

Bernoulli Filters

The original Swedish
filter design from Bernoulli

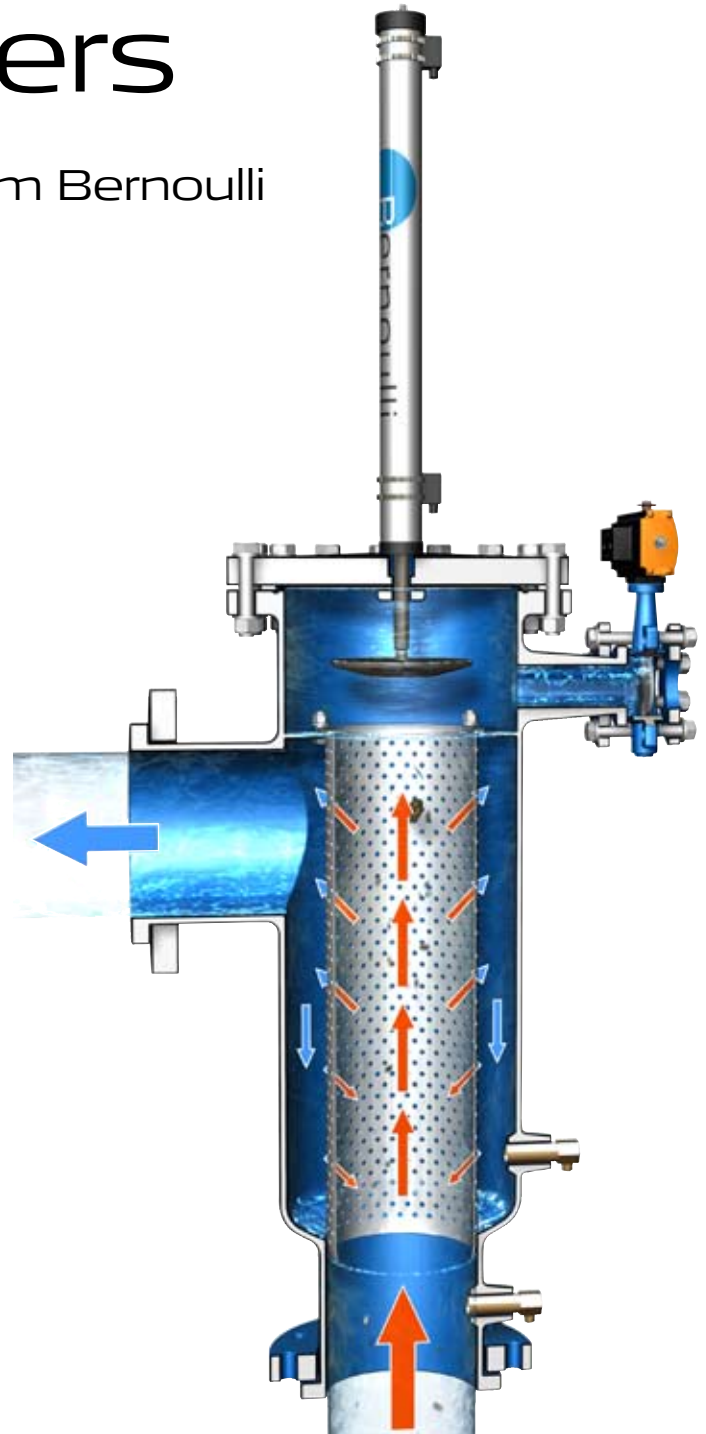
Bernoulli AB develops and delivers self-cleaning filters for continuous filtration of liquids in pressurised systems. These can be used to remove sediment and debris from natural water sources such as sea or river water, or to remove particles from process liquids. Our filters harness the power of a natural physical phenomenon, which leads to an ingeniously simple but highly reliable filtering operation.

The Bernoulli cleaning principle

In a Bernoulli filter, the bulk of the work is done by a disc mounted on a pneumatic cylinder. The filter basket is cleaned by this disc as water passes through a gap between the disc and the basket. Flow velocity increases locally around the disc and, in accordance with the Bernoulli principle, the static pressure is reduced. It is the vacuum effect of lower static pressure around the edge of the disc that cleans the basket.

Advantages

- Simple and ingenious cleaning system with few moving parts, ensuring high operational reliability and simple maintenance.
- A low and constant pressure drop, the same in both clean and dirty conditions.
- Low flushing pressure: from 0,3 bar g.
- Easy installation: the Bernoulli Filter can be fitted directly to pipelines. Any horizontal or vertical position is possible.
- Good corrosion resistance: filter bodies in PVC and glass fibre reinforced polyester (GRP) are particularly suitable for corrosive sea water, stainless steel filter bodies for fresh water applications.



Normal filtering operation

The flushing valve is closed. The piston remains outside the strainer basket.



Flushing phase one

Cleaning is initiated by a timer or differential pressure control. The flushing valve opens and large particles are flushed out.

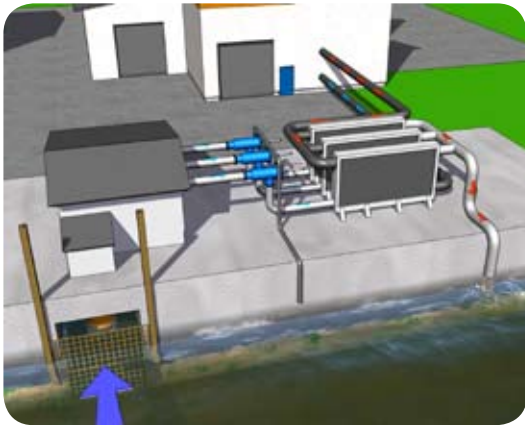


Flushing phase two

The piston moves twice into the basket, thereby removing the particles which are stuck to it.

Bernoulli Filters

- engineered for reliability



Overview picture of the Bernoulli target application, protection of Plate Heat Exchangers (PHE).

Specifications

Filter type	Filter body	Design pressure	Max operating temperature
-------------	-------------	-----------------	---------------------------

BSP	PVC	10 bar g	40°C
BSG	GRP	6/10 bar g	60°C
BSS	AISI 316L	10 bar g	80°C

Filtration: 0,1-2,0 mm
 Max particle size: 40 mm
 Min flushing pressure: from 0,3 bar g

Material

Filter body: as indicated above
 Filter basket: AISI 316L or titanium
 Driving unit: AISI 316L
 Piston seal: Polyurethane
 Flushing valve: PVC or AISI 316L

Controls

- Pneumatically operated, 6 bar g air pressure
 Voltage 230/120 V 50/60 Hz

Functions

- Electronic control
- Double supervision system with timer and differential pressure switch

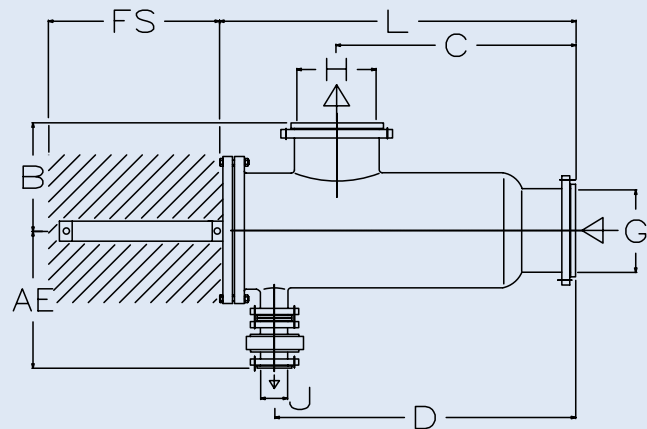
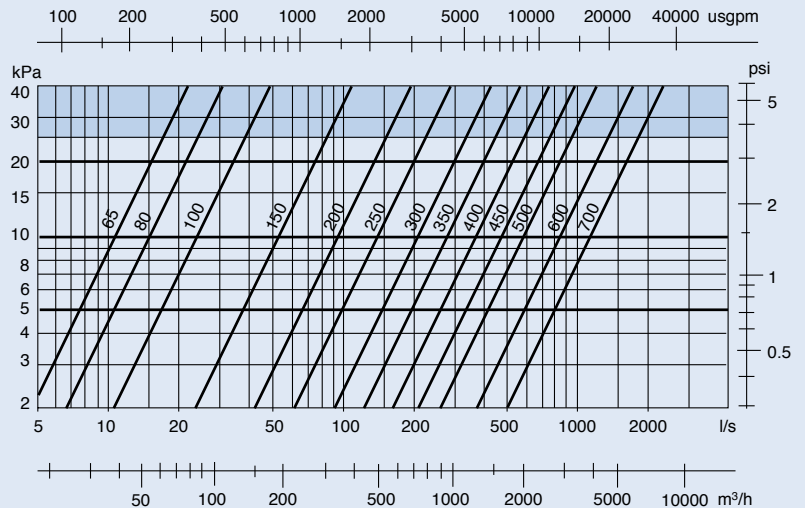
Contact for computer supervision

- Filter in operation
- Flushing
- Alarm

Flange standard

- DIN PN 10
- ANSI 150

Selection chart



FILTER TYPE	FLOW CAPACITY		DIMENSIONS (mm)								WEIGHT (kg)
	MAX (l/s)	FLUSH (l/s)	AE	B	C	D	L	FS	G/H	J	
Filter body in PVC											
BSP 65	17	2	102	205	390	300	480	330	DN 65	BSP 1"	12
BSP 80	23	3	330	235	385	490	650	470	DN 80	DN 40	17
BSP 100	36	4	335	275	440	550	735	470	DN 100	DN 40	24
Filter body in GRP											
BSG 100	36	4	397	200	385	495	630	470	DN 100	DN 40	18
BSG 150	83	9	452	275	530	675	830	650	DN 150	DN 40	40
BSG 200	145	17	533	350	705	880	1100	700	DN 200	DN 50	60
BSG 250	235	26	403	400	825	1050	1270	1000	DN 250	DN 100	105
BSG 300	325	37	453	475	1000	1260	1500	1100	DN 300	DN 100	160
BSG 350	450	50	453	475	1100	1380	1650	1200	DN 350	DN 100	180
BSG 400	580	67	503	600	1240	1540	1800	1200	DN 400	DN 100	300
BSG 450	735	85	553	650	1450	1770	2050	1650	DN 450	DN 100	500
BSG 500	910	105	658	700	1600	2050	2350	1650	DN 500	DN 150	550
BSG 600	1300	150	708	900	1800	2250	2650	1800	DN 600	DN 150	850
BSG 700	1770	200	808	850	2250	2750	3250	2150	DN 700	DN 150	1300
Filter body in AISI 316L											
BSS 80	23	3	252	165	340	455	590	460	DN 80	BSP 1½"	30
BSS 100	36	4	302	175	350	465	600	460	DN100	BSP 1½"	37
BSS 150	83	9	352	250	500	650	800	700	DN 150	BSP 1½"	90
BSS 200	145	17	388	300	630	810	980	700	DN 200	BSP 2"	140
BSS 250	235	26	378	350	750	975	1175	1000	DN 250	DN 100	210
BSS 300	325	37	433	380	900	1160	1370	1100	DN 300	DN 100	270
BSS 400	580	67	513	450	1050	1350	1600	1250	DN 400	DN 100	550

IF-technik GmbH

Steinler 31 T: 0041 52 337 45 33
 CH-8545 Rickenbach Sulz F: 0041 52 337 45 34
 www.iftechnik.ch mail@iftechnik.ch



Bernoulli System AB, Skiffervägen 20, SE-224 78 LUND, SWEDEN
 Tel: +46 46-38 55 10 • Fax: +46 46-38 55 19 • info@bernoulli.se