

# PROTECTOR



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# WHAT IS "PROTECTOR"?

The IWTM Protector™ 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. Therefore, the system is maintained in the best possible way, by constantly filtering and engineering the water using electrochemistry and anode technology. The result is that its cleaning and engineering the water at the same time.

## NEXT GENERATION OF ELECTROCHEMISTRY

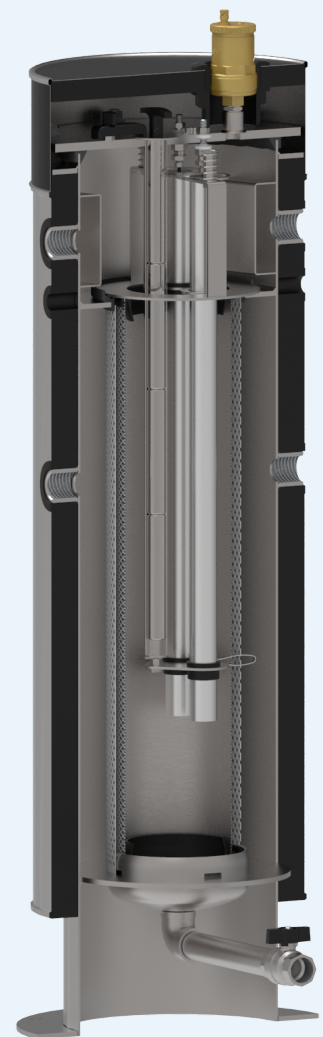
The units provide faster clean-up of old systems and quicker compliance with pre commissioning targets on new systems due to the higher flow rates through the reaction tank (cathode) and the inbuilt strainer basket that enables finer filtration. The unscreened larger anodes last longer and release the magnesium hydroxide quicker for faster pH control. Compliance with VDI 2035 is still obtained as the anodes sit inside the basket to capture the magnesium residue when the anodes expire.

## HOW DOES IT WORK?

The water enters from the inlet connection, then passes around and down, past magnets and anodes. The dry internal magnets will prevent the filter basket from clogging up as the magnet sleeve will retain the magnetic particles (magnetite) in place until the magnet is removed for cleaning and blow down. During this process, oxygen will be consumed by dissolving the anodes, and excess air will rise up and out of the vent valve.

The water will now flow through the filter element / filter bag so that particles will physically be stopped by either of the filters. The result will be clear water with controlled alkaline pH, without oxygen or particles and sludge.

- Protector is an "all in one solution"
- Controls the three key parameters of VDI 2035 ; pH, conductivity & dissolved oxygen.
- Creates a hostile environment for bacteria
- Keeps the water clean in closed circulation systems and removes all particles and impurities



# MAINTENANCE & FEATURES

## MAINTENANCE

When the progressive build-up of suspended solids retained by the stainless-steel screen causes an excessive increase of pressure differential between the inlet and outlet connections, the screen must be cleaned.

To perform the cleaning operations, there are two options either a normal backflush of the filter, or by complete removal and washing of the filter. The filter can be used to remove chemicals and inhibitors but works well with organic glycol.

## FILTERS

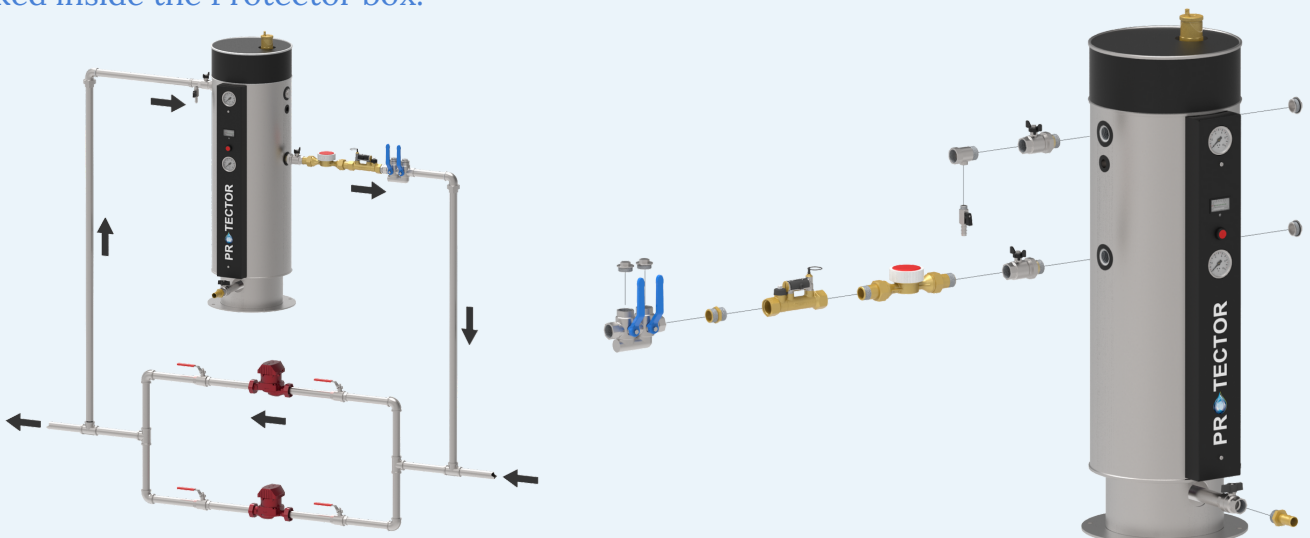
Each filter contains neodymium magnets to retain ferrous particles, magnesium anodes to consume oxygen and increase the pH value, and a stainless-steel filter element (55µm) or bag filter (various micron sizes, down to 1 µm) to filtrate the water and remove any suspended solids. The two filter types are entirely interchangeable.

Protector is completely insulated and cladded to prevent heat loss and condensation: it is installed as a side stream device only.



## VALVE KIT

Each unit from the Protector range is supplied with a bespoke valve kit, which will be packed inside the Protector box.



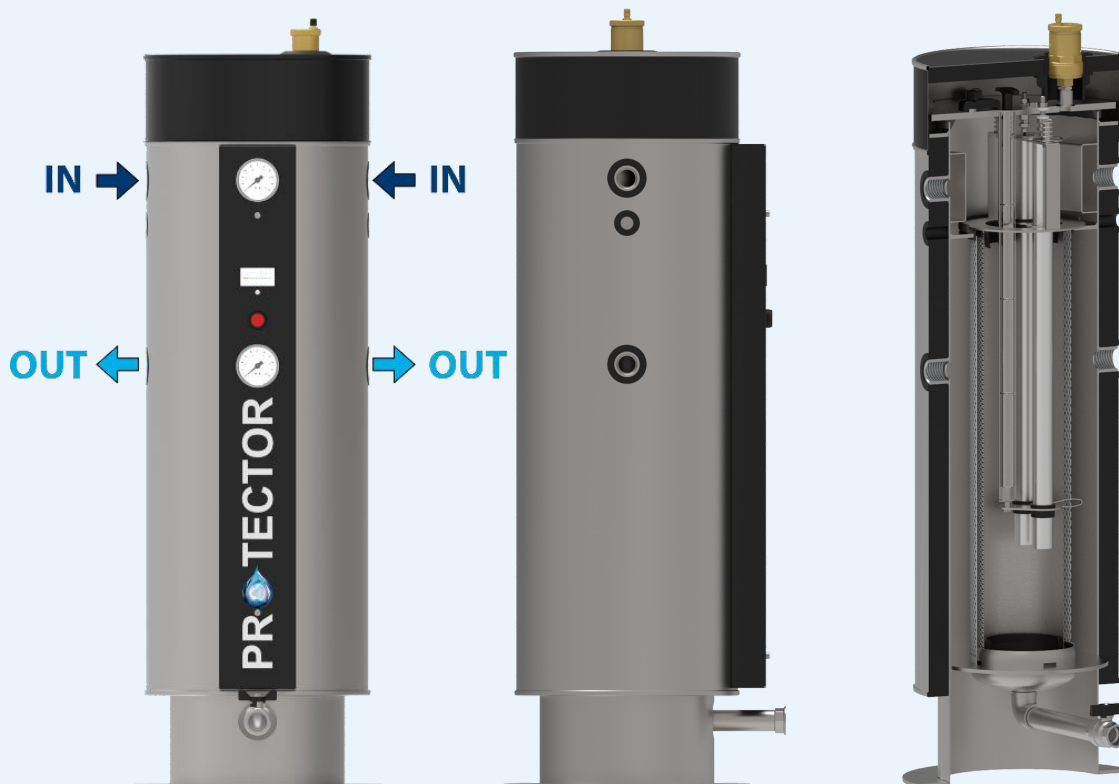
# SIZING & PERFORMANCE

| Model | Max Pressure | Max temp | HEATING                        |                 | COOLING                        |                 |
|-------|--------------|----------|--------------------------------|-----------------|--------------------------------|-----------------|
|       |              |          | Max System Volume up to Litres | System kW Guide | Max System Volume up to Litres | System kW Guide |
| P10   | 10 bar       | 95°C     | 10,000                         | 900             | 7000                           | 466             |
| P25   | 10 bar       | 95°C     | 25,000                         | 2272            | 17,500                         | 1175            |
| P40   | 10 bar       | 95°C     | 40,000                         | 3600            | 30,000                         | 2000            |
| P70   | 10 bar       | 95°C     | 70,000                         | 6364            | 60,000                         | 4000            |



# DIMENSIONS

| Protector Unit | Empty Weight | Full Weight | Height  | Width  |
|----------------|--------------|-------------|---------|--------|
| P10            | 33kg         | 52kg        | 800 mm  | 294 mm |
| P25            | 50kg         | 81kg        | 1200 mm | 340 mm |
| P40            | 59kg         | 116kg       | 1200 mm | 390 mm |
| P70            | 88kg         | 218kg       | 1465 mm | 530 mm |



# Environmental Culture Change



clean | protect | prevent

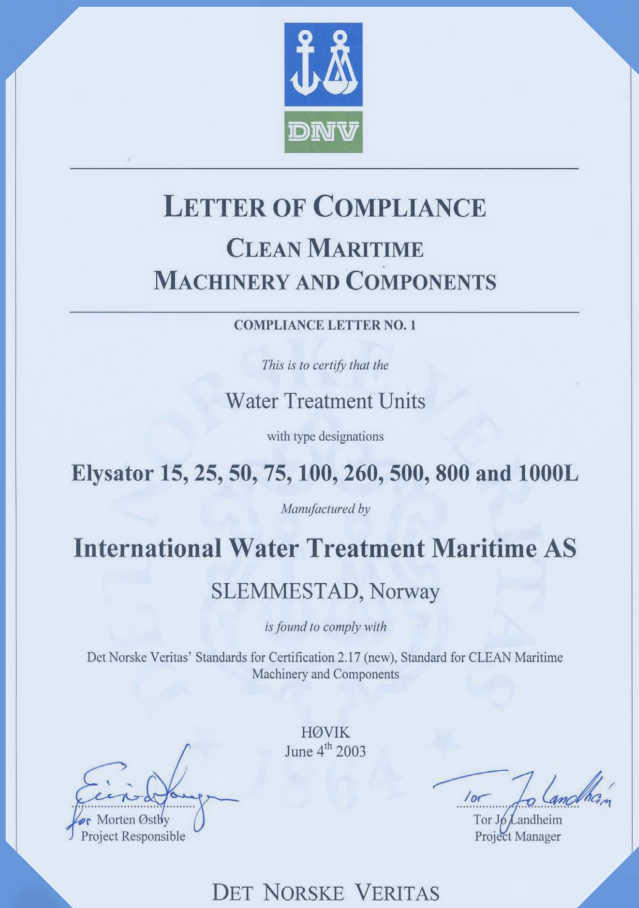
Founded in 1992, IWTM have been working with chemical free water treatment using electrochemistry for over 30 years and have offices in Norway, UK, Finland, Sweden, Canada, USA and a worldwide presence in the Marine sector.

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



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