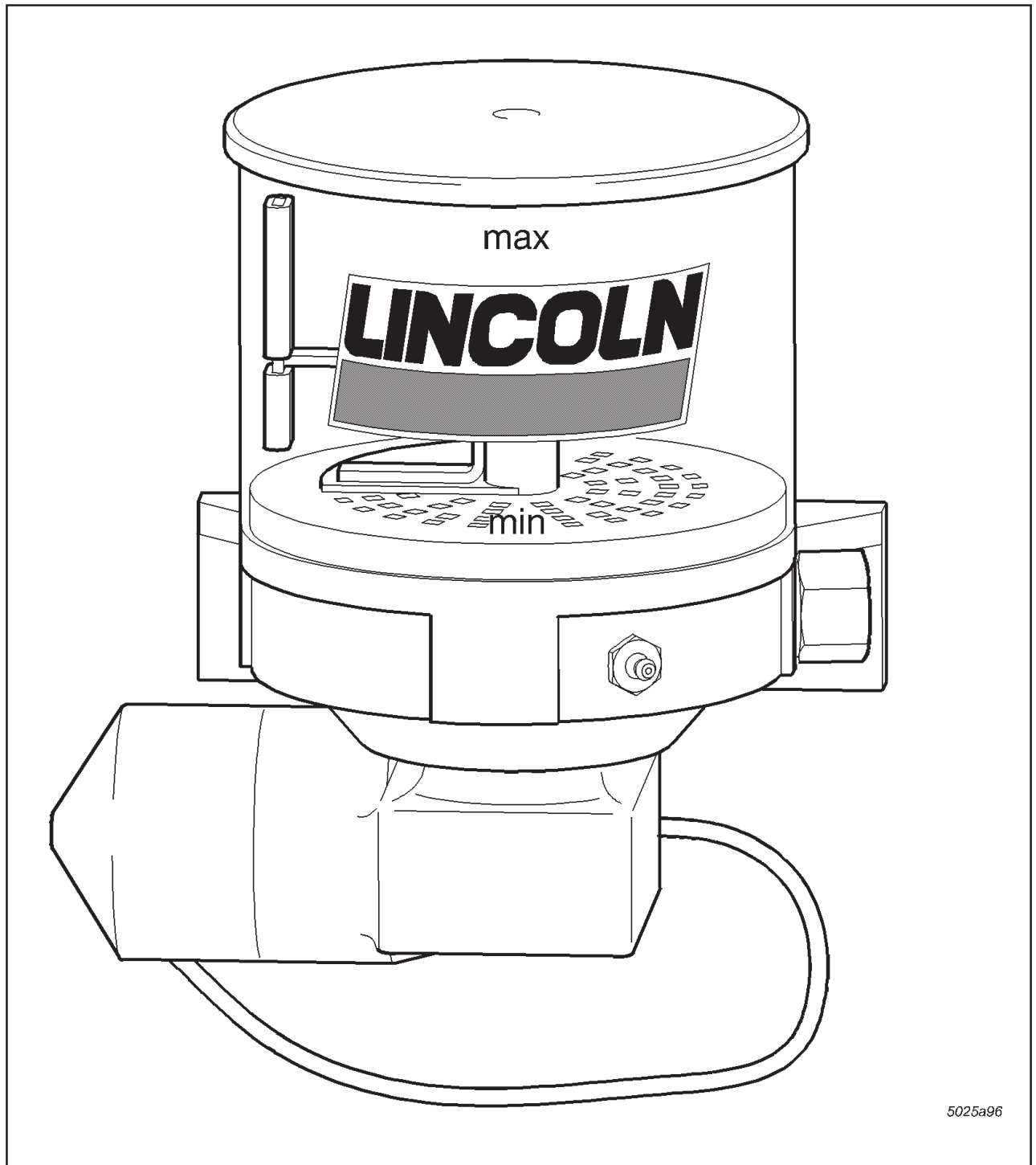


## *Centralized Lubrication Pump 201*



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Subject to modifications

## Safety Instructions

### Appropriate Use

- Use pump 201 only for the delivery of lubricants in centralised lubrication systems.

### General Safety Instructions

- LINCOLN - QUICKLUB - centralized lubrication systems
  - are state of the art
  - can be assembled for safe operation
- Incorrect use may result in bearing damages caused by poor or over - lubrication.
- Unauthorised modifications or changes to an installed system are not allowed. Any modifications must be subject to prior consultation with the manufacturer or his representative.

### Regulations for prevention of accidents

- Observe the regulation for prevention of accidents which are effective in the country where the pump will be used.

### Operation, Maintenance and Repair

- Repair should only be performed by authorised and instructed personnel who are familiarised with the instructions.
- LINCOLN - central lubrication pumps 201 must only be operated with safety valve installed.
- LINCOLN - central lubrication pumps 201 must be regularly refilled with clean lubricant.



**CAUTION:** In case of pumps which are filled from top, the voltage supply must be switched off before the lubricant is filled in.

- LINCOLN - QUICKLUB - centralized lubrication systems operate automatically. However, a regular check (every 2 weeks approx.) should be made to ensure that lubricant is emerging from all lubrication points.
- Used or dirty lubricants must be disposed of in accordance with the environmental legislation.
- The manufacturer of the centralised lubrication system will not accept any liability
  - for damages, caused by insufficient lubricant and irregular pump filling
  - for damages caused by use of greases which can only conditionally be pumped or cannot be pumped at all, in centralized lubrication systems
  - for damages caused by the use of contaminated lubricants
  - for damages caused by inadequate disposal of used or contaminated lubricants

### Installation

- Safety equipment
  - should not be modified or made ineffective
  - should only be removed for the purpose of installation of the pump
  - must be reassembled after the pump has been installed
- Central lubrication pumps 201 must be kept away from heat sources.  
Please note the specified operating temperature, see Technical Data.
- Only use original LINCOLN spare parts (see Parts Catalogue) or parts approved by LINCOLN .
- Adhere to:
  - the installation instructions of the vehicle or machine manufacturer as regards all drilling and welding procedures
  - the specified minimum distances between bore holes and upper/lower rim of the frame or between the bore holes.
  - make sure that there is sufficient space for filling the pump from top
- The manufacturer of the central lubrication pump will not accept any liability for:
  - damages caused by unauthorised modification of system components
  - damages caused by the use of unproved parts

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**For further information refer:**

Technical Description "Progressive Metering Device for Grease und Öl, model SSV"  
 Technical Description for "Electronic Control Units" of Pump 201(if equipped)

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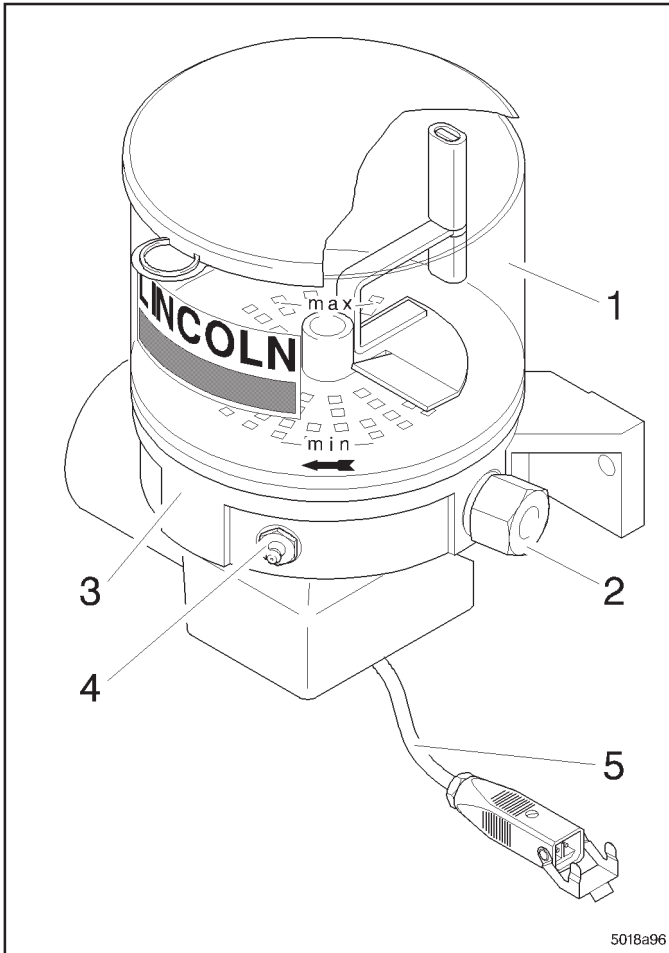


Fig. 1 - Central Lubrication Pump 201

• **The QUICKLUB central lubrication pump 201**

– consists of the following subassemblies:

- housing with integrated motor 24 VDC
- 1,5 l reservoir with stirring paddle and fixed paddle
- 1 pump element K 6
- filling fitting
- electrical connection cable (incl. connection plug and socket) for drive motor

- is designed for the automatic lubrication of the connected lube points

- is designed for the delivery of greases up to NLGI grade 2 at temperatures of -25° C to 70° C or mineral oils with min. 40 mm<sup>2</sup>/s (cST).

• During the operating time the pump dispenses lubricant via one or more metering devices to the connected lube points.

1 - 1,5 l reservoir with stirring paddle and fixed paddle

2 - Pump element K6

3 - Housing with integrated drive motor

4 - Filling fitting

5 - Electrical connection cable with connection plug and socket

**Operation**

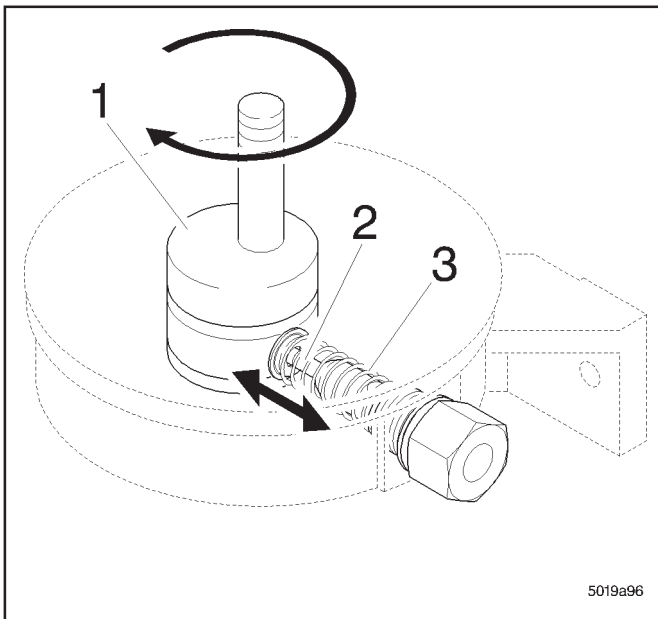


Fig. 2 - Pump element with eccentric

1 - eccentric

3 - pull-back spring

2 - piston

**Pump element K6**

• The electric motor drives the eccentric 1 (Fig. 2) .

• During the operating time the piston 2 sucks in lubricant from the reservoir and delivers it via metering device to the connected lube points.

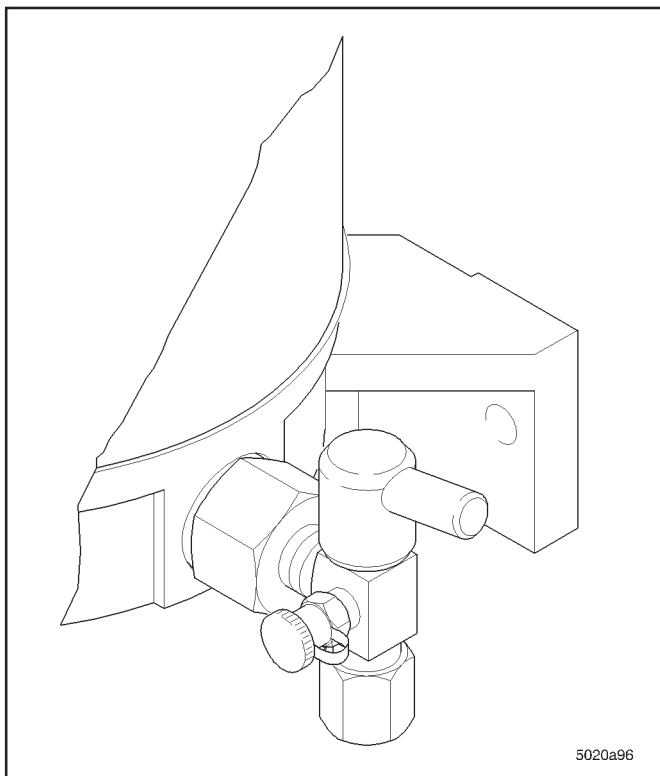


Fig. 3 - Pressure relief valve

#### Pressure relief valve (safety valve)

**Important:** Pump element must be protected by means of the pressure relief valve.

- The pressure relief valve
  - limits the pressurisation in the system
  - opens at 350 bar
- If lubricant is emerging at the pressure relief valve, this indicates a fault in the system.

*Note: The pump model 201 is not equipped with a pressure limiting valve (safety valve). When ordering the pump, **order the safety valve separately**. Refer to the Parts Catalog QUICKLUB.*

#### Installation

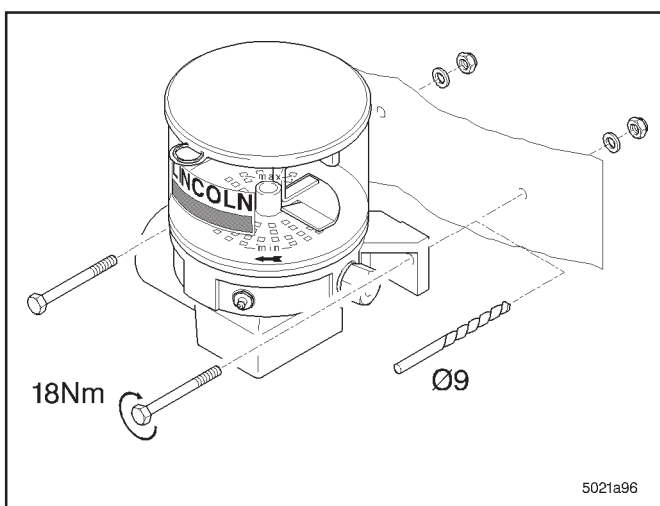


Fig. 4 - Install pump

#### Timers

- The central lubrication pump 201 can be operated by means of an external control.

*Note: Install pump in a way that it is well accessible and can be filled from top, if necessary.*

## Commissioning

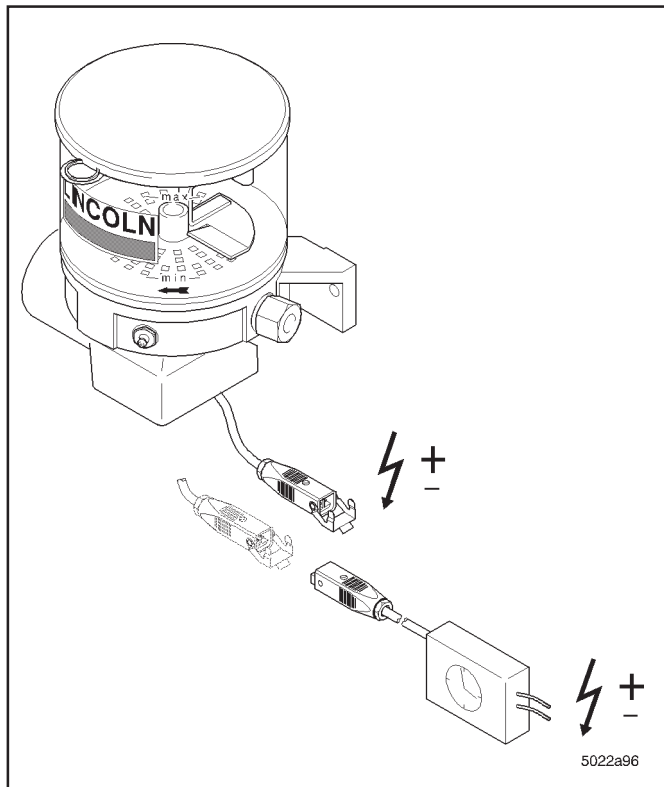


Fig. 5 - Possibilities of voltage supply for pump 201

### • Pump 201

- begins to run immediately after voltage has applied to the motor.
- is **ready to operate** immediately after voltage has applied to the timer.

## Maintenance, Repair and Tests

### Maintenance

- Basically, the only maintenance required is to refill lubricant in good time. However, check regularly that lubricant is actually reaching all lubrication points.
- Also check high - pressure plastic hoses and plastic tubes for damages. If necessary, replace them.

*Note: Whenever work is done on the centralized lubrication system, particular attention should be given to absolute cleanliness !*

- For cleaning the system use naphtha or petroleum benzine. **Tri, per or alcoholic solvents** must not be used.

**To fill Pump**

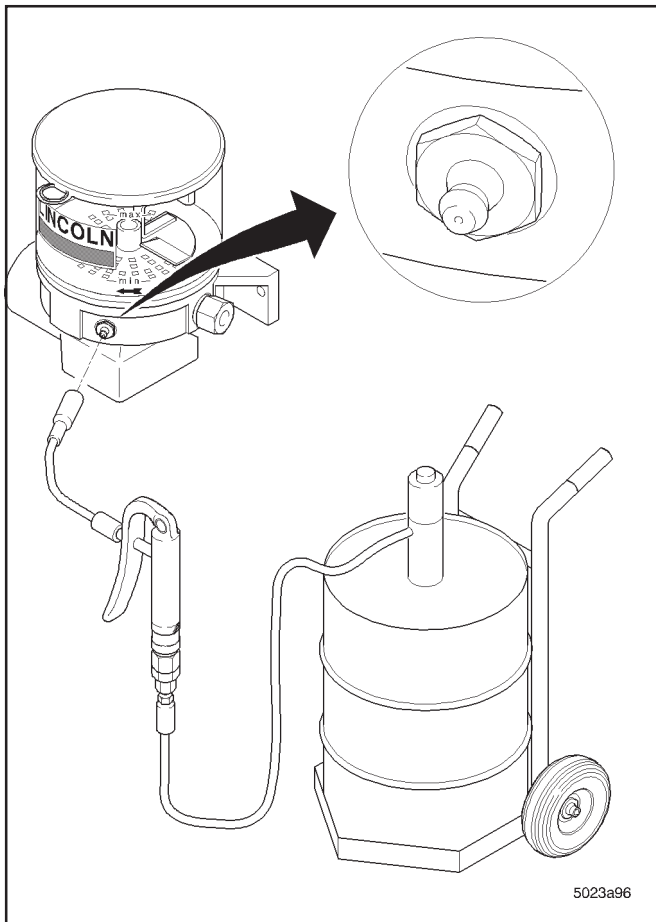


Fig. 6 - To fill the reservoir

- \* Fill reservoir via the filling fitting or via the filling opening on the reservoir top, up to the "max." mark.
- Use grease up to NLGI grade 2 or mineral oils with min. 40 mm<sup>2</sup>/s (cST).

**Important:** The grease/oil must be free from impurities and must be liable to change consistency in the course of time



**Caution:** Before filling the pump via the top opening switch the voltage supply off.

*Note: If the reservoir has been completely emptied, the pump may require until 10 minutes before it operates with its full output again.*

**Repair  
Pump**

- Only original LINCOLN spare parts must be used for repairs on the pumps, see Spare Parts List.

- The pump should be returned to the factory for warranty.

Service adress:

LINCOLN GmbH  
Abt. Zentraler Kundendienst  
Postfach 1263  
D-69183 Walldorf

**Exchange pump element**

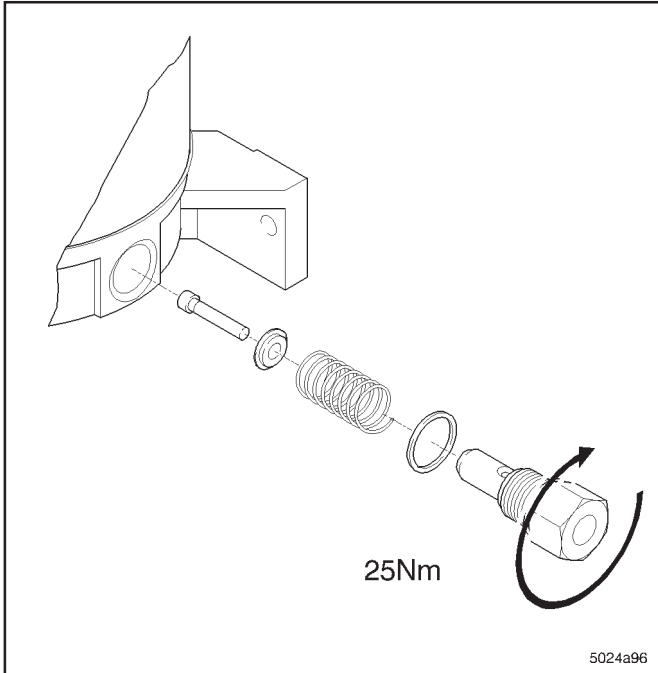


Fig.7 - Exchange pump element

- \* Remove safety valve on pump element.
- \* Unscrew pump element . Make sure that piston, spring and washer do not get stuck in the lubricant because otherwise the reservoir must be disassembled for removing these items.

**Important:** Do not leave piston, spring and washer in the housing because this could result in a motor blockage.

- \* Install new pump element with new sealing ring.

**To check the system**

- To check the system, allow pump to run.
- Check the high-pressure plastic hoses and the plastic tubes for leakages.
- Check whether lubricant is emerging at all lubrication points.
- If timer installed, check operation and/or pause time settings on the external timer.
- If necessary, re-adjust the pause time or the monitoring time in accordance with the respective application.

**Troubleshooting**

*Note: The pump operation can be checked from the outside by observing whether the stirring paddle is rotating (e. g. by triggering an additional lubrication or by letting the pump run).*

• Fault: Pump motor does not run	
<p><b>• Cause:</b></p> <ul style="list-style-type: none"> <li>• Voltage supply interrupted</li> <li>• Electric motor defective</li> </ul>	<p><b>• Remedy:</b></p> <ul style="list-style-type: none"> <li>• Check voltage supply or fuses. If necessary, rectify the fault and replace fuses.</li> <li>• Check the line leading from the fuses to the pump plug.</li> <li>• Check voltage supply to motor. If necessary, replace motor.</li> </ul>



**Troubleshooting, Cont.**

<b>•Fault: Pump does not deliver the lubricant</b>	
<b>•Cause:</b>	<b>• Remedy:</b>
<ul style="list-style-type: none"> <li>• Reservoir empty</li>   <li>• Air pockets in lubricant</li>   <li>• Unsuitable lubricant has been used</li>   <li>• Suction hole of pump element clogged</li>   <li>• Pump piston worn</li>   <li>• Check valve in pump element defective or clogged</li> </ul>	<ul style="list-style-type: none"> <li>• Refill reservoir with clean grease or oil. Allow pump to run (additional lubrication) until lubricant emerges from all lubrication points.</li>   <li><i>Note: Depending on the ambient temperature and/or type of lubricant it may take 10 minutes of operation until the pump elements will reach their full lubricant output.</i></li>   <li>• Trigger an additional lubrication. Loosen the outlet fitting or main line on safety valve. Lubricant must emerge without air bubbles.</li>   <li>• Renew the lubricant. See lubricant list.</li>   <li>• Remove pump element. Check suction hole for foreign particles. If there is any, remove them.</li>   <li>• Replace pump element</li>   <li>• Replace pump element</li> </ul>

**Technical Data**

**Pump**

Admissible operating temperature... - 25° C bis 70° C\*  
 Number of outlets ..... 1  
 Reservoir capacity ..... 1,5 l  
 Refilling ..... via hydraulic lubrication fitting or from top  
 Lubricants ..... greases up to NLGI grade 2  
 .. Mineral oils with min. 40 mm<sup>2</sup>/s (cST) at 40° C  
 Protection ..... IP 6K 9K acc. to DIN 40050 T9

*\*Note: The pump is suitable for the a. m. temperature range. If lower temperatures are to be encountered, special low-temperature lubricants have to be used, which are pumpable at temperatures lower than - 25° C.*

**Motor**

DC gear motors (interference-suppressed):  
 Operating voltage ..... 24 VDC  
 Max. power input at 24 VDC ..... 3 A  
 Speed ..... approx. 17 rpm.  
 Sense of rotation ..... clockwise

*Note: The motor is designed for intermittent operation. If the motor is intended to be used for continuous operation, please contact the pump manufacturer.*

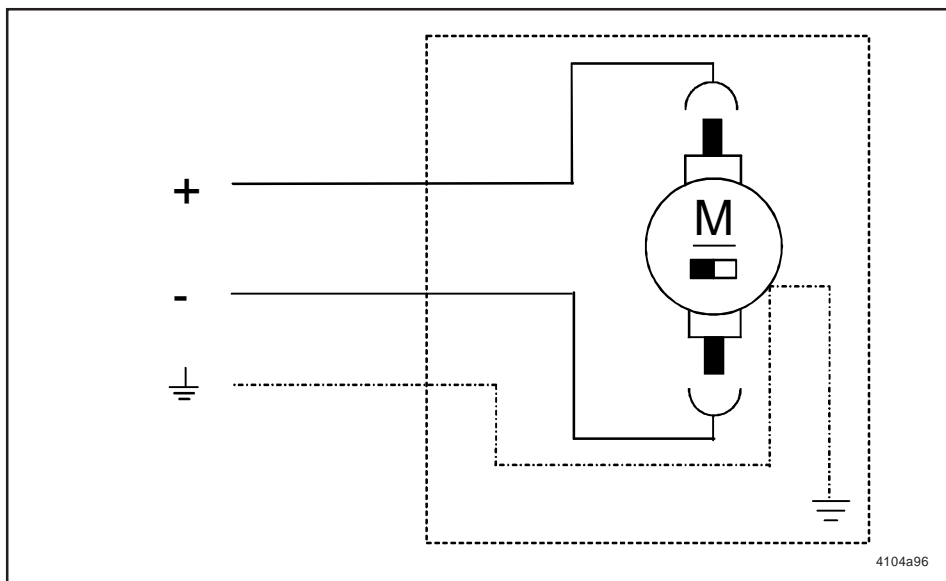
**Pump element**

piston diameter, (Standard) K6 ..... 6 mm  
 lubricant output ..... approx. 2,8 cm<sup>3</sup>/min.  
 max. operating pressure ..... 350 bar  
 connection thread ..... G 1/4  
 suitable for a tube dia ..... 6 mm

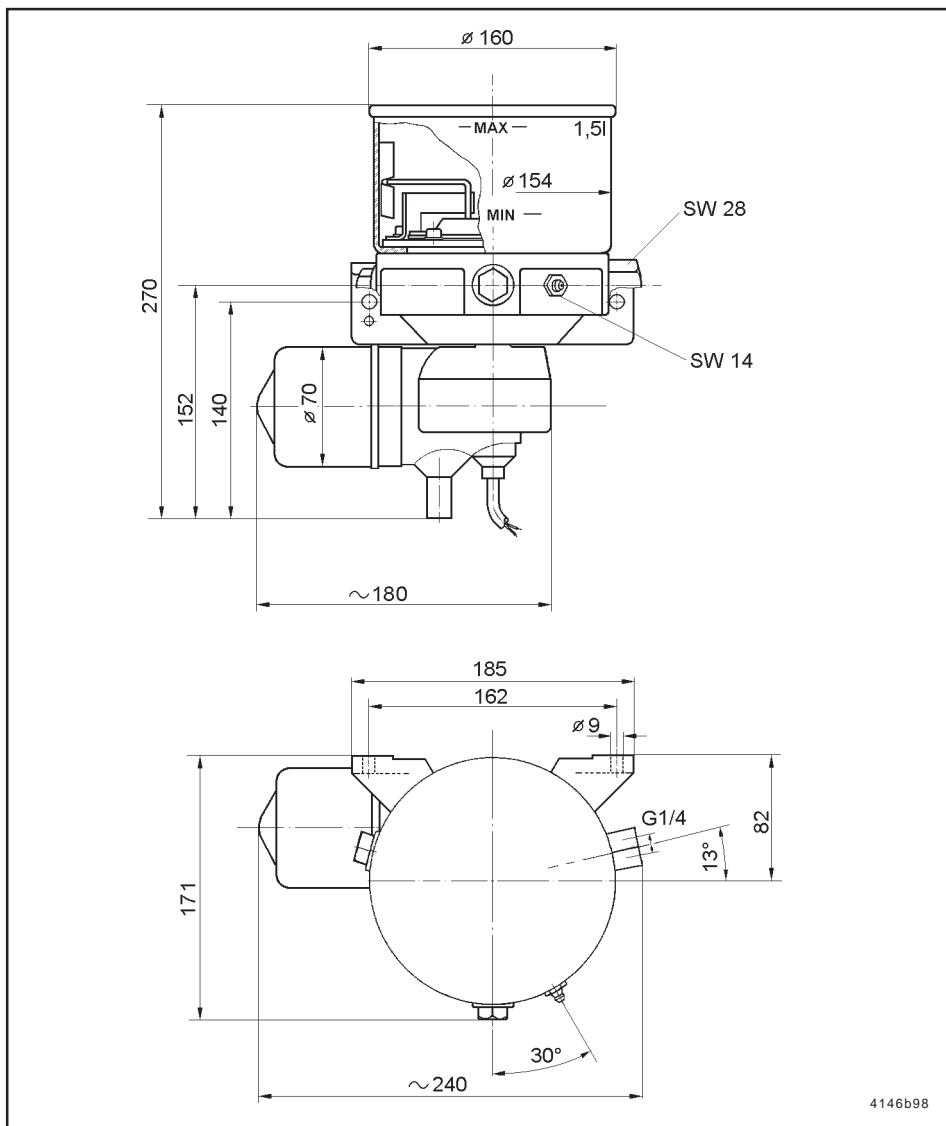
**Important:** The lubricant output listed refers to grease of NLGI grade 2 at 20° C, back pressure 100 bar, nominal voltage 24 V. Any differing pressures or temperatures result in different lubricant outputs. System designing must be based on the above values.

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Connecting Diagram

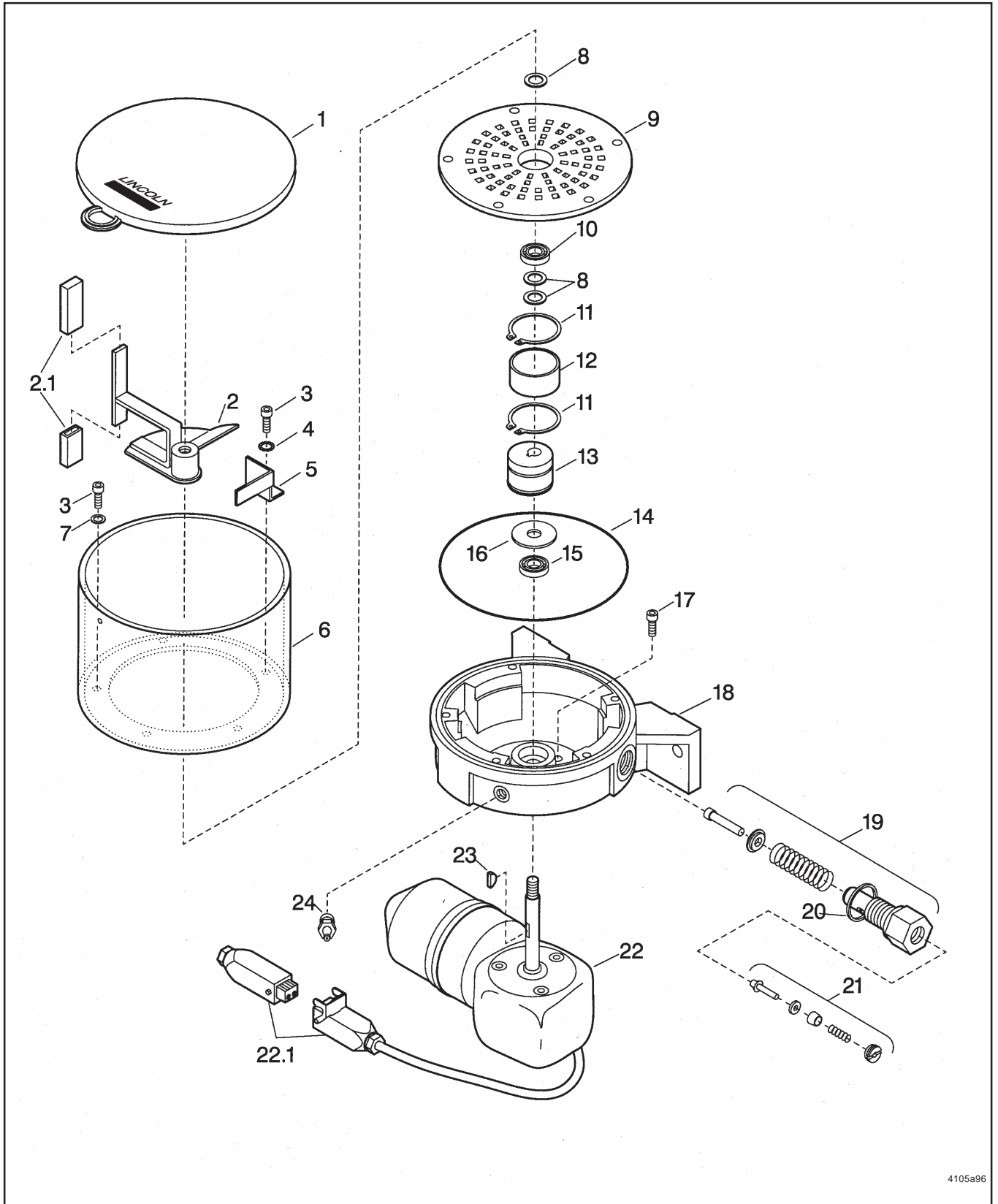


Dimensions



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*Single Parts of Pump Model 201*



Subject to modifications

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**Spare parts list**

Item	Designation	Qty.	Part-No.
1	Cover	1	319-19134-1
2	Stirring paddle	1	543-32049-1
2.1	Scraper rubber 7 cm	1	111-35089-2
3	Hex. socket head screw M 6 x 25 C	5	201-12161-3
4	Tooth washer J 6,4 Z	1	210-12161-3
5	Fixed paddle	1	400-22956-1
6	Reservoir 1,5 l	1	319-19672-1
7	Plain washer J 6,4	4	209-13649-1
8	Washer 10,5 C	3	209-12152-8
9	Bearing ring	1	313-19133-2
10	Grooved ball bearing	1	250-14009-7
11	Retaining ring A 30 x 1,5	2	211-12164-7
12	Internal ring IR 30 x 35 x 16	1	250-14006-5
13	Eccentric	1	400-22953-1
14	O - ring $\varnothing$ 137 x 3	1	219-13084-1
15	Radial seal 10 x 22 x 7	1	220-12231-3
16	Washer B 10,5 C	1	209-13072-3
17	Hex. socket head screw M 6 x 25	3	201-12534-1
18	Housing	1	313-19189-1
19	Pump element with piston $\varnothing$ 6 mm	1	600-26876-2
20	Sealing ring $\varnothing$ 22,2 x 27 x 1,5	1	306-17813-1
21	Check valve, assy.	1	504-36071-4
22	Motor 24 VDC, assy with cable	1	543-32050-1
22.1	Cable assy with plug and socket	1	664-36915-1
23	Woodruff key 3 x 5	1	214-13123-1
24	Hydraulik lubrication fitting AR 1/4 Z	1	251-14045-9

## Lubricants

The pump 201 has been designed to deliver greases up to NLGI grade 2 or mineral oils with min. 40 mm<sup>2</sup>/s (cST) at 40° C .

**Important:** Absolute cleanliness is essential when handling lubricants. Impurities will remain suspended in lubricant and cannot settle. This will block delivery channels causing damage to bearings.

### Recommended greases for QUICKLUB systems down to -25° C

Manufacturer	Designation	Base soap	min. Delivery temperature
AGIP	F1 Grease 24	Ca	
ARAL	multi-purpose grease ZS 1/2	Ca/Li	-20° C
AUTOL	Top 2000	Ca	- 10° C
AUTOL	Top 8000 W	Ca	- 20° C
BP	lubrication grease	Ca	
BP	C1 lubrication grease	Ca	-20° C
CASTROL	CL - Grease	Ca	
ESSO	Cazar K2	Ca	
ESSO	high-pressure grease	Ca	
FIAT LUBRIFICANTI	Comar 2	Li	-25° C
FINA	CERAN LT	Ca	-20° C
FINA	CERAN WR2	Ca	
FUCHS	FN 745	Ca	
FUCHS	LZR 2	Li	- 20° C
FUCHS	Renocal FN3	Ca	
FUCHS	Renolit HLT 2	Li	
MOBIL	Mobilgrease	Li	
MOLYKOTE	TTF 52	anorg. Verd.	
OPTIMOL	Longtime PD 2	Li	- 20° C
OPTIMOL	OLIT	Li/Ca	- 15° C
SHELL	Retinax C	Ca	
WESTFALEN	Gresalit ZSA 2	Li	-15° C
ZELLER & GMELIN	ZG 450	Li	
ZELLER & GMELIN	ZG 736	Li	

Manufacturer	Designation	Base soap	min. Delivery temperature
ARAL	BAB EP 2	Li/Ca	
AUTOL	Top Bio 2000	Ca	-25° C
AVIA	Biogrease 1	Li	up to 0° C
DEA	Dolon E 2	Li	-15° C
FUCHS	Plantogel S2	Li/Ca	
KLÜBER	Klüberbio M 32-82	Ca	-20° C

Use lubricants with solid matter additives only after having consulted the manufacture system.

### Bio-degradable greases

**Declaration by the manufacturer as defined by  
machinery directive 89/392/EEC Annex II B**

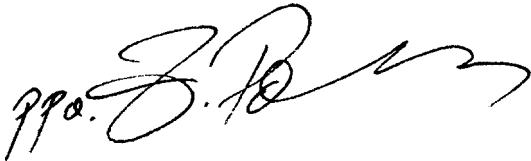
Herewith we declare that the supplied model of

**Pump type 201**

is intended to be incorporated into machinery covered by this directive and must not be put into service until the machinery into which it is to be incorporated has been declared in conformity with the provisions of the directive.

*Applied harmonized standards in particular*

**EN 292 T1/T2**  
**prEN 809**  
**EN 563**



*Walldorf, 4.11.1996 , ppa. Z.Paluncic*