



Knocker FKL-50 si

Installation and Short-Form Operating Manual

The pneumatic knockers (FKL) comply with the EC Machinery Directive 98/37/EC. They also comply, in particular, with Standard DIN EN ISO 12100, Parts 1 and 2.

Important Information

FINDEVA AG is unable to accept responsibility whatsoever for damage to property or injury if technical modifications are made to the product or if the information and instructions in this Operating Manual are not followed.

Pneumatic vibrators must be installed and operated by an experienced person.

Risk of injury!

- Compressed-air units, such as vibrators, filters, oilers and the air hoses, may be very highly pressurised. The system must be disconnected from the compressed air supply before such units are installed or serviced. The units must be depressurised.
- Air pressure may produce extremely loud noise. Consequently, all persons in the surrounding area of the pneumatic vibrator must wear ear defenders.
- Comply with national and local regulations and regulations governing installation and use of pneumatic systems.

Noise level

- The noise level of a non-shielded knocker fitted on a metal panel exceeds 85 dB(A), if only the single noise event is considered. The sustained level is below this, depending on impact sequence. The noise emitted by the device may be attenuated by sheathings or coverings.
- Noise defenders must be worn in the noise area.

Attachment of the knocker

- Vibrators or knockers and parts of the structure may become detached as the result of vibration. Screw and nut locking devices must be used.

Lubrication

The FKL 50 pneumatic knocker can be operated with dry compressed air and, thus, unlubricated. If compressed air containing oil is selected for operation of the knocker, such air must be also be used always since the basic lubrication of the knocker is flushed out as the result of the air containing oil.

The basic version of the knocker can be operated in a temperature range from 0°C to 100°C. A special version is available for temperatures between –40°C and 130°C.

Air filter and pressure controller

All compressors feature air filters. However, use an air filter with a particle permeability rating of 5 µm. This will help to prolong the knocker's service life.

Compressed air lines

Of course, it is possible to control vibrators by varying the air pressure or air volume. However, please ensure that the compressed-air units are correctly dimensioned. Quick-release catches are used for connection to the knocker and to the pneumatic control system.

Knocker

The special feature of this newly developed knocker is broad-band coverage of the impact force adjustment range and interval adjustment range. This has been made possible by an operating pressure of 2-7 bar. The impact force can be set pneumatically. The knocker can thus be used very flexibly.

The knocker is supplied with a base plate used to attach the knocker and transmit the impact force. The knocker housing and knocker base plate are made of aluminium. The impact plate (integrated in the base plate) is made of special-purpose impact-resistant plastic.

Field of application

Intermittent compressed-air knockers can be used to dislodge material adhering to container walls (e.g. silos, hoppers, filter outlets, reactors and pipes).

The knockers can be used in wet areas, in explosion-hazard areas or in the open air.

Mechanical construction and mode of operation

On all intermittent knockers, a piston is forced against a spring by means of compressed air. When quickly vented, the piston is shot against a surface. On the FKL, this is a baffle plate which is a part of the device.

Operating conditions

Intermittent knockers can be used in dusty environments. The piston seals are suitable for oil-free operation.

Standard installation for Series FKL

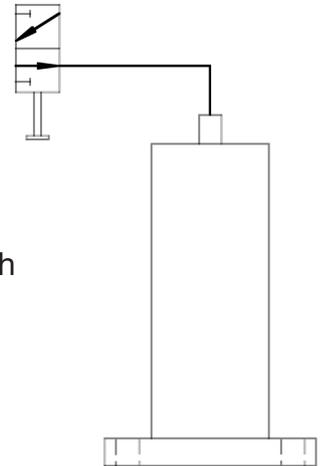
1. The control system is the responsibility of the customer

In this case, intermittent control or (ON / OFF) is implemented by the customer by means of a 3/2-way normally open air valve.

The control function may be performed by:

- process control system
- time-lag relay
- switch (on/off)

Maximum distance between valve and FKL = 177 inch, diameter 0.23 inch

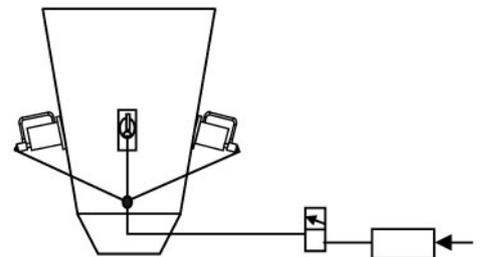


2. Pneumatic intermittent control with a PTR

The control function can be implemented by an enable signal from the:

- process control system
- time-lag relay
- or another signal

Maximum distance between PTR and FKL = 298.4 inch, diameter 0,23 inch



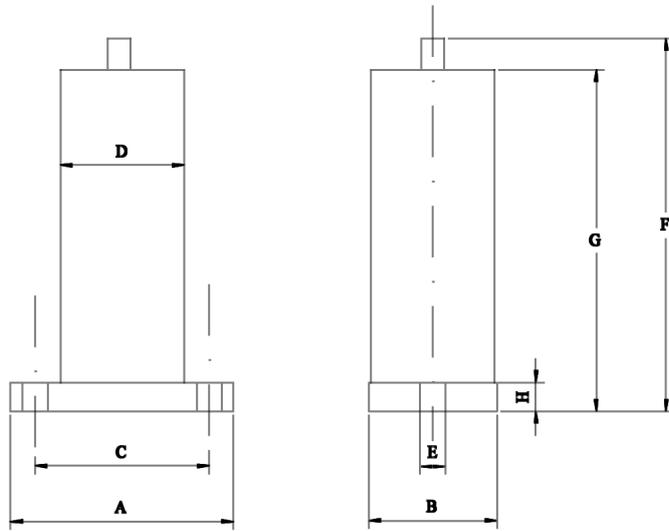
This system has a high impact frequency. It is also possible to control several units.

Technical Data

Device	Pressure PSI	Work impact Nm	Pulse impact Ns	Weight LBS	Air con- sumption CF/min	Cycle impacts/ min
FKL - 50	29 - 100	5 - 15	1 - 3.5	4	0.0035 - 0.01	0.5 - 120

FKL 50 can be used for wall thicknesses up to 0.12 inch

Dimensions (inch)



Kocker	A	B	C	D	E	F	G	H
FKL 50	4.5	2.6	3.5	∅ 2.5	∅ 0.51	7.64	6.97	0.6