

Filter/strainers

automatic backwashing

Kleerflo

the ultimate debris removal system





The challenge

Debris often needs to be removed from water to protect various types of equipment and systems including:

- Effluent
- Irrigation
- Membrane pre-filtration
- Process and plant supply water
- Sea and ground water cooling systems
- Washing and spray systems

Are you suffering production problems caused by blockages in your water system?

Do you need to eliminate the labour intensive task of manually cleaning filter baskets?

Are your existing automatic filters unreliable, with too many moving parts and requiring excessive attention? Is your maintenance on these a headache?

The solution

Unblock your systems with the proven and reliable Kleerflo, a fully automatic backwashing filter/strainer. Regardless of whether the source of water is ground, sea, final effluent or certain liquids, the Kleerflo is designed to remove suspended solids from them.

It uses a unique integral backwash system that utilises a simple backwards and forwards shuttle movement to effect backwashing and with no spinning or rotating parts this ensures minimal wear and low maintenance. When required it is simple and easy to maintain regardless of size.



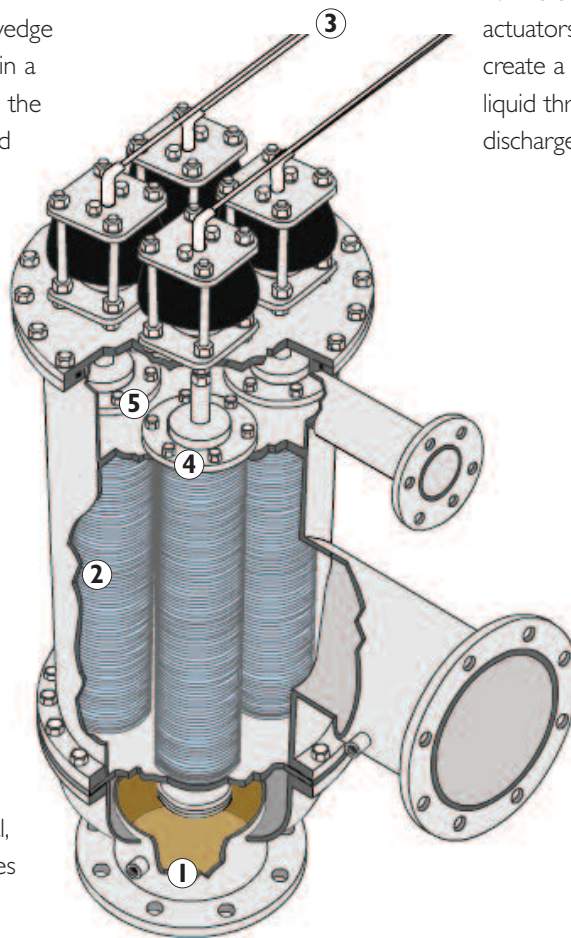


How it works

1. Filtration is achieved by passing liquid through several tubular, stainless steel, wedge wire filter elements. These are available in a wide range of screening apertures, with the quantity depending on the flow rate and level of liquid contamination.

2. Debris is captured on the inner surface of the elements. As the debris accumulates it blocks the gaps in the elements creating an increase in the pressure required to force the liquid through the filter.

3. A signal from a control system (*not shown*) starts the backwash cycle, either on a predetermined time interval, or when the differential pressure reaches a predetermined limit.



4. The backwash system consists of actuators and shuttle valves which create a reversal of flow of filtered liquid through the elements. This discharges the contaminants to waste.

5. Only one element at a time is backwashed and thus the filter never goes off line during backwashing. With a dwell period between each element backwashing, to allow for system recovery, there is no interruption to the process and flow loss is minimum.

The filters can be operated with a variety of control systems, electro-pneumatic, fully pneumatic, or hydraulic from the line pressure. Alternatively, the filters can be operated via site supplied control systems.

To see an interactive demonstration of how Klearflo works

visit: www.superior-filtration.com

Applications

- Alkali & detergent wash systems
- Cleaning-in-place
- Sea & ground cooling systems
- Fire water circuits
- Gland seals
- Heat exchanger protection
- Injection systems - surface and subsea
- Irrigation systems
- Machinery protection
- Make-up water
- Membrane pre-filtration
- Nozzle protection
- Polymer make-up
- Process & Plant Water
- Refrigeration systems
- Robot welding protection
- Sand filter protection
- Spray bar protection
- Thickener overflow
- Wash-down water
- Water test facilities
- ...and many others

Industries

- Agriculture & Horticulture
- Automobile
- Brewing & distilling
- Chemical
- Food
- Leisure
- Minerals
- Mining
- Municipal water
- Municipal final effluent
- Nuclear
- Oil & gas
- Paper
- Pharmaceuticals
- Plastics
- Power generation
- Quarrying
- Refining
- Rubber
- Steel
- Textiles
- ...and many others

CASE STUDY 1

Application

Underground mine water used for protection of pump gland seals and instrumentation

Location

Platinum mine, South Africa

Operating data

2 x 650m³/hr each at 1000 µm filtration



CASE STUDY 2

Application

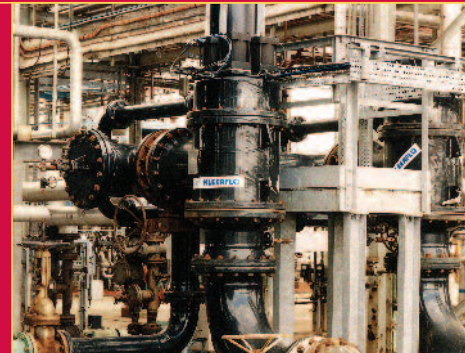
Sea water cooling system used for protection of heat exchangers

Location

Petrochemical plant, UK

Operating data

2 x 1200m³/hr at 500 µm filtration. Duty/standby. Zoned hazardous area. Fully pneumatic controls



CASE STUDY 3

Application

Final effluent water used for inlet screen spray bars, wash-down and polymer make-up

Location

Municipal sewage treatment works, UK

Operating data

2 x 120m³/hr at 150 µm filtration. Duty/standby. Skid mounted



CASE STUDY 4

Application

Process water from coastal lagoon mining pond used in mineral separation

Location

Mineral extraction plant on pontoon, South Africa

Operating data

3 x 1150m³/hr each at 2000 µm filtration. Control via plant PLC





Features and Benefits

Construction and installation

- Supplied in a wide range of pipeline sizes, flow rates and element apertures
- Sturdy, compact and lightweight design - less installation space required
- Fully corrosion resistant materials utilised - long life expectancy
- Can be manufactured in a variety of materials and codes
- Fits easily into existing pipework
- Can be installed in any position/orientation
- High quality at competitive prices
- Wide specification range

Operation

- Automatic initiation of backwash cycle
- No electric motors, rotating or spinning parts
- Simple and positive cleaning action from reversal of flow for backwashing
- Minimum flow-loss and interruption during backwashing
- Uncomplicated design gives reliable performance
- Multiple units are utilised for high flow rates
- Adjustment of operating parameters possible
- Backwash actuation can be pneumatic or line pressure
- Control system single phase input
- Minimum wasted backwash water
- Never goes off line
- Operates at low and high pressures
- Smaller standby capacity is required
- Can be set to suit site requirements

Maintenance

- Minimum wear and tear, reduced maintenance
- More manageable sized units
- To access screens, cover plate easily removed with integral davit arm on larger units
- Filter body does not have to be removed from line for maintenance
- No heavy lifting gear required
- Can be worked on by minimal number of staff

● FEATURES ● ● BENEFITS ●



Technical Data

● Areas of application	Filtration of water and certain liquids
● Flow rates	Up to 4000m ³ /hr, unlimited in multiple units
● Nominal line sizes	50 to 800mm
● Flange connections	As per requirement
● Nozzle orientation	As per requirement
● Filtering apertures	80 to 4000 µm
● Operating pressures	As per requirement
● Temperature	Up to 70°C
● Housing materials	Carbon steel, stainless steel, GRP or exotic material as per requirement
● Manufacturing	Sound engineering practice or to recognised codes as per requirement
● Corrosion protection	Fusion bonded epoxy. Thermoplastic nylon or as per requirement
● Screen type and material	Wedge wire, stainless steel 316L or exotic materials as per requirement
● Other internal wetted parts	Stainless steel 304L, 316L or exotic materials as per requirement
● Skid mounting	As per requirement
● Backwashing medium	Filtrate or external source
● Controls	Fully integrated microprocessor based control system housed in IP65 weather-proof enclosure or client supply. Systems also available for zoned areas.

Technical details above are typical.

Automatic backwashing / No hassle / Low maintenance - Sound interesting?

If you are looking for filters with a difference that give all of the above and more, together with proven track records, backed up by solid references and many years of product history - then for all your filtration and purification needs, contact the specialists

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