Filtration Group®
Industrial

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Cleaning unit
RLK

for conical Quick-Lock dust cartridges up to Ø 328 mm

1. Overview

The Filtration Group rotating air nozzle RLK is an extremely effective cleaning system for our conical Quick-Lock dust cartridges and is available in various lengths.
The cleaning wing protruding into the cartridge ensures even and gentle cleaning over the entire length of the cartridge. During the cleaning process, the cartridge is separated from the air flow by means of a baffle plate, which in particular greatly facilitates the detachment of the filter cake and the transport of the filter material into the dust bucket.
Compared to pressure surge cleaning, the cleaning effect in this system is not achieved by a short, violent impulse, but by a highly effective vibration of the individual folds of the cartridge. A cleaning pressure of 3 to 4 bar is sufficient for this task, which results in high efficiency of the energy used and economical operation.

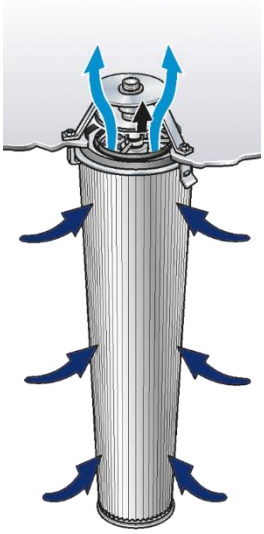
Characteristics

- High effectiveness
- Even cleaning over the entire length of the cartridge
- Versions on the dirt gas side
- Easy construction
- Low installation/removal height
- Low noise level
- Optimized compressed air consumption
- Gentle cleaning of the cartridges and thus extended filter service life
- Low cleaning pressure
- Can be used for high differential pressure loads
- Worldwide sales

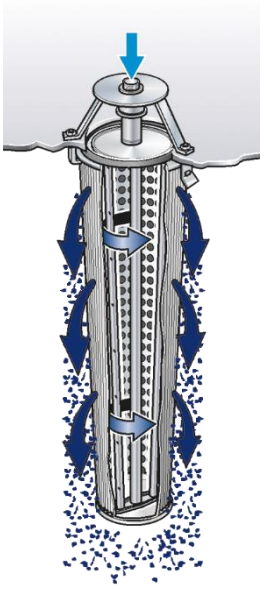
2. Function

During the filtration phase, the baffle plate attached to the clean gas side is pushed upwards by the flow. At the same time, the dust particles carried along in the dirt gas are deposited on the cartridge surface and a filter cake is formed.
The baffle plate is pressed down by the cleaning impulse and the dirt gas no longer flows through the cartridge. At the same time, the rotary vane of the rotating air nozzle is set in rotation by the compressed air jets emerging from the nozzle bores at an angle. The fine jets of compressed air hit the inner surface over the entire length of the cartridge and, through their rotation, set the individual folds in vibration. This process lasts approx. 1 to 2 s per pulse, whereby each fold is stimulated to vibrate several times and the filter cake is effectively detached.

The RLK is available in four different sizes for cleaning cartridges with lengths of 600, 800, 1000 and 1200 mm.



Filtration phase



Cleaning phase

3. Technical specifications

Version

Material:	Aluminum, galvanized steel,
Storage:	ball-bearing
Operating temperature:	-20 °C to 90 °C
Differential pressure via filter plate:	max. 30 mbar

Cleaning

Medium:	Oil-, dust- and condensate-free compressed air
Compressed air connection:	$G^3/_4$ outside
Air pressure:	3 to 4 bar
Pulse duration:	1.5 s

Cleaning using a rotating air nozzle

Compressed air consumption

Conditions:
Compressed air connection to the pressure vessel: ½ "
Pressure reducer: Festo LR-D-DI-MAXI ½ "
Cleaning pressure: 4 bar

Nozzle type	Tank size [Liter]	Pulse duration [Second]	Compressed air consumption approx. [Liter]
RLK 1200	22.4	1.5	150
RLK 600			140

4. Type code

Type code for cleaning units					
Cleaning type					
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		
			PURE	Installation on clean gas side	
			RAW	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
RLK	**-32**	**12**	**ROH**	**A1**	**Order example**

5. Order numbers

Order number	Cleaning unit	Length [mm]	Cartridge installation
70363715	RLK-32 06 ROH A1 VP	600	dirt gas side
70568998	RLK-32 08 ROH A1 VP	800	
70368951	RLK-32 10 ROH A1 VP	1000	
70327511	RLK-32 12 ROH A1 VP	1200	

6. Assembly

The conical rotating air nozzle consists of two packages, separated into a rotating wing with axis and tripod holder with baffle plate, bearing and compressed air connection. After assembling the individual parts, the upper unit of the RLK can be integrated into the filter system on the clean gas side. The necessary holes in the filter plate are shown in Fig. 1 (*1 cartridge holder, *2 mounting brackets). The wing is inserted into the Quick-Lock cartridge and correctly positioned using the centering ring (Fig. 2 and 3). Then the cartridge can first be hung in the cartridge holder installed on the filter plate on the dirt gas side (Fig. 4) and then clicked into the two fastening clips (Fig. 5). The necessary bore size Ø 250 mm in the filter plate must be checked and if necessary to ensure.

We recommend a separate membrane valve connected to the buffer tank for each cleaning unit. For the best possible cleaning result, the connection between the valve and the RLK connection should be at least ¾" in diameter. The control of the diaphragm valves can take place as a function of time and / or differential pressure.

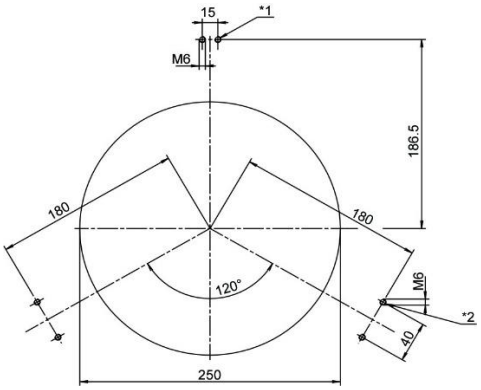


Fig. 1

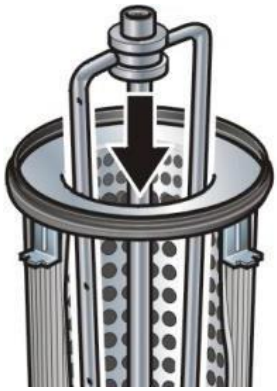


Fig. 2

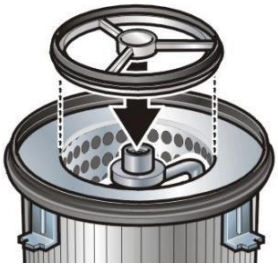


Fig. 3

Fig. 4

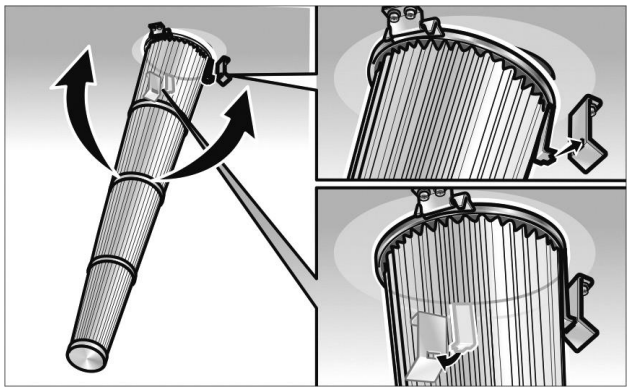


Fig. 5

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