

# DYNAPAC CONCRETE EQUIPMENT

## EP Pneumatic External Vibrators



INSTRUCTIONS & SPARE PARTS CATALOGUE

EP - IS - 10527 - 2 - ENG

***DYNAPAC***

# SAFETY INSTRUCTIONS

- **MACHINES SUBMITTED**: Powered with : Electric, Pneumatic, Petrol or Diesel engine.

- **SYMBOLS**: The words **WARNING** and **CAUTION** used in safety instructions, have the following meanings :  
**WARNING** indicates hazards or hazardous procedures which could result in serious injury or death if the **WARNING** is not observed.  
**CAUTION** indicates hazards or hazardous procedures which could result in injury or damage to equipment if the **WARNING** is not observed.

- **IMPORTANT RULES FOR YOUR SAFETY**:



## **WARNING**

***The machine must not be modified without prior consent of the manufacturer. Use only original parts. If modifications are made without prior consent of the manufacturer there is a risk of serious injury to the personal.***

- These safety recommendations have been compiled from international safety standards. Local regulations must also be checked and observed. Before using the machine, read carefully these instructions and keep them in a safe place.
- Make sure that the signs about using, safety, and maintenance are always legible.
- The use of the machine is restricted to the applications specified in the product literature.
- Always change damaged parts immediately. Change wear parts in due time.

- **SAFETY EQUIPMENT** :



## **WARNING**

***The admissible sound level of 85 dB (A), can be exceeded because of the machine and/or the application. Long time exposure to loud noise without ear protectors can cause permanent damage to hearing. Long time exposure to vibrations can damage the hands, fingers and wrists. Do not use the machine if you are experiencing discomfort, cramp or pain. Consult a doctor before working again with the machine.***

- Always use approved safety equipment. The following safety equipment applies to operators and other personnel in the immediate vicinity of the working zone.
- Safety helmet.
- Ear protectors.
- Dust mask in dusty environments.
- Protective gloves.
- Protective shoes.
- Goggles.

To avoid the risk of clothes being caught in the machine, avoid wearing loose-lifting clothes. If you have long hair, cover it with a hair net.

- **WORKING AREA** :



## **WARNING**

***Do not use the machine in explosive environments. Do not operate a machine powered by a petrol or diesel engine in poorly ventilated spaces. These types of engines produce toxic gases which can cause serious health troubles.***

**- POWER SUPPLY :**



**WARNING**

***Make sure that the power supply equipment complies with the relevant safety requirements of the local and the international standards.***

- Electric machine : It must be ensured that the machine is connected to the voltage and the frequency specified on the name plate. The power supply cable has to be properly sized. Check that the cable and the plug of the machine are not damaged. Never switch off the machine by pulling the plug from its socket. Use the machine switch. Keep the cable out of the moving parts of the machine.

- Pneumatic machine : Check that the compressed-air hose and the hose coupling are not damaged. Never attempt to loosen a compressed-air hose which is pressurized. First switch off the air at the compressor and then leave the machine running itself to discharge the hose after some seconds.

- Machine powered by petrol or diesel engine : Petrol has an extremely low flash-point and can be explosive in certain situations. Keep away from all hot or spark-generating objects, do not smoke, when handling fuel. Wait until the machine has cooled before filling the tank. Avoid spilling petrol or diesel on the ground.

**- STARTING THE MACHINE :**



**CAUTION**

***Before starting make yourself familiar with the machine and make sure that the machine does not show any obvious faults. Then start the machine according the instruction and spare parts catalogue.***

**- OPERATION :**



**CAUTION**

***Use the machine only for the purpose for which it is intended. Make sure you know how to stop the machine quickly in the event of an emergency situation. Do not touch rotating parts during operation.***

**- MAINTENANCE :**



**CAUTION**

***Maintenance work must only be carried out by skilled personnel. Keep unauthorized persons away from the machine. Do not carry out maintenance work while the machine is moving or the engine is running. Never use a machine which is damaged.***

**- BE ALERT :**



**CAUTION**

***Always concentrate on what you are doing. Use common sense. Never operate the machine if you are tired or under the influence of drugs alcohol or other substances which can affect your vision, reaction, ability or judgement.***

## **GENERAL**

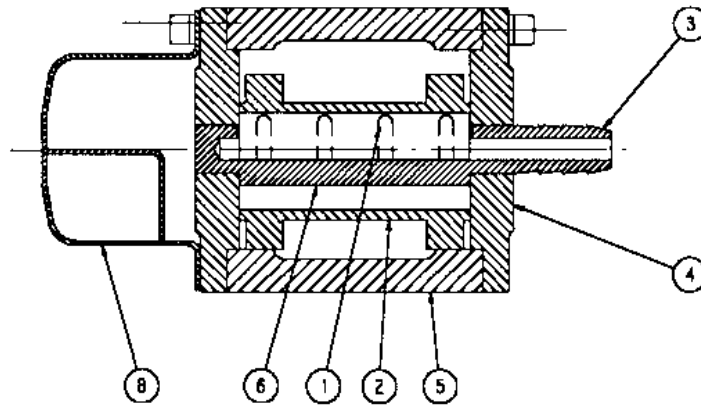
DYNAPAC EP pneumatic vibrators are designed for the vibration of all concrete mixes on civil engineering sites and pre-cast factories as well as all vibration applications where both high amplitude and high frequency are required. Their new design (one moving part only - bearingless turbine) offers maximum reliability and efficiency with maintenance-free operation.

Very low noise level allows the development of new applications.

Operating pressure : 6 bars - 87 PSI.

Available in bolt-on models (S) and for quick release attachment (B).

## **DESIGN**



All DYNAPAC EP pneumatic vibrators are of similar construction. They feature a pneumatically driven motor which has only two moving parts, the lamella **1** and the rotor **2**.

Compressed air is supplied to the vibrator through the nipple **3** fitted in the centre of the front flange **4**.

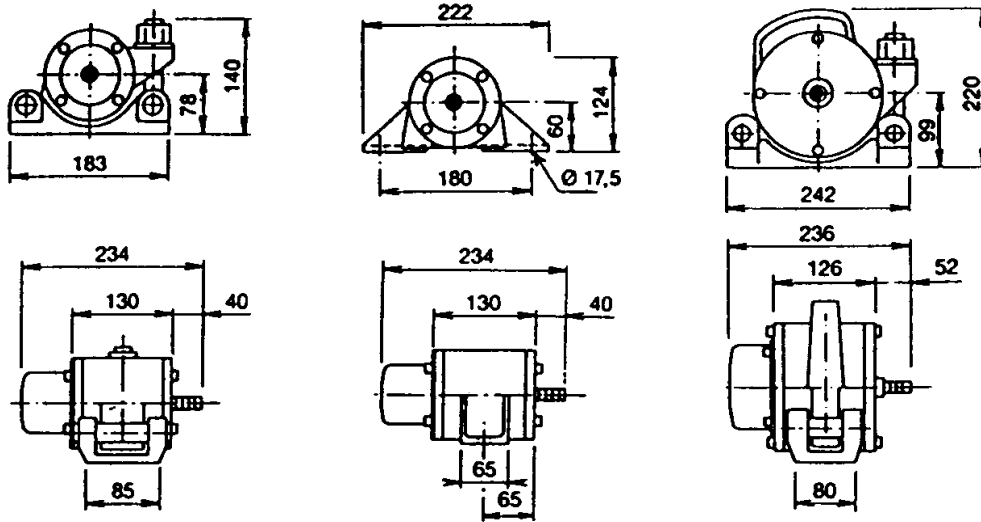
Vibrations are generated by the rotation of the rotor, into the body **5**, guided by the flanges. Air flows into the shaft **6**, passes through the passage ways in the lamella **1**, back through "air gap" on rotor, outer holes in rear flange and a silencer **8** on the rear flange.

## **TECHNICAL DATA**

	EP081B	EP081S	EP121B	EP121S	EP271B	EP271S	EP371B	EP601B
<b>Frequency</b> <b>vpm</b>	8 900	8 900	9 000	9 000	9 350	9 350	9 350	8 800
<b>Centrifugal force</b> <b>N</b> <b>(lb)</b>	4 200 (950)	4 200 (950)	8 100 (1 820)	8 100 (1 820)	10 350 (2 330)	10 350 (2 330)	26 800 (6 000)	31 500 (7 100)
<b>Amplitude</b> <b>mm</b> <b>(in)</b>	0.50 (0.02)	0.50 (0.02)	0.80 (0.03)	0.80 (0.03)	1.10 (0.05)	1.10 (0.05)	1.70 (0.07)	2.10 (0.08)
<b>Noise level*</b> <b>dB(A)</b>	88.50	88.50	90.00	90.00	90.80	90.80	95.00	100.00
<b>Air consumption</b> <b>l/mn</b> <b>(cfm)</b>	1 200 (42)	1 200 (42)	1 200 (42)	1 200 (42)	1 200 (42)	1 200 (42)	1 400 (50)	1 400 (50)
<b>Weight</b> <b>kg</b> <b>(lb)</b>	9.00 (20)	9.00 (20)	9.50 (21)	9.50 (21)	10.00 (22)	10.00 (22)	16.50 (37)	18.00 (40)
<b>Mounting</b>	Bracket VT2	Bolts	Bracket VT2	Bolts	Bracket VT2	Bolts	Bracket VT4	Bracket VT4

\* Noise level dB(A) measured at 1m from the external vibrator, according to ISO 6081.

**DIMENSIONS**



EP 081 B - EP 121 B - EP 271 B

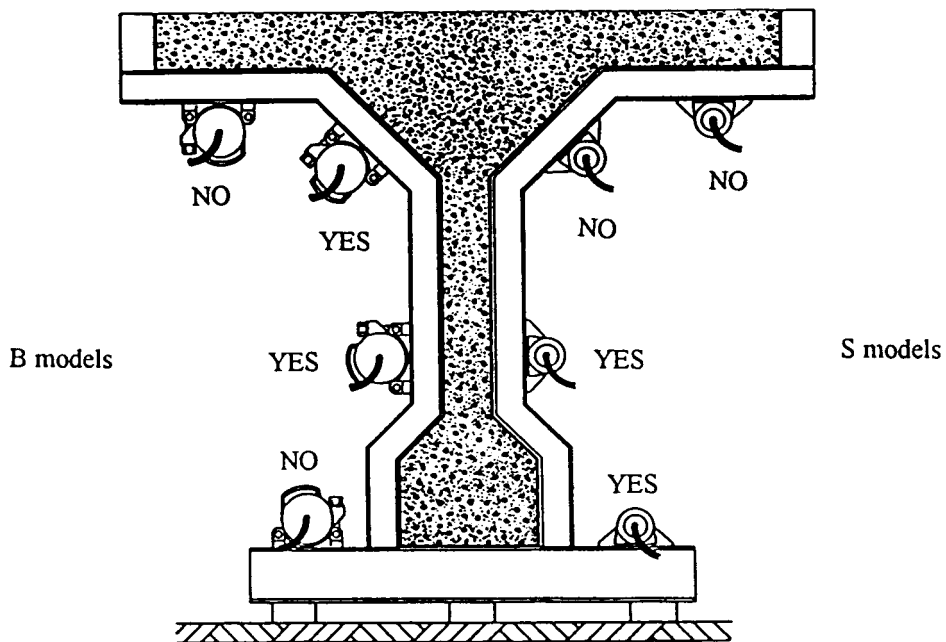
EP 081 S - EP 121 S - EP 271 S

EP 371 B - EP 601 B

**OPERATING INSTRUCTIONS**

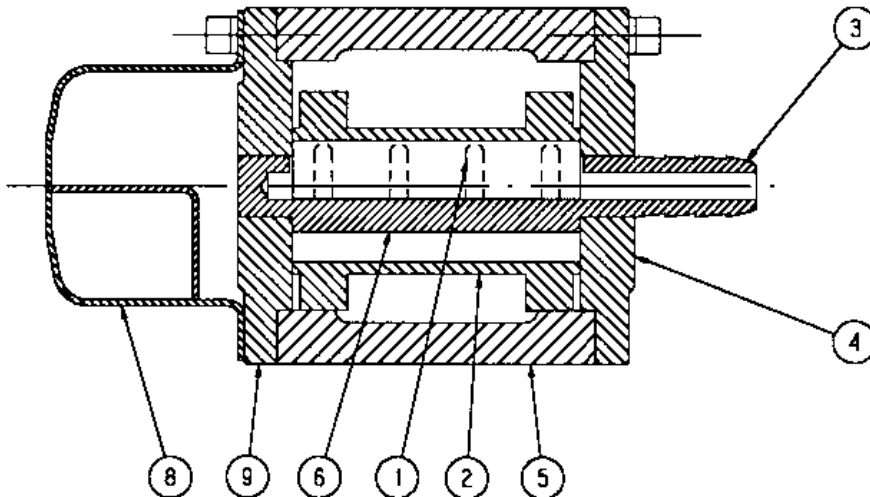
Make sure that the compressed air-supply is in keeping with the vibrator specifications (pressure, output).  
 Before connecting the vibrators, blow air hose clean of any dirt or water it may contain.  
 Make sure that the air is oiled through an inline oiler within 10 meters of the vibrator or else pour 4 cm<sup>3</sup> of non detergent oil into the hose through the coupling every 4 hours of continuous operation.  
 Refrain from using gasoline or fuel oil.  
 Make sure the coupling filter is clean.

**STARTING CONDITIONS**



In the positions where starting is impossible the complete turbine (flanges, shaft and lamella) should be turned by around 90°.

## **WORKSHOP INSTRUCTIONS**



### **DISASSEMBLY**

Disconnect the air-supply hose.

Unscrew the silencer **8**.

Take all fixing screws off from the flanges **4, 9**.

Fix hold the body **5** in a vice clamp and push shaft **6** out by hitting the air supply side.

Remove the lamella **1** off the shaft.

Push the shaft **6** off the air-exhaust flange **10**.

***To make reassembly easier, note carefully the position : shaft with flanges, flanges with body.***

### **POSITIONNING TOOLS**

N° 182982 for EP081, EP121, EP271.

N° 182981 for EP371, EP601.

### **ASSEMBLY**

Oil all moving parts and assemblies.

Put a new lamella on the shaft.

#### **Assembly mark :**

Facing the air-inlet hole of the shaft, the grooves of the lamella must be on the right hand side.

***The lamella may require to be adjusted for a snug sliding in the shaft groove.***

Insert the positioning tool into the first exhaust hole (on right hand side) of the exhaust flange **9**.

Insert the shaft **6** into the flange **9** so that the lamella **1** is flush with the positioning tool.

Take the positioning tool off.

Insert body **5** on to flange **9**.

#### **Assembly mark :**

When the body is horizontal, and the mounting plate is underneath : exhaust-holes are positioned at the top as well as the lamella on the right-hand side.

Refit the silencer **8** on to the exhaust flange **9**. Exhaust holes must be on the opposite side of those on the exhaust flange.

Mount the rotor **2**.

Reinsert flange **4**. Blind holes of inner side facing the exhaust holes.

Screw the 8 bolts (tightening torque : 2.2 mkg).