

Operating instructions for 'FP' series pneumatic piston vibrators



GENERAL WARNING: Please ensure that during installation or other work on the vibrator and its power lines, the compressed air supply is turned off.
RISK OF INJURY! RISK OF DAMAGING EYES AND EARS!

SEE ALSO THE ENCLOSED DRAWINGS

GENERAL INFORMATION

- 'FP' series piston vibrators generate a linear vibration over a wide range of amplitudes and frequencies. The frequency is set by the operating pressure. This vibrator is intended for the conveyance, movement, loosening or separating of materials such as chemical powders, flour, sand and other bulk powdery substances etc. It can also be operated in the open air. Its operating pressure is to be a minimum of 2 bars (30 PSI) and a maximum of 6 bars (90 PSI). Along with air, nitrogen can also be used as the driving medium. Noise level is from 55 to 75 dBA.

Caution: The **MAXIMUM WORKING PRESSURE** may not exceed **8 bars (120 PSI)**!

- The ambient temperature is not to exceed 100°C (220°F).

ASSEMBLY AND INITIAL USE

- The clamping surface must be clean and flat. It is recommended to use a stiffening rod (U-section iron bar) as the substructure that will be welded to the object, thus transferring the vibration energy in an optimum manner.

- Allen screws of 8.8 quality are to be used for attachment. (**Not slotted screws!**)
Tightening torques and effective thread lengths are to be used across the following range:

Model	Thread	Torque		Effective thread length	
		min.	max.	min.	max.
FP-12	M8	15 Nm	21 Nm	8 mm	12 mm
FP-18	M10	30 Nm	42 Nm	10 mm	14 mm
FP-25	M12	50 Nm	72 Nm	12 mm	17 mm
FP-35	M12	50 Nm	72 Nm	12 mm	17 mm
FP-50	M16 / 4x M8	125 / 15 Nm	175 / 21 Nm	14 mm	17 mm
FP-60	M16 / 4x M8	125 / 15 Nm	175 / 21 Nm	14 mm	17 mm
FP-95	4x M12	50 Nm	72 Nm		

NOTE: The attachment thread is to be found in the smaller Ø frontal piece! The thread in the other end cap (air exhaust port) is NOT metric!

- Use locking or spring washers (**NOT flatspring or conical spring washers**) for preventing screws from working loose as a result of vibration. The use of chemical screw-locking compound, such as LOCTITE 243 is highly recommended.

Danger: **LOOSENED screw connections can cause the vibrator to fall off, with resultant PERSONAL INJURY.**

- The compressed air must be clean (**AIR FILTER 5 MICRONS / 5 µm**).
The air intake is located in the middle of the vibrator's casing.
Attach the compressed air supply securely to the connection. Follow the manufacturer's instructions.

Danger: **LOOSENED compressed air hoses can cause personal INJURY (to eyes)!**

NOTE: **DIRT will lead to the FAILURE of the vibrator!**

- A Line oiler (drip feed type) is strongly recommended to be used mounted close to the vibrator that supplies for lubrication pneumatic oil with a viscosity of 15 cSt/40° C according to ISO VG z.B. (Klüber Airpress15).

NOTE: Oil with other viscosity will reduce the operating frequency and piston will be blocked due to oil clog.

- IMPORTANT:** Make sure the oil container is always filled!
DRY OPERATION of the piston vibrator for more than some minutes will cause very high **ABRASION** of the piston.

NOTE: If the device is operated with very short stop intervals (< 3 secs.), then a control valve needs to be employed that will permit the venting of the vibrator to the atmosphere, so that the piston can take up its start position.

- Avoid lateral oscillations of the type that can occur if the vibrator is fitted to a single-ribbed (L) section. Lateral oscillations lead to heavy wear on the piston.
- A silencer is to be used on the air outlet side.
By using an adjustable silencer, the frequency and the power flow can be further influenced.
z.B. Free-Flow 44030.00 (R1/4") or 44031.00 (R1/8")

DANGER: Operation without a silencer should be avoided, so as not to generate unnecessarily high noise values (possible risk of hearing loss)!

- Air consumption. Ensure that there is sufficient air volume available in accordance with the table (even when all staff are working simultaneously). Otherwise, the vibrator will not achieve the readings as shown under technical data.

Model	2 bars	29 PSI	4 bars	58 Psi	6 bars	87 PSI
Consumption/min.	Ltr.	CuFt	Ltr.	CuFt	Ltr.	CuFt
FP-12	1	0.04	7	0.26	25	0.88
FP-18	5	0.18	33	1.16	57	2.00
FP-25	13	0.46	62	2.19	93	3.28
FP-35	23	0.81	99	3.54	160	5.68
FP-50	48	1.69	120	4.24	192	6.78
FP-60	90	3.18	180	6.36	275	9.71
FP-95	170	6.00	300	10.60	490	17.30

OPERATION AND MAINTENANCE

- IMPORTANT:** After the initial live run and **AT LEAST** once a **MONTH**, check the correct **ATTACHMENT** of the vibrator and the air connection and the silencer.

- If the piston vibrator slows down or stops, disconnect the air supply, remove the silencer, pour 15 drops of Kerosene (paraffin-oil) into the air inlet port. Reconnect the air supply, set air pressure to 6 bar (90 PSI) and run the vibrator for one minute. Repeat if not successful. Also check the silencer for dirt contamination.

DANGER: Be sure to shut off the air supply and remove the air connector when carrying out the above work! Wear **EAR PROTECTION** during above procedure!

- Possible faults:
 - During initial assembly
 - when operating
- Compressed air connected to air outlet port
- Air line too narrow or too long
- Silencer blocked, wash out with petrol
- Compressed air hose kinked
- Leakage, check air supply line
- Filter blocked, wash out or replace
- Replacement parts can be ordered on the basis of the model number. (See spare parts list)
- Parts of a worn-out vibrator can be sent for recycling:

- Body and End Caps > Aluminium anodize; - Piston > Lead bronze
- Spring > Steel

These instructions are to be kept for future use.

! max !

**6 bar / 90 PSI
100° C / 220° F**

