

BACKWASH DRUM FILTER HP

AUTOMATIC FILTER FOR ULTRA-FINE FILTRATION



DANGO & DIENTHAL

BETTER VALUES.

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AUTOMATIC FILTER FOR ULTRA-FINE FILTRATION

The Backwash Drum Filter RTF-HP boasts an extremely robust and compact design and excellent backwash performance. The rotating backwash device reliably cleans the entire filter surface according to the available differential pressure and/or time.

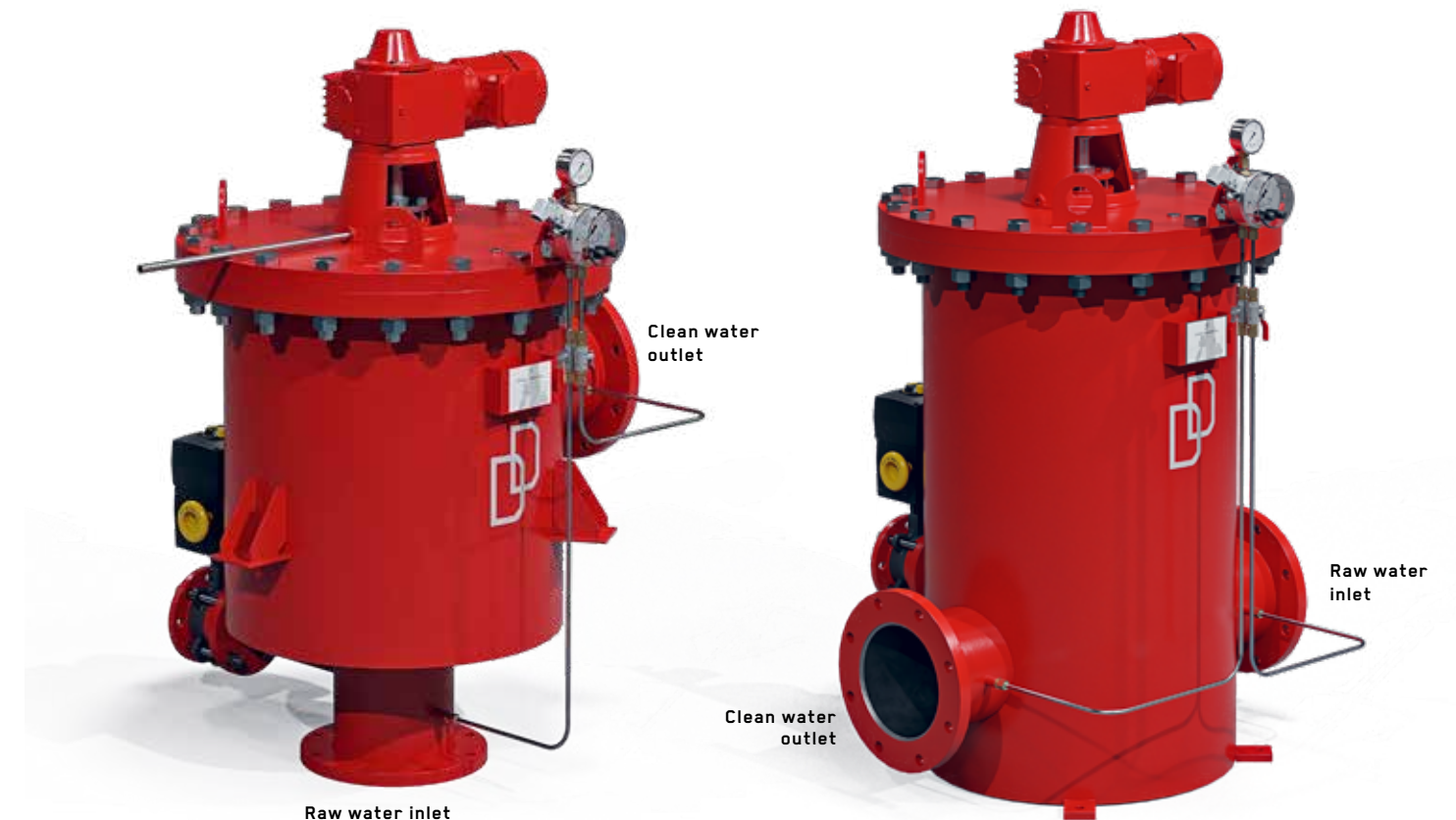
FILTER HOUSING MATERIAL

Standard design	Steel, stainless steel
Seawater-resistant design	Stainless steel, GRP
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. 1,200 m ³ /h
Filter fineness	≥ 5 µm
Operating pressure	0.8 to 63 bar
Pressure loss with clean filter	0.1 to 0.3 bar
Flanges	DN 50 to 500
Temperature	-10 to +110°C
Automatic cleaning	Yes
Inline design	Possible



TYPE A
INLET/OUTLET 90°

TYPE B
INLET/OUTLET 180°
(INLINE DESIGN)

The various flange options allow easy integration into the existing piping system.

ADVANTAGES

- ⊕ High cleaning speed (4-10 m/s)
- ⊕ 100% cleaning of the entire filter area
- ⊕ Low flushing water losses
- ⊕ Robust design
- ⊕ Fine filtration ≥ 5 µm possible
- ⊕ Uniform feeding of the entire filter area
- ⊕ Fitted with wire mesh
- ⊕ Completely wired and tested unit
- ⊕ 100% sealing from filter element to filter housing
- ⊕ High flow rates possible with low space requirement
- ⊕ Inline design possible

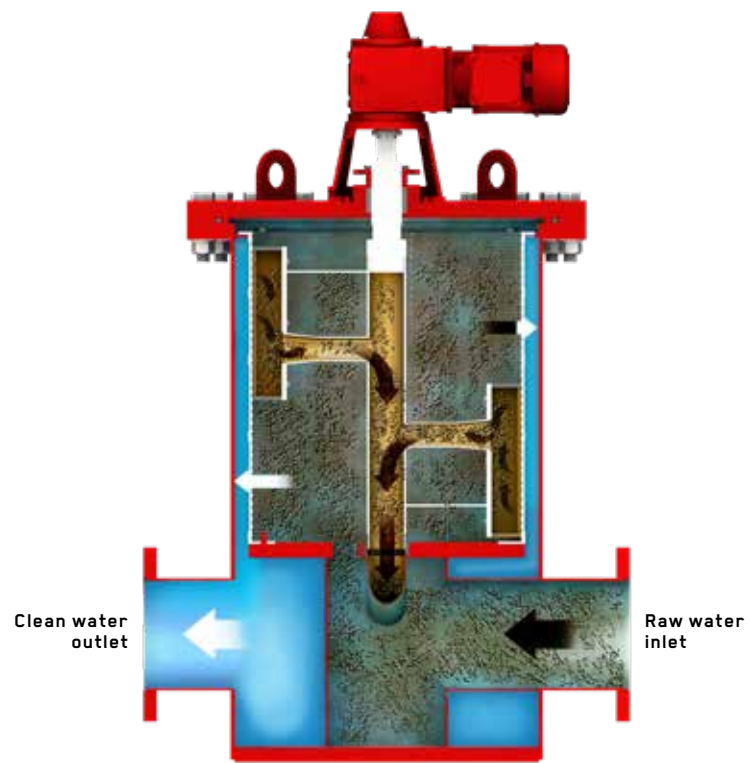
OUR FILTER SYSTEMS PROTECT

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

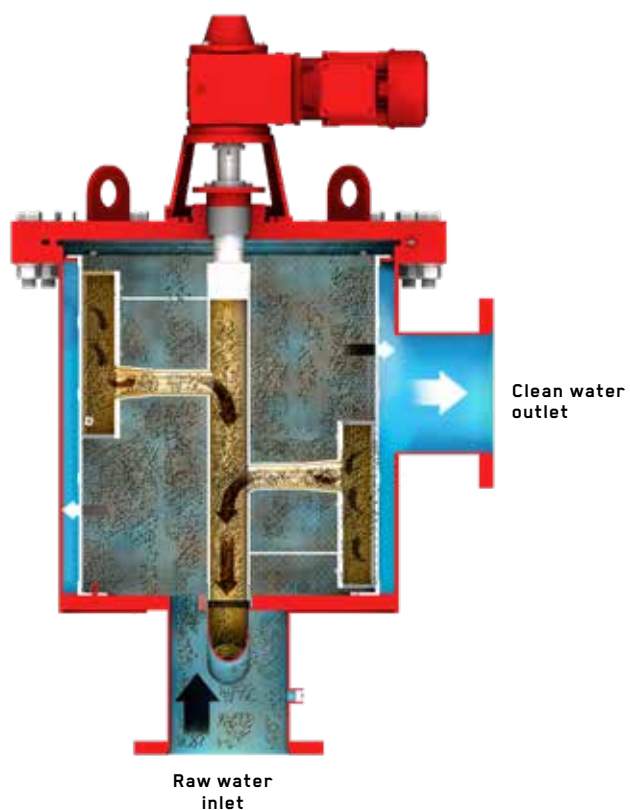
THE NEW DEFINITION OF PURITY FOR YOUR MEDIUM

- ⊕ 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 element from the inside to the outside. Solids in the raw water are retained on the inside of the filter element. The purified water exits the filter through the clean water outlet.



FILTER STRUCTURE

UPPER PART OF FILTER WITH FILTER DRIVE

FLUSHING ARM

Manufactured in stainless steel, the flushing arm is connected to the filter drive motor via a drive shaft. During backwashing, the flushing arm rotates at 5-7 rpm.

FLUSHING SHOE

Two flushing shoes made of PP are mounted on the flushing arm opposite each other and offset in height. During the backwash process, the flushing shoes are guided along the filter element through the rotating motion of the flushing arm.

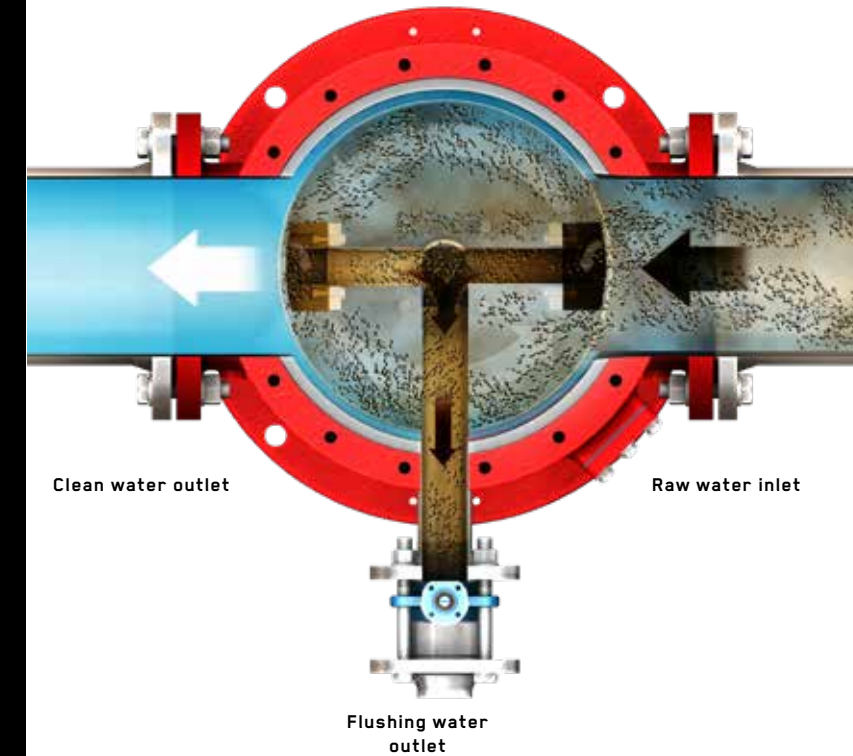
FILTER ELEMENT

FILTER HOUSING

The filter element is mounted in the filter housing to ensure a complete seal between the raw water and clean water. This prevents any unfiltered raw water from getting into the clean water.



BACKWASH PROCESS



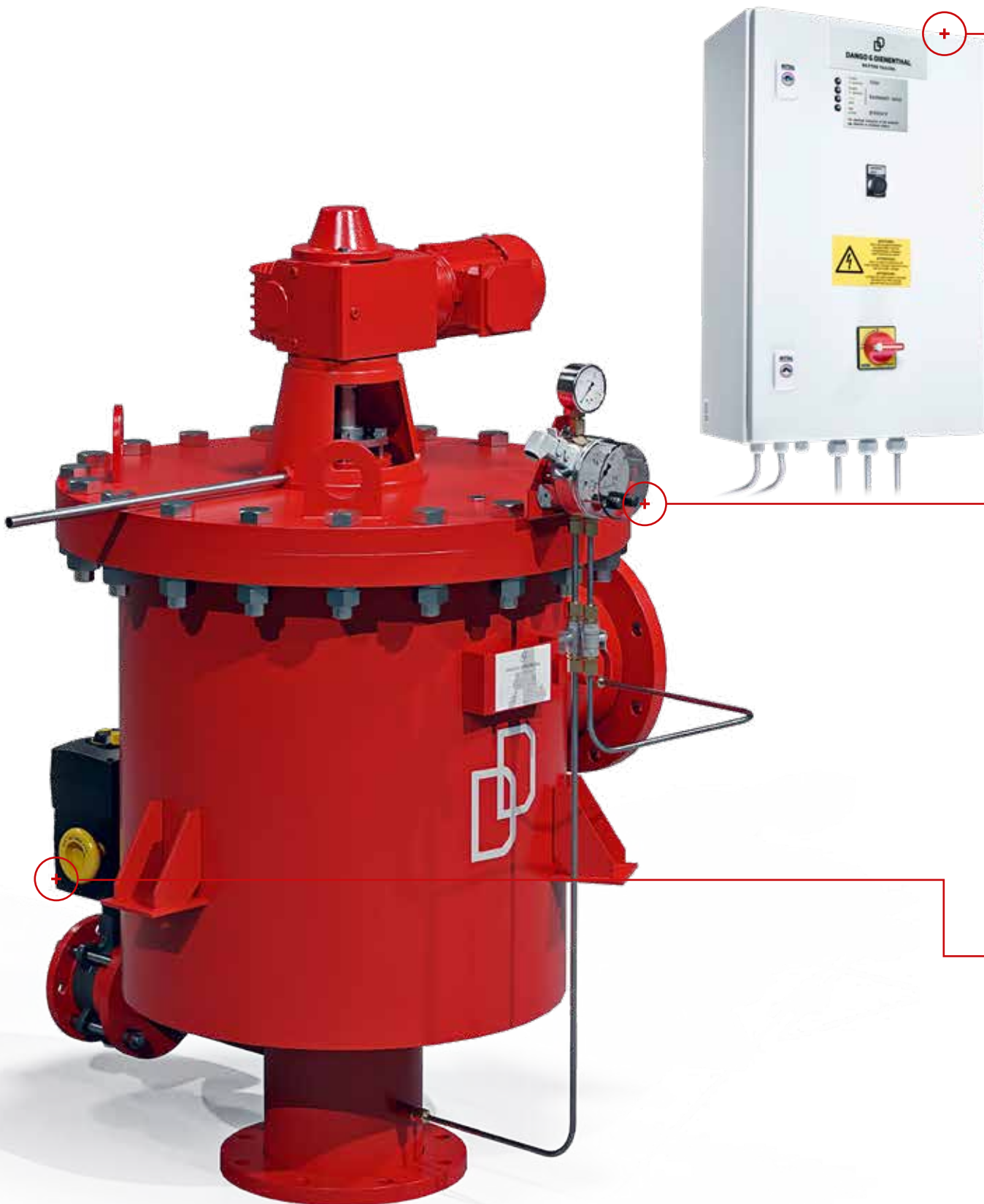
A differential pressure measurement is taken between the raw water inlet and clean water outlet to determine the degree of contamination of the filter element.

The backwash process is triggered when a defined differential pressure is reached. 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 pipe and the flushing arm in the filter housing. Due to the excess pressure on the clean water side of the filter drum, 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 backwash arm guarantees 100% cleaning of the filter element. The flushing process is complete after 15-20 seconds, after which the backwash valve closes automatically.

Filtration continues uninterrupted 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 of 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

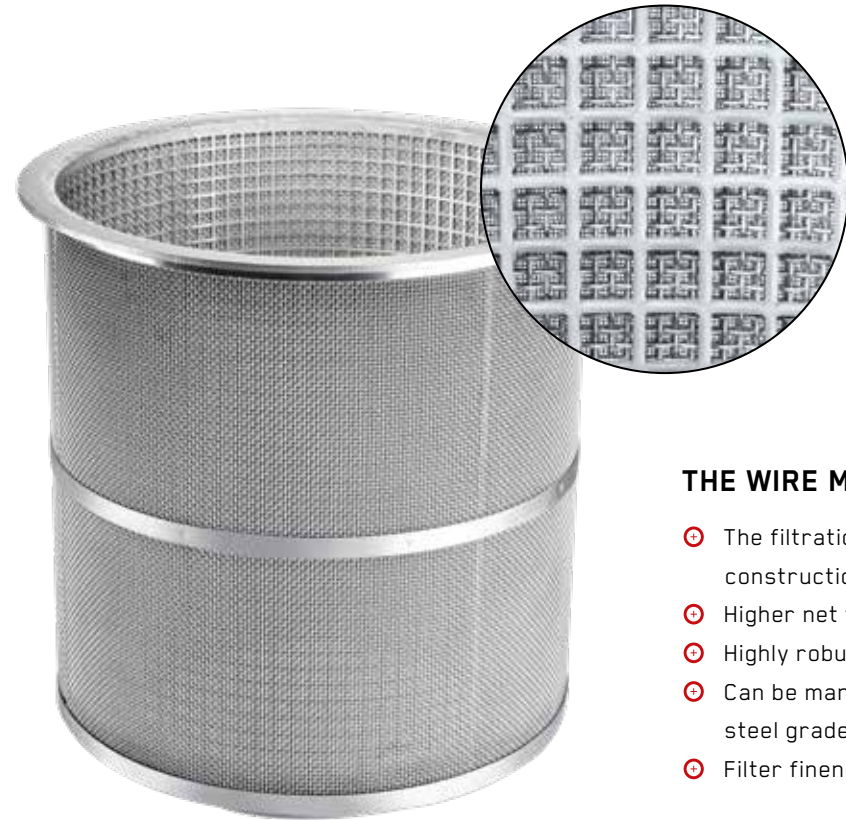


VENTURI NOZZLE WITH BACKWASH VALVE

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 ELEMENT



THE WIRE MESH

- ⊕ The filtration mesh is held in a sandwich construction by two supporting meshes
- ⊕ Higher net filter area utilization
- ⊕ Highly robust design
- ⊕ Can be manufactured in various stainless steel grades
- ⊕ Filter fineness ≥ 5 microns

The filter element can be designed in different stainless steel grades and with varying filter fineness.

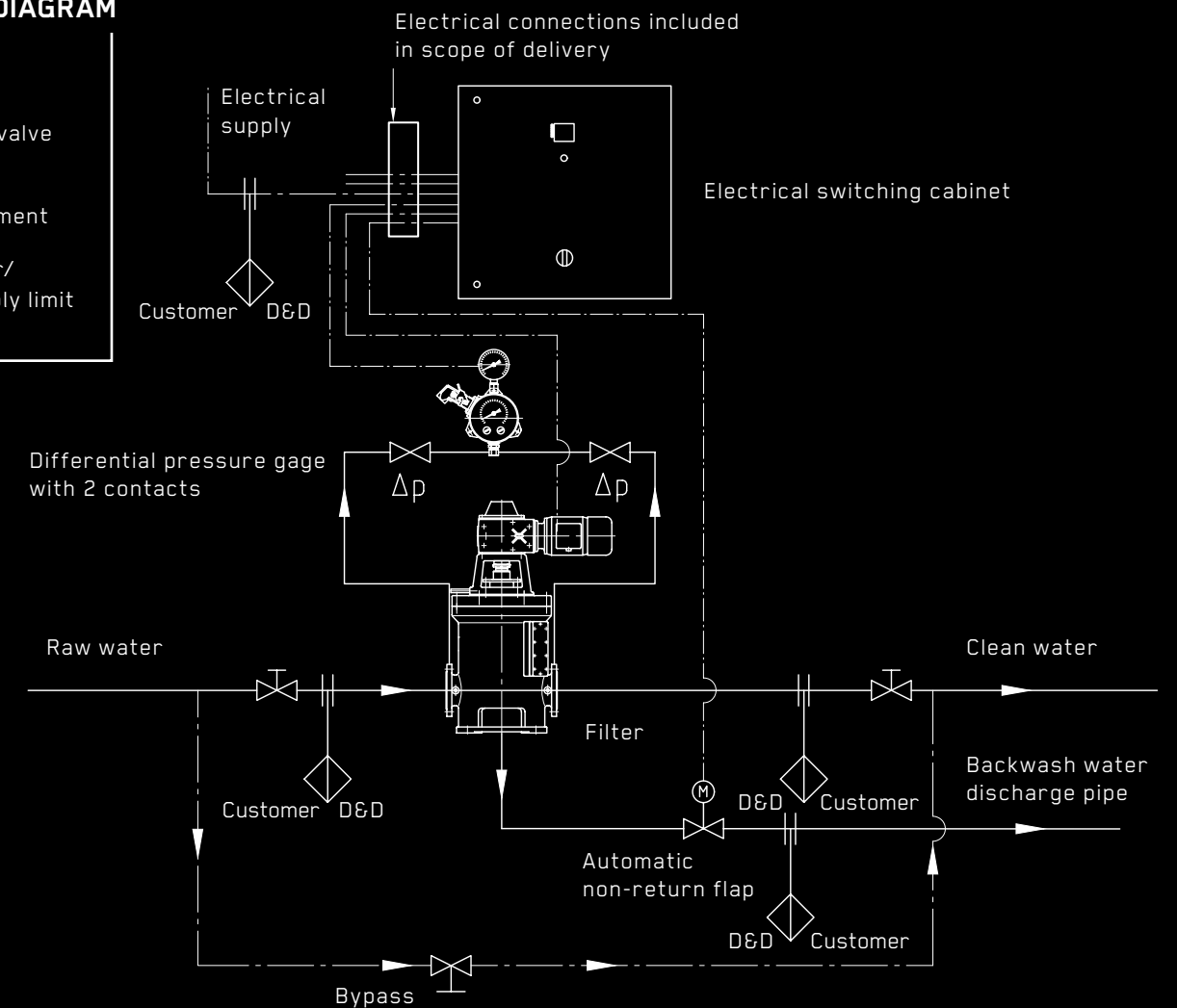
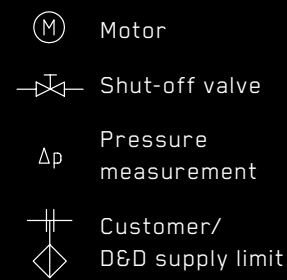
FILTER SIZE

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 or 400 V voltage
- ⊕ 110 to 690 V voltage *
- ⊕ Pressure Equipment Directive (PED)
- ⊕ American Society of Mechanical Engineers (ASME) standard *
- ⊕ Explosion protection
- ⊕ Differential pressure measurement
- ⊕ Differential pressure as 4-20 mA signal *
- ⊕ Automatic filter control system
- ⊕ Backwash with own medium
- ⊕ Backwash with suction pump *
- ⊕ Electrical or pneumatic flushing valve
- ⊕ Signal exchange with process control system (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

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. 350 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 50 to 200 *
Temperature	-10 to +110°C
Automatic cleaning	Yes

* The Backwash Drum Filter HP 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

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Monday-Friday:

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

(except for holidays)

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

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WWW.DDS-FILTER.COM