

MAHLE

Industrial Filtration

Filter bag
amaFlow Needed felt

1. Introduction

For a wide number of filtration applications amaFlow filter bags are a simple, easy to use and economical choice. The amaFlow needed felt bags are mainly employed where depth filtration is required. The three dimensional media provides good depth filtration characteristics and high solids loading versus two dimensional media.



2. Features

- Bags are quick and easy to change-out.
- Inside-out flow keeps contaminants enclosed in the bag.
- Bags are silicone free (does not apply to 0.5 µm AP bag) and are produced in a silicone free environment.
- The amaFlow AP 0.5 bag has an improved selectivity because of a special coating layer on the felt.
- Materials used for amaFlow AP and SP conform to the European Directive 2002/72/EC for plastic materials and articles intended to come into contact with food stuffs (food & beverage)
- Filter bags and bag filter housings are usually employed as closed systems, but open or end-of-pipe applications are attractive alternatives.
- The standard amaFlow filter bags are sized to fit into our baskets and housings, but will also fit into most other housings. Special sizes are available on request.
- Cost effective at lower microns versus two dimensional media (mesh).

4. Sealing systems

In order for bag filters to function properly, especially with smaller pore sizes, a good seal between bag and support basket is of great importance. For this reason we have two options:

- The Snap-Collar; a felt-covered metal or plastic ring which clicks neatly into the upper collar of the support basket. The felt serves as the sealing.
- The plastic flange (with handles) which tightly fits into our standard baskets.

6. Multi layered and pleated felt bags

Bags with multiple layers or pleats offer advantages when removing particles which are difficult to filter and have a longer service life. For information on amaFlow multi layered or pleated felt bags please see Data Sheets of these products.

3. Description

The amaFlow needled felt filter bags with Snap-Collar are sewn as standard at the ring, have a welded longitudinal seam and are sewn at the bottom seam. Other configurations are possible depending on material.

The polyester and polypropylene filter bags are equipped with handles as standard:

- S, SS, PO: Finger grips inside bag (size 1, 2: slits in felt). An additional handle strap is optional, from the same material as needled felt.
- P: 2 handles in ring (size 3, 4: 1 handle)

Types

The amaFlow needled felt bags are available as standard in polyester or polypropylene with many different micron ratings.

Other materials such as nylon, viscose, PTFE, PPS and Nomex® are available on request.

The amaFlow filter bags seal with either a Snap-Collar seal comprising of either carbon steel, stainless steel or polypropylene or with a plastic seal flange. For open systems (uses outside a filter housing) the filter bags can also be supplied without any ring (thus no integrated means of fastening) or with a pull cord only.

5. Surface treatment

Polypropylene is thermally treated on the outside as standard, for polyester this is available as an option. This will further minimise any possible release of fibres from the needled felt filter media. During the thermal treating process the softened fibres are bonded together on the downstream side of the bag. Also available as an option are anti-migration covers on the felt, made either from non-woven nylon fleece or very fine nylon mesh.

7. Temperature and chemical resistance

Filter bag grade	AP polyester	SP polypropylene	N nylon	TF PTFE	RT PPS	X Viscose	
Max. temperature [°C]	150*	100	100	250	170	100	
resistance to:							+++ = excellent ++ = good + = fair - = not recommended
inorganic acids	++	++	-	+++	+++	-	
organic acids	++	+++	+	+++	+++	++	
alkalines	+	++	+++	+++	+++	+	
oxidising agents	+	+	-	+++	-	+	
solvents	+++	++	+++	+++	+++	++	
vegetable/animal oils	+++	+++	+++	+++	+++	+++	
micro-organisms	+++	+++	+++	+++	+++	-	

* 100 °C for polypropylene ring / flange

8. Order code

Example

amaFlow AP

10

P

2

S

-

-

-

Material

AP = polyester

SP = polypropylene

N = nylon

TF = PTFE

RT = PPS

X = viscose

Micron rating [μm]

AP: 0.5, 0.8, 1, 3, 5, 10, 25, 50, 75, 100, 150, 200

SP: 0.8, 1, 3, 5, 10, 25, 50, 75, 100, 150, 200

N: 1,5, 10, 25, 50, 100

TF: 1, 5, 10, 15

RT: 1, 2.5, 5, 10, 20, 100

X: 5, 10, 25, 50, 100

Finish

P = plain (not for SP)

P/S = standard finish for SP (with improved outer surface: thermally treated)

S = outside thermally treated (AP)

Bag dimensions

1 = size 1 (\varnothing 178 x 432 mm)

4 = size 4 (\varnothing 104 x 356 mm)

2 = size 2 (\varnothing 178 x 787 mm)

30 = size 30 (\varnothing 106 x 254 mm)

3 = size 3 (\varnothing 104 x 203 mm)

65 = size 65 (\varnothing 106 x 559 mm)

Ring/seal

S = carbon steel ring (Snap-Collar)

SS = stainless steel AISI 304 ring (Snap-Collar)

PO = polypropylene ring (Snap-Collar: AP and SP only)

P = polypropylene flange (size 1, 2 : for AP and SP only)

polypropylene flange (size 3, 4 : for AP and SP only)

T = PTFE ring (Snap-Collar, TF standard)

DS = draw string

Welded/sewn

- = standard with ring sewn, longitudinal seam welded and bottom seam sewn

For AP 0.5, all N, TF, RT, X and for all size 3, 4, 30, and 65 : standard all sewn

Options for AP \geq 0.8 and SP in size 1 and 2

WE = all welded (P flange only, standard for SP)

Additional handle

HS = handle strap, from same material as needed felt (standard on size 30 and 65 for S, SS and PO ring)

Other options

1PK = single packed in plastic bag, together in box

N = nylon mesh cover (available for AP and SP)

C = nylon fleece cover (available for AP and SP)

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