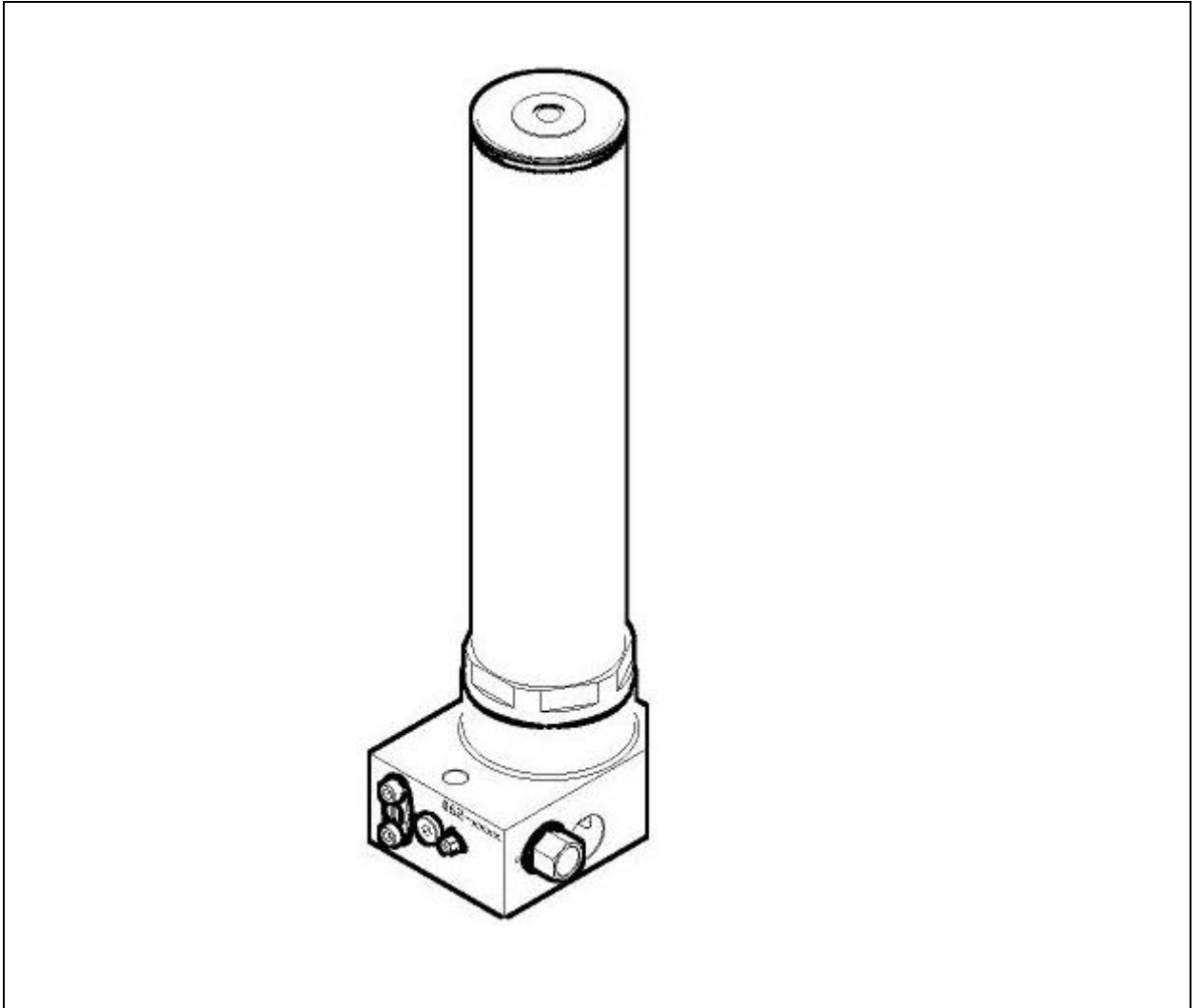


HULTDINS Chain grease Pump



Chain grease pump

Installation- and user's manual
S/N 062-0168 & up

This publication contains instructions for the installation and maintenance of the Hultdins Chain grease pump. If doubt should arise concerning the validity of the instructions please consult Hultdins for more detailed information.

Illustrations, technical information and specifications were, as far as we have been able to judge, correct at the time of print. However, we reserve the right to, without prior notice, revise specifications, instructions, equipment, etc. as a result of ongoing product improvement activities.

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Even if all conceivable measures have been taken to make the contents as complete as possible, HULTDIN SYSTEM AB takes no responsibility for possible damages that may arise as a result of the instructions not being followed or improper use of the product



Caution!

The parts and components used in HULTDIN SYSTEM AB's products are specifically chosen. Therefore original spare parts are always the best alternative in a possible need of repairs or upgrading.



Caution!

All service and repairs should be performed by qualified personnel only.

This publication is a translation from the Swedish original.

This publication is released by: HULTDIN SYSTEM AB
Skolgatan 12
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Sweden

This publication applies to the following models:

Chain grease pump S/N 062-0168 & up

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Safety instructions

General safety

- This page describes important safety instructions, which the operator should have a good knowledge of before the equipment is used.
- This product should only be used by operators with proper knowledge and training.
- The owner and the operator are responsible for following all safety regulations and that the machine is safely equipped.
- The owner and the operator are responsible for following National and local laws, regulations and other instructions when using the product.
- The owner and the operator are responsible for replacing damaged parts and/or unreadable warning signs.
- The manual should be available at all times so that the operator is able to follow safety regulations and the procedures of maintenance activities.



ill. 1



Meaning of safety messages

Danger!

Danger indicates a hazard with a high level of risk which, if not avoided, will result in death, serious injury and/or serious property damage.

Warning!

Warning indicates a hazard with a medium level of risk which, if not avoided, could result in death, serious injury and/or serious property damage.

Caution!

Caution indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury and/or property damage.

Maintenance safety

- The machine's condition must be checked regularly, daily inspections shall be performed and any deficiencies must be corrected. The machine shall be maintained in such condition that the operator or other persons not exposed to danger or accidents.
- Never commit any service on the equipment without proper knowledge. All service and repairs in electrical and hydraulic systems should be carried out by qualified personnel only.
- Repair any damages immediate when discovered. Do not use the equipment until any damages are rectified.
- Use safety glasses and protective gloves when servicing the equipment. Hydraulic oil or lubricants in contact with skin or eyes may cause irritations or allergies.
- Hydraulic hoses and adapters may be pressurized even with the engine shut off. Loosen any parts with caution.
- Always secure movable parts mechanically before any hydraulic hose is loosened.
- Never try to stop a leakage in the hydraulic system with you hand. Pressurized hydraulic oil can be injected under the skin and cause death or severe damage.



ill. 2

Welding

In case of a structural repair of the equipment, when welding may be needed, consult the dealer for recommended instructions.

When welding on the equipment the following steps must be taken:

- Make sure that fire-extinguishing equipment is available.
- Clean the area around the welding area to eliminate any fire hazard.
- Connect the ground wire as close to the welding area as possible.

Modifying the equipment

It is not approved to:

- Modify the equipment without the consent of HULTDIN SYSTEM AB.
- Alter the function of the equipment without the consent of HULTDIN SYSTEM AB.
- Use spare parts other than original HULTDINS parts.

Product description

Main parts - Chain grease pump

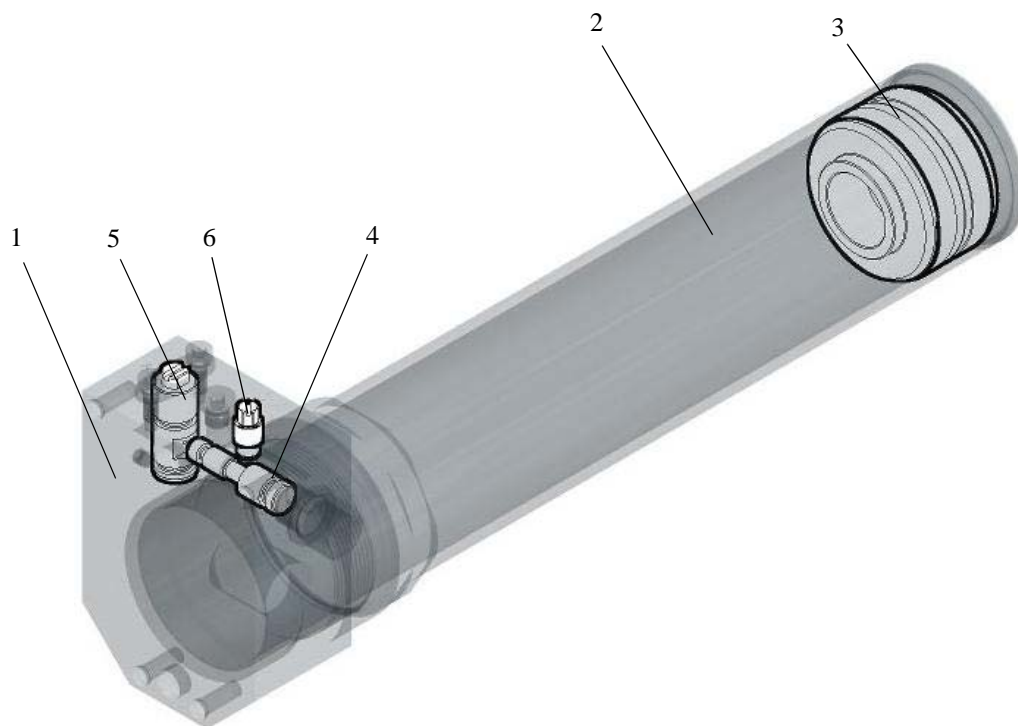


Fig. 3 Description

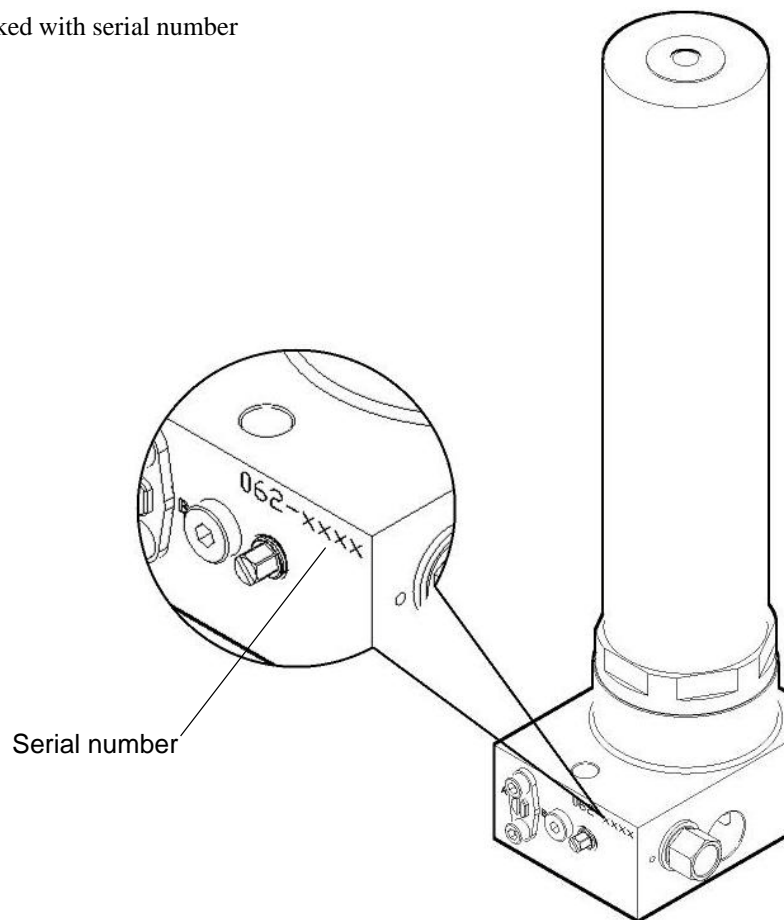
- 1 Housing
- 2 Barrel
- 3 Piston, low pressure
- 4 Piston, high pressure
- 5 Meter valve
- 6 Bleeder valve

Description

Hultdins Chain grease pump is a hydraulic two-circuit pump that is intended to be used for saw chain lubrication systems.

Labeling

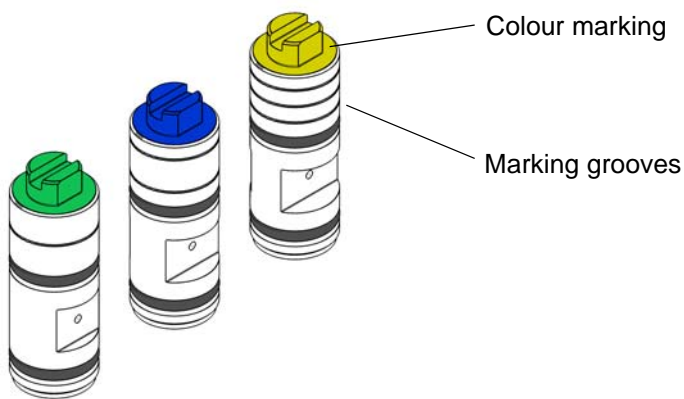
Hultdins Chain grease pump is marked with serial number according to the following picture.









Meter valves

The lubrication volume on Hultdins chain grease pump can be changed by replacing the meter valve. The meter valves are marked with colours and marking grooves to separate the different valves.

The lubrication volume on the different meter valves is shown in illustration No2



#1A	
#1B	
#2A	
#2B	
#3A	
#3B	

Technical Data

Chain grease pump $\varnothing 65$ - P/N 0695 118

Dimensions

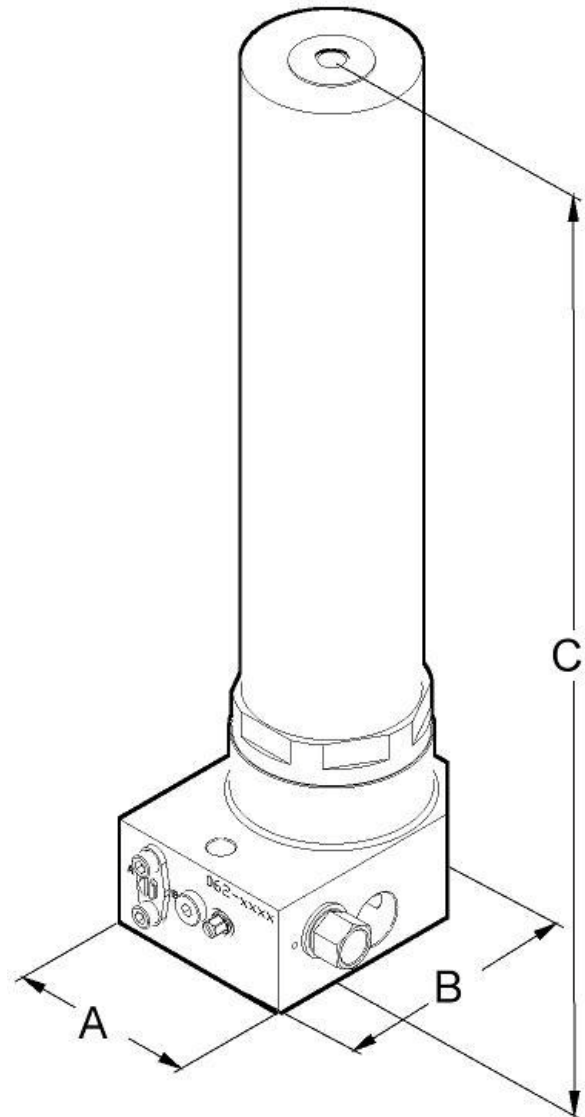
Weight excl. grease	6,5 kg
Width 'A'	90 mm
Length 'B'	120 mm
Height 'C'	414 mm
Capacity, grease barrel	1,2 kg

Hydraulic system

Hydraulic pressure, Low pressure piston 'S2'	2,5 - 3,0 MPa
Hydraulic pressure, High pressure piston 'P3'	7,5 - 9,0 MPa
Hydraulic pressure, High pressure piston 'P4'	7,5 - 9,0 MPa
Lubrication volume per stroke	#1a = 0,14ml #1b = 0,17ml #2a = 0,20ml #2b = 0,24ml #3a = 0,28ml #3b = 0,32ml

Lubricants

Recommended lubricant	Envirosys® chain grease
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Technical Data

Chain grease pump $\varnothing 65$ - P/N 0695 285

Dimensions

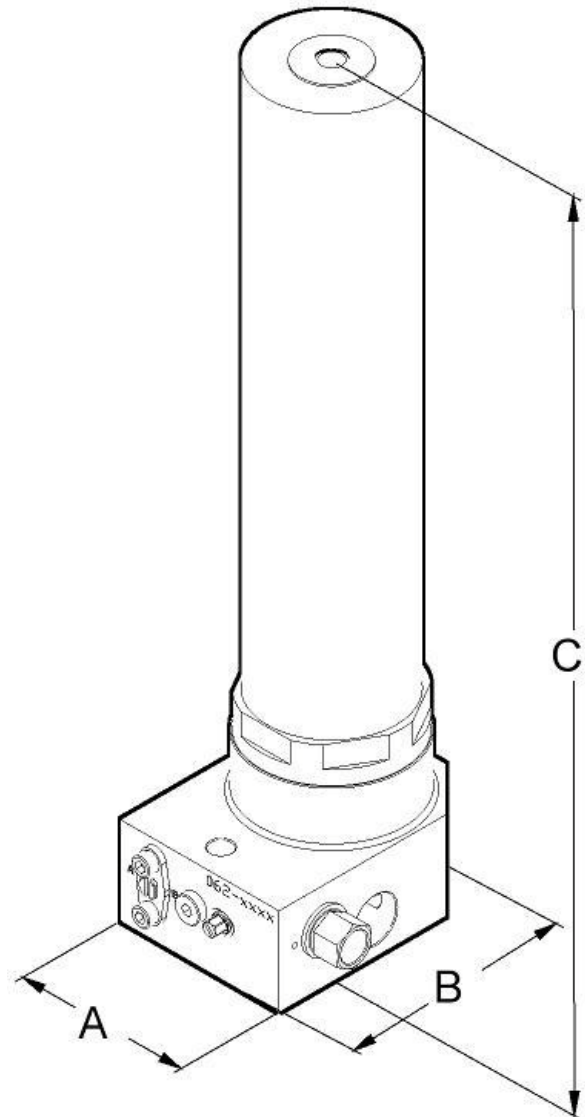
Weight excl. grease	6,5 kg
Width 'A'	90 mm
Length 'B'	120 mm
Height 'C'	414 mm
Capacity, grease barrel	1,2 kg

Hydraulic system

Hydraulic pressure, Low pressure piston 'S2'	2,5 - 3,0 MPa
Hydraulic pressure, High pressure piston 'P3'	3,3 - 9,0 MPa
Hydraulic pressure, High pressure piston 'P4'	3,3 - 9,0 MPa
Lubrication volume per stroke	#1a = 0,19ml #1b = 0,23ml #2a = 0,28ml #2b = 0,33ml #3a = 0,39ml #3b = 0,44ml

Lubricants

Recommended lubricant	Envirosys® chain grease
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Technical Data

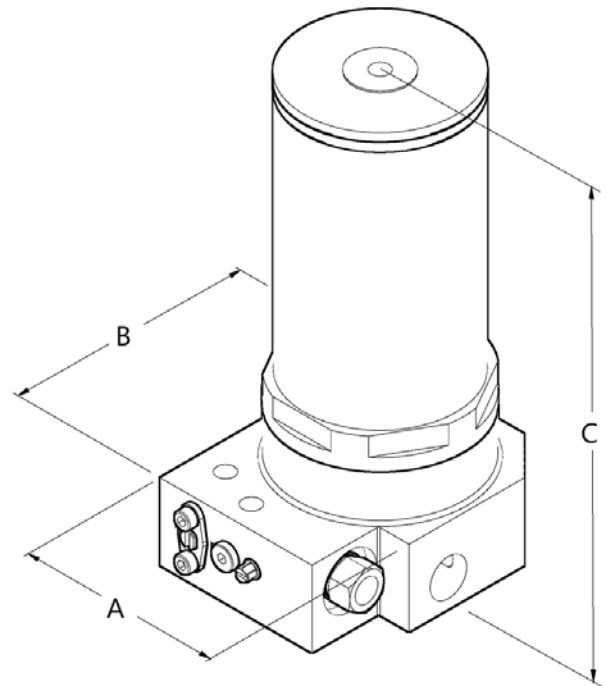
Chain grease pump $\varnothing 90$ - P/N 0695 136

Dimensions

Weight excl. grease	9,0 kg
Width 'A'	120 mm
Length 'B'	145 mm
Height 'C'	271 mm
Capacity, grease barrel	1,2 kg

Hydraulic system

Hydraulic pressure, Low pressure piston 'S2'	2,5 - 3,0 MPa
Hydraulic pressure, High pressure piston 'P3'	7,5 - 9,0 MPa
Hydraulic pressure, High pressure piston 'P4'	7,5 - 9,0 MPa
Lubrication volume per stroke	#1a = 0,14ml #1b = 0,17ml #2a = 0,20ml #2b = 0,24ml #3a = 0,28ml #3b = 0,32ml



Lubricants

Recommended lubricant	Envirosys® chain grease
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Technical Data

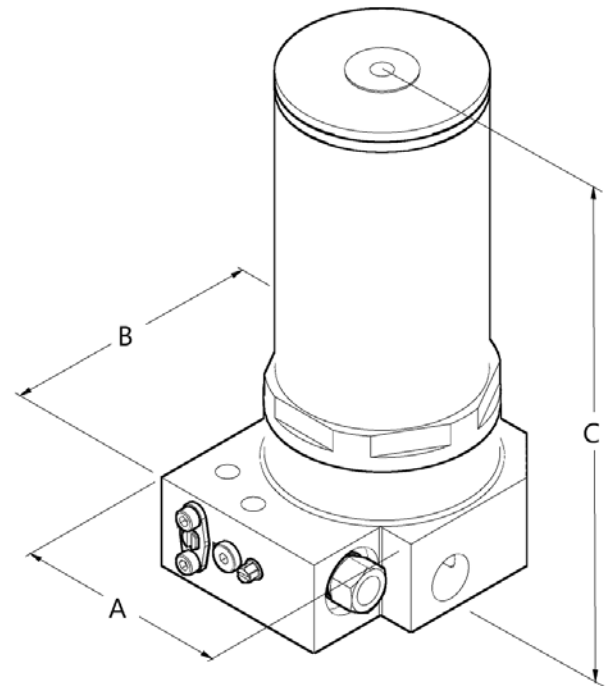
Chain grease pump ø90 - P/N 0695 240

Dimensions

Weight excl. grease	10,7 kg
Width 'A'	120 mm
Length 'B'	145 mm
Height 'C'	414 mm
Capacity, grease barrel	2,0 kg

Hydraulic system

Hydraulic pressure, Low pressure piston 'S2'	2,5 - 3,0 MPa
Hydraulic pressure, High pressure piston 'P3'	7,5 - 9,0 MPa
Hydraulic pressure, High pressure piston 'P4'	7,5 - 9,0 MPa
Lubrication volume per stroke	#1a = 0,14ml #1b = 0,17ml #2a = 0,20ml #2b = 0,24ml #3a = 0,28ml #3b = 0,32ml



Lubricants

Recommended lubricant	Envirosys® chain grease
-----------------------	-------------------------

Hydraulic diagram - Installation with SuperCut

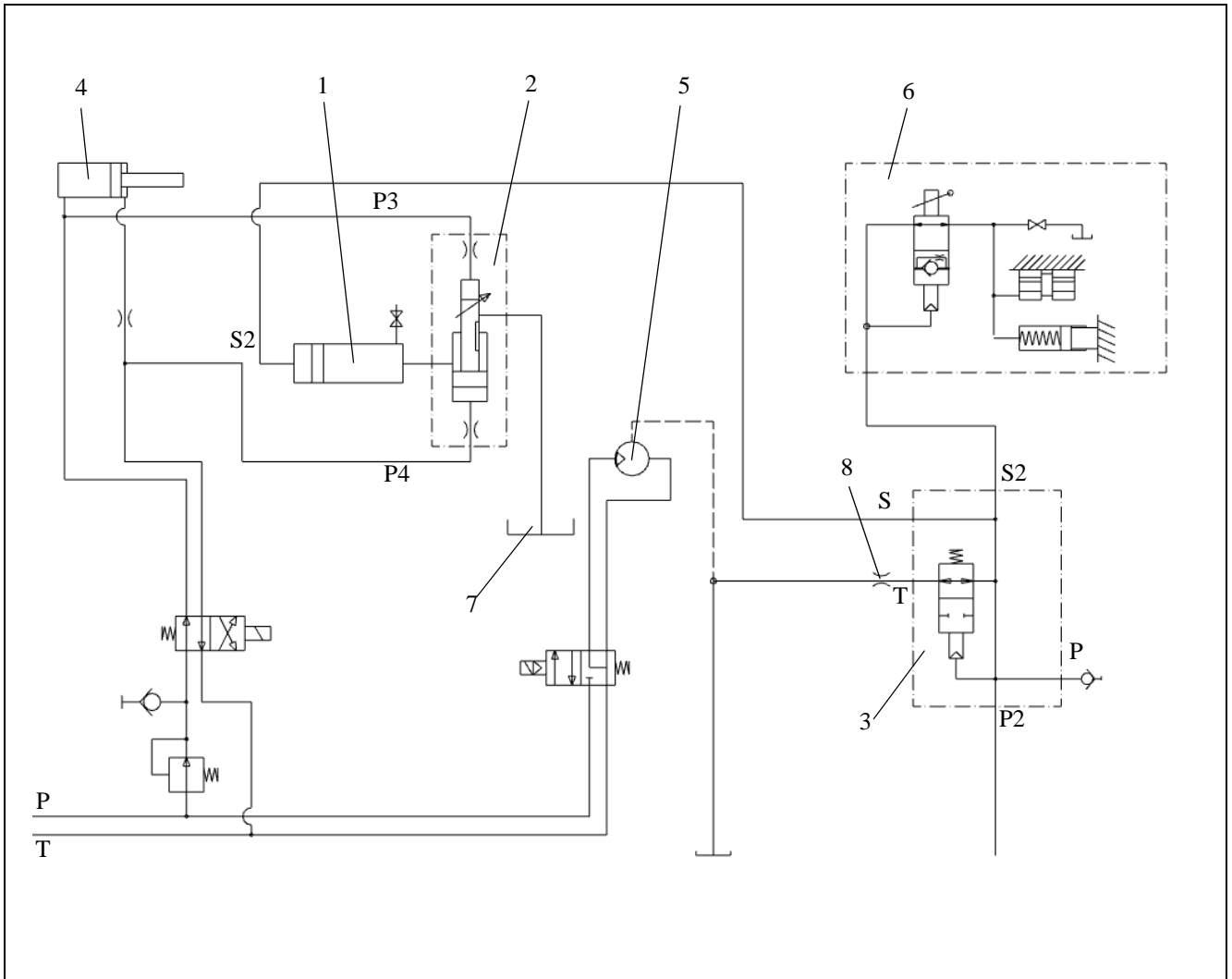


Fig. 4 Hydraulic diagram

1. Grease reservoir
2. Pump unit
3. Relief valve
4. Saw bar feed out cylinder
5. Saw motor
6. Tension device
7. Saw chain
8. Restrictor

Functional description

Chain grease pump

When the low-pressure piston (3) is affected by a hydraulic pressure through port (7), the grease in the barrel (2) is fed into the pump housing (1) and further to a space in the high-pressure piston (4).

When the high-pressure piston (4) is affected by a hydraulic pressure through port (8), the grease in the high-pressure piston is fed through the outlet port (10) and further to the saw chain.

When high-pressure piston (4) instead is pressurized through port (9), the piston returns to its original position and refilled with a new portion of grease.

The amount of grease that is pumped out on each stroke can be controlled by the metering valve (5).

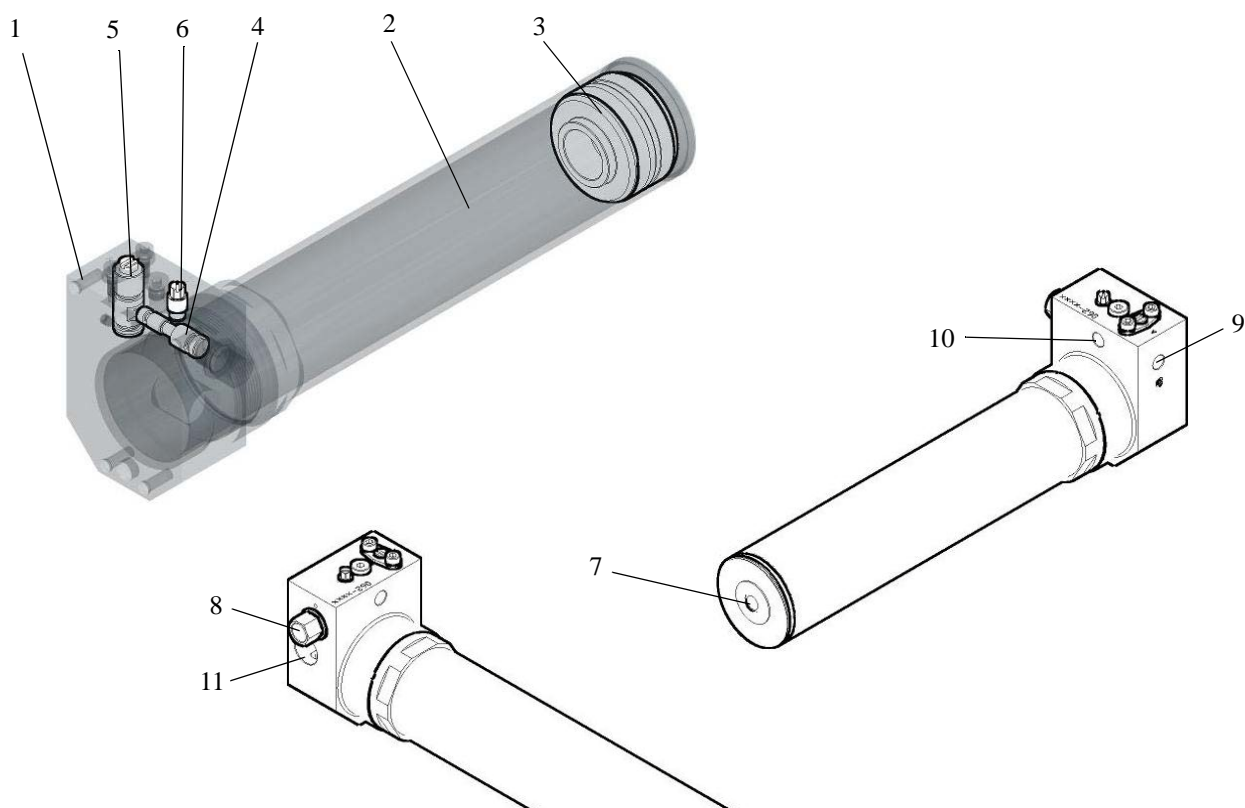


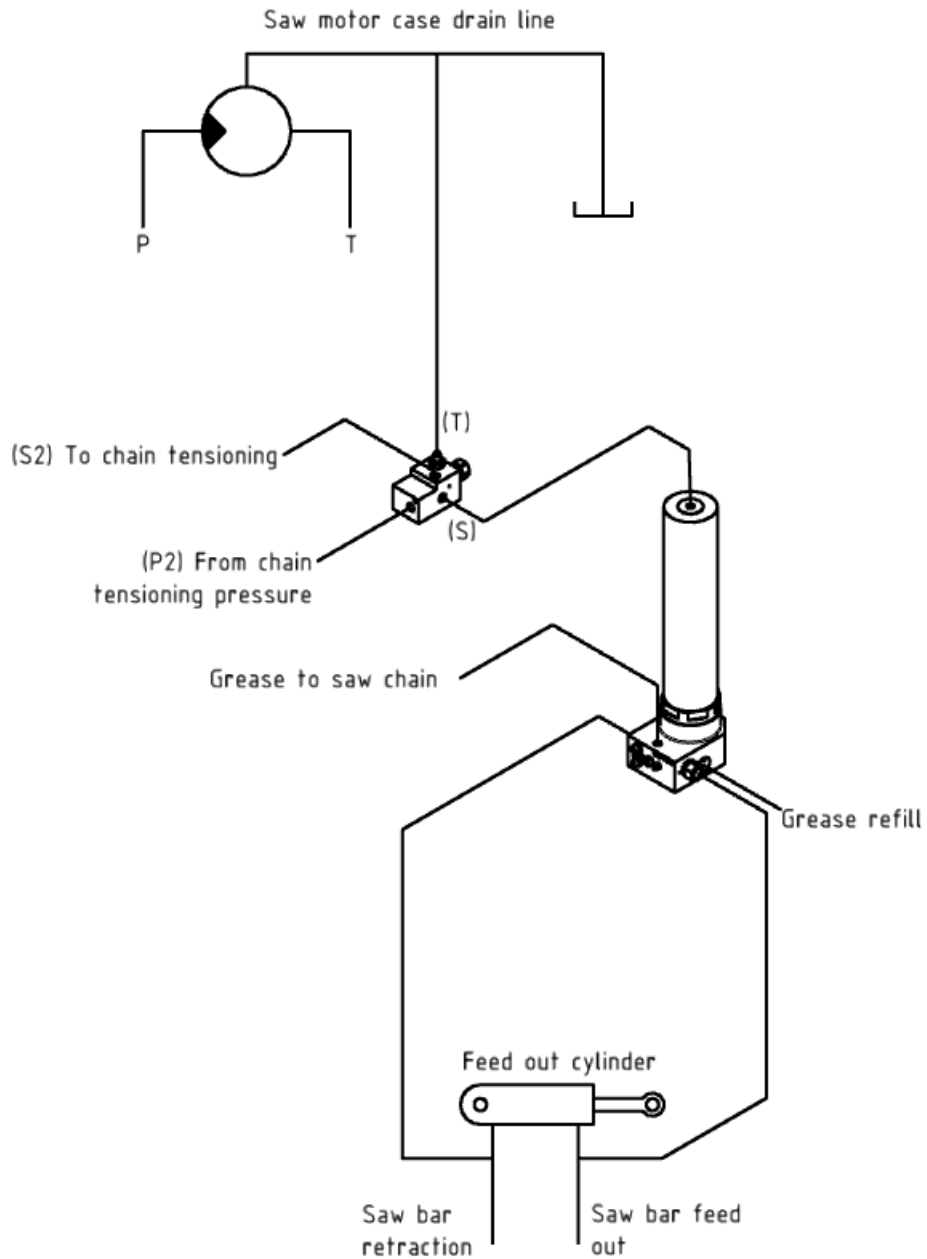
Fig. 5 Description chain grease pump

- | | |
|--|---|
| <ul style="list-style-type: none"> 1. Pump housing 2. Grease barrel 3. Low-pressure piston 4. High-pressure piston | <ul style="list-style-type: none"> 5. Meter valve 6. Bleeder valve 7. Connection port, low pressure 8. Connection port, high pressure (+) 9. Connection port, high pressure (-) 10. Outlet port for chain lubrication 11. Grease barrel refilling port |
|--|---|

Installation

Hydraulic installation of chain grease pump

Install the chain grease pump as shown on the following picture.



General installation requirements



Warning!

The chain grease pump should be installed to hydraulic hoses 1/4" (6,5 mm) or larger according to DIN 20022; SAE 100 R2AT rating. Hose assemblies should be sized for burst pressure with at least a triple safety factor (three times the working pressure) A broken hydraulic hose will cause the lubrication of the saw chain to malfunction, which may result in damages to the saw chain and/or a chain shot.



Warning!

Hultdin System always recommend using a chain catcher and a chain shot safety device with the saw unit.



Warning!

The chain grease pump should be installed so that daily maintenance and refilling of lubricant can be done from the ground.



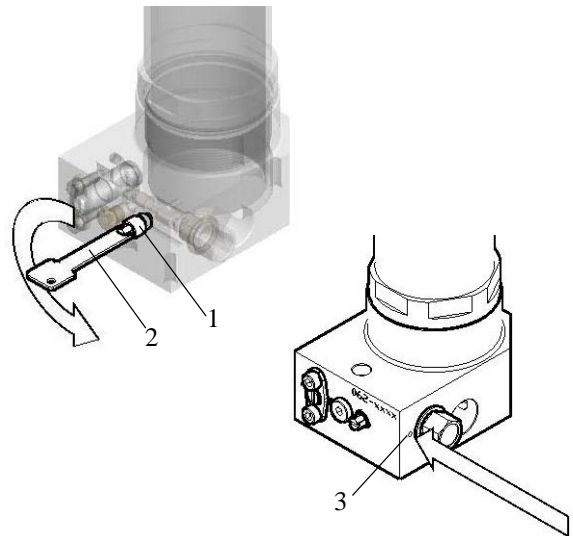
Hydraulic installation requirements

- The Chain grease pump must be installed so that the non-active side of the high pressure piston is connected to the tank line. *See Hydraulic diagram.*
- The Chain grease pump must be installed before any restrictors in the hydraulic system. *See Hydraulic diagram.*

Initial upstart

Bleeding the chain grease pump

1. Place the unit securely in the ground and let the machine idle.
2. Open the bleeder valve(1) 1 - 2 turns until grease comes out through the leak hole (3). Use the tool(2), P/N 0696011
3. Close the bleeder valve (1).
4. Run the saw bar feed out-, and retraction using the saw bar rescue function until grease comes out at the saw bar.



ill. 6 Bleeding the chain grease pump

- 1 Bleeder valve
- 2 Tool, P/N 0696011
- 3 Leak hole

Warning!

Always Bleed the system if it is suspected to contain air, such as after replacing a hose or other component. Air in the lubrication can cause the lubrication of the saw chain to malfunction, which may result in damages to the saw chain and/or a chain shot.

Caution!

Use safety glasses and protective gloves when servicing the equipment. Hydraulic oil or lubricants in contact with skin or eyes may cause irritations or allergies



ill. 7

Procedures

Changing lubrication volume

The Chain grease pump is delivered with a lubrication volume of 0,2 ml/stroke. The lubrication volume may have to be changed depending on installation requirement, saw bar length, type of wood that being cut etc. When changing the lubrication volume, do as described below.

Warning!

Too low lubrication volume will increase the wear on bars and chains, which will result in a higher risk of a chain shot.

Warning!

Hydraulic hoses and adapters may be pressurized even with the engine shut off. Loosen any parts with caution.

Caution!

Use safety glasses and protective gloves when servicing the equipment. Hydraulic oil or lubricants in contact with skin or eyes may cause irritations or allergies

1. Place the unit securely in the ground and shut off the machine.
2. Remove the screws, lock plate and the meter valve.
3. Install a new meter valve with the wanted lubrication volume.

The *Product Description* chapter describes the relationship between different meter valves and lubrication volumes.

4. Turn the Meter valve to the wanted position.
 - The flat side on the Meter valve towards “A” gives less grease per stroke.
 - The flat side on the Meter valve towards “B” gives more grease per stroke.
5. Assemble the lock plate and tighten the screws.

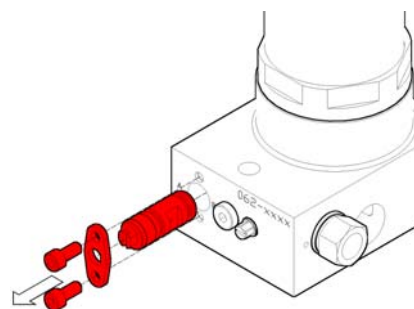


Fig. 8 Remove the screws, lock plate and the meter valve

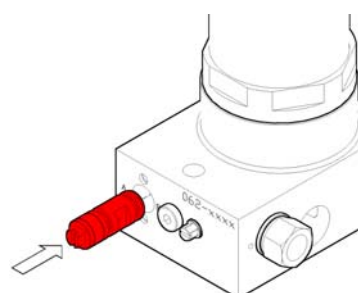


Fig. 9 Install a new meter valve

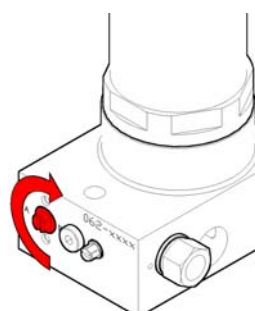


Fig. 10 Turn the Meter valve to the wanted position

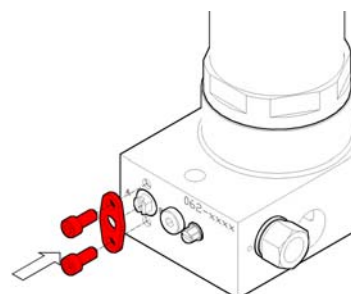


Fig. 11 Montera låsbrickan och dra åt skruvarna

Refilling grease

Hultdin System AB recommends using a hand-operated barrel pump and quick couplings min. size 1/2" when refilling grease in the chain grease pump.

The quick coupling male part is installed in the refilling port in the chain grease pump. Thread, G3/4"

1. Place the unit securely in the ground and shut off the machine.
2. Clean the quick coupler.

Note! Always clean the quick coupler before refilling grease, to prevent any contamination to cause the chain grease pump to malfunction.
3. Connect the barrel pump to the chain grease pump using the quick couplings.
4. Pump grease with the barrel pump until the chain grease pump is full. This can be noticed as an increase in pumping resistance
5. Disassemble the barrel pump and make sure that grease is not leaking backwards through the quick coupling.

Caution!

Use safety glasses and protective gloves when servicing the equipment. Hydraulic oil or lubricants in contact with skin or eyes may cause irritations or allergies.

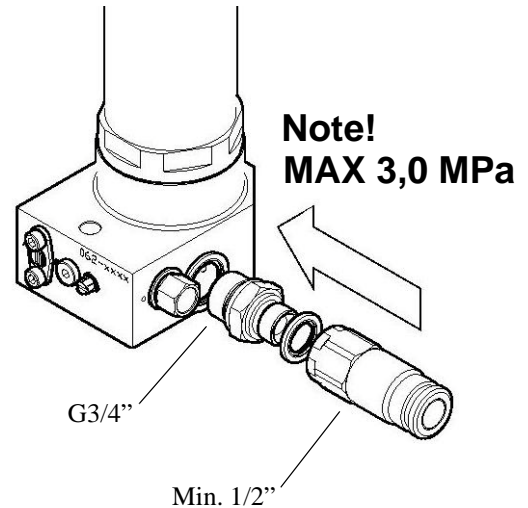


Fig. 12 Refilling grease



This pump is tested and approved by S.T.L. Lubrificants, the maker of Envirosys® and for best performance, Hultdins recommend the use of Envirosys® greases

HULTDINS **C**hain grease Pump

