

**OPERATION MANUAL
PNEUMATIC POWER TROWEL
LAP 45**



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INHOUDSOPGAVE

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1. Preface

This manual has been written to help you operate and maintain the pneumatic power trowel LAP45 safely. This manual is intended for dealers and operators of LTM machines and contains useful instructions for use, maintenance and repair. These instructions need to be respected and followed.

Guarantee provisions

All damage to parts of these machines, occurring within 12 months after date of purchase as a consequence of material, production or construction defects, will be replaced by the manufacturer as soon as possible.

The manufacturer declines all responsibility for unsafe situations, accidents and damage caused by:

- Ignoring safety and using instructions as described on the machine or the instruction manual.
- Incompetent or incorrect maintenance
- Alterations of the machine carried out by other than manufacturer. This also includes assembling of non-original parts.
- Storing the machine in a damp place.
- Cleaning of the machine with a high pressure cleaner or by a water jet under high pressure.
- Other use than the prescribed use.

Not covered under the LIEVERS warranty:

- Transportation or shipment costs to and from LIEVERS B.V. or their recognised agents, for repair or assessment against a warranty claim, on any machine.
- Materials and/or labour costs to renew, repair or replace components due to fair wear and tear.
The following components are not covered by warranty:
 - Engine air filter.
 - Trowel disc.

(Furthermore, all deliveries are according to the general conditions of the METAALUNIE)

Ces de Wit

Guarantee certificate

LAP45 nr. _____

Date of purchase: _____

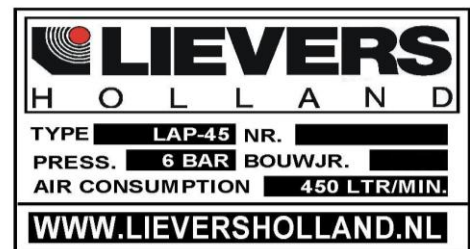


Fig. 1: Ratingplate LAP 45

The ratingplate can be found on the housing of the pneumatic motor.

2. Introduction

The pneumatic trowel LAP 45 is sturdy and safe power trowel, it features a long durability and is very handy and simple to use.

Description

The pneumatic trowel LAP 45 is particularly intended for smoothing flat surfaces in concrete or similar materials. It is made up of:

- A highly efficient pneumatic motor.
- A trowel disc that is easy to replace.
- A handle with an extension fitted with a stopcock and rapid coupling for connecting to the air supply.
- Alternatively, a double handgrip without any extension can be used for particular jobs.

The energy used to turn the trowel disc is supplied by compressed air at a pressure of 6 bar, providing all the advantages that go with this type of energy, including :

Safe, guaranteed operation. Pneumatic motors are able to withstand heat, dampness, and acidic or saline ambient conditions. No sparks are produced, therefore they can be used in complete safety even in places where there is a risk of explosion or fire.

- Speed control. The speed of pneumatic motors can be seamlessly adjusted from zero to the motor's top speed.
- Robustness. These pneumatic trowels are compact and robust. They are protected against chemical attack or mechanical damage by a strong, airtight casing.
- They can be overloaded without any damage being caused. A pneumatic motor can be loaded to the maximum limit, without suffering any damage. It is able to withstand a limitless number of starts and changes in speed without ever overheating.
- Maintenance. The construction of pneumatic trowels is simple and this favours trouble-free operation, requiring very little maintenance.

3. Technical specifications

- Air supply pressure, 6 bar.
- Air consumption, 450 litres per minute.
- Trowel disc diameter, 450 mm.
- Maximum overall height, 1650 mm.

3. Safety

Anyone operating trowels is to fulfil the requirements laid down in current standards relating to workers' safety. The operator must also adopt all necessary personal protective devices, as indicated in DL 626/94, DPR 547/55, and DL 277/91, especially in terms of: safety shoes, clothing that provides adequate protection, protective gloves, ear muffs and safety glasses.

Compressed air can be highly dangerous if not used properly.

It is advisable to avoid the improper use of compressed air, such as:

- Cleaning clothing or parts of the body.
- Cleaning machinery or equipment.

Before starting the trowel read this manual carefully and check that work is carried out correctly, according to the instructions given on the pages that follow. Adhere strictly to the warning signs on the trowel.

Before starting the machine:

- Make sure that no components are visibly damaged.
- Check that the trowel disc is evenly worn and that the machine is balanced when operating.
- Check that wear has not created any cutting edges, which may pose a danger for the operator. Where this is the case, replace the trowel disc.
- Before performing any operation on the trowel ensure that the air supply is disconnected and that it cannot be activated unexpectedly.

Remember that only trained, qualified personnel should work on the trowel. When moving the trowel by hand, the operator must strictly comply with the standards contained in paragraph 5 of DL 626 of 19/9/94, as well as the standards contained in DPR 547/55.

5. Use

For the trowel to work properly the compressed air must be free of impurities. The hoses should therefore be cleaned out carefully before being connected to the machine.

WARNING: PARTICLES MAY BE EJECTED WHEN CLEANING OUT THE HOSES. THE OPERATOR SHOULD THEREFORE WEAR PROTECTIVE GLASSES AND MAKE SURE THAT NOBODY ELSE IS IN HIS WORKING AREA.

Air supply pressure: 6 bar. Consumption 450 litres per minute.

Before starting the trowel:

- Make sure that the hoses are clean by allowing some air to pass through them during a no-load cycle.
- Supply air free of dust or dampness.

Lubrication is to be carried out using automatic mist greasing nipples or, where these are not available, a few drops of oil must be added every 4/5 working hours. Use highly viscous mineral oil, without any acids or carbon or rubber residue. Oil with a viscosity of 1.7/3.3 Eo -50°C is recommended.

Grease the gearbox every time it is stripped after carefully washing the individual components and drying them with dry air.

6. Maintenance

Bear in mind that article 374 of DPR 547/55 states that:

Plant, machinery, apparatus, equipment, tools and instruments, as well as protective devices are to have the required strength and must be able to be maintained in good working condition and efficiency, in relation to the need for safety in the workplace. Maintenance is to be carried out by specifically trained personnel, bearing in mind the safety measures described above. Before performing any operation on the trowel, shut off the air supply upstream, release any residual pressure using the trowel's valve, wait until the trowel disc has stopped turning and uncouple the rapid coupling on the compressed air line. Check that the trowel disc is evenly worn and that it does not throw the machine out of balance when operating. Check that wear has not formed any cutting edges, which may represent a danger for the operator. Where this is the case, replace the trowel disc. The trowel disc must be replaced when it is less than 4 mm thick. Strip the trowel completely every 800 working hours to allow general inspection and replacement of the impeller blades or parts subject to wear, as necessary. Stripping involves unscrewing the trowel disc from the flange and removing the bolts on the shaft head. Next strip the pneumatic gearbox, removing the compressed air exhaust silencer and the bolts that held it in position, and extracting the motor from the aluminium casing. To strip the motor, remove the pin by hitting it lightly. Replace the impeller blades, check that they move freely in their seats, and after cleaning carefully reassemble following the instructions above in reverse order, after checking all the pieces and greasing the gears and bearings. When refitting the gearbox and the motor be very careful to rotate the motor so that the gear shaft in the gearbox is freely coupled to the satellites. We recommend you to contact your supplier for service and maintenance.

7. Storage and environment

When moving the trowel by hand, the operator must strictly comply with the standards contained in paragraph 5 of DL 626 of 19/9/94, as well as the standards contained in DPR 547/55.

Before removing, follow the instructions in the previous paragraph. Clean the trowel carefully after use. Store in a dry place, at a temperature of not less than 5°.

This trowel is made of metal and plastic parts that can be disposed of easily and that do not represent any danger of pollution for the environment and/or personal safety. Separate the various materials to allow them to be reused, recycled, or sent for separate disposal.

8. Part lists

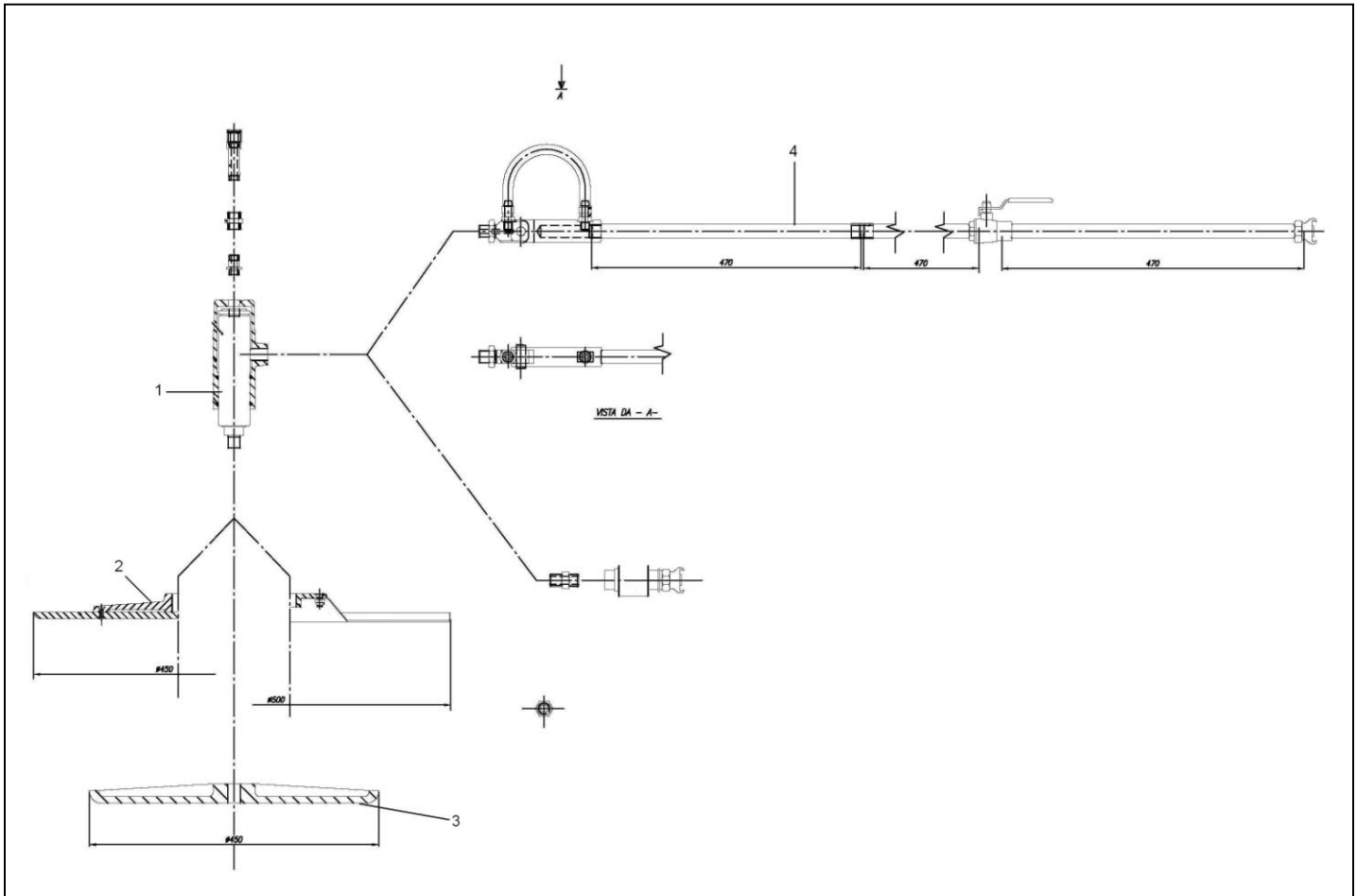


Fig. 2: Parts pneumatic power trowel LAP 45

Pos	Description	Quantity	Article number
1	Motor housing	1	320117010010
2	Flange	1	320117010007
3	Disc	1	32308045
4	Operation Handle (set)	1	320117010023

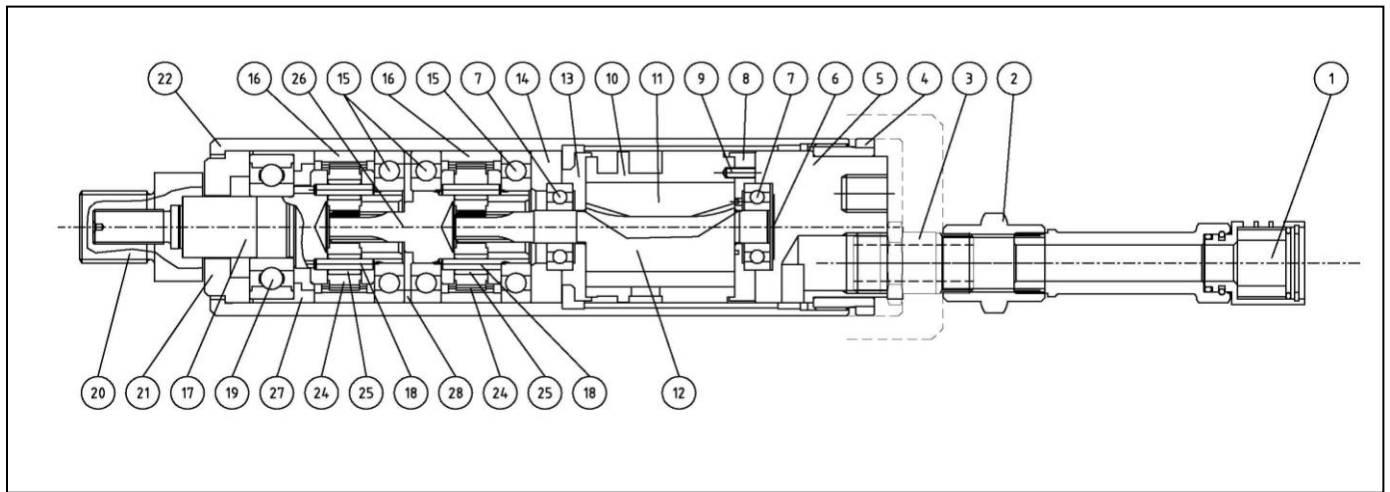


Fig. 3: Parts pneumatic motor LAP 45

Pos	Description	Quantity	Article number
1	Silencer	1	3201304878054
2	Connector	1	3201304371010
3	Nipple	1	3201530110817
4	Control top	1	3201406039001
5	Control top	1	3201216201050
6	Spring	1	3201528017503
7	Bearing	2	3201541309040
8	Cylinder upper plate	1	3201235230200
9	Pin	1	3201549502510
10	Cylinder	1	3201236001050
11	Vanes (5 pieces)	1	320117010004
12	Rotor	1	3201236010100
13	Cylinder lower plate	1	3201235001150
14	Spacer	1	3201235001700
15	Bearing	3	3201541020071
16	Gear ring	2	3201245001100
17	Planet shaft	1	3201246018050
18	Pin	4	3201549503016
19	Bearing	1	3201541017069
20	Nose	1	3201496001420
21	Nose	1	3201406025010
22	Tube	1	3201406010640
24+25	Planet gear (set)	2	3201345005150
26	Planet shaft	1	3201245005050
27	Spacer	1	3201406020080
28	Spacer	1	3201594835002

* Complete motor set: pos 15 – 28.

Intermediate reduction set: pos 15-16-18-24-25-26.

Terminal reduction set: pos 15-16-17-19-24-25.

9. Declaration of conformity

EC DECLARATION OF CONFORMITY

EC-declaration of agreement for machinery

(Directive 2006/42/EC, Annex II, under A)

Supplier: Bouwmachinefabriek Lievers B.V.

Address: Groot Mijdrechtstraat 68, 3641 RW Mijdrecht

Hereby declares that

the pneumatic power trowel type LAP 45

1) Complies with the regulations for the Machine Directive 2006/42/EC and the EMC-Directive 2004/108/EC.

2) Complies with the following harmonised standards: NEN- EN 12649

Mijdrecht, 1 November 2011

Supplier: Bouwmachinefabriek Lievers B.V.

Address: Groot Mijdrechtstraat 68, 3641 RW Mijdrecht



Name: C.M. de Wit

Position: Managing director