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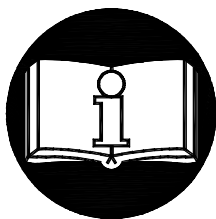
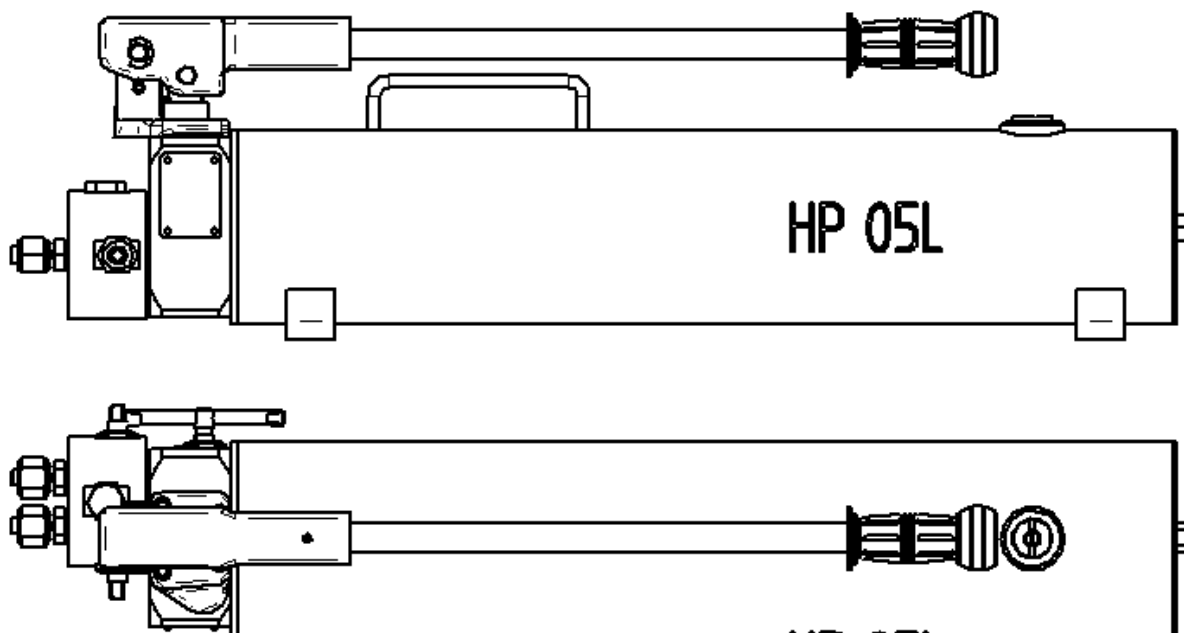
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**INSTRUCTIONS FOR USE  
SAFETY PRINCIPLES, OPERATION AND MAINTENANCE  
FOR**

**HYDRAULIC PUMP**

type HP 03L, 05L, 07L

volume 3 l, 5 l, 7 l



Read these instructions for use carefully before using this product. They contain important safety instructions and instructions for use, installation, operation and maintenance of the product. Ensure that these instructions for use are available to all the authorised individuals.

**Keep for further use!**

Edition 5<sup>th</sup>

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# 1 DEFINITIONS

**! DANGER** **Danger:** warns of imminently dangerous situations, which could cause death or serious injury, if the operator fails to avoid them.

**! WARNING** **Warning:** warns of possible dangerous situations that could cause death or serious injury, if the operator fails to avoid them.


**! CAUTION** **Caution:** warns of possible dangerous situations that could cause minor or light injuries, if the operator fails to avoid them. Caution may warn against dangerous practices.

## 2 PURPOSE OF THE EQUIPMENT

2.1 The **HP 03L- volume 3 dm<sup>3</sup>** type hydraulic pump and its modifications **type HP 05L-volume 5 dm<sup>3</sup>** and type **HP 07L - 7 dm<sup>3</sup>** (hereinafter referred to as the Pump) is equipment that is the source of highly pressurised liquid for transfer of energy in hydraulic cylinders or other hydraulic equipment. It is chiefly intended for BRANO products – hydraulic cylinders type Z321 of loading capacities of 25t, 50t, 100t and 200 t.

2.2 The construction of the Pump complies with the requirements specified by European Parliament and Council Guideline 2006/42/EC, as amended by Czech technical regulation – Government Regulation no.176/2008 Coll. as amended and the requirements of harmonised Czech technical standards ČSN EN ISO 12100 and ČSN EN 1494+A1.

2.3 The product has been designed in compliance with the requirements stipulated by Directive 2014/34/EU of the European Parliament and of the Council, as amended by the Czech technical regulation – Government Directive No. 116/2016 Coll., as amended. The product has been designed as  **IM2c** equipment pursuant to ČSN EN 13463-1:2009 and ČSN EN 13463-5:2012. It complies with the conditions stipulated for use in mining environments classed as “hazardous atmospheric conditions 2” pursuant to ČSN EN 1127-2.

2.4 The product has been designed in compliance with the requirements stipulated by Directive 2014/34/EU of the European Parliament and of the Council, as amended by the Czech technical regulation – Government Directive No. 116/2016 Coll., as amended. The product has been designed as  **I12GDcT85°C** equipment pursuant to ČSN EN 13463-1:2009 and ČSN EN 13463-5:2012. It complies with the conditions stipulated for use in environments classed as „zone 1 and zone 21“, “zone 2 and zone 22“, pursuant to ČSN EN 1127-1.

Comment: Article 2.3 and 2.4 applies to Pumps designed for use in environments with a risk of explosion.

## 3 SAFETY PRINCIPLES

### 3.1 SUMMARY OF SAFETY PRINCIPLES

There are risks when manipulating the Pump in combination with hydraulic cylinders, if it is used for lifting, particularly in cases when the Pump is not used in the correct manner. If this could result in an accident or serious injury, special safety measures must be taken during work with the Pump.

#### **!WARNING**

**NEVER** work the Pump below a lifted load or near it.

**ALWAYS** keep a sufficient distance from the load

**ALWAYS** warn individuals in the area before starting work.

**ALWAYS** read the instructions for use and safety instructions.

### 3.2 SAFETY PRINCIPLES

#### **!WARNING**

#### 3.2.1 Before use

**ALWAYS** ensure that the Pump is operated by a physically able, competent and instructed individual, acquainted with these instructions and trained in safety and work methods.

**ALWAYS** check the Pump before starting work with, it every day according to paragraph 8.1.6 "Daily inspection".

**ALWAYS** make sure that the connecting hose between the Pump and the hydraulic cylinder is correctly connected.

#### **WARNING :**

For operation of the Pump in an environment with a risk of explosion according to article 2.3 and 2.4 of these IFU you may only use high-pressure hoses complying with ČSN EN 1127-2 article 6.4.7, ČSN EN 1127-1 article 6.4.7, ČSN EN 13 463-1 article 7.4.3, ČSN 33 2030 and, for use in mining, Section 185/1 Decree by Czech Mining Authority no. 22/89 Coll.

**The user is liable for use of the appropriate hoses.**

**ALWAYS** make sure that the connecting hose between the Pump and the cylinder is of sufficient length.

**ALWAYS** take care that the Pump is placed on a solid base.

**NEVER** use a damaged or worn Pump.

**NEVER** use a Pump without a label bearing identification(see article 5.3 of these IFU)

**NEVER** use a Pump bearing a label stating "**OUT OF ORDER**".

#### 3.2.2 During use

**ALWAYS** when pumping hydraulic fluid into BRANO type Z321 cylinders, take care that the piston of the connected hydraulic cylinder does not exceed the maximum lift height. (Never lift the cylinder piston over the red groove, which is located below the piston thread)

**ALWAYS** work the Pump manually.

### 3.2.3 After use

**NEVER** leave the Pump under pressure after lifting is finished.

### 3.2.4 Risk analysis

Analysis of possible risks from the aspect of construction, operation and the environment in which the Pump is used is given in a separate document titled "Risk analysis". This document can be requested from servicing centres.

### 3.2.5 Maintenance

**ALWAYS** enable the competent individuals to make regular inspections of the Pump. During maintenance only those actions that comply with the manufacturer's requirements, given in chapter 11 of these IFU, may be performed.

**IT IS NOT PERMITTED** to carry out repairs and maintenance in a manner other than that prescribed by the manufacturer. This particularly concerns prohibition of use of non-authentic spare parts or performance of modifications to the product without the manufacturer's consent.

**ALWAYS** consult use of the Pump in non-standard or extreme environments, for instance in excessively corrosive environments (salt water, sea air, acid, other corrosive mixtures, etc.) with the manufacturer or its authorised representative.

## 4 PACKAGING, STORAGE AND MANIPULATION

### 4.1 PACKAGING

4.1.1 Pumps are delivered fully assembled, placed loose in transport boxes without an oil filling. Screw joints are protected with a fitted sleeve nut with washer and ball.

### **! CAUTION**

Keeps these components for use in the event that you need to transport the Pump, particularly during transport by vehicles when the Pump's reservoir is full. Apart from protection against mechanical damage to the screw joints, these components will also prevent possible leakage of oil during unintentional movement of the Pump lever and pollution of the environment or the transport space in the vehicle.

4.1.2 The following accompanying documentation is part of the delivery:

- a) Instructions for use
- b) EC declaration of conformity
- c) Certification of product quality and completeness and warrantee certificate.
  - c1) The warrantee period is given on the warrantee certificate
  - c2) The warrantee does not apply to defects caused by failure to adhere to the instructions given in the instructions for use and to defects arising from incorrect use and unauthorised intervention.
  - c3) The warrantee also does not apply to modifications to the product or use of non-authentic spare parts without the manufacturer's consent.
  - c4) Claims of defects in the product must be made according to the relevant provisions of the Commercial Code as amended by later regulations.
- d) List of servicing centres (only for the Czech and Slovak Republics)

## 4.2 STORAGE

Store the Pumps in dry and clean storage areas, free of the effects of chemicals and vapours.

- (1) Wipe all dust, water and contaminants from the Pump.
- (2) Store the Pump in a dry place standing in a horizontal position.
- (3) Fit the sleeve nut with the inserted ball and washer onto the outlet screw joint and tighten properly
- (4) When next used follow the instructions in article 8.1.4 "Occasionally used Pump".

## 4.3 MANIPULATION

When manipulating the Pump follow the valid technical regulations and standards for work with heavy loads. Women and minors under 18 years are not permitted to carry the Pumps.

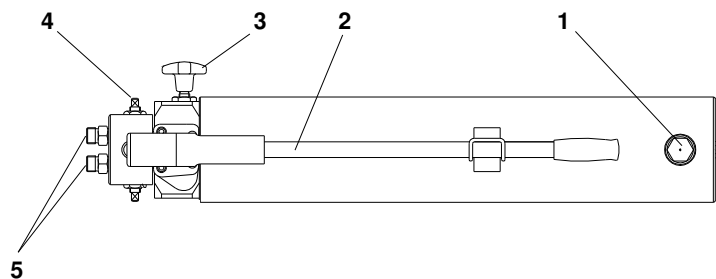
## 5 MAIN TECHNICAL PARAMETERS

Table 5

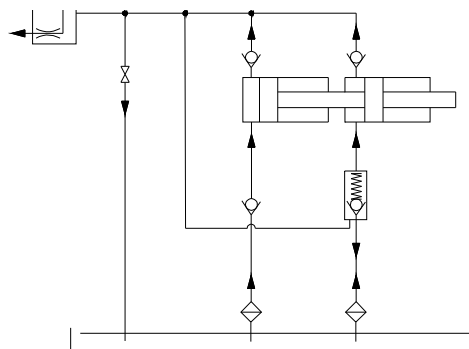
Type	Oil filling volume (dm <sup>3</sup> )	Number of outlets (items)	Connecting screw joint (mm)	Control pressure on the lever (N)	Range of operating temps.	Max. output pressure (MPa)	Weight (kg)
HP 03L	3	1	M18x1,5-10S	340	-10 °C to +50 °C	65	14
HP 05L	5	2	M18x1,5-10S	340		65	19
HP 07L	7	2	M18x1,5-10S	340		65	21

Comments:

- 1) The product does not exceed the noise values given in appendix no. 2 to article 1.7.4 letter f of European Parliament and Council Guideline no. 98/37/EC (Government Guideline 24/2003 Coll. )



Legend to pic. 5  
 1 – filler plug  
 2 – hand lever  
 3 – wheel (lever) of the bleed valve  
 4 – distribution valve  
 5 – screw joint for connecting hoses



pic.5

Diagram of the Pump's hydraulic circuit

## 5.1 MATERIAL AND DESIGN

- 5.1.1 All parts of the Pump are made from steel. The handle on the manual lever is made from plastic.
- 5.1.2. In accordance with appendix no. 2 article 1.3.1 to Government Regulation no.116/2016 Coll. and harmonised technical standards ČSN EN 1127-2 article 6.4.4, ČSN EN 1127-1 article 6.4.4 and ČSN EN 13 463-1 article 8.1 no materials prone to sparking are used for construction of the Pump.
- 5.1.3. In accordance with ČSN EN 1127-2 article 6.4.7, ČSN EN 1127-1 article 6.4.7, ČSN EN 13463-1 article 7.4.3 and ČSN 33 2030 materials prone to build up of dangerous static electricity are not used in the Pump.
- 5.1.4 Plastics (high-pressure hoses for pressurised liquids) used for operation of the Pump in environments with a risk of explosion according to article no. 2.3 and 2.4 of these IFU must comply with ČSN EN 1127-2 article 6.4.7, ČSN EN 1127 – 1 article 6.4.7, ČSN EN 13463-1 article 7.4.3, ČSN 33 20 30 and during use in a mining environment with Section 185 paragraph (1) of Decree by Czech Mining Authority no.22/89 Coll., as amended.

## 5.2 INFORMATION ON THE PRODUCT

Each product has a label attached, which gives the following information:

Standard design:	Design for use in environments with a risk of explosion:
manufacturer's identification	manufacturer's identification
manufacturer's address	manufacturer's address
product type	product type
pressure	pressure
series number	series number
year of manufacture	year of manufacture
CE identification	CE identification
	protection type symbol (I M2 for group I, II 2GDcT85°C for group II)

## 6 OPERATION OF THE PUMP

### 6.1 INSTRUCTIONS FOR OPERATING THE PUMP (SEE ALSO ARTICLE 6.8)

We recommend the Pump be equipped with a manometer for checking the pressure. The manometer is not part of the delivery.

**ALWAYS** carefully check the Pump for damage before use.

**NEVER** exceed the max. operating pressure of **65 Mpa** during operation of the Pump.

## 6.2 FILLING THE PUMP RESERVOIR

When filling the reservoir with liquid clean the area around the filler plug. Place the Pump on a level surface and unscrew the filler plug. Pour PARAMO OLN-J22 oil or another equivalent oil into the reservoir. When replacing the oil with another equivalent oil you must clean the Pump before filling it again. Table 5 gives the required amount of oil.

### CAUTION!

The oil must be absolutely clean, otherwise the valves may start leaking, which will result in worsening or loss of the Pump's function. We recommend that the oil is poured into the tank through a fine sieve (eye size 0.05 mm).

## 6.3 CHECKING THE SUPPORTING SURFACE /FLOOR, GROUND/

On soft terrain place the Pump on a solid and sufficiently large base material, so that the Pump does not sink into the ground.

The user is **ALWAYS** responsible for setting the Pump up!

## 6.4 POSITION OF THE PUMP DURING LIFTING OR DROPPING

When lifting or dropping a load the Pump must be in a horizontal position and must rest on the bottom feet of the reservoir.

## 6.5 CONNECTING THE PUMP TO THE CYLINDER

6.5.1 Pumps are connected as standard to hydraulic cylinders using high-pressure 4SP DKOS/DKOS type hoses of an internal diameter of 6 mm. Hoses are supplied as a separate product in a standard length of 2 m or in lengths up to 6 m depending on the customer's requirements. Hoses have M 18 x 1.5 mm screw joints at both ends.

6.5.2 When using the Pump in an environment with a risk of explosion according to article 2.3 and 2.4 of these IFU, only use high-pressure hoses complying with ČSN EN 1127-2 article 6.4.7, ČSN EN 1127-1 article 6.4.7, ČSN EN 13 463-1 article 7.4.3, ČSN 33 2030 and, for use in a mining environment, with section 185/1 of Decree by the Czech Mining Authority no. 22/89 Coll.

The user is responsible for using the appropriate hoses.

6.5.3 Types HP 05L and HP 07L have two outlets on the distribution head for connecting high-pressure hoses and an outlet for connecting the manometer (see pic. 5).

### **!** CAUTION

6.5.4 Before starting work you must loosen the screw in the threaded reservoir plug. If the screw is tightened there will be a vacuum in the reservoir and the Pump will stop working.

6.5.4 Before connecting the hoses to the hydraulic cylinder de-aerate the Pump. The Pump is de-aerated by closing the bleed valve on the Pump and drawing liquid into the hose using a see-sawing motion on the lever. Then screw the hose onto the cylinder. Take care that the liquid does not leak and pollute the surrounding area.



Table 6.5 recommends assignment of the Pump to BRANO type Z321 hydraulic cylinders of a loading capacity of 25t, 50t, 100t and 200t.

Table 6.5

Cylinder loading capacity (t)	Number of connected cylinders (items)	Pump assignment - type	Swept volume (l)
25	1	HP 03L	0,56
	2	HP 05L	
50	1	HP 03L	1,4
	2	HP 05L, HP 07L	
100	1	HP 03L	2,23
	2	HP 05L, HP 07L	
200	1	HP 05L, HP 07L	4,55

**! CAUTION**

When using long hoses between the Pump and the hydraulic cylinder you should always individually assess whether the amount of oil in the hoses will affect use of the hydraulic cylinder lift height.

Comment: 10 m of hose of an internal diameter of 6 mm represents approx. 0.3 l of oil.

**6.6 PUMPING – LIFTING THE LOAD**

Liquid is always drawn into the hydraulic cylinder when the manual lever is see-sawed. At a working pressure of up to approx. 5 Mpa, the low-pressure and high-pressure circuits work together. Then the switch valve opens automatically and the low-pressure circuit is taken out of action. A safety valve is located in the high-pressure circuit, which will bleed the hydraulic liquid into the Pump's reservoir if the operating pressure exceeds the nominal value by more than 25% (see table 5).

**! CAUTION**

When switching from the low-pressure to the high-pressure circuit the switch valve may not open in time, which will appear as a sudden increase in the operating force on the manual lever. In this case do not continue placing pressure on the manual lever, release the lever and then continue pumping by moving the manual lever.

The drainage valve must be closed during pumping.

**! DANGER**

**ALWAYS** when lifting take care to not exceed the maximum height of the cylinder piston lift height.

## 6.7 DISCHARGING – DROPPING THE LOAD

Drop the piston and regulate the speed of dropping by regulating the bleed valve on the pump.

### **! DANGER**

Always tighten the bleed valve after finishing lifting, before disconnecting the hoses (pos. 3 pic. 5).

## 6.8 TESTING BEFORE USE

### **! WARNING**

- (1) Check the Pump visually to make sure it has no defects.
- (2) First of all read the previous articles in these instructions for use and make sure that all the steps have been performed correctly.
- (3) Test the function of the Pump with a connected hydraulic cylinder loaded with a suitable load (10% to 50% of the loading capacity).
- (4) Simultaneously verify that the Pump will hold the load without the piston dropping when it is dropped or stopped.

## 6.9 INFORMATION FOR OPERATION

If the Pump is stored for an extended period the balls may adhere to the valve seats and the Pump will stop functioning. In this case loosen the balls by flushing the Pump, i.e. by a rapid see-sawing motion of the manual lever. If the balls cannot be loosened from the valves in this manner the Pump will have to be repaired.

### **! WARNING**

Before transporting the Pump by vehicle, the screw in the threaded reservoir plug must be tightened and the sleeve nuts with washers and ball must be screwed onto the outlet connector (connectors) and properly tightened.

If the above warning is not adhered to there is a risk that the oil will leak with the consequence of contamination of the vehicle and possibly the environment.

# 7 OPERATION

## 7.1 USE OF THE PUMP

The Pump is primarily intended for use with type Z321 BRANO hydraulic cylinders of a loading capacity of 25t, 50t, 100t and 200t, but it is also suitable for use with other hydraulic cylinders or other hydraulic equipment. It is controlled using a manual lever. It is intended for organisations and private individuals.

Because unexpected hazards can occur when lifting heavy loads using the Pump it is essential that you adhere to all the "Safety principles" according to chapter 3.

## 7.2 SAFE WORKING ENVIRONMENT

- (1) The Pump operator must be demonstrably acquainted with these instructions for use, must adhere to the valid safety and hygienic regulations and must be authorised to operate this equipment.

- (2) During operation by multiple individuals, one worker trained in occupational safety, who is responsible for manipulating the Pump, must always be determined.
- (3) This individual must have a clear and unimpeded view of the whole working area before work is started. If this is not possible, one or more individuals near the Pump must assist him.
- (4) Before starting work the operator must verify that the entire working area is safe and that there is an exit from the potentially hazardous area.
- (5) When working with the Pump the operator must keep a sufficient distance from the load. It is forbidden to lift or drop bulky loads, which do not enable the operator to keep a sufficient distance.

## **8 INSPECTING THE PUMP**

### **8.1 INSPECTION**

#### **8.1.1 Types of inspection**

- (1) Initial inspection: precedes first use. All new or repaired Pumps must be checked by the authorised qualified individual so as to ensure qualified compliance with the requirements of these IFU.
- (2) In general inspections of regularly used Pumps are divided into two groups according to the inspection interval. Intervals depend on the condition of critical Pump components and on the level of wear, damage or incorrect function. Two main groups are identified here as daily and regular. The corresponding intervals are defined as follows:

**(a) Daily inspection:** visual inspection performed by the operator, appointed by the user.

**(b) Regular inspection:** visual inspection performed by the qualified individual, appointed by the user.

- 1) standard operation – once a year,
- 2) heavy operation – once every six months,
- 3) special or occasional operation – according to the recommendation of authorised individuals during first use and according to the instructions of qualified individuals.

#### **8.1.2 Daily inspection**

For components specified in paragraph 8.2. (1) “Daily inspection“, check that the Pump is not damaged and there are no defects. Also perform this inspection during operation in the interval between regular inspections. Authorised individuals will determine whether any defect or damage may represent a risk and whether a more detailed inspection is necessary.

#### **8.1.3 Regular inspection**

Perform general inspections of the Pump in the form of recommended regular inspection. It is not necessary to disassemble the Pump during these inspections. The recommended regular inspection mentioned in paragraph 8.2.(2) must be performed under the supervision of authorised qualified individuals, who will

determine whether it is necessary to disassemble the Pump. These inspections also include the requirements of a daily inspection.

### 8.1.4 Occasionally used Pump

- (1) Pumps that have not worked for a period of one month or longer, but less than one year before being put into operation again, should be inspected in accordance with the requirements set out in paragraph 8.1.2.
- (2) Pumps that have not worked for a period of one year before being put into operation again, should be inspected in accordance with the requirements set out in paragraph 8.1.3.

### 8.1.5 Record of inspection

Always make a record of the performed tests, repairs, inspections and maintenance of Pumps.

Make dated records of inspections at the intervals specified in paragraph 8.1.1.(2)(b) and keep these in the place specified by the user .

Defects revealed during inspection or noticed during work must be reported to the individual responsible for safety, specified by the user.

## 8.2 INSPECTION PROCEDURE

**(1) daily inspection** (performed by the operator or authorised individual)

Component	Method of inspection	Limit/criterion for elimination	Rectification
1. Pump function	visually	the lever is stiff or seizes, etc.	clean and lubricate the lever joint
2. Check for oil leakage	visually	oil leakage around the Pump piston or at other sites	repair (reseal) the Pump

**(2) regular inspection** (performed by a qualified individual)

Component	Method of inspection	Limit/criterion for elimination	Rectification
1. Fastening components	visually	defective or missing components loose components	tighten or replace
2. Oil check	visually	insufficient or contaminated oil	replenish or replace oil
3. Label	visually	illegible	repair or replace with a new label
4. Piston	visually	oil leakage around the piston rod	repair Pump
5. All components	visually	worn or damaged components	replace with new

## 9 FINDING DEFECTS

Situation	Cause	Rectification
Full liquid pressure in the pressure valve is not achieved during pumping. When lifting the cylinder piston moves upwards very slowly or does not move at all.	Leakage in the Pump intake valve or pressure valve	Try to correct leakages caused by dirt by flushing the Pump, i.e. by rapid see-sawing motion of the manual lever. If leakage continues after flushing, disassemble the valves and clean thoroughly.
	Piston cup leakage	A piston cup must be replaced.
	Clogged filter	Remove the Pump body and clean the intake filter
The cylinder piston does not move when pumping or moves back. The manual lever automatically returns to the upper position.	Leakage in the pressure valve	Try to correct leakages caused by dirt by flushing the Pump, see above.
When lifting is finished the lift piston automatically drops.	Leakage in the bleed valve	Tighten the bleed valve. Try to correct leakages caused by dirt by flushing the Pump with the bleed valve open.

## 10 LUBRICATION

### 10.1 GENERAL

Before the application of the new lubricant, remove the old one, clean parts by the solvent and put the new lubricant. Use grease: Universal lithium plastic lubricant, water resistant, usable in a minimum range of working temperatures from -20°C to +50°C. For example A2, LV2EP.

### 10.2 PUMP MECHANISM

Lubricate the lever joint.

**ALWAYS** lubricate more frequently in corrosive environments than under normal circumstances (salt water, sea air, acids, etc.).

**NEVER** use acid based cleaning liquids.

## 11 MAINTENANCE

### 11.1 SAFETY PRINCIPLES

#### **! WARNING**

**Only qualified individuals trained in safety and maintenance of these Pumps may perform maintenance.**

**ALWAYS** use components supplied by the manufacturer.

Maintenance and repairs must not be performed in a manner other than that prescribed by the manufacturer. This particularly concerns prohibition of use of non-authentic spare parts or performance of modifications to the product without the manufacturer's consent.

**ALWAYS** test the function of the Pump following maintenance.

**ALWAYS** identify broken or repaired Pumps with a suitable sign (for instance "**OUT OF ORDER**").

**NEVER** work with the Pump while it is being repaired!

## **11.2 GENERAL INSTRUCTIONS**

The following instructions provide general important information on disassembly, inspection, repairs and assembly. If the Pump was disassembled for any reason whatsoever, proceed according to the following instructions.

1. Perform maintenance in a clean environment.
2. Never disassemble the Pump more than necessary to perform the required repairs.

**NEVER** use acid based cleaning fluids.

4. Never use heat (radiation) as a tool during disassembly of components, unless the components will not be reused.
5. Keep the workplace clean and clear of foreign substances, which could contaminate the sliding surfaces of the piston or penetrate into the Pump's internal mechanism.
6. If you clamp a component always use leather or copper padding to protect the surface of the component.

## **11.3 INSPECTION**

Check all the disassembled components to make sure they are suitable for further use.

1. Check all the components to make sure they are not worn, have no grooves or cracks.
2. Check that the threaded components do not have a damaged thread.
3. Check all the seals, particularly on the piston cup.

## **11.4 REPAIRS**

Worn or damaged components must be replaced.

Remove small burrs and scratches or other minor surface defects and smooth using fine abrasive block or sanding cloth.

## **11.5 CHECK TESTS**

Following disassembly and repairs, which could affect the function of the Pump we recommend performance of a test in the following scope:

The Pump is tested together with the hydraulic cylinder. The cylinder is loaded with a load the weight of which does not exceed its nominal loading capacity. The piston is lifted by 10 mm and is left in this position for at least 3 minutes (without braking the piston using a nut). The piston should not drop by more than 5% of the lift height. The load is then dropped to the starting position.

Correct function of the Pump, the hydraulic cylinder and the bleed valve is verified during this test. Lifting and dropping must be smooth; there must be no skewing or seizing. While holding a load in a position of rest during the specified 3 minutes, there must be no noticeable drop in the piston or leakage of oil around the piston cup or other seal.

## **12 REMOVAL FROM OPERATION - DISPOSAL**

Before taking the Pump out of operation remove all oil and flush the Pump reservoir thoroughly using degreasing agent (petrol, etc.).

Take the drained oil to a specialised company, which is concerned with and has a licence for disposal of petroleum products in category ZN (especially dangerous) or take it directly to an incineration plant, which is licensed to incinerate the resulting type of waste.

Take the Pump, which has been treated in such a manner, to a company concerned with disposal of metal waste.

## **13 RELATED DOCUMENTATION**

EC declaration of conformity

These instruction for use were prepared in accordance with the following technical regulations, technical standards and national regulations:

- Government Regulation no.176/2008 Coll. as amended (European Parliament and Council Guideline 2006/42/EC)
- Government Regulation no.116/2016 Coll. as amended (European Parliament and Council Guideline 2014/34/EU)
- ČSN EN ISO 12100
- ČSN EN 614-1+A1
- ČSN EN 1037+A1
- ČSN EN 349+A1
- ČSN EN ISO 13857
- ČSN EN 1494+A1
- ČSN EN 1127 – 2
- ČSN EN 1127 - 1
- ČSN EN 13463 – 1
- Decree by Czech Mining Authority no.22/89 Coll.
- ČSN 33 2030.

## **14 THE MANUFACTURER'S FINAL INSTRUCTIONS FOR THE CUSTOMER**

**Any modifications to the product, or use of non-authentic spare parts, may only be realised on the basis of the manufacturer's consent.**

**If these terms and conditions are not adhered to the manufacturer is not liable for the safety of its product. In such cases the manufacturer's warrantee does not apply to the product.**