

Roller vibrators for damp and sticky material

A steel roller running round a hardened track while turning about itself. Four sizes, 2 to 6 bar, up to 783 kilos of centrifugal force, 200 °C and ATEX category 2 as standard.

Cement, concrete, sand and foundry sand draw moisture, and damp material sticks to the steel instead of sliding. The OR is OLI's roller vibrator for exactly that. Compressed air at 2 to 6 bar drives a steel roller round a hardened and ground track, and the mass running round gives a high frequency with a large force behind it. The unit bolts on the outside, and no hole is drilled in the wall. Four sizes from 370 grams to 2.6 kilos, all with ATEX category 2 for both gas and dust.

Working pressure 2 to 6 bar	Centrifugal force 188 to 783 kg	Duty cycle Discontinuous	Working temperature -20 to 200 °C	Weight 0.37 to 2.60 kg
---------------------------------------	---	------------------------------------	---	----------------------------------

Two everybody knows, and two that belong to the rotary range

Bridging and rat-holing are familiar to anyone who has stood at a silo. What sets the rotary range apart from the rest of the programme is the next two: reducing the friction between the material and the steel, and separating material that has lumped together. On damp material that is exactly where the problem sits.

Bridge over the outlet

The material spans an arch across the opening and carries its own weight. The silo is full, the screw underneath runs 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 walls. It looks like it is running, but most of it stays put and gets older by the hour.

Friction and separation

Damp material does not slide, because it sticks to the steel, and it lumps together instead of falling apart. A high frequency with a large force behind it works exactly there, in the boundary between the material and the surface.

A roller that both runs round and turns about itself

Inside the body is a circular track of hardened and ground steel, and in the track lies a steel roller. Compressed air at 2 to 6 bar drives the roller round the track. This is where the OR differs from the ball vibrator: a ball runs round, while a roller both runs round the track and turns about its own axis. The force is not a movement back and forth along one axis, as on a piston vibrator: it is a vector that rotates.

The frequency is high and the force behind it is large. An OR50 reaches 29,500 vibrations per minute at 6 bar and weighs 370 grams, and the largest, the OR100, gives 783 kilos of centrifugal force at the same pressure. The temperature limit is 200 °C. That is the highest among the pneumatic vibrators, and the OR shares it with the adjustable F and with the P piston vibrators.

The body is anodised aluminium and the covers are brass. The unit comes in four sizes from 370 grams to 2.6 kilos, and all four carry ATEX category 2 for both gas and dust as standard. The air has to be lubricated, class 5.4.4, and the duty is discontinuous. If the unit has to run without stopping, tell us for how long at a time and we will find the right answer.

Technical specifications

Technology	Roller vibration, high frequency and centrifugal force
Duty cycle	Discontinuous
Working pressure	2 to 6 bar



Centrifugal force	188 to 783 kg, depending on size and pressure
Frequency	6,750 to 29,500 vibrations per minute
Air consumption	78 to 412 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
Noise level	Below 90 dB(A)
ATEX	II2G Ex h IIB Tx Gb and II2D Ex h IIIC Tx Db, as standard
Material	Anodised aluminium body, brass covers, hardened and ground steel track
Mounting	Foot with four fixing points, bolted on the outside
Connection	1/8" or 1/4" BSPP, the OR100 1/4"-3/8" BSPP
Weight	0.37 to 2.60 kg

Four sizes

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 of the body and its overall height including the foot, B is the length of the foot, and both are dimensioned on the drawing in step 02.

Model	Frequency	Force 2 bar	Force 6 bar	Air 2 bar	Air 6 bar	A	B	Connection	Weight
OR50	21000-29500	188	355	78	204	50	86	1/8" BSPP	0.37
OR65	19000-26000	235	552	100	296	65	113	1/4" BSPP	0.76
OR80	14000-21500	342	624	122	378	80	128	1/4" BSPP	1.27
OR100	6750-11000	289	783	132	412	100	160	1/4-3/8" BSPP	2.60

The number in the model name is the width of the body in millimetres: the OR50 is the smallest and the OR100 the largest. A is both the width of the body and the overall height of the unit including the foot, and B is the length of the foot. The four remaining letters are dimensioned on the drawing in step 02 and given as figures on the component card: C is the distance between the two slots, D the thickness of the foot, E its depth and F the width of the slot. The connection is a BSPP thread, and in and out share the same size on the three smaller ones. The OR100 is the one exception: it is listed with two thread sizes, and if you need it in order to order fittings, say so and we will confirm which is in and which is out. The force is the maximum centrifugal force, given in kilograms.

Four things worth looking at before ordering

It is the same mechanism in all four: a steel roller in a hardened track. What changes with the size is the dimensions and the thread. What they all share is that no hole is drilled in the wall.



The foot · A · B · C · D · E · F

The foot has four fixing points, not two. The outer two are open slots running out to the end, and the inner two are round holes. The foot sits against whatever it is bolted to, and the body stands perpendicular to that face.

Foot length, B	86 to 160 mm
Slot spacing, C	68 to 130 mm
Foot thickness, D	12, 16 and 20 mm
Foot depth, E	30 to 52 mm
Slot width, F	7, 9 and 11 mm

1. An open slot means the unit can be dropped over two bolts that are already in place, rather than having to be threaded onto them.
2. We do not have the spacing between the two round holes. If you need it in order to pre-drill, say so and we will measure a unit.

The two ports · IN · OUT

There are two ports in the top face, an inlet and an outlet. The air comes in through one, drives the roller round and leaves the body through the other.

Thread, OR50	1/8" BSPP
Thread, OR65 and OR80	1/4" BSPP
Thread, OR100	1/4"–3/8" BSPP
In and out, OR50 to OR80	Same size

1. The outlet has the same thread as the inlet on the three smaller ones, so a silencer or an exhaust hose can be screwed into it.
2. If the air has to be taken away from the area around the unit, tell us where it should go and we will find the right arrangement.

The brass cover · Messing

The track is closed by a round cover on each side, and the covers are brass. That is one of the two materials on the unit: the body around them is anodised aluminium.

Cover	Brass
Body	Anodised aluminium
Track	Hardened and ground steel
Outdoor use	Yes

1. The aluminium body and the anodised surface are what make the range resistant to oxidation and suitable for sitting outside.
2. We do not have a replacement interval for the cover from OLI. If the unit has to go into a preventive maintenance plan, say so and we will ask.

The marking covers all four · ATEX

ATEX is standard on the whole range, not an option. The marking covers both gas and dust in category 2, that is zone 1 and 21, and it is the same on all four sizes.

Gas	II2G Ex h IIB Tx Gb
Dust	II2D Ex h IIIC Tx Db
Category	2, as standard
Zone	1 and 21

1. The temperature class is given as Tx, that is without a figure. If the unit has to sit in a zone with a requirement for a particular class, tell us which and we will come back with the answer.

2. Zone 20, that is the inside of a vessel containing dust, is not covered by category 2.

There are no options for the OR: no timer, no solenoid, no ATEX kit and no mounting plate. There is one version of each size, and ATEX comes as standard.

Where the OR belongs

Damp material	The range is meant for hygroscopic materials, that is the ones that draw moisture: cement, concrete, sand and foundry sand. That is what sets the OR apart from the S ball vibrator, which is for dry powders and granules.
Silo, hopper, chute and pipe	The units bolt on the outside, and the vibration runs through the steel and on into the material. No hole is drilled in the wall, so the range can also go onto a plant that is already running.
Concrete compaction	It is the large centrifugal force that makes the range usable there.
Hot steel	The temperature limit is 200 degrees, and that is the highest among the pneumatic vibrators. The OR shares it with the adjustable F and with the P piston vibrators.
Not for continuous running	The duty is discontinuous. Where running has to be continuous, the pneumatic piston vibrators K and F are built for it, and they sit at 80 dB(A) at the same time.

Which size, and how many?

Tell us what the silo, hopper or chute is made of, how thick the steel is, what you handle, how damp it is, and how long it has to run at a time. We come back with a size, a number 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/roller-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.