

Pall Dia-Filtroplast® HDPE Surface Filter Elements



PIDFLEN

Pall's Dia-Filtroplast (DFL) elements have been especially designed for aggressive fluid service including brines, acidic and caustic solutions and are able to economically treat high solids levels in the several % weight range.

Pall Dia-Filtroplast filter elements are manufactured from High Density Polyethylene (HDPE). The coarse grained support body is coated with a thin, fine filtering polyethylene membrane, and both are strongly sintered together in a controlled sintering process. This results in an integral fusing of support and membrane layers giving a high abrasion resistance. Furthermore, the Dia-Filtroplast barrier filter element can be configured within a regenerable system and backflushed even at high pressures.

Typical Application Battery Manufacturing

- Collect precipitated metal hydroxides in Pre-Cam manufacturing process
- Remove bulk precipitated salts in Lithium processing
- Collect Lithium Carbonate/Lithium Hydroxide product
- Protect ultrafiltration system, nanofiltration and reverse osmosis membrane systems
- Purify mother liquor and washing water

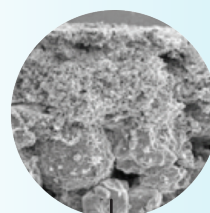


Why choose Pall's Dia-Filtroplast filter elements?

Competitive / Alternate Technology	Competitive / Alternate Technology disadvantage	Pall DFL Advantage	Customer Need
Filter Press (Main existing technology)	<ul style="list-style-type: none"> • Higher residence time • Loss of product • Requires recirculation to build filter cake or will lose fine particles • Batch process • Waste disposal - If filter aid used • Performance - not as efficient as absolute filtration, yield loss or rework (high energy / CO₂ emissions) 	<ul style="list-style-type: none"> • Automated process • Single stage process (rinsing & drying in same vessel) • Prevent loss of product • Less residence time in reactor • Less downtime due to regenerable nature • Less need of washing water • Closed system – eliminates exposure • High efficiency absolute rated • Can achieve filter cake moisture content to 1% with N₂ drying • Reliable & consistently deliver product quality • Absolute rated • Long service life • High mechanical strength • Support continuous operations • Reduce energy consumption / CO₂ emission • Reduce footprint 	<ul style="list-style-type: none"> • Product meets quality spec • Minimize production cost • Reduce CO₂ emission • Increase product yield • Continuous operation • Reduce manpower • Increase safety • Minimize waste • Reduce water consumption • Reduce process downtime to wait for larger particles from reactor / or having to recirculate to form a filter cake with filter press
Centrifuge + Belt Filter	<ul style="list-style-type: none"> • 2 Stage complex manual process • Reliability - Prone to mechanical failure • Loss of material • Performance - not as efficient as absolute filtration, yield loss or rework (high energy / CO₂ emissions) 		
Competitor backwash	<ul style="list-style-type: none"> • Symmetrical structure, low porosity, low flux • Lower mechanical strength • Lower service life • Not absolute rated – allows particles downstream 		

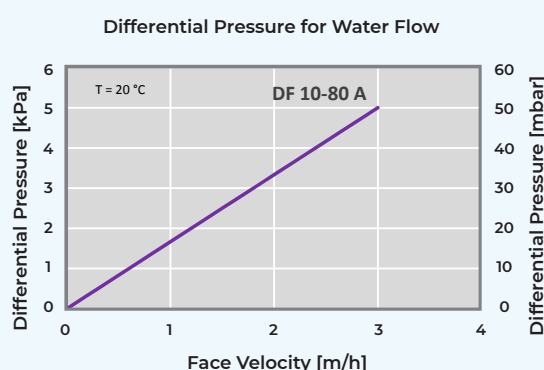
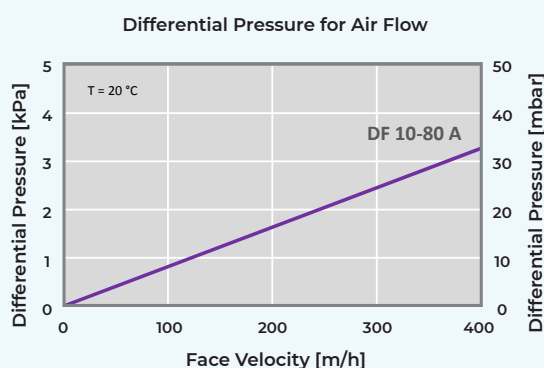
Pall's Dia-Filtroplast filter elements provide:

- Excellent chemical resistance resists strong alkalis, acids and saline solutions, alcohol, aliphatic hydrocarbons, organic fluids, e.g. oil
- Back-washable surface filter for liquids
- Back-pulsable surface filter for gases
- Hydrophobic and do not swell in water



Scanning Electron Micrograph

Flow vs. Differential Pressure



Technical Information

Dia-Filtroplast (DFL)	DFL 10-80 A
Filtration Grade for Liquids	< 1 µm
Porosity for Support	40 %
Material Density	0,55 g/cm ³
Maximum Backflushing Pressure	6 bar
Specific Permeability (air)	90 *10 ⁻¹³ m ²
Specific Permeability (water)	25 *10 ⁻¹³ m ²
Maximum Temperature	70 °C
Thermal Expansion Co-efficient (25 - 70 °C)	2 *10 ⁻⁴ /K
Dimensions (Do / Di)	70 / 40 mm

Ordering Information

Part Number	Pall Dia-Filtroplast	Length ² [mm]	Effective filtration area [m ²]	Weight [kg]
89583148	Filter candle*	750	0,11	1,3
84274200		1195	0,22	2,5
84236500		1695	0,33	3,0
84243000		2045	0,41	3,3
89581433		2250	0,44	3,6
89472655	Flanged Filter*	1040	0,22	1,7

* Do / DI 70mm / 40mm

²Total candle length with connecting parts. Special dimensions and special products available upon request.

Please contact Pall for enquires relating to dimensions not specified above.



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The information provided in this literature was reviewed for accuracy at the time of publication. Product data may be subject to change without notice. For current information consult your local Pall distributor or contact Pall directly.

IF APPLICABLE Please contact Pall Corporation to verify that the product conforms to your national legislation and/or regional regulatory requirements for water and food contact use.

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