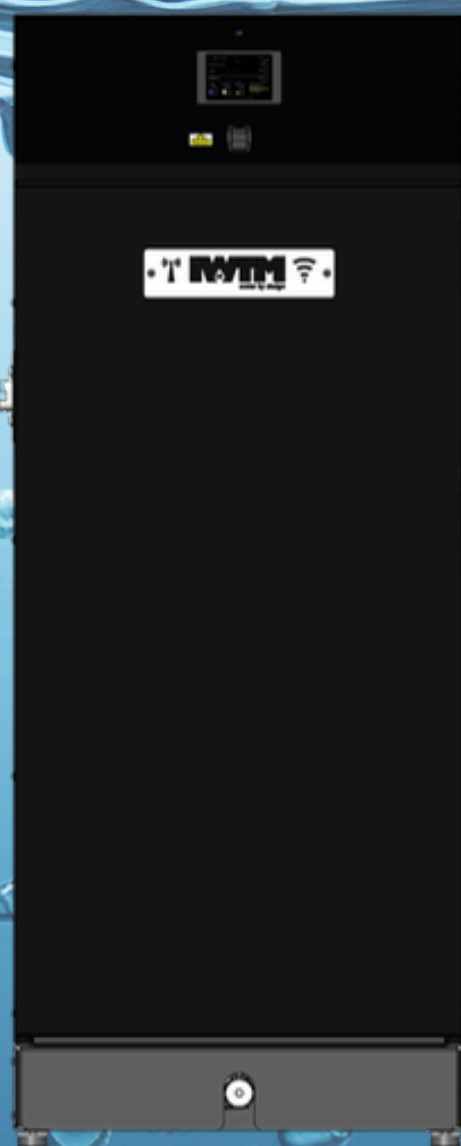


IWTM-UK DIGITAL PROTECTOR[®] MANUAL



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DESCRIPTION & FEATURES

WHAT IS IWTM PROTECTOR® P12D-P80D

The IWTM Protector® P12 to P80 Digital is a range of unique side stream filtration devices that engineers the system water to a non-corrosive state.

It provides corrosion protection in both new and existing heating and cooling systems by removing sludge, particles, oxygen, and other corrosive products. The system is maintained by constantly filtering and engineering the water using electrochemistry and anode technology, while the digital monitoring system provides continuous visibility of key water and system parameters.

The result is a system that cleans and engineers the water while monitoring its condition in real time.



NEXT GENERATION OF ELECTROCHEMISTRY

The units provide faster clean-up of old systems and quicker compliance with pre-commissioning targets on new systems due to the higher flow rates through the reaction tank (cathode) and the inbuilt stainless-steel micron filter that enables finer filtration. The unscreened larger anodes last longer and release magnesium hydroxide more quickly for faster pH control.

Compliance with VDI 2035 and UK TM20 is still achieved, as the anodes sit inside the stainless-steel micron filter to capture the magnesium residue when the anodes expire.

- IWTM Protector® is an "all in one solution"
- Controls the three key parameters of VDI 2035 and UK TM20; pH, conductivity & dissolved oxygen.
- Creates a hostile environment for bacteria.
- Keeps the water clean in closed circulation systems and removes all particles and impurities.
- Continuously monitors key system parameters, including dissolved oxygen, pH, conductivity, galvanic current from the anode output, system temperature, system pressure and pressure differential.
- Provides real-time visibility of system conditions and alerts when intervention may be required.

DESCRIPTION & FEATURES

WATER QUALITY PARAMETER CONTROL & CORROSION MONITORING ALIGNMENT

Under standard industry guidelines (including CIBSE, BSRIA, and HNTAS/CPI framework considerations), monitoring is designed to safeguard system integrity by detecting changes in water conditions and verifying low oxygen levels.

Corrosion monitoring techniques, such as metal loss coupons or probes, serve a valuable purpose in traditional setups by tracking overall water corrosivity and reflecting shifts in Dissolved Oxygen (DO). However, when key chemical parameters are already being measured continuously, the operational goal of these monitors is met directly:

Real-Time Root Cause Visibility: ClearView monitoring continuously tracks core water quality parameters—including pH, electrical conductivity, and Dissolved Oxygen—second by second. By monitoring DO directly in the water stream, potential corrosive conditions are identified instantly at the root cause.

Streamlined Monitoring Strategy: Because corrosion monitoring techniques are primarily used to infer changes in water corrosivity and DO levels, having ClearView's direct DO measurement already in place—along with its capability to measure other water parameters—provides that same vital insight in real time. Installing additional standalone corrosion monitors alongside it becomes largely redundant, adding extra capital and maintenance expense without offering further actionable data.

Although traditional corrosion monitoring provides useful diagnostic data, direct and continuous parameter management addresses conditions in real time, eliminating the need for separate corrosion monitoring hardware.

By maintaining direct, real-time control over core water chemistry, ClearView fulfils the exact safety and risk-mitigation goals intended by industry frameworks, ensuring system protection while avoiding duplicate equipment costs.

DESCRIPTION & FEATURES

PARTICLE FILTRATION

If there is a difference in the readings on the IWTM Protector® display panel, the unit will need to be blown down, or the filter will need to be removed and cleaned.

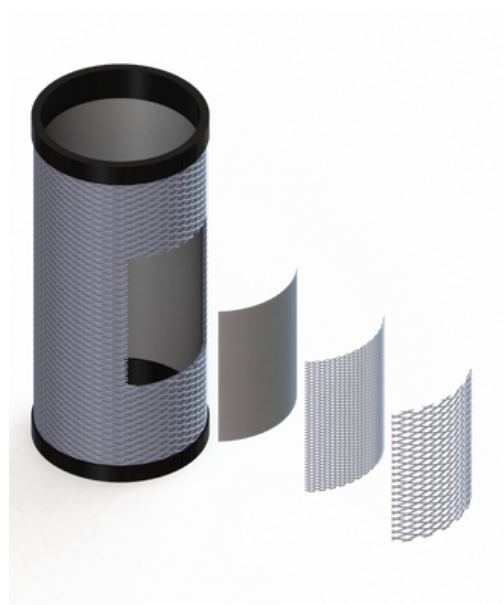
IWTM Protector® comes as standard with a robust stainless steel (SS) micron filter, which is 40 microns nominal.

The stainless steel AISI 316, 40 µm filter has a large surface area, providing a long operating time before cleaning and therefore requiring less flushing and refilling.

Optional bag filters are also available, with a filtration degree down to 1 µm.

Please note: The 40 micron stainless steel filter supplied with the IWTM Protector® as standard although robust in its manufacturing is a consumable item.

It's life expectancy is dependent on the harsh environment it has to deal with when being used to clean existing systems and therefore is not covered by any warranty. On a new system it is possible that the filter can last for many years, but on clean-up project it may only last for a few months.



2-Layer Stainless Steel Filter

Our Filter is provided as standard with two layers of stainless steel mesh and can have up to three layers for specialised applications.



Bag Filter

DESCRIPTION & FEATURES

NEODYMIUM MAGNETS

Each IWTM Protector® in the P12–P80 range comes with one long, dry, powerful magnet. This is mounted in the centre of the stainless steel (SS) micron filter and in front of the sacrificial anodes, ensuring that magnetite is captured and not deposited on the anodes, while also preventing the SS micron filter basket from clogging with magnetite.

This design provides longer service intervals, increased operational life, and improved performance. When the magnet is lifted out, all captured magnetite is released and can be drained away.

SACRIFICIAL ANODES

Magnesium anodes that provide anodic water treatment to scavenge the oxygen, regulate the pH and lower the fluid's conductivity.

For longer life expectancy, the anodes are encapsulated by a stainless steel micron filter, removing the need for individual anode screens.

The Digital system continuously monitors key water and system parameters to provide visibility of system conditions.

Parameters monitored include:

- Dissolved oxygen
- pH
- Conductivity
- Galvanic current from the anode output
- System temperature
- System pressure and pressure differential

The system can issue alerts when monitored conditions indicate that intervention may be required. Captured information is stored on the IWTM CRM database and can be accessed through an internet-enabled device.

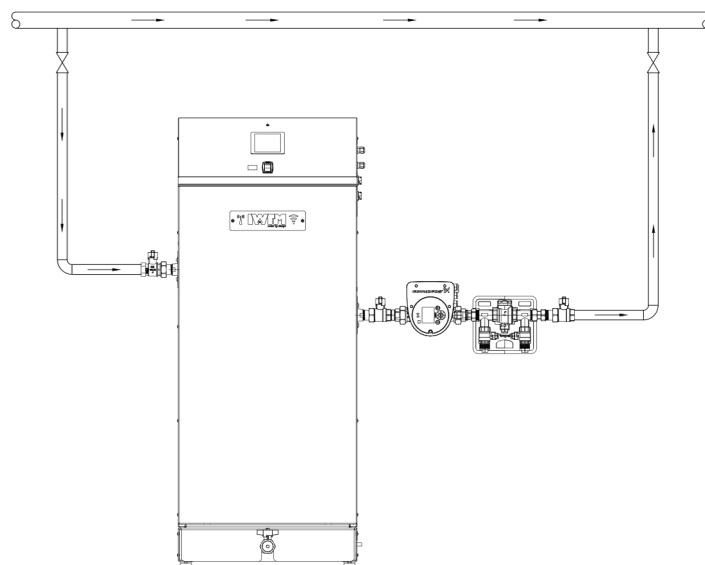
INSTALLATION

IWTM Protector® P12-P80 digital are designed to be mounted in a side stream application.

2 no MXF BSP street elbows are provided with the kit if you need to change the direction of the inlet and outlet connections.

07

SIDE STREAM INSTALLATION USING OWN PUMP



PUMP SELECTION CHART - P12D-P80D

Unit	Size	Flow Rate	m ³ /hr	Pump
P12D	1"	12 l/min	0.72m ³ /hr	Magna 3 25-40
P27D	1"	27 l/min	1.62m ³ /hr	Magna 3 25-40
P45D	1"	45 l/min	2.7m ³ /hr	Magna 3 25-40
P80D	1.25"	80 l/min	4.8m ³ /hr	Magna 3 25-80

INSTALLATION

P12D-P45D

Ensure that 300mm clearance is at the rear.

Ensure that 600mm clearance is left above the highest point of the IWTM Protector®.

Ensure that 600mm clearance is left in front.

Space required to left and the right will be determined by the orientation of the valve kits.

INSTALLING CONNECTIONS P12 TO P45

2 pc 1" Female Connections (inlet / outlet)

2 pc 1" Ball Valves (inlet valve with test point)

1 pc 4 Port By-pass Valve

1 pc 1" Drain Valve

2 x 1" MXF Elbows

Grundfos Pump Magna 3 25-40

INSTALLING CONNECTIONS P80

2 pc 1.25" Female Connections (inlet / outlet)

2 pc 1.25" Ball Valves (inlet valve with test point)

1 pc 1.25" 4 Port Flushing By-pass Valve

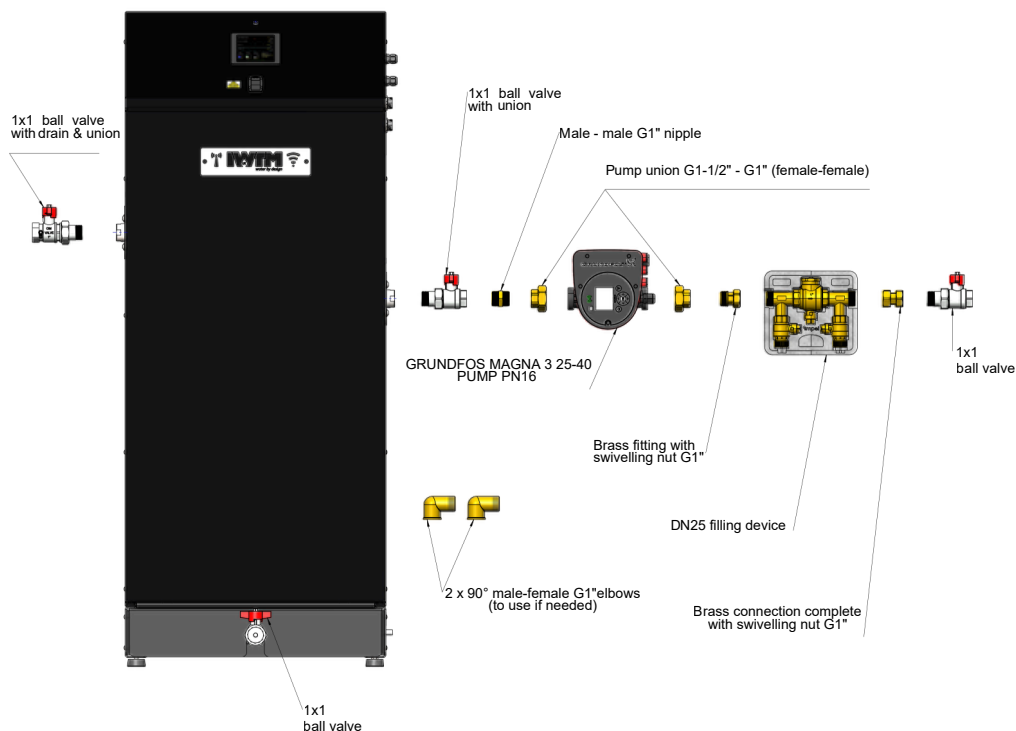
1 pc 1.25" Drain Valve

2 x 1.25" MXF Elbows

Grundfos Pump Magna 3 25-80

NOTE:

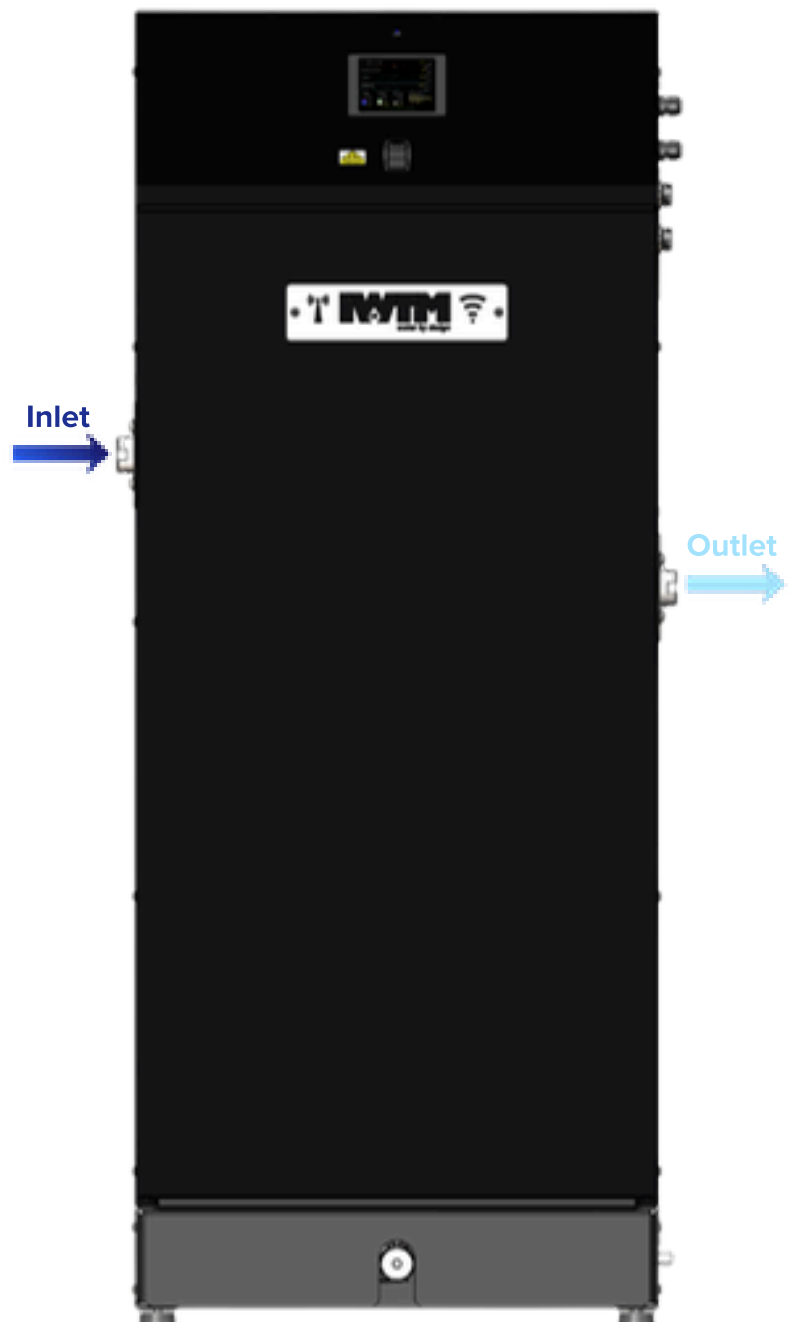
50mm clearance needs to be on top of the 4 Port Flushing By-pass Valve for servicing



INSTALLATION

CONNECTIONS

Inlet on the left and outlet on the right.



DATA & MEASUREMENTS

IWTM PROTECTOR® P12D-P80D DATA

Model	LTHW Volume	CWS Volume	Flow rate	Tank Volume	Dry Weight	Wet Weight	Shipping Weight
P12D	12m ³	7.8m ³	12 l/min	17.5 L	60 kg	78 kg	75 kg
P27D	27m ³	17.55m ³	27 l/min	29.5 L	80 kg	110 kg	95 kg
P45D	45m ³	29.25m ³	45 l/min	66.5 L	110 kg	177 kg	125 kg
P80D	80m ³	52m ³	80 l/min	180 L	210 kg	390 kg	235 kg

Design Pressure - PN16

Max Temperature - 80°C

Design Code - PED 2014/68/EU

Connection P12D-P45D - 1" female thread / BSPP

Connection P80D - 1.25" Female thread / BSPP

MATERIALS

Filter House: Stainless steel AISI 304

Filter Element: Stainless steel AISI 316L

O ring EPDM: EPDM

Insulation/Cladding: PE Foam / Carbon Steel

Anodes: Magnesium

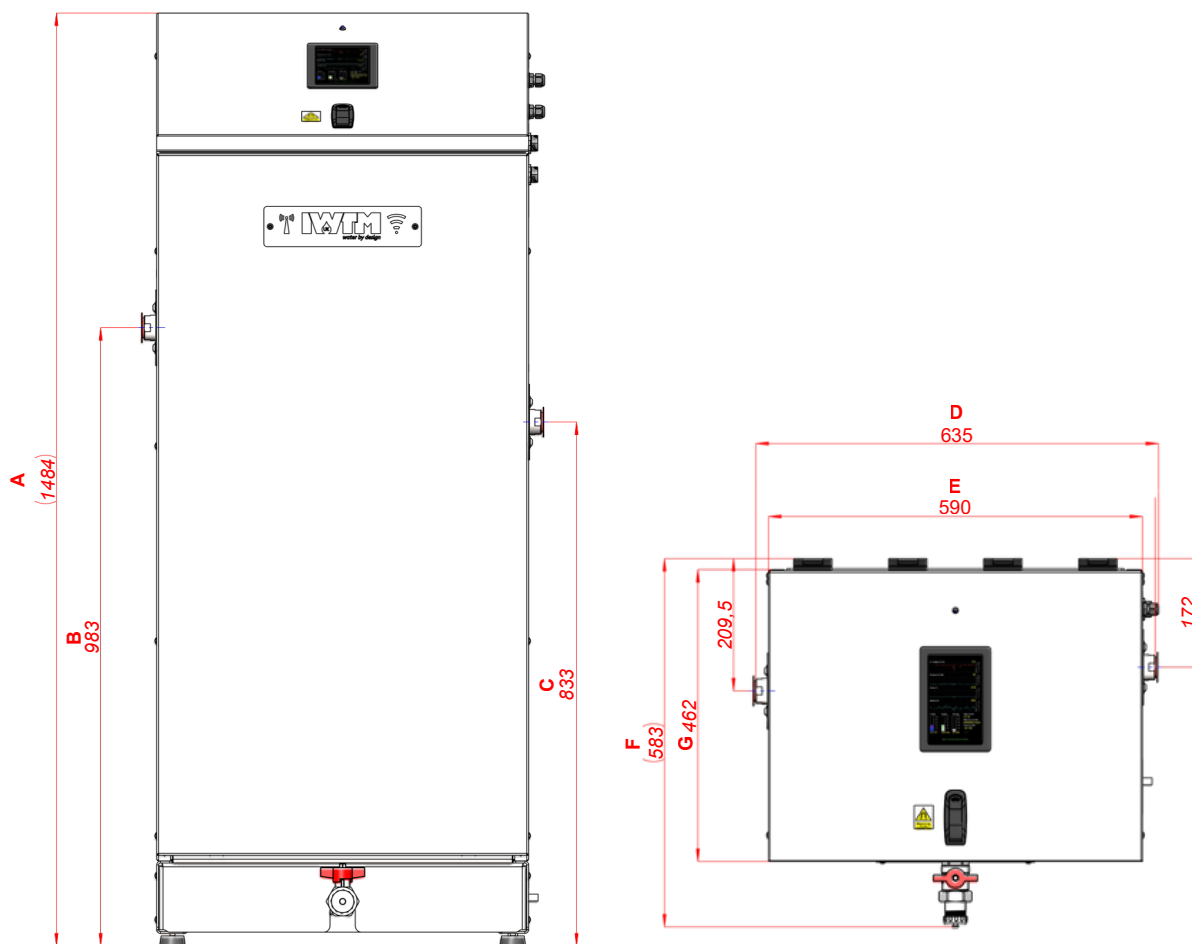
Magnet: Neodymium

Surface Finishing: Powder Coated



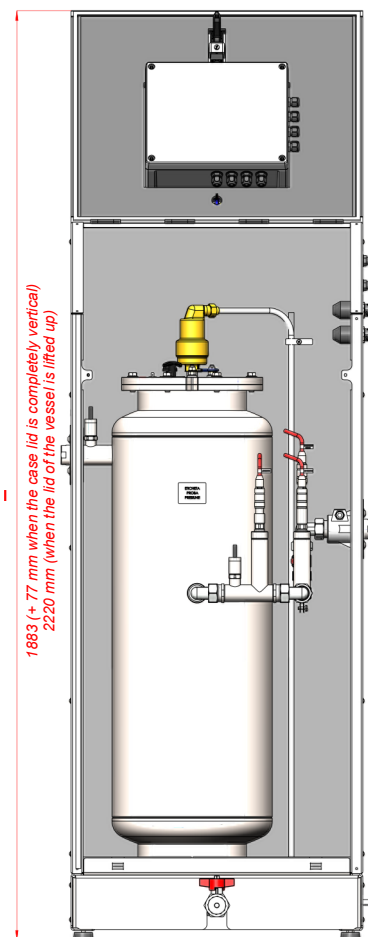
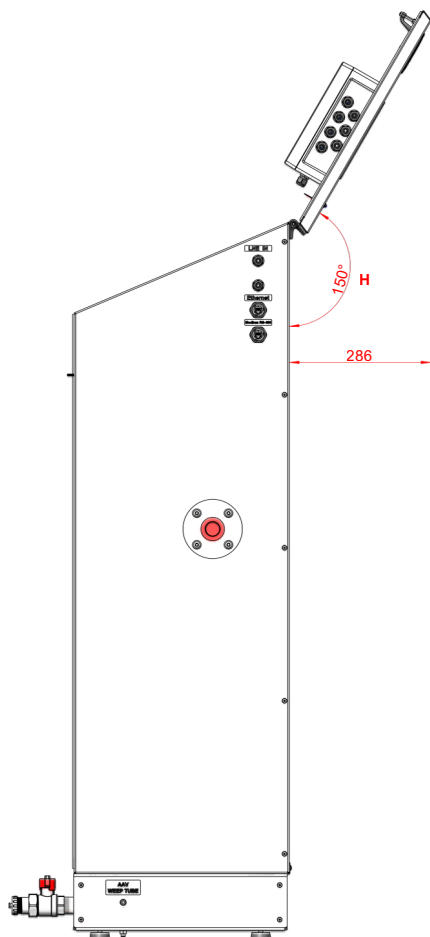
DATA & MEASUREMENTS

	A	B	C	D	E	F	G	H	I
	Overall height (mm)	Inlet connection height (mm)	Outlet connection height (mm)	Overall width inc connections (mm)	Width (mm)	Total depth inc drain (mm)	Base depth (mm)	Rear Clearance (mm)	Overall Height (mm)
P12D	1099	655	555	535	490	545	422	260	1465
P27D									
P45D	1484	983	833	636	590	583	462	286	1883
P80D									



DATA & MEASUREMENTS

	A	B	C	D	E	F	G	H	I
	Overall height (mm)	Inlet connection height (mm)	Outlet connection height (mm)	Overall width inc connections (mm)	Width (mm)	Total depth inc drain (mm)	Base depth (mm)	Rear Clearance (mm)	Overall Height (mm)
P12D	1099	655	555	535	490	545	422	260	1465
P27D									
P45D	1484	983	833	636	590	583	462	286	1883
P80D									



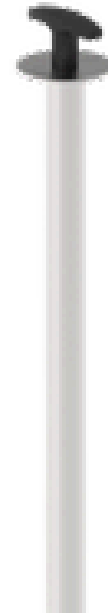
MAINTENANCE

DRAINING

The IWTM Protector® P12D to P80D units may need to be drained frequently; how often is dependent on the water quality.

The higher the starting conductivity level, the more sludge there'll be, resulting in a need for more frequent draining.

This is to flush out the sludge and particles that have been collected in the bottom of the tank, from the magnet trap and the ss micron filter.



The magnet in the IWTM Protectors® P12D-P80D comes as a 1 piece magnet. The magnet is inserted on top of the tank, on the flange lid.

- Close the outlet of the IWTM Protector®.
- Pull out the magnet on top of tank.
- Leave to settle for 5 minutes.
- Open the drain valve in the bottom of tank and flush until the water is running clear of debris.
- When complete, close the drain valve and put the magnet back in the sleeve and then open the outlet valve.

MAINTENANCE

MAGNESIUM ANODES

The anodes are in a basket of stainless steel wire mesh called the ss micron filter and do not normally need any cleaning, if however, they are coated in slime from chemical residue or any other debris this can be removed with a suitable scraper to get back to the bare anode surface. Check the anodes for proper functioning (mA instrument).



TOOLS:

- Isolating bolt wet side 17 mm spanner
- Isolating bolt dry side 13 mm spanner
- Flange cover nuts are M8 and require a 13 mm socket

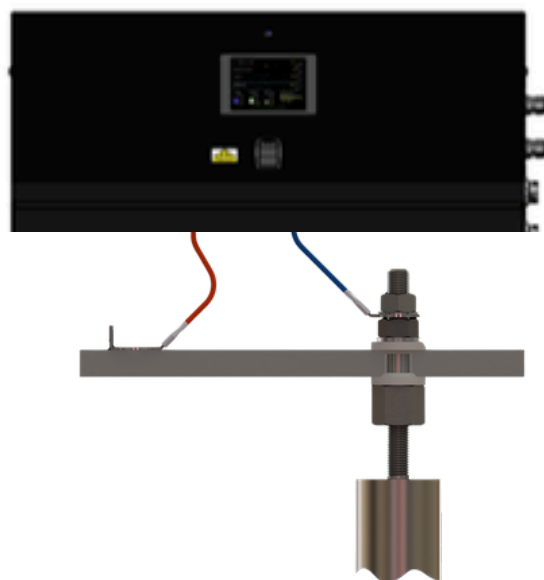
SERVICE

Service on the IWTM Protector® P12D-P80D unit should be done once a year. However, this is also depending upon the quality of the system water.

If there has been an existing problem with sludge, sediments etc. before the IWTM Protector® P12D- P80D installation, we recommend a first service after 3 months of operation. It's also important to take a water sample out of the system, for analysis in a laboratory.

The isolation screw going through the flange has two nylon washers one on each side of the flange. Once opened, they cannot be reused. These washers are not part of the replacement kit.

So please do not undo the isolation screw. Make sure not to rotate the bolt while changing the anode. Use a 17mm spanner to hold the isolation bolt securely whilst removing/fitting the anode bolt with a 10mm spanner. This will ensure the isolation screw does not turn. Once the anode has been replaced, use a test meter to check there is no continuity between the anode & the flange. The two isolation washers have two functions 1. To create a watertight seal 2. To electrically isolate the anode from the tank.



MAINTENANCE

PARTICLE FILTER

Inside the IWTM Protector® P12D- P80D unit is installed a ss micron filter, to catch and remove all sediments and particles.

- Lift the ss micron filter out
- Clean the ss micron filter with a water hose or pressure washer
- Make sure all particles are removed from the ss micron filter .
- When done gently replace the ss micron filter.



(AISI 316 with
40µm stainless
steel micron
filter)

MICRON BAG FILTERS

The IWTM Protector® Digital range has a standard 40-micron stainless steel washable filter. It can also use disposable bag filters from 200 µm down to 1 µm. Full list of filters is in the spares list on page 22.



Bag filter

P12 to P45:

- Remove the 40-micron stainless filter.
- Leave the outer bag support basket in place (it supports the bag filter).

P80:

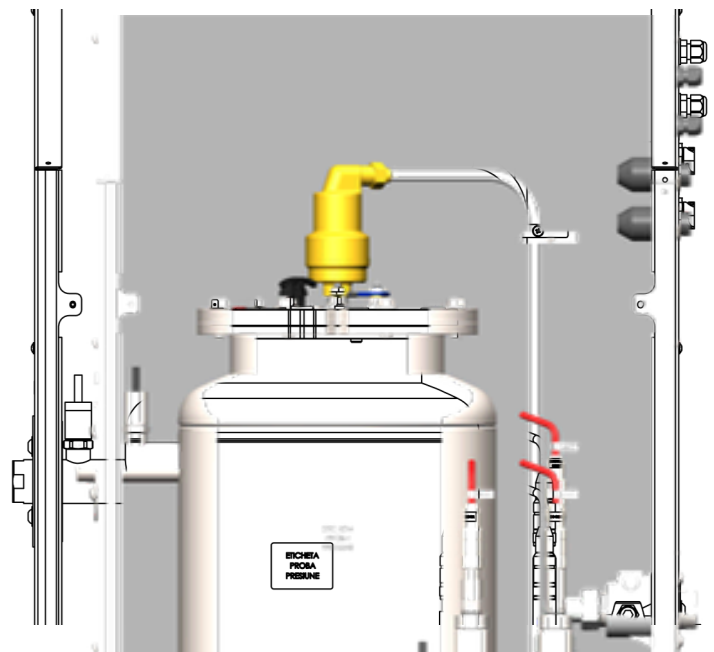
- Keep the 40-micron stainless filter in place.
- The bag support basket sits inside the stainless filter, allowing the bag filter to sit inside without removal.
- This design creates double filtration (water passes through the bag filter and then the stainless filter).

MAINTENANCE

AUTOMATIC AIR VENT VALVE (AAV)

The AAV on the IWTM Protector® P12D to P80D range is designed not to be closed, this is to prevent the build up of air.

- In the event of permanent discharge from the AAV it will be necessary to replace it as follows.
- Isolate the IWTM Protector®
- Disconnect the weep tube line from the AAV.
- Replace the AAV in the IWTM Protector® using suitable industry standard jointing methods.
- Replace the AAV weep tube line.
- Fill and test



There are no serviceable parts within this unit and no strip-down or cleaning procedures are required. If a leak does occur, please send a video as evidence to info@iwtm-uk.com so that a warranty claim can be initiated. The units come with a 20-year guarantee against manufacturing defects. Leakage caused by contaminated water or chemical foaming is not covered under the AAV manufacturer's warranty.

MAINTENANCE

Note: To avoid the potential risk of galling or cold welding which is a phenomenon that can happen when stainless steel threads lock together, in accordance with good engineering practise on the reassembly after any service work an anti seize paste should be applied to the bolt threads. Avoiding the use of power drivers can also reduce the risk of galling as the increased tightening speed creates heat that can accelerate this process.

SERVICE

- Close the inlet and outlet ball valves.
- Empty the tank through the drain valve.
- Unscrew the flange lid.
- Carefully lift up the lid, the anodes are attached to the underside.
- Check the anodes and the magnesium rods.
- Flush the anodes, if the magnesium is below 10mm diameter, replace with new ones.
- Take out the ss micron filter and flush / clean.
- Clean the tank inside using a hose or a pressure gun.
- Check all parts belonging to the IWTM Protector® P12D- P80D and clean them if required. (AAV, flowmeter, PICV etc.)
- When replacing the anode hold the isolation screw going through the flange and unscrew only the small inner screw at the end of the steel core of the anode.

- After mounting a new anode, make sure that all screws are tight and that the electrical wiring is properly reinstalled. If there's no indication on the display, the IWTM Protector® P12D- P80D is not working, so please check the wiring is correct.

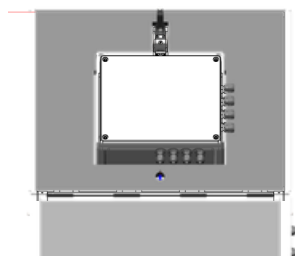
TORQUE settings:

Anode isolation bolts 25 Nm

Flange bolts 25Nm

When done, put everything back in place and fill up the IWTM Protector® P12D- P80D on the inlet. When the air vent stops letting out air, the tank is refilled and you can open the outlet and start the circulation again. Check that the flowmeter is running.

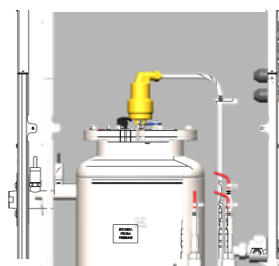
1



3



2



Note: The S/S micron filter is a consumable item its life expectancy depends on how much work it has to do when the IWTM Protector® is being used to clean up old systems.

SPECIFICATION FOR DIGITAL CONTROLLER

Values measured

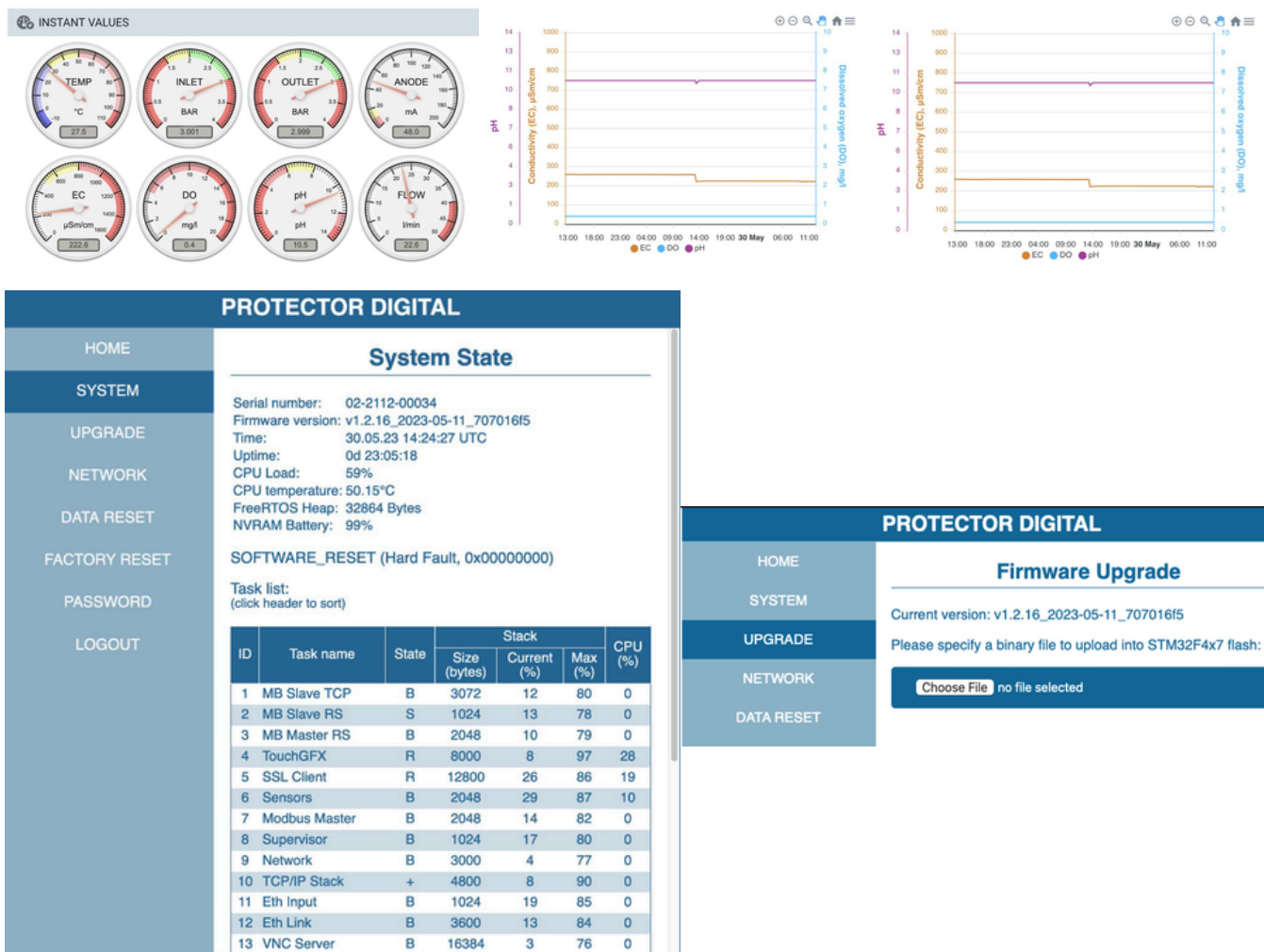
	Value	Range
1	Water flow	3..100 l/min
2	Flow counter	0..9999 m3
3	Water temperature	0..110 °C
4	Electro conductivity (EC)	0..2000
5	Anode current	µS/cm 0..200
6	Pressure	mA 0..10 bar
7	Pressure difference	0..100kPa
8	PH, optional	0..14
9	Dissolved oxygen (DO), optional	0..20 mg/l

Communication Ports and Protocols

Port	Protocol	Usage
RS485 1	MODBUS RTU/Master	MODBUS/RTU sensors (pH, DO, ORP)
RS485 2	MODBUS/RTU Slave	Connect to a building control system
4..20mA input	-	Pressure sensors
4..20mA out	-	Connect to a building control system
Ethernet RJ-45	MODBUS/TCP BACNet/IP HTTPS (out) HTTP (in) on local port 80 MQTTs to port 8883	Connect to a building control system Connect to a building control system Send data to IWT CRM. Local web-sever. View data on the Protector built-in web page. IoT protocol for sending realtime data.

DETAILS

- 1.Modbus-RTU master (over RS485). Used to communicate with RS485 sensors and Digital Filling Unit.
- 2.BACNet/IP. Used to connect Protector to a Building Control System (BCS).
- 3.Modbus-RTU slave (over RS485). Connect Protector to different gateways or building control systems using RS485 interface. Instant values from all sensors are provided by Modbus-RTU.
- 4.Modbus-TCP. The most convenient way to connect Protector to a building control system. Many systems support Modbus-TCP, and Protector allows getting instant values from all the sensors by this protocol.
- 5.Sending data to IWT CRM by https. By default if Protector is connected to the Internet, it sends all data to IWT CRM (<https://crm.iwtm.com>), where customers can view and analyze it.
- 6.Built-in web-server. Using the IP address on screen, you can connect to Protector using any Internet browser. You will see a web-page showing all instant and historic data in charts, same as in the CRM. Protector firmware can be upgraded from this page.



Setting an IP Address

See Network settings on page 32.

BACNET/IP

Hardware connection: RJ-45 Cat 5E 100Mb

Default object id: 102. Can be changed by BACNet.

Name	Units	Range
Anode current	mA	0..200
Flow counter	m3	0..9999999
Flow	l/min	0..50
Conductivity	µS/cm	0..2000
Temperature	°C	0..110
Inlet pressure	kPa	0..1000
pH	-	0..14
Dissolved oxygen	mg/l	0..20
Pressure difference	kPa	0..100

MODBUS

RTU

Hardware connection: terminals 21-23:

21	22	23
MB SL		
SG	B	A
21	22	23

Setting slave address and speed:

(See fig. 1)

1.

Go to Tools→Settings→Connections

2.

Set speed and address

3.

Tap “Save”.

Parity and stop bits are always 8N1 (8 bits, no parity, 1 stop bit).

TCP

Hardware connection: RJ-45 Cat 5E 100Mb

Address: 1

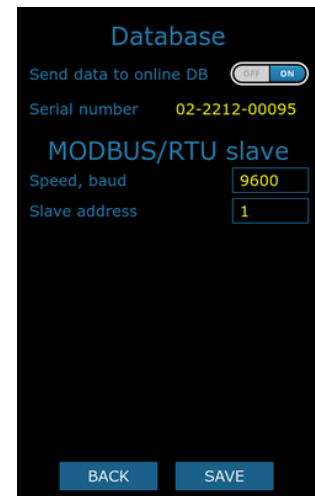
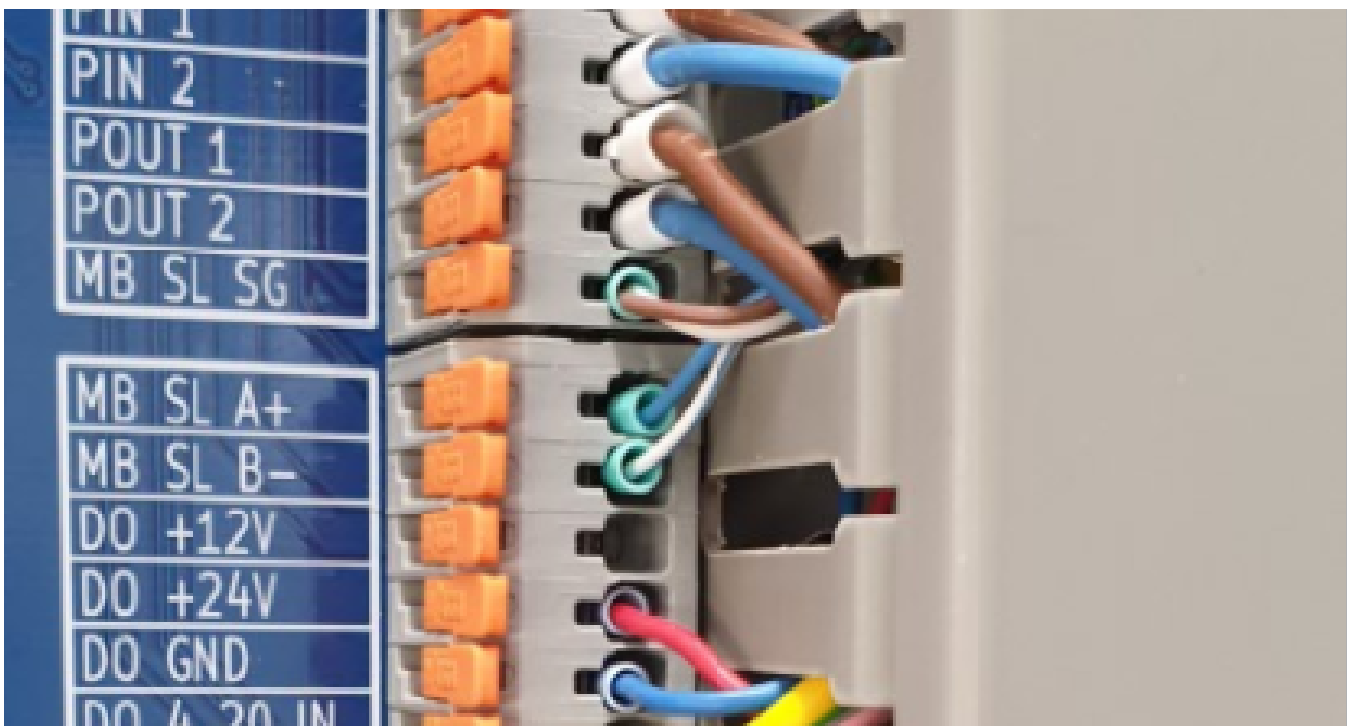


Figure1: MODBUS settings

BMS RJ45 CONNECTION

For connection to the Building Management System (BMS), use the following RJ45 pin configuration:

Connection	Wire colour	RJ45 pin
A	Blue	4
B	White/Blue	5
Ground	White/Brown	7
Ground	Brown	8



MODBUS

reg#	RW	Type	RTU	TCP	Value	Units	Range
0	RW	UINT16	✓	✗	MB Address		
1	RW	UINT16	✓	✗	MB Speed: 0 – 300, 1 – 1200, 2 – 2400, 3 – 4800, 4 – 9600, 5 – 19200, 6 – 38400, 7 – 57600, 8 – 115200		0-8
2	RO	UINT32	✓	✓	Timestamp	seconds	
4	RO	float dcba	✓	✓	Anode current	mA	0..200
6	RO	float dcba	✓	✓	Flow counter	m3	0..9999999
8	RO	float dcba	✓	✓	Flow	l/min	0..50
10	RO	float dcba	✓	✓	Conductivity	µS/cm	0..2000
12	RO	float dcba	✓	✓	Temperature	°C	0..110
14	RO	float dcba	✓	✓	Inlet pressure	kPa	0..1000
16	RO	float dcba	✓	✓	Outlet pressure	kPa	0..1000
18	RO	float dcba	✓	✓	pH	-	0..14
20	RO	float dcba	✓	✓	Dissolved oxygen	mg/l	0..20
22	RO	float dcba	✓	✓	-	-	-
28	RO	float dcba	✓	✓	Pressure difference (calibrated)	%	0..100
30	RO	float dcba	✓	✓	-	-	-

MODBUS

reg#	RW	Type	RTU	TCP	Value	Units	Range																								
40	RO	UINT16			Sensors connected, bit structure:																										
					<table><tr><th>Bit</th><th>Value</th></tr><tr><td>0</td><td>Flow</td></tr><tr><td>1</td><td>Temperature</td></tr><tr><td>2</td><td>Conductivity</td></tr><tr><td>3</td><td>Inlet Pressure</td></tr><tr><td>4</td><td>Outlet Pressure</td></tr><tr><td>5</td><td>Dissolved Oxygen</td></tr><tr><td>6</td><td>Anode</td></tr><tr><td>7</td><td>pH</td></tr><tr><td>8</td><td>ORP</td></tr><tr><td>7</td><td>DFU conductivity</td></tr><tr><td>8</td><td>DFU flow</td></tr></table>			Bit	Value	0	Flow	1	Temperature	2	Conductivity	3	Inlet Pressure	4	Outlet Pressure	5	Dissolved Oxygen	6	Anode	7	pH	8	ORP	7	DFU conductivity	8	DFU flow
					Bit			Value																							
					0			Flow																							
					1			Temperature																							
					2			Conductivity																							
					3			Inlet Pressure																							
					4			Outlet Pressure																							
					5			Dissolved Oxygen																							
					6			Anode																							
					7			pH																							
					8			ORP																							
					7			DFU conductivity																							
8	DFU flow																														

41	RW	UINT16					
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MODBUS

16-bit Holding Registers For BAS2 With Integer Value Only

reg#	RW	Type	RTU	TCP	Value	Units	Range
100	RO	UINT16	✓	✓	UNIX Timestamp LO	seconds	0..65535
101	RO	UINT16	✓	✓	UNIX Timestamp HI	seconds	0..65535
102	RO	UINT16	✓	✓	Anode current	mA	0..200
103	RO	UINT16	✓	✓	Flow counter	m3	0..65535
104	RO	UINT16	✓	✓	Flow counter	l	0..999
105	RO	UINT16	✓	✓	Flow	l/min	0..50
106	RO	UINT16	✓	✓	Conductivity	µS/cm	0..2000
107	RO	UINT16	✓	✓	Temperature	°C	0..110
108	RO	UINT16	✓	✓	Inlet pressure	kPa	0..1000
109	RO	UINT16	✓	✓	Outlet pressure(raw, not calibrated)	kPa	0..1000
110	RO	UINT16	✓	✓	pH	-	0..14
111	RO	UINT16	✓	✓	Dissolved oxygen	µg/l	0..20000
112	RO	UINT16	✓	✓			
113	RO	UINT16	✓	✓	Pressure difference (calibrated)	kPa	0..100
114	RO	UINT16	✓	✓			

MODBUS

SUPPORTED SENSORS

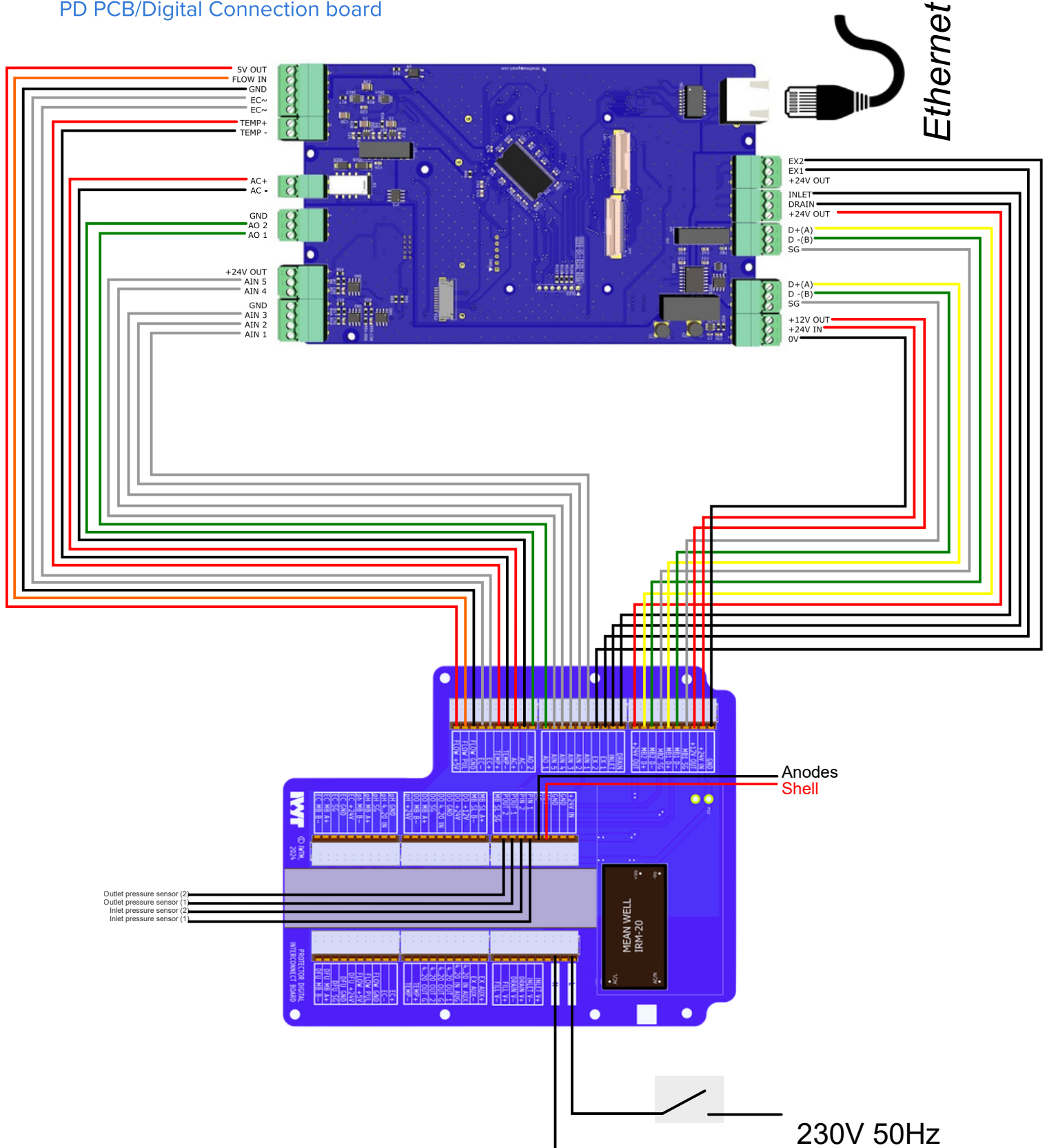
#	Value	Manufacturer	Output	Model	Comment
1	EC/T/Flow	EC & T is Hamilton	Raw	FS-8800	7 wires connected directly to terminals
2	Pressure	Any	4..20mA	Any	Range 0..1000kPa
3	pH	Hamilton	RS485	Polilyte Plus Arc 120	
4	DO	Hamilton	RS485	VisiFerm RS485 Arc	
5	Flow	Any	Pulse	Any	Supports hall-effect (3-wire with 5V power) and mechanical (2-wire) turbine flow meters.
6	Anode current	n/a	current	n/a	Direct connection to terminals. Max current is 200mA.

IMPORTANT NOTES:

1. Never connect sensors with the device powered on.
2. MODBUS/RTU (RS485) sensors are detected within 15–20 seconds. If not detected, please turn Protector off, check connections and turn on.
3. For closed-loop heating or cooling systems operating above 12 bar (up to 16 bar), standard physical Dissolved Oxygen (DO) sensors cannot be fitted due to pressure constraints. On these high-pressure installations, the integrated galvanometer provides a real-time indication of dissolved oxygen activity and system corrosion rate.

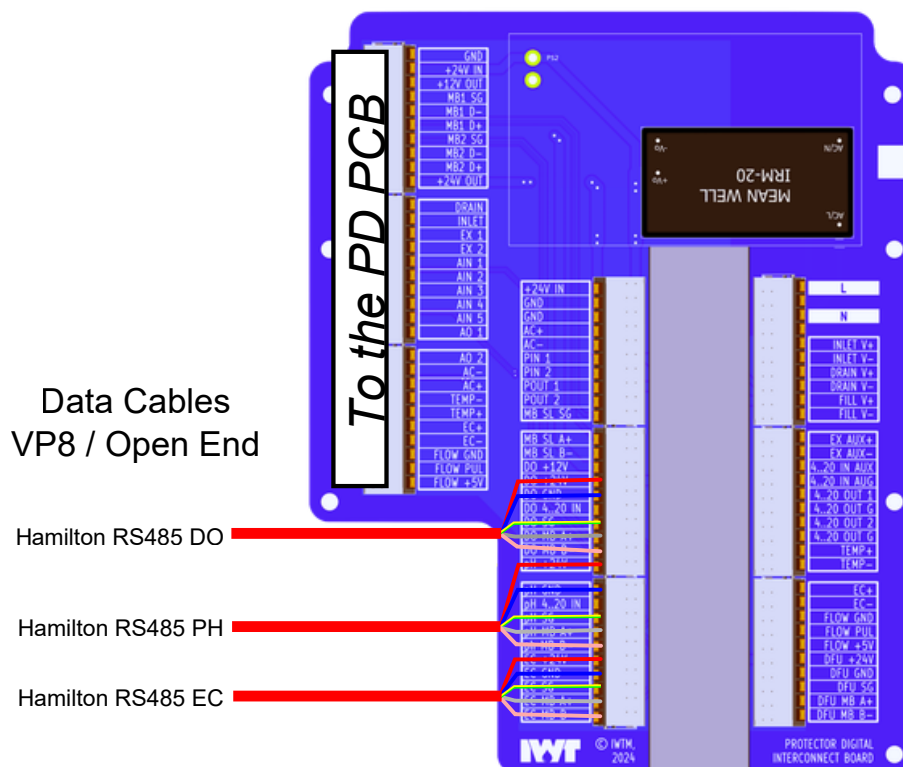
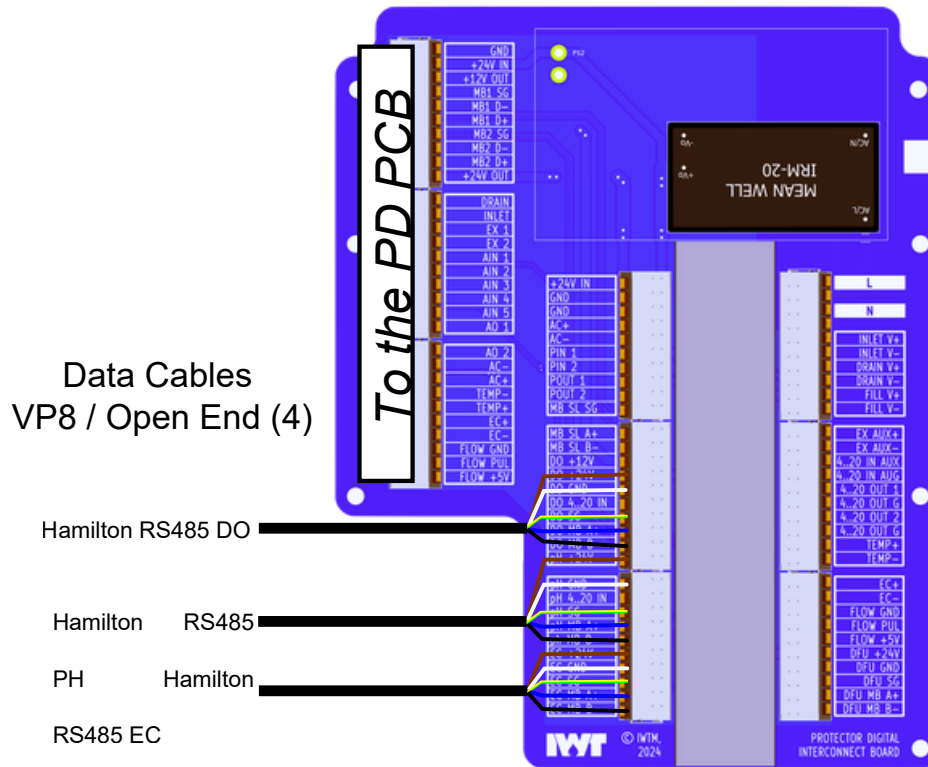
CONNECTED DIAGRAMS

PD PCB/Digital Connection board



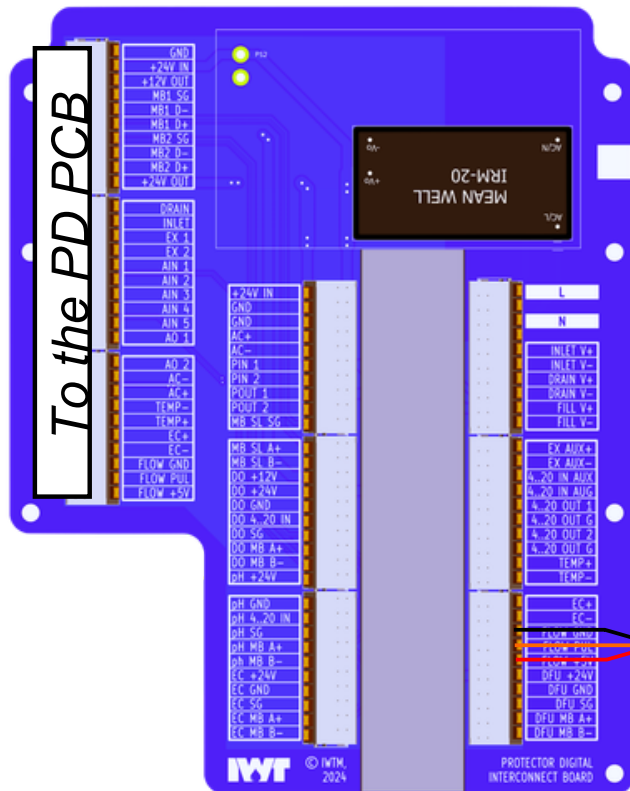
CONNECTED DIAGRAMS

Modbus Sensors Connection

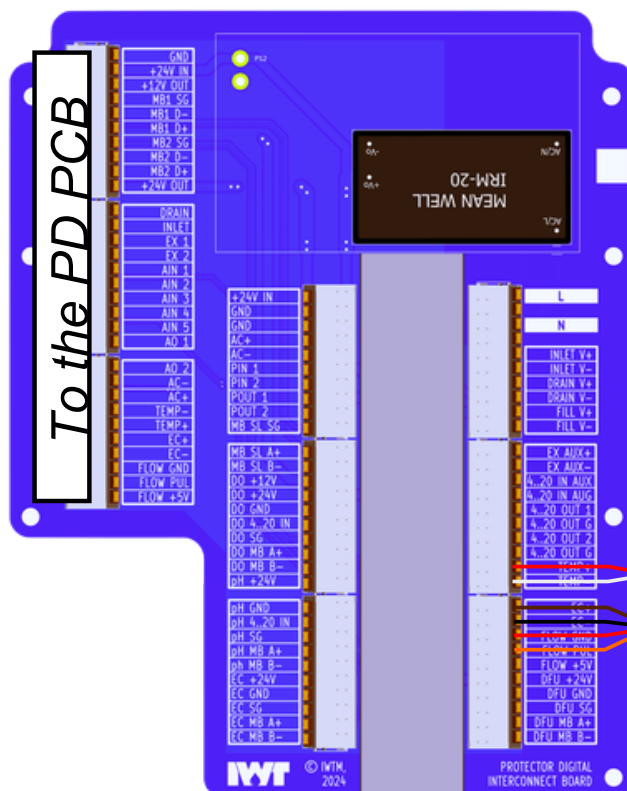


CONNECTED DIAGRAMS

Flowmeters Connection



Stainless steel
turbine
flowmeters



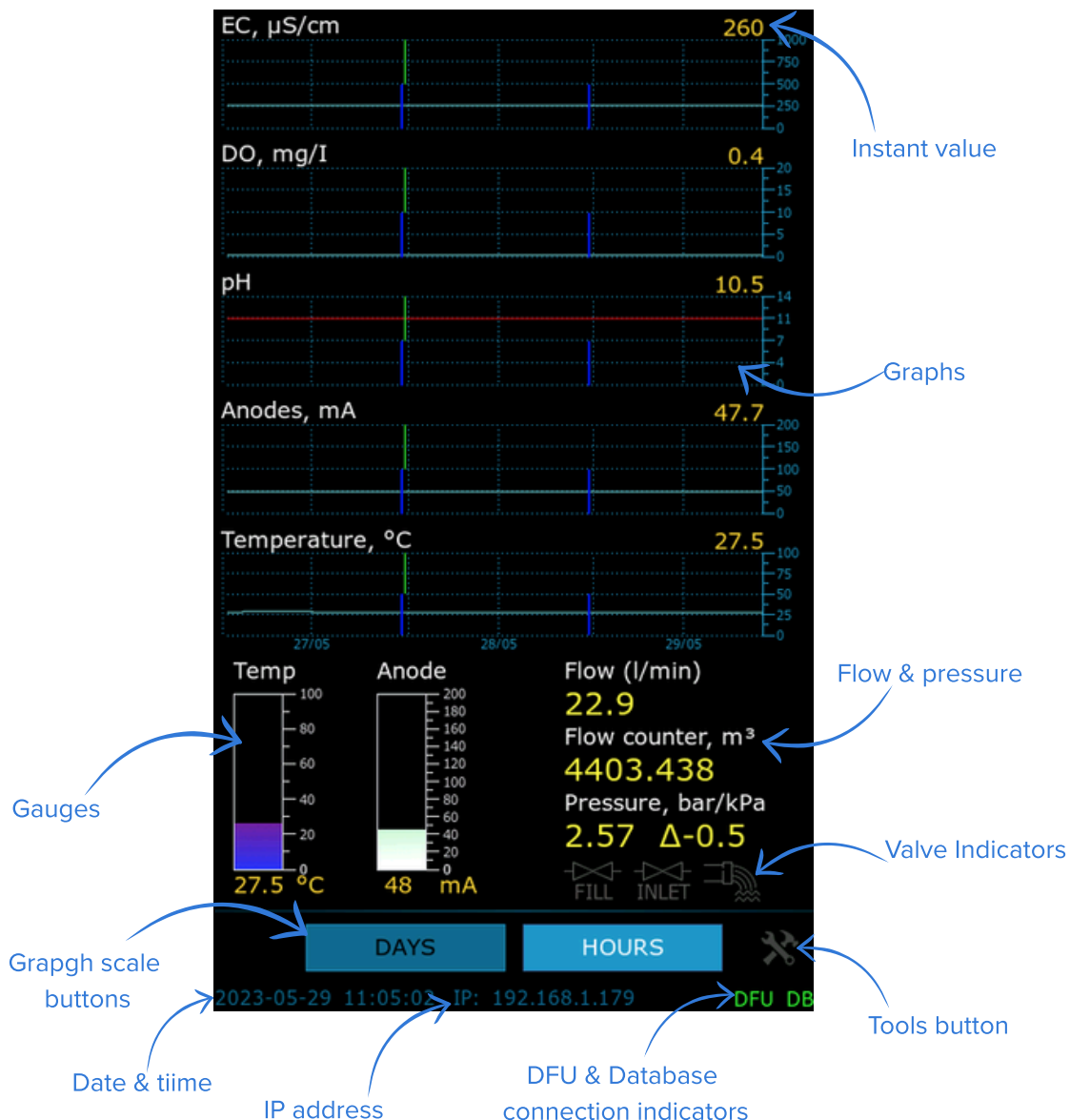
FS-8800
EC + Flow

ON-SCREEN DATA AND CONTROLS

Setup Wizard

On a first start Protector will run a Setup Wizard which guides through all settings required.

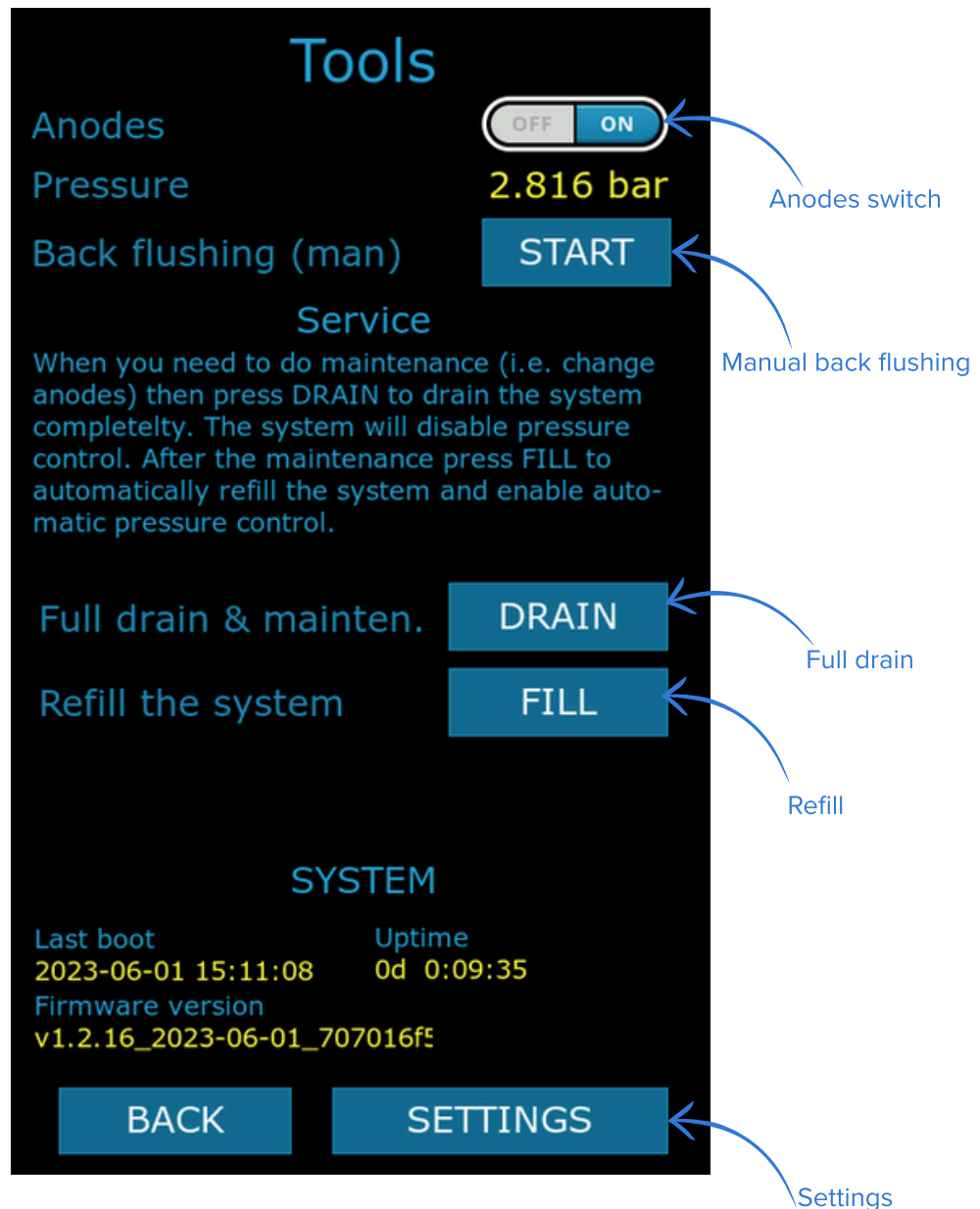
Main screen



1. Charts. Tap and drag to scroll the graphs.
2. Scale buttons. "HOURS" shows 1 point per 10 minutes. "DAYS"—1 point per day.
3. Tools button. Opens tools menu.

TOOLS MENU

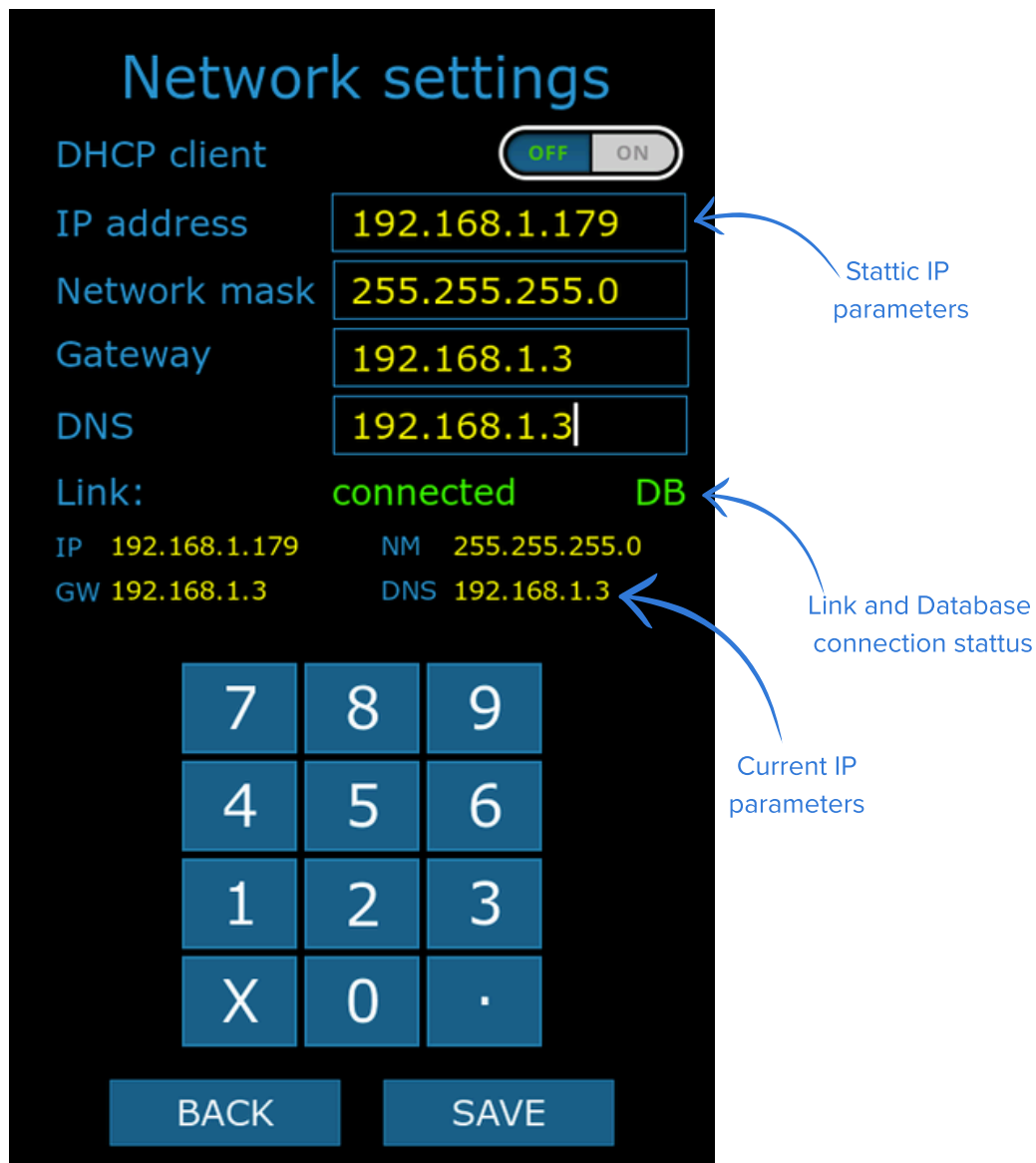
Tap “tools” button.



1. Anodes switch. Manually switch off the anodes.
2. Manual back flushing. Tap and hold to drain the system manually.
3. Full drain. Tap this button to empty the tank and put the system into maintenance mode before doing service to the Protector.
4. Refill. Tap this to refill the system after maintenance and return to normal mode.
5. Settings. Open settings menu. Default set during setup or first start-up, recommended -

NETWORK SETTINGS

Tools→Settings→PIN-code→NETWORK.

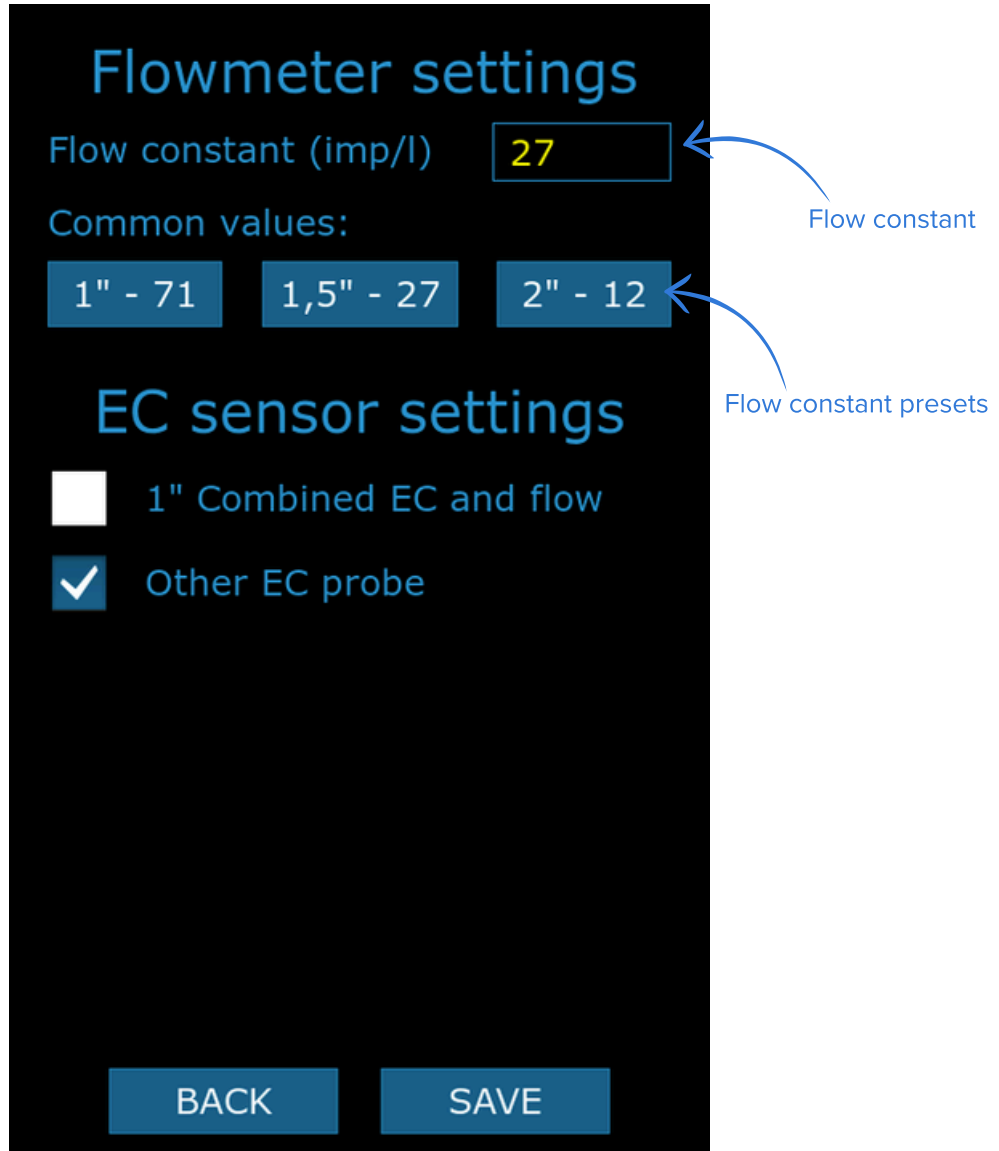


The screenshot shows the 'Network settings' screen. At the top, there's a title 'Network settings'. Below it, a 'DHCP client' toggle is set to 'OFF'. The 'IP address' field is set to '192.168.1.179', 'Network mask' to '255.255.255.0', 'Gateway' to '192.168.1.3', and 'DNS' to '192.168.1.3'. Below these fields, the 'Link' status is 'connected' and the 'DB' status is 'DB'. A summary section shows 'IP 192.168.1.179', 'NM 255.255.255.0', 'GW 192.168.1.3', and 'DNS 192.168.1.3'. At the bottom, there's a numeric keypad with digits 1-9, 0, a decimal point, and an 'X' button. Below the keypad are 'BACK' and 'SAVE' buttons. Annotations with arrows point to specific fields: 'Static IP parameters' points to the IP address field, 'Link and Database connection status' points to the 'Link' and 'DB' status indicators, and 'Current IP parameters' points to the summary section.

1. Anodes switch. Manually switch off the anodes.
2. Manual back flushing. Tap and hold to drain the system manually.
3. Full drain. Tap this button to empty the tank and put the system into maintenance mode before doing service to the Protector.
4. Refill. Tap this to refill the system after maintenance and return to normal mode.
5. Settings. Open settings menu. Default set during setup or first start-up, recommended -

FLOWMETER SETTINGS

Tools→ Settings→ PIN-code→ FLOWMETER & EC.



The screenshot shows a mobile application interface for 'Flowmeter settings'. At the top, the title 'Flowmeter settings' is in large blue font. Below it, 'Flow constant (imp/l)' is followed by a text box containing the number '27'. A blue arrow points from the text 'Flow constant' to this box. Underneath, 'Common values:' is followed by three blue buttons: '1" - 71', '1,5" - 27', and '2" - 12'. A blue arrow points from the text 'Flow constant presets' to the '2" - 12' button. Below this is the 'EC sensor settings' section. It has two options: '1" Combined EC and flow' with an unchecked checkbox, and 'Other EC probe' with a checked checkbox. At the bottom are two blue buttons: 'BACK' and 'SAVE'.

Flowmeter settings

Flow constant (imp/l) 27

Common values:

1" - 71 1,5" - 27 2" - 12

EC sensor settings

☐ 1" Combined EC and flow

☒ Other EC probe

BACK SAVE

Flow constant

Flow constant presets

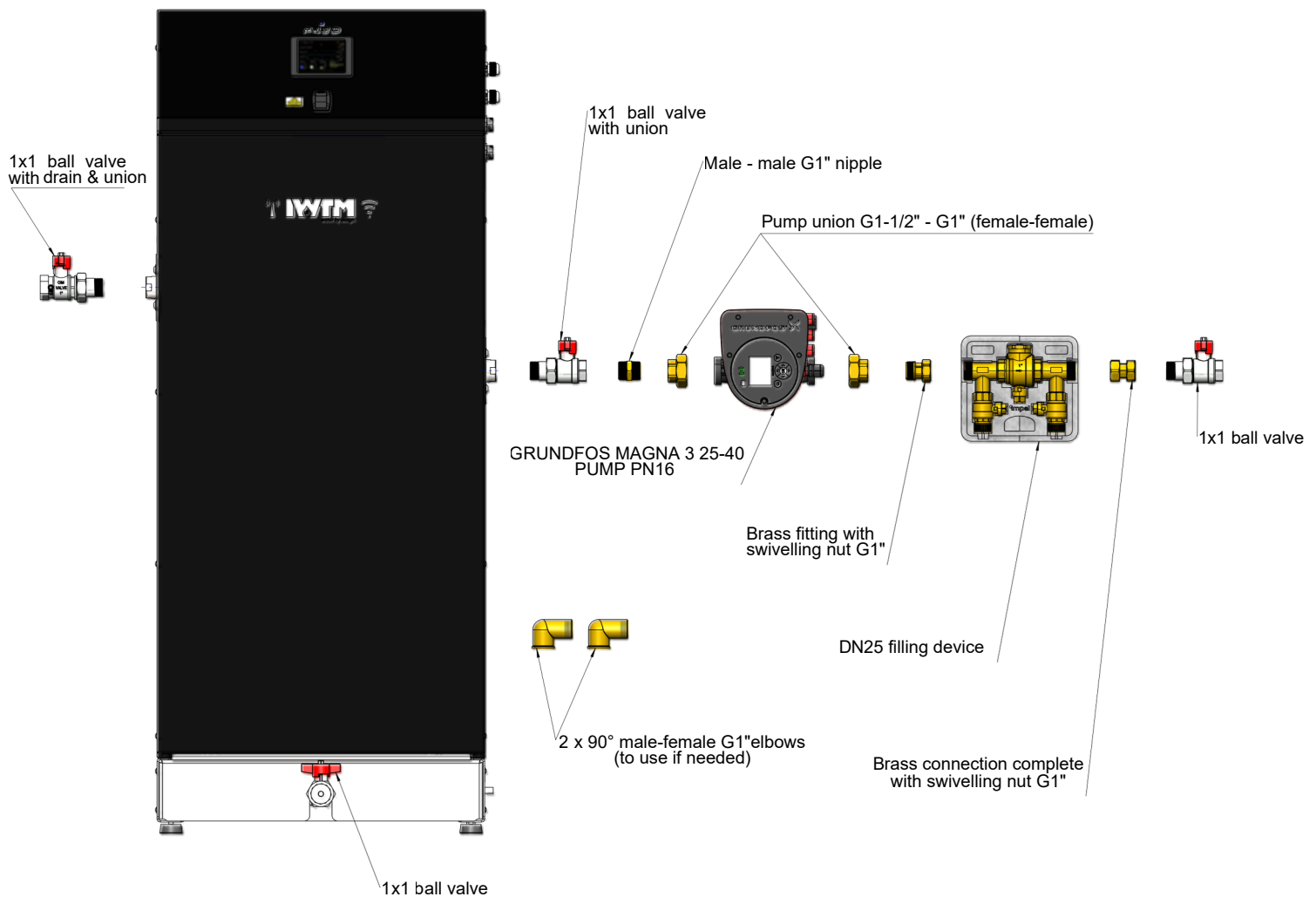
1. Flow constant. Select one of the presets or enter the constant manually. Flow constant is number of pulses per litre.
2. EC sensor settings. Select '1" combined EC and flow' for the FS-8800 combined sensor. If you have any other conductivity sensor, select default for us as we use Hamilton sensor

Part No.	Description
IWTM Protector® - Bag Filters	
210006	P12D 1 bag filter – 100 µm
210005	P12D 1 bag filter – 50 µm
210004	P12D 1 bag filter – 25 µm
210002	P12D 1 bag filter – 5 µm
210001	P12D 1 bag filter – 1 µm
210013	P27D/45D/80D 2 bag filter – 100 µm
210012	P27D/45D/80D 2 bag filter – 50 µm
210011	P27D/45D/80D 2 bag filter – 25 µm
210009	P27D/45D/80D 2 bag filter – 5 µm
210008	P27D/45D/80D 2 bag filter – 1 µm
IWTM Protector® - Stainless Steel Strainers	
210043	P12D stainless 40 micron filter
210045	P27D/P45D stainless 40 micron filter
210047	P80D stainless 40 micron filter
IWTM Protector® - Spare Parts	
170211	Spirotech ASHP
170144	P12D anode isolation bolt kit
170145	P27D/45D/80D anode isolation bolt kit (special–82 mm long)
101571	P12D Anode set
101572	P27D/45D Anode set
101574	P80D Anode set
170148	P12D/27D/45D O-RING
170149	P80D O-ring
170150	Pressure Sensor Kit (P12D–P80D)

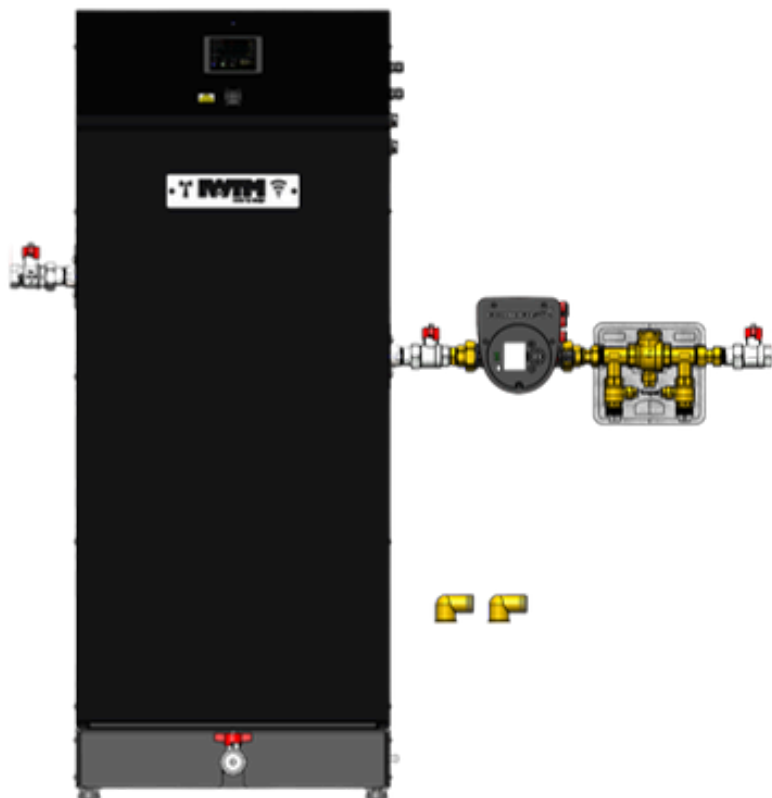


VALVE KIT

The IWTM Protector® is supplied with the following valve kit which is packed inside the main IWTM Protector® P12D- P80D box.



VALVE KIT



DIGITAL VALVE KIT

IMPORTANT:

- The Protectors are rated at 16 Bar (PN16). They are supplied with a different valve kit that is only for use with the HP models.
- The fittings including plugs, valves and PICV are rated PN16 and if lost should never be replaced with other products that are not provided as part of the original valve kit.
- The internal factory fitted Spirotech AAV - SpiroTop AAV 0.5in 150deg 25bar is the only AAV to be used on the Digital Protector range.



- DO NOT USE any valves or AAV not supplied by us or designed for the Protector Digital.
- IWTM-UK will not provide any warranty and will not be responsible for any loss or damages should the above not be adhered to.

WARRANTY CONDITIONS

The stainless steel tank assembly for IWTM IWTM Protector® units, including the IWTM Protector® and ProFill, and the marine units, models T50/T100/T260/T500/T800 and T1000, is guaranteed for a period of 25 years against rusting through. This warranty is subject to the following conditions:

IWTM Protector®/Industrial unit warranties will only be validated if the system is installed, in line with manufacturers recommendations, with an appropriate ProFill demineralising device ensuring that all manual or automatic make up and refill water is demineralised in accordance with VDI2035.

Periodic maintenance must be undertaken at least every 12 months in accordance with our manuals, proven to have been carried out by a specialist service company with clear, documented evidence.

This 25-year warranty only extends to the main tank and not to any supplied accessories, meters, AAV's, anodes, filters, etc. The warranty provides for a replacement unit only and not for labour or any other costs associated with the replacement of the equipment.

PLEASE SEE OUR FULL TERMS AND CONDITIONS ON YOUR
QUOTATION FOR FURTHER DETAILS

SERVICE JOURNAL

Installer:

Project:

Date of installation:

Device No:

Drain Interval:

Service Interval:

[illegible]



Founded in 1992, IWTM have been working with chemical free water treatment using electrochemistry for over 30 years and have offices in Norway, UK, Finland, Sweden, Canada, USA and a worldwide presence in the Marine sector.

We have developed models specifically suited to the higher demands of the marine industry operating at higher pressures and higher temperatures.

The marine products are provided worldwide on the world's largest cruise ships working with the leading operators in this sector.

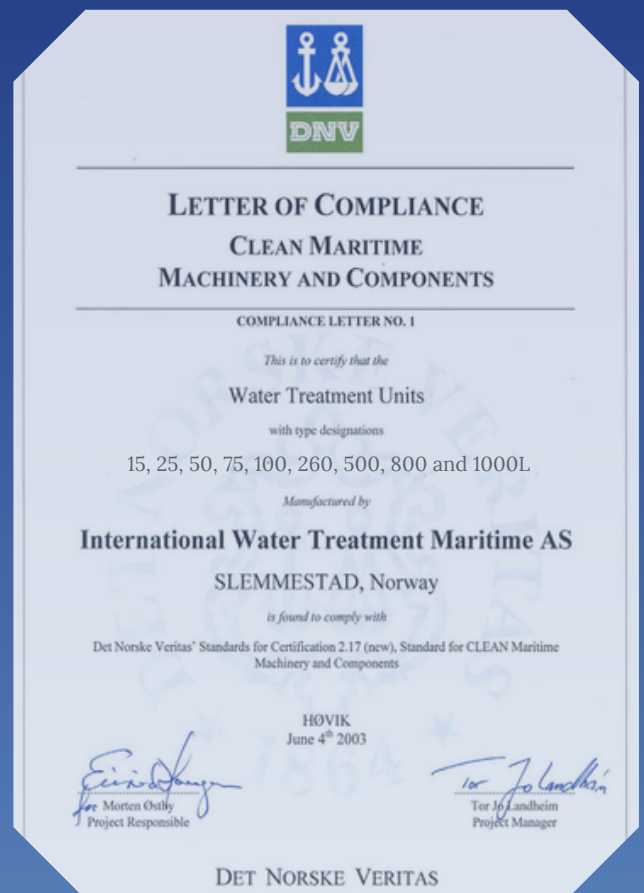
Having secured DNV approval in 2003, we are still the only chemical free water treatment manufacturer to have this certification and approval. DNV is a globally leading quality assurance and risk management company operating in more than 100 countries.

The IWTM IWTM Protector® is our most recently developed product. The IWTM Protector® range is now available to our land-based customers.

October 2026

In line with continued product development we reserve the right to make any changes to this document without any given notice.

PROTECTOR



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