

# INFASTAUB



*Breathe The Difference: Pure Air*

## INFA-JET Pocket filter

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## INFA-JET, AJN: The pocket filter system

The pocket filter system INFA-JET is a flexible modular system for continuous de-dusting of machines and workplaces.

The extensive series is suitable for volume flows of approx. 100 m<sup>3</sup>/h to approx. 25,000 m<sup>3</sup>/h. Almost every combination of design - high, low, round or rectangular - is practicable. During the filtration phase, the cleaning of the filter pockets or pleated filter elements is done in periodic intervals by pulses of compressed air (jet cleaning).

Almost every customer demand can be fulfilled with the pocket filter INFA-JET type AJN - we realise for you the most economical solution both within requirements of the process technology as well as in case of difficult spatial situations. For example:

- as vent filter with or without filter housing or with secondary filter stage
- without or with adjacent or flanged fan
- with dust discharge via rotary valve, double pendulum flap or dust bin
- in pressure shock resistant design respectively with constructive explosion protection
- variants with one chamber or multiple chambers



## The distinguishing features

- Basic module consisting of closed filter head, filter elements and pneumatic cleaning unit
- Housing strength up to +/- 45 mbar g (basic version)
- Modular system for flexible adaption to each application
- Modular supplements, e.g.
  - filter housing for horizontal or vertical pocket arrangement
  - lower section with hopper, supporting legs and dust collecting bin
  - design as cylindrical dust collector ("total separator")
  - flange-mounted or console-mounted fan
  - inspection cover
  - secondary filter stage
- Various accessories at dust discharge, e.g. butterfly valve, rotary valve, double pendulum flap, screw conveyor, level indicator within the dust bin
- Design for ATEX zones
- Pressure-resistant design for process pressures above and below atmosphere up to +/- 0.5 bar g
- Pressure-shock resistant design for reduced explosion pressure (e.g. 0.4 bar g or 2.0 bar g) with pressure relief or for maximum explosion pressure (9 bar g)
- Electronic control unit for filter cleaning controlled by timing cycle or differential pressure. Also for additional components (fan, rotary valve, etc.)
- Control system and motors for special voltages, e.g. 500 V
- All housing parts, internal parts or components in contact with the product / dust made of stainless steel
- Filter media available in different qualities (e.g. FDA-conform for food industry)
- Design for hot gases up to 240 °C
- Sound absorbing kits for use in noise-sensitive environments
- Electric heating of the filter housing including thermal insulation
- Quick-exchange technology for easier access in case of filter media change



A compact design with numerous geometric variants and different lengths of filter pockets permits the optimum adaption to procedural and spatial situations.

### Economic de-dusting with the AJN pocket filter

- Delivered in pre-assembled units
- Compact design
- Solid construction "made in Germany"
- Superior cleaning behaviour by bloating the filter pockets during the jet pulse ("carpet beating" effect)
- Low operating costs, minimizable by cleaning triggered by differential pressure measurement

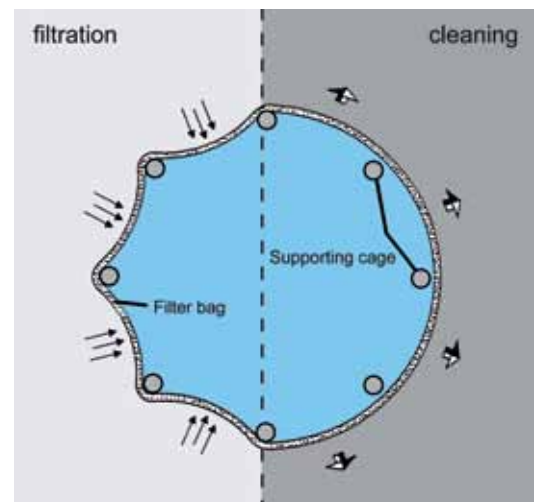
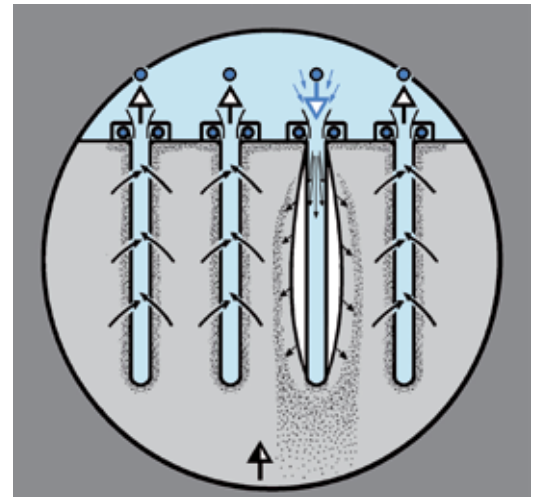
## The cleaning

The dust-laden air flows to the entire filter surface and passes through the filter elements from the outside to the inside. The carried dust is separated on the exterior side of the filter elements. Afterwards the air leaves the filter in cleaned condition.

The dust separation causes a continuously growing dust layer on the filter elements. As a result of this the differential pressure rises between the raw gas side and the clean gas side. Therefore the filter elements have to be cleaned in periodic intervals. The cleaning of the filter pockets or alternatively pleated elements is done during the filtration phase in periodic intervals by short-term, abrupt pulses of compressed air, called jet-pulse technique. The filter elements are inflated shortly and the filter dust layer is detached because of the pulse transmission. Also sticky or crusted dusts are cleaned by the jet-pulse. The differential pressure decreases and the filtration cycle starts from the beginning.

### Advantages of the jet-pulse cleaning

- ❑ Continuous operating of the filter, also during cleaning of the filter elements
- ❑ Highest efficiency of all mechanical and pneumatic cleaning kinds due to suction of high amounts of secondary air
- ❑ Optimum cleaning enables long lifetime of the filter material



From A like animal feed to Z like zink smelting: For every industry the appropriate filter.



# The filter media

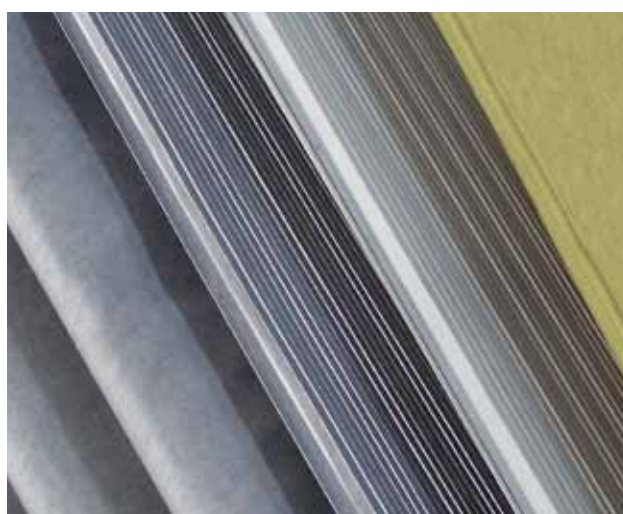
For the optimum adaption to the given task either filter pockets or pleated filter elements can be installed:

## Filter pockets

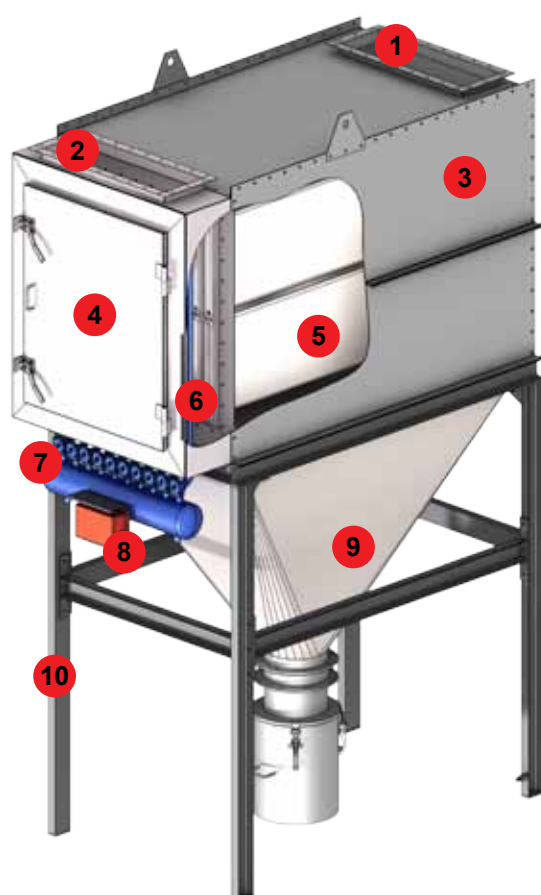
are highly flexible because of their base material made of needle felt. They are fitted onto stiff filter supporting frames. Due to their mechanical flexibility they can be used for very adhesive, respectively sticky dusts. For the efficient cleaning of even finest dusts or in case of difficult conditions inside the filter - e.g. hydrolysis, acid or alkaline reaction, high temperatures - the AJN can be equipped with a wide variety of different needle felt qualities. The range goes from cost-efficient polyester and surface coated materials, fine and micro fibre qualities, FDA-conform qualities for the food industry, aramides for hot gas applications to pure PTFE-felts for special tasks.

## Pleated elements

are self-supporting, pleated out of non woven materials and almost stiff filter elements, which have a bigger filter area compared to filter pockets. Therefore, they are mostly used for easy to moderate cleanable dusts, if also big volume flows have to be processed while space is limited or if low residual dust contents are demanded.



Filter pockets	Pleated filter elements
short (filter area each 0.75 m <sup>2</sup> )	Type A (filter area each 2.0 m <sup>2</sup> )
long (filter area each 1.0 m <sup>2</sup> )	Type B (filter area each 2.5 m <sup>2</sup> )
SL (filter area each 1.5 m <sup>2</sup> )	



- 1 Raw gas inlet
- 2 Clean gas outlet
- 3 Raw gas chamber
- 4 Clean gas chamber
- 5 Filter pocket
- 6 Blowing nozzle
- 7 Compressed air reservoir with diaphragm valves
- 8 Control unit with solenoid valves
- 9 Dust discharge hopper
- 10 Supporting legs

## AJN design

### INFA-JET vent filter with or without fan AJN..4

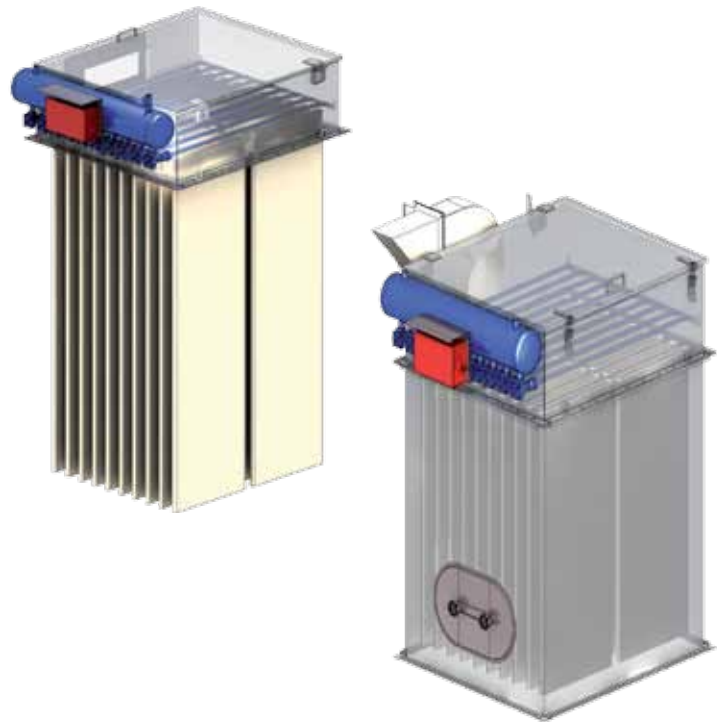
Fully automatic vent filter for continuous de-dusting of e. g. pneumatically or mechanically filled containers, belt conveyors, mixers, etc.

The product, which is separated from the filter elements, continuously falls back into the system during cleaning.

Optional assembly of a secondary filter stage (filter cassette according to class EU 13) in the cover hood of the clean gas chamber for residual dust contents  $< 1 \text{ mg/m}^3$ .

#### Execution:

Basic unit as rectangular filter head or with filter housings for vertical (F-version) or horizontal (FH-version) removal of the filter pockets; one chamber or multiple chamber design. Different lengths and adjustment of filter pockets for an optimum adjustment to given spatial restrictions. Optional mounting of fans to create an exhaust air flow, respectively to create suction pressure in the associated components.



### INFA-JET dust collector AJN..3 (SL / UT / FH)

Fully automatic dust collector for central aspiration of e.g. crushing mills, sieves, mixers, conveying units for bulk solids, silos, dryers, etc.

The product, which is separated from the filter elements, is merged in the dust hopper and either collected in an attached bin or conveyed to other processing facilities via discharge units (for example butterfly valve, rotary valve, double pendulum flap).

#### Execution:

One chamber or multiple chamber filter in rectangular design, different heights and lengths for an optimum adjustment to given spatial restrictions. Raw gas inlet from the top or through the backside (type "UT" in the hopper). Clean gas outlet on the top or on the side.



### INFA-JET dust collector AJN..3 dsf

Pressure shock resistant design of the dust collector AJN ./.3.

Appropriate for de-dusting of processes where explosive products are handled and for which the concept of constructive explosion protection is planned. Reinforced design up to 0.4 bar g with pressure relief devices, e.g. rupture discs or relief valves in the back or explosion suppression by using high performance extinguishers.

#### Execution:

One chamber or multiple chamber filter in rectangular design, different heights and lengths for an optimum adjustment to given spatial restrictions. Raw gas inlet from the top or through the back. Clean gas outlet on the top or on the side.



### INFA-JET AJN..4 Round collector

Fully automatic dust collector for volume flows with high concentrations of material ("total separator").

The round design allows the operating of process pressures above and below atmosphere up to +/- 0.5 bar g or a pressure shock resistant design up to 9.0 bar g.

#### Execution:

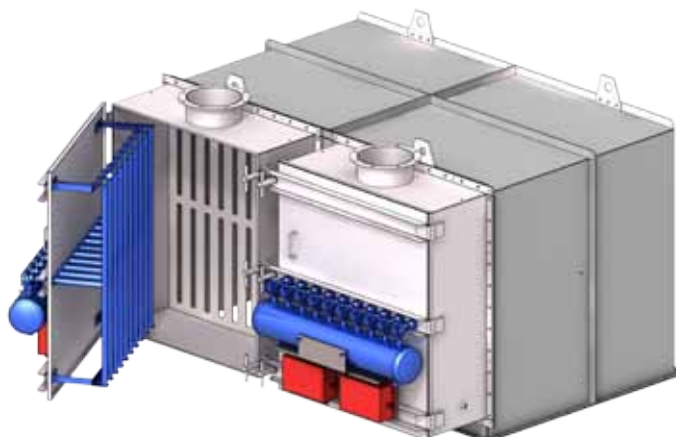
Round housing to insert the filter elements, with product inlet, dust discharge hopper, brackets and supporting legs. Also deliverable as bunker filter without hopper.



### INFA-JET AJN in quick change version

All described designs are available as one chamber filter or two chamber filter with an optional quick change version, where the cleaning unit is integrated in the cover hood. When opening the hood, the compressed air tank and nozzle tubes swing out. This allows an easier and faster change of the filter pockets.

This design can also be used with restricted mounting heights, because additional space for the compressed air tank above or below the cover hood is not necessary.



# Characteristics AJN design

Technical specifications / filter type		AJN..4	AJN..4 FT	AJN/..3 (SL / UT / FH)	AJN/..3 (SL / UT / FH) FT	AJN..4 Round separator	AJN..4 FT Round separator
x = standard design o = optional - = not possible							
Filter head / plug-in filter		+	+	-	-	-	-
Filter head including housing for filter media		o	o	-	-	+	+
Dust collector (with supporting legs)		-	-	+	+	o	o
Appropriate for discontinuous operating		+	+	+	+	+	+
Appropriate for continuous operating		+	+	+	+	+	+
Filter media	filter pockets	+	-	+	-	+	-
	pleated filter elements (FT)	-	+	-	+	-	+
Minimum operating temperature	- 20 °C	+	+	+	+	+	+
	- 40 °C	o	o	o	o	o	o
Maximum operating temperature	80 °C	+	+	+	+	+	+
	120 °C	o	-	o	-	o	-
	240 °C	o	-	o	-	o	-
Pressure resistant +/- 0.045 bar g		+	+	+	+	+	+
Pressure resistant +/- 0.5 bar g		o	o	-	-	o	o
Gas-tight design		o	o	o	o	o	o
Explosion protection according to ATEX		o	o	o	o	o	o
Constructive explosion protection: Pressure shock resistant up to	0.4 bar g	o	o	o	o	o	o
	2.0 bar g	o	o	-	-	o	o
	9.0 bar g	-	-	-	-	o	o
Parts in contact with the product made of stainless steel		o	o	o	o	o	o
Parts on the clean gas side made of stainless steel		o	o	o	o	o	o
Appropriate design for food industry		o	o	o	o	o	o
Residual dust content up to	20 mg/m <sup>3</sup>	+	+	+	+	+	+
	0.01 mg/m <sup>3</sup> (secondary filter)	o	o	o	o	o	o
Change of dust bin without risk of contamination		-	-	o	o	o	o
Change of filter media without risk of contamination		-	-	-	-	-	-



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Infastaub GmbH  
 Niederstedter Weg 19  
 61348 Bad Homburg v.d.H.  
 Germany

☎ +49 6172 3098-0 • 📠 +49 6172 3098-90  
 info@infastaub.de • www.infastaub.de



Subject to technical changes  
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