www.netter-findeva.com

Findeva AG
Loostrasse 2
CH – 8461 Oerlingen

Installation and Operating Instructions for an FKL 100 mi

Our (FKL mi) pneumatic vibrator complies with the EU Machines Directive 98 / 37 / EG, as well as with ATEX 100a under 94 / 9 / EU. Chap. II, Art. 8, b, ii. Particular heed has been paid to the EN 292 norm, parts 1 and 2.

Important information

FINDEVA AG declines any responsibility for damage to persons or property, should technical alterations have been made to the product or no heed have been paid to these instructions.
The installation of pneumatic vibrators and their operation must be carried out by experienced staff.

Risk of injury!

- **Compressed air units, such as vibrators, filters, oilers and air supply hoses, may be subject to very high pressures. Before undertaking any work on such units, the system has to be disconnected from the compressed air supply and be depressurized.**
- **Compressed air can generate extremely high noise levels. For this reason, ear defenders must be worn without fail in the vicinity of the vibrator.**
- **Observe any national or local regulations and legislation concerning the installation and usage of pneumatic systems.**

Noise levels

- **The noise level for an unshielded vibrator mounted on sheet metal exceeds 85dB (A), if you only take into account the sound of a single operation cycle. Depending on the frequency, the continuous noise level will be below this. The sound emanating from the device can be deadened by means of cladding.**
- **Ear defenders are required in the noise zone.**

Attachment of the vibrator

- **Vibrators and parts of their construction can work loose during operation. Screw locking devices are to be employed and their torque is to be checked periodically.**

Lubrication

Our FKL 100 mi pneumatic vibrator can be operated by dry compressed air and thus not require lubrication. However, if the choice is made to operate the vibrator using oily compressed air, then there is no way back from this, since the vibrator's initial lubrication during manufacture will have been washed away by the oily air. The vibrator in its standard version can be worked at temperatures between -20°C and 80°C.

Air filter and pressure regulator

All compressors are equipped with air filters. However, only those that permit the passage of particles of less than 5 µm should be used. This will help extend the life of the vibrator.

Compressed air lines

Connection to the vibrator is made by means of quick-release devices. The vibrator is supplied with a ready for use throttle valve. Only the drive mechanism and the connection hose need to be provided by the customer.

Vibrator

[1]

A particular feature of this newly developed vibrator is its easily calibrated impact interval of from 0.5 to 200 impacts per minute.
The impact force can be set to three levels.

Pneumatic impact force: Via the compressed air's exhaust channel.

Upper exhaust channel open = maximum force
Lower exhaust channel open = minimum force

Pneumatic frequency: By means of a throttle valve (included in supply specification)

The vibrator is supplied with a base plate, which serves to attach it and to transmit the impacts it generates.
The vibrator's housing and base plate are made from aluminium. The impact plate (integrated into the base plate) is made from shock-resistant special plastic material.

Areas of application

Compressed air interval vibrators can be employed for knocking off material that has become attached to the inner surfaces of containers (e.g. silos, hoppers, filter outlets, reactors and pipelines).

These vibrators can be used in wet surroundings and in those where there is a risk of explosion, or in the open air.

Construction and mode of operation

In the case of an FKL 100 mi, a piston is pushed against a spring by means of compressed air. Each time the piston passes the compressed air outlet port, there is a rapid venting and it is shot under spring pressure against the impact plate contained within the device. The piston valve then closes and the procedure is repeated at the speed set by means of the throttle.

Operating conditions

Reciprocating vibrators can be employed in dusty, wet or explosion-protected environments. Their piston seals are suitable for oil free operation.

Standard installation for the FKL 100 mi

The drive mechanism is to be provided by the customer

Operation of the device can be controlled via a 3/2-way, normal/shut air valve. (Not to be confused with the interval, which is set using the throttle valve supplied.) Hose of 6 mm diameter

The control mechanism can be by means of a: - Process control system - Time lag relay - On/off switch

Technical Data

	Pressure	Action / Impact	Impulse / Impact	Weight	Air consumption	Frequency
Device	bars	Nm	Ns	kgs	litre / impact	impact / min.
FKL 100 mi	6 - 8	10 / 20 / 40	5 / 7.5 / 10	4.45	0.5 – 1.1	0.5 - 200

The FKL 100 mi can be employed for wall thicknesses of up to 5 mm

[1] Set impact force; Inlet 6 bars; Set frequency

Dimensions (mm)

Vibrator	A	B	C	D	E	F	G
FKL 100 mi	130	90	100	50	Ø 13	240	Ø 90