

LABORATORY FILTRATION SYSTEMS

The indispensable bench tools for a successful scale-up



DrM
www.drmgroupp.com

Lab filter units

The TSD (Totally Scaled Down) Pocket Filter offers the same features as the full-scale industrial FUNDABAC® Filter but on a bench scale. The unique features of the full scale FUNDABAC® filter candle (OD 82 mm) have been scaled down to 30 mm. The same types of filter media used on the industrial filter have been made available for the TSD. The filters have the same functions: filtration, cake washing under pressure and solids discharge either as a slurry by back-wash or as a dry cake.

The TSD enables the chemist to demonstrate process concepts to the chemical engineer and the project manager. The chemist's work will even demonstrate the optimum manner of cake discharge. The filter ability can be determined at various cake thicknesses and pressures as well as the correct levels of pre-coat and body feed to be used. The heating/cooling jacket (SS execution only) further enhances the flexibility of the TSD Pocket Filter.



TSD STAINLESS STEEL

850151.88

Material	SS 316L
Filter Area (m ²)	0.012
Filling Volume (lt)	0.95
Weight (kg)	10.7
Max. Pressure (barg)	-1/20
Max. Temperature (°C)	250
Heating jacket	Yes
Accessories	Filter candle, various ball valves, pressure gauge, gas flow meter, gas pressure reducers, gaskets in FKM or PTFE



TSD - XL STAINLESS STEEL

850218.88

Material	SS 316L
Filter Area (m ²)	0.048
Filling Volume (lt)	4.5
Weight (kg)	15.2
Max. Pressure (barg)	-1/10
Max. Temperature (°C)	250
Heating jacket	yes
Accessories	Filter candle, various ball valves, pressure gauge, gas flow meter, gas pressure reducers, gaskets in FKM or PTFE



TSD PVDF

850150.31

Material	PVDF
Filter Area (m ²)	0.012
Filling Volume (lt)	0.95
Weight (kg)	7.3
Max. Pressure (barg)	5
Max. Temperature (°C)	80
Heating jacket	No
Accessories	Filter candle, various ball valves, pressure gauge, gas flow meter, gas pressure reducers, gaskets in FKM or PTFE

TSD FEED TANK STAINLESS STEEL

850149.88



Custom designed feed tank for perfect integration with the DrM TSD lab filter and pump.

850139.88

881139.00 / 881140.00 / 881141.00



Material	SS 316L
Volume Vessel / Jacket (lt)	20.3 / 3.2
Max. Pressure vessel / Jacket (barg)	0.95 / 5.2
Max. Temperature (°C)	160
Weight (kg)	~25
Agitation options:	<ol style="list-style-type: none"> 1. Pneumatic mixer, 6 barg max drive gas pressure 2. FUNDAMIX® type 1 (see page 10)

NUTSCHE STAINLESS STEEL

850226.35



For initial evaluation of the suspension and preliminary selection of the most suitable filter cloth, Nutsche type pressure filters are available.

Material	SS 316L
Filter Area (m²)	0.001
Filling Volume (lt)	0.2
Weight (kg)	6
Max. Pressure (barg)	30
Max. Temperature (°C)	200
Heating jacket	Yes
Accessories	Ball valve, pressure gauge, gas pressure reducer

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850228.31



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Filling Volume (lt)	0.2
Weight (kg)	5
Max. Pressure (barg)	6
Max. Temperature (°C)	80
Heating jacket	No
Accessories	Ball valve, pressure gauge, gas pressure reducer



TSD FEED PUMP STAINLESS STEEL

850158.04

For optimal feeding of TSD filters, DrM offers air-driven double diaphragm pumps in both stainless steel and PVDF.

Material body	SS 316L
Material membrane	PTFE
Max. Feed Flow (lt/min)	18.9
Max. Pressure (barg)	8.5
Lt/Stroke	0.02
Temperature (°C)	-25/+105
Accessories	Pulsation dampener, pressure regulator, mounting platform



TSD PVDF FEED PUMP

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PERISTALTIC PUMP



Execution	Stand-alone, integrated user panel with display
Product contact parts	Santoprene / SEBS
Max. Flow (L / min)	2
Max. Pressure (barg)	7
Max. Temperature (°C)	45
Power supply (V AC)	100-240
Note	<ol style="list-style-type: none"> 1. Manual, analog and digital input and output functionality 2. Tri clamp or hose barb fittings available 3. Other peristaltic pump types, materials and compliance on request

LEVITRONIX PUMP

Pump & Flow control arrangement consisting of:



Kit includes	<p>2 pumps for 0.01 - 3 L/min. at 0.1 - 5 bar (in serial installation), max. 19'000 rpm, wetted parts PTFE, 1 In-line Ultrasonic flow meter 0 - 0.8 or 0 - 8.0 L/min., wetted parts PP, max. operating temperature 60°C, clamp on sensors available on request, control system with 7" color touch screen, connections for one flow and 3 pressure sensors</p>
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EXTENSION KIT FOR STAINLESS STEEL TSD FILTER

850157.88



This option allows the installation of a longer TSD candle (212 mm, included in the kit) and doubles the filter area to 0.024 m².

Kit includes

10 pcs. Various cloths of extended length
1 FKM o-ring gasket
1 Vessel tri clamp
1 FKM profile gasket
1 PTFE profile gasket

EXTENSION KIT FOR GLASS TSD FILTER

850157.68



This option features a borosilicate glass vessel extension with SS 316L connections, allowing a direct view of the filtration process.

Kit includes

1 candle extension
1 vessel tri clamp
1 splinter protection
1 FKM profile gasket
1 PTFE profile gasket
1 Stand extension

Max. Pressure (barg)

6

Max. Temperature (°C)

150

Filling Volume (lt)

1.35

Length / Diameter (mm)

300 / 80

Weight (kg)

~5.6

**AUXILIARY KIT FOR STAINLESS STEEL TSD FILTER**

850223.00

Kit includes

Various filter cloths
Seal tape (Teflon)
Clamps
Pincer
Gasket
O-ring (Silicon/FEP)
Various spanners
Hexagonal screw wrench

**AUXILIARY KIT FOR PVDF TSD FILTER**

850224.00

Kit includes

Various filter cloths
Seal tape (Teflon)
Clamp
Pincer
Screw joint-pneumatic
Sealing section TSD PVDF
O-ring (Silicon/FEP)
Clamping ring
Cable tie

**AUXILIARY KIT FOR FOR STAINLESS STEEL XL TSD FILTER**

850279.00

Kit includes

Seal tape (Teflon)
Clamp
Pincer
Screw joint-pneumatic
O-ring (Silicon/FEP)
Various spanners
Filter cloths according to application



ASSEMBLY SET FOR STAINLESS STEEL TSD FILTER

850222.00

Kit includes

9 pcs. screw joints
9 pcs. support sleeves
10 m of \varnothing 6 x 1 mm PTFE pipe
1 PTFE seal tape roll



ASSEMBLY SET FOR PVDF TSD FILTER

850221.00

Kit includes

10 pcs. screw joints
10 pcs. support sleeves
10 m of \varnothing 6 x 1 mm PVDF pipe
1 PTFE seal tape roll



ASSEMBLY SET FOR STAINLESS STEEL NUTSCHE

850227.00

Kit includes

6 types of filter cloths (5 pcs. of each)
1 FKM gasket
1 Profile gasket
1 O-ring
1 Hook key
1 Filling T



ASSEMBLY SET FOR PVDF NUTSCHE

850273.00

Kit includes

6 types of filter cloths (5 pcs. of each)
1 FKM gasket
2 pcs. O-ring
1 Filling T



EXTENSION KIT FOR PRESSURE NUTSCHE

850229.88

Kit includes

1 Extension
1 Tri-Clamp
1 FKM gasket

Material body

316L

Max. Pressure (barg)

-1/30

Max. Temperature (°C)

200

Filling Volume (lt)

0.80



FILTER AID SELECTION

850480.00

Kit includes

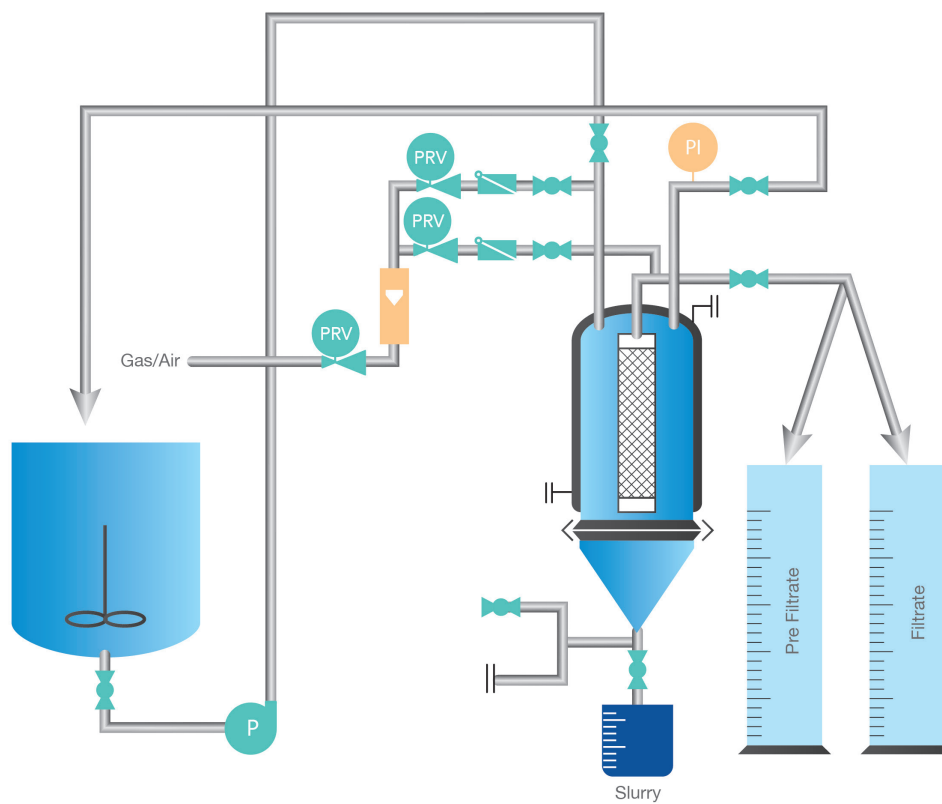
9 different filter aid bottles (100ml):

- Diatomite 50 - 115 mDarcy
- Diatomite 420 - 650 mDarcy
- Diatomite 1100 - 1700 mDarcy
- Diatomite 3200 - 4500 mDarcy
- Perlite 300 - 1200 mDarcy
- Perlite 1600 - 4000 mDarcy
- Cellulose 40 μ m fiber length
- Cellulose 200 μ m fiber length
- Activated Carbon

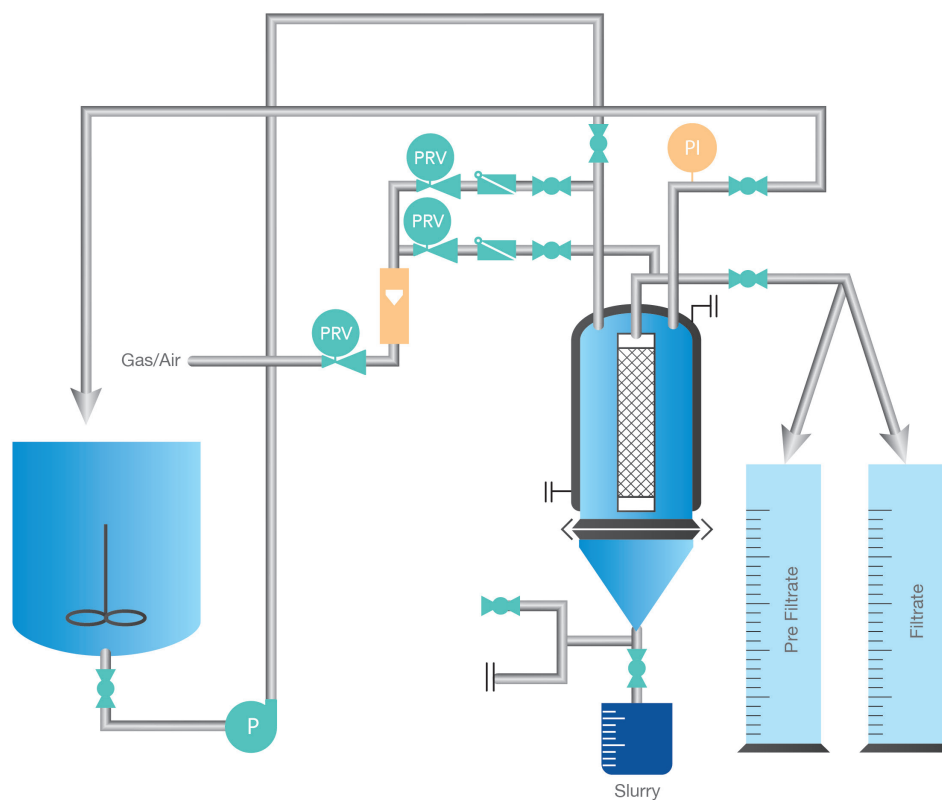
These are the only filter aid options, they cannot be exchanged.

Flow sheets

FUNDABAC® TSD Filter for dry cake discharge



CONTIBAC® TSD Filter for slurry cake discharge





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