

LUBRICATING PUMP AB-P

Operating instructions

Original document

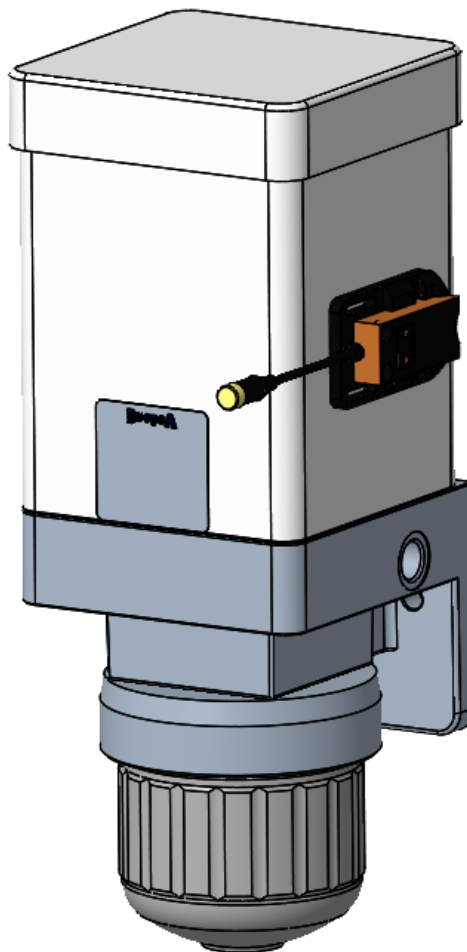


Figure 1: Exemplary representation

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1. ABOUT THE OPERATING INSTRUCTIONS

1.1. PREFACE

These instructions are intended to make it easier for you to familiarise yourself with the machine and the ways in which it can be used as intended.

The instructions contain important information on operating the machine safely, correctly and efficiently. Paying attention to them will help you to avoid dangers, keep repair costs and downtimes to a minimum, and increase the machine's reliability and service life.

These instructions are intended to familiarise the operator of the machine with the following information:

- safety information,
- operation,
- operating procedures,
- servicing and maintenance.

This documentation serves to supplement instructions based on existing national legislation governing the prevention of accidents and environmental protection.

1.2. INFORMATION ON DOCUMENTATION

These operating instructions must be read carefully before commissioning the lubricating pump. The corresponding lubricating pumps may only be set up and operated in conjunction with these operating instructions. The lubricating pumps may only be started up and operated by qualified personnel.

All descriptions and information in these instructions apply to the current state at the time it was created. We reserve the right to change the contents of this document without notice. Furthermore, Dropsa BM Germany GmbH assumes no liability for damages directly or indirectly attributable to delivery, performance and use of this material.

The textual and drawing representation may not necessarily comply with the scope of the main contract. The technical drawings may not necessarily be represented to the specified scale.

1.3. WARRANTY

Dropsa BM Germany GmbH assumes no liability and guarantee for damage and malfunctions resulting from a failure to observe these instructions or due to improper repairs carried out by the owner's personnel.

Unauthorised modifications to the machine and changes to the programs can pose a danger to personnel or damage the machine.

1.4. DESIGNATED USE

The lubricating pump is a sturdy, simply constructed pneumatic pump. It is a complete machine and is used in the field of lubrication. It is suitable for automated lubrication that needs to be performed several times a day up to a maximum of once a minute.

Any other use or use beyond this definition is improper and represents misuse of the system. Dropsa BM Germany GmbH is not liable for any damage resulting from this, and the warranty also becomes void.

Compliance with the documentation and proper performance of maintenance work are prerequisites for the designated use of the system.

1.5. GENERAL INFORMATION ON THESE INSTRUCTIONS

These instructions are a guide for the use of the lubricating pump from Dropsa BM Germany GmbH. The basic system structure and its individual components are described in general. The operating instructions also contain information on system-relevant characteristics. Customer specific modifications in the general system structure must be coordinated separately with Dropsa BM Germany GmbH and are not taken into account in these instructions.

1.6. COPYRIGHT

©2025 Dropsa BM Germany GmbH, D-72636 Frickenhausen.

This documentation is protected by copyright.

All rights reserved, including translation. All rights reserved for the case of granting of patent or registration of utility model.

No part of this documentation may be reproduced in any form whatsoever (e.g. print, copy, microfilm or other procedure), or processed, duplicated or disseminated in data processing systems. Contraventions shall be liable for damages. Reprinting, even in extract form, is only allowed with the permission of Dropsa BM Germany GmbH.




We reserve the right to carry out technical modifications to the machine at any time in order to improve its safety, reliability, function and design.




















2. SAFETY AND PRECAUTIONARY MEASURES FOR OPERATION

2.1. SAFETY INSTRUCTIONS

Please read this manual carefully before commissioning. The safety regulations of the country in which the device is installed must be observed. It is necessary to use trained personnel for the various maintenance, use, installation, etc. operations required during the service life of the device.

This manual uses safety markings and symbols in accordance with ANSI Z535, ISO 3864 and ISO 7010, which are listed below:

SAFETY INSTRUCTIONS TABLE			
SIGNAL WORD	HAZARD	MEANING	EFFECT
 DANGER	Personal injury	Hazardous situation that is certain to result in severe injury or death if not avoided.	Death or severe injury, debilitating.
 WARNING		Hazardous situation that could result in severe injury or death if not avoided.	Possible death or severe injury.
 CAUTION		Hazardous situation that could result in a minor to moderate injury if not avoided.	Possible minor or moderate injuries
NOTE	Material damage	Behaviour unrelated to personal injury. Tips and other information.	Damage to objects, not to persons.

SYMBOL TABLE					
DANGER		PROHIBITION		MANDATORY ACTION	
	General hazard warning		General prohibition		General mandatory sign
	Danger! Laser!		No open flame; fire, open source of ignition and smoking		Follow instructions
	Danger! Electric shock hazard!		Carrying metal parts or watches prohibited		Wear ear protectors
	Warning! Hot surface!		Touching prohibited		Use eye protection
	Warning! Gas cylinders!		Extinguishing with water prohibited		Ground before use
	Warning! Danger of crushing!				Pull out the mains plug
	Warning! Potentially explosive atmosphere!				Wear gloves

2.2. PERSONNEL QUALIFICATION

This documentation is intended for operating and setup personnel.

Operating personnel:

Have been trained to operate the lubricating pump. They can execute the machine operator functions and access the menus required to operate the machine. Machine operators may only perform tasks for which they have received adequate training and which they are fully able to perform.

Setup personnel:

Are specially trained and authorised for setup activities.
In addition, they are trained and instructed for activities within the scope of cleaning.

2.3. DUTIES OF THE OWNER

The owner must ensure that only authorised persons work with the machine.

2.4. PERSONAL PROTECTIVE EQUIPMENT

For certain work you need general protective equipment, which ensures your personal protection.
This must be provided by the owner of the machine.

3. GENERAL TECHNICAL DESCRIPTION

3.1. FUNCTION

When compressed air is applied to the piston chamber of the pneumatic piston, the piston assembly pushes the lubricant through the non-return valve into the lubrication line.

After the stroke, the lubrication line must be depressurised again so that the valves can return to their starting position and be prepared for the next stroke. The lubrication line is depressurised via the relief valve in the single piston pump.



If, for any reason, the pump is pressurised with excessively high pneumatic pressure, this could lead to component failure. To counteract this danger, the pump is equipped with a pressure relief valve. If the pressure in the system rises too high, the lubricant in the pump flows back into the tank via a bypass.

If the level in the tank reaches a defined minimum, this is detected by a level control, which signals a warning.

The fluid can be filled manually via the filler cap or via a filling nipple.

3.2. TECHNICAL DATA

General information	
Type	Single piston pump
Lubrication line connection	Pipe connection \varnothing 6 mm
Ambient temperature	0°C to 80°C
Filling	Manual
Installation position	Vertical
IP rating as per EN60529	IP 67
Weight	3,2 kg (1,2 l + 1,5 l tank) 3,3 kg (3,0 l tank)
Use	Single-line lubrication systems
Hydraulics	
Operating pressure	$P_{\text{Fluid}} = 9,5 \times (P_{\text{Air}} - 1,2)$
Pressure limitation	60 bar
Supply volume	10 cm ³ /stroke
Operating medium	Low-viscosity grease, mineral oil
Viscosity range	NLGI 000-0 (according to approval list for low-viscosity grease) 50-750 mm ² /s
Drive	
Type of drive	Pneumatic
Supply pressure	4 to 6 bar
Supply connection	G ¼

	 CAUTION
	The single piston pump generates a sound pressure level of approx. 65 dB(A).



NOTE

Specification of the weight on the transport packaging.
The pump weighs approx. 3.3 kg.



DANGER

Adjustment of various pressures on the pump is prohibited and constitutes misuse of the system.



DANGER

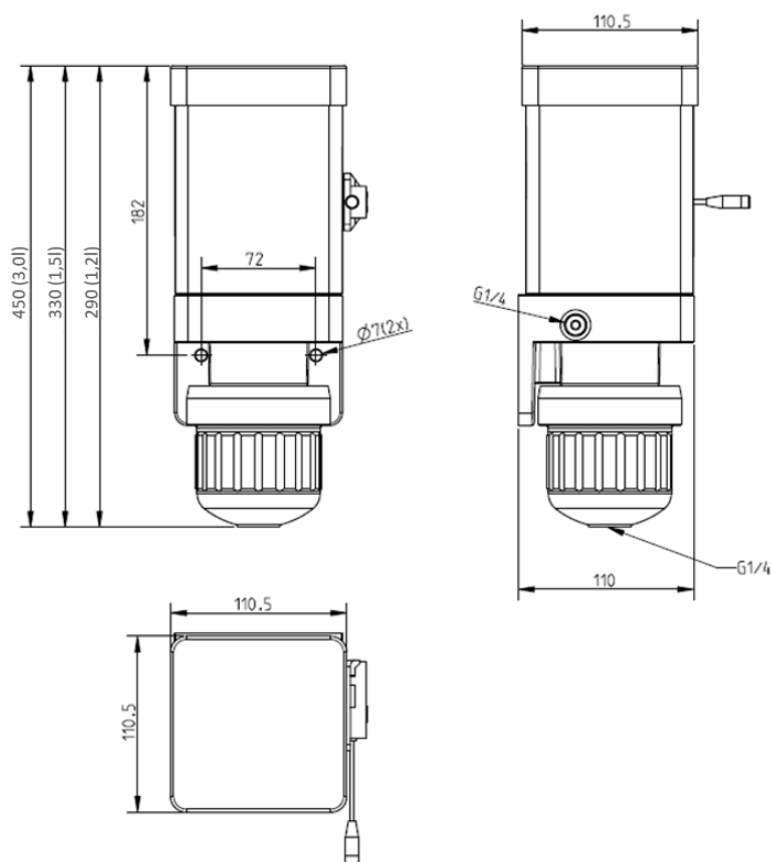
Handling lubricants can cause damage to health. The safety data sheet of the lubricant manufacturer must be observed.

Only suitable lubricants may be used. Unsuitable lubricants can lead to lubrication failure and thus to severe damage to the machine.

Foreseeable misuse is use of highly flammable, combustible fluids.

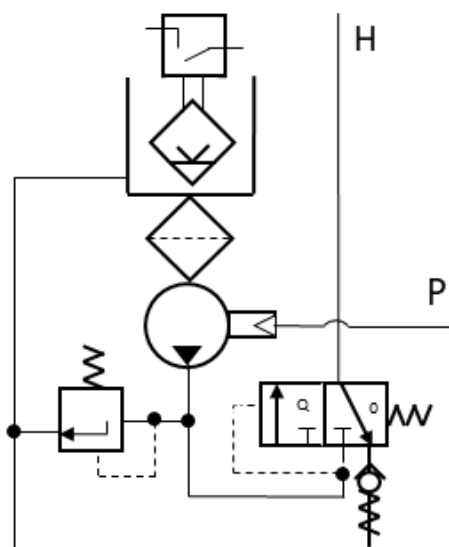
The permissible lubricating fluids are specified – the flash point of the lubricating fluids must be above 150°C.

3.3. DIMENSIONS



Exemplary representation

3.4. FLUID DIAGRAM



4. INSTALLATION

4.1. INSTALLATION OF THE LUBRICATING PUMP



NOTE

When handling hydraulic systems, attention should be paid to the standard of cleanliness typically observed in hydraulics!

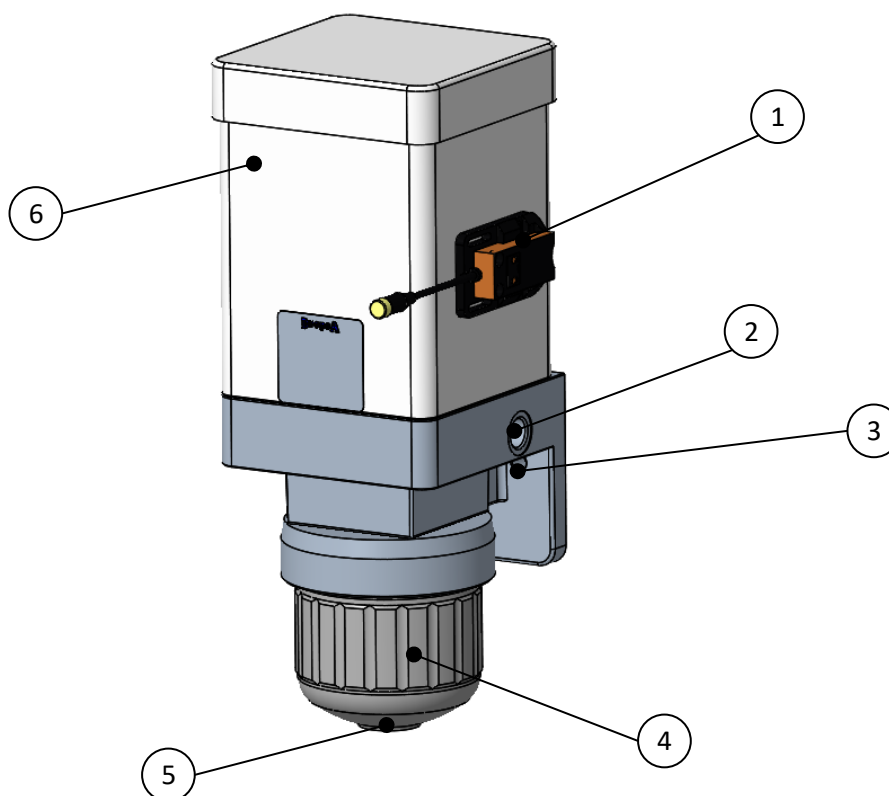




Figure 2 – Installation (exemplary representation)



Pos.	Assembly	Pos.	Assembly
1	Level control	4	Plastic cap
2	Lubricant outlet	5	Air supply
3	Fixing holes	6	Tank

Place the pump in its designated location and fasten it in position using the mounting holes.
Connect all hoses through which the lubricant reaches the lubrication point, the pump drive and the level control.
Once all hoses and cables have been attached, unscrew the cap of the pump and fill the tank with lubricant. Make sure that the tank is not overfilled.


The pump should be vented carefully by performing strokes. Vent the pump until the pump no longer expels air.



The lubricating pump must be mounted vertically ($\pm 5^\circ$) to the lubricant tank axis (see Figure 2: Installation dosing pump). It is attached via two through holes in the housing. Make sure that there is sufficient space above and to the side of the lubricating pump to fit the electrical connectors and fluid connections.

	<div data-bbox="683 696 738 745"></div> <div data-bbox="805 696 1007 741">WARNING</div> <p>Personal protective equipment – Wear protective goggles/face protection, protective gloves, ear protectors, safety helmet and safety shoes. Remove tight-fitting clothing, any jewellery such as rings, wristwatches, neck jewellery, etc.</p>
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	<div data-bbox="683 958 738 1008"></div> <div data-bbox="805 958 1007 1003">WARNING</div> <p>Route or lay hoses/cables so that they do not become a trip hazard. Attach to the machine frame etc. if necessary.</p>
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	<div data-bbox="683 1223 738 1272"></div> <div data-bbox="805 1223 1007 1267">WARNING</div> <p>Leakage of lubrication fluid must be removed immediately.</p>
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	<div data-bbox="683 1516 738 1565"></div> <div data-bbox="818 1516 994 1561">DANGER</div> <p>When working at a fall height of more than 0.5 m, use the appropriate climbing aids and working platforms.</p>
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	<div data-bbox="683 1778 738 1827"></div> <div data-bbox="818 1778 994 1823">CAUTION</div> <p>Minimum space or room required for movement: radius of approx. 1.5 m around the machine.</p>
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NOTE

Carry out the work on the single piston pump as ergonomically as possible. For example, the pump should be fastened at an ergonomically easily accessible height.

4.2. INSTALLATION OF THE LUBRICANT LINES

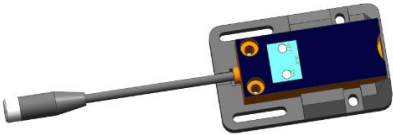
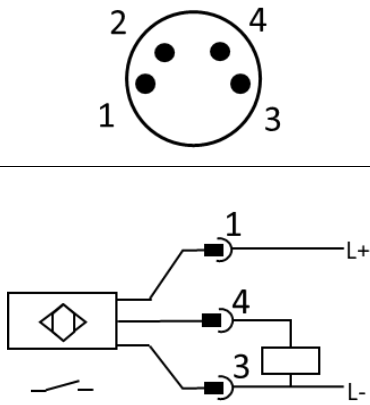
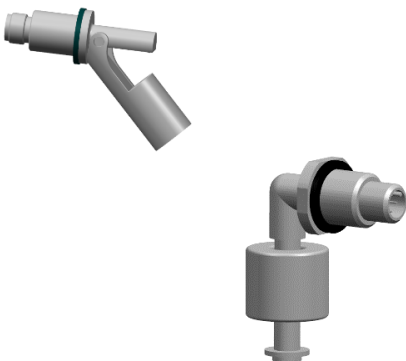
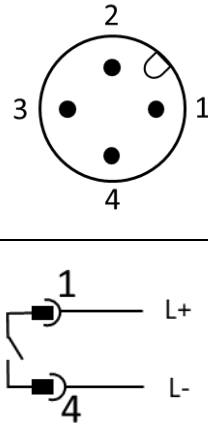
Insert the lubricant lines into the screw fitting and tighten the union nut by hand. Align the lubricant line so that it is not strained and tighten the union nut with 1.5 turns.



NOTE

The main lines must be vented during commissioning. If necessary, vent the pump without the main line. It is recommended to connect the lubrication lines to the lubrication point pre-filled.

4.3. ELECTRICAL CONNECTIONS

Level control sensors			
<p>Capacitive level control</p> 	Nominal voltage	24 V DC	
	Switching current	$\leq 100 \text{ mA}$	
	Current consumption (idle)	$\leq 17 \text{ mA}$	
	Connection	M8x1	
<p>Float switch</p> 	Nominal voltage	24 V DC	
	Switching current	$\leq 100 \text{ mA}$	
	Connection	M12x1	



DANGER

- The electrical voltage must match the specification on the rating plate.
- Only use approved fuses with the prescribed amperage.
- Immediately replace damaged electrical wiring using a qualified electrician!
- Follow the five golden rules of electrical safety.

5. CE DECLARATION OF CONFORMITY



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DICHIARAZIONE UE DI CONFORMITÀ/ EU DECLARATION OF CONFORMITY/

DÉCLARATION UE DE CONFORMITÉ/ EU-KONFORMITÄTSERKLÄRUNG / DECLARACIÓN UE DE CONFORMIDAD /

DECLARAÇÃO DE CONFORMIDADE UE

La società/ The society/ La société/ Die Gesellschaft/ La sociedad/ A sociedade : **DROPSA BM GERMANY GMBH**

con sede legale in/ registered office in/ au Siège Social à/ Sitz in/ con sede legal en/ com sede em: **FRICKENHAUSEN, SIEMENSSTR. 11**

DICHIARA sotto la propria responsabilità che il prodotto denominato:

DECLARES under its own responsibility that the product named:

DÉCLARE sous sa propre responsabilité que le produit nommé:

ERKLÄRT in eigener Verantwortung, dass das genannte Produkt:

DECLARA bajo su propia responsabilidad que el producto nombrado:

DECLARA sob sua própria responsabilidade que o produto denominado:

Single piston pump AB-P	
Descrizione/ Description/ Description/ Beschreibung/ Descripción/ Descrição:	Pompa di Dosaggio/Dosing Pump/Pompe doseuse/ Dosierpumpe/Bomba dosificadora/Bomba de dosagem
Versioni/Versions/ Versions/ Versionen/ Versiones/ Versões:	Dopo l'ottimizzazione tappo in plastica 2025/After optimization plastic cap 2025/ Après optimisation Capuchon en plastique 2025/ Nach Optimierung Kunststoffkappe 2025/ Tras la optimización Tapón de plástico 2025/ Após otimização Tampa de plástico 2025
Codici/ Part Number/ Codes/ Teile Nummer / Códigos/ Códigos:	P30011535 – P30011659

(IT) è conforme alle seguenti Direttive UE e Norme armonizzate
(EN) complies with the following EU Directives and Harmonized Standards
(FR) est conforme aux directives de l'UE et aux normes harmonisées suivantes
(DE) entspricht den folgenden EU-Richtlinien und harmonisierten Normen
(SP) cumple con las siguientes directivas de la UE y estándares armonizados
(PT) está em conformidade com as seguintes Diretivas da UE e Padrões Harmonizados

2006/42/CE Direttiva macchine/Machinery directive/Directive machines/ Maschinenrichtlinien/ Maquinaria/ Diretiva para máquinas;

EN 60204-1:2018, EN ISO 12100-2010, DIN EN ISO 4413, DIN EN ISO 4414



72636 Frickenhausen 02/2025

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Walter Divisi

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Bankverbindung: VR Bank Hohenneuffen-Teck eG – BIC/SWIFT: GENODE33HAN, IBAN: DE06 6126 1339 0123 1640 01

6. UK DECLARATION OF CONFORMITY



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www.dropsa.com



UK DECLARATION OF CONFORMITY

The society: **DROPSA BM GERMANY GMBH**
registered office in: **SIEMENSSTRASSE 11; / 72636 FRICKENHAUSEN (GERMANY)**

DECLARES under its own responsibility that the product named:

Single piston pump AB-P	
Description:	Single piston pump AB-P
Versions:	After optimization plastic cap 2025
Part Number:	P30011535 – P30011659

complies with the following UK Legislations and Standards

UK SI 2018 Nr 1597 Supply of Machinery (Safety) Regulations 2008

BS EN 60204-1:2018 - Safety of machinery. Electrical equipment of machines. General requirements
BS EN ISO 12100:2010 - Safety of machinery. General principles for design. Risk assessment and risk reduction
BS EN ISO 4413:2010 – Hydraulic fluid power
BS EN ISO 4414:2010 – Pneumatic fluid power

The person authorized to compile the Technical File at Dropsa S.P.A.

**UK
CA**

72636 Frickenhausen 02/2025

Technical Director:





Walter Divisi

Authorized signatory

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7. MAINTENANCE

Regular and proper service is required to maintain operability of the lubrication system. Maintenance work may only be carried out by appropriately qualified personnel. Safety, reliability and service life of the lubrication system significantly depend upon proper execution. Damage attributable to improper maintenance and servicing shall be borne by the party causing the damage. Maintenance work on the pumps may only be carried out by Dropsa BM Germany. The customer is not permitted to carry out maintenance or other repairs itself. Dropsa BM Germany accepts no liability or warranty for this.

	<div data-bbox="379 609 1444 667">  WARNING </div> <p>Enclosed hydraulic pressure in the pump. Vent the pump before starting maintenance and repair work.</p>
	<div data-bbox="379 808 1444 866">  WARNING </div> <p>All screw connections must be checked regularly for tightness. If necessary, retighten the screw connections.</p>

7.1. CLEANING

Regular servicing and cleaning are essential for reliable and safe operation. The maintenance intervals depend on the operating and ambient conditions and on the daily operating time. The lubrication system must be cleaned regularly from the outside, depending upon the degree of fouling.

7.2. SPARE PARTS

Genuine spare parts for the lubrication system can be obtained from Dropsa BM Germany.

7.3. STORAGE





When storing the lubrication system, always close all open connections. Store in a clean and dry location.

8. DECOMMISSIONING

The personnel charged with dismantling and disposal must be sufficiently qualified and authorised for this activity. They must be familiar with the relevant national and regional regulations concerning waste disposal.




8.1. DISMANTLING

Depending on the version and the installed components of the lubrication system, all operating materials, such as oils and fluids, must be drained as far as possible. The individual components are to be dismantled with the help of the assembly instructions.

	<div data-bbox="683 481 737 533"></div> <div data-bbox="810 481 1005 526">WARNING</div> <p>Danger! Electric shock hazard! Risk of danger to life! Disconnect the lubrication system from all electrical interfaces before any service and maintenance activities, and check whether they are de-energised.</p>
	<div data-bbox="670 680 724 732"></div> <div data-bbox="826 680 992 725">DANGER</div> <p>Hydraulic overpressure! Serious injuries! Before any service and maintenance activities, switch off the lubrication system's hydraulic pressure generator and check that it is free of pressure.</p>

8.2. DISPOSAL

Pay attention to environmental compatibility, health risks, waste disposal regulations and the local possibilities for disposal in accordance with applicable legislation. Detailed information can be obtained from the appropriate authority. All operating materials, in particular oil, greases, lubricants and condensates must be disposed of in accordance with the applicable national and regional regulations.

<div data-bbox="651 1122 705 1173"></div> <div data-bbox="742 1122 849 1167">NOTE</div> <p>You may find oil, grease, lubricants, condensates or similar substances in all tanks, pipelines and valves of the lubrication system.</p>
<div data-bbox="651 1279 705 1330"></div> <div data-bbox="742 1279 849 1323">NOTE</div> <p>All tanks, lines and valves must be drained so there are no residual quantities of liquids requiring disposal!</p>
<div data-bbox="651 1435 705 1487"></div> <div data-bbox="742 1435 849 1480">NOTE</div> <p>You are responsible for compliance with the applicable environmental protection laws and regulations; if required, the components, including electronic components, must be disposed of in an environmentally responsible manner by specialists!</p>

9. SCOPE OF VALIDITY

P30011535 – P30011659 (AB-P)

10. PRODUCT MONITORING

Dropsa BM Germany is very interested in monitoring its products even after delivery. Please share with us your experiences with the products.

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