

Adjustable piston vibrators F for chutes, feeders and hoppers

A floating piston with no metal-on-metal impact. Seven sizes from 0.1 to 16.5 kilos, 2 to 6 bar, and no more than 80 dB(A).

The material hangs up in the chute, in the throat of the hopper or on the vibrating feeder, and a blow would be too much: the plate is thin, the product is fragile, or somebody is standing next to it. The F is OLI's vibrator for exactly that situation. Compressed air at 2 to 6 bar drives a piston back and forth inside a bore without letting it reach the ends, and the vibration of the housing passes into whatever the housing is bolted to. The force is chosen in two ways: with the pressure, and with the masses that screw onto the shaft. No more than 80 dB(A) anywhere in the range, seven sizes from 0.1 to 16.5 kilos, and four different housings in cast iron, nylon and aluminium.

Working pressure 2 to 6 bar	Force 9.1 to 3,936.3 N	Duty cycle Continuous	Noise level No more than 80 dB(A)	Weight 0.1 to 16.5 kg
---------------------------------------	----------------------------------	---------------------------------	---	---------------------------------

Two things the material does, and two you need done

Bridging and rat-holing are familiar to anyone who has stood at a hopper. What sets the pneumatic piston vibrators apart from the rest of the range is the next two: loosening what has already set, and compacting powder where that is the point.

Bridge over the outlet

The material spans an arch across the opening and carries its own weight. The chute is full, the feeder works in empty space, and nothing moves on.

Rathole through the middle

A narrow shaft runs down through the centre while the rest stands still along the sides. It looks like it is running, but most of it stays put and gets older by the hour.

Detaching and compacting

The two jobs that belong to the pneumatic piston vibrators. A layer that has set on the steel has to be shaken free, and powder in a mould or on a table has to be compacted evenly without breaking the grains.

A piston that never hits anything

Inside the housing there is a bore, and inside the bore lies a floating piston. Compressed air at 2 to 6 bar drives it back and forth, and air is left at both ends so it never reaches the metal. That is the whole difference between a vibrator and a hammer, and it is why the noise level is no more than 80 dB(A). A pneumatic hammer, by comparison, sits at 125 dB(A). The vibration does not travel through the air to the material; it travels through whatever the housing is bolted to: the chute, the hopper wall or the table.

The force is chosen in two places. Pressure is one: the same F 18 gives 71.8 newtons at 2 bar and 182.5 newtons at 6 bar, and the frequency follows from 2,070 to 3,300 vibrations per minute. The other is the shaft. It is threaded, and masses can be screwed onto it to change the frequency and the force developed. If you need to hit a particular frequency on a particular chute, tell us what it is and we will work it through.

The circuit is longer than on the rest of the range, and that is worth knowing before ordering. A filter, a flow control valve, a lubricator and a 3/2 way valve go in front, and the air has to be class 5.4.4, that is, lubricated. Where lubrication is not possible at the position, the K range comes in a lubrication free version, and that is the one to ask us about instead.

ATEX is not an option here. The F ships as standard in II2G Ex h IIB Tx Gb and II2D Ex h IIIC Tx Db, that is category 2 for zone 1 and zone 21. The letter Tx means the temperature class is not fixed in advance: it follows the installation and has to be agreed before equipment is ordered for a classified area.

Technical specifications

Technology	Adjustable piston
Duty cycle	Continuous
Working pressure	2 to 6 bar
Force	9.1 to 3,936.3 N, depending on size and pressure
Frequency	1,380 to 3,600 vibrations per minute
Air consumption	7 to 580 l/min
Pneumatic circuit	Filter, flow control valve, lubricator and 3/2 way valve N.C.
Air supply quality	Class 5.4.4, lubricated
Working temperature	-20 to 200 °C. F15P: -20 to 100 °C
Noise level	No more than 80 dB(A)
ATEX	II2G Ex h IIB Tx Gb and II2D Ex h IIIC Tx Db
Temperature class	T5 at ambients up to and including 90 °C, T4 up to 130 °C, T3 up to 195 °C and T2 up to 200 °C, with surface temperatures of 95, 135, 200 and 210 °C. The F15P has two steps: T5 up to 90 °C and T4 up to 100 °C. In an explosive atmosphere the lower limit is -10 °C against -20 °C in ordinary duty
Material	Grey cast iron, powder painted. F15P: nylon with an aluminium cover. F18: aluminium, square housing
Weight	0.1 to 16.5 kg
Standards	UNI EN 13463-1, EN 13463-5, ISO 14121 and UNI EN 1127-1. Directives 2014/34/EU and 2006/42/EC

Seven sizes in four housings

The frequency is given as the span from 2 to 6 bar, because the pressure moves it. The force is given at both ends. A is the width or diameter of the housing, B its length, and the version refers to the four in step 04.

Model	Version	Frequency	Force 2 bar	Force 6 bar	Air 2 bar	Air 6 bar	A	B	Weight
F 8	H	2020-3600	9.1	28.8	7	28	20	91	0.1
F 15	L	2280-2820	75.7	115.9	20	67	50	115	1.5
F 15P	L1	1920-2340	54.5	81	20	80	50	115	0.5
F 18	M	2070-3300	71.8	182.5	29	100	50	89	0.6
F 25	L	1860-2220	108	179.8	32	105	60	115	2.3
F 40	L	1380-1740	259.6	412.8	80	320	85	140	5.7
F 85	L	1680-2280	2,137.2	3,936.3	240	580	160	122	16.5

The number in the model name follows the size of the housing: the F 8 is the smallest and the F 85 the largest. The letter in the Version column is the shape of the housing, and the four stand side by side to the same scale in step 04. A is the width or diameter of the housing and B its length. The air connection is M5 on the F 8, 1/8" BSPP on the F 15, F 15P and F 18, 1/4" BSPP on the F 25 and F 40, and 3/8" BSPP on the F 85. The outlet matches the inlet except on two: the F 40 has 3/8" and the F 85 has two of 3/8". The working moment is the same at all three pressures on any one model.

Four housings, one way of working

It is the same mechanism in all seven: a floating piston in a bore. What changes is the housing. The shape decides where the unit can go, and the material decides what it can take.

The shaft and the masses · {'da': 'Alle syv modeller', 'en': 'All seven models', 'pl': 'Wszystkie siedem modeli'}

The shaft is what gives the range its name. It is threaded, and masses can be screwed onto it to change the frequency and the force developed. It is the second of the two ways to set an F; the first is the pressure.

Found on	All seven models
Changes	Frequency and force
Other adjustment	The working pressure, 2 to 6 bar
1. The masses screw onto the shaft at the mounting face. 2. We do not have the weight of the individual masses from OLI. If you need to hit a particular frequency, tell us which, and we will work it through with the supplier.	

The nylon housing · L1

The lightest housing in the range, and the only one that is not metal. The body is nylon and the cover aluminium. It weighs a third of the equivalent cast iron housing, but it is also the only one with a temperature limit of its own.

Model	F 15P
Material	Nylon with an aluminium cover
Temperature	-20 to 100 °C
Weight	0.5 kg against 1.5 kg for the F 15
1. The same dimensions as the F 15: A 50 mm and B 115 mm. 2. At 6 bar it gives 81 N against the F 15's 115.9 N.	

The square aluminium housing · M

The only housing in the range that is not round. The face sits against whatever it is bolted to, and the two long slots let the unit be moved along its own bracket instead of sitting in fixed holes.

Model	F 18
Material	Aluminium, square housing
A × B	50 × 89 mm
Weight	0.6 kg
1. The shortest housing in the range: B is 89 mm against 115 mm on the F 15. 2. At 6 bar it gives 182.5 N, more than the F 25's 179.8 N.	

The slim housing · H

The smallest in the range. The housing is 20 millimetres in diameter and weighs 100 grams, and the connection is M5 rather than BSPP. It belongs on small channels, micro screens and anywhere there is no room for more.

Model	F 8
Material	Grey cast iron, powder painted
A × B	20 × 91 mm
Weight	0.1 kg
1. The highest frequency in the range: 3,600 vibrations per minute at 6 bar. 2. The lowest air consumption: 7 litres per minute at 2 bar.	

The fourth housing, L, is the round one in cast iron. It has no card of its own here, because it is the one at the top of the page, and it covers four of the seven models: F 15, F 25, F 40 and F 85. It is also the one that spans 50 to 160 millimetres in diameter.

Where the F belongs

Plant	Hoppers, chutes, vibrating feeders, tables and channels
Material	Hygroscopic and dusty powders, and granules
Typical jobs	Big bag emptier, compacting table for powders, pipes and chutes, vibrating feeder and small channels
Sectors	Building and construction, food and feed, heavy industry, machinery and plant, plastics and chemicals, recycling and environmental technology, renewable energy
Not for	A classified area without an agreed temperature class, or an installation where the air must not be lubricated. Where material has to come out of a silo, the VBS, PG or PS are the ones to look at.

Which size, and where is it going?

Tell us what the chute or hopper is made of, how thick the steel is, what you handle, and what the compressed air can deliver. We come back with a size, a version and a price, not with a catalogue.

Sales and orders	+45 70 23 12 03 · sales@particulair.com
Product page	particulair.eu/flow-aid/en/products/adjustable-piston-vibrators/
Product selector	particulair.eu/flow-aid/en/product-selector/

This datasheet is generated from the same source as the product page and updated 2026-08-04. Subject to change by the manufacturer.