

# Volkmann Lump Breakers and Material Agitators



Systems and Solutions for the  
**Hygienic** and **Safe Handling of Powders**  
for the Chemical, Food,  
Pharmaceutical and Pigment Industries

# Lump Breakers and Material Agitators



## Lump Breakers

Volkmann Lump Breakers with their rotating blades can be used in a wide variety of applications where material lumps can hamper the production process. They often play an integral role in a pneumatic conveying line, where it is necessary to reduce the size of agglomerate powders or granules before introducing them to the conveying system.

Volkmann lump breakers can be installed within down pipes or can be directly combined to hoppers, product feeding stations or bulk bag unloading stations.

The Volkmann lump breaker features:

- Nominal diameters 250 mm and 350 mm
- Easy removal of the shaft, blades and actuator
- An EC design inspection certificate according to 94/9/EG directive (ATEX) (inside: class level 20/0; outside: class level 21/1)\*
- Simple combination with vacuum conveyors
- Options of compressed air flushing and temperature control of the bearings
- Simple installation and commissioning

*\*Subject to the correct choice of the electric motor and drive*

## Accessories for Volkmann Lump Breakers

- Motor protection switch.
- Control synchronization with a vacuum conveyor. A motor protection switch is required when synchronizing with non-Volkmann controls. When there is a pneumatic control, the lump breaker should only be activated during the suction cycle. Electro-pneumatic and intelligent compact controls in accordance with ATEX requirements are also available.
- Electro-pneumatic compact control.
- Compressed air flushing of the bearings ( $p_{max} < 0.2$  bar), used with very fine material to protect bearings and seals. This option is essential in ATEX areas.
- Temperature control of the bearings used when the crushed material has a smoldering temp of  $< 150^{\circ}\text{C}$  and ATEX is applicable.
- Trolley to assist with connection to plant equipment and/or for mobile use.
- Pick up interface for use with a vacuum conveyor.
- Hoppers and delivery systems.

### Trials

Throughput, performance of the lump breaker, final particle size and particle structure will depend on the original product characteristics and its "previous history." Because of this, Volkmann recommends that trials on the respective material be conducted in advance at our test facility. Please contact us for a quote.

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Agglomerates of Various Types – From Flakes to Lumps



Agglomerates in Bags



Lump Breaker in Action

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## Technical Information

### IN GENERAL

Type of bearing	Antifriction bearing
Temperature of the product	-40°C ... + 80°C
Temperature of the environment	-20°C ... + 60°C
Sound emission	< 70 dB

### TECHNICAL INFORMATION

	250er Nominal diameter	350er Nominal diameter
Height	244 mm*	344 mm*
Width	369 mm*	469 mm*
Width of the motor	depending on motor type	
Depth	160 mm*	210 mm*
Depth of motor	depending on motor type	
Height of flange	134 mm*	134 mm*
Pitch circle	F 295 mm* (8 x M8)	392 mm* (12 x M8)
Inner diameter	E 250 mm*	350 mm*
Number of blades	8 pcs. /10 pcs.	12 pcs.
Weight	39 kg*	48 kg*
Weight with motor	68 kg*	77 kg*

### ACTUATOR

Type of motor	electric motor (A pneumatic motor is an option)
Power supply	230/460/575/3/60 Hz
IP code	IP 65
IP class max.	3/4 h.p
Output	101 ft/lb
Speed max.	35 rpm

### MATERIAL

AISI 316L (1.4404)	product contact
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### CONTROL

Control option	pneumatic or electric options
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### CONNECTION

Connection option	flange, clamps and VS-module connection (patented)
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### ATEX MARKING

For gases	II 1 D c T 80°C / II 2 D c T 100°C
For dust	II 2 / 2 G c T 4



\*Technical Data subject to change without notice · Version 02-2016\_EN

