



FEBRUUS

CONTINUOUS PURIFICATION SENTINEL

FEBRUUS VORTEX
CLOSED SYSTEM

INTRODUCING

Februss Vortex Closed System

4i Water Services is a leading independent UK water treatment specialist. We offer a full range of expert services for the management of closed systems in a wide variety of industries throughout the UK.

4i Water Services has always been able to maintain a culture of innovation. A number of our new products came from the encouragement of staff to build ideas and let the market decide worthiness.

With this in mind 4i Water Services is proud to announce the latest in closed system cleaning solutions.

We have been able to consistently prove, through our innovative range of precision closed system cleaning solutions, that we remain industry specialists and market leaders.

The Februss Vortex Closed System

The system has been developed over a number of years utilising the latest technology and industry standards.

Installations benefits include:

- Smart remote closed system monitoring (BMS compatible) – BG50/2013 Compliant
- Easy installation and maintenance.
- Collects large and small particles of Iron-Oxide and Magnetite.
- No need to shut the system down for cleaning of the filters, no down time.
- Removable Filters (Sizes 5, 10, 20, 50, 100 Microns).
- Quality manufactured in the UK
- Increases energy efficiency.
- Lowers maintenance costs and time servicing major system components.
- Extends the life of the system.
- Ideal to retrofit on heavily contaminated systems or new installation projects on any heating, chilled or district heating system.



KEY STAGES

The following is a brief outline to the key stages of the Vortex System that manages & cleans your closed water circuits.



CONTROL PANEL

Operates an auto shut off and alarm based on pressure differentials within the filter system. Also able to link to BMS system & automatic dosing system for inhibitor level monitoring

INCOMING WATER →

FLOW IN

Incoming contaminated system water. Pumped to increase pressure and flow rate

1



2

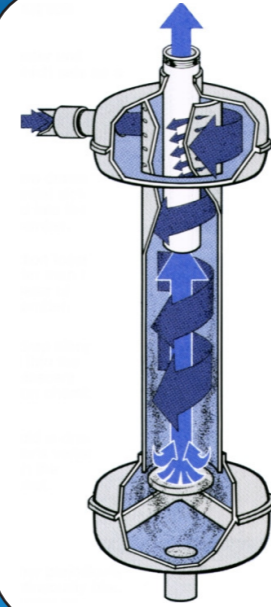


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FLOW RETURN - Controlled clean water returning back to the system →



- 1/ Contaminated water enters the vortex
- 2/ The water is drawn through tangential slots and accelerated into the separation chamber
- 3/ Solids heavier than the liquid are centrifugally thrown to the perimeter
- 4/ Solids gently drop into the calm collection chamber
- 5/ Solids free liquid is drawn into the Vortex and up through the chamber where it is discharged
- 6/ Solids are purged to the removable filter bag within the sealed filter housing.

FILTER HOUSING

Bag filter in place to capture all solids. Pressure sensors installed to indicate when bag filter is full. Balanced water returned to supply.

BENEFITS: of the Februus Vortex Closed System



Smart remote closed system monitoring (BMS compatible) – BG50/2013 Compliant

The Smart monitoring system allows BG50 compliance monitoring and site is able monitor the systems' performance parameters:

- Flow and return temperatures
- System operating pressures
- Fresh water makeup (potential leaks)
- Conductivity
- Corrosion rates and levels
- Dissolved oxygen

Easy installation and maintenance.

The system is easily installed with no specialist equipment required. Designed with ease of maintenance in mind that is able to be completed by onsite staff (or we can offer a comprehensive support package):

Once installed the system:

- Keeps assets up and running for longer than other types of maintenance
- Long-term repair costs are usually significantly lower
- Safety is improved due to reduced likelihood of catastrophic failure

Collects large and small particles of Iron-Oxide and Magnetite.

Over time the internal surfaces of the system suffer from erosion corrosion and cause significant damage to both plant and equipment. The Februus Vortex unit will remove all dirt and debris from the system.

No need to shut the system down for cleaning of the filters or system down time.

The Smart system will shut down leaving the closed system to run as designed while maintenance is carried out.

Removable Filters (Sizes 5, 10, 20, 50, 100 Microns).

The removable sizes allows site to tailor the system clean that standard flushing does not allow for.

Manufactured in the UK from high grade quality.

All the systems are made in our offices based in the UK and installed by our in-house specialist service engineers.

Lowers maintenance costs and time servicing major system components / Increases energy efficiency / Extends the life of the system.

If the system is maintained and kept clean, this in turn:

- Lowers maintenance time and costs.
- Ensures the system runs efficiently thereby reducing energy costs.
- Drastically prolongs associated plant and equipment life.

Ideal to retrofit on heavily contaminated systems or on new installation projects on any heating, chilled or district heating system.

This is the go to plant to either:

- Maintain a BSRIA cleaned closed or district heating system
- Retrofit to a heavily contaminated system where flushing is not possible as heating/cooling systems cannot be shut down
- Maintain pre/post - commissioned or cleaned systems.



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