HG-1000/2000

HYDRAULIC LUBRICATION DEVICE

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Read this manual before installing or commissioning the product and keep it at hand for later reference.

Read these operating instructions before installation and commissioning.

Only a professional is allowed to complete the installation and make electrical connections.
Failure to observe warnings or cautions - as well as non-compliance with the instructions - will result in loss of warranty claim or equipment liability.

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For more information about your local dealer, see SKF.com

Disclaimer
The manufacturer does not accept any liability for any damage caused by the following actions by the customer:
• Negligent or inappropriate use, assembly, operation, configuration, maintenance or repairs, or accidents;
• Improper or late response to malfunctions;
• Unauthorised alterations of the product, negligence or wilful violation.
• The use of non-original (non-SKF) spare parts.
SKF's liability for damage resulting from the use of products is limited to the maximum purchase price. Liability for consequential damages of any kind is excluded.

1. Safety alerts, visual presentation, and layout

While reading these instructions, you will encounter various symbols, illustrations, and text layouts intended to help you navigate and understand the instructions.

Safety alerts:
Activities that present specific hazards (to life and limb or possible damage to property) are indicated with safety alerts. Always be sure to follow the instructions given in the safety alerts.

⚠ WARNING
These safety alerts indicate a direct and imminent danger. Ignoring them could result in death or serious injury.

⚠ WARNING
These safety alerts indicate a potential danger. Ignoring them could result in death or serious injury.

⚠ WARNING
These safety alerts indicate a potential danger. Ignoring them could result in minor injury.

CAUTION
These safety alerts indicate a potentially harmful situation. Ignoring them could result in damage to property or malfunctions.

NOTE
These notes indicate what should be taken into account in the various sections of the guide.

2. Product markings

2.1 Type plate

The nameplate is attached to the body of the lubrication device.

The type plate contains important information, such as the type designation, date of manufacture and performance-related information. To avoid loss of this information in case the type plate becomes illegible, it should be entered in the manual.

Information on the type plate:
.....
.....
.....
.....

2.1 Note on China RoHS marking

The China RoHS marking confirms that there is no danger to persons or the environment from the regulated substances contained within the intended period of use (number in the circle) of the product.

3. Safety instructions

3.1 Intended use

This product is only intended to be used as a component in a central lubrication system.
Use is only permitted within the scope of commercial or economic activity by professional users, in compliance with the specifications, technical data, and limits specified in this manual. Unauthorized changes to the product are prohibited.

3.2 User's responsibilities

The product should only be used with awareness of the potential risks, in an appropriate technical condition and in accordance with the information in the operation instructions. It is the responsibility of the user to maintain and ensure the legibility of all safety/instruction signs. These operation instructions must always be available to persons working with the product. Always read and follow the lubricant manufacturer's safety data sheet and recommendations for lubricant compatibility and the use of protective equipment. In addition to these instructions, the general statutory regulations on accident prevention and environmental protection must be observed.

3.3 Delivery/receipt

After receipt of the shipment, check the shipment for transport damage and completeness by comparing it to the shipping documents. Immediately report any damage suffered in transport to the forwarding agent. Keep the packaging material until any discrepancies are resolved.

⚠ WARNING

Always comply with the lifting and transport markings on the packaging to eliminate the risk of injury and damage.

3.4 Installation and operation

⚠ WARNING

Only start installing the product after you have read and fully understood the safety instructions and this manual.

Local safety regulations for installation, operation and maintenance must be observed.

- Keep unauthorized people away.
- Always use personal protective equipment. Appropriate personal protective equipment must be used to prevent lubricants from splashing onto the skin or into the eyes.
- Always disconnect the power source (electrical, pneumatic, or hydraulic) from the product during installation or when not in use, and ensure that it cannot be accidentally switched on (lock and tag).
- Electrical work must be carried out only when the device is de-energized and using insulated tools suitable for electrical work.
- Only make connections according to the wiring diagrams.
- Only original SKF spare parts and SKF accessories may be used with the product.
- Check after installation, and before the first commissioning that all cables, connections and protective devices are properly secured.

3.5 Inspections, maintenance and cleaning

- Perform maintenance and inspections in accordance with the instructions provided in this manual. Note that maintenance intervals may be shorter in challenging applications.
- We recommend annual inspections by the nearest factory-authorised warranty and maintenance centre.

⚠ WARNING

When you clean electric devices, only use non-flammable detergents designed for electric components and take the device IP class into consideration.

3.6 Damaged equipment

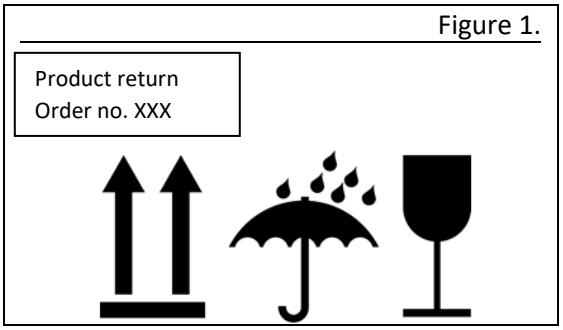
⚠ WARNING

Do not use a device that appears to be damaged, severely worn, or operating abnormally!
Disable the device and contact SKF or an authorized dealer.

3.7 Return consignments

Before returning the product, all dirty parts must be cleaned. However, if this is not feasible or practical, for example, because it would prevent the detection of the defect in connection with a complaint, the transport company must be notified of the chemical used.
On return consignments, at least the following information must be marked on the packaging:

Figure 1.



Marking of return consignments

3.8 Storage

SKF products are subject to the following storage conditions:

- Storage indoors in a dry, vibration-free environment with a low level of dust and ambient temperate of a room temperature.
- No corrosive, aggressive substances or factors permitted in the storage space (e.g. UV radiation, ozone)
- Keep the products in the original, unopened packaging before the first use.
- If temperature fluctuations or humidity in the storage space are significant, take the appropriate steps to prevent condensation.
- For long-term storage or in corrosive storage conditions, consider the use of anti-corrosion materials (VCP).

CAUTION

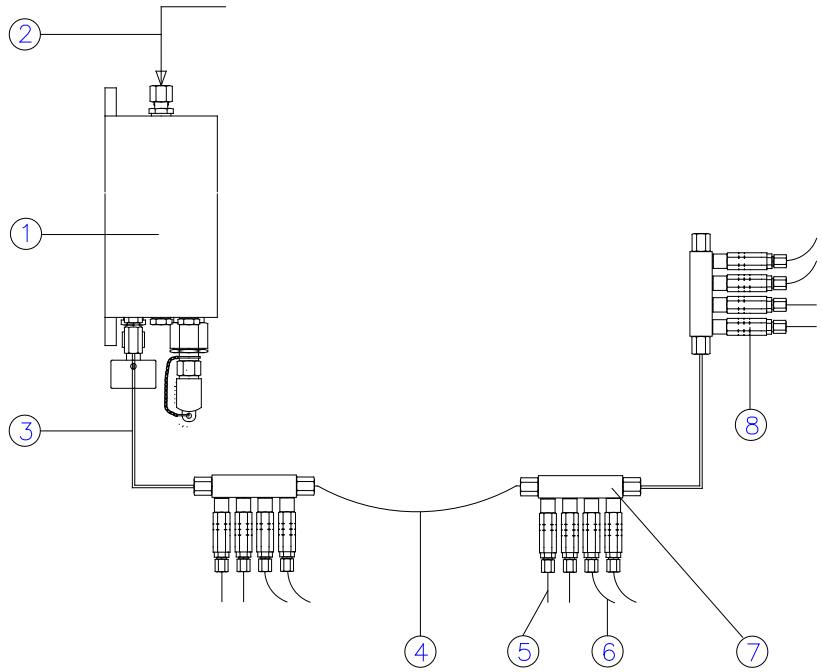
Inspect the products before use for any damage that may have occurred during storage. This applies especially to plastic components (as they may become brittle).

4. General description of HG lubrication system

SKF HG is a single-line centralised lubrication system in which lubricant is pumped using a pump (1) through piping (3 & 4) to dosers (8). The lubrication dose to the lubrication site is determined by selecting a doser of a suitable size or, if an adjustable doser is used, by adjusting it to the desired dose size. The dosers feed the specified doses to the lubrication sites each time the hydraulic system (2), to which the HG pump is connected, is pressurized.

The hydraulic HG is a central lubrication system developed to enable automated, low-cost central lubrication of machines and auxiliaries using hydraulics. With the hydraulic lubrication device, central lubrication can be arranged for e.g. removable cranes, small forklifts and tail lifts.

Figure 1, Example of HG lubrication system.

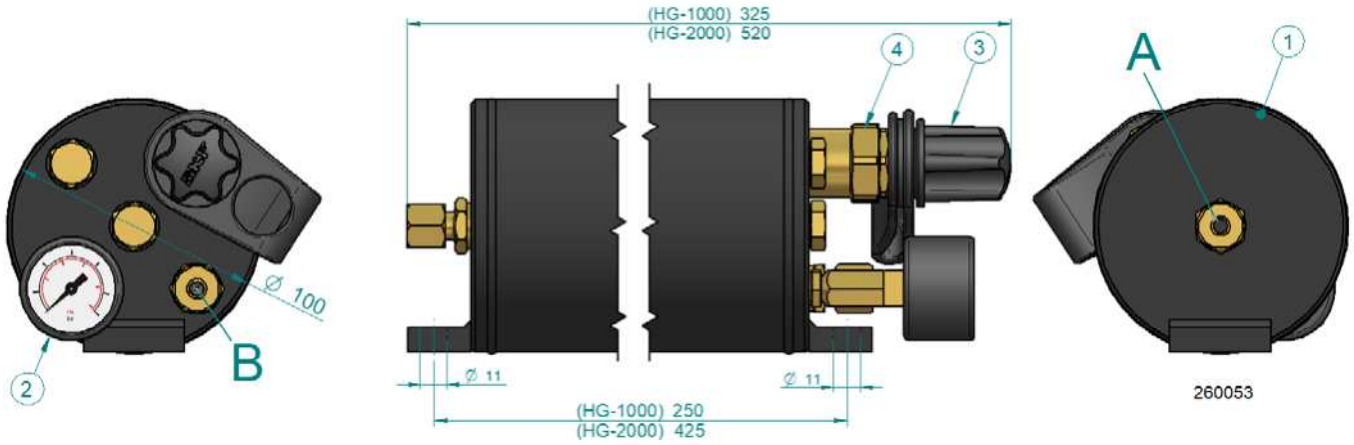


1. Hydraulic lubrication device HG1000 or HG2000
2. Operating pressure
3. Header tube Ø8x1
4. Header hose R 1/4” or canvas hose 8/4
5. Lubrication hose Ø 4x1
6. Canvas hose 8/4
7. Mounting rail
8. B doser

5. Structure, dimensions & spare parts

The HG lubrication device consists of a reservoir (1) with a piston inside to separate the hydraulic and lubricant sides, a pressure gauge (2) and a filling connection with a filter (4 & 3). The lubrication device has connections for hydraulics (A) and lubrication (B). The hydraulic connection is connected to the hydraulics of the machine being lubricated and supplies power to the lubrication unit.

Figure 2, Structure & dimensional drawing



A Hydraulic connection for Ø8 pipe

B Lubricant outlet for Ø8 pipe

Part	Title	Spare part code	Number of items
1	Reservoir		1
2	Pressure gauge	12600850	1
3	Filling connection	11770460	1
4	Filling connection filter 250 micr	11770415	1

6. Operation

The lubrication device's operating pressure is taken from the lubricating device's hydraulics. For example, in ta crane, the hydraulics of the support leg spreading system, so that whenever the support legs are used, the lubrication of the crane's lubrication sites is carried out automatically. As the hydraulic pressure rises, the piston inside the lubrication device moves, pushing the lubricant along the pipeline to the dosers, from where it is distributed to the lubrication site. The lubrication cycle ends when the hydraulic pressure decreases, which also lowers the grease pressure, allowing the dosers to recharge. The increase and decrease in the lubrication pressure and the amount of grease can be seen from the pump unit's pressure gauge.

⚠ WARNING

Never exceed the product's maximum operating pressure of 150 bar. Using the product with too high a hydraulic pressure may damage the product and put the user's safety at risk.

⚠ WARNING

Check with the representative of the device to be lubricated where the hydraulic connection to the HG pump can be made safely, without compromising the operation of the actuator.

7. Technical specifications and labelling

	HG-1000 / 2000
Reservoir volume	1.0 L (HG-1000) 2.0 L (HG-2000)
Pressure ratio	1:1
Operating pressure	50-150 bar
Lubrication line connection	Ø8
Lubricant	NLGI 0 - 2
Weight (full reservoir)	7.5 kg (HG-1000) 10.6 kg (HG-2000)
Height	100 mm
Width	325 mm (HG-1000) 520 mm (HG-2000)
Depth	100

Legend

HG-xxxx	**Abbreviation**	**Description**	**Code**
HG-1000 pump	HG-1000	Hydraulic lubrication device, 1,000 g tank	11390060
HG-2000 pump	HG-2000	Hydraulic lubrication device, 2,000 g tank	11390070

8. Installation

8.1 General information

Only qualified technical personnel may install the products described in these Instructions.
During assembly, pay attention to the following:

- Be careful not to damage other devices during installation.
- The product must not be installed within the range of moving parts.
- The product must be installed at an adequate distance from sources of heat and cold.
- Observe the product's IP protection class when selecting the installation position.
- Adhere to safety distances and legal prescriptions on assembly and prevention of accidents.
- Make sure that MIN/MAX reservoir markings, the low level switch indicator and other visual indicators of the pump are fully visible.

CAUTION

Only drill the necessary mounting holes at non-critical points on the device to be lubricated. Use existing holes where possible.

⚠ WARNING

Risk of slipping

Be careful when handling lubricants. Immediately clean any spilled lubricants.

8.2 Mounting location and mounting

Protect the product against humidity, dust and vibrations and install it in an easily accessible position to ensure all other installation work can be carried out without any problem.

The HG lubrication device is attached to the device being lubricated with **M10: 8.8** mounting bolts, the length of which is determined by the mounting location. The recommended torque is **49 Nm**.

⚠ WARNING

Ensure that the lubrication device is mounted securely on the device being lubricated using mounting bolts of the correct size and the specified tightening torques.

8.3 Minimum assembly dimensions

Make sure there is sufficient space for product maintenance and possible disassembly by adding a clearance of at least 50 mm to each of the stated dimensions.

9. Commissioning

9.1 Inspections prior to initial commissioning

	YES	NO
Mechanical connections have been carried out correctly.	□	□
The performance data of the previously indicated connections corresponds to the specifications stated in the chapter Technical data.	□	□
All components, such as lubrication lines and metering devices, have been correctly installed.	□	□
There is no visible damage to the product.	□	□
Any dismantled safeguards and other emergency and monitoring equipment have been reassembled and checked for correct function.	□	□
All the markings related to the safety of the product are in place and in good condition.	□	□
9.2 Inspections during initial start-up		
No unusual noise, vibrations, condensation or odours present	□	□
No unwanted escape of lubricant from connections (leaks)	□	□
Lubricant is supplied free of air bubbles	□	□
The lubrication dose of the lubrication sites is correct.	□	□

10. Filling the HG lubrication device's reservoir

CAUTION

Do not fill the reservoir without a filling connector filter.
Clean the filling connector filter regularly and replace if necessary.

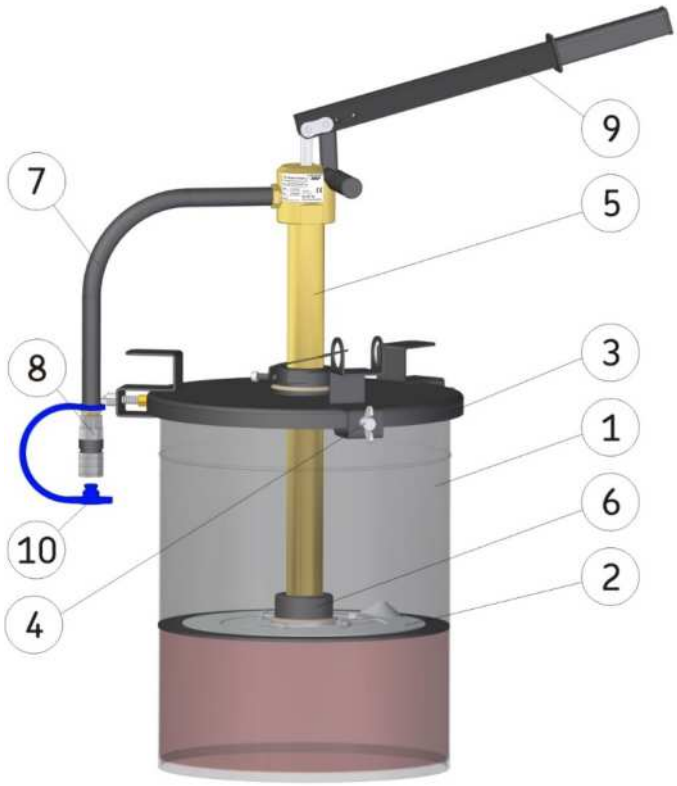
CAUTION

The SKF handheld refill device with a follower plate is used for NLGI 1-2 greases.
The follower plate cannot be used with NLGI 0 greases!

CAUTION

Ensure that the hydraulic line to the lubrication device is not pressurized when filling. It is not possible to fill the reservoir with grease against the hydraulic pressure.

Figure 3, a refill device equipped with a follower plate for NLGI1-2 greases



1. Ensure that the surroundings of the pumping unit are clean. Impurities in the system interfere with smooth operation and cause damage to the lubricated area.

2. Remove the lid from the lubricant drum (1) and press the follower plate (2) firmly on top of the lubricant in the drum. (The follower plate should not be used with liquid lubricants as it will not stay afloat)

3. Place the lid (3) on top of the lubricant drum. Use wing screws (4) to fasten the lid to the lubricant drum.

4. Insert the pump (5) through the lid into the sleeve (6) of the follower plate.

5. Connect the lubricant hose (7) to the pump.

6. Fill the lubricant hose by pumping manually.

7. Connect the quick connector (8) to the lubricant hose.

8. Connect the quick connector to the filling connector of the refillable lubrication device.

9. Fill the lubricant reservoir by pumping slowly by hand.

10. The filling of the lubricant reservoir can be monitored from the pressure gauge on the lubrication device. when the figure on the pressure gauge increases, the reservoir is full and filling can be stopped

11. To release pressure from the filling hose, turn the filling device’s handle (9) to the upright position to release pressure back into the filling device barrel.

12. Disconnect the quick connector from the lubrication device’s filling connector.

13. Attach the filling connector's protective cap

14. Fasten the protective cap (10) onto the filling device’s quick connector.

11. Maintenance

Faults can be detected and cleared in time only if maintenance is conducted regularly and appropriately. The specific timelines have to be determined, verified at regular intervals and adapted, if necessary, by the operator based on the operating conditions. Regular maintenance activities have been described in the table below. If required, take a copy of the table for your reference.

Maintenance inspections	YES	NO
The mechanical connections are intact.	□	□
The performance data of the previously indicated connections corresponds to the specifications stated in the chapter Technical data.	□	□
Lubrication lines, metering devices and other parts function correctly.	□	□
There is no visible damage to the product	□	□
Any dismantled safeguards and other emergency and monitoring equipment have been reassembled and checked for correct function.	□	□
All the markings related to the safe operation of the product are in place and in good condition.	□	□
No unusual noise, vibrations, condensation or odours present	□	□
No unwanted escape of lubricant from connections (leaks)	□	□
Lubricant is supplied free of air bubbles	□	□
The lubrication dose of the lubrication sites is correct.	□	□

12. Cleaning

12.1 General

in the performance of cleaning work and the selection of personal protective equipment, cleaning agents and equipment and
personal protective equipment, the operator's work instructions must be complied with. Only cleaning agents that are compatible with the manufacturing materials may be used for cleaning. Remove any detergent residue from the product completely and then rinse the product with clean water. Keep unauthorized people away.

12.2 Exterior cleaning

• Mark and secure wet areas.

• Prevent unauthorised access.

• Clean all outer surfaces thoroughly with a damp cloth.

• Do not allow cleaning fluid to enter the product during cleaning.

⚠ WARNING

Contact with substances hazardous to health or exposure to such substances by inhalation may result in serious injury.

Wear personal protective equipment. Comply with the safety data sheet for a substance hazardous to health. Avoid contaminating other objects or the environment as a result of cleaning.

12.3 Cleaning the filling connector filter

1. Make sure there is no pressure in the hydraulic pressure line before removing the grease filter.
2. Clean the grease filter and the filter cartridge (Fig. 4, pos. A), or replace the filter cartridge if necessary.
3. Perform a test run of the pump by pressurizing the lubricating device's hydraulic system.

Figure 4. Filling connection

13. Troubleshooting

⚠ WARNING

Before investigating the following malfunctions, turn off the hydraulics of the lubricating device and make sure that the hydraulics line to the lubricating device is unpressurized. Release pressure from the lubrication line leaving the pump. Any residual pressure in the system when opening or disconnecting components may cause components to be thrown or lubricant to spray, causing injury to people or damage to the environment.

13.1 Troubleshooting table

Description of malfunction	**Cause of malfunction**	**Solution**
No grease comes from the lubrication device	The reservoir is empty	Fill the reservoir with grease as instructed
	There is no hydraulic pressure to the lubrication device or the pressure is too low	Check that the hydraulics of the device being lubricated are on and working correctly
Lubrification device's reservoir does not fill up	The hydraulic line to the lubrication device is pressurized, preventing grease from being pumped	Ensure that the lubrication device's hydraulic line is not pressurized when filling
Lubricant leaks from the lubrication device's connectors	Connectors are loose or damaged	Check the condition of the connectors and tighten if necessary

14. Appendices

14.1 China RoHS Table

部件名称 (Part Name)	有毒害物质或元素 (Hazardous substances)					
	铅 Lead (Pb)	汞 Mercury (Hg)	镉 Cadmium (Cd)	六价铬 Hexavalent Chromium (Cr(VI))	多溴联苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
用钢和黄铜加工的零件 (Components made of machining steel and brass)	X	O	O	O	O	O

本表格依据SJ/T11364的规定编制 (This table is prepared in accordance with the provisions of SJ/T 11364.)

O：表示该有毒有害物质在该部件所有均质材料中的含量均在GB/T 26572 规定的限量要求以下。
(Indicates that said hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement of GB/T 26572.)

X：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出GB/T 26572标准规定的限量要求。
(Indicates that said hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement of GB/T 26572.)