



User Manual

VP2500L

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1 Manual Disclaimer

This Manual and its instructions and information do not purport to cover all details or variations of the device and do not claim to provide for every possible contingency met in connection with handling, installation, operation, or maintenance. Sumitomo Drive Technologies does not make any representations, warranties or guarantees, express or implied, as to the accuracy or completeness of the Manual. Users must be aware that updates and amendments will be made from time to time to the Manual. It is the user's responsibility to determine whether there have been any such updates or amendments. Neither Sumitomo Drive Technologies nor any of its directors, officers, employees or agents shall be liable in contract, tort or in any other manner whatsoever to any person for any loss, damage, injury, liability, cost or expense of any nature, including without limitation incidental, special, direct or consequential damages arising out of or in connection with the use of the Manual. The user and/or purchaser bears all risks. Should further information be desired or should particular problems arise which are not covered sufficiently for the users' and/or purchaser's purposes, the matter should be referred to in writing to Sumitomo Drive Technologies.



Warning: Read and understand all instructions and information prior to any handling including maintenance, installing or starting the device. Failure to follow instructions could lead to damage, serious injury, or death.

- Only qualified and trained personnel should be involved with the storage (including transport), commissioning, operation, installation (including removal), inspection, maintenance and repairs of this device.
- Make sure all your personnel and operators of this device have been professionally and adequately trained for safe working practices.
- Operators must wear adequate personal protective equipment.
- Ensure all international, EU, national and local safety regulations and codes are followed when handling, maintaining, installing (including all related actions) the device.
- Verify the compatibility of the device with the installation it is meant for.

2 About this document

2.1 Function of the document

The document is only applicable for the "VP2500L", from here on in the document referred to as the device.

The document is for approved users and gives the information that is necessary to do these tasks:

- Installation
- Commissioning
- Operation
- Maintenance

2.2 Language

The original instructions of this document are in English. All other language versions are translations of the original instructions.

If there is any doubt, the English version of the document is binding.

2.3 Illustrations

It is not always possible to show the configuration of your device as in the certified drawing. The illustrations in this document show a typical setup. They are for instruction or description only.

2.4 Use of steps, lists and titles in this document


- The steps in procedures have numbers (123) if the sequence is important.
- The lists and steps with bullets (•) are used if the sequence is not important.
- The lists with letters (abc) are used if the sequence is important.



2.5 How to use this document

Procedure

1. Make sure that you know the structure and the contents of the related documents.
2. Read the safety chapter and make sure that you know all the instructions.
3. Do the steps in the procedures fully and in the correct sequence.

2.6 Warnings, cautions and notes used in the document

Symbol	Type	Description
	Warning	If you do not follow the instruction, this can cause injury.

Symbol	Type	Description
	Caution	If you do not follow the instruction, this can cause damage to the device or to property.
	Note	A note gives more data.

2.7 Related documents

Document name	Target audience
User Manual LM2 Gears CMS	Approved users

2.8 Storage of this document and the related documents

This document and the related documents are a part of the device.

- Make sure that you keep the document and the related documents in a dry and clean location.
- Make sure that the document and the related documents are available to all personnel.

2.9 Abbreviations

Abbreviation	Description
S.D.T.	Sumitomo Drive Technologies
CMS	Condition Monitoring System

2.10 Customer support

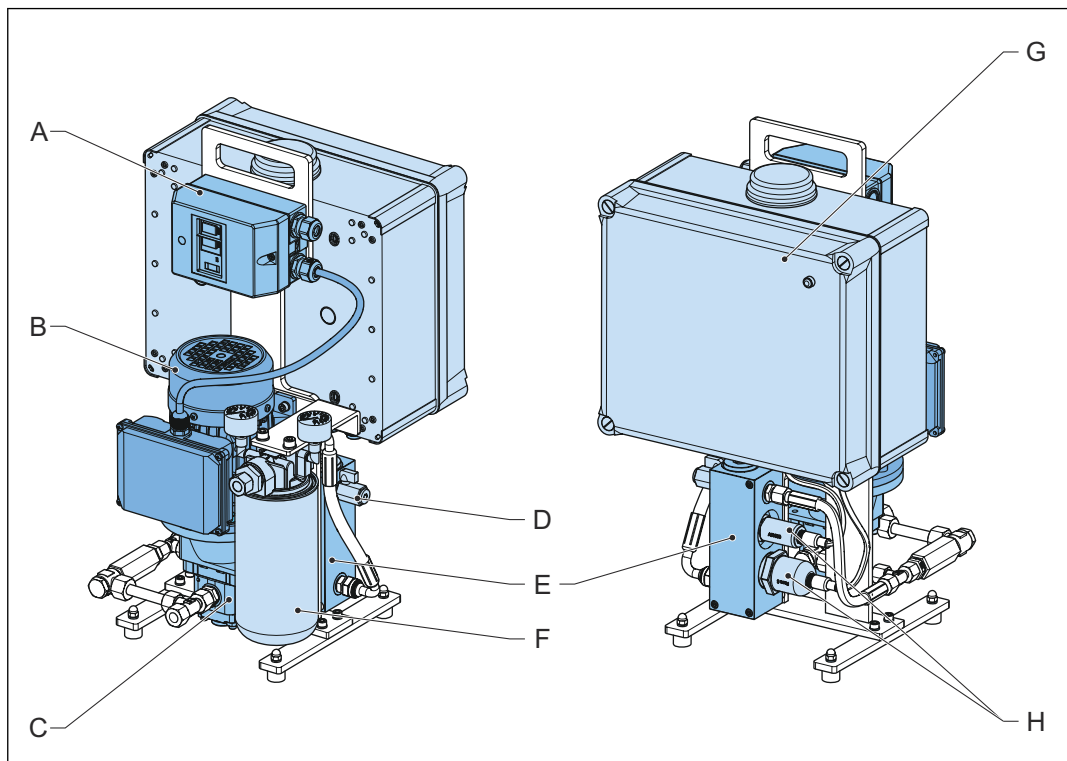
- If more information is necessary, speak to S.D.T.
- Give the serial number to S.D.T. Refer to the type plate.

3 Description

3.1 Intended use

Only use the device to move oil through a manifold with sensors as specified in this document. Do not use the device for other applications.

3.2 Overview and function of the device



- A Switch box
- B Electric motor
- C Oil pump
- D Sample point
- E Manifold
- F Filter
- G LM2 Gears CMS
- H Sensors

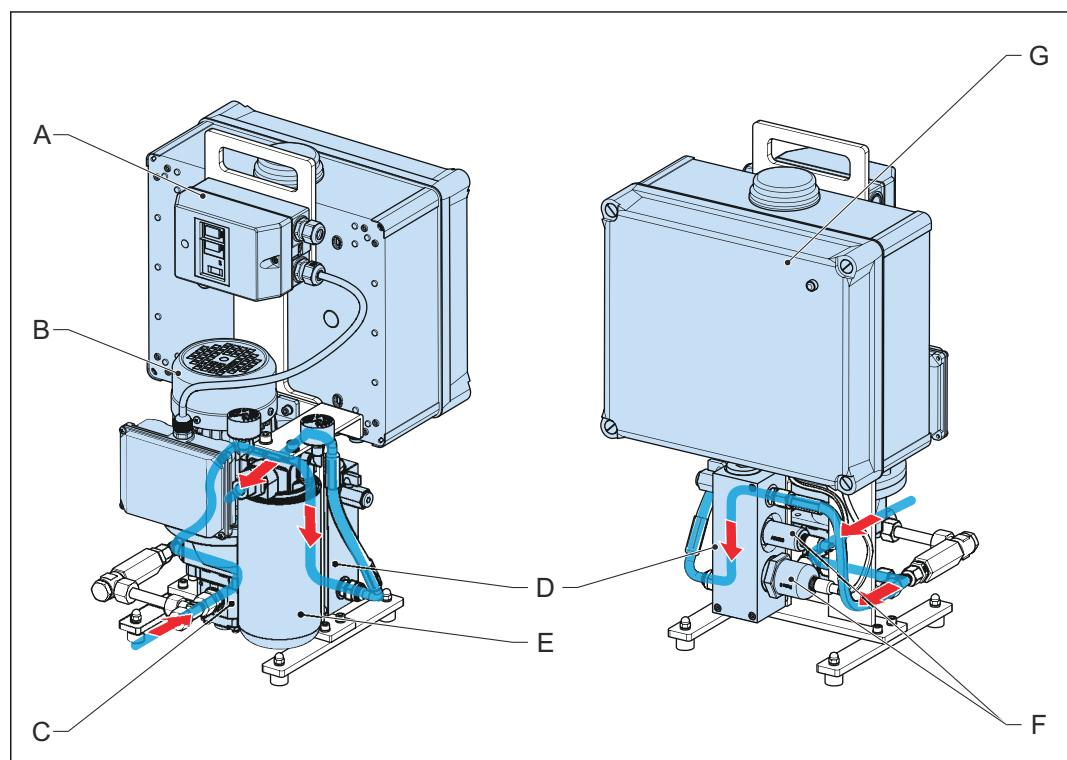
Part	Function
Switch box	To control the electric motor.
Electric motor	To operate the oil pump
Oil pump	To move the oil through the device

Part	Function
Sample point	To get an oil sample
Manifold	To hold the sensors
Filter	To clean the oil.
LM2 Gears CMS	To remotely monitor the condition of the oil. For more information on the LM2 Gears CMS, refer to the user manual of the LM2 Gears CMS.
Sensors	To measure the condition of the oil. For more information on the sensors, refer to the user manual of the LM2 Gears CMS.

**Note:**

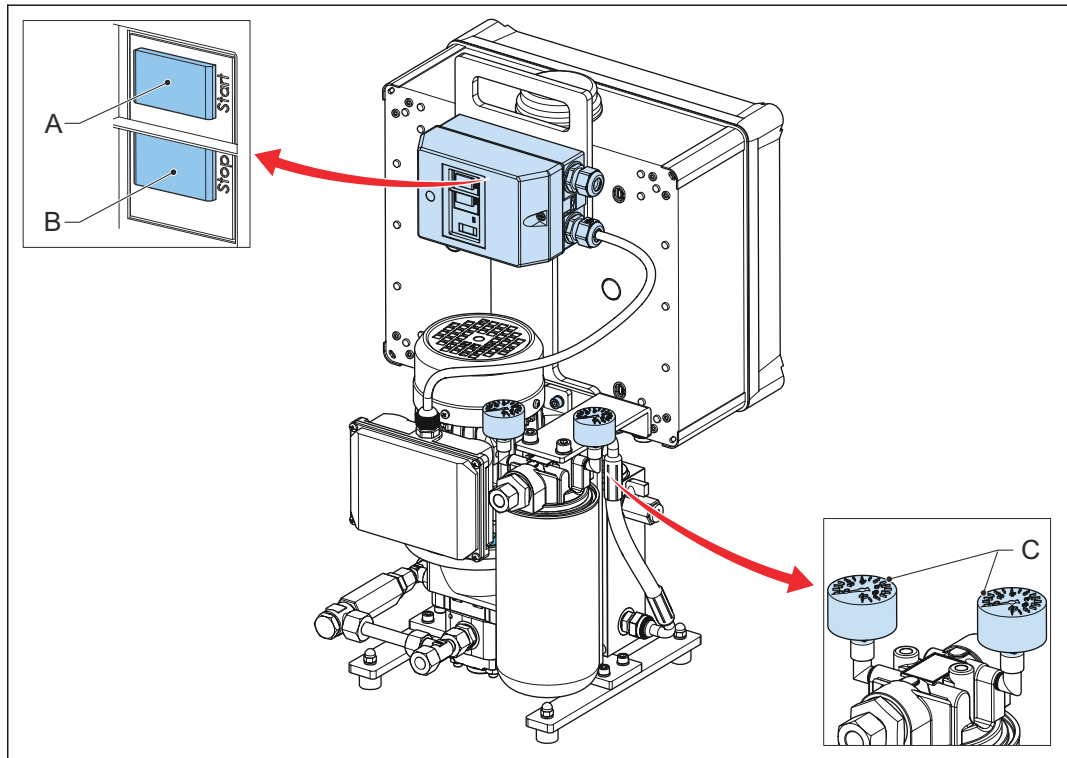
- The LM2 Gears CMS and the sensors are not part of the device and are available separately.
- To connect the device to a power socket, a cable with a European connection (DIN 49440-1, 2006) is provided. Use an adapter if your connection is different.

3.3 Working principle



The switch box (A) controls the electric motor (B). The electric motor drives the oil pump (C). The oil pump moves the oil through the manifold (D) and the filter (E). The manifold contains sensors (F) that are connected to the LM2 Gears CMS (G) to monitor the condition of the oil.

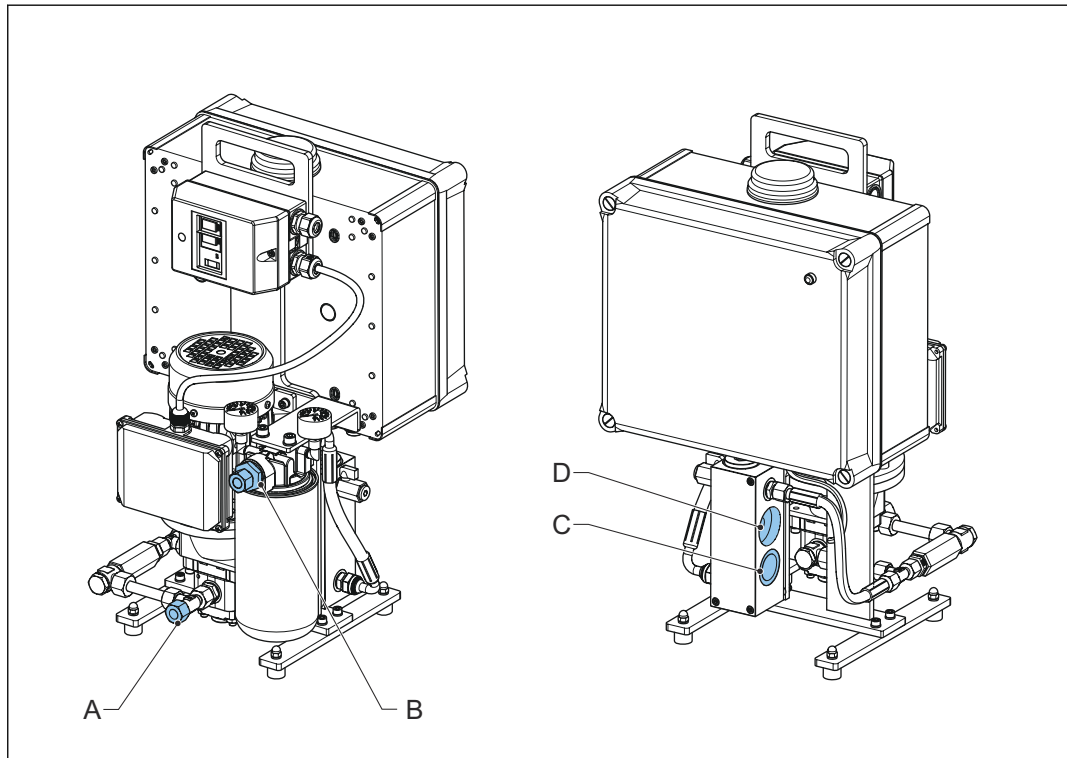
3.4 Overview of the controls



- A Start button
- B Stop button
- C Manometers for the saturation of the filter

Control	Function
Start button	To start the device
Stop button	To stop the device
Manometers for the saturation of the filter	To show the saturation of the filter. <ul style="list-style-type: none"> • During correct operation, the difference in pressure between the two manometers must be less than 1 bar. • When the difference in pressure is 1 bar or more, change the filter. Refer to section Change the filter on page 27.

3.5 Overview of the connections

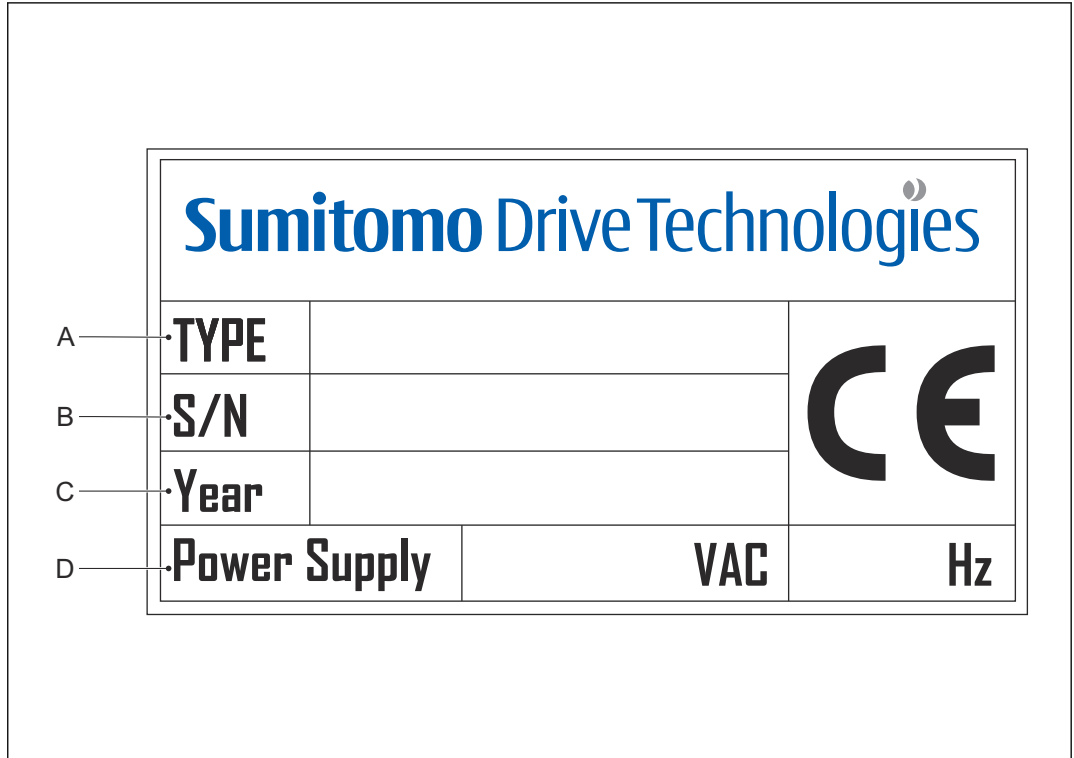


- A Oil inlet
- B Oil outlet
- C Position for the wear indicator sensor
- D Position for the water saturation - oil temperature sensor

Connection	Function
Oil inlet	To let oil into the device
Oil outlet	To move oil from the device
Position for the wear indicator sensor	To hold the wear indicator sensor
Position for the water saturation - oil temperature sensor	To hold the water saturation - oil temperature sensor

3.6 Type plate

The type plate gives information about the device.



- A Device type
- B Serial number
- C Year of production
- D Device power supply

4 Safety

4.1 Restrictions



Warning: If you use the device in ways other than described in the related documents, this may result in injury, death, or property and equipment damage. Use the device only as described in the related documents.

S.D.T. cannot be held responsible for injuries or damages resulting from non-standard, unintended use of the device. The device is designed and intended only for the purpose described in the related documents.

Unintended use includes these actions:

- Making changes to the device that have not been recommended in the related documents.
- Use of parts that are not replacement parts or accessories from S.D.T.
- Use of materials or equipment that are inappropriate or incompatible with the device.
- Use of lubrication oil that is not indicated in the specifications in this document.
- Use of the device in a hazardous (explosive) environment where ATEX guidelines and other guidelines about explosion free conditions are applicable.
- Use of the device when it shows signs of damage.
- Allowing unapproved personnel to perform any task on or with the device.

4.2 Approved user

The term approved user is specified here as a person that fully knows the device and its safe operation. Approved users obey all related safety regulations and are approved to safely install, remove, operate, and do maintenance on the device.

It is the responsibility of the company that owns the system where the device and the gear unit or the hydraulic system are part of to make sure that all users of the device obey these requirements.

4.3 General safety instructions

- If a part of the device shows damage, do not use the device.
- When you do work on or with the device, obey all legislation and regulations that apply to safety and work requirements, that apply in the country and at the location where you do work on or with the device.
- Obey the safety instructions of the manufacturer of the lubrication oil. Refer to the material data sheets of the lubrication oil. Make sure that all personnel that use lubrication oil receive these safety instructions.
- De-energize the device before you do work on the device.
- When you do work on or with the device, the device must be on a stable surface.
- When you do work on or with the device, make sure that the complete area and the device are sufficiently lighted.

4.4 Safety instructions for installation

- Make sure that the personnel that install the device are approved and obey state-of-the-art safety procedures.

- Obey the European Directives 2006/42/EG and the local safety regulations.
- Make sure that the motor that operates the device is de-energized. Make sure that the motor cannot be energized during the installation of the device parts.
- If safety devices are removed for installation or maintenance, make sure they are correctly installed again before you operate the device.
- Do not touch parts of the device that move.

4.5 Safety instructions for use with gear units

- Make sure that no oil can come out of the gear unit.



Note: S.D.T. recommends that you install a drain valve to make it easier to disconnect and connect the device.

- Use high-quality hoses with the correct internal diameter.



Note: S.D.T. supplies hoses with the device that obey the requirements of the gear unit or hydraulic system that you use. If you must use hoses with different specifications, speak to S.D.T.

- Obey the regulations that apply to the power connection.
- The device can be hot. If it is necessary to touch the device, wear protective clothing and safety gloves or make sure that its temperature is decreased sufficiently.

4.6 Safety instructions for use with hydraulic systems


- Before you use the device with a hydraulic system, make sure that the system is pressure-free and that no oil can come out of the system.
- Use high-quality hoses with the correct internal diameter.



Note: S.D.T. supplies hoses with the device that obey the requirements of the gear unit or hydraulic system that you use. If you must use hoses with different specifications, speak to S.D.T.

- Obey the regulations that apply to the power connection.
- The device can be hot. If it is necessary to touch the device, wear protective clothing and safety gloves or make sure that its temperature is decreased sufficiently.

4.7 Safety labels

Label	Description
	Risk of hot surface

4.8 Instructions in case of a fire



Warning: After a fire, protective clothing and respiratory equipment are mandatory to handle the device. The device can contain dangerous substances that cause injury when you touch or breathe them.

- Use a carbon dioxide extinguisher to extinguish a fire.

**Warning:**

- Use caution when you use a carbon dioxide extinguisher. Low temperatures of the nozzle can cause injury.
- Do not use a carbon dioxide extinguisher in small spaces. Injury or death can occur as a result of a low level of oxygen.
- In case of a large fire, call the emergency services.
- Do not start a device that has burn marks. Speak to S.D.T.

4.9 Warranty

The warranty clause of the general conditions of sale applies to devices used as per instructions contained in this document, including the related documents, and in any additional instruction leaflets supplied with the device insofar as the device operates within the service and rating conditions put forward in the order acknowledgment.

Non compliance with these instructions, injudicious choice of lubrication oil or a lack of maintenance will render warranty agreement invalid.

This warranty clause applies to all parts of the device with the exception of those parts which are subject to wear.

4.10 Disposal

- When you discard the device or the components of the device, obey the local environmental regulations.
- At the end of the service life of the device or the components of the device, try to recycle to prevent environmental pollution.



- Obey the local environmental regulations when you discard used oil. Do not put it on garden soil, wooded areas, in streams or in sewage drains.
- Remove spilled oil immediately.
- Sort metal and electrical components correctly. Make sure that these components are recycled.
- Obey the environmental regulations to discard materials that you cannot recycle.

5 Storage and transport

5.1 Storage

The storage period starts when the device is not used.

Before storage:

- Drain the oil from the device. Refer to section [Drain the oil from the device](#) on page 26.
- Clean the wear indicator sensor. Refer to section [Clean the wear indicator sensor](#) on page 29.

During storage:

- The ambient conditions for storage must be correct. Refer to section [Ambient conditions](#) on page 31.
- Prevent damage to and/or deformation of the device.

5.2 Off-site transport



Caution: Prevent vibration of the device. Vibration can cause damage to the components of the device.

- Move the device carefully to prevent damage to the device and its components.
- The device must be stable during transport.
- Secure the device to a surface to prevent unwanted movement of the device.

5.3 On-site transport



Warning: Let the device cool down before you lift the device. The device can be hot.



Caution:

- Remove the LM2 Gears CMS unit before you transport the device. The LM2 Gears CMS can fall from the device during transport.

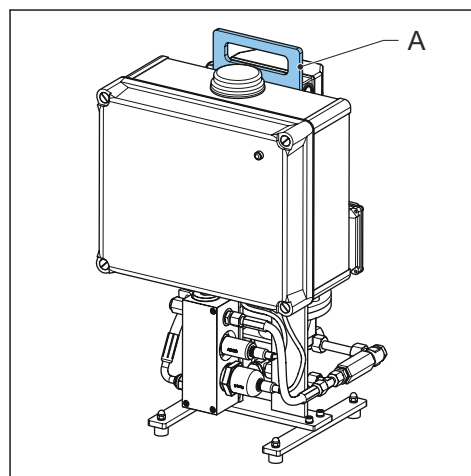


Note: The LM2 Gears CMS unit is installed with magnets.

- Only install the LM2 Gears CMS unit when the device is in its final operation position. To install the LM2 Gears CMS unit on the device, refer to the user manual of the LM2 Gears CMS.
- Only lift the device at the frame. If you lift the device at the components on the frame, damage to these components can occur.

Procedure

1. Lift the device with the handle (A) at the top of the frame.
If necessary, support the device at the bottom of the frame.



6 Installation

6.1 Installation - general instructions

- Put the device as close as possible to the gear unit or the hydraulic system.



Caution: Do not put the device above the oil level of the gear unit of the hydraulic system. This can cause under-pressure at the suction side of the pump.

- The device must be stable and easy to access.
- Use high-quality hoses that meet these requirements:
 - The hoses must be as short as possible.
 - The hoses must have the correct internal diameter.



Note: S.D.T. supplies hoses with the device that obey the requirements of the gear unit or hydraulic system that you use. If you must use hoses with different specifications, speak to S.D.T.

- Make sure that no oil can come out of the gear unit or the hydraulic system when you connect the device:
 - If the gear unit or hydraulic system has a drain valve, close the drain valve.
 - If the gear unit or hydraulic system does not have a drain valve, drain the oil from the gear unit or the hydraulic system. Do not discard the oil.
- Replace all the magnetic plugs on the gear unit or the hydraulic system with non-magnetic plugs.
- Only install the LM2 Gears CMS unit when the device is in its final operation position.

6.2 Remove the packaging material

Procedure

1. Do a check for damage to the package.
2. If you see damage, speak to S.D.T. immediately.
3. Remove the packaging material.
4. Do a check for damage to the device.
5. If you see damage, speak to S.D.T. immediately.
6. Do a check if the device agrees with the shipping papers.
7. If the device does not agree with your order, speak to S.D.T. immediately.

6.3 Connect the device

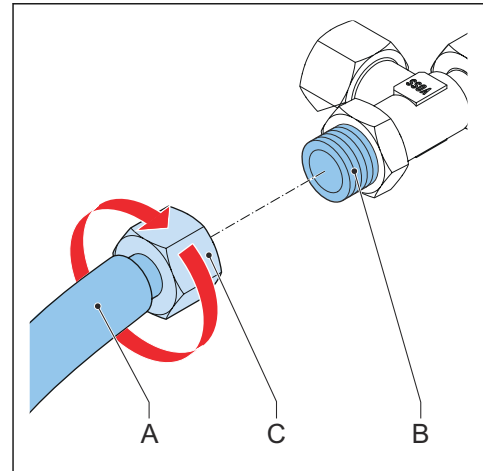


Note: Before you connect the device, refer to the general instructions in section [Installation - general instructions](#) on page 18.

6.3.1 Connect the suction hose to the device

Procedure

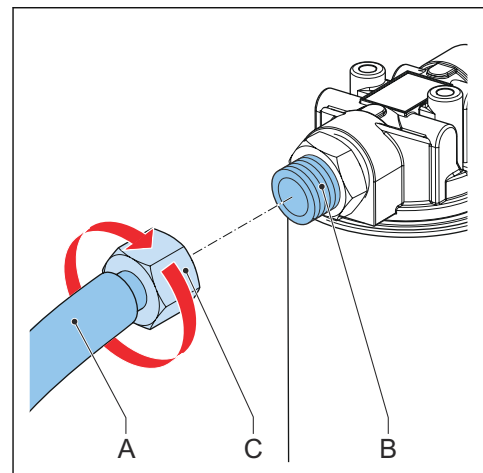
1. Connect the suction hose (A) to the oil inlet (B).
Make sure that the plug is removed from the oil inlet.
2. Turn the nut (C) clockwise to tighten the suction hose to the oil inlet.



6.3.2 Connect the return hose to the device

Procedure

1. Connect the return hose (A) to the oil outlet (B).
Make sure that the plug is removed from the oil outlet.
2. Turn the nut (C) clockwise to tighten the return hose to the oil outlet.



6.3.3 Connect the suction hose to the gear unit or the hydraulic system



Note:

- Install a drain valve on the gear unit or the hydraulic system to make it easier to disconnect and connect the device.
- A connection set is required to connect the suction hose. For information, refer to section [Connection set specifications](#) on page 31.

Remove the drain plug

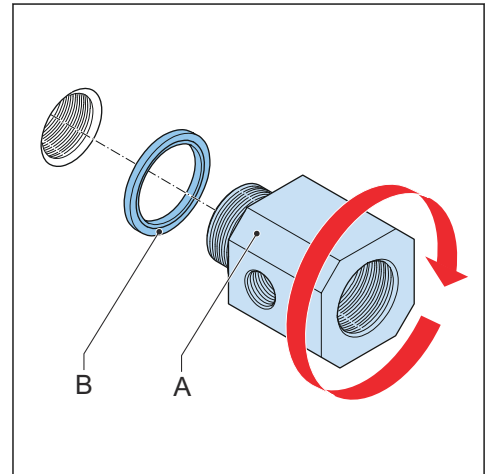
Procedure

1. Remove the drain plug and the seal from the gear unit or the hydraulic system. Do not discard the drain plug and the seal.

Install the connection part

Procedure

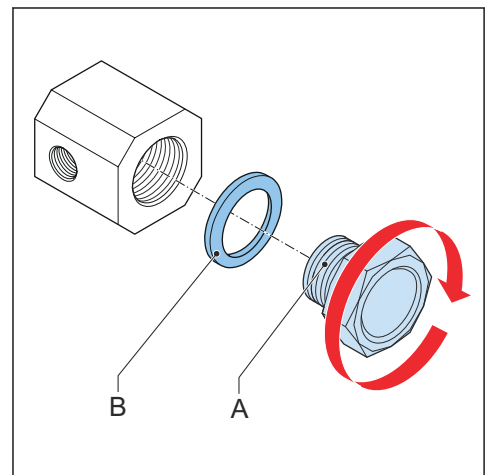
1. Install the connection part (A) and the seal (B) in the hole of the drain plug. Use a torque wrench to torque the connection part to the correct value. For the torque values for the different connection parts, refer to section [Torque values for the connection set](#) on page 31.



Install the drain plug

Procedure

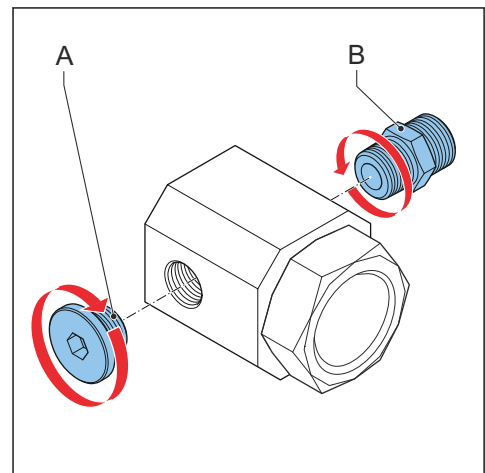
1. Install the drain plug (A) and the seal (B) on the connection part.
 - Use the drain plug and the seal that you removed from gear unit or the hydraulic system. If necessary, replace the seal.
 - If the drain plug that you removed from gear unit or the hydraulic system is magnetic, replace it with a non-magnetic drain plug.



Install the plug and the nipple

Procedure

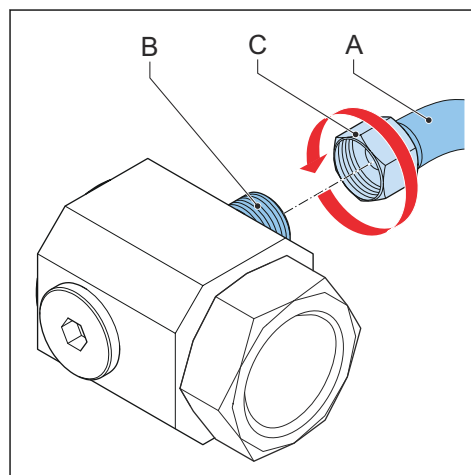
1. Install the plug (A) and the nipple (B). Use applicable sealant on the threads of the nipple on the side that you install into the connection part.



Connect the suction hose

Procedure

1. Connect the suction hose (A) to the nipple (B).
Turn the nut (C) clockwise to tighten the return hose to the oil outlet.
2. If applicable, put the drained oil back in the gear unit or the hydraulic system.



6.3.4

Connect the return hose to the gear unit or the hydraulic system



Warning: The return hose must be pressure-free before you connect the device to a gear unit or a hydraulic system. If the return hose is not pressure-free, injury or damage to the device can occur.

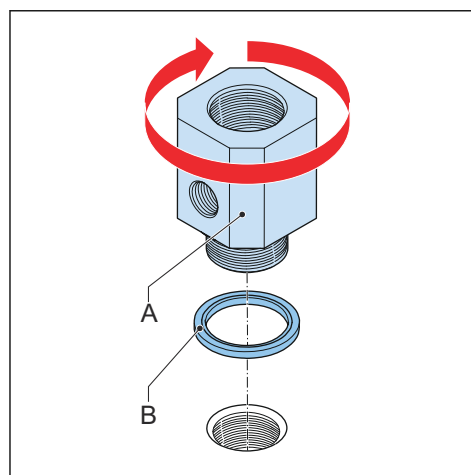


Note: A connection set is required to connect the return hose. For information, refer to section [Connection set specifications](#) on page 31.

Install the connection part

Procedure

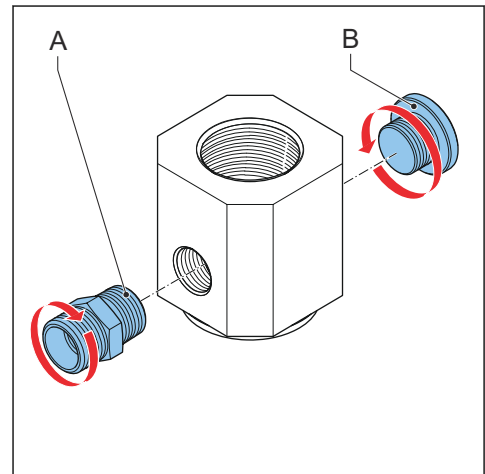
1. Remove the filling plug or breather from the gear unit or the hydraulic system. Keep the filling plug for re-installation.
2. Install the connection part (A) and the seal (B) in the hole of the filling plug. Use a torque wrench to torque the connection part to the correct value. For the torque values for the different connection parts, refer to section [Torque values for the connection set](#) on page 31.



Install the nipple and the plug

Procedure

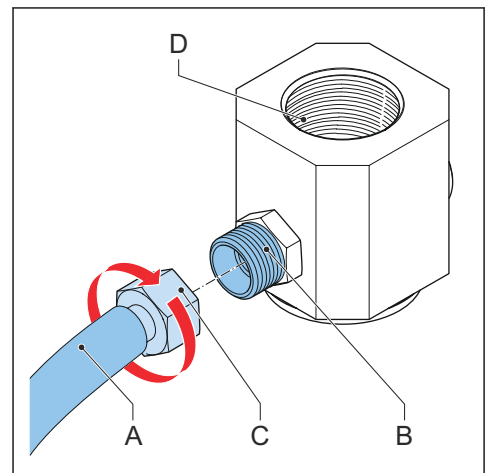
1. Install the nipple (A) and the plug (B).
Use applicable sealant on the threads of the nipple on the side that you install into the connection part.



Connect the return hose

Procedure

1. Connect the return hose (A) to the nipple (B).
Turn the nut (C) clockwise to tighten the return hose to the oil outlet.
2. Install the removed filling plug or breather in the hole (D) on the connection part.



6.3.5

Install the wear indicator sensor



Caution: Install the sensor correctly in the manifold. If you install the sensor incorrectly, the device does not operate correctly or it shows incorrect measurements.



Note:

- For an overview of the connections, refer to section [Overview of the connections](#) on page 11.
- To connect the sensor to a LM2 Gears CMS, refer to the user manual of the LM2 Gears CMS.

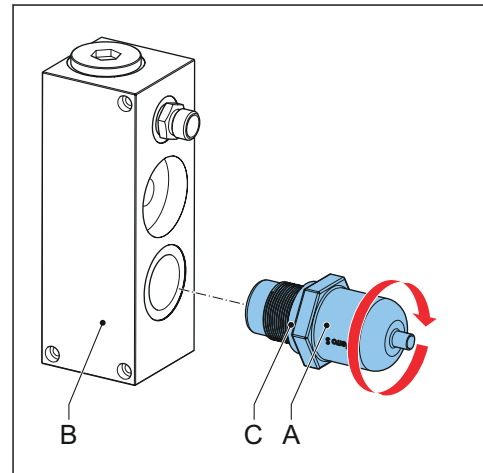
Procedure

1. Remove the protective plug.
2. Put the sensor (A) in position on the manifold (B).
3. Manually turn the sensor clockwise until the flange (C) on the sensor touches the manifold.
4. Tighten the sensor with a torque wrench.

Torque the sensor to 50 ± 5 Nm.



Caution: Do not tighten the sensor too much. This can cause damage to the manifold.



6.3.6

Install the water saturation - oil temperature sensor



Caution: Install the sensor correctly in the manifold. If you install the sensor incorrectly, the device does not operate correctly or it shows incorrect measurements.

**Note:**

- For an overview of the connections, refer to section [Overview of the connections](#) on page 11.
- To connect the sensor to a LM2 Gears CMS, refer to the user manual of the LM2 Gears CMS.

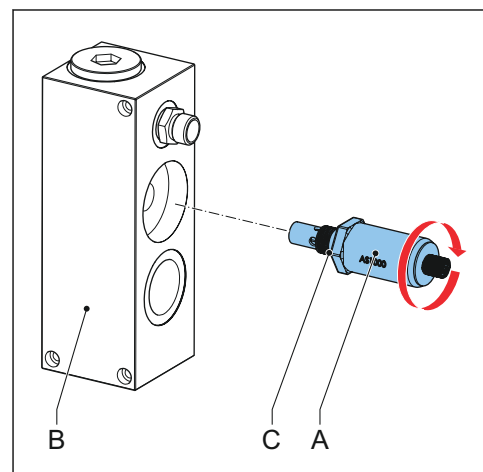
Procedure

1. Remove the protective plug.
2. Put the sensor (A) in position on the manifold (B).
3. Manually turn the sensor clockwise until the flange (C) on the sensor touches the manifold.
4. Tighten the sensor with a torque wrench.

Torque the sensor to 45 ± 4.5 Nm.



Caution: Do not tighten the sensor too much. This can cause damage to the manifold.



7 Commissioning

7.1 Use the device - general instructions

- The device must be stable and easy to access.
- The connecting gear unit or the hydraulic system must be stopped when you start the device.
- Always turn off the device before you do a check on the oil level in the gear unit or the hydraulic system.
- Do a check on the oil level in the gear unit or the hydraulic system before the test run of the device.
- Do a check for leakages and do a check on the oil level before you start the gear unit or the hydraulic system again.

7.2 Commissioning

Procedure

1. Start the device. Refer to section [Start the device](#) on page 25.
 - Make sure that the oil flows through the device and into the gear unit or the hydraulic system.



Caution: If the oil does not flow through the device and into the gear unit or the hydraulic system within one minute, stop the device immediately. Speak to S.D.T.

- Let the device run for some minutes.
2. Stop the device. Refer to section [Stop the device](#) on page 25.
 3. Do a check on the oil level in the gear unit or the hydraulic system.

The commissioning is completed.

8 Operation

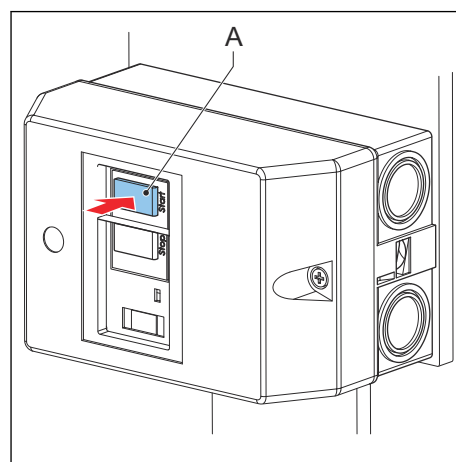
8.1 Start the device



Note: Before you start the device for the first time, refer to the general instructions in section *Use the device - general instructions* on page 24.

Procedure

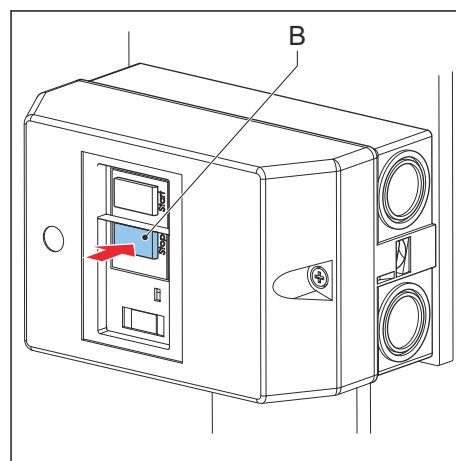
1. Push the Start button (A).



8.2 Stop the device

Procedure

1. Push the Stop button (B).



8.3 Get an oil sample



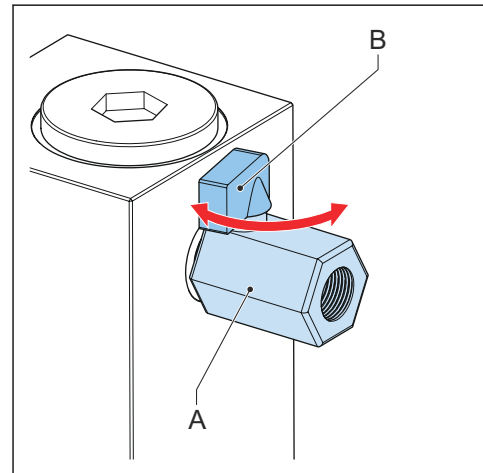
Note:

- The device and the gear unit or the hydraulic system must be in operation when you get an oil sample.
- Let the device run for a minimum of 30 minutes before you get an oil sample.

- Use the correct container to get an oil sample and make sure that it is clean. An incorrect or dirty container causes contamination of the oil. For information on the equipment that you can use to get an oil sample, refer to section *Oil sample equipment* on page 32.
- Measure the quantity of oil that you drain from the device. This includes the quantity of the oil sample. Add the same quantity of new oil to the gear unit or the hydraulic system after you complete this task. Use the same oil as the oil in the gear unit or the hydraulic system.

Procedure

1. Hold a container below the opening of the sample point (A).
2. Turn the handle (B) counterclockwise to open the sample point.
Make sure that the stop is removed from the sample point.
3. Fill the container with oil.
Make sure that the flow of oil from the sample point is constant.
4. When the container contains sufficient oil, turn the handle clockwise to close the sample point.
5. Remove the container.



8.4 Drain the oil from the device

Procedure

1. Stop the device. Refer to section *Stop the device* on page 25.
2. Close the drain valve on the connecting gear unit, hydraulic system, or container.
3. Disconnect the suction hose from the drain valve of the gear unit, hydraulic system, or container.
4. Hold the suction hose up to make sure that no oil can flow out of the suction hose.
5. Start the device. Refer to section *Start the device* on page 25.

This removes the oil from the suction hose and the suction area of the device.



Caution: The oil level in the gear unit or the hydraulic system must not become too high.

6. Stop the device. Refer to section *Stop the device* on page 25.
7. Disconnect the return hose from the gear unit, hydraulic system, or container.
8. Seal the hoses with a plug and lay them on the ground.

9 Maintenance

9.1 General maintenance instructions

9.1.1 Limits

- If the maintenance task shows more than one limit, obey the limit that comes first.

9.1.2 Approved work and not approved work

- Do not do other maintenance than in the instructions in this document.
- Do not change or do repairs on the device without the written approval of S.D.T. If you do make changes or repairs without written approval, S.D.T. is not liable.
- Do the maintenance tasks that the maintenance schedule shows.
- Only replace parts with parts from S.D.T.
- If you cannot follow the instructions or if you think that an instruction is not available, speak to S.D.T.

9.2 Change the filter

9.2.1 Remove the filter




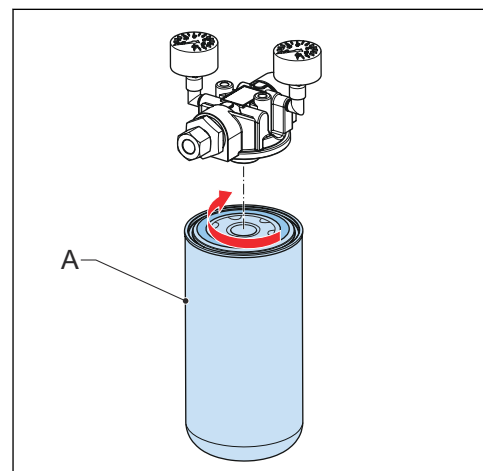
Warning: The filter can be hot. To prevent injury, wear protective clothing and safety gloves.



Caution: Drain the oil from the device before you remove the filter. For information on how to drain the oil, refer to section [Drain the oil from the device](#) on page 26.

Procedure

1. Remove the filter (A).
 - a) Turn the filter counterclockwise by hand until the filter comes loose.
-  **Note:** If you cannot remove the filter by hand, use a removal tool.
- b) Remove the filter.
 - c) Let the oil in the filter drain into a container.
2. Discard the filter and the oil. Obey the local environmental regulations.



9.2.2 Install the filter



Caution: Install the correct filter. For information on the filter that you must use, refer to section *Spare parts* on page 32.

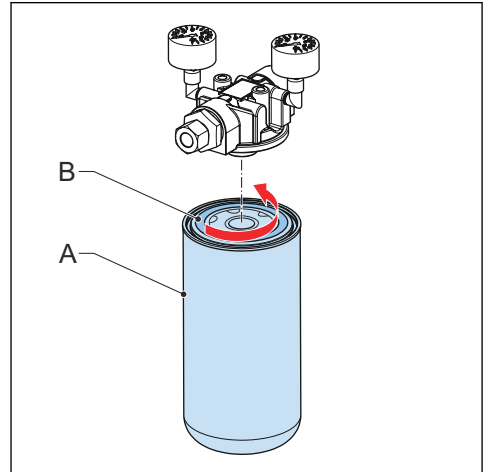
Procedure

1. Install the filter (A).
 - a) Apply a small quantity of oil on the seal ring (B).




Note: Use the same oil as the oil that you will use in the device.

- b) Put the filter in position on the device.
- c) Turn the filter clockwise by hand until the filter is sufficiently tightened.



9.3 Cleaning schedule

Task	Limit	Instruction
Clean the device	When the outer side of the device is dirty  Note: Clean the outer side of the device regularly when the device operates in an environment with high quantities of dust	Refer to section <i>Clean the device</i> on page 28
Clean the wear indicator sensor	<ul style="list-style-type: none"> • Every oil change • When you connect the device to a different gear unit or hydraulic system 	Refer to section <i>Clean the wear indicator sensor</i> on page 29

9.4 Clean the device



Warning: Let the device cool down before you clean the device. The device can be hot.

Procedure

1. Clean the outer side of the device. Use water and soap.
Make sure that the switch box and the electric motor are free of dust.

9.5 Clean the wear indicator sensor



Warning: Let the device cool down before you clean the wear indicator sensor. The device can be hot.



Note:

- Clean the wear indicator sensor to prevent that the device shows incorrect measurements when you change the oil or when you connect the device to a different gear unit or hydraulic system.
- Collect the metal particles in a clean container for analysis.

Procedure

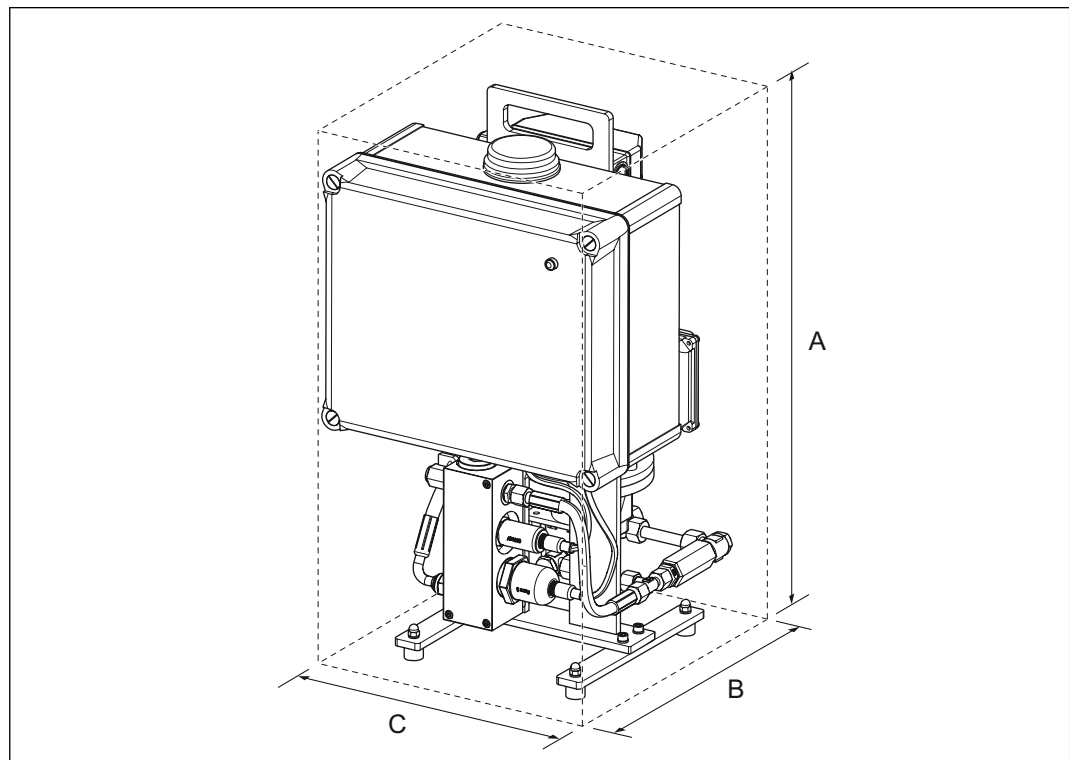
1. Drain the oil from the device. Refer to section [Drain the oil from the device](#) on page 26.
2. Remove the wear indicator sensor from the manifold.
3. Use a lint-free cloth to remove all metal particles from the wear indicator sensor.
4. Install the sensor. Refer to section [Install the wear indicator sensor](#) on page 22.

10 Technical data

10.1 Device specifications

Parameter	Specification
Mass [kg]	19
Oil capacity [l]	<2
Oil flow [l/min]	2.5
Maximum operating pressure [bar]	6
Power consumption [kW]	0.18
Operating voltage [V (AC)]	220
Operating amperage [A]	1.36
Input frequency [Hz]	50
Materials	Carbon steel
	Aluminium
	Synthetic rubber
	Brass
	Technical plastics

10.2 Dimensions



- A 611 mm
- B 358 mm
- C 341 mm

10.3 Oil specifications

Item	Specification
Minimum oil capacity of the connected system [l]	6
Gear units	<ul style="list-style-type: none"> Mineral oil PAO gear unit oil
Hydraulic systems	Mineral hydraulic oil
Temperature range [°C]	0 to +95

10.4 Ambient conditions

Parameter	Specification
Ambient temperature during use [°C]	0 to +40
Ambient temperature during storage [°C]	-20 to +40
Relative humidity during storage	Non-condensing
Vibration during use	No excessive vibrations
Vibration during storage	Free from vibrations

10.5 Connection set specifications

The table below shows the set numbers for the different connection sizes of the gear unit or the hydraulic system.

Connection size	Set number
G ½ "	350-SM600001
G ¾ "	350-SM600002
G 1 "	350-SM600003
G 1 ¼ "	350-SM600006
G 1 ½ "	350-SM600004
G 2 "	350-SM600005

10.6 Torque values for the connection set

Connection size	Torque
G ½ "	56,5 Nm
G ¾ "	73,4 Nm
≥ G 1 "	79 Nm

10.7 Spare parts

Part	Part number
Electric motor	350-TR350103
Oil pump	350-TR355201
M/P coupling	350-TR360301
Manifold	350-TR900013
Switch box (housing)	350-TR387001
Switch box (button mechanism)	350-TR387009
Filter	350-SM211875

10.8 Oil sample equipment

Part	Quantity	Bottle volume [ml]	Part number
Sample bottle	1	250	350-TR5719061
Sample bottle	30	250	350-TR5719065

11 Services

We recommend that you regularly make an analysis of the oil in your device. We can do this for you with the aid of independent laboratories.

For more information, speak to Sumitomo Drive Technologies.

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