

# Operating-Instruction For Turbopower piston knocker (TPK)



**INITIAL WARNING:** Make sure that the air pressure securely cutoff during installation and any kind of handling in the close environment of the vibrator.

**DANGER OF INJURY! WEAR EAR PROTECTION!**

## GENERAL INFORMATION

1. The Turbo power Piston knockers produce a linear vibration with infinitely variable amplitude and frequency. The frequency is controlled by air pressure. In knockers the force is generated by hammering action of piston in hardened plate.
2. Can be used for screens / compacting tables / hopper evacuation.
3. The minimum air operating pressure is 2Bar g, the maximum is 6 bar g
4. Self cooling, suitable for temperature upto 200deg.C.
5. The noise level is from 80 to 105 dbA scale depending on the hopper shape and wall thickness.



**CAUTION:** The maximum OPERATING PRESSURE must never exceed 6bar.

## INSTALLATION AND START -UP

1. The mounting area must be clean and even. It is recommended to use a channel that is stitch welded vertically to the side of the hopper or chutes to achieve best vibrating results.
2. The width of channel should be to suit the base dimensions of the vibrator and the length will also vary based on the hopper size, however a good rule to follow is that the channel be one-third the length of the slopping section of the hopper.
3. For outdoor applications make sure rain or any liquids may not enter the exhaust by using a piece of exhaust pipe with the end towards the ground.
4. To mount the vibrator use Allen screws with a minimum quality 8.8 (No slotted screws)
5. Use tooth lock or Spring lock washers (but NOT: curved washers) to ensure loosening stop the screw during vibration.



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

6. Use an air line filter (5µm) in front of the vibrator. Dirt will slow down or stop the vibrator. Make sure that the air pressure tube is securely fixed to the connecting sleeve. Please refer to the prescriptions of the air pipe manufacturers.



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

7. The line oiler "FRL " (drip feed type) is strongly recommended to be used mounted close to the vibrator that supplies for lubrication hydraulic oil with a viscosity of 5cSt/40°C (42SUsecor5cm<sup>2</sup>sec<sup>-1</sup>) according to ISO VG 5.

Examples of oils:

- |                      |                          |
|----------------------|--------------------------|
| -SHELL Tellus Oil C5 | -ESSO Nuto H5            |
| -BP Energol HP5      | -Mobil Velocity Oil No.4 |
| -For food industries | -Mobil Whiterex 304      |



**NOTE:** Oil with other Viscosity will reduce the frequency and piston will be blocked due to oil clog

8. Use a silencer at exhaust side (end cap with wider diameter)



**DANGER:** Operation without SILENCER should be avoided to keep the noise level (and possibility of EAR DAMAGE) reduced best possible!

**DANGER:** The EXHAUST is under pressure and this may HARM PEOPLE (EYE INJURIES)



**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 operated intermittent with short stop-time(less 3 seconds) make sure the control valve pipes vibrator to atmosphere when switched to OFF position , otherwise the start-up will be affected.

9. Air consumption: Air consumption of this type vibrator is less and not excessive (regardless of vibrator size) when vibrator operation is properly timed and the generated force output of the vibrator is compared with power cost.

## OPERATION AND MAINTENANCE



**IMPORTANT:** CHECK at least ONCE A MONTH the correct MOUNTING of the vibrator and air supply including air-line filter and lubricator.

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



**DANGER:** Wear EAR PROTECTION during above procedure!

2. Fault possibilities:  
After installation

- air pressure connected to exhaust
- air pipe too small diameter or too long
- Silencer clogs wash with petroleum or replace

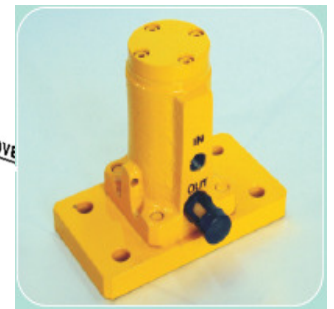
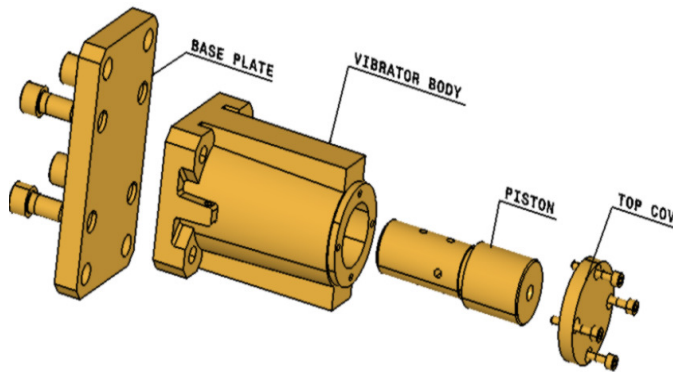
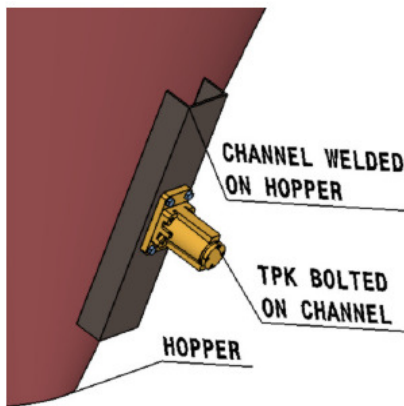
During operation)

- air tube buckling
- leakage, check air supply pipes
- filter clogs wash or replace

3. To change spare parts, follow the instructions supplied with the new parts. For spares designations use the model no. (Ex: Top cover for TPK-20)

### DIMENSION AND PERFORMANCE DATA

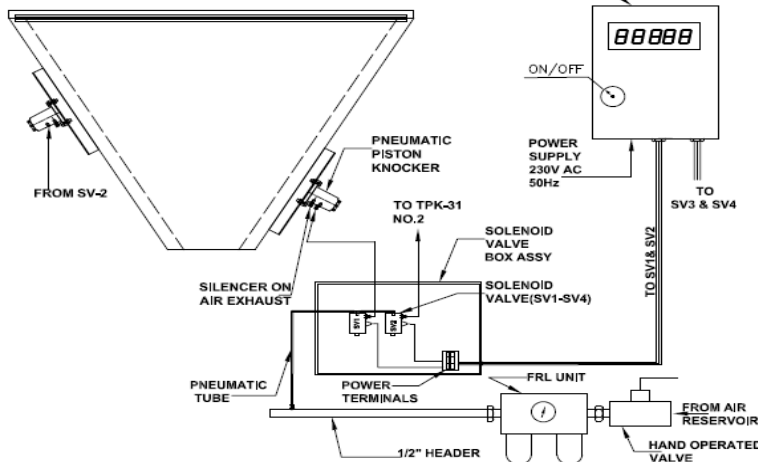
MODEL	A	B	C	D	E	F	G	H BSP	IMPACT FORCE (NEWTON)	FREQUENCY (VPM)	FREE AIR (LPM)
TPK-20	115	67	85	43	12	8.5	99	1/8"	3540	5000	85
TPK-31	150	85	123	60	16	13	148	1/4"	13150	3700	170
TPK-45	135	135	134.4	95	16	M20	216	3/8"	32200	2050	250



TPK MOUNTING ON CHANNEL

PARTS OF TPK

SILENCER ON EXHAUST PORT



INTER CONNECTION SCHEME FOR AIR SUPPLY, FILTER & LUBRICATION

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