



Filtertechnik Jäger GmbH

Filter Bags



Siemensstraße 1 - Werk 1 / Benzstraße 7 - Werk 2 • 89264 Weißenhorn
Tel.: 07309 9548-0 • Fax: 07309 9548-20
www.filtertechnik-jaeger.de • email: info@filtertechnik-jaeger.de

Standard Filter Bags

All Purposes Filter Bag • Wide Range of Materials • Low Filtration Cost • Sewn Construction or Fully Welded • Needle Felt or Mono Filament •

Standard Filter Bags are made out of economically manufactured needle felt and plain fabrics (plain weave). The achievable filter ratings are generally nominal and more a reference value than an absolute data. Needle felts are tangled fibres made from relative coarse textile fibres. Filter bags itself manufactured normally from needle felts with thicknesses from 1 to 4 mm. Different felts densities are created by variation of fibre quantity and arrangement. The behavior of particle separation in terms of the critical particle size are decided lately by the "largest pore". By means of the random fibre orientation irregular channels (pores) in terms of shape and diameters are formed. Dirt particles being in the fluid stream have to follow these channels (pores) and thus be retained in the depth of the fibre matrix and not only at the surface. Even thin long fibers (smaller than the mean pore) are hindered to passage.

The separation behavior of a needle felt is significantly affected by the operation conditions, means the nature of the liquid flow (pressure alternation, turbulence, high flow) exert a high influence to the filtration result. The relatively coarse fibers and the randomly orientation (after the needle punching process) results in a filter material with "nominal" separation behavior specially in terms of the filter rating.

Standard filter bags find "their" application in processes with low budget and low filtration requirements. Various filter materials can be chosen (Polypropylene P,

PES Polyester, Polyamide NMO) to meet maximal chemical resistance .

A wide range of filter ratings (nominal) is available.

Needle felt bags are sewn in the simplest form and the collar comes with a traditional metal ring.

These bags fits (due to the universal shape) in almost every bag filter housing.

Filter bags with plastic collars are normally fully welded and provide a more reliable filtration due to welded seams and the better sealing in the filter housings (no bypass).

Mesh filter bags made from NMO (Nylon Mono Filament) are pure surface filter. Based on the consistent mesh size they have a 100% separation behavior

(all particles larger than the mesh size will be trapped on the surface).



Product Code
Standard Filter Bag

Bag size
0 = Ø 100 x 230mm
X0 = Ø 100 x 380mm
1 = Ø 180 x 390mm
2 = Ø 180 x 810mm

2

- PES

Filter material
P = Polypropylene
PES = Polyester
NMO = Polyamide
PMO = Polypropylene-Monofilament
PEMO = Polyester-Monofilament

Filter rating
see Table

50µ

/ PE

Collar / ring
PE = Polyester
P = Polypropylene
VA = Edelstahl 1.4301
VZ = Steel zinc plated

Note: NMO monofilament bags with mesh size <100 microns come with reinforced seams (piping).



High Performance Filter Bags Series XL

Fine Fibers compared to Standard • High Pore Volume • Extended Life Filter Bags • Fully Welded • High Dirt Capacity •

High Performance Filter Bags Series XL

The filter matrix is made out of finer fibers compared with the needle felt of standard filter bags. In addition felt with higher thicknesses are used. As a result a much higher pore volume is generated and consequently a significant more precise separation behavior in respect to the specified cutoff-point will be achieved. The high pore volume and the accurate filter rating results in long filter life and

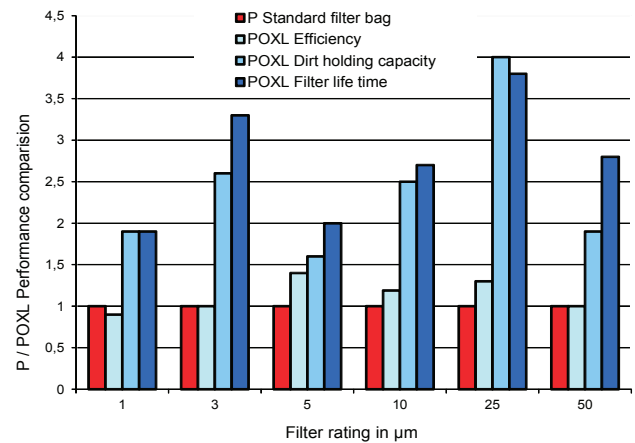
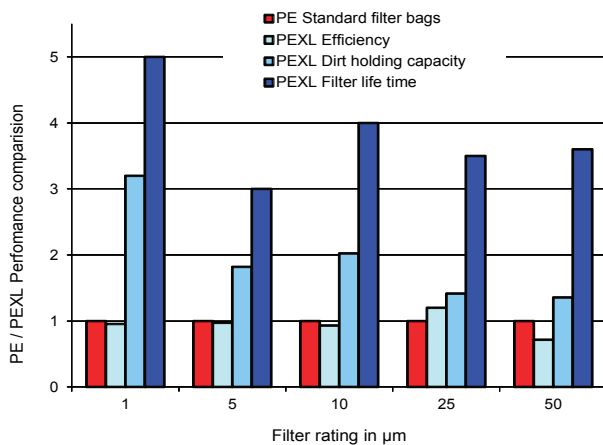
better filtration efficiency.

The bags are made entirely (filter material and collar) from the same type material.

Two fiber materials are available, P Polypropylene and Polyester PES.

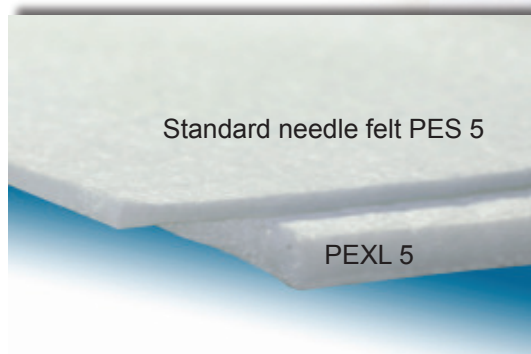
Fully welded and plastic collars are a matter of course.

In order to minimize fiber migration, the filtrate side of the filter medium is glazed.



The graph examples clearly show the high efficiency filter material in compa-

significant better performance, in particular the longer service life of the rison with the standard filter material.



Fine fibers, thicker material = Higher performance

Glazed surface = No fiber migration



Fully welded materials = No bypass

Product Code
Series XL

Bag size
1 = Ø 180 x 390mm
2 = Ø 180 x 810mm

2

- POXL

Filter rating
see Table

/ 50

Filter material
POXL = Polypropylen
PEXL = Polyester



High Performance Filter Bags Series L

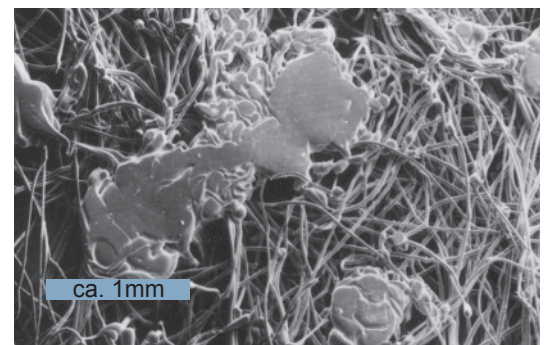
Fine Fibers • High Pore Volume • Extended Service (Filter) Life • High Dirt Holding Capacity • High Flow Rates • Very Cost Effective •



High Performance Filter Bags Series L

are specially designed and in combination with a specific restrainer basket a filter area of more than 80 % compared with standard filter bags is provided. Used in standard bag filter housings, the “capacity” of the filter system is increased in a very simple way. New filter equipment can designed to be smaller and operates more cost-effective. Two fiber materials Polypropylene P and Polyester PES are available. For monofilament (mesh) bags Polyamide

(NMO) is used. All types of the Series L are manufactured by a conventional sewing process. The plastic collars are made out of Polypropylene or Polyester to ensure identical material compositions. The surface of the filter media both Polypropylene and Polyester is “glazed finished” to inhibit fiber migration. For surface filtration purposes similar filter bags made out of Polyamide monofilament (NMO) are available.



REM-shot of the glazed surface finish
= Minimized fiber migration

A “Bag” in a “Bag” provide up to 80% more surfaca area.

Product Code
Series L

Bag size
1L = Ø 180 x 340
2L = Ø 180 x 690
3L = Ø 180 x 720

2L

- PES

Filter material
P = Polypropylene
PES = Polyester
NMO = Polyamide
POXXL = Polypropylene
PEXXL = Polyester

Filter rating
see Table

10µ

/ PE

Collar / ring
PE = Polyester
P = Polypropylene
VA = SS 304
VZ = Steel zinc galvaniced



Absolute Filter Bags Series A

Fully Welded • Efficiency 99% • Pure Polypropylene or Polyester • High Dirt Holding Capacity • Long Filter life • Fiber release free*

Absolute Filter Bags Series AL/AE with 99% efficiency of the rated particle retention are very close to a 100% cut-off. This is achieved with a construction from micro fibers (Melt blown) with asymmetrical layers. The Filter bags are made of 100% pure Polypropylene or Polyester. No binders or textil finishing are used. All filter components are FDA listed materials conforming to code 21 CFR Part 177 as well as to the EC Directive 2002/72/EC. The fully welded construction (seams and collar) ensure the high efficiency. The filter material identical plastic collar fits excellent in standard bag filter housings and seals bypass free. Series AL/AE bags are the right product for a superior filtration process.



All seams are fully welded. The plastic collar fits perfect in bag filter housings and is sealing absolute bypass free.

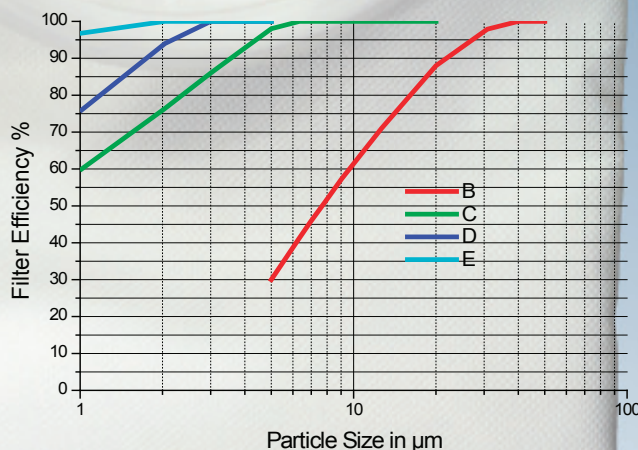
Absolute Filter Bags Series AB/AC/AXL

A special design with micro fiber filter material and a multiple layer layout feature a larger filter surface area. High filtration efficiency (depending on operating condition up to 99,9% / β -ratio 1000) as well as a very high dirt-holding capacity is achieved. The Filter bags are made from 100% pure Polypropylene. No binders or textil finishing are

used. All filter components are FDA listed materials conforming to code 21 CFR Part 177 as well as to the EC Directive 2002/72/EC. The filter material identical plastic collar fits excellent in standard bag filter housings and seals bypass free. The fully welded construction (seams and collar) ensure the high efficiency.



Multiple layers of different dense filter media



Product Code
Series A

Bag size
1 = Ø 180 x 390mm
2 = Ø 180 x 810mm

2

- AE

Filter rating
see Table

1µ

Filter material
AL = Polypropylene
AE = Polyester
AB = Polypropylene
AC = Polypropylene
AXL = Polypropylene

* Note: Filter bags release after the installation (bag change out) always particles possibly also fibers to the filtrate. This is caused by the manufacturing process. With the recommended filtrate recirculation the impurities will be trapped reliable on the upstream side of the bag.

Filter Bags Overview

Specification

	Standard Filter Bags				High Performance Filter Bags							
Size / Type	0	X0	1	2	1 POXL 1 PEXL	2 POXL 2 PEXL	2L-PES 2L-NMO	3L-PES 3L-NMO	1-POXXL 1-PEXXL	2-POXXL 2-PEXXL	3-POXXL	
Lenght [mm]	230	380	390	810	390	810	690	720	330	690	720	
Diameter [mm]	100	100	180	180	180	180	180	180	180	180	180	
Filter area [m ²] nominal	0,09	0,16	0,24	0,48	0,24	0,48	0,85	0,95	0,55	0,85	0,95	
Bag volume [L]	1,3	2,5	9,9	19,8	9,9	19,8	-	-	-	-	-	
recom. Initial pressure drop [bar]	≤ 0,1	≤ 0,1	≤ 0,1	≤ 0,1	≤ 0,1	≤ 0,1	≤ 0,1	≤ 0,1	≤ 0,1	≤ 0,1	≤ 0,1	
allow. Pressure drop [bar]	2,0	2,0	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	
theor. Flowrate max. [m ³ /h] *	6	12	16	30	16	30	35	40	20	45	50	

* depending on operating conditions like: Filter rating, Filter media, Type of filtration, Fluid and particle characteristics etc.

Filter Bag Selection Table

	Standard Filter Bag		High Efficiency Filter Bag		Absolute Filter Bag
Selection Criteria	Felt	NMO	XL	XXL	Meltblown
Available Filter Ratings	++	+++	++	++	+
Efficiency	+	+++	++	++	+++
Flow Rate p. Bag	++	+++	++	+++	+
Dirt Holding Capacity	+	+	+++	+++	++
Filtration Cost	++	++	+++	+++	+
Migration free	+	+++	++	++	+++
New equipment invest	+	+	++	+++	++

+ = good, ++ = better, +++ = excellent

Filtration cost = Filter bag cost + Labour cost (Bag change) + Product loss

Migration free = no fiber release or other substances to filtrate

New equipment invest = Filter equipment cost + Installation cost



Product Range

Type of Filter Bag	Description	Material	Media type	Max. Temp. (°C)	Filter Rating (µm)											
					1	5	10	25	50	80	100	125	150	200	250	
Standard Filter Bags	P	PP	Needle felt	80	x	x	x	x	x		x			x		
	PES	PET	Needle felt	140	x	x	x	x	x		x			x		
	NMO	PA	Mesh fabric	190		x	x	x	x	x	x	x	x	x	x	
High Performance Filter Bags	POXL	PP	Special Needle felt	80	x	x	x	x	x		x					
	PEXL	PET	Special Needle felt	140	x	x	x	x	x		x					
	L-P	PP	Needle felt	80	x	x	x	x	x		x					
	L-PES	PET	Needle felt	140	x	x	x	x	x		x					
	L-NMO	PA	Mesh fabric	190		x	x	x	x	x	x	x	x	x	x	
	POXXL	PP	Special Needle felt	80	x	x	x	x	x		x					
Absolute Filter Bags	PEXXL	PET	Special Needle felt	140	x	x	x	x	x		x					
	AL	PP	Meltblown, 10 layer	80	x	x	x	x								
	AE	PET	Meltblown, 10 layer	140	x	x	x	x								
	AB	PP	Meltblown, 5 layer	80	x	x	x	x								
	AC	PP	Meltblown, 3 layer	80	x	x	x	x								
	AXL	PP	Meltblown, pleated	80	x	x	x	x								

and Specification

Chemical Resistant

Absolute Filter Bags						
	1AL	2AL	AE	AB	AC	AXL
	390	810	810	810	810	810
	180	180	180	180	180	180
	0,24	0,48	0,48	3	3	3
	-	-	-	-	-	-
	≤ 0,1	≤ 0,1	≤ 0,1	≤ 0,1	≤ 0,1	≤ 0,1
	1,2	1,2	1,2	1,2	1,2	1,2
	6 -10	12 -20	12-22	12-22	12-22	7 -20

Material	Polypropylene	Polyester	Polyamide
Acids	++	++ / +o	++ / +o
Bases	++	++ / +o	+o / o
Oil / Fat	++	++	+o / o
Alcoholics	++	++	++
Esters	++	++	++
Aliphatic Hydrocarbons	++	++	++
Aromatic Hydrocarbons	o	+o	++
Oxidising Agents	++	+o / o	+o

++ = excellent, +o = fair o = unsuitable



							Size				Collar / Ring				Sur- face	Remarks
							0	X0	1	2	P	PE	VA	VZ		
	300	400	600	800	1000	1250										
							x	x	x	x	x		x	x		sewn or welded
							x	x	x	x		x	x	x		sewn or welded
	x	x	x	x	x	x			x	x	x		x	x		sewn
									x	x	x	x			glazed	fully welded style
									x	x	x				glazed	fully welded style
									x				x		glazed	sewn or welded
									x				x		glazed	sewn or welded
	x	x	x	x	x	x			x				x		glazed	sewn style available only
											x				glazed	fully welded style
												x			glazed	fully welded style
									x	x						fully welded, 10-layer asymmetric
									x			x				fully welded, 10-layer asymmetric
									x	x						fully welded, 5-layer asymmetric
									x	x						fully welded, 3-layer asymmetric
									x	x						fully welded, pleated pre filter



Filtertechnik Jäger GmbH

a supplier of a comprehensive portfolio in **Filter Bags** from various available filter media
and **Filter Housings**

Filter bags are an essential part of today's separation applications and achieved a top-ranking in many filtration processes. Their usage is simple and reliable. The filtration result is effective and the operating cost are extremely economical. A wide range of filter media and a simple adaptation of a bag filter system to the process

requirements, makes the solution of a filtration problem almost to a no-brainer.

Filter bags are made of three-dimensional randomly oriented fiber layers with different thicknesses and layout for depth filtration. Bags to be used for pure surface filtration are made out of two-dimensional mesh fabrics.

Standard filter bags are made from economically manufactured needle felt and simple fabrics (plain weave). The achievable filter efficiency rates are specified as nominal. A filter element to be used in most of bag filter applications.

Economical

High Performance Filter Bags Series XL have a fiber matrix showing much finer fibers and / or an asymmetric structure. They are more accurate in terms of their stated separation behavior and outperform standard filter bags in all respects.

More Performance

High Performance Filter Series L provide in combination with a special restrainer basket increased filter area (80% more) and thus significantly longer operating periods with the associated economic benefits.

More Economical

Absolute Filter Bags Series A perform to an efficiency of up to 99.9% (β -ratio 1000) at the stated micron rating. For critical applications which require a reliable filtration result.

Excellent Filtration Quality

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