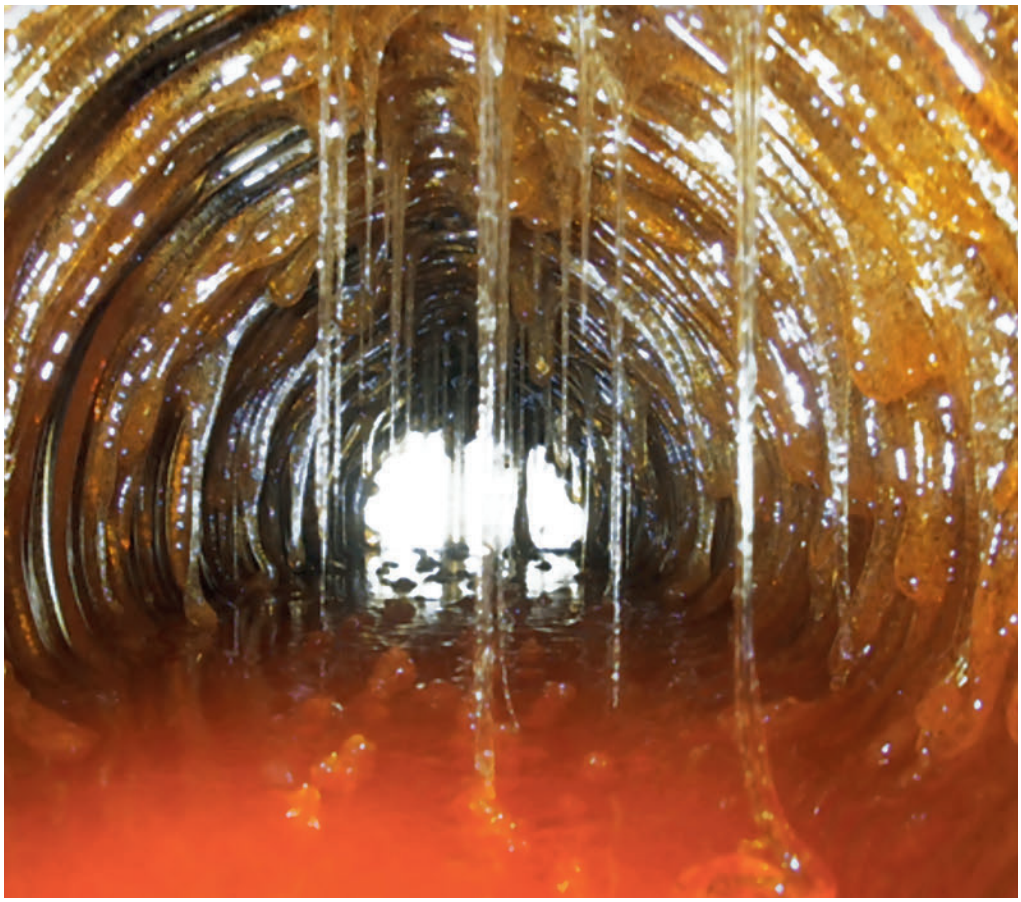
Filtration and separation technology

Lenzing ViscoFil – Automatic backwash filter

LENZING TECHNIK




05557 14

Lenzing ViscoFil

Automatic backwash filter – filtration down to 3 µm

The ViscoFil-system is a fully automatic, continuous system according to the principle of depth filtration. A metal fiber fabric is used for filter material which retains particles of different sizes and shapes due to its depth effect. After the pre-determined degree of contamination has been reached, the filter material is cleaned by backwashing a small quantity of filtered medium, filtration continues during backwashing.

Features

- Filter fineness 3 µm to 100 µm
- Excellent retention of gel particles
- Free of dead space
- High solid content compared to other common automatic filtration systems
- High flow rates
- Highest filtration efficiency
- Partial backwash during filtration
- Minimum losses due to patented regeneration system
- Low operation and maintenance costs
- Sizes for virtually all flow rates available
- Filters designed for operation pressure of 16 and 25 bar - higher pressures are possible upon request
- Space-saving plant setup and maintenance area
- Completely closed system

Markets

- Fiber industry
- Foil industry
- Chemical industry
- Petrochemistry
- Foodstuffs industry

Fluids

Spinning solutions:
Viscose, polyacryl, polyimide, cellulose acetat, spandex, aramid

High viscose media:
Resins, varnish, petrochemical products

Food and beverage:
Soft cheese, honey, syrup, gelatine

Functional principle

Lenzing ViscoFil is a fully automatic filtration system

Filtration

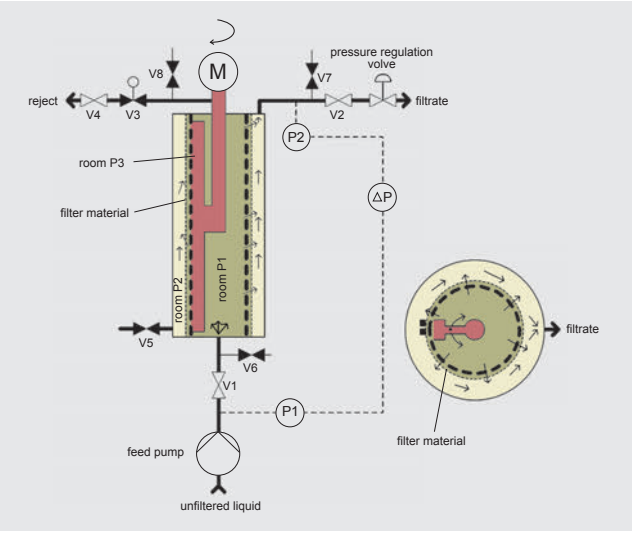
The unfiltered fluid is transported into room P1 through inlet by means of the feed pump. Separation of particles out of the liquid occurs while the unfiltered fluid goes from room P1 into room P2, between these both chambers the filter material is installed on a perforated drum.

The filtered fluid is discharged through outlet, and goes to the P2-pressure equalizing tank, spin tank or P2-controll valve. The blockage of the filter material causes a steadily increasing differential pressure ΔP between room P1 and room P2. This increase of the differential pressure is analysed by an SPS control system. After reaching a preselected differential pressure, the backflushing will be started.

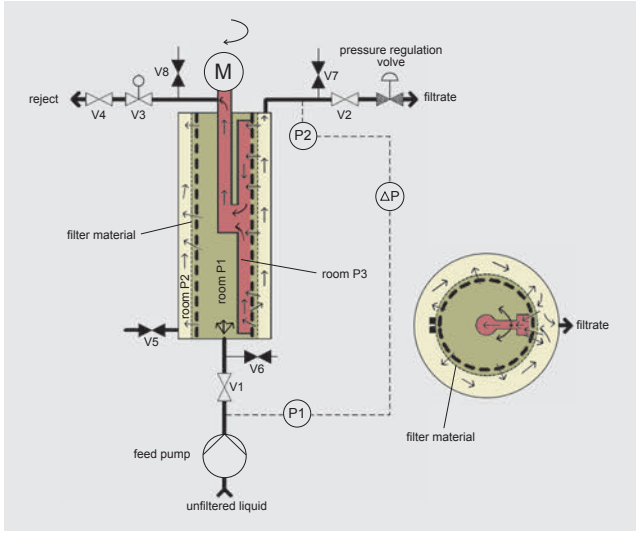
Backwashing

After the maximum degree of contamination has been reached, the total surface of the filter material is cleaned by a backwash procedure. This takes place by one rotation (360°) of the backwash device. The channel – shaped openings in the backwash strip, which seals to the inside surface of the perforated drum (carrier of the filter material) – executes the backwash of the minimum quantity of backwash liquid (filtrate), which is necessary to rinse the filter material free from impurities.

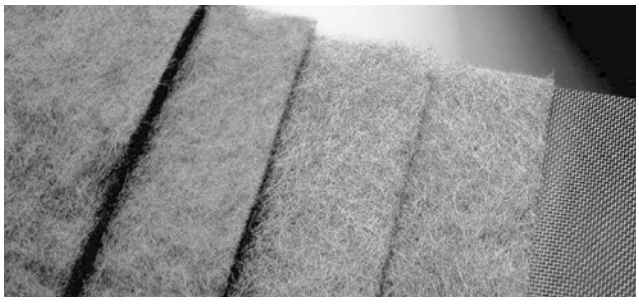
After having cleaned the whole surface the backwash device remains in the waiting position until the differential pressure reaches the preselected value.



Status „Filtration“



Status „Backwashing“



Stainless steel fleece for depth filtration

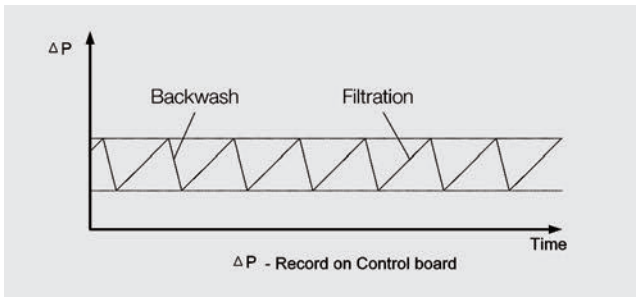
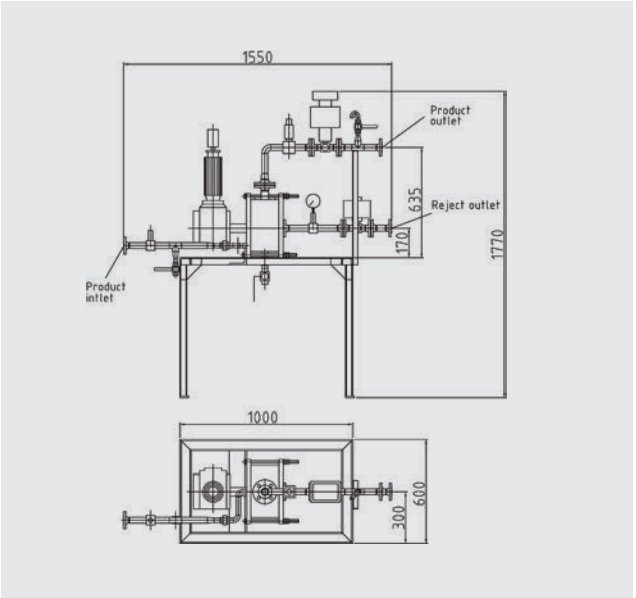


Chart - differential pressure

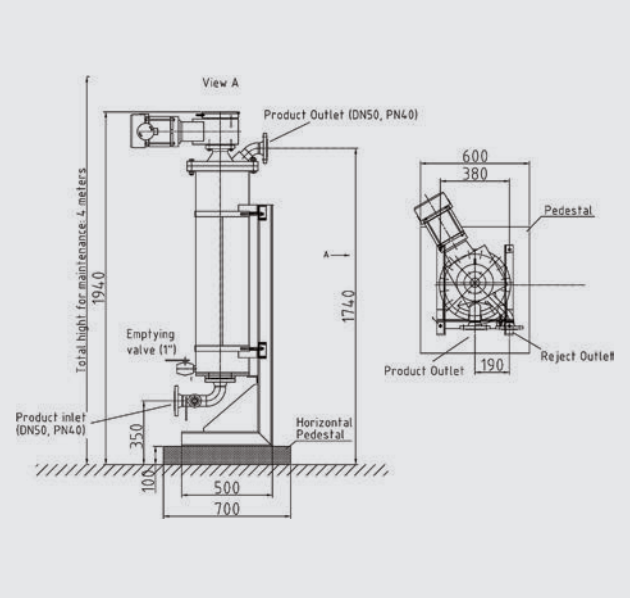
Design / construction type

ViscoFil is available in different sizes

ViscoFil 0,2 / 0,5



ViscoFil 5



ViscoFil 0,5

ViscoFil 5

ViscoFil 10

Design / construction type

	from	to
flow rate	10 l/h	100 m³/h
fineness of filtration	3 µm	100 µm
flange dimensions	DN25	DN80
design pressure	16 bar	25 bar
design temperature	0 °C	120 °C
range of application	filtration for low viscose fluids	

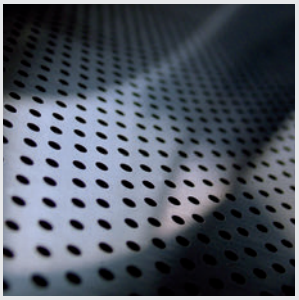
Fabrication material

Carbon steel, Stainless steel AISI 316Ti/L (1.4404, 1.4571), AISI 904L (1.4539)

Gaskets

EPDM, Silicone, Buna, Viton, PTFE

10/2012



Filtration and separation technology

Phone: +43 (0) 7672 701-3479
Fax: +43 (0) 7672 918-3479
E-mail: filter-tech@lenzing.com

Automatic backwash filters ▪ Cake filtration ▪ Microflotation ▪ Precoat filtration ▪ Filter housings
Filter elements ▪ Filter bags

Automation
Phone: +43 (0) 7672 701-2250
Fax: +43 (0) 7672 918-2250
E-mail: automation@lenzing.com

Sheet metal technology
Phone: +43 (0) 7672 701-3998
Fax: +43 (0) 7672 918-3998
E-mail: blechtechnik@lenzing.com

Mechanical construction
Phone: +43 (0) 7672 701-2345
Fax: +43 (0) 7672 918-2345
E-mail: mech-eng@lenzing.com

Industrial services
Phone: +43 (0) 7672 701-2345
Fax: +43 (0) 7672 918-2345
E-mail: mech-eng@lenzing.com

Mechatronics
Phone: +43 (0) 7672 701-3048
Fax: +43 (0) 7672 701-3745
E-mail: mechatronics@lenzing.com

Environmental technology
Phone: +43 (0) 7672 701-2378
Fax: +43 (0) 7672 918-2378
E-mail: umwelt-tech@lenzing.com

Pulp technology
Phone: +43 (0) 7672 701-3409
Fax: +43 (0) 7672 918-3409
E-mail: pulp-tech@lenzing.com

Viscose and fiber technology
Phone: +43 (0) 7672 701-2378
Fax: +43 (0) 7672 918-2378
E-mail: fiber-tech@lenzing.com

LENZING TECHNIK

Lenzing Technik GmbH · 4860 Lenzing, Austria · Phone: +43 (0) 7672 701-2202
Fax: +43 (0) 7672 96858 · E-mail: technik@lenzing.com · www.lenzing.com/technik