

IMPULSE FILTER



Impulse tube and cartridge filter:

Impulse filter is the term used to designate filters where the filter tubes or cartridges are cleaned by impulses of pressurized air.

Air containing dust flows into the filter housing through the crude gas inlet. The dust is collected outside on the filter medium (tube or cartridge) while the clean air flows through the medium. The cleaned air is either expelled through the clean gas chamber into the open air or used as return air.

In order to remove the layers of dust that have accumulated on the filter medium, the filter medium receives short impulses of pressurized air drawn from the clean gas chamber.

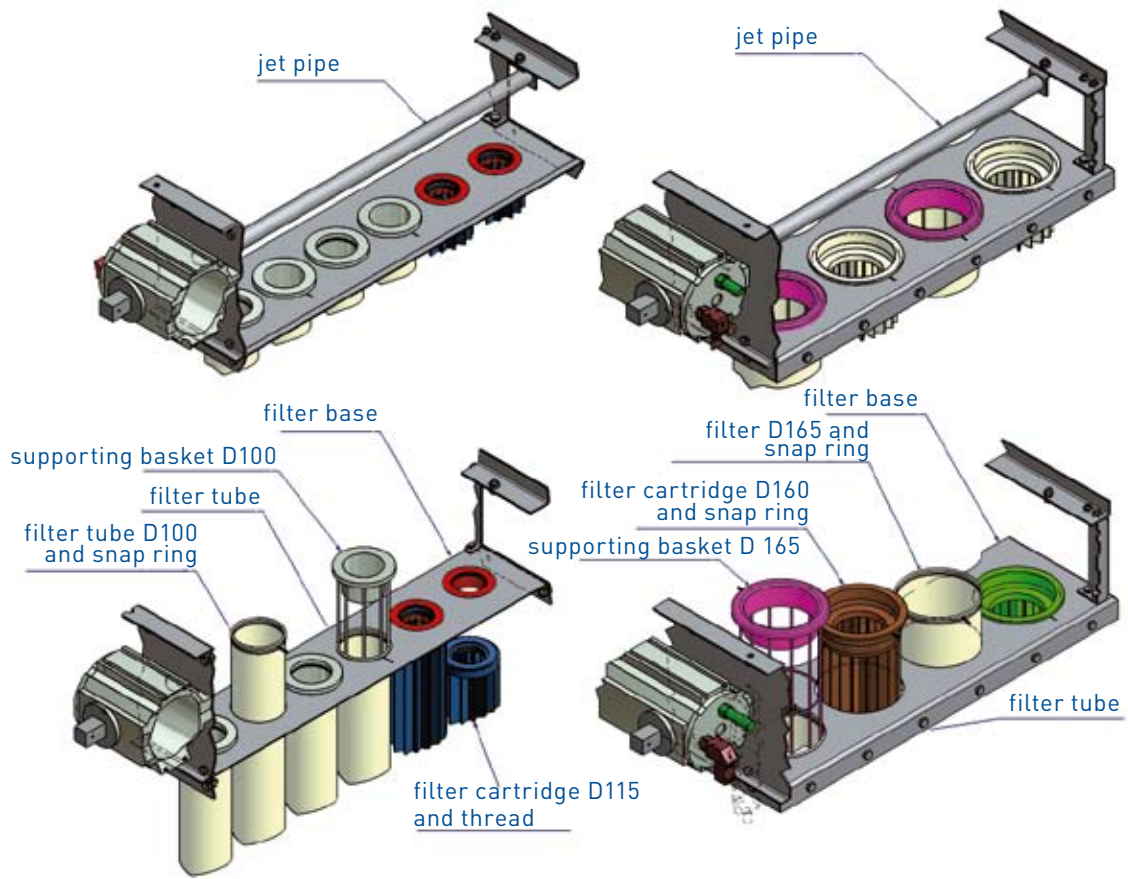
This pressurized air cleaning process can either be controlled by a time switch or triggered by the differential pressure in the filter system.

In order to maximize the strength of the impulses of pressurized air, the air is directed through nozzles to the air jet pipes in an injector which is attached to the filter medium. This creates a short, strong pressure wave in the filter medium and the dust falls out into the crude gas collecting space. The dust is then subsequently removed.

This cleaning process can be performed either ONLINE or OFFLINE.

ONLINE CLEANING: during the online operating mode, the cleaning process takes place during normal operation. This means that the filter system can be supplied with crude gas as usual.

OFFLINE CLEANING: during the offline operating mode, individual filter units are separated from the main air stream and no longer fed with crude gas. This means that less air pressure is required to complete the cleaning operation. In addition, individual filter units can be serviced (tubes can be replaced etc.). This system is especially indicated for large filter installations.



Functional principle



Impulse series filter – CDRT:

Version with collecting funnel



Impulse series filter - CDRW:

Version with collection tray and screw



Impuls Reihenfilter – CDRB:

Version than can be placed over a bunker or silo

The **ceATec** chamber filter type CDR has a welded or screwed panel construction. This enables the system to be adjusted both in height and width depending on the volume of suction air required. The pressurized air installation containing the storage tanks with the membrane valves are pre-assembled by **ceATec**. The rest of the housing is assembled upon delivery to the client. This leads to a reduction in the volume that has to be transported.

- The air volume flow of the CDR filter system can attain 210,000 m³/h.
- Pressure resistance: 50 mbar t = 3 mm, 80 mbar t = 4 mm, 150 mbar t = 5 mm
- Temperature; T1 up to 80°C, T2 up to 140°C, T3 up to 200°C (other versions are available upon request)

The following tube lengths are available: 1,125 mm, 2,250 mm, 3,375 mm, 4,500 mm, 5,000 mm and 6,000 mm. The diameter of the tube is 160 mm.



Impulse chamber filter – CDK

The **ceATec** chamber filter type CDK has a welded or screwed construction. This enables the system to be adjusted both in height and width according to the amount of air being sucked through the system. The pressurized air installation sits on top of the filter in a separate housing. Depending on the version and size of the system, the installations can be assembled inside this housing with the help of cranes. This facilitates servicing and replacement of the filter tube.

- The air volume flow of the CDK filter system can attain 1,000,000 m³/h.
- Pressure resistance: 50 mbar t = 3 mm, 80 mbar t = 4 mm, 150 mbar t = 5 mm
- Temperature; T1 up to 80°C, T2 up to 140°C, T3 up to 200°C

(other versions are available upon request)

Impulse round filter – CRU

The **ceATec** round filter CRU comes in a welded or screwed version depending on its size. Round filters are especially indicated for low air volume flows and high dust loads in crude gas. The circular construction means that a large part of the dust in the crude gas is centrifugally separated in the collection cone and does not reach the filter medium.

- The air volume flow of the CRU filter system can attain 48,000 m³/h.
- Pressure resistance: 50 mbar t = 3 mm, 80 mbar t = 4 mm, 150 mbar t = 5 mm
- Temperature; T1 up to 80°C, T2 up to 140°C, T3 up to 200°C (other versions are available upon request)

Its diameter varies between NW 1,000 mm and NW 3,550 mm.

The following tube lengths are available: 1,125 mm, 2,250 mm, 3,375 mm, 4,500 mm. The diameter of the tube is 160 mm.



Impulse cartridge filter – CPF T:

Version with collecting funnel

Impulse cartridge filter – CPF B:

Version that can be placed over a bunker or silo

The **ceATec** cartridge filter system CPF has a screwed panel construction. Cartridge filters are specially employed for heavy dust particles. One advantage of cartridge filters is that they require very little amount of space in spite of very large filter areas.

- The volume flow for Cartridge Filter CPF can attain 30,000 m³/h.
- Pressure resistance: 50 mbar t = 3 mm, 80 mbar t = 4 mm, 150 mbar t = 5 mm
- Temperature; T1 up to 80°C, T2 up to 140°C, T3 up to 200°C (other versions are available upon request)

Cartridge length and diameter upon request.

ATEX:

All axial ventilators can be constructed in compliance with EC Machinery Directive 94/9/EC.