

Installation- and Operating-Instructions for pneumatic Ball Vibrators Series "K"



INITIAL WARNING: Make sure the air pressure is securely cut off during installation and any kind of handling in the close environment of the vibrator.
DANGER OF EAR AND/OR EYE INJURIES !

PLEASE ALSO REFER TO THE SKETCHES ATTACHED GENERAL INFORMATION

- The K-series ball vibrator produces a rotative vibration with infinitely variable amplitude and frequency. The frequency is controlled by air pressure.
The vibrator is designed to perform the following activities : Moving, feeding, compacting and/or separating of all kind of materials such as chemical powders, corn, sand, gravel, cement etc. It is designed for indoor and outdoor applications but not to be submerged in any kind of liquids.
The minimum air operating pressure is 2 bar (30PSI), the maximum is 6 bar (90PSI).
Noise Level from 75 to 95 dBA. As power medium instead of air also nitrogen can be used.



CAUTION: The maximum OPERATING PRESSURE must never exceed 6 bar (90 PSI).

- The ambient operating temperature shall not exceed 100°C (220°F).

DANGER: Blocked exhaust (e.g. clogged silencer) AND high temperature may cause one of the end plates to be pressed out (LOUD CRACK !).

INSTALLATION AND START-UP

- The mounting area must be clean and even. It is recommended to use a stiffener iron (U-profile) that is stitch welded to achieve best vibrating results. For outdoor applications make sure rain or any other liquids may not enter the exhaust by using a exhaust piece of pipe with the end versus the ground.
- To mount the vibrator use Allen Screws with a minimum quality 8.8. (No slotted screws !). The tightening torque must not exceed the following values:

type	thread	tightening torque	
		min.	max.
K-8/-10	M6 --->	6 Nm	10 Nm
K-13/-16	M8 --->	15 Nm	21 Nm
K-20/-25	M8 --->	15 Nm	21 Nm
K-30/-36	M10 --->	30 Nm	42 Nm

- Use Tooth Lock or Spring Lock Washers or Spring-Action Lock Nut (but NOT : Curved Washers) to ensure loosening stop of the screw during vibration. The use of adhesive sealant (e.g. LOCTITE 270) is suggested. Follow the respective instructions.



DANGER: LOOSEN SCREWS can cause the vibrator to fall down and HARM PEOPLE !



- The air pressure supply should be clean (filtered). The air inlet is the port with the smaller hole and marked with the respective arrow sign in front.

DANGER: LOOSEN AIR PRESSURE TUBES may HARM PEOPLE (EYE INJURIES) !

NOTE: An interchange of inlet and exhaust port will result in a massive power decrease.

- 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 15 example: Klüber Airpress 15.



- Use a silencer at the exhaust port.

DANGER: No operation without SILENCER (extreme dB-levels / EAR INJURIES) !
DANGER: The EXHAUST is under pressure and this may HARM PEOPLE (EYE INJURIES) !

- Air consumption. Make sure the air quantity according to the table is available even in worst case (all units at tone pressure supply line in operation). Otherwise the vibrator will not perform its correct function according to the technical data given.

type	2 bar Ltr.	29 PSI CF	4 bar Ltr.	58 PSI CF	6 bar Ltr.	87 PSI CF
K-8	83	2.9	145	5.1	195	6.9
K-10	92	3.2	150	5.3	200	7.1
K-13	94	3.3	158	5.6	225	7.9
K-16	122	4.3	200	7.1	280	9.9
K-20	130	4.6	230	8.1	340	12.0
K-25	160	5.6	290	10.2	425	15.0
K-30	215	7.6	375	13.2	570	20.0
K-36	260	9.2	475	16.8	675	24.0

- When starting-up first time check the Working Frequency with full load (or without if ever operated so). The frequency in 1000 rounds per minute (1000 r.p.m.) shall not exceed the following figures at the respective operating pressure :

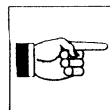
type	2 bar	6 bar	type	2 bar	6 bar
K-8	20	24	K-20	8	12
K-10	18	22	K-25	7	11
K-13	13	18	K-30	7	10
K-16	11	16	K-36	6	8

DANGER: Wear EAR PROTECTION during above procedure !

If the vibrator runs too fast then the vibration energy is too small and the ball abrasion is very high. In that case change for a bigger type.
Also avoid transverse vibration (as it may occur e.g. by using a weak single rib stiffener.).

OPERATION AND MAINTENANCE

- IMPORTANT:** CHECK one hour after first operation and at least ONCE A MONTH the correct MOUNTING of the vibrator incl. silencer and the air supply (including air-line filter).



- If the ball vibrator slows down or stops, remove the silencer. If the vibrator operates now, replace the silencer or wash out with petroleum. Also check air line filters in the same way.



DANGER: Wear EAR PROTECTION during above procedure !

- Fault possibilities : (• after installation - during operation)

- air pressure connected to exhaust
- air pipe too small in diameter or too long
- silencer clogs, wash with petroleum or replace
- /- air tube/hose bucklings
- leakage, check air supply pipes
- filter clogs, wash or replace

- Repairs / Spare Parts : Repairs can be carried out in our works or at the dealers place only. Return the whole unit to your local dealer.

- The parts of used vibrators can be recycled :
 - Body (Powder painted) ---> aluminum with steel race inlays
 - Ball ---> steel
 - Snap-in Caps ---> Nylon

This Operation Instruction shall be kept for future use.

K-E.FN

! max. !

**6 bar / 90 PSI
150°C / 300°F**

