

Operating instructions
Pump TB-D
Hand lever

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1. General

Prior to start up, we recommend to read these operating instructions carefully as we do not assume any liability for damages and operating troubles which result from the nonobservance of these operating instructions!

Any use beyond the applications described in these operating instructions is considered to be not in accordance with the product's intended purposes. The manufacturer is not to be held responsible for any damages resulting from this: the user alone bears the corresponding risk.

As to figures and indications in these operating instructions we reserve the right to make technical changes which might become necessary for improvements.

The copyright on these operating instructions is kept reserved to the company DELIMON. These operating instructions are intended for the erecting, the operating and supervising personnel. They contain regulations and drawings of technical nature which must not – completely or partially - be distributed nor used nor communicated to others without authorization for competition purposes.

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2. Safety

These operating instructions contain fundamental instructions which are to be observed during erection, operation and maintenance. Therefore it is absolutely necessary for the fitter and the competent qualified staff/user to read these operating instructions before installation and start-up. The operating instructions must be available at all times at the place of use of the machine/system.

Not only the general safety instructions stated under this main point "safety" are to be observed, but also the other specific safety instructions stated under the other main points.

2.1 Identification of safety warnings in the operating instructions

The safety warnings contained in these operating instructions which, if not observed, may cause dangers to people, are specially marked with general danger symbols



safety sign according to DIN 4844, warning about a danger spot ,

in case of warning about electric voltage with



safety sign according to DIN 4844, warning about dangerous electric voltage.

In case of safety instructions which, if not observed, may cause damage to the machine and its function, the word

ATTENTION

is inserted.

Instructions that are directly attached to the machine, as for example

- rotational direction arrow
- identifications for fluid connections

must be observed at all events and maintained in a fully legible condition.

- Note: There is an increased skid risk in case of spilled/leaked out lubricants. They are to be removed at once properly.



Safety sign according to DIN 4844, warning about skid risk.

2. Safety (continuation)

2.2 Personnel qualification and training

The operating, maintaining, inspecting and erecting personnel must have the appropriate qualification for such work. Area of responsibility, competence and supervision of the personnel have to be regulated by the user. If the personnel do not have the necessary knowledge, they have to be trained and given instructions. This can be effected, if necessary, by the manufacturer/supplier on behalf of the user of the machine. Furthermore, the user has to make sure that the contents of the operating instructions are fully understood by the personnel.

2.3 Dangers in case of nonobservance of the safety instructions

The nonobservance of the safety instructions may result in hazards to persons, to the environment and to the machine. The nonobservance of the safety instructions may lead to the loss of any claims for damages.

In detail, the nonobservance may for instance lead to the following hazards:

- Failure of important functions of the machine/system
- Failure of prescribed methods for maintenance and repair
- Hazard to persons by electrical, mechanical and chemical influences
- Hazard to the environment by the leakage of dangerous substances

2.4 Safety conscious working

The safety instructions stated in these operating instructions, the existing national regulations as to the accident prevention as well as possible internal working, operating and safety rules of the user are to be observed.

2.5 Safety instructions for the user/operator

- If hot or cold machine parts lead to dangers, these parts have to be protected against touch.
- Protection against touch for moving parts (e. g. coupling) must not be removed when the machine is in operation.
- Leakages (e. g. from the shaft seal) of hazardous goods to be delivered (e. g. explosive, toxic, hot) are to be removed in such a way that there is no danger to persons and environment. Legal rules are to be observed.
- Hazards caused by electrical power are to be excluded (for details please refer for instance to the rules of the VDE and the local power supply companies).

2.6 Safety instructions for maintenance, inspection and installation work

The user has to take care that all the maintenance, inspection and installation work is executed by authorized and qualified skilled personnel who have informed themselves adequately by thoroughly studying the operating instructions.

Basically, work on the machine is only to be carried out during shut-down. It is obligatory to observe the shut-down procedure described in the operating instructions.

Pumps or pump aggregates that deliver media being hazardous to health have to be decontaminated. Immediately after completion of the work, all safety and protective equipments have to be reinstalled and/or reactivated.

- Advice: When working with compressed air, do wear glasses.



(DIN 4844 – Use breathing mask)

- Advice: Observe EC-Safety Data Sheet for materials of consumption and additives used and use personal protective equipment.



(DIN 4844 – Use breathing mask)

Before recommissioning, observe the points stated in section “initial start-up”.

2.7 Unauthorized conversion and manufacture of spare parts

Conversion or modifications to the machine are only permitted when agreed with the manufacturer. Original spare parts and accessories authorized by the manufacturer serve to ensure safety. The use of other parts may render the liability for consequential losses null and void.

2. Safety (continuation)

2.8 Unacceptable modes of operation

The operational reliability of the machine supplied is only guaranteed if the machine is used in accordance with its intended purposes as per section 1 - General - of the operating instructions. The limiting values specified in the data sheet must on no account be exceeded.

2.9 Guidelines & standards

1., 2. and 3. guideline (see data sheet: R&N_2009_1_GB)

3.0 Notes on environmental protection and waste disposal

In correct operation with lubricants, the components are subject to the special requirements set by environmental legislation.

The general requirements for lubricants are specified in the respective safety data sheets.

Used lubricants are hazardous forms of waste and therefore require special supervision in the sense of § 41 paragraph 1 sentence 1 and paragraph 3 no. 1 of KrW-/AbfG (Closed-Loop Waste Management Act).

Used oils must be handled in compliance with AltölV (Waste Oil Ordinance).

The devices or components contaminated with lubricant must be disposed of by a certified waste management company.

Records of proper waste management must be filed in conformance to NachwV (Ordinance on Waste Recovery and Disposal Records).

GENERAL PRODUCT CHARACTERISTICS

- Multi-line pump
- Hand lever actuation
- Output volume max. 0.5 cm³/stroke
- Discharge pressure max. 25 bar
- Lubricant grease
- Surface signal grey RAL 7004

A. PUMP TYPE TBH

B. NUMBER OF OUTLETS

1 outlet
2 outlets
4 outlets
5 outlets
6 outlets
8 outlets
outlet X

C. INSPECTION

Stage A

D. POSITION OF DRIVE

Hand lever

E. POSITION OF DRIVE

without

F. RESERVOIR

0.25 liters
0.65 liters

G. ACCESSORIES

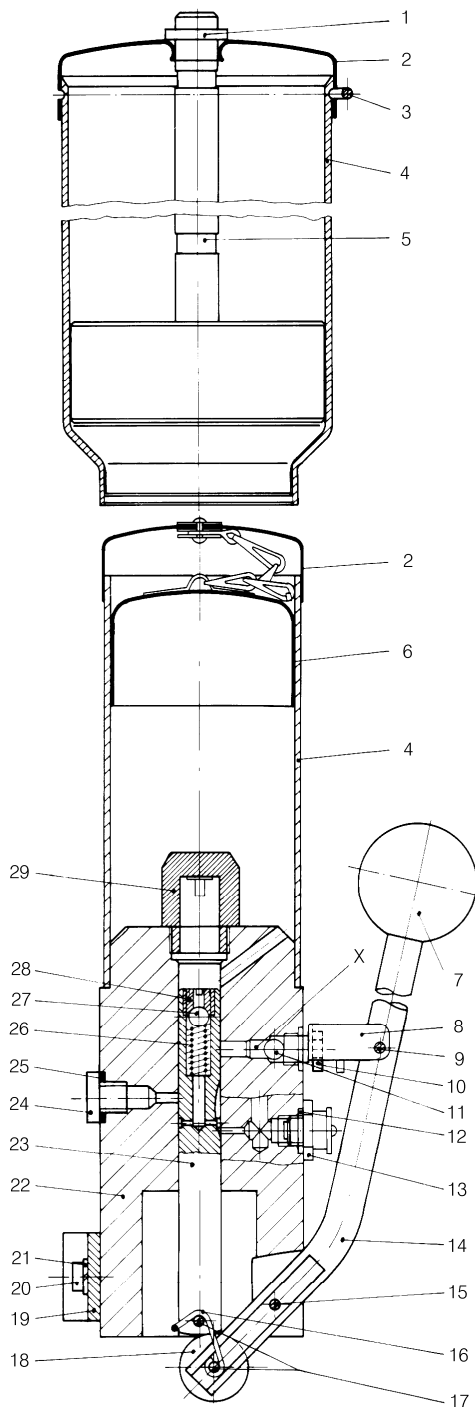
without

3. Application

For lubrication at friction points on presses, stamping presses, machine tools, conveyors, etc.

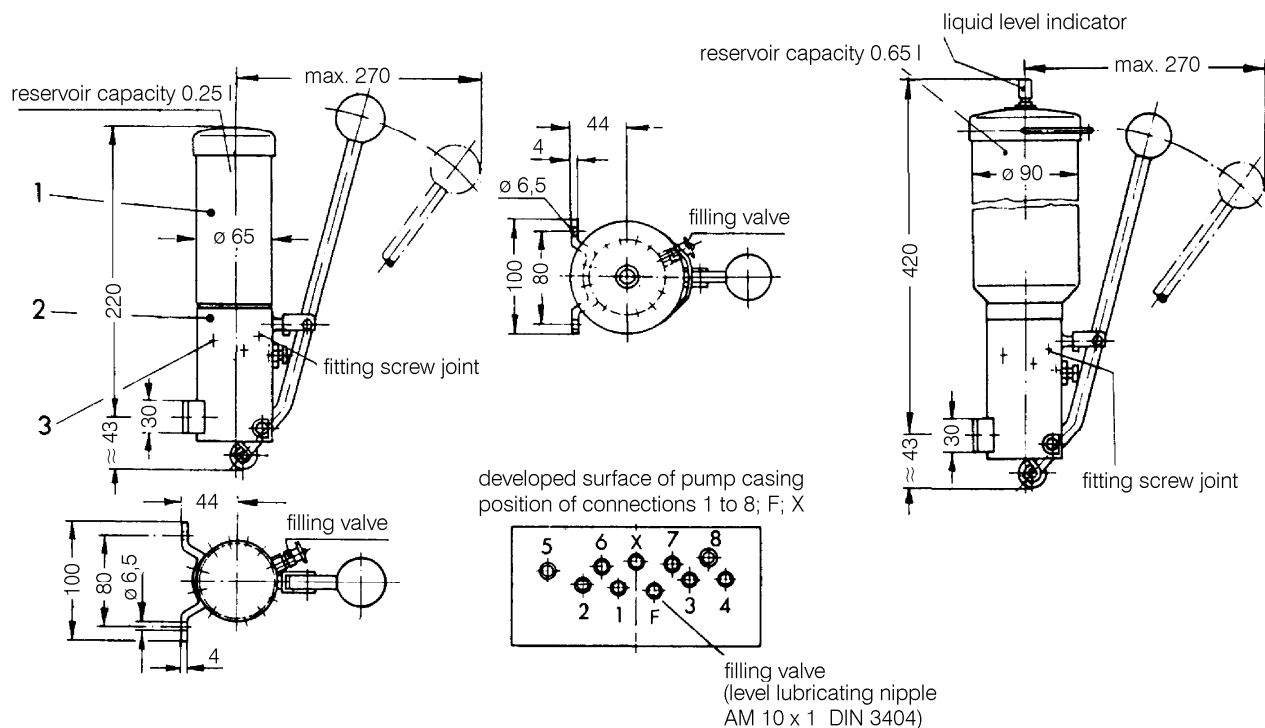
4. Principle of operation

By pulling the hand lever (14) the piston (23) is raised and grease is forced into the inner bore of the piston. During the upward motion of the latter the cross bore connects the inside chamber of the piston with the outlet ports one after the other. These ports are not on the same level and the ring groove of the cross port frees the way to the outlet ports alternatively. When returning the hand lever to its original position the piston is lowered and lubricant is sucked into the required cap (29).



5. Specification

Discharge pressure max. : 25 bar
 Number of outlets : at choice 1, 2, 4, 5, 6 or 8
 Operating force at 25 bar : 200 N (20 kp)
 Output volume per stroke : outlet 1, 2, 4, 5, 6 or 8 each 0.5 cm³
 Reservoir capacity : 0.25 l or 0.65 l
 Lubricants :
 Grease up to NLGI class 2, DIN 51818
 Service temperature : - 20 °C up to + 80 °C



6. Installation and Start-up

(Drawing see "Pinciple of operation", page 6)

The pump should be fixed in a vertical position to a wall. Clean pipework thoroughly prior to connecting, and fill up with clean lubricant. In case of the TB-D type pumps are recommended (only at first commissioning) to be filled with oil, too, up to approx. 1 cm above the pump body level (22) and the rest with grease. Oil filling is preferred to prevent air inclusions into the pump system. Having completed the filling, the vent screw (10) must be loosened and the pump started until lubricant is merging out of the outlet bore free of air. The connect pipework and retighten vent screw (10).

7. Maintenance

Replenishing of reservoir

Refill reservoir (4) as soon as 80% of the contents is used up.

TB-D type grease pumps have a follower piston. In grease pumps the minimum level is shown by a yellow upper marking at the level indicator, the lower yellow ring, on the other hand, shows the maximum filling level.

8. Changing the number of outlets

(Drawing see "Pinciple of operation", page 6)

The pumps are supplied with the required number of outlets, nevertheless this number can be changed, if necessary.

The outlets are numbered from 1 to 8. For each definite number of outlets a required cap (29) must be fitted which corresponds to the outlet number and which limits the volume of grease displaced by the piston. Therefore to change the number of outlets one must change this cap. The new cap must bear on is top the numeral corresponding to the required number of outlets. It can be removed and refitted by means of a spanner, size 22.

Blinding of outlets

If fewer outlets than existing are required, it is possible to close the superfluous outlets by means of the plug (24). Blinding cannot be made deliberately, but care should be taken to start by closing the higher numbered outlets first. At the same time, exchange the required cap (29) as described.

Example:

If it is required to reduce the outlets of a certain pump from 8 down to 5, then one must plug the outlets number 8, 7 and 6.

Opening the outlets

By increasing the initially provided number of outlets, the corresponding number of plugs (24) has to be removed so as to avoid to interrupt the number sequence of open outlets. Be sure to exchange subsequently the required cap (29).

Example:

A pump having 5 outlets, open - if to be increased to 7 outlets - the outlet bores 6 and 7 one after another.

9. Plates

Name plate 110 x 60 mm (75511-1531)



Type plate 110 x 60 mm (75511-1321)

