rapid®
GERMAN TECHNOLOGY

110 HL 50/2 # 60 010
110 HL 200/2 # 60 011

Translation of the original operation manual GB, Stand 02 / 2019

OPERATION MANUAL

1.

1. Safety instructios

Please observe: This operation manual contains all necessary information. Please read carefully to avoid damages and faults. All Rapid pieces of equipment are checked carefully before delivery for their perfect composition and function. In case of improper use all rights to claim under guarantee are void.

Make sure that only skilled staff is working with this device in order to prevent damages and accidents caused by improper use.

Environmental conditions i.e. humidity, low temperatures, sunlight and contamination may damage device.

Before using the device make sure that it is not contaminated to prevent any injury. Avoid any contamination of device as well as of environment. In case of any contamination during operation of device take care that it is immediately and professionally removed.

Always wear safety cloths respecting the applicable regulations for accident prevention

Only use this device conforming to its purpose and function. Improper use can cause severe injuries.

Caution – moving parts, sharp edges, hot machine parts or exhausting steam can cause severe injuries.

Before use always check the device for damages and leaks. In case of any damage or leak make sure that it is repaired professionally before use. Operation of defect device may cause severe injuries.

In case of any sign of damage or malfunction during operation of device stop device immediately to prevent injuries. Before next use make sure that the device professionally repaired.

Take care that in case of an accident all emergency measures are on hand

2. General advice

This manual contains important warnings and information.
Read and keep for reference.

Mishandling may cause damage or destruction of equipement or serious injury or death !

The pumps 110 HL 50/2 and 110 HL 200/2 are designed to be used in pumping greases only ! Any other use can cause unsafe operating conditions and result in component rupture, fire or explosion, which can cause injury, including fluid injection !

WARNING !

2.1 No complying with below requests will result in severely harm to your body even death.

Equipement misuse hazard
Equipment misuse can cause the equipment to rupture or malfunction in serious injury.

2.1.1 This equipment is for professional use only
2.1.2 Read all instruction manuals, tags and labels before you operate this equipment.
2.1.3 Do not modify this equipment. If you need to replace worn or damaged parts immediately.
2.1.4 Check equipment daily. Repair or replace worn or damaged parts immediately.
2.1.5 Do not exceed the maximum working pressure of the lowest rate component in your system.
2.1.6 Use fluids and sovents which are compatible with the equipment wetted parts. Read the fluid and manufacturer‘s warnings.
2.1.7 Forbidden on other chemical or may cause damage to the pumps body.
2.1.8 Handle hoses carefully. Do not pull on hoses to move equipment.
2.1.9 Route hoses away from traffic areas, sharp edges, moving parts and hot surfaces.
2.1.10 Do not use low pressure hoses in the system. Before operating the control valve, put the hoses straight. Using of the hoses should comply with certain conditions.
2.1.11 Put on heat insulation gloves when operating the pumps.
2.1.12 Do not move or lift pressurized euqipment.
2.1.13 Comply with all applicable local, state and national fire, electrical and safety regulations.

2.2 Skin injection hazard
Fluid from the dispensing valve, leaks or rupture components can inject fluid into your body and cause serious injury. Fluid splashes in the eyes or on the skin can also cause serious injury.

2.2.1 Do not point the dispensing valve at anyone or at any part of the body.
2.2.2 Do not stop or deflect leaks with your hand, body, glove ir rag.
2.2.3 Do not use greases which have been polluted,
2.2.4 Use only extensions and no-drip tips which are designed for use with your dispensing valve. Follow the pressure relief procedure it the grease fitting coupler clogs and before you clean or service this equipment.

2.2.5 Check the hose, tubes and couplings daily. Replace worn or damaged parts immediately. Do not repair high pressure couplings; you must replace the entire hose.

2.3 Moving parts hazard

Moving parts, such as the air motor piston, can pinch or amputate your fingers.

2.3.1 Keep clear of all moving parts when you start or operate the pump.

2.3.2 Before you service this equipment, follow the pressure relief procedure to prevent the equipment from starting unexpectedly.

2.3.3 Before operating the pumps, moving parts should not be exposed outside.

2.4 Fire and explosion hazard

Improper grounding, poor ventilation, open flames or sparks can cause a hazardous condition and result in a fire or explosion and serious injury.

2.4.1 Ground the equipment and the object being dispensed to.

2.4.2 Effective lubricate to the moving parts.

2.4.3 If there is any static sparking or you feel an electric shock while using this equipment, stop dispensing immediately. Do not use the equipment until you identify and correct or the fluid being dispensed.

2.4.4 Provide fresh air ventilation to avoid the buildup of flamable fumes from solvents or the fluid being dispensed.

2.4.5 Keep the dispensing area free of debris, includiong solvent, rags and gasoline.

2.4.6 Do not smoke in the dispensing area.

3. Technical data

Model	110 HL 50/2	110 HL 200/2
Art.No.	60 010	60 011
Grease oulet pressure max.	600 bar	
Ratio	50:1	
Output	1800 g/min	
Outlet	1/4" BSP	
Suction tube	740 mm	940 mm
Air inlet	5-10 bar	
Air inlet max.	12 bar	
Air motor diameter	76 mm	

4. Description

The pumps 110 HL 50/2 and 110 HL 200/2 are designed to be used in pumping greases

5. Assembling / Installation

5.1 Grounding

5.1.1 Warning: before operating the pump, cvheck the grounding of whole system. And avoid occurring of fire and explosion.

5.1.2 To reduce the risk oft static sparking, effectively ground all of this equipment.

5.1.2.1 Pump: Refer to fig.2. Use a ground wire and clamp as shown in fig.2. Remove the ground screw 1, onto the pump and tighten securely. Connect the other end of the ground wire to a true earth ground. Insert through the eye of the ring terminal at end of the ground wire 2. Fasten the ground screw back.

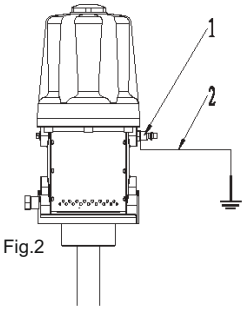


Fig.2

5.1.2.2 Air and fluid hoses: Effectively grounding.

5.1.2.3 Air compressor: Follow the manufacturer's recommendations.

5.1.2.4 Control valve: Use proper grounding line to connect the pump. Keep the metal part of the control valve connected with the grounding equipment.

5.1.2.5 Barrel: Use the barrel which is under the permission of local area. If it is a metal barrel, put in on the ground which is with electric capability. If noc grounding paper or board, it is not allowed to put on the surface of non-conductor directly.

5.1.2.6 Other components: Comply with local grounding requests.

5.1.2.7 Keep effective grounding when working or pressure releasing.

5.2 Installation

5.2.1 Typical installation: Refer to fig.3:

1 Bleed-type master air valves
2 Air line filter
3 Air regulator with gauge
4 Air line lubricator
5 Pump runaway valve
6 Drum cover
7 Follower plate
8 Hose reel

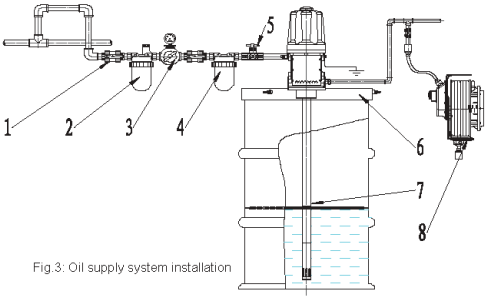


Fig.3: Oil supply system installation

Above typical installation is not for whole system design. If any help needed, please contact us or local agent.

5.2.2 Installation of air line

5.2.2.1 Note: Do not hang any equipment to the air inlet as it may cause falling down by poor hanging equipment.

5.2.2.2 Process

5.2.2.2.1 Install a pump on drum cover (see fig.3 part 6) and then tp barrel.

5.2.2.2.2 On the main line of air compressor, connect bleed-type master air valves which controls on and off air motor (see fig.3 part 2)

5.2.2.2.3 Install an air line filter (see fig.3 part 2) to remove harmful dirt and contaminants from your compressed air supply.

5.2.2.2.4 Install the air regulator to control pump speed and pressure. (See fig.3 part 3)

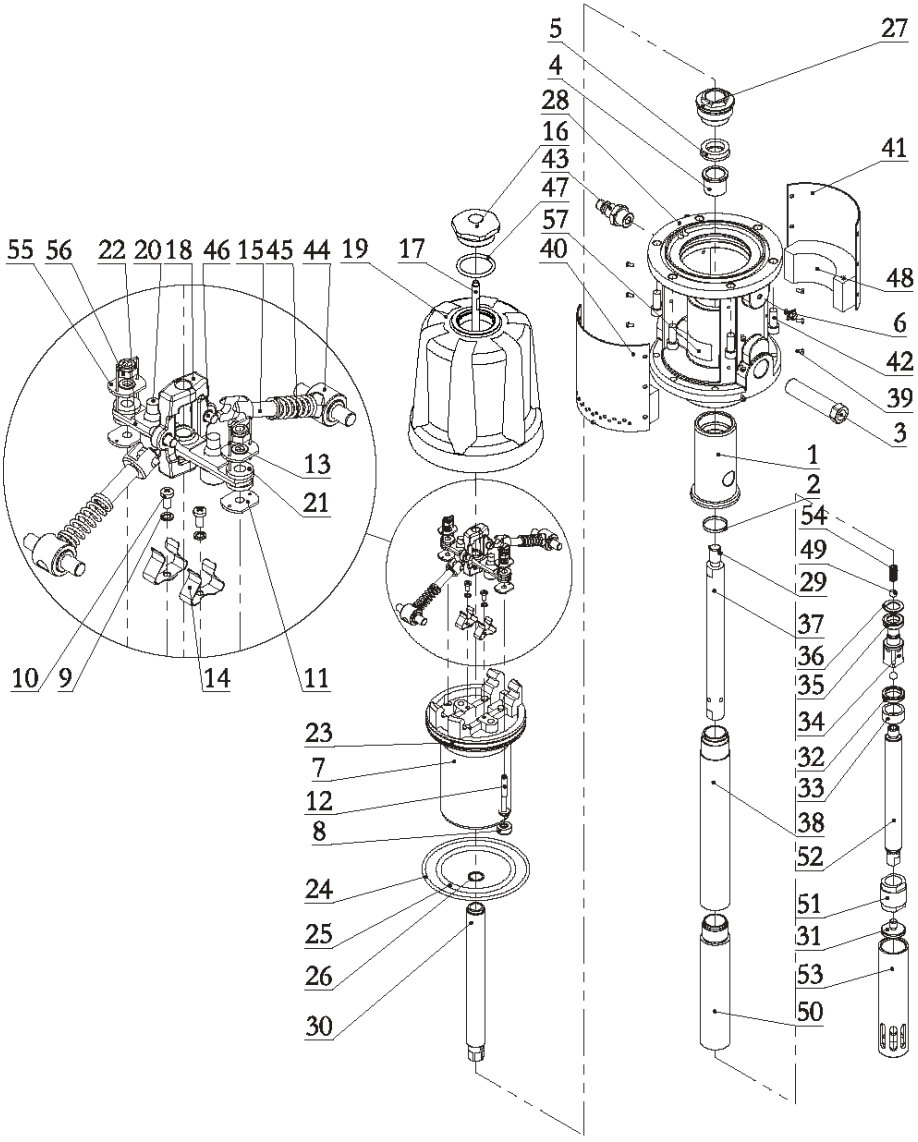
5.2.2.2.5 Install an air line regulator for automatic air motor lubrication (see fig.3 part 4).

5.2.2.2.6 Install a pump run-away valve to shut off the air to the pump if the pump accelerates beyond the pre-adjusted setting. A pump that runs too fast can be seriously damaged. (See fig.3 part 5)

5.2.2.2.7 Connect outlet line.

6. Spare party and accessories

Exploded and Parts List



Part.No.	Description	Qty
1	Tube	1
2*	Gasket	2
3	Adapter	1
4	Nut	1
5*	Seal	1
6	Screw M5x10	1
7	Piston	1
8*	Seal	2
9	Gasket	2
10	Screw	2
11	Nut	2
12	Rod	2
13*	Lock-wire	2
14*	Clip spring	2
15	Arm	2
16	Nut	1
17	Rod	1
18	Yoke	1
19	Cylinder	1
20*	Gasket	2
21*	Gasket	2
22	Actuator	1
23*	O-Ring	1
24*	O-Ring	1
25*	O-Ring	1
26*	Gasket	1
27	Nut	1
28	Base	1
29*	Pin 4x18	1

Part.No.	Description	Qty
30	Rod	1
31	Shovel washer	1
32*	U Seal	1
33	Copper ring	1
34	Connector	1
35*	Seal	1
36	Gasket	1
37	Rod	1
38	Tube	1
39	Screw	12
40	Right silencer	1
41	Left silencer	1
42	Screw	6
43	Quick plug	1
44	Rocker	2
45*	Spring	2
46	Pin	2
47*	O-Ring	1
48*	Sponge	2
49	Ball	2
50	Tube	1
51	Adapter	1
52	Shaft	1
53	Oil inlet	1
54	Spring	1
55	Nut	2
56	Nu	2
57	Label	2

Note: The part no. with * are the wearing parts

7. Operation

7.1 Pressure relieve

7.1.1 Skin injection hazard: The equipment stays pressurized until pressure is manually relieved. To reduce the risk of serious injury from pressurized fluid, fluid from the valve or splashing fluid, follow this procedure whenever you:
7.1.1.1 Are instructed to relive pressure
7.1.1.2 Stop dispensing
7.1.1.3 Check, clean or service any system equipment.
7.1.1.4 Install or clean dispensing devices.

7.1.2 Pressure relieve procedure
7.1.2.1 Close the pump air regulator and the bleed-type master air valve.
7.1.2.2 Hold a metal part of the dispensing valve firmly to a grounded metal wast container and trigger the valve to relieve the fluid pressure.
7.1.2.3 Open the air line valve and grease valve.
7.1.2.4 Close the control valve.

7.1.2.3 When occurs:
1) Problems on control valve, flexible hose, rigid tube or manual tip, autotip
2) Pressure relieved very slowly until relieved throughly. Please clear obstruction of grease system.

7.2 Procedure
7.2.1 Note: When the pump is primed and with sufficient air supplied, the pump starts when the dispensing valve is opened and shuts off when it is closed.
7.2.2 Warning: The maximum working pressure of each component in the system may not be the same. To reduce the risk over pressurizing any component in the system, be sure you know the maximum working pressure of each component. Never exceed the maximum working pressure of the lowest rated component in the system. Over pressurizing any component can result in rupture, fire, explosion, property damage and serious injury. The maximum pressure in the system is equal to air input pressure times pump ratio. Regulate air to the pump so that air line or fluid line component or accessory is not over pressurized.
7.2.3 Caution: Never allow the pump to run dry of the material being pumped. A dry pump will quickly accelerate to a high speed, possibly damaging itself. If your pump accelerates quickly or is running too fast, stop it immediately and check the material supply. If the supply container is empty and air has been pumped into the lines, prime the pump an lines with material, or flush it and leave it filled with a comatible solvent. Be sure to eliminate all air from the material lines.
7.2.4 Startup
7.2.4.1 If there are multiple pumps on the air line, close the air regulators and bleed-type master air valves to all but one pump.
7.2.4.2 Open the master air valve from the compressor.
7.2.4.3 Open the dispensing valve into a grounded metal waste container, making firm metal-to-metal contact between the container and valve. Open the bleed-type master air valve and open the pump air regulator slowly, just until the pump is running. When the pump is primed and all air has been pushed out of the lines, close the dispense valve.
7.2.4.4 If you have moren than one pump, repeat this procedure for each pump.

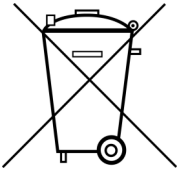
7.2.4.5 Set the air pressure to each pump at the lowest pressure needed to get the desired results.
7.2.4.6 Never allow the pump to run dry of the material being pumped.
7.2.4.7 Relieve pressure before you check or service any system equipment.

8. Maintanence and trouble shooting

8.1 Warning:
8.1.1 To reduce the risk of serious injury whenever you are instructed to relieve pressure.
8.1.2 Moving parts hazard: Never operate the pump with the warning plate or the identification plate removed. These plates protect your fingers from pinching or amputation by moving parts in the air motor.
8.2 Relieve pressure before you check or service any system equipment.
8.3 Problems, cause and solution, see sheet 4.

Problem	Cause	Solution
Pump fails to operate	Inadequate air supply pressure or restricted air lines	Increase air supply and/or clear restriction
	Closed or clogged pump valves	Open and/or clean
	Clogged fluid line, hose, valve or other accessory	Relieve pressure. Clear obstruction
	Damaged air motor	Assess damage and service air motor
	Exhausted fluid supply	Refill and reprime or flush
Continuous air exhaust	Worn or damaged air motor gasket or seal	Assess w ear or damage and service air motor
Erratic pump operation	Exhausted fluid supply	Refill and reprime or flush
	Worn up seals	Replace
	Damaged shovel tube	Replace
	Worn piston seal	Replace
Pump operates, but output low	Worn seals	Replace
	Clogged fluid line, hose, valve or	Relieve pressure
	other accessory	Clear obstruction
Grease leaking from muffler plates	Worn throat seal	Replace

9. Disposal



9.1 Completely empty all parts of the equipment (hoses, pumps , tanks , etc) and given case blown out with air .
9.2 Dangerous parts of the appliance must be made unusable f.e. perforate pressure vessel , deform hose reels , etc.
9.3 Rubber , metals, glass ect. must be separated .
Dispose material fractions according to the local laws and regulations .

YOUR CONTRIBUTION TO PROTECT THE ENVIRONMENT

The pertinent regulations for the registration, setting up and operation of equipment for dealing with materials hazardous to water must always be complied with by the user.

10. Warranty

10.1 In case of insufficient maintenance, faults on operation, use of not adequate spare parts or attachments all liabilities and rights of claim under guarantee are void.

10.2 The manufacturer is not liable for improper use of the container or ignoring the safety instructions.

10.3 Technical modifications are subject to change without announcement.

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