flamco

Sideflow Clean Pro

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ENG operating instructions

aalberts hydronic flow control

Table of contents

1. Introduction

1.1. Sideflow Clean Pro

The Sideflow Clean Pro is a device for permanent bypass filtration of heating and cooling system water.
The device performs the following tasks:

- Deposition of magnetite
- Fine filtration of non-magnetic particles down to 1µm

The Sideflow Clean Pro is designed for permanent connection to heating systems. Improper use of the device may result in damage to the device, the wider system and personal safety. Please read this manual carefully and follow safety, operation and maintenance instructions.

1.2. Terms of Use

To use the device properly, please observe the following instructions:

- Before starting work, make sure that the heating system complies with the local design and installion standards.
- Observe the regulations regarding the construction, commissioning, design and filling of heating systems.
- Do not use the device for filling or refilling.
- Guaranteed for a water:glycol mixture of up to 50:50

1.3. Target group

This operating manual is intended for persons who work with or on the device.

- Operating personnel
- Maintenance and repair personnel

Qualifications of the target group

The following minimum qualifications are required by the target groups:

- Operating personnel: **Instructed person**

A trained person is someone who is informed about the assigned tasks and the possible dangers of improper conduct

- informed,
- trained if necessary and
- has been instructed about the necessary safety equipment and protective measures.

- Maintenance and repair personnel: **professional**

A professional is someone who, due to professional training, knowledge and experience can assess the work and identify potential hazards.

1.4. Conventions

Warnings and other information

In the operating instructions, notes are given different weightings and marked with a Pictogram marked.

Warnings are structured as follows:

Symbol	Signal word	Meaning
	DANGER	**Warning:** Imminent danger. Can result in Death or or severe injuries.
	WARNING	**Warning:** Potentially dangerous situation. Can result in Death or severe injuries.
	CAUTION	**Warning:** Potentially dangerous situation. Can result in slight or minor injuries.
	A NOTICE	**Note:** Notes that must be taken into account must be used for optimal results and safe operation of the system.

- **Signal word** Indicates the severity of the danger.
- **Nature and source of danger** Indicates which danger is being warned about and where it may occur.
- **cause and effect** Describes what the cause of the hazard or damage is and its effect.
- **remedy** Describes how the hazard can be prevented from occurring.

Example of a warning

DANGER
Risk of injury if used improperly
Improper use of the Sideflow Clean Pro
can lead to hazards for persons and property.
- Use the device only for its intended purpose as described below.

Instructions for action

Instructions are numbered to indicate the order of the individual steps. Results of actions (if any) are directly below.

Example:

1. This is the first step.
2. This is the second step.

- This is the result of the second step.

Operating and control elements

Please refer „ 4 Operating Sideflow Clean Pro

1.5. Manufacturer address

Flamco B.V.
Fort Blauwkapel 1
1358 DB Almere
the Netherlands
+31 (0)36 52 62 300
info@aalberts-hfc.com

2. Safety instructions

The Sideflow Clean Pro device was manufactured in compliance with applicable legal regulations and in accordance with recognised safety rules and regulations.
The device corresponds to the state of the art technology at the time of its initial commissioning. However, dangers can arise for the operator, for other persons, for the device itself and other material assets.

A NOTICE
To ensure safe use of the device, please observe the safety instructions in this section and the warnings in other sections of this operating manual.

2.1. General safety instructions

The device may only be installed by qualified personnel who have received safety training.
operated and maintained.

Persons involved in commissioning, operation, maintenance, repair, dismantling and Disposal of the device must read the operating instructions and in particular have read and understood the safety instructions.

The operating instructions must be kept carefully and made available to persons who or work on the device, are available at all times.

2.2. Intended Use

In order to use the device as intended, it is necessary to be familiar with the operating instructions and to comply with all the information, maintenance and inspection regulations contained therein.

DANGER
Danger to life or risk of serious injury
Mechanical and electrical hazards occur when operating the device. To prevent personal injury due to these hazards, you must only use the device as intended.

The device may only be used as intended as follows:
For the initial filling of heating systems and cooling systems with water and for the treatment of water in heating systems and cooling systems using the bypass process.
The following additional provisions apply:

- **Heating and cooling systems** The device is designed for larger systems, for a connection size of 1 1/2" (see section "9 Technical data" on page 48)
- **Further tasks** In addition to initial filling and processing, the device performs the following additional tasks:
  - Magnetic filtration
  - Fine filtering
- **Service** The device may only be operated and maintained by persons who are sufficiently qualified and authorized.
- **Safety devices** The device may only be operated if the safety devices are intact. Safety devices must be checked regularly to ensure they are in correct condition and functioning properly.
- **Maintenance and repair** General inspection and cleaning work must be carried out by trained persons. Maintenance, servicing and repair work may only be carried out by qualified specialists.

2.3. Improper use

The device may only be used for the purposes described in the section “2.2 Intended use” used in the ways described on page 8 Any deviating
Use may pose a risk to persons and property and is prohibited.

Improper uses include:

- Use for purposes other than filtering water
- Operation in potentially explosive areas in accordance with the ATEX Directive
- Operation with defective or missing safety devices
- Maintenance and repair in the absence of safety equipment without increased safety measures
- Operation by unqualified or insufficiently qualified personnel

2.4. Dangers during transport and installation

2.4.1. Transportation

During transport and installation of the device, dangers may arise from heavy and tipping parts. To avoid this, please observe the following safety instructions:

- Transport the device without impact or shock.
- During transport, secure the device using suitable means to prevent it from tipping over or falling over. Only remove any transport safety devices after installation.

2.4.2. Installation (as in 'to install')

The device may only be installed by authorized and trained specialists.
Improper installation may result in injury. To avoid this, please observe the following safety instructions:

- Do not place heavy objects on the device.
- Place the device on a level and sufficiently stable surface.
- When connecting the device to the power supply, make sure that the mains voltage corresponds to the information on the type plate.
- Have the device connected to the power supply and earthed by qualified personnel in accordance with national regulations.
- Use an omnipolar switch with a gap of at least 3 mm between the contacts to connect the device to the power supply.
- Install a residual current circuit breaker (0.03 A) as additional protection against electric shock.
- Lay cables and hoses so that they do not pose a tripping hazard.
- If tripping hazards cannot be avoided, mark them clearly.
- Carry out adjustments or simple repairs in consultation with the manufacturer.
- Do not make any modifications to the appliance or to the water and electricity lines.
- Position the device so that the circulation pump motor is sufficiently ventilated.

2.5. Dangers during operation and maintenance

2.5.1. Mechanical hazards

The device consists of moving or heavy components. This can cause injury to people.
To avoid this, please observe the following safety instructions:

- Be careful when replacing heavy parts: - Wear suitable safety shoes. - Secure the device against tipping or slipping.
- When carrying out maintenance work on supplied components, please observe the relevant documentation from the relevant manufacturers.
- Do not place your hands on rotating or moving parts of the device while it is in operation.

2.5.2. Dangers from hot surfaces

Parts of the device heat up during operation. There is a risk of burns if there is direct contact with hot surfaces. To avoid this, please note the following
Safety instructions:

- Do not touch hot pipes or the housing of the circulation pump when the device is switched on. Do not do so until it has been switched off and cooled down.
- Wear suitable protective gloves when touching or working on hot parts.

2.5.3. Dangers from electricity

The device is powered by electricity. Touching live
Components can result in serious injury or death. To avoid this, please observe the following safety instructions:

Disconnect the main power supply before working on electrical equipment

- Disconnect the main power supply before working on electrical equipment.
- Make sure that the power cable is equipped with an appropriate locking device for maintenance purposes (lockout-tagout).

Liquids

- Be careful when handling liquids. Penetrating liquids can cause short circuits or electric shock.

Connection data

- Observe the specified electrical connection data (see section “10 Technical data” on page 37).

Covers of electrical components

- Do not open the covers while the device is switched on or in operation.
- Do not remove covers when wiring or checking, even when the power is turned off.

2.5.4. Dangers when handling the circulation pump

The device uses a circulation pump, which poses various hazards. Around
To avoid property damage and injury, observe the following safety instructions:

- Use the device only in accordance with the technical data (see section "9 Technical data" on page 48).
- Do not use the device to transport flammable or dangerous liquids.
- Do not leave the device unattended during operation or ensure that unauthorized persons do not have access to the device.
- Before carrying out any maintenance or servicing work, switch off the device and unplug it from the power socket.
- Do not operate the device with the ball valves at the inlet and outlet of the device closed.
- Check the area around the device for leaks and remove any leaking fluids.
- Protect the pump from environmental influences such as splash water or dust.

2.6. Personal protective equipment

To work safely with the device, you must wear various personal protective equipment. In the following list and at the corresponding points in the document you will find information on the required personal protective equipment.

The following personal protective equipment is necessary when working with the device:

- Protective gloves
- Safety goggles
- Safety shoes

2.7. Warning and information signs

Places where, under certain conditions, a potential hazard could be located, are marked with warning and information signs.

- Do not remove warning and information signs.
- Replace any damaged or removed warning and information signs immediately.

The following warning and information labels are located on the device:

Sign	Meaning	Sign	Meaning
	Warning of electrical Voltage		Warning magnetic field
	Warning of hot surface		No entry for persons with pacemakers or implanted Defibrillators

3. Device description

The Sideflow Clean Pro is a device for permanent bypass filtration of heating and cooling system water.
in the bypass process in heating systems. The device performs the following tasks:

- Deposition of magnetite
- Fine filtration of non-magnetic particles down to 1µm

The Sideflow Clean Pro is designed for permanent connection to heating systems. intended.

3.1. The Sideflow Clean Pro at a glance

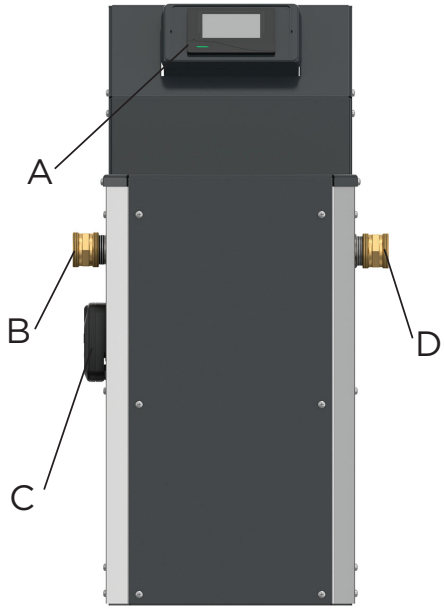
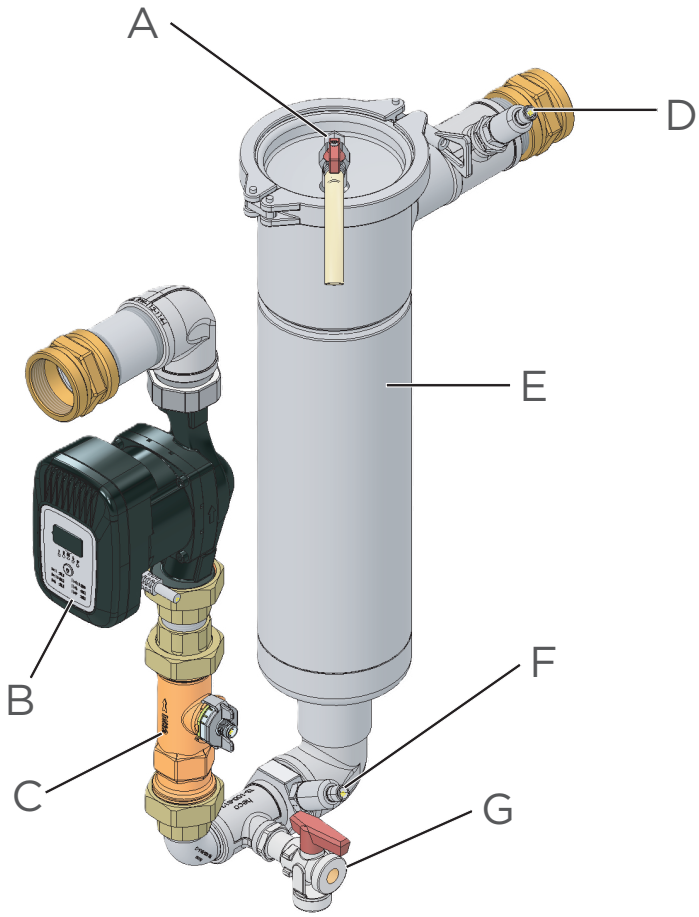


Figure 3-1: Overview of the components of the device

A Display with controls
B Outlet circulating water
C Circulation pump
D Inlet circulating water

3.2. Device details



A	Filter deaeration	E	Dual filter Sideflow Clean Pro Dual Filter10 (Magnetite and fine filter 1 µm)
B	recirculation pump	F	Pressure sensor after filter
C	flow meter	G	drainage device
D	Pressure sensor before filter		

3.3. Circulation water inlet

The return flow of the heating system is connected to the circulating water inlet. The system's circulating water is transported through the device and mixed in a remote return line.

3.4. Differential pressure detection

The differential pressure between filter inlet and filter outlet is measured to determine the
dirt detection level in the filters.

3.5. Recirculation pump

The circulation pump pumps the water through the device.

3.6. Outlet circulating water

The return flow of the heating system is connected to the circulating water outlet. The treated water from the Sideflow Clean Pro is transported into the heating system circuit through the circuit water outlet.

3.7. Display with operation

With the operation you can control the Sideflow Clean Pro
access. Settings can be made and
functions are activated.

3.8. Magnetite separator Sideflow Clean Pro Dual Filter

The Sideflow Clean Pro Dual Filter is a unique, highly efficient system filter for removing magnetic and non-magnetic contaminants in heating systems. It includes an absolute fine filter down to 1 µm and one of the most powerful magnetite separators on the market.

4. Sideflow Clean Pro Operation

In the following section you will find instructions on how to operate the device.

Preparing the device for operation

A NOTICE
Controls
The controls referred to in the text are described in section "3 Device description" from page 14 explained.

A NOTICE
When connecting, observe the electrical connection data (see section "9 Technical data" on page 48).

Connecting and operating the device

CAUTION
Risk of injury due to improper connection
Improper connection may result in hot liquids leaking or damage to the device.

- Make connections to the heating system in a depressurized state. To do this, close the corresponding valves on the heating system.
- Choose the connection points in the heating system's piping system so that they are far enough apart to avoid a short circuit.
- Install a connection piece of size 1 1/2" at each connection point in the heating system's pipe system.

The current status of the system is shown below the continuous operation display.

- **Select operating mode**
- Normal operation active
- Normal operation pause, wait for time slot
- Continuous operation active, change to normal operation after the time has elapsed

- If the pump is active, the pump is displayed in green; if the pump is inactive, the symbol is black.
- The currently set pump performance is displayed above the pump.
- The current flow rate in l/min is displayed below the pump.
- The color of the filter symbol changes depending on the filter load.

Water values to be observed for the operation of the Sideflow Clean Pro

Water values	At least	Maximum
pH value	8,2	9,5
Conductivity µS/cm	10	1.000
°dH	0,3	7

4.1. Home page

Figure 4.1 Languages

After the device has been connected to the 230V mains, the language selection appears as the start page.

- If the status LED on the screen lights up green continuously, the control system has fully booted up.
- On this page you can choose between 8 different languages.

4.2.Main menu

Picture. 4.2 Main menu

The system can be started via the main menu of the control system.

Important
The Sideflow Clean Pro pump only starts when the desired operating mode has been set in the settings

The digital operating instructions can be accessed via the Sideflow Clean Pro QR code using the manual icon.

4.3.System status

Figure 4.3.1 System status - OFF

If the Sideflow Clean Pro is not active, no data will appear when you click on System Status.

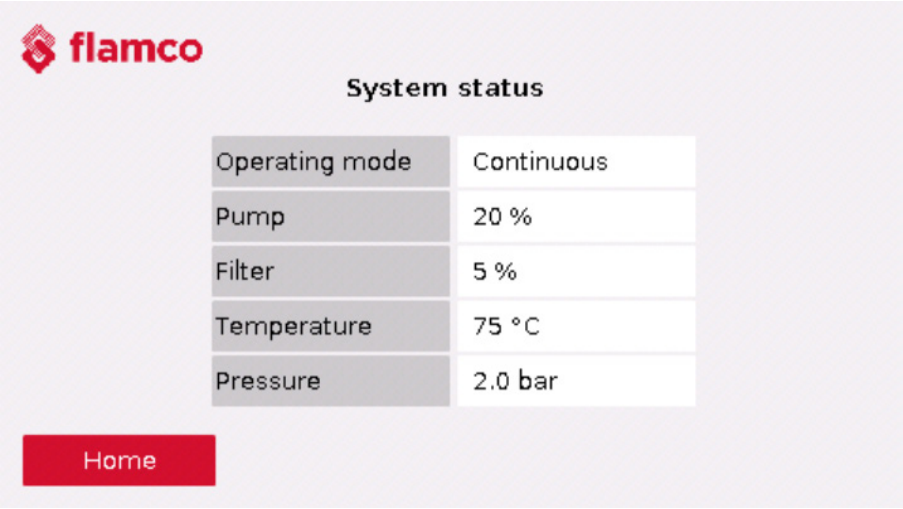


Figure 4.3.2. System status - OFF

If the Sideflow Clean Pro is active, the following data appears when you click on System Status:

- Operating mode: continuous or normal operation.
- Pump: Current pump performance in %
- Flow rate: Current flow rate of the Sideflow Clean Pro depending on the set pump power
- Filter: Current capacity of the filter (0% = new; 100% = used)
- Pressure: Heating water pressure at the inlet of the Sideflow Clean Pro

4.4. Settings

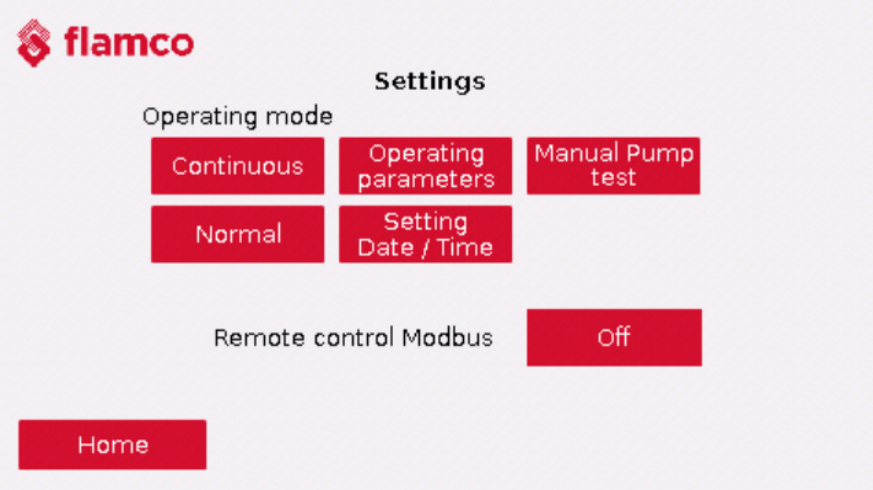


Figure 4.4 Setting remote - OFF

In the settings submenu, the operating mode can be configured, the operating parameters as well as the date and time can be set and the manual pump test can be started.
During the manual pump test, the pump always runs at 100%, i.e. maximum power.
In order to test the pump for functionality, the system must be switched on on the home page.

4.4.1. Remote control Modbus

By clicking on Remote Control Modbus, the status changes to «on» (green) and remote control via Modbus is activated.

If no data is sent to the device via the Modbus interface and the remote control is activated, the pump output drops to 10% (a fixed value that cannot be undercut).

The following settings are possible via Modbus:

- Turn device on and off
- Activate and deactivate normal/continuous operation
- Adjust pump output for normal operation
- Adjust pump output for continuous operation

4.4.2. Continuous operation

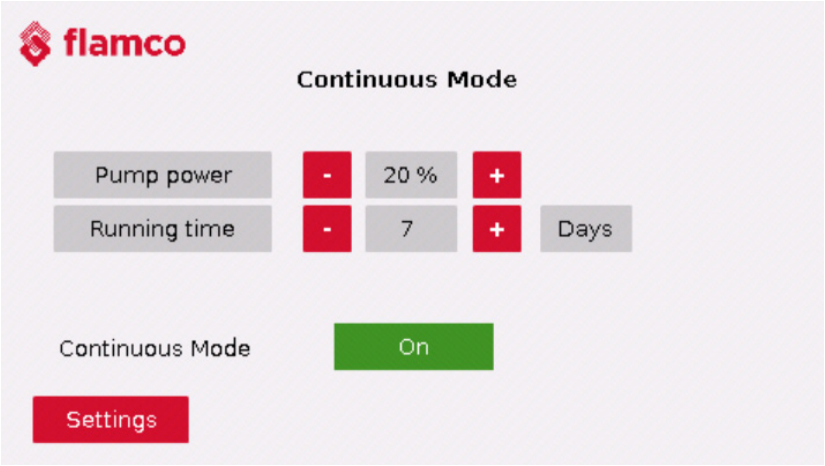


Figure 4.4.1. Continuous - ON

The following settings can be made on this page:

- Adjust the pump output in continuous operation from 10-100% in steps of 5.
- The duration in days during which continuous operation should be active [1-31 days].
- Continuous operation can be activated/deactivated via "On/Off".

4.4.3. normal operation

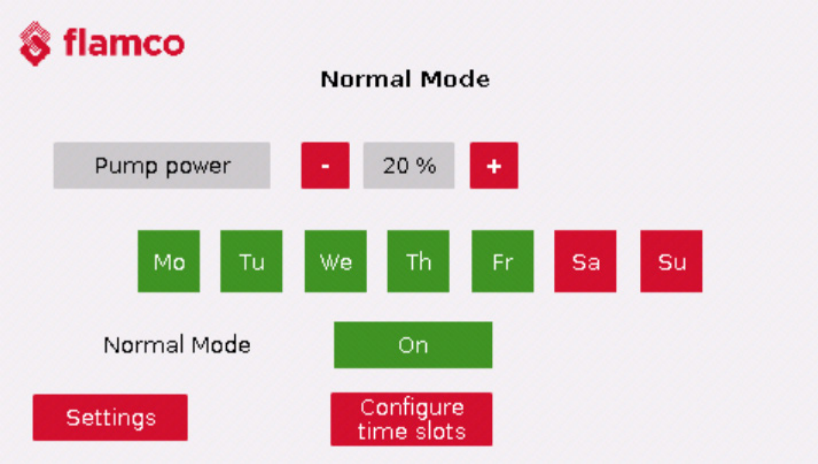


Figure 4.4.2. Normal - ON

The following settings can be made on this page:

- Adjust the pump output in continuous operation from 10-100% in steps of 5
- The days on which continuous operation should be active: - If the day of the week is highlighted in red, the day is inactive - If the day of the week is highlighted in green, the day is active
- Normal operation can be activated/deactivated via "On/Off"

Using the "Configure time window" button, up to five time windows can be individually set:

> Time slots from 00:00 - 00:00 are not active.

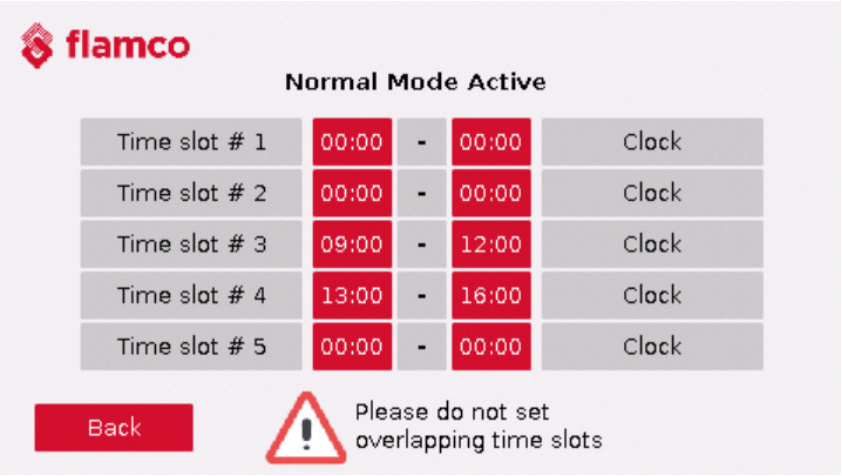


Figure 4.4.3. Time slots

To set the on/off time, tap the respective time.

4.4.4. Operating parameters

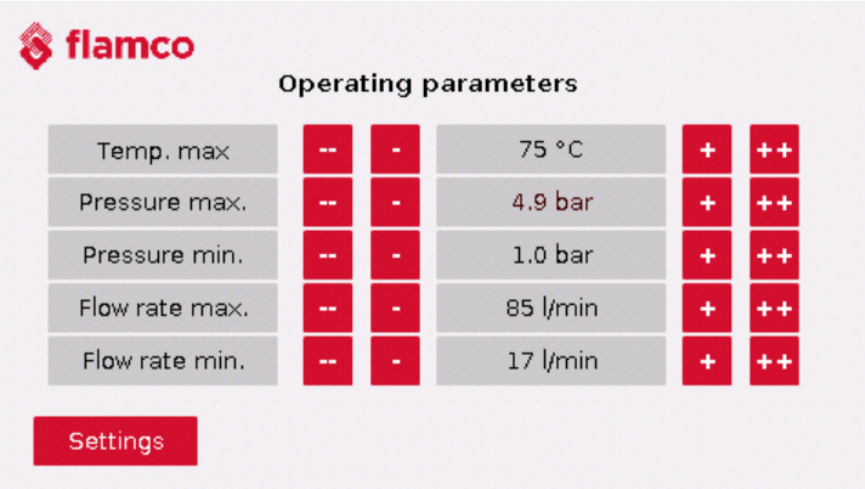


Figure 4.4.4. Operating parameters

The following operating parameters can be set:

Temperature Max.	0 - 80 °C
Pressure Max.	0 - 8 bar
Pressure Min.	0 - 5 bar
Flow Max	30 - 85 l/min
Flow Min	15 - 40 l/min

The minimum operating pressure should be 1.2 bar to ensure optimal operation of the Sideflow Clean Pro. If the limit values are exceeded or not met, an error is triggered and the pump is deactivated.

4.4.5. Setting date and time

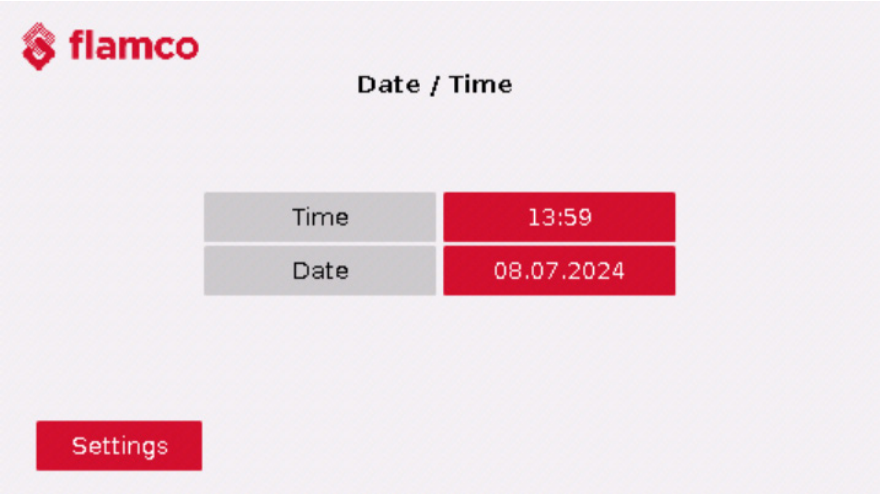


Figure 4.4.5. Date & Time

On this page you can set either the time or the date by tapping on the respective field.

4.5.Statistics

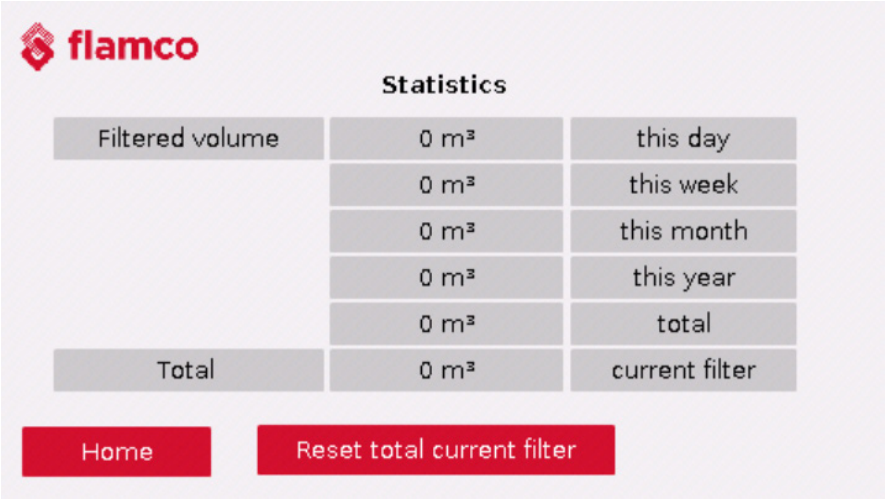


Figure 4.5 Statistics

The “Statistics” submenu displays the filtered quantity over the respective period. If a new filter bag is inserted, this should be confirmed using the "Reset total current filter" button so that the displayed quantity also corresponds to the current filter. When you press the reset button, only the last line is reset.

4.6. Error menu

Figure 4.6 Home screen error - Active

If an error is active, it is indicated by a corresponding symbol in the main menu. Tapping this icon opens the error menu.

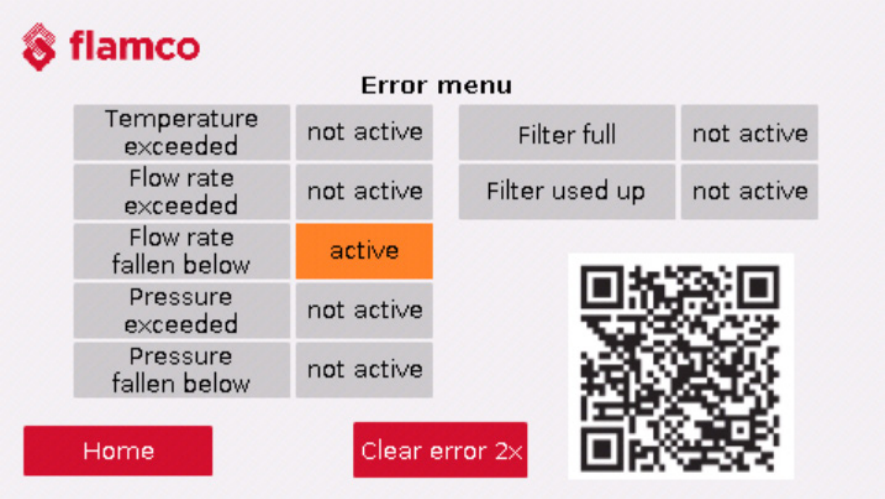


Figure 4.6.1. Error menu

The error menu shows which error is active. The error can be cleared using the "Clear error" button. The button must be pressed twice. Once so that the error on the display is deleted and once so that the control system releases the system again.

By scanning the QR code, the detailed error description (see chapter 6.5) of the Sideflow Clean can be retrieved.

5. Modbus-RTU

The MODBUS master is able to access the data from one or more connected MODBUS slaves. The MODBUS master sends a request to the MODBUS slave, which responds to the request by, for example, returning the requested measured values. The MODBUS Master is also capable of
specifying certain values to the MODBUS slave by entering them, for example, in the holding
register.
The MODBUS slave is only able to respond to requests from the MODBUS master and does not communicate with other slave devices.
MODBUS RTU is a serial transmission method and supports data exchange via direct wiring.

5.1. MODBUS RTU connection settings

To communicate with the MODBUS master, the correct transmission rate, protocol and device address must first be set.
The settings for the Sideflow Clean Pro are as follows:

device type	Slave
baud rate	9600 Hz
parity	Straight
Stop bits	1
Device address	1
protocol	RTU

The connection settings must be identical for all participants in the Modbus. Otherwise, there may be disruptions or total failure in communication.

5.2. Discrete Inputs Register 2 [read]

address	Name	Description	unit	Type	factor
0	System On/Off	true = On			
10	Pump On	true = active			
14	Remote control	true = active			
18	Collection disturbance	true = active			
22	Flow exceeded	true = active			
26	Flow below limit	true = active			
30	Temperature exceeded	true = active			
34	Pressure exceeded	true = active			
38	Pressure below	true = active			
42	Filter outdated	true = active			
46	Filter full	true = active			

5.3. Single Coils Register 5 [write]

address	Name	Description	unit	Type	factor
12	System On/Off	1 switching pulse = Mode switch			
16	Activate remote control				
20	Normal operation On/Off				
24	Continuous operation on/off				
28	confirm new filter				
32	Fault Unlock				

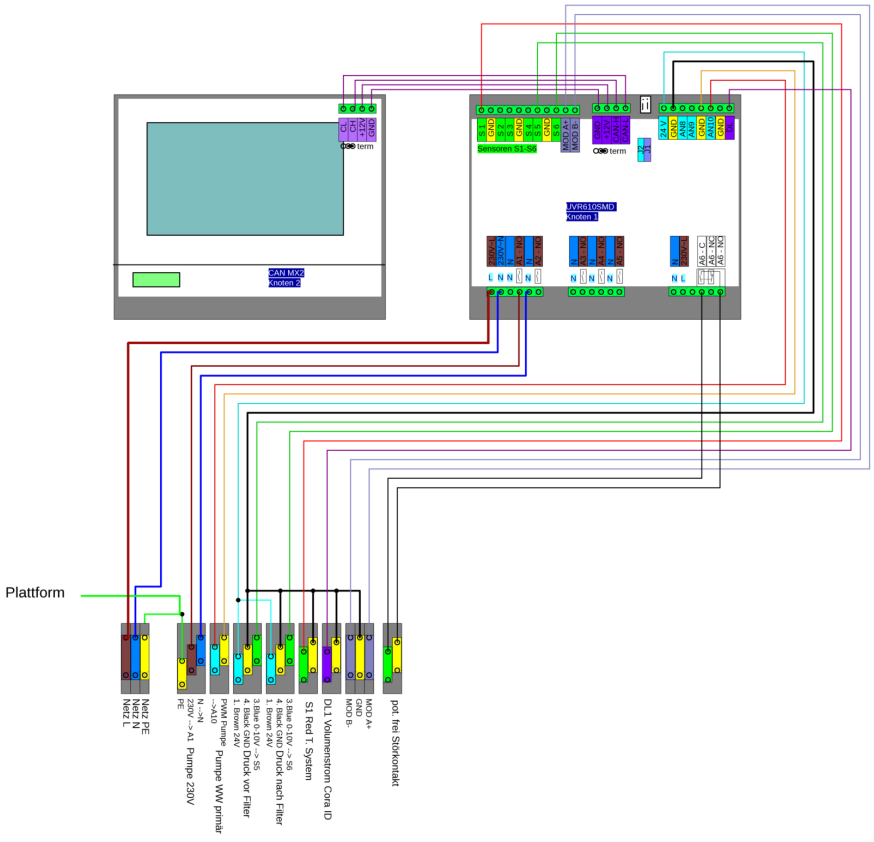
5.4.Input Register 4 [read]

address	Name	Description	unit	Type	factor
50	PMW power pump		%	Signed 16-bit (Big Endian)	x 0,1
54	Operating mode	1 = Normal operation, 2 = Duration operation			
58	Filter loading		%		x 0,1
62	temperature		°C		x 0,1
66	Pressure before filter		bar		x 0,01
70	Pressure after filter				x 0,01
74	Flow sensor		l/min		
78	Remaining days of continuous operation		Days		
82	Remaining time continuous operation		secondary	32-bit floating point (Big Endian)	
86	Quantity counter day		m^3		
90	Quantity counter week				
94	Quantity counter month				
98	Quantity counter year				
102	Quantity counter total				
106	Amount of water per filter				

5.5. Holding Register 6 [write]

address	Name	Description	unit	Type	factor
36	Pump performance normal operation	10%, max.100%	%	Signed 16 bit (Big Endian)	
40	Pump performance Continuous operation				

5.6. Occupancy plan



5.7. Fault contact SFC

The Sideflow Clean Pro can forward faults to the building management system.
The active fault message can be forwarded to the building management system by a direct connection to terminal A6 (NO) and terminal A6 – C.
During normal operation without fault message, contact A6–C and contact A6–NO are closed, contact A6-C to A6-NC is open.

In case of an active fault message or an interrupted
Power supply, contact A6-C and contact A6–NO are opened and contact A6–C is closed with contact A6–NC.

6. Maintenance and repair

To ensure trouble-free operation of the device, the device must be kept clean and in working order. Furthermore, regular visual and functional checks must be carried out to detect any

To be able to detect and repair damage at an early stage.

CAUTION
Risk of injury due to improperly performed maintenance work
The device may only be serviced by qualified personnel who have received safety training.

Before carrying out any maintenance or servicing work, carry out the following Steps from:

- Turn off the device.
- Disconnect the device from the power supply.
- Take appropriate measures to protect the device against being switched on again.
- Please also note the safety instructions in the section “2 Safety instructions” on page 8.

6.1. Maintenance schedule

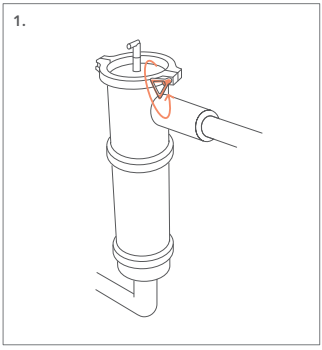
The following table provides an overview of the regularly performed Maintenance work:

interval	activity	Jurisdiction
Daily	Check Sideflow Clean Pro Dual filter and change depending on the degree of contamination	Operating personnel
Biannually	Check the fastening and position of the device as well as welded and screwed connections	Operating personnel
Annually	Check warnings and markings on the device	Operating personnel

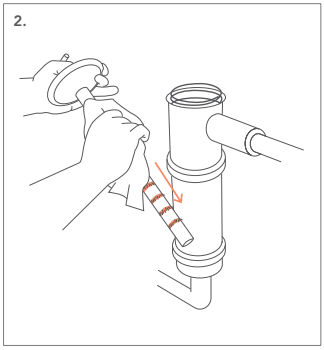
6.2. Maintenance/Cleaning

In this section you will find the cleaning of the built-in dual filter

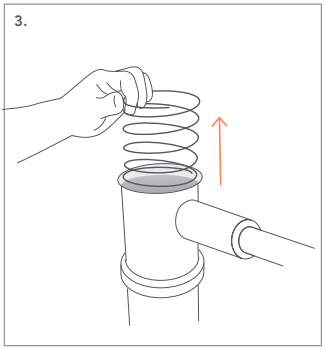
To clean the filter, proceed as follows:



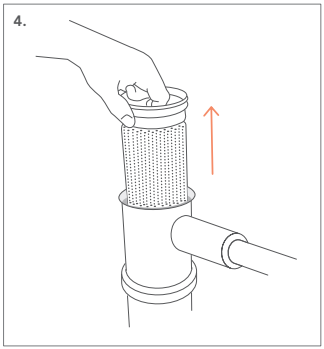
1. Close the inlet and outlet valves. Open the KFE tap to release the pressure. Then open the vent valve top of the filter. Unscrew the wing nut and remove the cap.



2. Remove the magnetic rod and clean it, for example with a cloth.



3. Then remove the compression spring and clean it if necessary. with water.



4. Now you can remove and replace the basket with the fine filter bag. (Spare part number 17016)

Assembly is done in reverse order.
The dual filter on the magnetic bar should be directed towards the input to achieve the highest capacity.

6.3.Regular internal audit

Certain parts of the device are additionally checked and maintained at regular intervals:

- recirculation pump

The inspection dates must be coordinated by the operator.

6.4. Spare parts and accessories

The following spare parts are available for the device from the manufacturer:

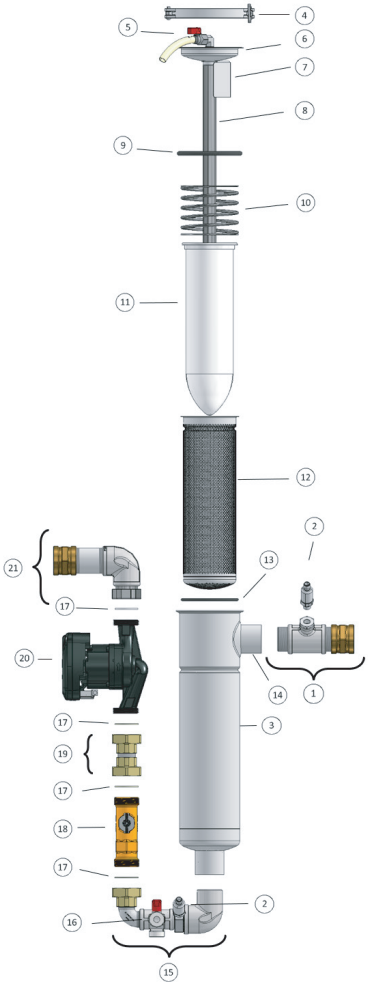
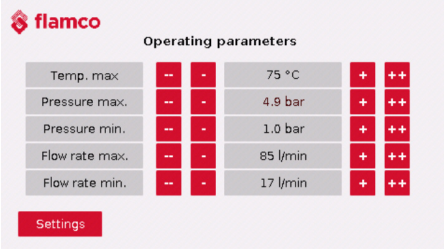
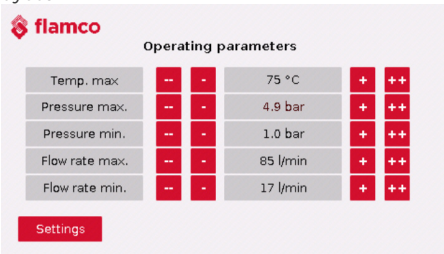
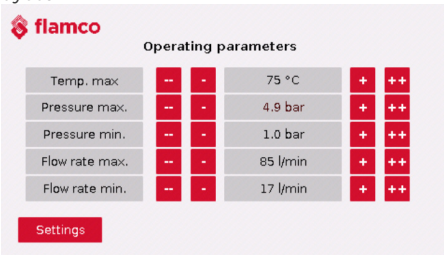
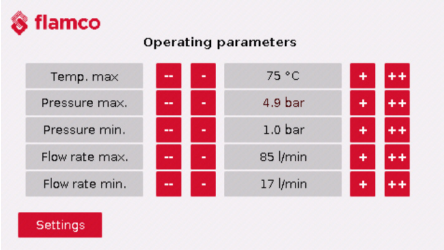
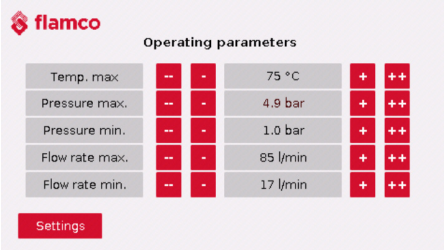


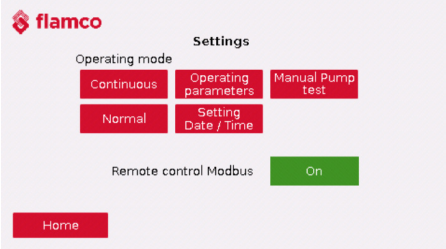
Figure 6-4: Spare parts Side Stream Filter

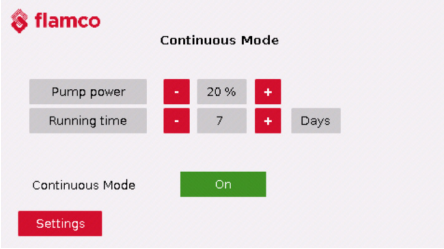
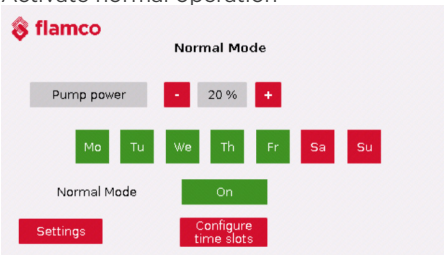
No.	No.	article number	designation	Remark
1		STA17001	SFC Pro Spare Input module	without sensor
2		STA17002	SFC Pro Spare Pressure sensor	
to 3	4	STA17004	SFC Pro Spare Clamp	
	5	STA17005	SFC Pro Spare Venting	
	6	STA17006	SFC Pro Spare Lid	
	7	STA17007	SFC Pro Spare Twister insert	
	8	STA17008	SFC Pro Spare Magnetic bar	
	9	STA17009	SFC Pro Spare Lid seal	
	10	STA17010	SFC Pro Spare Pressure spring	
	11	17016	SideFlow Clean Pro Filter Bag	
	12	STA17012	SFC Pro Spare Filter basket	
	13	STA17013	SFC Pro Spare Filter basket seal	
14		STA17014	SFC Pro Spare Temperature sensor	
15		STA17015	SFC Pro Spare Filter output module	with KFE tap, without sensor
16		STA17016	SFC Pro Spare Gate valve	
17		STA17017	SFC Pro Spare Flat seal	
18		STA17018	SFC Pro Spare Flow rate sensor	
19		STA17019	SFC Pro Spare Pump fitting module	
20		STA17020	SFC Pro Spare Pump	
21		STA17021	SFC Pro Spare Output module	

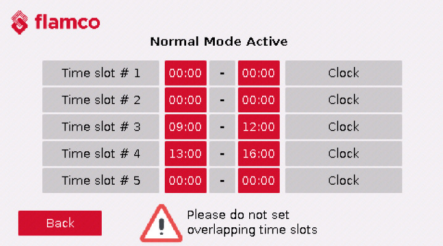
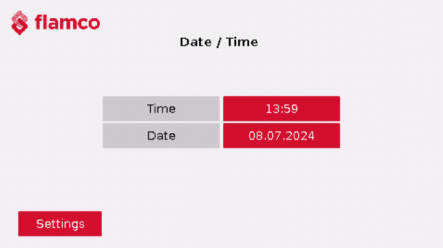
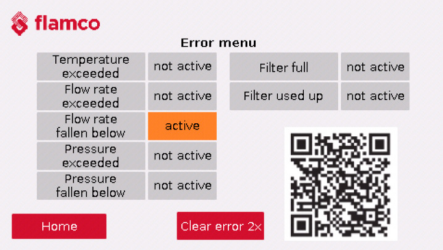
6.5. Error Description

Error	remedy
Temperature exceeded	Reduce the return temperature of the system Adapt operating parameters to the system 
Flow exceeded	Check system for leaks Adapt operating parameters to the system 
Flow below limit	Open shut-off valves Adapt operating parameters to the system 

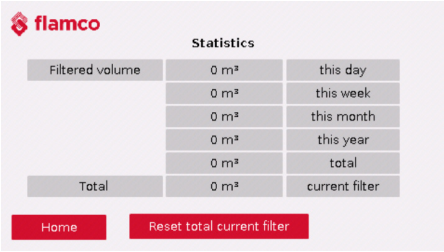
Pressure exceeded	Reduce system pressure Adapt operating parameters to the system 
Pressure below	Increase system pressure Adapt operating parameters to the system 
Filter dirty	Replace filter bag
Filter outdated	Replace filter bag
Normal operation cannot be activated	Switch on the system 
Continuous operation cannot be activated	Switch on the system 

Pump cannot be switched on manually	Switch on the system 
Pump performance does not adapt to settings	Check if remote control via Modbus is enabled/disabled 

Pump not running/ P-LED on Pump not lit	Switch on the system   Activate normal operation 

	Check if time slot is active  Check that the date and time are set correctly  Check wiring (by qualified electrician)
Flow is not displayed	Check wiring (by qualified electrician) Check that the plug is firmly seated on the sensor
Temperature is not displayed	Check wiring (by qualified electrician)
Pressure is not displayed	Check wiring (by qualified electrician) Check that the plug is firmly seated on the sensor
Device does not start even though error has been cleared	Button “Delete error” must be pressed twice 

The error message “Filter out of date” appears again after a short time, even though the filter bag has been replaced and the error message has been deleted	In the statistics menu, the counter for the current filter must be reset.



7. Transport, installation and commissioning

7.1. Transportation

Use lifting equipment such as a crane or forklift to transport the device.
The lifting equipment must be suitable, tested and approved. On flat ground a sack truck can be used to move the device.
Please note the following instructions during transport:

- Use suitable tools to secure the device against slipping or tipping over.
- When transporting the device, only place loads on suitable points.
- Remove the transport devices after transport.

7.2. Installation and commissioning

To avoid damage to the device or injury to persons, please observe
The following notes apply during installation and commissioning:

- Installation and commissioning may only be carried out by trained specialists from a recognized specialist trade company in the SHK sector, taking the necessary safety measures into account.
- Before starting the installation, check the device for completeness and possible transport damage. The following components are included in the delivery: - Device as ordered, pre-assembled - Operating instructions
- Place the device on a firm and level surface.
- Do not install the device in areas subject to frost.
- Lay cables, hoses and lines so that they do not pose a tripping hazard. Mark unavoidable tripping hazards.
- Please install a shut-off device between the main return of the heating system and the inlet of the Sideflow Clean Pro as well as between the outlet of the Sideflow Clean Pro and the main return of the heating system. These shut-off devices enable the control of water supply and drainage during maintenance and repair work.
- Connect the device to the power supply correctly, observing the electrical connection data (see section “9 Technical data“ on page 48).

The device is intended for permanent connection to a heating system.
Please note the following when connecting:

- Before connecting the device, familiarize yourself with the specific structure of the heating system. Please contact the manufacturer if you need assistance.
- Make sure that the installation work is carried out professionally and that the result complies with the relevant rules and regulations.

In the bypass process, a partial volume flow of the water of a heating system is routed through the device.
During treatment, we recommend switching on the system pumps to ensure to achieve the fastest possible mixing.

The following figure shows an example of connecting the device in bypass Procedure:

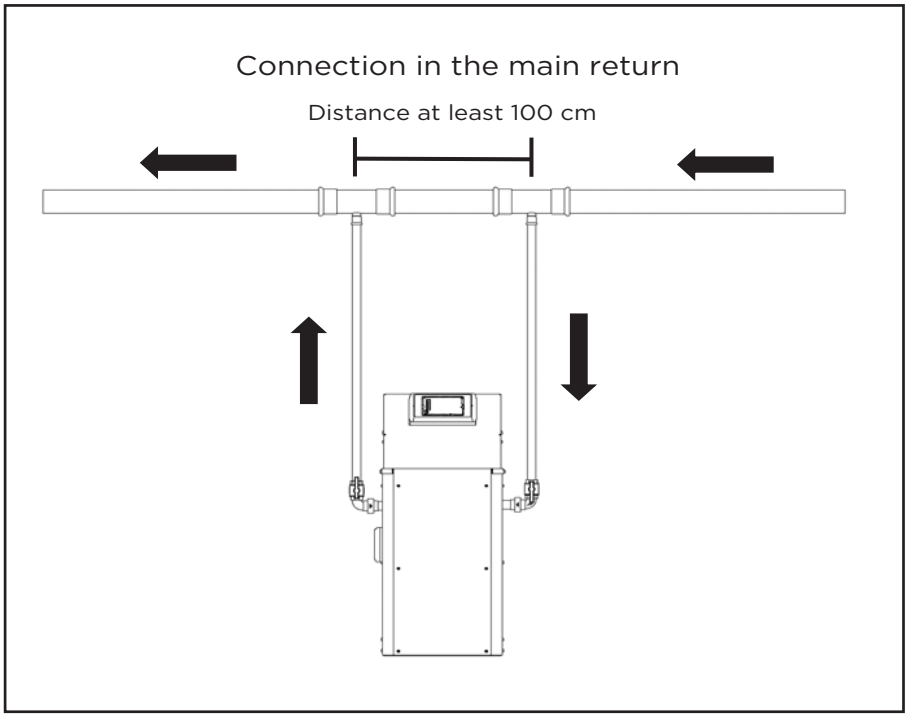


Figure 7-2: Connection diagram for bypass method

Table minimum connection size

with a total connection length of 10 m (5 m supply line; 5 m discharge line)

power pump	flow rate	l/h	Steel pipe		
10%	20 l/min	1200 l/h	DN25	1″	35 x 1,5
15%	23 l/min	1380 l/h	DN32	1 1/4″	35 x 1,5
20%	27 l/min	1620 l/h	DN32	1 1/4″	35 x 1,5
25%	31 l/min	1860 l/h	DN32	1 1/4″	35 x 1,5
30%	35 l/min	2100 l/h	DN32	1 1/4″	42 x 1,5
35%	39 l/min	2340 l/h	DN32	1 1/4″	42 x 1,5
40%	43 l/min	2580 l/h	DN32	1 1/4″	42 x 1,5
45%	47 l/min	2820 l/h	DN40	1 1/2″	42 x 1,5
50%	51 l/min	3060 l/h	DN40	1 1/2″	42 x 1,5
55%	55 l/min	3300 l/h	DN40	1 1/2″	42 x 1,5
60%	58 l/min	3480 l/h	DN40	1 1/2″	42 x 1,5
65%	62 l/min	3720 l/h	DN40	1 1/2″	54 x 1,5
70%	66 l/min	3960 l/h	DN40	1 1/2″	54 x 1,5
75%	70 l/min	4200 l/h	DN50	2″	54 x 1,5
80%	74 l/min	4440 l/h	DN50	2″	54 x 1,5
85%	78 l/min	4680 l/h	DN50	2″	54 x 1,5
90%	80 l/min	4800 l/h	DN50	2″	54 x 1,5
95%	83 l/min	4980 l/h	DN50	2″	54 x 1,5
100%	85 l/min	5100 l/h	DN50	2″	54 x 1,5

Maximum flow to be set depending on the pipe size

Steel pipe	max. pump output	Maximum flow
1″	10%	20 l/min
1 1/4″	40%	31 l/min
1 1/2″	70%	66 l/min
2″	100%	85 l/min

	max. pump output	Maximum flow
35 x 1,5	25%	31 l/min
42 x 1,5	60%	58 l/min
54 x 1,5	100%	85 l/min

8. Dismantling and disposal

CAUTION
The device may only be dismantled by authorized and qualified personnel who are familiar with the hazards involved.

A NOTICE
Regulations and laws
Observe local regulations and laws regarding the disposal of environmentally harmful substances.

- The device may only be dismantled by authorized personnel.
- Please observe the safety instructions in the operating instructions in the section “2 Safety instructions“ on page 8th.
- Do not touch any live components.
- Wear appropriate personal protective equipment.
- Only use suitable and tested lifting equipment.

Injuries can be caused by:
- Live components
- Heavy components that fall down after being loosened
- Sharp edges

8.1. Specialist personnel

The specialist staff must take the following points into account:
- Please observe the safety instructions in this operating manual.
- Wear appropriate personal protective equipment.
- Only use suitable and tested lifting equipment.
- Use suitable means of transport and keep transport routes clear.
- Before starting work, switch off the device and disconnect it from the power supply.

8.2. Removal

To disassemble the device, proceed as follows:
1. 1 Turn off the device and disconnect the power supply from the mains.
2. Discharge energy storage devices such as springs or capacitors, if present.
3. Make sure that any residual pressure has been released.
4. Disassemble the device into its components using suitable tools.

8.3. Disposal

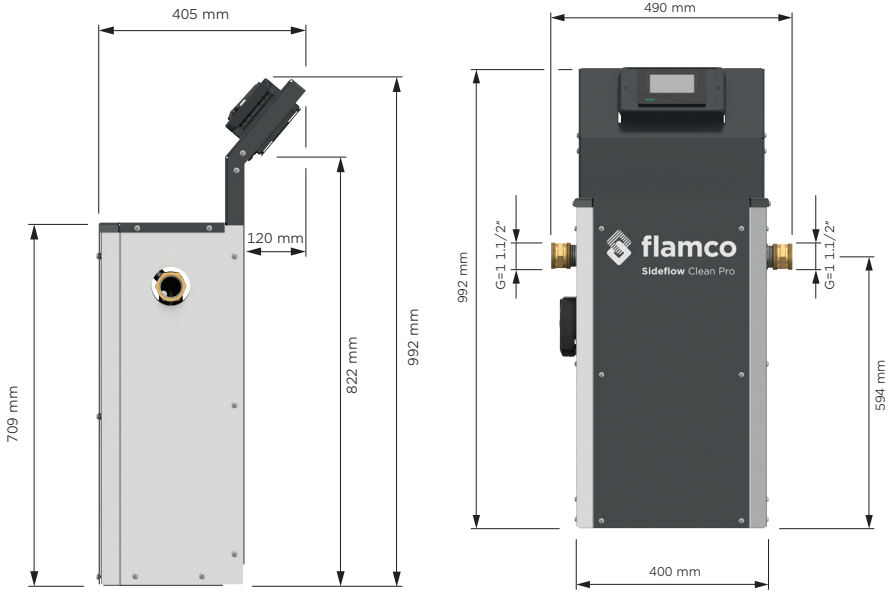
Dispose of components and operating materials properly and in an environmentally friendly manner.

Please observe the legal and company regulations.

9. Technical data

In this section you will find technical data about the device in general as well as the applications and components used.

9.1. Dimensional drawings



9.2. General data

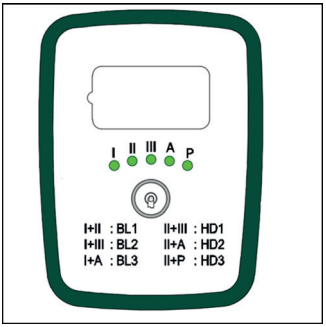
	Sideflow Clean Pro
article number	17015
Max. operating pressure	8 bar
Max flow	5^{m3}/h
Maximum temperature	80 °C
Filtration	up to 1µm
Glycol	up to 50/50
Power supply	230 V
power consumption	160 W
Display size	4.3"
Weight	32 kg
Housing dimensions (H, W, D in mm)	992 x 490 x 405
Width with connections	700 mm
connection	1 1/2“ BSP G female thread
connections	rotatable 360°
volume	45 dB
Languages	German, English, French, Dutch, Danish, Swedish, Finnish, Polish

Ready for connection in an insulated housing

9.3. Components

9.3.1. recirculation pump

Maximum operating pressure	10 bar
ambient temperature	-20 °C to 40 °C
Maximum media temperature	95 °C
Maximum relative humidity	95 %
Maximum throughput	5.1m^3/H



Circulation pump control panel
The circulation pump is controlled via the PWM signal. The switch button has no function.
When the pump is active, the LED lights up **P**

ENG

9.3.2. Technical data

Sideflow Clean Pro Dual Filters	
Item No.	
High gloss filter housing made of stainless steel V4A	Stainless steel V4A
Filter basket with seal to increase fine filtration	
Pressure spring to increase fine filtration	D2
Flow max.	10m³/H
Magnetic field strength (gauss)	11x12.000
Barriers (included)	2 x 1 1/2“
connections	1 1/2“
KFE drain valve (included in delivery)	1/2“
Vent shut-off with hose	1/4“
Max. temperature	80°C
Max. operating pressure	10 bar

aalberts hydronic flow control

EU Declaration of Conformity

EU Konformitätserklärung

Supplier Anbieter	**Flamco BV** Fort Blauwkapel 1, 1358 DB Almere, the Netherlands Flamco BV Fort Blauwkapel 1, 1358 DB Almere, die Niederlande
Manufacturer Hersteller	**UWS Technologie GmbH**, Sudetenstraße 6, 91610 Insingen, Germany UWS Technologie GmbH, Sudetenstraße 6, 91610 Insingen, Germany
Product description Produktbezeichnung	**Side Stream filter pumped** Side Stream Filter mit Pumpe
Product type Produkt Typ	**Sideflow Clean Pro** Sideflow Clean Pro

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller.

The object of the declaration described above is in conformity with the relevant Union harmonisation legislation and the conformity of the product described above with the provisions of the applied Directive(s) is demonstrated by compliance with the following Standards / regulations:

Der oben beschriebene Gegenstand der Erklärung erfüllt die einschlägigen Harmonisierungsrechtsvorschriften der Union und die Übereinstimmung des bezeichneten Produkts mit den Vorschriften der angewandten Richtlinie(n) wird nachgewiesen durch die Einhaltung folgender Normen / Vorschrifte:

Directives

- Maschinenrichtline (2006/42/EG) vom 17.Mai 2006
- RoHS-Richtlinie (2011/65/EU) vom 8.Juni 2011
- EMV-Richtlinie (2014/30/EU) vom 26. Februar 2014

Standards

- DIN EN ISO 12100:2011: Sicherheit von Maschinen – Allgemeine Gestaltungsleitsätze – Risikobeurteilung und Risikominderung
- DIN EN 60204-1: Sicherheit von Maschinen – Elektrische Ausrüstung von Maschinen – Teil 1: Allgemeine Anforderungen
- DIN EN 60335-1: Sicherheit elektrischer Geräte für den Hausgebrauch und ähnliche Zwecke – Teil 1: Allgemeine Anforderungen

Authorized person for the compilation of the technical documentation / Bevollmächtigte Person für die Zusammenstellung der Technischen Dokumentation: Mario Milkovic, Technischer Leiter UWS Technologie GmbH

Signed for and on behalf of: / Unterzeichnet für und im Namen von:

Almere, 01.07.2024

M. van de Veen
Managing director
Flamco B.V.

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