Installation- and Operating-Instructions for pneumatic Roller Vibrators Series "DAR"

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

1. The DAR-series roller 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).
   As power medium instead of air also nitrogen can be used. Noise level from 75 to 100 dBA

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

2. The ambient operating temperature shall not exceed 200°C (400°F).

INSTALLATION AND START-UP

3. 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.

4. 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		min.	max.
DAR-2	M6	--->	6 Nm	10 Nm
DAR-3	M8	--->	15 Nm	21 Nm
DAR-4	M10	--->	30 Nm	42 Nm
DAR-5	M12	--->	50 Nm	72 Nm
DAR-6/ -7	M16	--->	150 Nm	174 Nm

5. 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 !**

6. The **AIR** pressure supply should be **CLEAN (FILTRE < 50 µm).** The air inlet is the port with the smaller hole and marked with the respective arrow sign in front. Make sure the air pressure tube is securely fixed to the connecting sleeve. Please refer to the prescriptions of the air pipe manufacturers.

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.**

7. A line oiler (drip feed type) has to be mount close to the vibrator that supplies for lubrication hydraulic oil with a viscosity of 5 cSt/40°C (42 SUsec or 5cm²sec⁻¹) according to ISO VG 5.
   Examples of oils : - SHELL Tellus Oil C5 - ESSO Nuto H5
   - BP Energol HP-5 - Mobil Velocite Oil No. 4
   - for food industries : Mobil Whiterex 304

NOTE : **Oil with other viscosity will reduce frequency and power of the vibrator.**

8. 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 !)**

9. Air consumption. Make sure the air quantity according to the table is available even in worst case (all units at one 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
DAR-2	70	2.5	140	4.9	200	7.0
DAR-3	100	3.5	200	7.0	300	10.6
DAR-4	120	4.2	250	8.8	360	12.7
DAR-5	130	4.6	270	9.5	390	13.8
DAR-6	170	6.0	320	11.3	470	16.6
DAR-7	180	6.4	350	12.4	500	17.7

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

type	2 bar	6 bar	type	2 bar	6 bar
DAR-2	18	22	DAR-5	9	11
DAR-3	14	18	DAR-6	6	8
DAR-4	12	16	DAR-7	6	8

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

If the vibrator runs too fast then the vibration energy is too small and the abrasion of the roller is very high. Then change to the next bigger type.
Also avoid transverse vibration (as it may occur e.g. by using a weak single rib stiffener).

OPERATION AND MAINTENANCE

11. ***NOTE :*** **Make sure the lubricant container is always filled. Dry operation of the roller vibrator will cause abrasion of the end plates and the roller.**

12. ***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 and lubricator).**

13. If the roller vibrator slows down or stops, remove the silencer. If the vibrator operates now, replace the silencer or wash it out with petroleum. Also check filters in the same way.
    DANGER : **Wear EAR PROTECTION during above procedure !**

14. Fault possibilities : (• after installation - during operation)
    • air pipe too small in diameter or too long - leakage, check air supply pipes
    - silencer clogs, wash with petroleum or replace - filter clogs, wash or replace
    - air tube bucklings

15. If wear takes place at the end plates, it can be taken up by machining the running surface of the endplates. Place the end plate in a lathe and check that surface of the end plate is running true using D.T.I. The maximum permitted run before turning is 0.03 mm (30 µm).

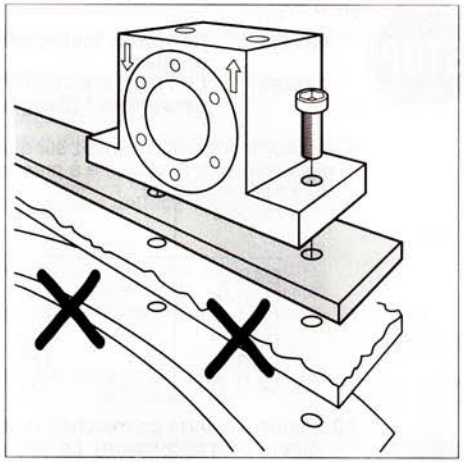
16. To change spare parts, follow the instructions supplied with the new parts. For spares designation use the model number (e.g. roller for DAR-4).

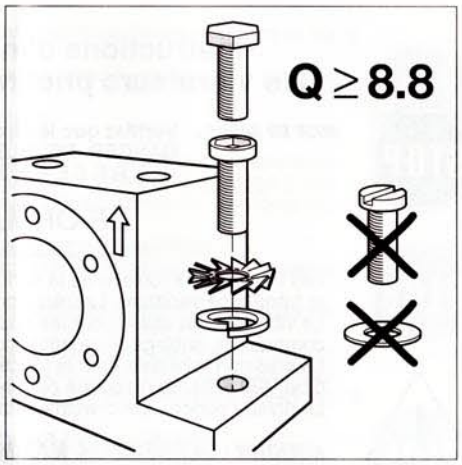
17. The parts of used vibrators can be recycled :
    - Body (powder painted) ---> aluminum with steel race inlay
    - Roller ---> cast iron
    - Threaded End Caps ---> brass

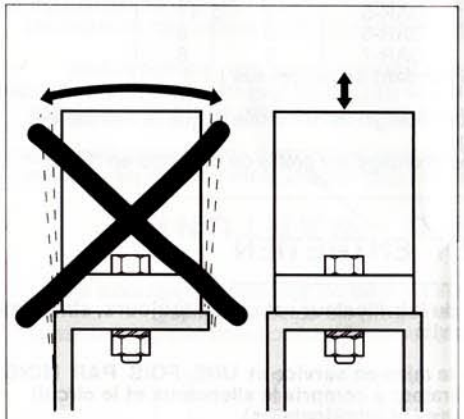
This Operation Instruction shall be kept for future use.
DAR-E.FN

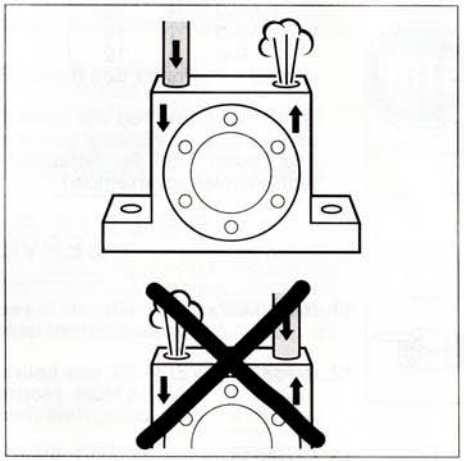
! max. !

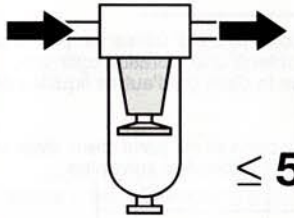
6 bar / 90 PSI
200°C / 400°F



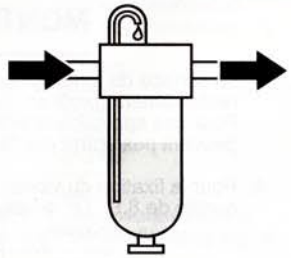




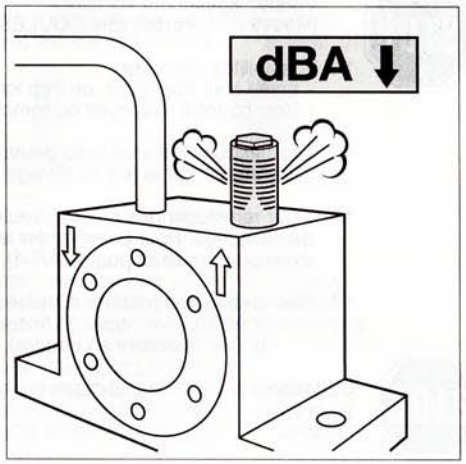


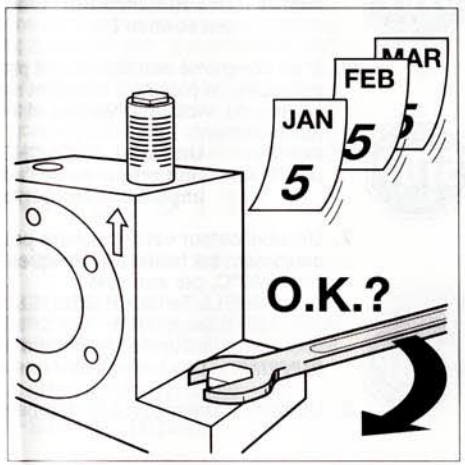


Filter recommended
Filtre recommandée
Filter empfohlen
Filtro recomendado



Oil / Huile / Oel / Aceite:
ISO VG5 = 5 cSt/40°C
(Shell Tellus Oil C5,...)





G&D DAR/E7