

DV210+

DV210+ Droplet Separator system (Mist Eliminator system)



Munters DV210+ is a V-shaped vane type separator system for vertical gas flows. The system is typically used in gas cleaning devices such as flue gas desulphurization absorbers and wet scrubbers.

The DV210+ has been specifically designed to address the increasing performance demands of high efficiency mist eliminators. The system comes with an integrated online cleaning system used in processes that could cause plugging and scaling on the vane surface.

The system is designed for a single, 2 or 3-stages with several cleaning layers depending on the specified liquid rest content and the operating conditions.

The DV210+ can be equipped with Munters EasyFlow concept for meeting operating conditions such as high dust contamination and high flow variances. For more information please be referred to Munters EasyFlow information leaflet.

For processes that apply highest gas velocities the DV210+ can be equipped with Munters' FastFlow technology concept for reducing tower sizes. For more information please be referred to Munters FastFlow information leaflet.

Energy savings

- Upgraded version with 28% less pressure loss

Process operations

- Handles uneven flow patterns
- The system is cleaned during operation
- Handles high dust concentrations with Munters EasyFlow concept
- Handles high tower gas velocities with Munters FastFlow concept

Tower design

- Requires minimum installation height for design III based on a single support beam structure
- The units come with integrated washing systems

Performance

- Best performing mist eliminator at any vertical velocities, meets toughest standards, third party proven

- Measurable warranty

Guaranteed maximum liquid rest content of 50 mg/Nm³_{dry} for 2-stage system

Munters provides measuring services to proof the guaranteed performance

Washing systems are completely integrated to the DV210+ modules, thus no separate support structure for the washing system is needed. For application with high cleaning requirements the DV210+ is equipped with both upstream and downstream cleaning devices.

Munters supplies beside performance guarantees data for cleaning cycles, water consumption, nozzle and pump data and peripheral data for integrating the system into the absorbers/scrubber structure.

Target applications

- Flue gas desulphurization plants for processes with high turn down ratios.
- Exhaust air treatment plant.
- Waste Incineration plant.
- Inlet and exhaust scrubbers with high cleaning requirements.

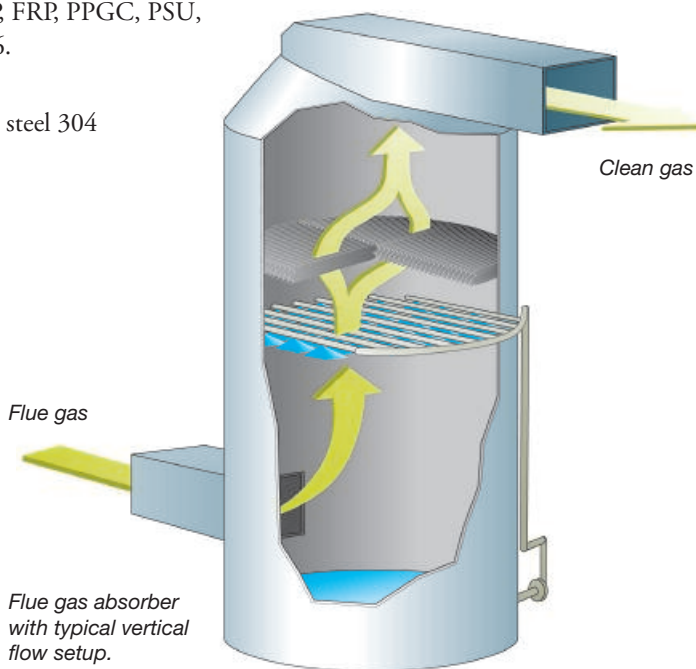
Available materials

Mist elimination systems:

- PPTV, PPHT, PP, FRP, PPGC, PSU, Stainless steel 316.

Flushing systems:

- PP, FRP, Stainless steel 304 and 316.



Munters' scope of supply

Munters provides the following comprehensive services

- Customized engineering and detailed design.
- Cost comparison studies to other design types (extractability of benefits).
- Delivery of the DV210+ mist eliminator including the flushing system
- Installation and supervision services.
- Qualified performance measurements.

The design of the DV210+ has been continuously improved over the years. This latest release DV210+ has significant reduction in pressure loss compared to previous versions, thus contributing to energy saving operations.

Efficiency grades

A 3-stage system addresses the growing demands for performance and for reduced volume of liquid waste. This design allows ideal access to the mist eliminator providing a safe and easy inspection of the components.

Installation services on site

Customized solutions require broad understanding and know-how for correct installations. Munters supervisors are working all over the world to give the most proficient instructions to handle and install the mist elimination system. Our supervisors ensure an efficient, correct and highly reliable installation. Any costs for inaccurate installations and malfunctioning will be saved.

Munters offers a complete installation service upon request.

Flushing system

Solids such as dust, salts and gypsum are deposited on the surfaces of the mist eliminator vanes. These can build up to layers that are almost impossible to remove.

To avoid this problem, each mist elimination system in an FGD plant should have a properly-designed cleaning system with automated cleaning cycles. The cleaning system comprises a multitude of pipes with fully integrated nozzles, installed close to the vane sections. This allows thorough cleaning on both sides of the vanes and side-to-side cleaning can also be incorporated.

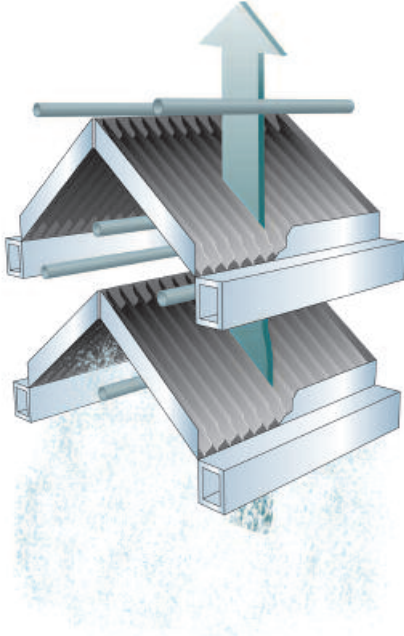
For many years Munters have offered customized cleaning systems. These systems are configured to target tough performance requirements, scrubber gas velocities and the individual dust contents of the power station. This helps to minimize the cleaning intervals. It also serves to enhance the efficiency, the availability and the durability of the mist elimination system.

System configurations

The DV210+ systems are built into the top section of the scrubber/ absorber tower. When 2-stages are applied coarse- and fine-separator are either mounted on 2 or ideally on a single layer of support beams. The installation on a single layer

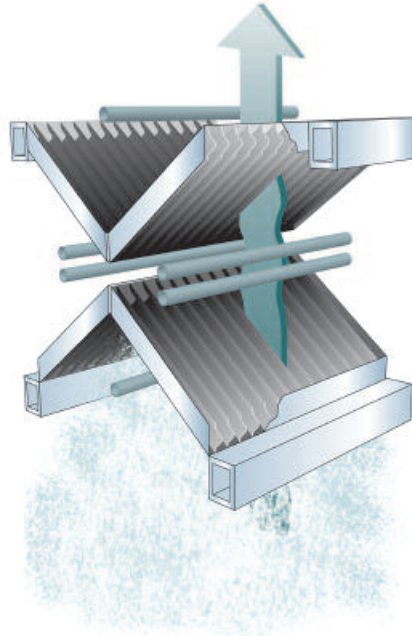
benefits installation time, total required absorber/scrubber height thus reducing investment costs for the steelworks.

The following designs have identical performance data.



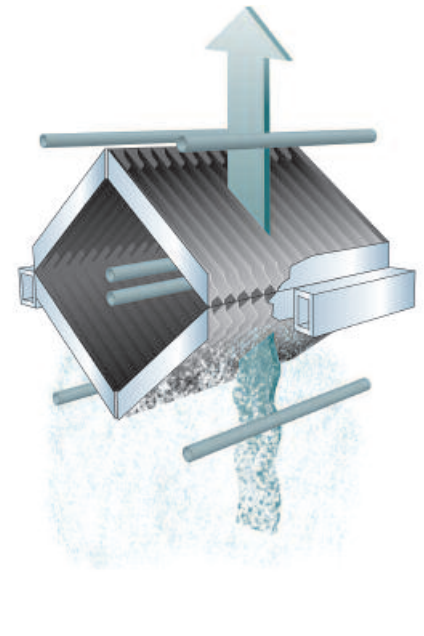
Design I – The classical design

One single stage or 2 superposed V shaped units on 2 support layers. Flushing systems are installed on either up- and/or downstream of the mist eliminators.



Design II – Better usage of washing liquids

Two superposed units with 2 counter oriented V shaped units. The washing liquid of the upper stage drains through the lower level, thus a better usage of the washing water is achieved. Less installation height needed than Design I.



Design III – Minimized height and single support beam layer

Two superposed units forming a diamond structure. Process designers have the possibility to extract two benefits from the configuration. First the system requires a single layer of support beams instead of two. Second the total system height is maximum 2.6 m.

Comparing the total required installation height of design I and III the absorber height can be reduced up to 1,000 mm without reducing any comfortable access to the stages for cleaning purposes.

Information for process designers:

- Applicable gas volume can vary 30% from calculated average.
- Washing liquids must be aligned to process conditions.
- Diagram measured values by third party.



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