

Cleaning unit MJD

for cartridges up to Ø 328 mm

1. Overview

The Filtration Group cleaning unit multi-jet nozzle (MJD) is a further development of the conventional compressed air pulse outlets (pipe bends/pieces, lances with bores, etc.) with a comparatively significantly improved effect. This system remains inexpensive and easy to integrate.

By dividing the blast of compressed air into several individual jets and introducing them into the cartridge to be cleaned, even cleaning over the entire length of the cartridge is achieved using the optimized multi-jet nozzle. The different sizes are based on the nozzle

openings adapted to the cartridge diameter and the size of the compressed air connection are marked. Compared to conventional compressed air surge cleaning, the optimized MJD offers enormous advantages in terms of noise level reduction (up to max. 8 dB), energy efficiency and cleaning effect. This protects the environment and extends the service life of the dedusting elements.

Depending on the application, the cleaning unit is available in the standard version aluminum/galvanized steel or the special stainless steel version.

Characteristics

- High effectiveness
- High energy efficiency
- Even cleaning over the entire length of the element
- Optimized cleaning effect in the upper element area
- Raw and clean gas side versions
- Upwardly compatible with the rotating air nozzle (G1 valve)
- Minimized noise level
- Comparatively lower compressed air consumption
- Worldwide sales



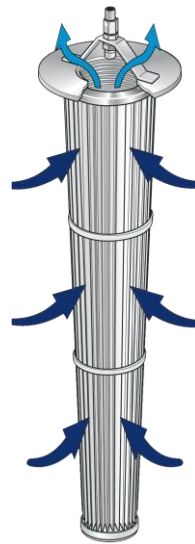
2. Function

During the filtration phase, the dust particles carried along in the dirt gas are deposited on the surface of the cartridge and a filter cake is formed.

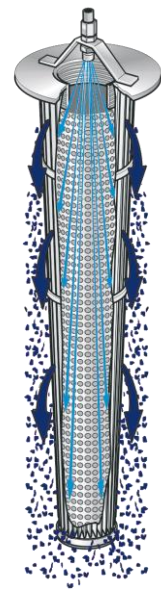
During cleaning, the rapid expansion of the pressure vessel volume stored at up to 6 bar triggers a very short compressed air pulse. This flows out through the ring-shaped and slightly inclined bores, creating a "scavenging air cone". When it hits the filter plate, the underside of the cone has approximately the same diameter as the inner frame of the cartridges. The correct distance to the filter plate required for this is ensured by the FG nozzle holder for the MJD.

On the one hand, this directed compressed air cone acts on the upper element area much more effectively, on the other hand, by dividing the pulse over several jets, the jet surface is greatly enlarged and thus significantly more purge air that can be used for the process is drawn into the cartridge. These effects are even more effective with conical cartridges. In addition, this geometry results in noticeably lower noise emissions during the cleaning phase.

The MJD is available in three different sizes for cleaning cartridges with diameters of 120, 160 and 328 mm.



Filtration phase



Cleaning phase

3. Technical specifications

Material

Standard version: Aluminum

Special design: Stainless steel (1.4301)

Cleaning

Medium: Oil-, dust- and condensate-free compressed air

Compressed air connection: G^{3/8} outside on MJD-12

G^{3/4} outside on MJD-16

G1 outside on MJD-32

Air pressure: 5 to 6 bar

Pulse duration: 0.1 to 0.4 s



Cleaning by means of a multi-jet nozzle

Compressed air consumption

Conditions

Compressed air connection to the pressure vessel: ½ "

Pressure reducer: Festo LR-D-DI-MAXI ½ "

Cleaning pressure: 6 bar

| Nozzle type | Tank volume [Liter] | Number of nozzles per valve | Pulse duration [Second] | Compressed air consumption approx. [Liter] |
|---------------|---------------------|-----------------------------|-------------------------|--|
| MJD-12 (3/8") | 2.7 | 1 | 0.4 | 35 |
| | | 1 | 0.1 | 15 |
| MJD-12 (3/8") | 6.0 | 4 | 0.4 | 55 |
| | | 4 | 0.1 | 30 |
| MJD-16 (3/4") | 16.0 * | 1 | 0.4 | 75 |
| | | 1 | 0.1 | 40 |
| | | 2 | 0.4 | 95 |
| | | 2 | 0.1 | 50 |
| | | 3 | 0.4 | 105 |
| | | 3 | 0.1 | 55 |
| MJD-32 (1") | 22.4 | 1 | 0.4 | 130 |
| | | 1 | 0.1 | 65 |

* Cleaning effect is sufficient even with 6 l tank volume per MJD

4. Type code

| Type code for cleaning units | | | | |
|---|--|----|------|------------------|
| Type of cleaning | | | | |
| MJD | Multi-jet nozzle for conical and cylindrical cartridges | | | |
| RLD | Rotating air nozzle for cylindrical cartridges | | | |
| RLK | Rotating air nozzle for conical cartridges | | | |
| Cartridge diameter | | | | |
| -12 | 120 mm | | | |
| -16 | 160 mm | | | |
| -32 | 328 mm | | | |
| Cartridge length and type of installation | | | | |
| 00 | Independent of length, installation for example via round thread or bayonet | | | |
| 03 | 300 mm, installation MJD/RLD via tie rod or RLK via Quick-Lock | | | |
| 06 | 600 mm, installation MJD/RLD via tie rod or RLK via Quick-Lock | | | |
| 08 | 800 mm, installation MJD via tie rod or RLK via Quick-Lock | | | |
| 10 | 1000 mm, installation MJD/RLD via tie rod or RLK via Quick-Lock | | | |
| 12 | 1200 mm, installation MJD/RLD via rod or RLK via Quick-Lock | | | |
| Installation side of cartridge | | | | |
| REIN | Installation on clean gas side | | | |
| ROH | Installation on dirt gas side | | | |
| Versions | | | | |
| A1 | Nozzle aluminum, otherwise galvanized or coated steel, RLD/RLK with ball bearing | | | |
| V1 | Nozzle aluminum, otherwise stainless steel, RLD with slide bearing | | | |
| V2 | Stainless steel, RLD with plain bearings | | | |
| OS | Only RLD/RLK without baffle plate with ball bearing, nozzle aluminum, otherwise steel coated | | | |
| MJD | -16 | 00 | REIN | A1 Order example |

5. Order numbers

| Order number | Cleaning unit | Cartridge diameter | Cartridge installation |
|--------------|--------------------------------|--------------------|------------------------|
| 79741232 | MJD-12 00 ROH A1 VP | Ø 120 mm | dirt gas side |
| 70375835 | MJD-12 00 RAW V2 VP | | |
| 76925655 | MJD-12 00 REIN A1 VP | | clean gas side |
| 70343901 | MJD-16 00 ROH A1 VP | Ø 160 mm | dirt gas side |
| 70343906 | MJD-16 00 ROH V2 VP | | |
| 79741240 | MJD-16 00 REIN A1 VP | | clean gas side |
| 79356379 | MJD-32 03 ROH A1 VP | Ø 328 mm | dirt gas side |
| 79356387 | MJD-32 06 ROH A1 VP | | |
| 79356395 | MJD-32 10 ROH A1 VP | | |
| 76154314 | MJD-32 12 ROH A1 VP | | |
| 70304809 | MJD-32 00 ROH A1 QUICK-LOCK VP | Ø 328 mm QuickLock | |

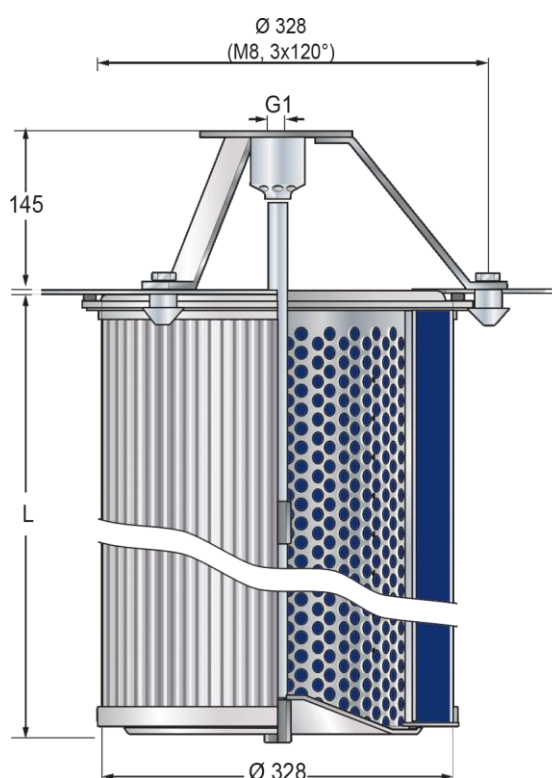
6. Installation

The multi-jet nozzle is always installed on the clean gas side of the filter system and can be obtained for both raw and clean gas cartridges. We recommend using the complete assembly set including bracket and associated small parts, so that the correct distance between the cleaning nozzle and cartridge is guaranteed and an optimal cleaning result can be achieved.

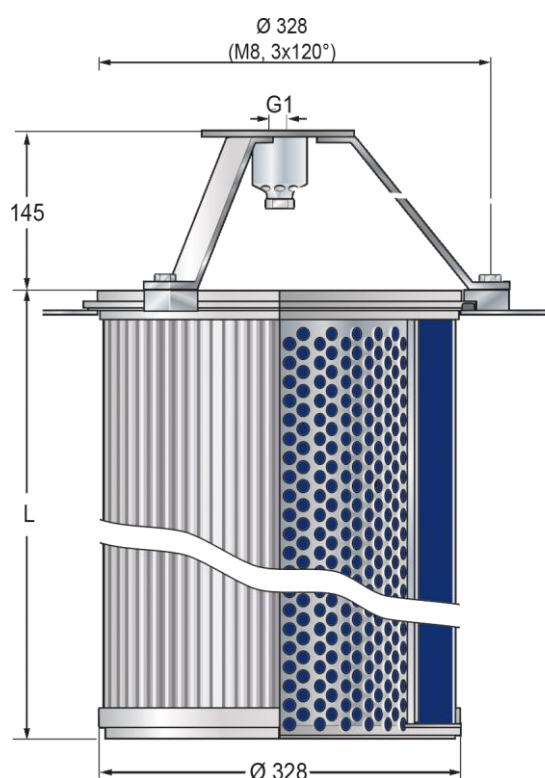
Depending on the number of cartridges, several multi-jet nozzles can be pressurized with compressed air through a valve

at the same time, where possible, no more than 35 % of the installed cartridges should be cleaned at the same time. For cartridges with a diameter of 328 mm, we recommend assigning a separate solenoid valve to each element.

For the best possible cleaning result, the connection between the valve and the MJD connection should be the same size as the connection diameter on the nozzle. The control of the diaphragm valves can take place as a function of time and/or differential pressure.



Installation on the raw gas side



Installation on the clean gas side

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