

SKF Electrical Barrel Pumping Unit-EPUMP

(Original operating and maintenance instructions according to EU Directive 2006/42/EC)

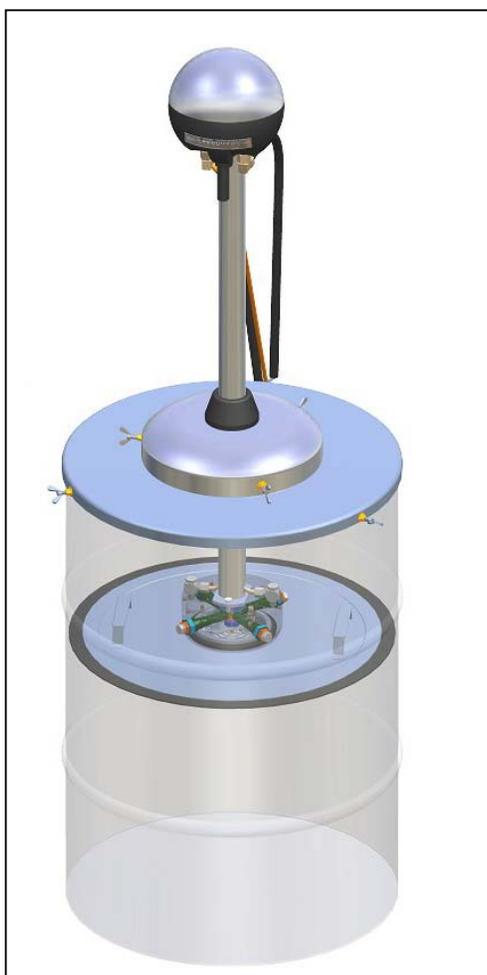


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1 EU Declaration of incorporation

Original declaration of incorporation for partly completed machinery (Machinery Directive 2006/42/EC, Annex II, part 1, section B)

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Person authorised to compile the relevant technical documentation:
R&D Manager, Centralized Lubrication Systems, Muurame Unit.

Herewith declares that for the partly completed machinery:

SKF Electrical Barrel Pumping Unit SKF-EPUMP-XX-XXX-XX-X

- The following essential requirements of the Machinery Directive 2006/42/EC are applied and fulfilled: 1.1.2, 1.1.3, 1.1.5, 1.1.6, 1.2.1, 1.2.2, 1.2.3, 1.2.4, 1.2.6, 1.3.1, 1.3.2, 1.3.4, 1.3.7, 1.5.1, 1.5.4, 1.5.6, 1.5.7, 1.5.13, 1.6.1, 1.6.2, 1.6.3, 1.6.4, 1.7.1, 1.7.2, 1.7.3, 1.7.4
- The relevant technical documentation is compiled in accordance with part B of Annex VII of the Machinery Directive and that this documentation or parts hereof will be transmitted by post or electronically in response to a reasoned request by the national authorities.
- And that this partly completed machinery is in conformity with the provisions of the following other EC-Directives:
 - EMC Directive 2014/30/EU.
- And furthermore, declares that this partly completed machinery complies with the following European harmonised standards:
 - Machinery Directive 2006/42/EC: EN ISO 12100-1/A1, EN ISO 12100-2/A1
 - EMC Directive 2014/30/EU: EN 61000-6-4:2011, for emissions; EN 61000-6-2:2006, for immunity

This partly completed machinery must not be put into service until, where appropriate, the final machinery into which it is to be incorporated has been declared in conformity with the provisions of the Machinery Directive 2006/42/EC.

Muurame
Place

March 16, 2016
Date



Juha Kärkkäinen
Manager R&D Nordic
SKF Lubrication Business unit



Warning Read and follow the safety precautions and general instructions in this manual and also in the SKF manual "*Safety and general instructions for lubrication systems.*" Failure to follow these instructions could result in serious injury or damage to the lubrication system or the equipment that is lubricated.

2 General description

SKF Electrical barrel pumping unit (SKF ePump) is designed for pumping lubricant into the centralized lubrication system. A complete pumping center consists of a pumping unit and a lid set. The pumping unit can be controlled and monitored with an integrated control unit which includes a simple user interface, with external control or with SMS messages to an external control center.

The pumping unit is connected to a follower plate placed inside the lubricant barrel. This allows the pumping unit to follow the lubricant level.

Note! The SKF-EPUMP-XXX-ECO is intended for use with ECO lid sets, which are suitable for greases in NLGI grades 1 and 2.

Note! The SKF-EPUMP-XXX-STA is intended for use with STA lid sets, which are suitable for greases in NLGI grades 0, 00 and 000.

Design

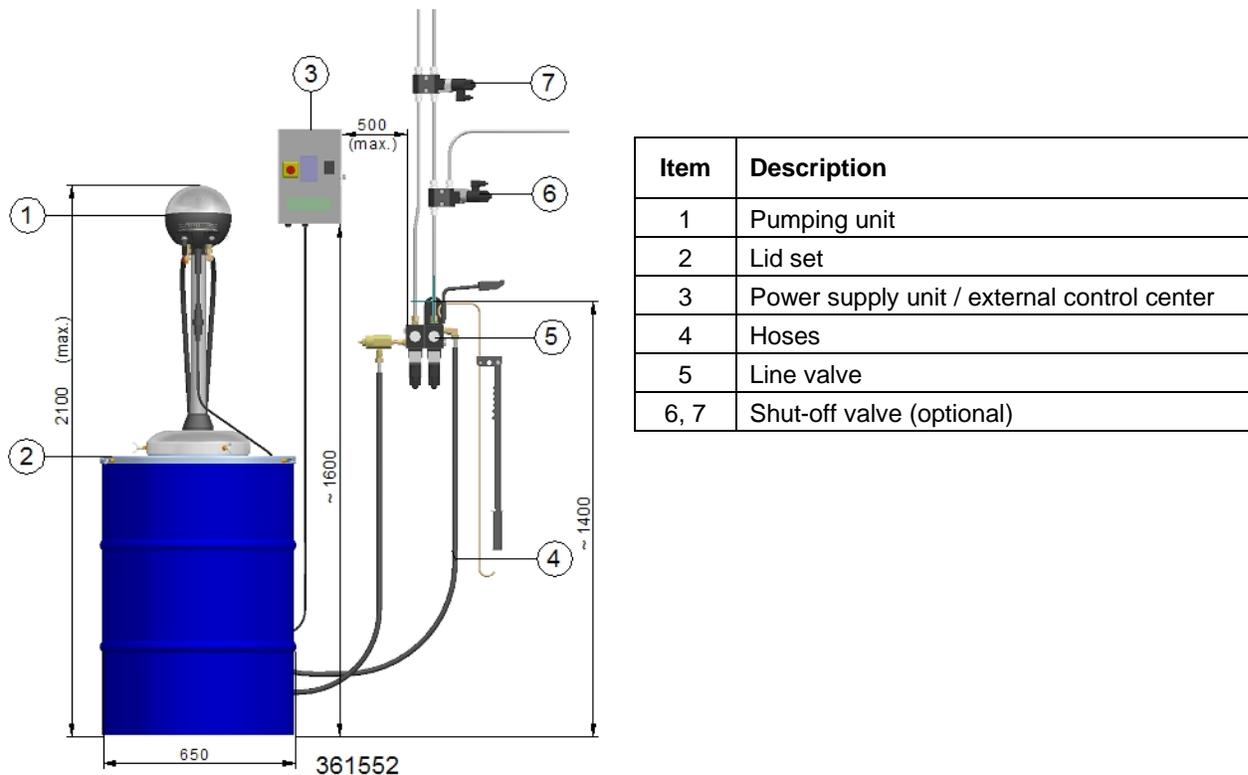


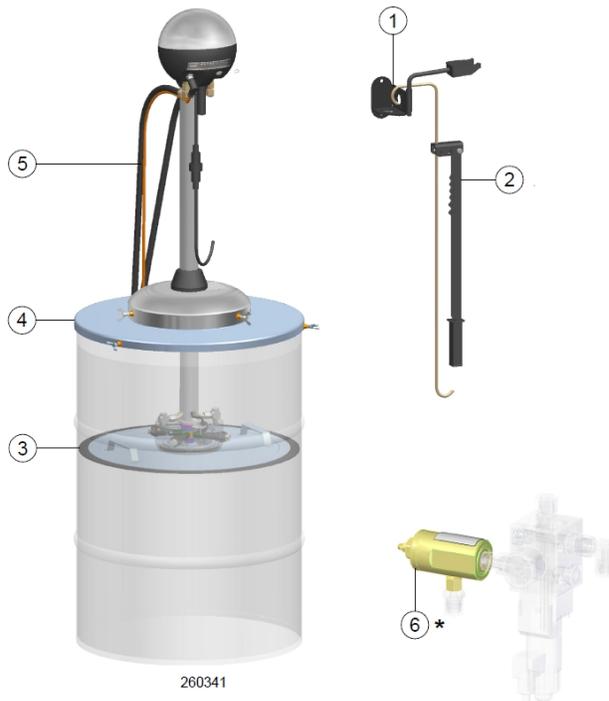
Figure 1 SKF Electrical barrel pumping unit, complete pumping center

2.1 SKF ELECTRICAL BARREL PUMPING UNIT-ECO



Item	Description
1	Pressure relief valve
2	Pumping element (4 pcs)
3	Heating element
4	Low level switch
5	Operation button
6	M12-connector (in models P & 1)
7	Electric motor
8	Circuit board
9	Pressure sensor
10	Check valve
11	Pressure indicator

Figure 2 SKF-EPUMP-XXX-ECO pumping unit, design



Item	Description
1	Bracket for pumping unit/line valve
2	Hook for lifting the follower plate
3	Follower plate
4	Barrel lid
5	Hose assembly
6	Grease filter

Note! * 6 Grease filter is delivered with the line valve assembly. Refer to manual, Line valve E-VALV (OEVXXXX.pdf).

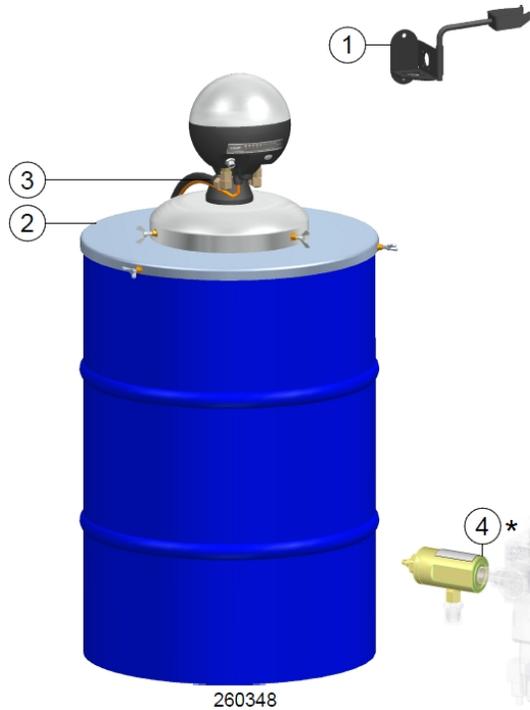
Figure 3 SKF-EPUMP-XXX-ECO lid set

2.2 SKF ELECTRICAL BARREL PUMPING UNIT-STA



Item	Description
1	Pressure relief valve
2	Pumping element (4 pcs)
3	Low level switch
4	M12-connector (in models P & 1)
5	Operation button
6	Electric motor
7	Circuit board
8	Pressure sensor
9	Check valve
10	Pressure indicator

Figure 4 SKF-EPUMP-XXX-STA pumping unit, design



Item	Description
1	Bracket for pumping unit/line valve
2	Barrel lid
3	Hose assembly
4	Grease filter

Note! * 4 Grease filter is delivered with the line valve assembly. Refer to manual, Line valve E-VALV (OEVLXXXX.pdf).

Figure 5 SKF-EPUMP-XXX-STA lid set

3 Operation

When pressurization starts, the control unit starts the pumping unit and opens the line valve. Pressurization continues until the line's pressure control unit reaches the acknowledgement pressure level. After acknowledgement, the control unit stops the pumping unit and pressure discharges from the line to the lubricant barrel.

If the lubricant level in the barrel drops to the low limit level during pumping, the low level switch sends an alarm to the control unit and pumping is stopped. The alarm can be disabled by replacing the lubricant barrel and re-setting the alarm at the control unit.

3.1 Start-up SKF-EPUMP-ECO



Warning Electrical connections must only be made by qualified electricians. To minimize risk of electric shock or electrocution, ensure that the pumping center is turned off before making any connections. Operating voltage must be shut off before touching electrically conductive parts or opening any parts of the system or component.



Warning Ensure that there is no pressure in the system. Before opening the grease filter, remove pressure by opening the venting screw in the filter plug (→ **Figure 6, (15)**). If the system is under pressure when the components are being disconnected or opened, the components or lubricant might be flung in the air causing injury to people or damage to the environment.

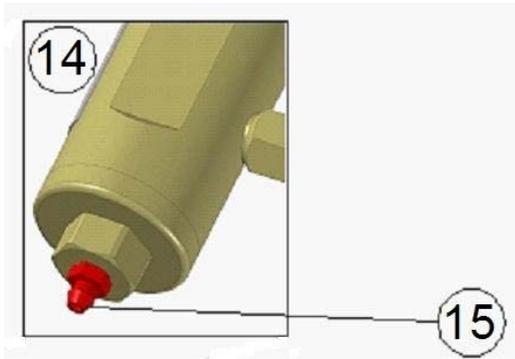


Figure 6 Grease filter (14), venting screw (15)

Note! Ensure that the surroundings are clean. Make sure that no impurities enter the pump, the follower plate or the barrel. Impurities may cause damage to the lubrication system or to the machine or device it lubricates.

Note! The numbers in brackets indicate position numbers in Figures 2 and 3.

- 1 Check the condition of the lubricant barrel. Damage in the barrel will prevent the follower plate (3) from lowering.
- 2 Remove the barrel's original lid and press the follower plate closely on top of the lubricant in the barrel. Ensure that air is removed from below the follower plate and that the central unit of the follower plate is filled with lubricant.
- 3 **Barrel sizes 50 kg = 1/4 or 200 kg = 1/1** → Place the barrel lid's extra edging (4) on the lubricant barrel. Fasten the extra edging with wing screws. Place the pumping unit through the extra edging into the central unit of the follower plate. Ensure that the pumping unit is firmly attached to the follower plate and fasten the pumping unit with wing screws.
Barrel size 18 kg = 1/8 → Place the pumping unit on the lubricant barrel. Ensure that the pumping unit is firmly attached into the central unit of the follower plate. Fasten the pumping unit with wing screws.
- 4 Fasten the lubricant tank hose (5; marked "T") to the line valve connection T and the lubricant pressure hose (5; marked "P") to the grease filter (6).
- 5 Connect the extension cable to the power supply 24 VDC from separate power supply unit or external control center according to the electrical drawings. The cable is delivered with the pumping unit.
- 6 Connect the pumping unit's power supply cable to the extension cable.
- 7 Fasten the plug to the tank connection (T) of the pumping unit.
- 8 Connect the pressure hose (5) to the pumping unit's pressure connection (P).
- 9 Start the pumping unit with the operation button or from the external control center.
- 10 After the pressure hose is filled, stop the pumping unit and connect the hose to the grease filter (6) which is located at the line valve.
- 11 Fill the header piping with lubricant by starting the pumping unit with the operation button (5) or from the external control center.
- 12 Stop the pumping unit when the header piping is filled and air is removed.
- 13 Remove the plug from the tank connection of the pumping unit and fasten the tank hose.
- 14 Before connecting, ensure that only grease (no air) is coming out of the hose. If needed, pressurize the system again. Air in the system prevents its trouble-free operation.
- 15 Do a test pressurization of the header piping by increasing the pressure in the header piping to 200 bars. The pressure setting is changed either at the pumping unit or at the external control center. The pumping unit will stop due to header piping pressure on 200 bars if there is no air or leakage in the header piping.
- 16 Set the maximum pressure of the pumping center with the control unit. The maximum pressure of the

pumping center should be set approximately 20% higher than the pressure by which the pressure control unit acknowledgement pressure is reached. For example, if the acknowledgement pressure level is reached when the pressure of the pumping center is 170 bars (2500 psi), the maximum pressure should be set at 200 bars (3000 psi).

3.2 Start-up SKF-EPUMP-STA



Warning Electrical connections must only be made by qualified electricians. To minimize risk of electric shock or electrocution, ensure that the pumping center is turned off before making any connections. Operating voltage must be shut off before touching electrically conductive parts or opening any parts of the system or component.



Warning Ensure that there is no pressure in the system. Before opening the grease filter, remove pressure by opening the venting screw in the filter plug (→ **Figure 7, (15)**). If the system is under pressure when the components are being disconnected or opened, the components or lubricant might be flung in the air causing injury to people or damage to the environment.

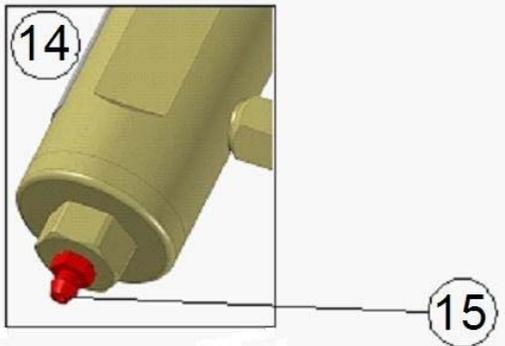


Figure 7 Grease filter (14), venting screw (15)

Note! Ensure that the surroundings are clean. Make sure that no impurities enter the pump, the follower plate or the barrel. Impurities may cause damage to the lubrication system or to the machine or device it lubricates.

Note! The numbers in brackets indicate position numbers in Figures 4 and 5.

- 1 Check the condition of the lubricant barrel.
- 2 Remove the barrel's original lid.
- 3 **Barrel sizes 50 kg = 1/4 or 200 kg = 1/1** → Place the barrel lid's extra edging (2) on the lubricant barrel. Fasten the extra edging with wing screws. Place the pumping unit through the extra edging to the bottom of the barrel and fasten the pumping unit with wing screws.
Barrel size 18 kg = 1/8 → Place the pumping unit on the lubricant barrel. Fasten the pumping unit with wing screws.
- 4 Fasten the lubricant tank hose (3; marked "T") to the line valve connection T and the lubricant pressure hose (3; marked "P") to the grease filter (4).
- 5 Connect the extension cable to the power supply 24 VDC from separate power supply unit or external control center according to the electrical drawings. The cable is delivered with the pumping unit.
- 6 Connect the pumping unit's power supply cable to the extension cable.
- 7 Fasten the plug to the tank connection (T) of the pumping unit.
- 8 Connect the pressure hose (3) to the pumping unit's pressure connection (P).
- 9 Start the pumping unit with the operation button or from the external control center.
- 10 After the pressure hose is filled, stop the pumping unit and connect the hose to the grease filter (4) which is located at the line valve.
- 11 Fill the header piping with lubricant by starting the pumping unit with the operation button (5) or from the external control center.
- 12 Stop the pumping unit when the header piping is filled and air is removed.
- 13 Remove the plug from the tank connection of the pumping unit and fasten the tank hose.
- 14 Before connecting, ensure that only grease (no air) is coming out of the hose. If needed, pressurize the system again. Air in the system prevents its trouble-free operation.
- 15 Do a test pressurization of the header piping by increasing the pressure in the header piping to 200 bars. The pressure setting is changed either at the pumping unit or at the external control center. The pumping unit will stop due to header piping pressure on 200 bars if there is no air or leakage in the header piping.
- 16 Set the maximum pressure of the pumping center with the control unit. The maximum pressure of the pumping center should be set approximately 20% higher than the pressure by which the pressure control unit acknowledgement pressure is reached. For example, if the acknowledgement pressure level is reached when the pressure of the pumping center is 170 bars (2500 psi), the maximum pressure should be set at 200 bars (3000 psi).

3.3 Replacing the lubricant barrel SKF-EPUMP-ECO



Warning Ensure that the system is not under pressure while you are replacing a lubricant barrel. Before opening the grease filter, remove pressure by opening the venting screw in the filter plug (→ **Figure 4, (15)**). If the system is under pressure when the components are being disconnected or opened, the components or lubricant might be flung in the air causing injury to people or damage to the environment.

Note! Ensure that the surroundings are clean. When replacing the lubricant barrel, make sure that no impurities enter the pump, the follower plate or the barrel. Impurities may cause damage to the lubrication system or to the machine or device it lubricates

Note! Numbers in brackets are part numbers in Figures 2 and 3.

- 1 Turn off the power at the pumping center when replacing the barrel.
- 2 Disconnect the pumping unit's power supply cable.
- 3 Lift the pumping unit out of the lubricant barrel and place it on the bracket (1) or on a clean base. Be careful not to damage the suction head at the bottom of the pumping unit.
- 4 Remove the barrel lid's extra edging (4) from the top of the barrel (barrel sizes 50 kg = 1/4 or 200 kg = 1/1).
- 5 Remove the follower plate (3) from the bottom of the barrel with the help of the lifting hook (2). Place the tip of the hook on the bracket of the follower plate. Place the handle of the hook on the edge of the barrel. The follower plate is released by pressing down on the handle.
- 6 Use the handles to lift the follower plate out of the barrel.
- 7 Replace the old lubricant barrel with a new one.
- 8 Press the follower plate closely on top of the lubricant in the barrel. Ensure that air is removed from below the follower plate and that the central unit of the follower plate is filled with lubricant.
- 9 **Barrel sizes 50 kg = 1/4 or 200 kg = 1/1** → Place the barrel lid's extra edging (4) on the lubricant barrel. Fasten the extra edging with wing screws. Place the pumping unit through the extra edging into the central unit of the follower plate. Ensure that the pumping unit is firmly attached to the follower plate and fasten the pumping unit with wing screws.
Barrel size 18 kg = 1/8 → Place the pumping unit on the lubricant barrel. Ensure that the pumping unit is firmly attached into the central unit of the follower plate. Fasten the pumping unit with wing screws.
- 10 Remove pressure from the grease filter (6) by opening the venting screw in the filter plug (→ **Figure 4, (15)**).
- 11 Clean the grease filter and the filter cartridge, replace when necessary.
- 12 Turn on the power at the pumping center. Reset possible low level alarm at the pumping unit or at the external control center.
- 13 Perform a test run with the "Extra lubrication" button at the pumping unit (5) or at the external control center.

3.4 Replacing the lubricant barrel SKF-EPUMP-STA



Warning Ensure that the system is not under pressure while you are replacing a lubricant barrel. Before opening the grease filter, remove pressure by opening the venting screw in the filter plug (→ **Figure 7, (15)**). If the system is under pressure when the components are being disconnected or opened, the components or lubricant might be flung in the air causing injury to people or damage to the environment.

Note! Ensure that the surroundings are clean. When replacing the lubricant barrel, make sure that no impurities enter the pump, the follower plate or the barrel. Impurities may cause damage to the lubrication system or to the machine or device it lubricates

Note! Numbers in brackets are part numbers in Figures 4 and 5.

- 1 Turn off the power at the pumping center when replacing the barrel.
- 2 Disconnect the pumping unit's power supply cable.
- 3 Lift the pumping unit out of the lubricant barrel and place it on the bracket (1) or on a clean base. Be careful not to damage the suction head at the bottom of the pumping unit.
- 4 Remove the barrel lid's extra edging (2) from the top of the barrel (barrel sizes 50 kg = 1/4 or 200 kg = 1/1).
- 5 Replace the old lubricant barrel with a new one.
- 6 **Barrel sizes 50 kg = 1/4 or 200 kg = 1/1** → Place the barrel lid's extra edging (2) on the lubricant barrel. Fasten the extra edging with wing screws. Place the pumping unit through the extra edging to the bottom of the barrel and fasten the pumping unit with wing screws.
Barrel size 18 kg = 1/8 → Place the pumping unit on the lubricant barrel. Fasten the pumping unit with wing screws.
- 7 Remove pressure from the grease filter (4) by opening the venting screw in the filter plug (→ **Figure 7, (15)**).
- 8 Clean the grease filter and the filter cartridge, replace when necessary.
- 9 Turn on the power at the pumping center. Reset possible low level alarm at the pumping unit or at the external control center.
- 10 Perform a test run with the "Extra lubrication" button at the pumping unit (5) or at the external control center.

4 Regular inspections

Daily inspections

- Inspection of trouble-free operation

Monthly inspections

- Operation of the pump
- Inspection of system components (lubricant lines, connection points etc.) for leaks

While replacing a lubricant barrel

- Clean the grease filter and the filter cartridge, replace when necessary.

5 Troubleshooting

	<p>Warning Before solving the following operation disturbances, turn off the power at the control and pumping center. Before opening the grease filter, remove pressure from the system by opening the venting screw in the filter plug.(→ Figures 4/7, (15)). If the system is under pressure when the components are being disconnected or opened, the components or lubricant might be flung in the air causing injury to people or damage to the environment.</p>
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Operation disturbance	Cause of operation disturbance	Solution
The pump does not start.	Supply voltage is not on.	Check that the green light is on. Check that the supply voltage is on. Check that the power cable is connected and it is not damaged.
	Wrong control configuration	Check that the control configuration is correct to the lubrication system.
The pump starts but the pressure does not rise.	The pump element defective or clogged.	Replace pump elements.
	The grease filter has clogged.	Clean or replace the grease filter cartridge.
	Air pocket at the pump elements inlet.	Remove air from the pump by opening the venting screw (→ Figures 4/7, (15)) of the grease filter or pressure connection (P) of the pump. Make sure that only grease is coming out of the venting screw or pressure connection (not air).
	Pressure relief valve defective.	Replace relief valve.
Pump is operating but no lubricant reach lubrication points.	Tubing is disconnected or blocked.	Check the condition of tubing in the system and ensure that it is not blocked (eg. hardened grease).

6 Technical specification

6.1 Technical data

Value	Unit	Description
-30...+70 -20...+160	°C °F	Operating temperature range
300 4300 30	bar psi MPa	Maximum pressure (ensured with a pressure relief valve)
20...32 VDC	V	Operating voltage
150	W	Power consumption
55	g/min	Pump capacity
18 50 180	kg	Lubricant barrel size, 1/8 pumping unit Lubricant barrel size, 1/4 pumping unit Lubricant barrel size, 1/1 pumping unit
14 14,6 15,2	kg	Weight, 1/8 pumping unit Weight, 1/4 pumping unit Weight, 1/1 pumping unit
Aluminium, Plastic and Steel		Header piping material
400 x 400 x 800 400 x 400 x 1100 400 x 400 x 1300	mm (w x d x h)	Dimensions, 1/8 pumping unit Dimensions, 1/4 pumping unit Dimensions, 1/1 pumping unit

6.2 Connections

Electrical connections

- Refer to separate control configuration and operation instructions according to pumping unit type:
 - External control (manual code: OELCCxxxx).
 - Single-line system, internal control (manual code: OEL1xxxx).
 - Progressive system, internal control (manual code: OELPxxxx).
 - Manual lubrication pump (manual code: OELLUxxxx).

Hydraulic connections

- Lubricant P and T, 2 pcs, pipe connector Ø 12 mm

Cable channels in the body

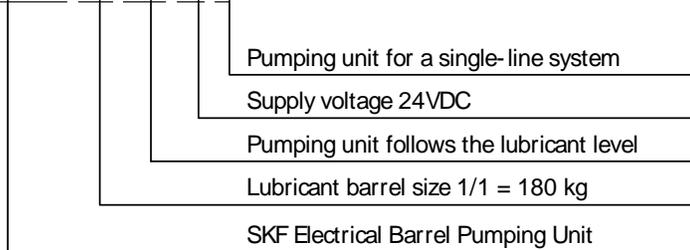
- M16x1.5 cable gland, 1 pc, for 4,5 to 10 mm cable diameters
- M12 connector in models 1 and P

6.3 Symbols

SKF-EPUMP-A-B-C-D	Abbreviation	Description
SKF-EPUMP:	SKF-EPUMP	SKF Electrical Barrel Pumping Unit
A:	1/8	Lubricant barrel size, 18 kg
	1/4	Lubricant barrel size, 50 kg
	1/1	Lubricant barrel size, 180 kg
B:	STA	The pumping unit is fixed on the lubricant barrel..
	ECO	The pumping unit is connected to a follower plate placed inside the lubricant barrel. This allows the pumping unit to follow the lubricant level
C:	24	Supply voltage 24VDC
D:	1	Pumping unit for single-line single-channel lubrication system
	P	Pumping unit for progressive single-channel lubrication system
	CC	Pumping unit for lubrication system with external control

Example:

SKF-EPUMP-1/1-ECO-24-1



7 Spare parts

Table 1 Spare parts for SKF-EPUMP-XXX-ECO. See figure 8.

Item	Description	Order code
1	Pressure relief valve	12772795
2	Pumping element	11771002
3	Heating element incl. cable set 1/1	12502346
	Heating element incl. cable set 1/4	12502347
	Heating element incl. cable set 1/8	12502348
4	Low level switch	10543525
5	Operation button	12772785
6	Cable set M12	12502356
7	Electrical motor	11540100
8	Circuit board EP-Co	12501490
9	Pressure sensor	11408720
10	Pressure indicator	11390082



Figure 8 Spare parts for SKF-EPUMP-XXX-ECO

Table 2 Spare parts for SKF-EPUMP-XXX-ECO lid sets. See figure 9.

Item	Description	Order code
1	Bracket for pumping unit/line valve	-
2	Hook for lifting the follower plate	-
3	Follower plate 1/1 (180 kg)	12603830
	Follower plate 1/4 (50 kg)	12603840
	Follower plate 1/8 (18 kg)	12603845
4	Extra edging for barrel lid 1/1 (180 kg)	12603720
	Extra edging for barrel lid 1/4 (50 kg)	12603740
5	Hose assembly	12651232
6	Grease filter (complete)	12386250
	Grease filter cartridge	12606550
	Grease filter venting screw	12407848

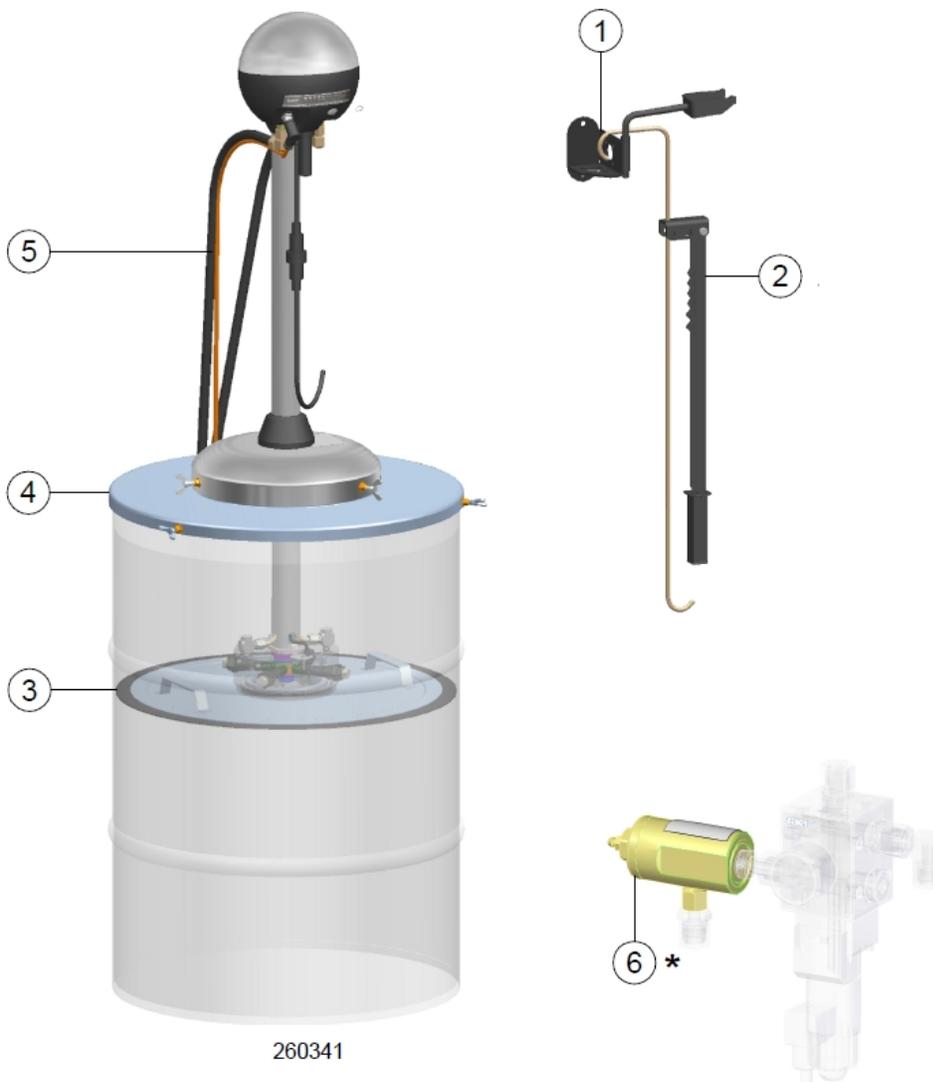


Figure 9 SKF-EPUMP-XXX-ECO lid set

Table 3 Order codes for SKF-EPUMP-XXX-ECO pumping units

Item	Order code	Prodmast code
For single-line single-channel lubrication system, internal control		
SKF-EPUMP-1/1-ECO-24-1	12375000	VGBP 12375000
SKF-EPUMP-1/4-ECO-24-1	12375080	VGBP 12375080
SKF-EPUMP-1/8-ECO-24-1	12375160	VGBP 12375160
For progressive single-channel lubrication system, internal control		
SKF-EPUMP-1/1-ECO-24-P	12375010	VGBP 12375010
SKF-EPUMP-1/4-ECO-24-P	12375090	VGBP 12375090
SKF-EPUMP-1/8-ECO-24-P	12375170	VGBP 12375170
For lubrication system with external control		
SKF-EPUMP-1/1-ECO-24-CC	12375020	VGBP 12375020
SKF-EPUMP-1/4-ECO-24-CC	12375100	VGBP 12375100
SKF-EPUMP-1/8-ECO-24-CC	12375180	VGBP 12375180

Table 4 Order codes for SKF-EPUMP-XXX-ECO lid sets

Item	Order code	Prodmast code
E-LIDSET-1/1-ECO	12381290	VGBV 12381290
E-LIDSET-1/4-ECO	12381285	VGBV 12381285
E-LIDSET-1/8-ECO	12381280	VGBV 12381280

Table 5 Spare parts for SKF-EPUMP-XXX-STA. See figure 10.

Item	Description	Order code
1	Pressure relief valve	12772795
2	Pumping element	11771002
3	Low level switch 1/1 STA Low level switch 1/4 STA	12772775 12772770
4	Cable set M12	12502356
5	Operation button	12772785
6	Electrical motor	11540100
7	Circuit board EP-Co	12501490
8	Pressure sensor	11408720
9	Pressure indicator	11390082



Figure 10 Spare parts for SKF-EPUMP-XXX-STA

Table 6 Spare parts for SKF-EPUMP-XXX-STA lid sets. See figure 11.

Item	Description	Order code
1	Bracket for pumping unit/line valve	-
2	Extra ending for barrel lid 1/1 (180 kg)	12381296
	Extra ending for barrel lid 1/4 (50 kg)	12381294
3	Hose assembly	12651232
4	Grease filter (complete)	12386250
	Grease filter cartridge	12606550
	Grease filter venting screw	12407848

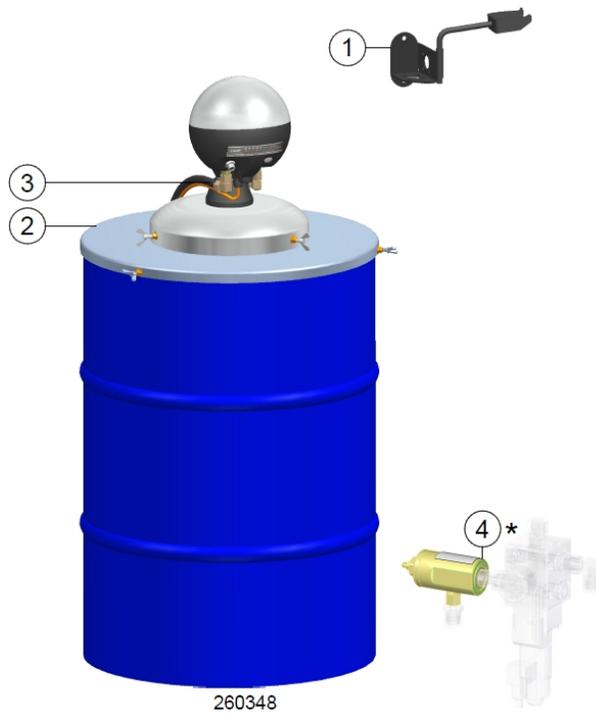


Figure 11 SKF-EPUMP-XXX-STA lid set

Table 7 Order codes for SKF-EPUMP-XXX-STA pumping units

Item	Order code	Prodmast code
For single-line single-channel lubrication system, internal control		
SKF-EPUMP-1/1-STA-24-1	12375040	VGBP 12375040
SKF-EPUMP-1/4-STA-24-1	12375120	VGBP 12375120
SKF-EPUMP-1/8-STA-24-1	12375200	VGBP 12375200
For progressive single-channel lubrication system, internal control		
SKF-EPUMP-1/1-STA-24-P	12375050	VGBP 12375060
SKF-EPUMP-1/4-STA-24-P	12375130	VGBP 12375130
SKF-EPUMP-1/8-STA-24-P	12375210	VGBP 12375210
For lubrication system with external control		
SKF-EPUMP-1/1-STA-24-CC	12375060	VGBP 12375060
SKF-EPUMP-1/4-STA-24-CC	12375140	VGBP 12375140
SKF-EPUMP-1/8-STA-24-CC	12375220	VGBP 12375220

Table 8 Order codes for SKF-EPUMP-XXX-STA lid sets

Item	Order code	Prodmast code
E-LIDSET-1/1-STA	12381296	VGBV 12381296
E-LIDSET-1/4-STA	12381294	VGBV 12381294
E-LIDSET-1/8-STA	12381292	VGBV 12381292

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