

# Concise installation and operating instructions for pneumatic vibrators series NCB, NCR and NCT

## S a f e t y



Make sure that the compressed air is shut off during installation or during other work on the vibrator and on the supply lines. Before starting operation all hoses must be tightly connected.

A hose coming loose under pressure may cause injury.

**Observe the enclosed drawings.**



Alterations to the unit may change the characteristics of the vibrator or even damage the unit and will cause the rejection of any warranty claims.

Screw connections must be checked after 1 hour and then controlled at regular intervals (normally each month).

Vibrations can cause loosening of bolted connections and equipment. This may cause damage to persons and material.

## G e n e r a l N o t e s

The vibrators comply with the EC machine regulation 2006/42/EC.

The standards DIN EN ISO 12100 part 1 and part 2 particularly have been observed.

The vibrators produce non-directed vibrations.

They are used for emptying bunkers, to drive chutes, screens and vibrating tables. Generally for loosening, conveying and separating of bulk materials and for the reduction of friction.

When observing the operating instructions of the customer they may also be used in food processing or wet environments.

The vibrators may be used outdoors.

The frequency and the dependent centrifugal force are determined by the operating pressure.

**Drive medium:** Clean, filtered (filter < 5µm), compressed air or nitrogen of 2 to 6 bar (30 to 90 PSI) is required.

**Non-filtered air will damage the vibrators.**



The vibrators are designed for lubrication-free operation. The life time of NCB and NCR will be extended with lubrication

**Maximum operating pressure:** 6 bar (90 PSI).

**Noise level:** Depending on the type of vibrator and air pressure the noise level is 75 to 85 dB(A) (with silencer). If the air pressure is lower, the noise level is also lower. In order to avoid unnecessary noise, the vibrators should not be operated without a silencer.

## I n s t a l l a t i o n



The unit must be fastened to a clean and level surface with two fastening screws (for screw size and tightening torque see table).

Use self-locking washers (no spring washers). Use self-locking nuts or e.g. Loctite 270 against loosening.

It is strongly recommended to use a stiffening (U-profile) for the substructure. This stiffening section should be welded to the object. This allows optimal transfer of the vibration energy.



The air inlet port is smaller than the outlet port. Both are marked by arrows on the front.

**Supply line:** The air resistance increases with the hose length. The nominal widths in the table apply for hose lengths of up to 3 m. Longer supply lines need bigger cross-sections.

**Air discharge:** If the out flowing air is discharged and the vibrator should work with full power, the discharge hose must have a bigger nominal width than the supply hose.

Rainwater or other fluids must not enter the housing when using outside. In case of raining the exhaust air should be discharged downwards.

The compressed air supply line must be fastened securely.

**Swapping the air inlet and outlet ports will cause loss in power.**

Type	Thread	Tightening torque	Supply line thread	Supply line diameter	For use in or under water	Lubrication free	Temperature range*
NCB 1, 2	M 6	10,4 Nm	G 1/8	NW 6	no	limited	-20°C to 200°C
NCB 3, 5, 10, 20	M 8	25,0 Nm	G 1/4	NW 9	no	limited	-20°C to 200°C
NCB 50, 70	M 10	51,0 Nm	G 3/8	NW 12	no	limited	-20°C to 200°C
NCR 3	M 6	10,4 Nm	G 1/8	NW 6	no	limited	-20°C to 200°C
NCR 10, 22	M 8	25,0 Nm	G 1/4	NW 9	no	limited	-20°C to 200°C
NCR 57	M 12	86,0 Nm	G 3/8	NW 12	no	limited	-20°C to 200°C
NCR 120	M 16	215,0 Nm	G 3/8	NW 12	no	limited	-20°C to 200°C
NCT 1, 2, 3, 4	M 6	10,4 Nm	G 1/8	NW 6	yes	yes	-20°C to 120°C
NCT 5, 10	M 8	25,0 Nm	G 1/4	NW 9	yes	yes	-20°C to 120°C
NCT 15,29	M 8	25,0 Nm	G 1/4	NW 9	yes	yes	-20°C to 120°C
NCT 55, 108	M 10	51,0 Nm	G 3/8	NW 12	yes	yes	-20°C to 120°C
NCT 126, 250	M 16	215,0 Nm	G 3/8	NW 12	yes	yes	-20°C to 120°C

\*) -20°C to 200°C corresponds to -4°F to 392°F. -20°C to 120°C corresponds to -4°F to 248°F

## Start-up and Operation

The start-up of the vibrator is possible immediately after the correct installation.

Make sure that the pneumatic system is able to supply the air quantity specified in the operating instructions. Otherwise the vibrator will not be able to reach the technical specifications.



### Permissible operating conditions:

Ambient temperature range\*  
 NCB/NCR -20°C to 200°C  
 NCT -20°C to 120°C

**NCB and NCR vibrators** require heat resistant hose nipples and silencers for temperatures above 120°C (248°F). If necessary install lubricator and adjust oil flow (2 to 5 drops/h).

### Checklist for Assembly and start-up:

1. Install the unit carefully.
2. Secure the fastening screws.
3. Install maintenance unit (filter, regulator), valve and supply line.
4. If necessary install lubricator and adjust oil flow (2 to 5 drops/h), drain off exhaust air.
5. Check: Are fastening screws secured?
6. Have notes on hose length and nominal width been observed?



**NCT Vibrators** may be operated inside liquids if the exhaust air is piped off to the atmosphere.

### Note NCT 1 and NCT 2:

Due to the high efficiency these units reach very high rotary speeds.

These high speeds reduce the lifetime of the bearings and increase the noise level. We therefore recommend to operate NCT 1 and NCT 2 only with 2 to 3 bar (max. 15.000 rpm) or to use them for interval operation.

## Maintenance

NCB, NCR and NCT vibrators are maintenance-free. They can be cleaned with a water jet from outside. Then operate the vibrator for a short while after.

If necessary empty the filter, clean filter element and silencer (wash out).



Dirty compressed air causes clogging of filter and silencer.



Screw connections must be checked and retightened after 1 hour of operation and then at regular intervals (normally every month).

**For maintenance instructions and trouble shooting refer to the operating instructions.**

**Waste disposal:** The parts must be disposed off according to valid regulations, depending on the material.

All units can be disposed of through your supplier. The valid waste disposal prices are available on request.