Müller Dust-Free Systems

1.3

Basic Components

Filling Lids

Dust Extraction Systems

MÜLLER®

Basic components

Filling lids

Dust extraction systems

Dust-free into the drum - easily 'Dusty Müller' was never our nickname

In industrial processes it is always a challenge to handle powders without creating dust. Müller dust-free docking systems offer you a simple and reliable solution to this problem.

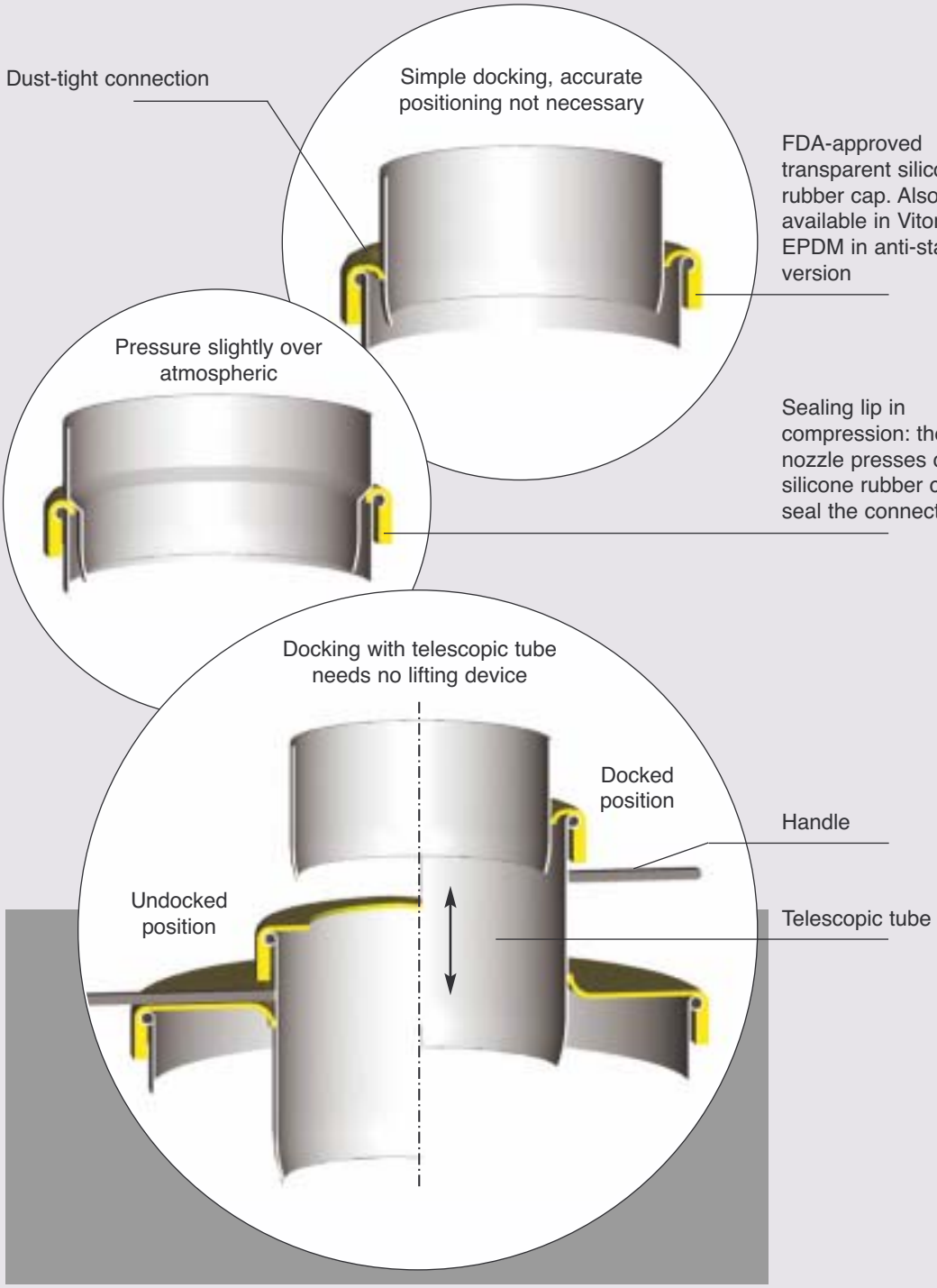
The Müller docking system centers around the silicone rubber cap, whose special lip seal ensures reliable, flexible and dust-free docking. This simple docking method used in conjunction with other Müller components enables a wide variety of dust-free product transfers to be carried out cost-effectively. The handling operation and the flexibility in the actual docking operation are ingeniously simple, since no precision handling equipment is necessary. The silicone rubber cap is fitted manually and removed after use. A cap with no hole or a drum lid and clamping ring are then used to close the opening. Not only is this method elegant and quick, it is also highly cost-effective. This holds true also when retrofitting the system to existing installations.

Individual combinations – dust-free transfer by Müller

Charging and discharging tablet presses, reactors, mixers, mills, sieves or vessels, or transferring solids between floors - all are possible without dust and mess. The Müller basic components can be put together to create your individual solids handling solution.

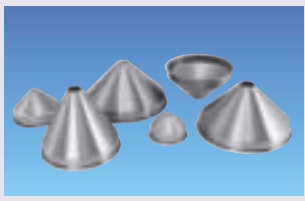
Müller offers an elegant solution for all dust-free processes:

- Select your own diameter of dust-free connection to suit the application: Ø 120, Ø 170, Ø 250, Ø 315 or Ø 400 mm
- Simple but effective design
- Safe handling of solids
- Easy to clean
- Low engineering and investment costs
- For machine inlets and outlets
- Simple filling, transfer or discharge of powders
- Stainless steel construction

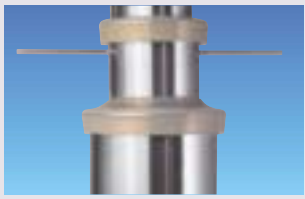


Silicone rubber caps

Flange rings

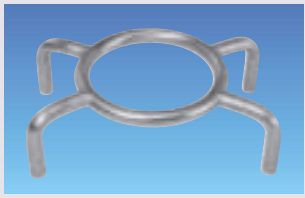


Reducing pieces



Telescopic tubes

Infeed units



Centering bridges

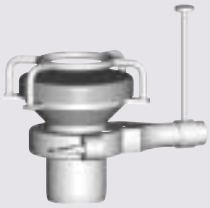
Hole cutter

Through the sieve into the Müller drum – with the silicone rubber cap in place for effective docking on the sieve and filling of the drum. The flexibility of this connection allows the sieve to be vibrated without the fines escaping.

Charging a reactor through an infeed unit for a secure connection. The infeed tube - depending on the application with or without a shutoff butterfly valve - is attached to the manway flange quickly and simply by star knobs. Its elbow is angled to suit the flanged reactor nozzle concerned and a centering bridge ensures accurate docking in the silicone rubber cap.

One machine, two docking nests – continuous feed. The powder falls through the angled feed tubes to the central inlet on the machine. Continuous feed is made possible by the two charging units, supporting columns with nests and drum-hopper combinations.

A mobile lifting unit near the machine is used to lower the drum-hopper combination into the nest. This operation is performed in front of the machine in a free working space with good visibility. The nest is then swiveled manually over the machine and a telescopic tube is used to make the dust-free connection.

	5.1/01	5.1/02	5.1/03	5.1/04	5.1/05
					
	Silicone rubber cap	Flange ring 50 mm high	Reducing piece 60°/90°	Fall tube	reduced fall tube
	Nenndurchmesser in mm				
	120	120	120/DN 20	120	120/DN 100
	170	170	170/DN 60	170	170/DN 100–150
	250	250	250/DN 70	250	250/DN 100–200
	315	315	315/DN 50	315	315/DN 100–300
	400	400	–	–	400/DN 100–375
	5.2/01	**5.2/02**	**5.2/03**	**5.1/01**	**5.2/04**
					
	Telescopic tube	Reduced telescopic tube	Infeed unit	Hole cutter	Centering bridge
	Nominal diameter in mm				
	120	120/DN 100	120/DN 100	For cutting holes in silicone rubber caps	For centering the hopper outlet in the silicone rubber cap
	170	170/DN 100–150	170/DN 100–150		
	250	250/DN 100–200	250/DN 100–200		
	315	315/DN100–300	315/DN 100–300		
		400/DN 100–375	400/DN 100–300		

Filling lids

Keeping the fines in the drum

Bulk product must be returned to the drum after every manufacturing operation, regardless of whether this is a tablet press, a sieve or a mill. The Müller lid with filling nozzle and vent has been designed precisely for this duty.

The handling of open materials is therefore simple and effective, as no additional equipment or machines are required, cutting costs and making the cleaning process easier.

Elegant method, proven technique: Müller dust-free filling

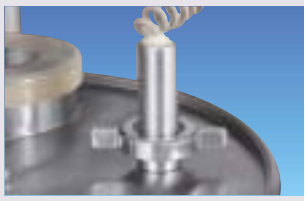
The method is simple, reliable and fast – the filling lid is held on the machine outlet by the support lugs. An open drum is moved underneath the filling lid, which is then lowered manually onto the drum and firmly attached to it with the drum's clamping ring. Filling can then start immediately. No pressure is developed in the drum during the filling process since the air can escape through the vent nozzle and cloth filter bag.

Other key features:

- The filling lid can be equipped with a capacitive level sensor
- The FULL signal can actuate a sounder or lamp to alert the operator, or it can close the butterfly valve automatically
- Filling nozzles:
  Ø 120, Ø 170, Ø 250,
  Ø 315 and Ø 400 mm

Electrical cabinet with sounder controls

Level alert lamp/sounder



Capacitive level sensor

Vent nozzle

Sight glass

Support lug

Filling nozzle

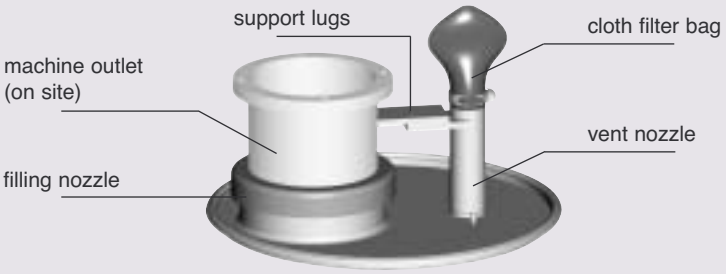
Filling in four steps: the filling lid is first held on the machine outlet by overlapping the support lugs. The filling lid is located correctly by the outlet tube inserted through the silicone rubber cap.

Step two - the open drum to be filled is moved underneath the filling lid on a drum truck, the clamping ring from the standard lid secured around the body of the drum.

Step three - the filling lid is rotated slightly to disengage the support lugs, then lowered onto the drum and securely attached to it with the drum's clamping ring. The butterfly valve on the machine outlet is now opened to fill the drum without any dust escaping.

Step four - the drum is filled, then the filling lid is raised again and held in place by overlapping the support lugs. The filled drum can now be removed and transferred to the next process unit.

5.2/04



Special lid with filling nozzle

Drum diameter	Filling nozzle DN in mm				
250	120	–	–	–	–
315	120	170	–	–	–
375	120	170	250	–	–
450	120	170	250	315	–
500	120	170	250	315	–
560	120	170	250	315	–
600	120	170	250	315	–
710	120	170	250	315	400
800	–	–	250	315	400
950	–	–	250	315	400
1200	–	–	250	315	400

Open for all to see: removing the dust at source

Not all filling or emptying operations can be carried out in a closed system. But Müller is always on hand with the right solution for every problem. In this case the Müller dust extraction ring, specially designed for filling and transfer operations involving open drums. It is a mobile unit for maximum flexibility, and is simply connected to an existing vacuum extraction system or an industrial vacuum cleaner.

Open filling the Müller way

The Müller system offers a wide variety of possibilities and is suitable for all open drums. A mobile dust extraction ring is simply moved into position over the drum to be filled. Its height can be adjusted exactly to the right position over the drum rim. The dust is then drawn in efficiently through the extraction ring's circumferential slot without leaving any residue.

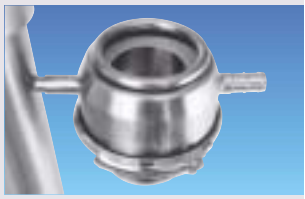
Benefits of the Müller dust extraction ring:

- Effective
- Reliable
- Rapidly adjusted
- All parts in stainless steel AISI 304
- Easy to disassemble
- Very simple to clean


Dust extraction ring


Frame on casters


Wall mounting version


Dust extraction hood


Frame wheel


Butterfly valve


Height adjustment

Presenting the other companies of the Müller Group

Today it is of ever increasing importance to cooperate with trustworthy and competent business partners who know what they are doing. As our customer you can rely on a wholehearted partnership. And you gain the innovation and skills of a world class group of companies in the field of packaging, handling, transportation and modular systems.

If you now feel the need to talk to us and ask a few questions, then please do not hesitate.

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Just one click opens new horizons

An ongoing intensive dialogue with our customers all over the world: the elixir of life for Müller.
As a customer you always experience Müller as a whole. Your contacts are not determined by our organization but by the duties you specify.
Proximity to customers and an individual consulting service provide that crucial impetus. Our 40 committed representatives in all key centers of the industrialized nations around the globe make us active worldwide, yet never far away.

Experience the potential we offer in your next project. Our world of modular systems is only a click away. Make use of our expertise – packed full of ideas in stainless steel. Each one a Müller original.

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