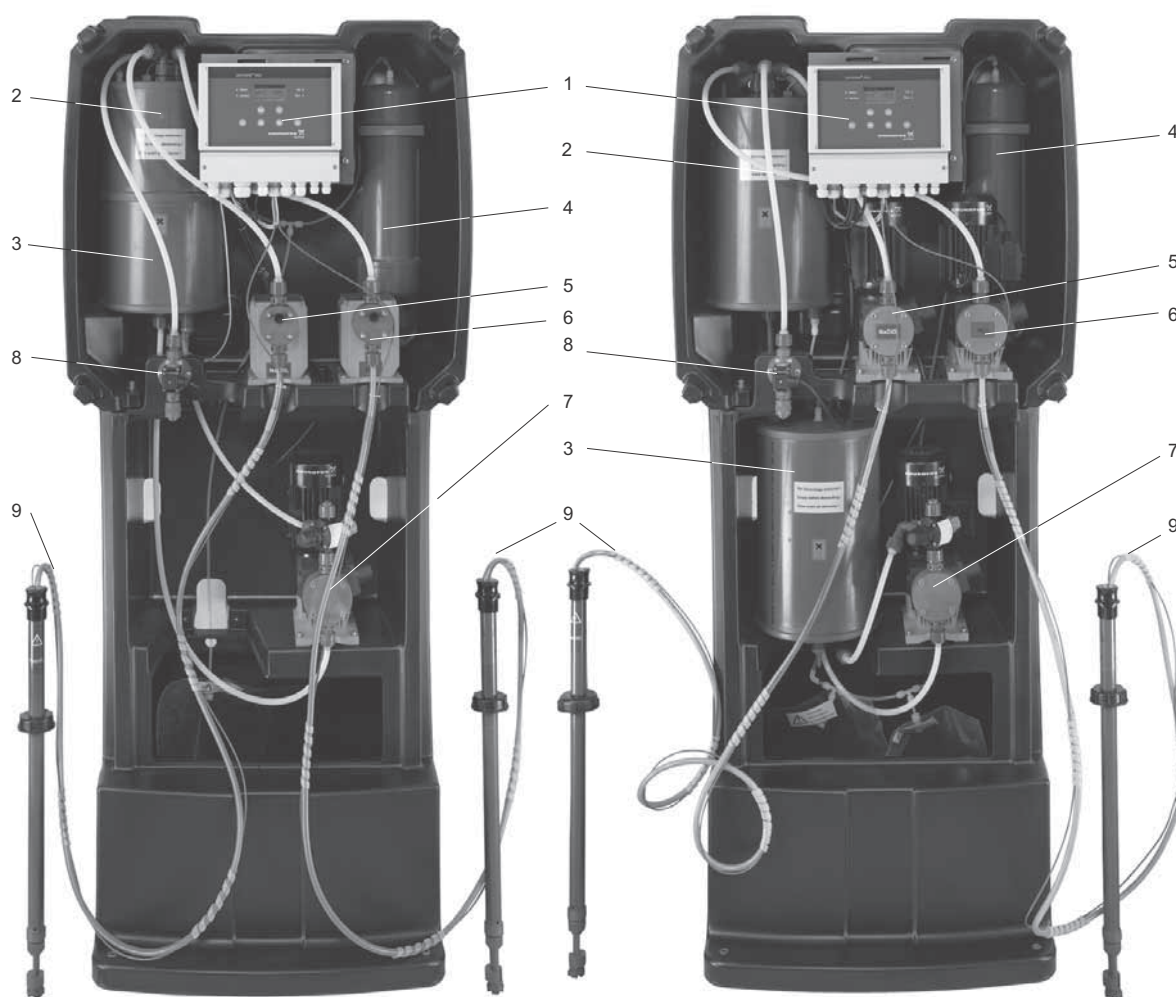
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Fig. 8 Oxiperm Pro OCD-162-5 (left) and Oxiperm Pro OCD-162-10 (right) with open housing

Legend

1	Measuring and control unit
2	Reaction tank
3	Reservoir 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 tank (not in standard delivery)
11	Collecting tray (not in standard delivery)

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



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Fig. 9 Oxiperm Pro OCD-162-30 (left) and Oxiperm Pro OCD-162-60 (right) with open housing

Legend

1	Measuring and control unit
2	Reaction tank
3	Reservoir 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

5. Technical data

Technical data

Adjustment of the preparation capacity	manual by menu-controlled operator prompting, automatic by input signal			
Protection level	IP 65 (electronics, dosing pumps, solenoid valve)			
Required concentration of chemicals	• HCl (according to EN 939) • NaClO ₂ (according to EN 938)		• 9 percent by weight • 7.5 percent by weight	
Admissible temperature:				
• ambient temperature	• 5 to 35 °C			
• operation water temperature	• 10 to 30 °C			
• temperature of chemicals	• 10 to 35 °C			
Admissible operation water pressure	3 to 6 bar			
Admissible relative air humidity	max. 80 %, not condensing			
Total volume of reaction tank and reservoir tank	reaction tank		reservoir tank (up to max. level alarm)	
	OCD-162-5	1.00 l	OCD-162-5	1.00 l
	OCD-162-10	1.80 l	OCD-162-10	1.80 l
	OCD-162-30	6.10 l	OCD-162-30	7.00 l
	OCD-162-60	13.40 l	OCD-162-60	13.90 l
Filling volume of reaction tank and reservoir tank	reaction tank		reservoir tank	
	OCD-162-5	0.87 l	OCD-162-5	0.87 l
	OCD-162-10	1.67 l	OCD-162-10	1.67 l
	OCD-162-30	5.52 l	OCD-162-30	6.50 l
	OCD-162-60	11.96 l	OCD-162-60	13.00 l
Concentration of chlorine dioxide solution	approx. 2 g/l (2000 ppm)			
Safety equipment	monitoring of the capacity via level measurement			
Material	system rack		PP	
	fastening sleeves		stainless steel	
	solenoid valve		PVC	
	reaction / reservoir tank		PVC	
	internal hoses		PTFE	
gaskets		FPM		
Full-text menu control for	• commissioning		• rinsing the system	
	• entering operating parameters		• maintenance	
Connections	ClO ₂ dosing line	230 V	hose 4/6, 6/9 and 9/12	
		115 V	hose 1/8" x 1/4", 1/4" x 3/8" and 1/3" x 1/2"	
	dilution water	230 V	hose 6/9 or 6/12 or PVC-pipe DN 8	
		115 V	hose 1/4" x 3/8"	

Electrical and electronic data

Mains connection	110-120 V, 50/60 Hz or 220-240 V, 50/60 Hz
Power consumption	OCD-162-5 and -10: approx. 50 VA OCD-162-30: approx. 180 VA OCD-162-60: approx. 320 VA
Analog inputs	<ul style="list-style-type: none"> • input 0(4)-20 mA (water meter) • measuring cell (ClO₂, pH or Redox, temperature) (option)
Digital inputs	<ul style="list-style-type: none"> • contact water meter (min. 3 pulses/min., max. 50 pulses/sec.) • remote On/Off • fault gas warning unit
Analog outputs	<ul style="list-style-type: none"> • output 0(4) - 20 mA (pump regulation) • measured value ClO₂ 0(4)-20 mA
Potential-free outputs	<ul style="list-style-type: none"> • alarm relay, 250 V/6 A, max. max. 550 VA (chemicals-empty signal, dosing time monitoring, preparation process time monitoring, wire break current output) • warning relay, 250 V/6 A, max. 550 VA (chemicals empty pre-alert, maintenance) • ClO₂ dosing pump

6. Dimensions

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

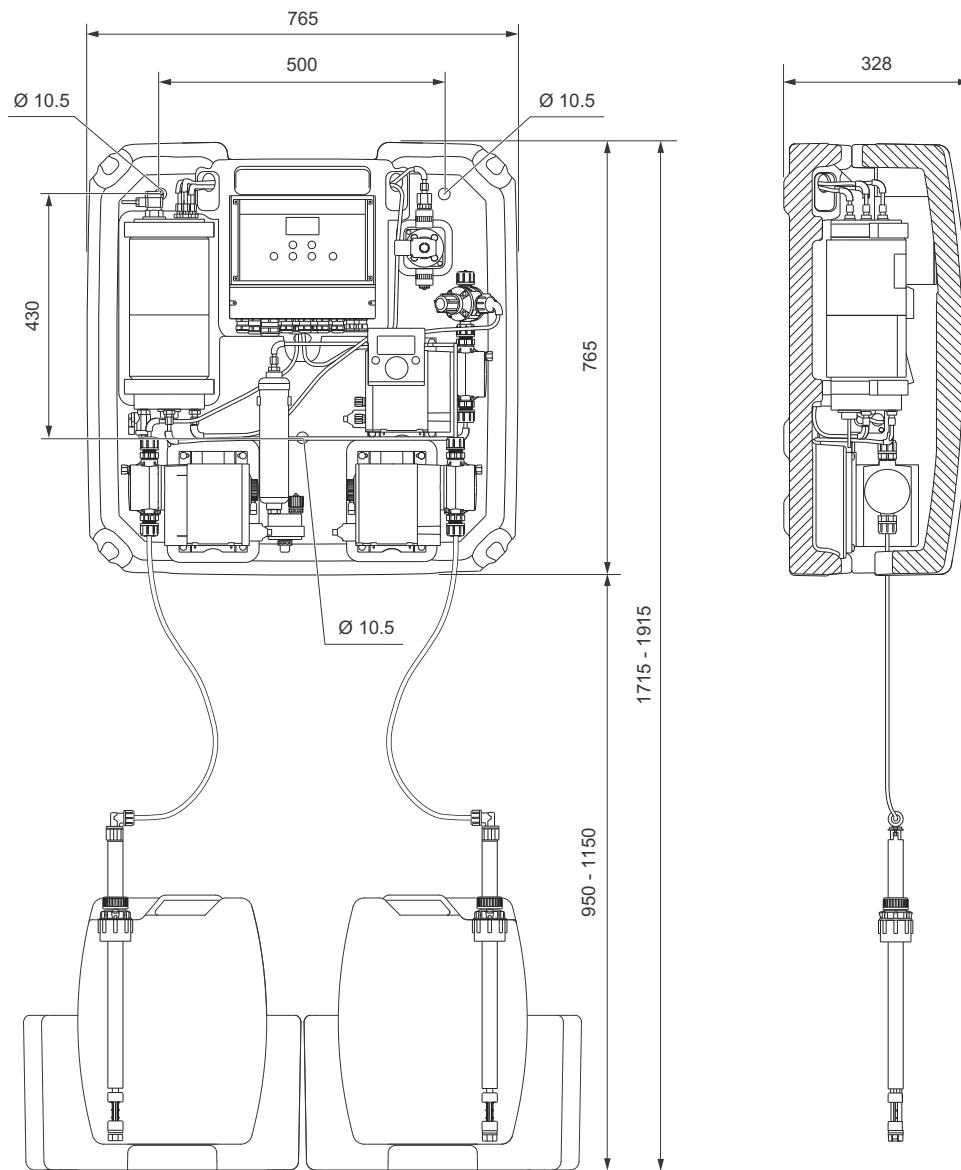


Fig. 10 Oxiperm Pro OCD-162-5 and OCD-162-10

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

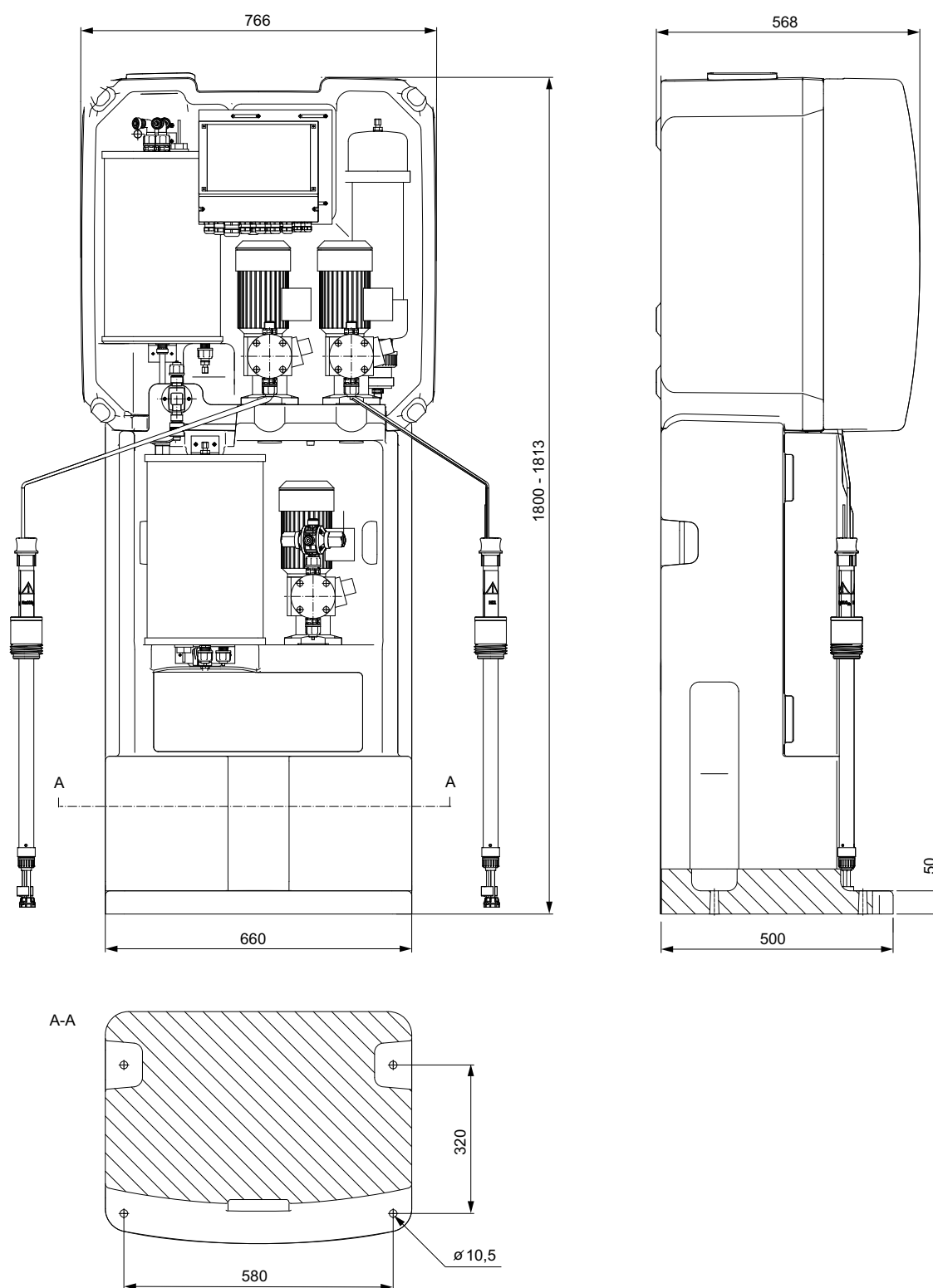


Fig. 11 Oxiperm Pro OCD-162-30 and OCD-162-60

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Suction lance adaptors for chemical tanks

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

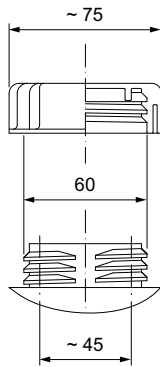


Fig. 12 Suction lance adaptor for 30-litre tank
(Oxiperm Pro OCD-162-5, -10, -30)

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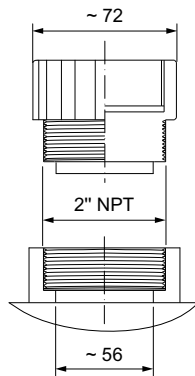


Fig. 13 Suction lance adaptor for 55-gallon tank
(Oxiperm Pro OCD-162-5, -10, -30, -60)

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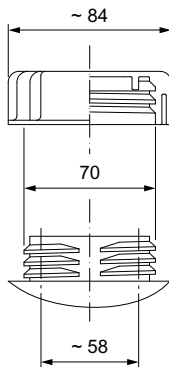


Fig. 14 Suction lance adaptor for 60-litre tank
(Oxiperm Pro OCD-162-30, -60)

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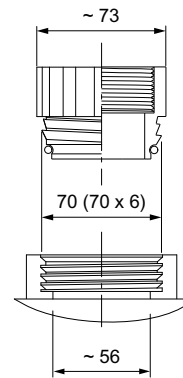


Fig. 15 Suction lance adaptor for 200-litre tank (IBC)
(Oxiperm Pro OCD-162-30, -60)

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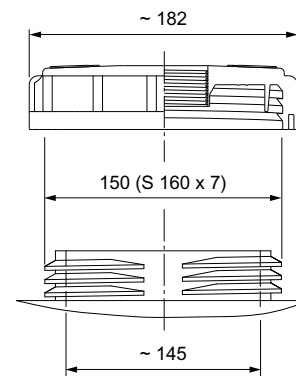


Fig. 16 Suction lance adaptor for 1000-litre tank (IBC)
(Oxiperm Pro OCD-162-30, -60)

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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.

Preparation capacity	Backpressure P _{max} [bar]		Consumption of components			ClO ₂ dosing pump	Weight	Voltage (at 50/60 Hz)	Oxiperm Pro	Product No.
	[g/h] ClO ₂	50 Hz	60 Hz	HCl	NaClO ₂					
Standard (with ClO ₂ dosing pump): SMART Digital dosing pump DDA with suction lance for 30-litre tank										
5	10	10	0.15	0.14	2.5	DDA	26	220-240 V	OCD-162-5-S/G	95735153
5	10	10	0.15	0.14	2.5	DDA	26	110-120 V	OCD-162-5-S/H	95735154
10	10	10	0.31	0.29	5	DDA	28	220-240 V	OCD-162-10-S/G	95735161
10	10	10	0.31	0.29	5	DDA	28	110-120 V	OCD-162-10-S/H	95735162
Standard (with ClO ₂ dosing pump): mechanical dosing pump DMX or digital dosing pump DDI with suction lance for 60-litre tank										
30	10	10	0.88	0.87	14.8	DMX	70	220-240 V	OCD-162-30-D/G1	95735169
30	10	10	0.88	0.87	14.8	DMX	70	110-120 V	OCD-162-30-D/H1	95735170
30	10	10	0.88	0.87	14.8	DDI	69	220-240 V	OCD-162-30-P/G1	95735171
30	10	10	0.88	0.87	14.8	DDI	69	110-120 V	OCD-162-30-P/H1	95735172
60	10	10	1.71	1.63	32.5	DMX	85	220-240 V	OCD-162-60-D/G1	95718452
60	10	10	1.71	1.63	32.5	DMX	85	110-120 V	OCD-162-60-D/H1	95718453
60	10	10	1.71	1.63	32.5	DDI	84	220-240 V	OCD-162-60-P/G1	95718454
60	10	10	1.71	1.63	32.5	DDI	84	110-120 V	OCD-162-60-P/H1	95718455
Standard (with ClO ₂ dosing pump): mechanical dosing pump DMX or digital dosing pump DDI with suction lance for 200- or 1000-litre tank										
30	10	10	0.88	0.87	14.8	DMX	70	220-240 V	OCD-162-30-D/G2	95735173
30	10	10	0.88	0.87	14.8	DMX	70	110-120 V	OCD-162-30-D/H2	95735174
30	10	10	0.88	0.87	14.8	DDI	69	220-240 V	OCD-162-30-P/G2	95735175
30	10	10	0.88	0.87	14.8	DDI	69	110-120 V	OCD-162-30-P/H2	95735176
60	10	10	1.71	1.63	32.5	DMX	85	220-240 V	OCD-162-60-D/G2	95718456
60	10	10	1.71	1.63	32.5	DMX	85	110-120 V	OCD-162-60-D/H2	95718457
60	10	10	1.71	1.63	32.5	DDI	84	220-240 V	OCD-162-60-P/G2	95718458
60	10	10	1.71	1.63	32.5	DDI	84	110-120 V	OCD-162-60-P/H2	95718459
Standard (with ClO ₂ dosing pump): mechanical dosing pump DMX or digital dosing pump DDA or DDI with suction lance for 55-gallon tank										
5	10	10	0.15	0.14	2.5	DDA	26	110-120 V	OCD-162-5-S/H3	95735155
10	10	10	0.31	0.29	5	DDA	28	110-120 V	OCD-162-10-S/H3	95735163
30	10	10	0.88	0.87	14.8	DMX	70	110-120 V	OCD-162-30-D/H3	95735177
30	10	10	0.88	0.87	14.8	DDI	69	110-120 V	OCD-162-30-P/H3	95735178
60	10	10	1.71	1.63	32.5	DMX	85	110-120 V	OCD-162-60-D/H3	95720704
60	10	10	1.71	1.63	32.5	DDI	84	110-120 V	OCD-162-60-P/H3	95720705

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 tanks.

Preparation capacity	Backpressure P _{max} [bar]		Consumption of components			ClO ₂ dosing pump	Weight	Voltage (at 50/60 Hz)	Oxiperm Pro	Product No.
	[g/h] ClO ₂	50 Hz	60 Hz	HCl	NaClO ₂					
Without ClO ₂ dosing pump, with suction lance for 30-litre tank										
5	*	*	0.15	0.14	2.5	-	26-30	220-240 V	OCD-162-5-N/G	95735156
5	*	*	0.15	0.14	2.5	-	26-30	110-120 V	OCD-162-5-N/H	95735157
10	*	*	0.31	0.29	5	-	28-32	220-240 V	OCD-162-10-N/G	95735164
10	*	*	0.31	0.29	5	-	28-32	110-120 V	OCD-162-10-N/H	95735165
Without ClO ₂ dosing pump, with suction lance for 60-litre tank										
30	*	*	0.88	0.87	14.8	-	69-70	220-240 V	OCD-162-30-N/G1	95735179
60	*	*	1.71	1.63	32.5	-	84-85	220-240 V	OCD-162-60-N/G1	95725956
Without ClO ₂ dosing pump, with suction lance for 200-litre tank										
30	*	*	0.88	0.87	14.8	-	69-70	220-240 V	OCD-162-30-N/G2	95735180
60	*	*	1.71	1.63	32.5	-	84-85	220-240 V	OCD-162-60-N/G2	95725957
Without ClO ₂ dosing pump, with suction lance for 55-gallon tank										
5	*	*	0.15	0.14	2.5	-	26-30	110-120 V	OCD-162-5-N/H3	95735158
10	*	*	0.31	0.29	5	-	28-32	110-120 V	OCD-162-10-N/H3	95735166
30	*	*	0.88	0.87	14.8	-	69-70	110-120 V	OCD-162-30-N/H3	95735181
60	*	*	1.71	1.63	32.5	-	84-85	110-120 V	OCD-162-60-N/H3	95735200

* The backpressure depends on the dosing pump.

8. Accessories

Collecting trays

- for chemical storage tanks



TM04 1469 0410

Fig. 17 Collecting tray for tanks of max. 33 litres

Description	Product No.
Collecting tray, blue for NaClO ₂ storage tanks of max. 33 litres, with support for suction lance.	95702450
Collecting tray, red for HCl storage tanks of max. 33 litres, with support for suction lance.	95702451
Collecting tray, blue for NaClO ₂ storage tanks of max. 60 litres.	96726830
Collecting tray, red for HCl storage tanks of max. 60 litres	96726829

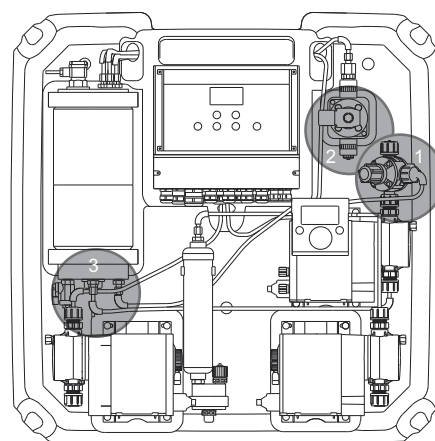
Hoses

Description	Product No.
Hose PTFE 4/6 ecru, 5 metres (chlorine dioxide solution: multifunction valve to dosing point for OCD-162-5 and -10)	96697911
Hose PTFE 4/6 ecru, 10 metres (chlorine dioxide solution: multifunction valve to dosing point for OCD-162-5 and -10)	96692437
Hose PTFE 4/6 ecru, 25 metres (chlorine dioxide solution: multifunction valve to dosing point for OCD-162-5 and -10)	96727484
Hose PTFE 9/12 ecru, 10 metres (chlorine dioxide solution: multifunction valve to dosing point for OCD-162-30 and -60)	96727490
Hose PTFE 9/12 ecru, 25 metres (chlorine dioxide solution: multifunction valve to dosing point for OCD-162-30 and -60)	96727492
Hose PE 6/9 transparent, 10 metres (dilution water inlet solenoid valve)	96727412
Hose PVC 6/12, with reinforcement, 10 metres (measuring water connection for measuring cell AQC-D1)	96653571
Hose PE 6/8, ecru, 10 metres (measuring water connection for measuring cell AQC-D6)	95709108

Connections

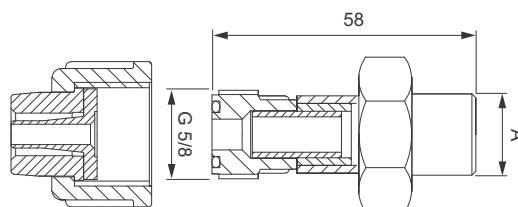
for	Description	Product No.
PTFE hose 4/6, 6/9 or 9/12 (see 1, fig. 18)	Connection set for multifunction valve DN 8, G 5/8	97691904
PTFE hose 1/4" x 3/8" or 1/8" x 1/4" (see 1, fig. 18)	Connection set for multifunction valve DN 8, G 5/8	97691907
PVC hose connection 6/9 or 6/12 with G 5/8 female thread 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. 19)	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. 19)	95702449
PVC hose 6/9 for dilution water (see 2, fig. 18)	Hose connection with G 5/8 female thread (see fig. 20)	97702488

for	Description	Product No.
PVC hose 6/12 for dilution water (see 2, fig. 18)	Hose connection with G 5/8 female thread (see fig. 20)	97702489
PTFE hose 4/6 for dosing pumps (see 3, fig. 18) (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. 18) (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



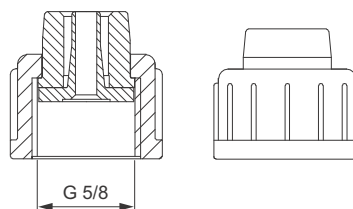
TM04 8529 1212

Fig. 18 Overview connections



TM04 8530 1212

Fig. 19 Hose connection (fig. 20) 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)

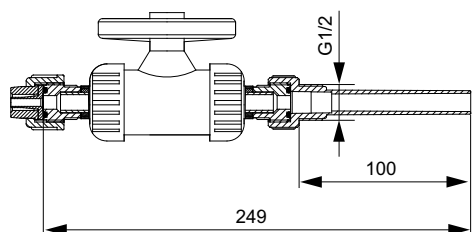


TM04 1288 2109

Fig. 20 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



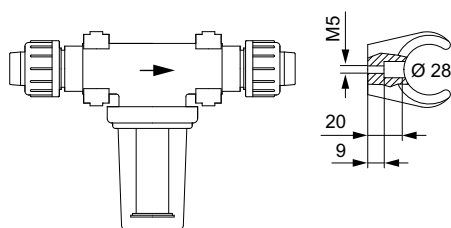
TM04 1299 2109

Fig. 21 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.



TM04 1298 2109

Fig. 22 Dirt trap

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

Flowmeters

- 100-230 V AC, 50/60 Hz
- 4-20 mA analog output and pulse output

Inductive flowmeter

- with annexed flow transformer, PP lining



TM04 1471 0410

Fig. 23 Inductive flowmeter

Description	Flange	Product No.
Inductive flowmeter G 1/2 min. 0.2 m³/h, max. 7.6 m³/h	DN 15	95702399
Inductive flowmeter G 3/4 min. 0.3 m³/h, max. 13.6 m³/h	DN 20	95702400
Inductive flowmeter G 1 min. 0.5 m³/h, max. 21.2 m³/h	DN 25	95702401
Inductive flowmeter G 1 1/4 min. 0.9 m³/h, max. 34.7 m³/h	DN 32	95702402
Inductive flowmeter G 1 1/2 min. 1.4 m³/h, max. 54.2 m³/h	DN 40	95702403
Inductive flowmeter G 2 min. 2.1 m³/h, max. 84.8 m³/h	DN 50	95702288
Inductive flowmeter G 2 1/2 min. 3.6 m³/h, max. 143.4 m³/h	DN 65	95702404
Inductive flowmeter G 3 min. 5.4 m³/h, max. 217.2 m³/h	DN 80	95702405
Inductive flowmeter G 4 min. 8.5 m³/h, max. 339.3 m³/h	DN 100	95702406
Inductive flowmeter G 5 min. 13.3 m³/h, max. 530.1 m³/h	DN 125	95702407
Inductive flowmeter G 6 min. 19.1 m³/h, max. 763.4 m³/h	DN 150	95702350

Ultrasonic flowmeter

- with separate flow transformer



TM04 1470 0410

Fig. 24 Ultrasonic flowmeter

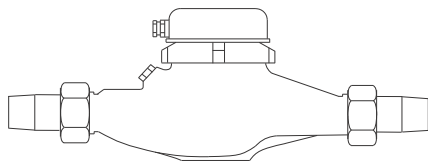
Description	Product No.
Ultrasonic flowmeter DN 15-DN 100, min. 0.3 m³/h, max. 560 m³/h	95701808
Ultrasonic flowmeter DN 50-DN 400, min. 3.5 m³/h, max. 9000 m³/h	95702408

Connection cable for flowmeter

Description	Product No.
Flowmeter cable, 2-wire, with screening, for all models (per meter)	96687719

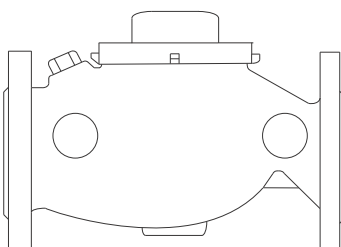
Contact water meter

Multiple-jet impeller water meter with contactor.



TM04 1455 0210

Fig. 25 Contact water meter with thread



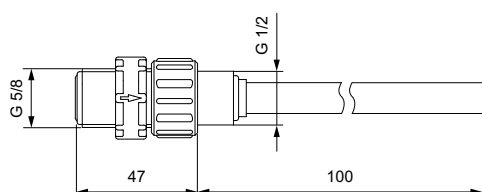
TM04 1454 0210

Fig. 26 Contact water meter with flange

Description	Connection	Product No.
Water meter DN 20, 1 pulse/1 litre, in operation with Oxiperm Pro: min. 180 l/h, max. 5 m ³ /h	R 3/4" male thread	96693258
Water meter DN 25, 1 pulse/1 litre, in operation with Oxiperm Pro: min. 180 l/h, max. 12 m ³ /h	R 1" male thread	96691880
Water meter DN 40, 1 pulse/2 litres, in operation with Oxiperm Pro: min. 360 l/h, max. 20 m ³ /h	R 1 1/2" male thread	96728112
Water meter DN 50, 1 pulse/10 litres, in operation with Oxiperm Pro: min. 1800 l/h, max. 30 m ³ /h	DN 50 flange	96728115

Important: the water meter has to be dimensioned in a way, that > 3 pulses/min. are emitted.

Injection unit



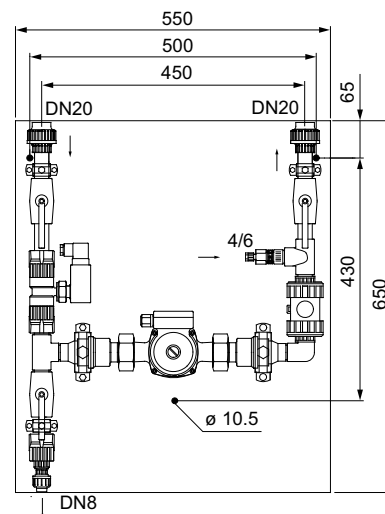
TM04 8531 1212

Fig. 27 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

Bypass mixing module

- for mixing before the main pipe



TM04 1291 2109

Fig. 28 Bypass mixing module

Description	Product No.
<ul style="list-style-type: none"> for cold water: Material PP-R, max. 30 °C (max. operating water pressure 9 bar when extracting dilution water at max. 6 bar), dilution water connection DN 8, connections inlet and outlet bypass water DN 20, PP-R, operating voltage 230 V, 50 Hz 	95703178
<ul style="list-style-type: none"> for hot water: Material PP-R, max. 80 °C (operating water pressure 6 bar), max. operating water pressure 9 bar (at 70 °C), connections inlet and outlet bypass water DN 20, PP-R, operating voltage 230 V, 50 Hz 	95703179

Measuring module

- for chlorine dioxide measurement

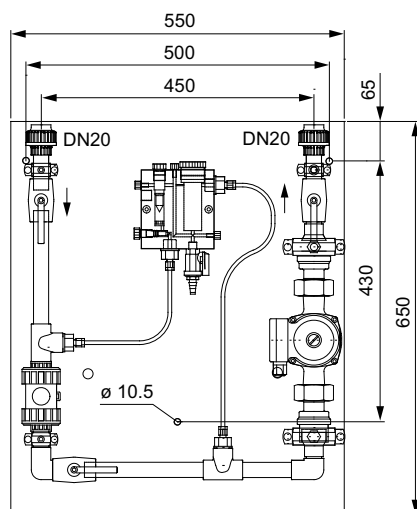


Fig. 29 Measuring module

Description	Product No.
<ul style="list-style-type: none"> • in cold and hot water, max. 8 bar, max. 70 °C, with measuring water recirculation, pipes PP-R, connections inlet and outlet measuring water DN 20, PP-R, incl. 2 m of connection cable for the measuring cell, operating voltage 230 V, 50 Hz 	95708029

Measuring cells

- for chlorine dioxide measurement, with free measuring water outlet

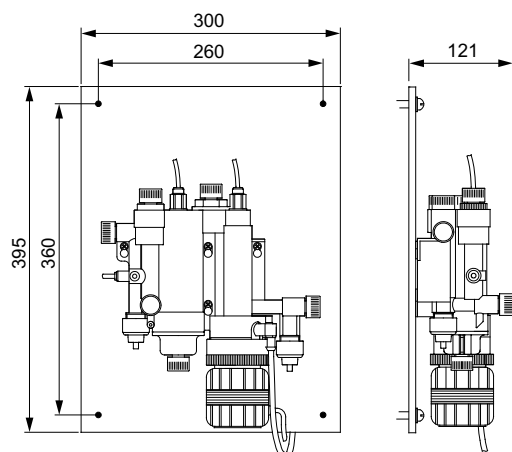


Fig. 30 Measuring cell AQC-D1

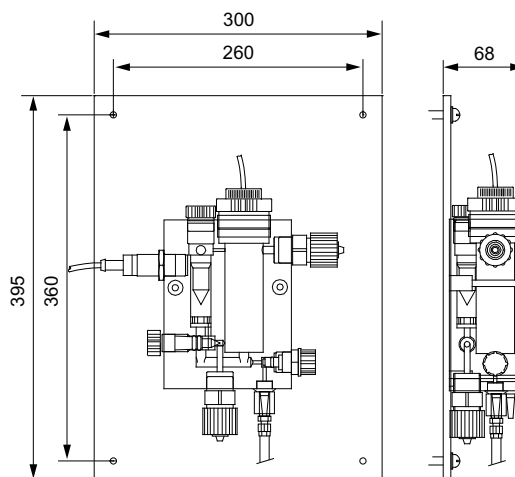


Fig. 31 Measuring cell AQC-D6

Description	Product No.
AQC-D1.AU-X-X.QS-T.G: <ul style="list-style-type: none"> • measurement in cold water (up to 40 °C), connection measuring water inflow (hose 6/12, PVC pipe DN 8), incl. 3 m connection cable, integrated temperature compensation, cleaning motor, 230 V, 50/60 Hz 	96622832
AQC-D1.AU-PC-X.QS-T.G: <ul style="list-style-type: none"> • measurement in cold water (up to 40 °C), connection measuring water inflow (hose 6/12, PVC pipe DN 8), incl. 3 m connection cable, integrated temperature compensation, pH electrode, cleaning motor, pH calibrating solution, 230 V, 50/60 Hz 	96622838
AQC-D1.AU-X-RCB.QS-T.G: <ul style="list-style-type: none"> • measurement in cold water (up to 40 °C), connection measuring water inflow (hose 6/12, PVC pipe DN 8), incl. 3 m connection cable, integrated temperature compensation, Redox electrode, Redox calibrating solution, cleaning motor, 230 V, 50/60 Hz 	96622851
AQC-D6: <ul style="list-style-type: none"> • measurement in cold and hot water, up to max. 8 bar, 70 °C, connection measuring water inflow 6/8, incl. 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. 32 Photometer DIT-L

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

Tapping sleeves

- for retrofitting injection units etc. in pipework
- outlet to PVC pipe, DN 20



TM04 1472 0410

Fig. 33 Tapping sleeve

Pipework	Connection	Product No.
Steel, G 1/2	G 1/2 female	95702386
Steel, G 3/4	G 1/2 female	95702387
Steel, G 1	G 3/4 female	95702388
Steel, G 1 1/4	G 1 female	95702390
Steel, G 1 1/2	G 1 1/4 female	95702389
Steel, G 2	G 1 1/4 female	95702391
Steel, G 2 1/2	G 1 1/4 female	95702392
Steel, G 3	G 1 1/4 female	95702393
Stainless steel, 16 mm	G 1/2 male	95702394
Stainless steel, 18 mm	G 1/2 male	95702395
Stainless steel, 28 mm	G 3/4 female	95702396
Stainless steel, 35 mm	G 3/4 female	95702397
Stainless steel, 42 mm	G 3/4 female	95702398

External batch tank

- PVC, for chlorine dioxide product solution

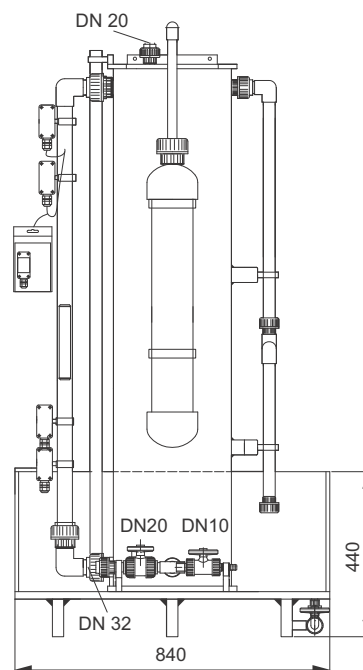


Fig. 34 Batch tank, front view

TM04 1289 2109

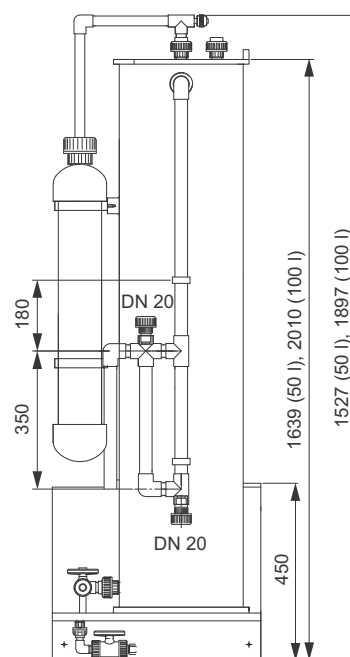


Fig. 35 Batch tank, lateral view

TM04 1290 2109

Batch tank with	Volume [l]	Diameter [mm]	Product No.
Adsorption filter, catchment tray, level switch	50	315	96688079
	100	315	96726825

CIU-271 Communication Interface Unit

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



TM04 8528 1212

Fig. 36 CIU

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

Conex DIA-G gas warning unit

- with potentiostatic chlorine dioxide sensor
- measuring range 0.00 to 1.00 ppm



TM04 1289 2109

Fig. 37 Gas warning unit Conex DIA-G

Description	Product No.
Conex DIA-G-P,CDP-B,W-J: 110/240 V, 50-60 Hz	95700854

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	95701992

Maintenance kits

- for Oxiperm Pro OCD-162-5 before June 2012

Maintenance kit for Oxiperm Pro OCD-162-5	Product No.
with mechanical and digital dosing pump	95702445
without chlorine dioxide dosing pump	95702446

- for Oxiperm Pro OCD-162-5 after June 2012

Maintenance kit for Oxiperm Pro OCD-162-5	Product No.
with SMART Digital DDA dosing pump	98153636
without chlorine dioxide dosing pump	98153651

- for Oxiperm Pro OCD-162-10 before June 2012

Maintenance kit for Oxiperm Pro OCD-162-10	Product No.
with DMI mechanical dosing pump	95702500
with DDI digital dosing pump	95707853
without chlorine dioxide dosing pump	95702499

- for Oxiperm Pro OCD-162-10 after June 2012

Maintenance kit for Oxiperm Pro OCD-162-10	Product No.
with SMART Digital DDA dosing pump	98153962
without chlorine dioxide dosing pump	98153966

- for Oxiperm Pro OCD-162-30 before June 2012

Maintenance kit for Oxiperm Pro OCD-162-30	Product No.
with DMX mechanical dosing pump	95717915
with DDI digital dosing pump	95717916
without chlorine dioxide dosing pump	95717917

- for Oxiperm Pro OCD-162-30 after June 2012

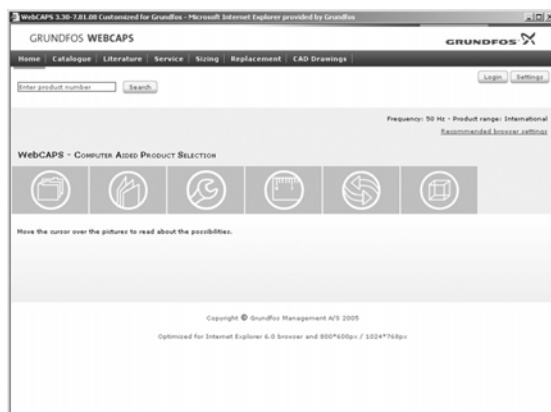
Maintenance kit for Oxiperm Pro OCD-162-30	Product No.
with DMX mechanical dosing pump	98162637
with DDI digital dosing pump	98162644
without chlorine dioxide dosing pump	98162647

- for Oxiperm Pro OCD-162-60

Maintenance kit for Oxiperm Pro OCD-162-60	Product No.
with DMX mechanical dosing pump	95717919
with DDI digital dosing pump	95717920
without chlorine dioxide dosing pump	95717921

9. Further product documentation

WebCAPS

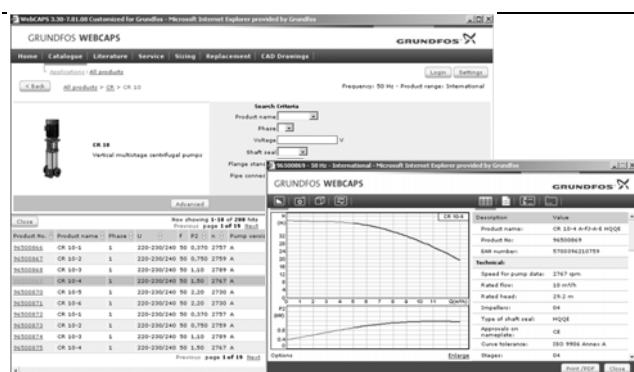


WebCAPS is a **Web-based Computer Aided Product Selection** program available on www.grundfos.com.

WebCAPS contains detailed information on more than 185 000 Grundfos products in more than 20 languages.

In WebCAPS, all information is divided into 6 sections:

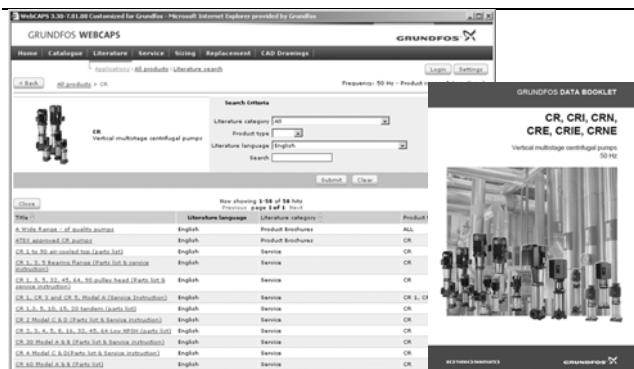
- Catalogue
- Literature
- Service
- Sizing
- Replacement
- CAD drawings.



Catalogue

With a starting point in areas of applications and pump types, this section contains

- technical data
- curves (QH, Eta, P1, P2, etc) which can be adapted to the density and viscosity of the pumped liquid and show the number of pumps in operation
- product photos
- dimensional drawings
- wiring diagrams
- quotation texts, etc.



Literature

In this section you can access all the latest documents of a given pump, such as

- data booklets
- Installation and operating instructions
- service documentation, such as Service kit catalogue and Service kit instructions
- quick guides
- product brochures, etc.



Service

This section contains an easy-to-use interactive service catalogue. Here you can find and identify service parts of both existing and cancelled Grundfos pumps.

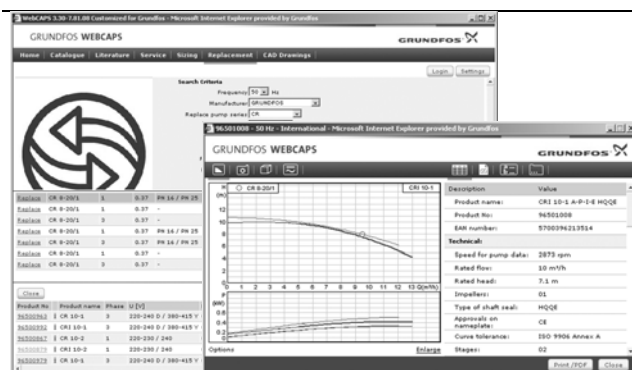
Furthermore, this section contains service videos showing you how to replace service parts.



Sizing

With a starting point in different application areas and installation examples, this section gives easy step-by-step instructions in how to

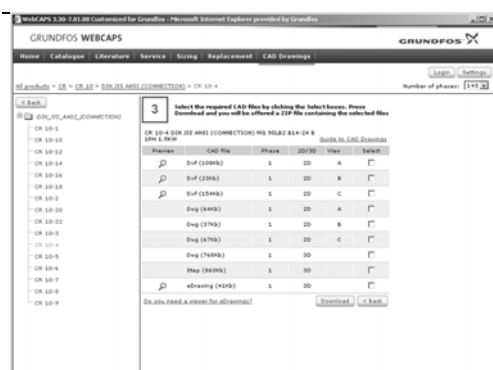
- select the most suitable and efficient pump for your installation
- carry out advanced calculations based on energy consumption, payback periods, load profiles, lifecycle costs, etc.
- analyse your selected pump via the built-in lifecycle cost tool
- determine the flow velocity in wastewater applications, etc.



Replacement

In this section you find a guide to select and compare replacement data of an installed pump in order to replace the pump with a more efficient Grundfos pump. The section contains replacement data of a wide range of pumps produced by other manufacturers than Grundfos.

Based on an easy step-by-step guide, you can compare Grundfos pumps with the one you have installed on your site. After having specified the installed pump, the guide suggests a number of Grundfos pumps which can improve both comfort and efficiency.



CAD drawings

In this section it is possible to download 2-dimensional (2D) and 3-dimensional (3D) CAD drawings of most Grundfos pumps.

The following formats are available in WebCAPS:

2-dimensional drawings

- .dxf, wireframe drawings
- .dwg, wireframe drawings.

3-dimensional drawings

- .dwg, wireframe drawings (without surfaces)
- .stp, solid drawings (with surfaces)
- .eprt, E-drawings.

WinCAPS



Fig. 38 WinCAPS CD-ROM

WinCAPS is a **Windows-based Computer Aided Product Selection** program containing detailed information on more than 185,000 Grundfos products in more than 22 languages.

The program contains the same features and functions as WebCAPS, but is an ideal solution if no Internet connection is available.

WinCAPS is available on CD-ROM and updated once a year.

Subject to alterations.

95718614 0412

ECM: 1084917

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