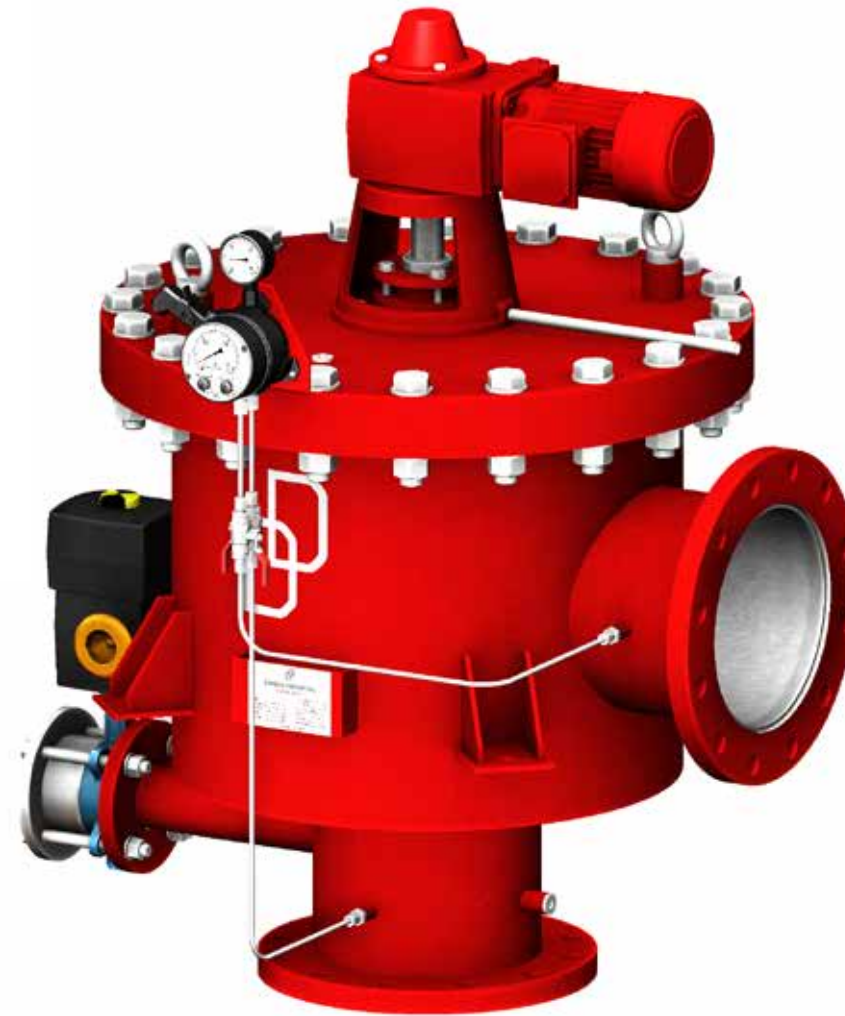


BACKWASH DRUM FILTER

AUTOMATIC FILTER FOR THE MOST DIFFICULT MEDIA



DANGO & DIENENTHAL
BETTER VALUES.

BACKWASH DRUM FILTER (RTF)

AUTOMATIC FILTER FOR THE MOST DIFFICULT MEDIA

The Backwash Drum Filter is based on the filtration/backwash principle of the Filterautomat and offers a customized selection of materials, even for the most difficult media.

FILTER HOUSING

Standard design	Steel, stainless steel
Seawater-resistant design	Stainless steel, GRP, plastic
Special design	GRP

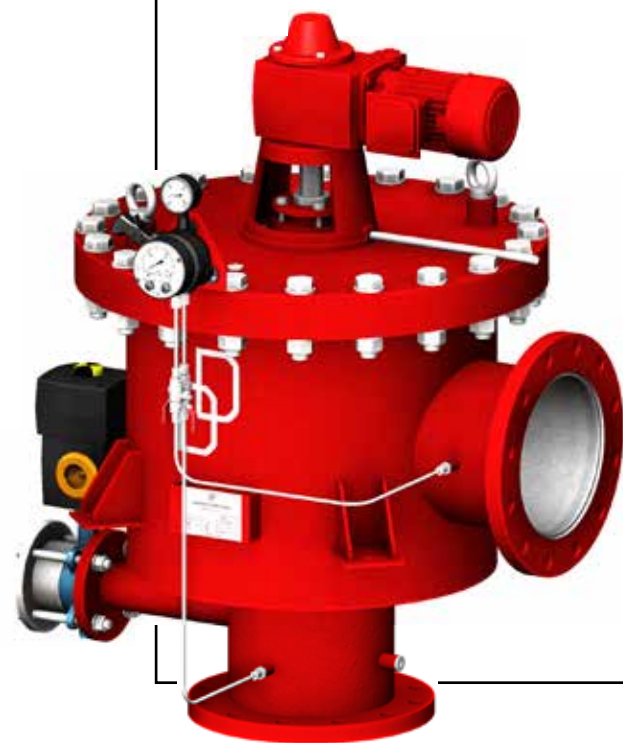
Special designs possible for filter housings and technical specifications. Feel free to contact us! We are happy to advise you.

TECHNICAL DATA

Flow rate	Max. 4,000 m³/h*
Filter fineness	≥ 5 µm
Operating pressure	1.5 to 63 bar
Pressure loss with clean filter	0.1 to 0.3 bar
Flanges	DN 100 to 1,000*
Temperature	-10 to +110 °C
Automatic cleaning	Yes

* The Backwash Drum Filter S is suitable for lower flow rates / smaller flange sizes.

ADVANTAGES



- ⊙ High cleaning speed (4-10 m/s)
- ⊙ 100% cleaning of the entire filter area
- ⊙ Low flushing water losses
- ⊙ Robust design
- ⊙ Shredding of large particles
- ⊙ Fine filtration ≥ 5 µm possible
- ⊙ Fitted with wedge-wire screens/wire mesh
- ⊙ Completely wired and tested unit

OUR FILTERS IN ACTION



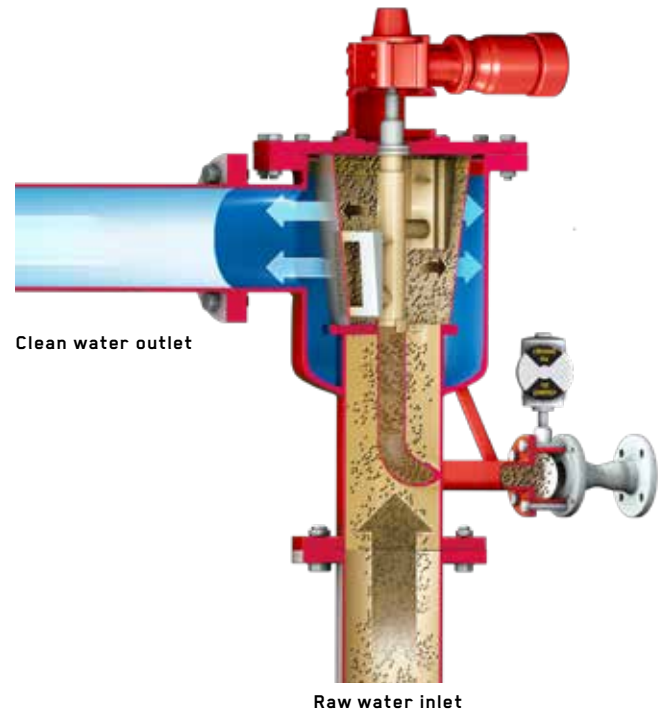
OUR FILTER SYSTEMS PROTECT

- ⊙ Plate heat exchangers
- ⊙ Spray nozzles
- ⊙ Piping systems
- ⊙ Mechanical seals
- ⊙ Pumps
- ⊙ Microfiltration systems
- ⊙ The environment
- ⊙ Final products

THE NEW DEFINITION OF PURITY FOR YOUR MEDIUM

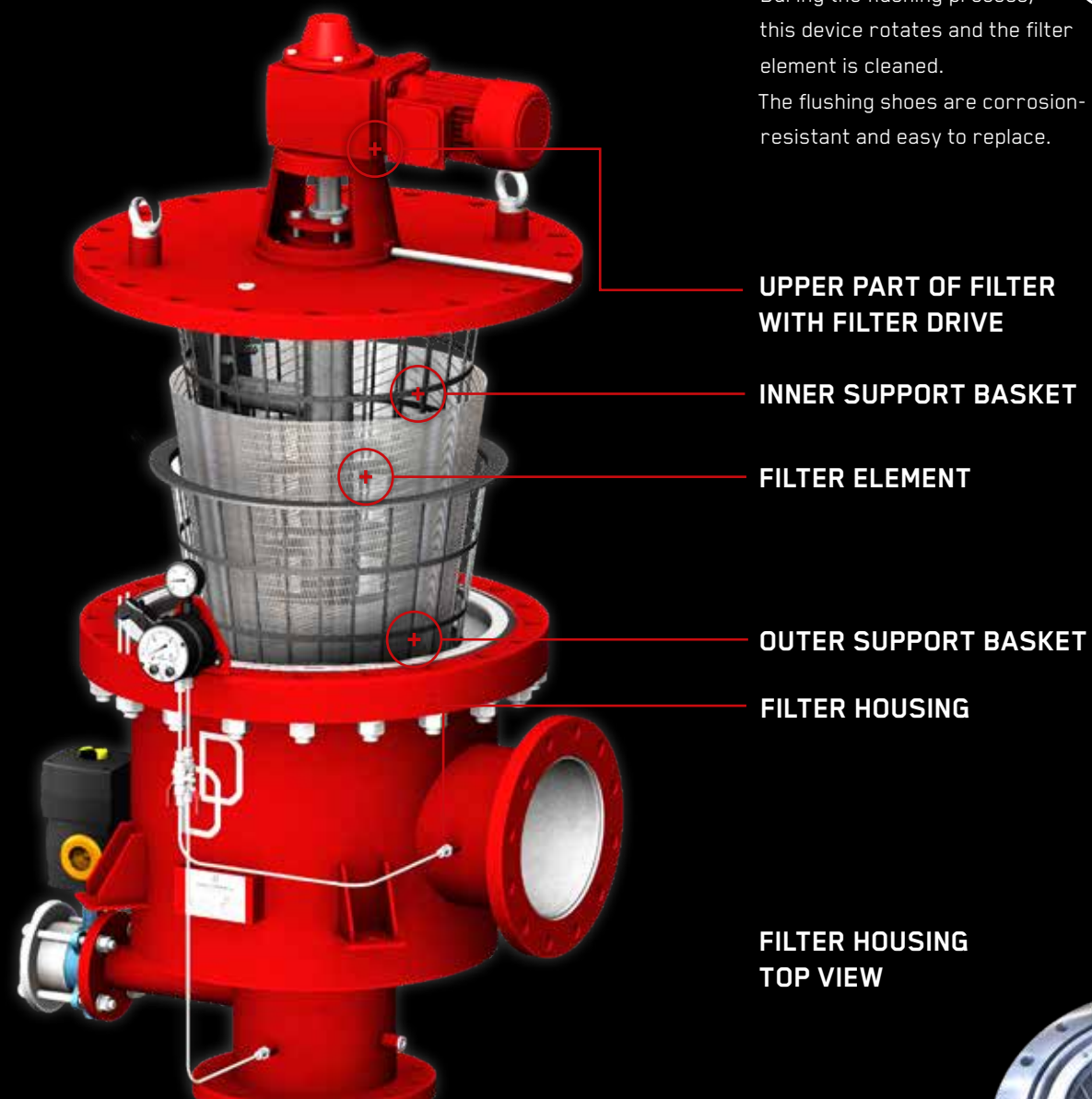
- ⊙ Cooling water
- ⊙ River water
- ⊙ Seawater & ballast water
- ⊙ Sinter & scale water
- ⊙ Process water
- ⊙ Oils & emulsions
- ⊙ Mussels & mussel larvae infested waters
- ⊙ Drinking water
- ⊙ Effluent water

FILTRATION



The raw water enters the filter via the inlet flange and flows through the filter drum from the inside to the outside. The solids in the raw water are retained in the segment-like openings on the inner part of the filter drum located on the inside of the filter element. The purified water exits the filter through the clean water outlet.

FILTER STRUCTURE



FLUSHING SHOE

The two opposite flushing shoes are attached to the hollow shaft inside the filter. During the flushing process, this device rotates and the filter element is cleaned. The flushing shoes are corrosion-resistant and easy to replace.

UPPER PART OF FILTER WITH FILTER DRIVE

INNER SUPPORT BASKET

FILTER ELEMENT

OUTER SUPPORT BASKET

FILTER HOUSING

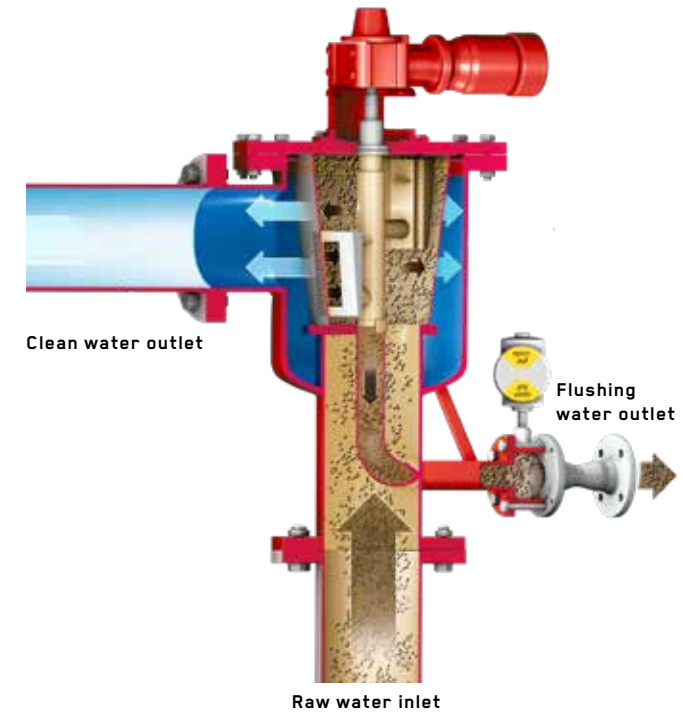
FILTER HOUSING TOP VIEW

FILTER DRUM

The filter drum consists of a sturdy inner and outer support basket. The filter element is located between these support baskets. The conical design allows the three individual parts to be fixed and screwed together with perfect dimensional accuracy.

The segment-like openings of the outer part of the filter drum can also retain larger particles. These are then flushed out of the system during the backwash process.

BACKWASH PROCESS



A differential pressure measurement is made between the raw water inlet and clean water outlet in order to determine the degree of contamination of the filter element. The backwash process is activated at a defined differential pressure.

In addition, an adjustable time relay in the electrical control system enables the backwash process. At the start of filter cleaning, the motor-driven backwash valve opens, generating atmospheric pressure in the backwash line and the hollow shaft in the filter. Due to the excess pressure outside of the filter drum on the clean water side, the solids retained on the inside of the filter element are now forcibly backwashed into the atmosphere against the direction of filtration. The rotation of the filter drum and the flushing shoes attached to it guarantees 100% cleaning of the filter basket. The flushing process is complete after 15-20 seconds, after which the backwash valve is closed automatically.

Filtration is not interrupted during backwashing.

FILTER COMPONENTS



ELECTRICAL CONTROL SYSTEM

The backwash process is initiated depending on time and/or differential pressure, thereby enabling fully automatic filter operation.

The standard control system includes the following signal exchange with the customer process control system (PCS):

- ⊕ Collective fault
- ⊕ Ready for operation
- ⊕ Filter in flushing mode
- ⊕ External triggering of filter backwash
- ⊕ External release for filter backwash



DIFFERENTIAL PRESSURE MEASUREMENT

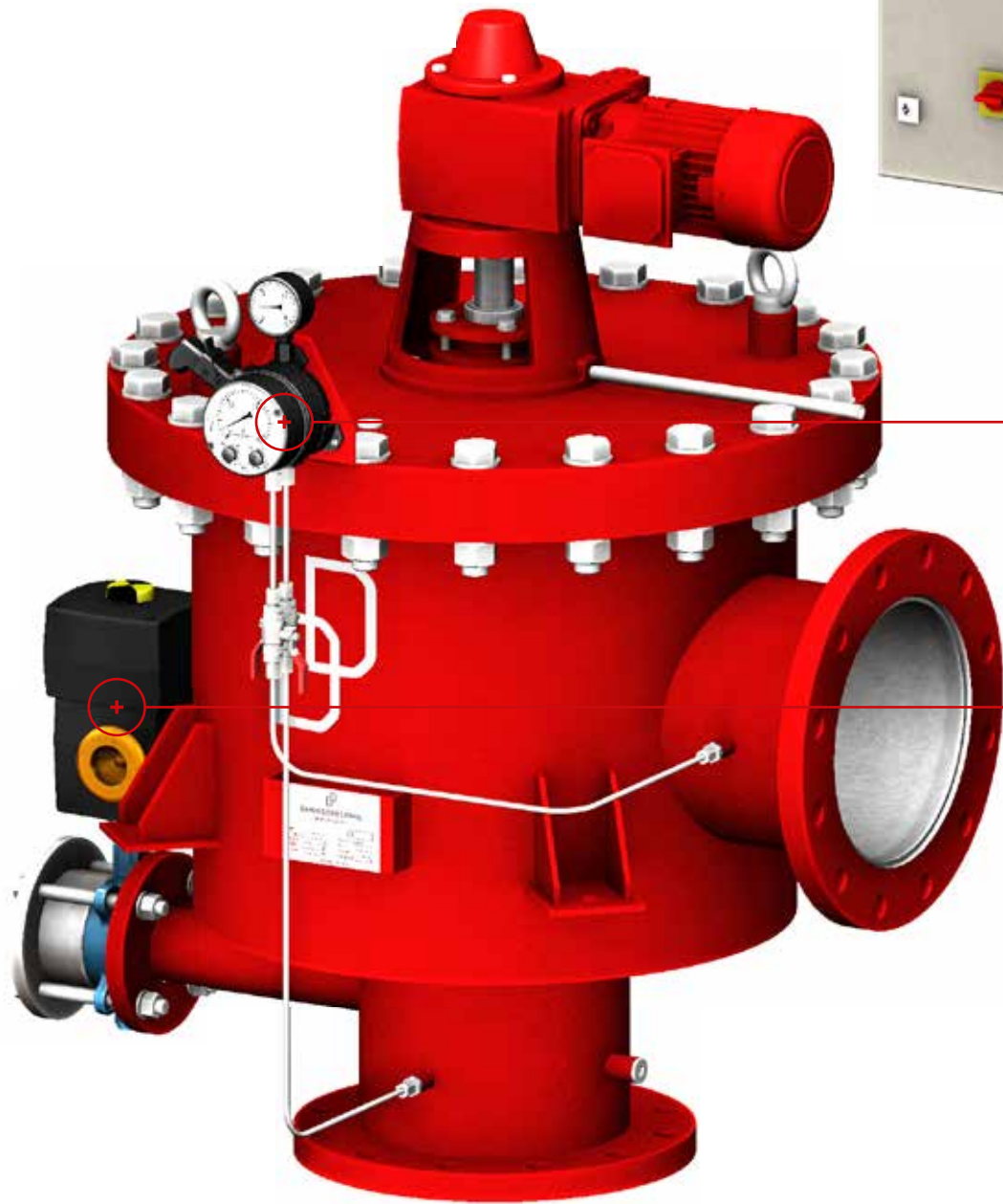
Consisting of:

- ⊕ Optical display of the operating pressure upstream of the filter
- ⊕ Optical display of the differential pressure
- ⊕ Two freely adjustable switching contacts
- ⊕ Start of filter flushing
- ⊕ Alarm message



VENTURI NOZZLE WITH BACKWASH VALVE

The Venturi nozzle is designed to suit the customer's operating conditions to adjust the required flushing water quantity and to prevent pressure fluctuations in the pipe network. The backwash valve is equipped with an electric or pneumatic actuator as standard.



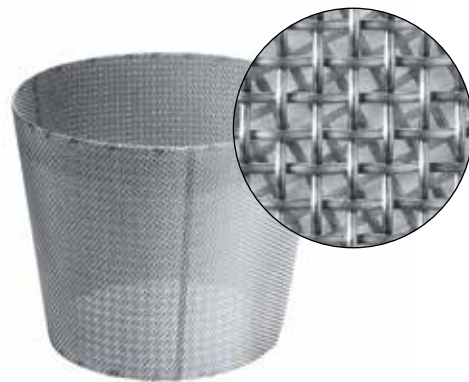
FILTER ELEMENTS

The Backwash Drum Filter can be fitted with various filter elements:



THE WEDGE-WIRE SCREEN

- Based on welded stainless steel triangular rods
- Highly robust design
- Can be manufactured in various stainless steel grades
- Filter fineness $\geq 30 \mu\text{m}$



THE WIRE MESH

- The filtration mesh is held in a sandwich construction by two supporting meshes
- Higher net filter area utilization
- Can be manufactured in various stainless steel grades
- Filter fineness $\geq 5 \mu\text{m}$

Both filter elements, the wedge-wire screen and the wire mesh, can be designed in different stainless steel grades.

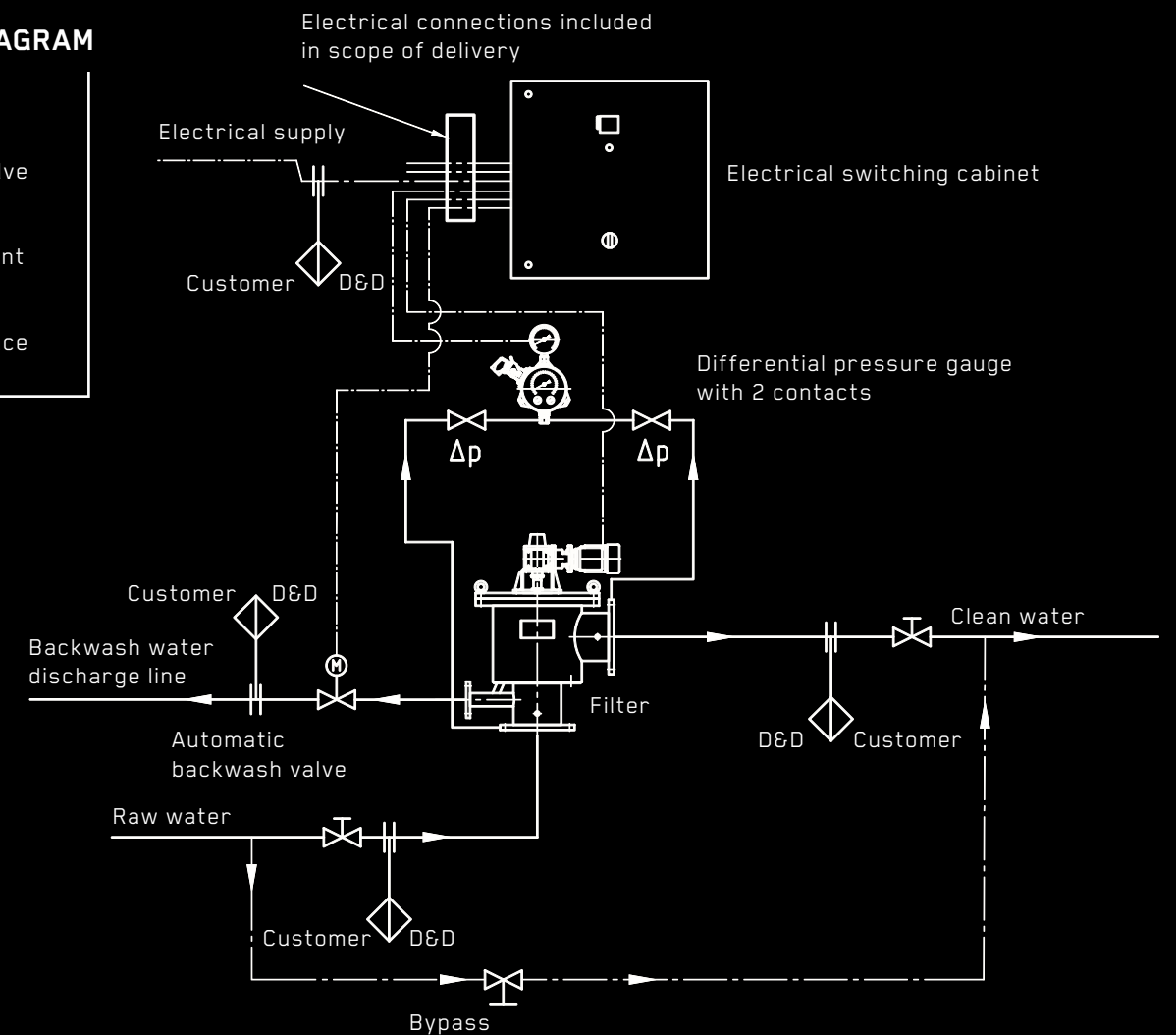
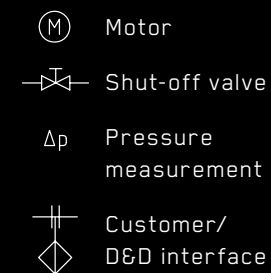
FILTER SIZE

The filter size depends on the throughput capacity, the choice of filter element, the filter fineness, the acceptable pressure drop, and the degree of contamination of the raw water.

NOW IT'S UP TO YOU

To prepare an offer, we request that you complete the filter project questionnaire and send it to us by e-mail. You can find this at: www.dds-filter.com/en/downloads/

PROCESS DIAGRAM



TECHNICAL INFORMATION

SCOPE OF DELIVERY

- 230 V and 400 V voltage
- 110 V to 690 V voltage*
- Pressure Equipment Directive (PED)
- ASME*
- Explosion protection*
- Differential pressure measurement
- Differential pressure as 4-20 mA signal*
- Automatic filter control system
- Backwash with own medium
- Backwash with external medium*
- Backwash with suction pump*
- Electrical or pneumatic flushing valve
- Signal exchange with PCS
- Cabling including plug
- Documentation
- Certificates*
- Function test at the manufacturer's factory

* Available at extra cost

RTF-S



For lower flow rates, the Backwash Drum Filter S is the perfect alternative to the Backwash Drum Filter. The RTF-S features a compact design. Like the RTF, the RTF-S also offers excellent backwash performance and a customized selection of materials for difficult media.

FILTER HOUSING	
Standard design	Steel, stainless steel
Seawater-resistant design	Stainless steel, GRP
Special design	GRP

TECHNICAL DATA	
Flow rate	Max. 100 m ³ /h*
Filter fineness	≥ 5 µm
Operating pressure	1.5 to 63 bar
Pressure loss with clean filter	0.1 to 0.3 bar
Flanges	DN 40 to 100*
Temperature	-10 to +110 °C
Automatic cleaning	Yes

Special designs possible for filter housings and technical specifications. Feel free to contact us! We are happy to advise you.

* The Backwash Drum Filter is suitable for higher flow rates / larger flange sizes.



ADVANTAGES

- High cleaning speed (4-10 m/s)
- 100% cleaning of the entire filter surface area
- Low flushing water losses
- Robust design
- Fine filtration ≥ 5 µm possible
- Uniform feeding of the entire filter area
- Completely wired and tested unit

SHAPE BETTER VALUES

CLOSER. BETTER. SIMPLER.

We make sure that you get the filter that is perfectly suited to your application. Our engineering office will design the filter to match your operating parameters. This allows us to adapt our product to your specific use.



EXPERIENCED PARTNER

All DANGO & DIENENTHAL filters are handled by our specially qualified and regularly trained staff. Both our mechanical production and assembly departments have extensive expertise.



CERTIFIED TESTING

Our certified quality management system enables seamless monitoring and control of all production steps. This ensures early detection and troubleshooting, allowing us to offer you a high level of quality.



THE TEAM AT YOUR SIDE

If you require staff for training or maintenance at your company, don't hesitate to contact us. Our specially qualified employees will be happy to assist you.



IDEAL PRODUCTION CONDITIONS

We have been producing filters in our factory in Siegen, Germany, since 1941. Our continuously improved, state-of-the-art range of machinery and modern factory buildings provide an environment that is essential for manufacturing high-quality products.

WE ARE HERE TO ASSIST YOU

+49 271 401 4123

Or by e-mail: post@dds-filter.com

Monday-Friday:

You can find us at the following address:

8:00 a.m. - 4:00 p.m. (CET)

Hagener Str. 103

(except for holidays)

57072 Siegen, Germany



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