

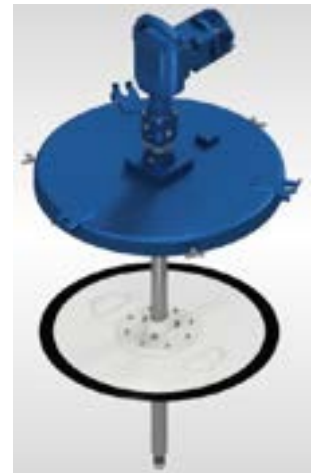
Barrel pump

BEKA Stream E

Article no. 2520; 2521

Issue 08-2021

Original operating and assembly manual



BAL2520_2521_Barrel_pump_Stream_E_0821EN

Table of contents

1.	Technical data	4
1.1	General.....	4
1.2	Pump individually.....	4
1.3	Pump – barrel version	4
1.4	Pump – container version.....	4
1.5	Solenoid valve – single-line version	4
1.6	Level monitoring	4
2.	Applicable documents.....	5
3.	Code	5
4.	Versions.....	7
5.	General safety instructions	8
5.1	Safety instructions	8
5.2	Personnel qualification and training.....	8
5.3	Hazards in case of non-observance of the safety instructions	9
5.4	Obligations of the operator / user	9
5.5	Safety instructions for maintenance, inspection and assembly.....	9
5.6	Unauthorized modification and production of spare parts	9
5.7	Inadmissible modes of operation.....	10
5.8	Electrostatic discharge	10
5.9	General hazard warning – residual risk.....	10
6.	Intended use.....	11
7.	Scope of warranty.....	11
8.	Transport and storage	12
8.1	Pump	12
8.2	Beka Stream E barrel version.....	12
8.3	Beka Stream E container version.....	12
9.	Assembly instructions.....	13
9.1	Prefilling of return connection (lubricant).....	13
9.2	Assembly of Beka Stream E barrel version.....	15
9.3	Assembly of Beka Stream E container version	15
9.4	Power connection	16
10.	Start up	17
10.1	Lubricants.....	17
10.2	Ventilation of the lubrication system.....	17
10.3	Adjustment of the level monitoring (barrel version)	17
10.4	Setting the level monitoring (container version)	17
10.5	Initial filling of container with lubricant	18
11.	Functional description.....	19
11.1	General.....	19
11.2	Pump	19
11.3	Add-on parts.....	19
11.3.1	Level monitoring.....	19
11.3.2	Ventilation valve.....	19
11.3.3	Grease level dipstick.....	19
11.3.4	Single-line block (optional).....	19
11.3.5	Pressure limiting valve (optional).....	19
12.	Maintenance	20
12.1	General maintenance	20
12.2	Lubricant change	20
12.3	Filling of the container	21
12.4	Exchange of barrel	22
12.5	Exchange of pump	23
13.	Repair	24
13.1	Exchange of pump element.....	24
13.2	Exchange of motor	28
13.3	Exchange of sealing bush	29
14.	Shutdown.....	31

15. Disposal	31
16. Troubleshooting	31
17. Spare part list and drawing	31
18. Dimensional drawing of pump without accessories	32
19. Dimensional drawing of pump with accessories	33
20. Accessories	34
20.1 Filling zerk	34
20.2 Pressure limiting valve for progressive and dual-line systems	34
20.3 Pressure limiting valve / relief valve for single-line system	34
20.4 Control unit Tronic-e	35
20.5 10 m connection cable incl. 1x AMP bushing	35
20.6 10 m connection cable for BEKA Stream E incl. 1x cubic bushing (socket acc. to EN175301-803 A)	35
20.7 Module with pressure limiting valve for progressive systems for direct installation on BEKA Stream E	36
21. Details of the manufacturer	37

1. Technical data

1.1 General

Pump

Delivery rate:	120 cm ³ /min
Lubricant:.....	greases up to NLGI class 2 without solid contents (other delivery quantities on demand)
Operating pressure basis system:.....	max. 350 bar (pressure limiting valve not enclosed in delivery)
Operating pressure single line system:	max. 350 bar (pressure limiting valve set to 240 bar)
Operating temperature:	-40°C up to +65°C (depends on lubricant)
Number of outlets:	1
Pressure connection:.....	G1/2
Return connection (integrated in pump pipe):	G1/2
Sound pressure level:.....	<70dB(A)

Motor

Drive type:	electric motor
Motor power:	0,25 kW
Motor voltage:.....	24V DC
Current consumption:	max. 15 A
Connection type:	cable
Protection type:	IP 64

1.2 Pump individually

Weight:	max. 20,6 kg
---------------	--------------

1.3 Pump – barrel version

Barrel capacity:.....	213 l (180 kg / 400 lbs)
-----------------------	--------------------------

1.4 Pump – container version

Container capacity:.....	41 l (60 lbs) / 54 l (90 lbs) / 68 l (120 lbs)
--------------------------	--

1.5 Solenoid valve – single-line version

Operating voltage:	24 V DC
Nominal power:	26 W
Degree of protection:	IP 65

1.6 Level monitoring

Operating voltage:	10 up to 30 V DC
Electric version:	DC PNP NO
Connection plug:	M12x1; 4-poles
Functional principle:	ultrasonic
Degree of protection:.....	IP 67

Please see the attached data sheets and manuals of the corresponding manufacturers for missing details and further technical data.

The **barrel pump** is subsequently called a **device**.

2. Applicable documents

Technical documentation of individual parts enclosed:

Level monitoring

Caution!

Please observe these documents for all work with and at the device!

3. Code

Pump without accessories

Version for the following systems:

Progressive system

Dual-line system

Single-line system with and without relief valve at the pump pipe



Code construction type no.: 2520 (pump without accessories) **2520 1 1 1 80 0000**

Voltage	24V DC								
Code number	1								
Delivery capacity	max. 120 ccm/min								
Code number	1								
Relief valve at pump pipe* (Only for single-line systems)	without	24 V DC (directly at pump pipe incl. PLV)							
Code number	0	1							
For barrel size**	400 LBS***								
max. capacity	213l / standard size 180 kg								
Code number	80								
For container size	60 LBS***	90 LBS***	120 LBS***						
max. capacity	41l	54l	68l						
Code number	10	20	30						
Special versions	without								
Code number	0000								

* If the relief valve is required directly at the pump pipe for a single-line pump, select 1.
This is mainly the case when planning a new single-line system.
If the pump is to be integrated into a single-line system that has a separate relief valve, select 0.
This is mainly the case when replacing existing pumps.

** Always indicate the following values: barrel height

***Indication in pounds (LBS) is to be understood as parameter for barrels and containers

Pump with accessories

Version for the following systems:

Progressive system

Dual-line system

Single-line system with and without relief valve at the pump pipe



Code construction type no.: 2521

(pump with accessories)

2521 1 1 1 10 0 0 00

Voltage	24V DC			
Code number	1			
Delivery capacity	max. 120 ccm/min			
Code number	1			
Relief valve at pump pipe*	without	24V DC		
(Only for single-line systems)		(directly at pump pipe incl. PLV)		
Code number	0	1		
For barrel size**	400 LBS***			
max. capacity	213l / standard size 180 kg			
Code number	80			
For container size	60 LBS***	90 LBS***	120 LBS***	
max. capacity	41l	54l	68l	
Code number	10	20	30	
Empty signal	without	visual	electrical	visual + electrical
Code number	0	1	2	3
Follow-up piston	without		with	
Code number	0		1	
Special versions	without			
Code number	00			

* If the relief valve is required directly at the pump pipe for a single-line pump, select 1.
 This is mainly the case when planning a new single-line system.
 If the pump is to be integrated into a single-line system that has a separate relief valve, select 0.
 This is mainly the case when replacing existing pumps.

** Always indicate the following values: barrel height and barrel internal diameter

***Indication in pounds (LBS) is to be understood as parameter for barrels and containers

4. Versions

Pump

Figure 1



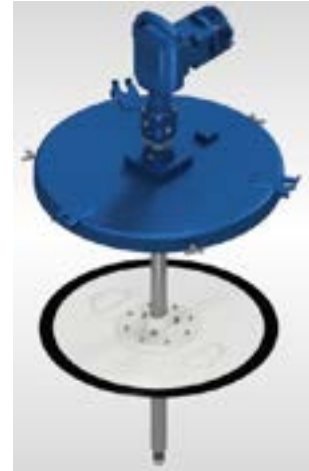
Pump - container version

Figure 2



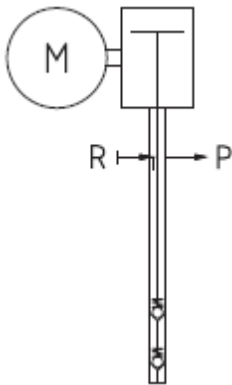
Pump - barrel version

Figure 3



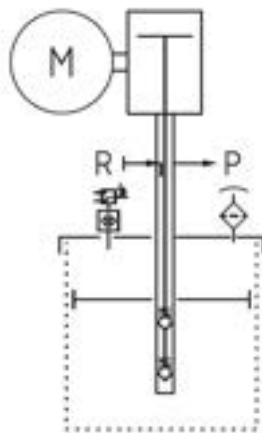
Symbol

Figure 4



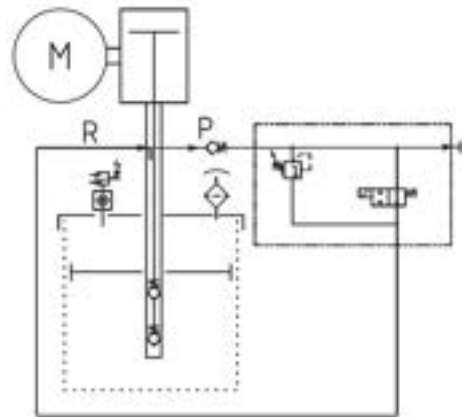
Symbol (basis system)

Figure 5



Symbol (single-line system)

Figure 6
Figure 1



5. General safety instructions

Everybody who is in charge of the assembly, start-up, maintenance and operation of the device must read these instructions carefully prior to assembly and start-up of the device at the machine! Furthermore, this manual must always be available at the site of operation!

Basic instructions for setup, operation and maintenance can be found below.

5.1 Safety instructions

Observe the general safety instructions within this key chapter as well as the special safety instructions in other chapters of this operating and assembly manual.



Warning of electrical voltage.



Safety instructions, which might cause hazards to persons in case of non-observance, are marked with the general danger symbol.



This symbol warns of hot surfaces.



Warning of suspended loads.



Warning of material damage due to electrostatic discharge! Marks potential risks which may result in material damage, if not avoided.

Caution!

This heading is used if improper or general non-observance of the operating and assembly manual, instructions, specified workflow and the like might result in damage.

Notice!

This term is used to point out particular details.

Instructions and notes directly attached to the device have to be strictly observed and kept in readable condition!

5.2 Personnel qualification and training



The staff in charge of operation, maintenance, inspection and assembly have to be qualified accordingly. Competence, responsibilities and supervision of staff must be clearly defined by the operator. In case the staff does not have the necessary knowledge, it has to be instructed and trained accordingly. The operator is obliged to ensure that the staff fully understands the contents of this user information.

5.3 Hazards in case of non-observance of the safety instructions



Results of **non-observance** of the **safety instructions** can be **hazards to persons**, for the environment and the device. Non-observance of the safety instructions may result in the loss of any liability claims. The non-observance could more specifically result in the following hazards (for example):

- Failure of important device functions.
- Failure of prescribed methods regarding maintenance and repair.
- Danger to persons by electrical, mechanical and chemical effects.
- Danger to the environment by leakage of hazardous substances.

5.4 Obligations of the operator / user



- If movable, rotating, hot or cold parts of the device bear risks, the customer must protect these parts against contact. This protection must not be removed.
- Any leakages of hazardous substances must be drained in a way that no risks for persons or the environment arise. Please also refer to the data or safety data sheets of the respective manufacturers.
- Observe all legal provisions.
- Hazards due to electricity are to be excluded.
- Examination of pipes and hoses regarding safe provision, use, proper assembly and function has to be carried out according to regionally applicable directives. Inspection intervals may not be exceeded.
- Defective pipes or hoses must be replaced immediately and professionally.
- Hydraulic hoses and polyamide pipes are subject to natural aging and have to be exchanged in regular intervals according to the manufacturer's specifications.
- A safety data sheet of the currently used lubricant must be provided at the device.
- Observe the universally valid Ordinance on Hazardous Substances in its latest version.

5.5 Safety instructions for maintenance, inspection and assembly



All **maintenance, inspection** and **assembly work** may only be carried out by **qualified personnel** who is sufficiently informed by thorough reading of the user information.

Any work at the device may generally only be carried out at **complete standstill** and in **pressureless** as well as **disconnected condition**. Furthermore, appropriate **personal protective equipment** (goggles among others) is necessary. The shutdown procedure of the device as described in the manual must be strictly followed.

Secure the device against intentional or unintentional recommissioning during maintenance or repair. All safety and protection arrangements have to be put back in place again immediately after completion of the work.

Environmentally hazardous media must be disposed of professionally and according to the relevant legal provisions. **Polluted** and **contaminated surfaces** have to be cleaned before maintenance. Please wear protective equipment to that purpose. See the lubricant manufacturers' safety data sheets hereto, respectively the data sheets provided by the manufacturers of auxiliaries and working materials.



Check the surface temperature of the device as a possible heat transfer bears the **risk of burns**. Wear heat resistant protective gloves!

Open flame and fire are strictly forbidden during maintenance, inspection and repair due to fire hazard.

5.6 Unauthorized modification and production of spare parts



Modification, repair and alterations of the device are only accepted after manufacturer feedback. **Original spare parts** and authorized accessories from the manufacturer contribute to **safety**. The use of other parts can result in the loss of any liabilities for the resulting consequences. Groeneveld-BEKA does not assume liability for parts that are retrofit by the operator.

5.7 Inadmissible modes of operation

Operational safety of the device is only guaranteed when it is appropriately applied as indicated in the operating and assembly manual. Never exceed or fall below the limit values, as stated in the technical data.

5.8 Electrostatic discharge



Avoid electrostatic discharge! There are electronic components integrated into the devices which might be destroyed by electrostatic discharge. Observe the safety precautions against electrostatic discharge according to DIN EN 61340-5-1/-3. Ensure that the environment (persons, workplace and packing) is well grounded when handling these devices.

5.9 General hazard warning – residual risk



All components are designed according to valid regulations for the construction of technical systems with regard to operational safety and accident prevention. Nevertheless, their use can lead to hazards for the user or third parties as well as other technical facilities. Therefore, the device may only fulfill its intended purpose in a **technically perfect and faultless condition**. This has to happen in adherence to the relevant safety regulations as well as the operating and assembly manual. **Inspect** the device and its attachment parts **regularly** and **check** them for possible **damage** or **leakages**. **Liquids** could **escape under high pressure** from pressurized components which become **leaky**.

6. Intended use

Caution!

The device is part of a central lubrication system. It serves **for conveying lubricant for the lubrication** of machines as described in this operating manual. The device is approved for **industrial and commercial use only**.

Only operate the device if it is installed in/at another machine and operated together with it.

Only lubricants which comply with the machine manufacturer's specifications may be conveyed.

The device must only be used according to the technical data (see chapter 1 „Technical data“). The values may never exceed or fall below the values mentioned in the technical data. Never operate the device without lubricant.

Unauthorized modifications of the device are **not permitted**. Groeneveld-BEKA is not liable for personal injury or damage of machine resulting thereof.

The device was manufactured in compliance with Machinery Directive 2006/42/EG. The customer has to check whether further guidelines apply for the area of application and site of operation. If the device is not in conformity with these guidelines, it may not be put into operation.

The intended use also includes:

- paying attention to all chapters and notes in the operating and assembly manual.
- carrying out all maintenance work.
- **observing** all relevant instructions for **work safety** and **accident prevention** during all life cycles of the device.
- having the necessary professional training and authorization of your company to operate the device and to carry out the necessary work on the device.

Another use or a use beyond this scope is deemed improper.

7. Scope of warranty

Warranties regarding operational safety, reliability and performance will only be granted by the manufacturer if the device is used according to the regulations and under the following conditions:

- Assembly, connection and maintenance are only carried out by authorized and qualified staff.
- The device is only used according to the operating and assembly manual.
- Never exceed or fall below the limit values as defined in the technical data.
- Modifications and repairs at the device may only be done by Groeneveld-BEKA.

Caution!

Guaranty and warranty will expire for any damage of the device caused by improper lubricant (e.g. wear of piston, piston jamming, blockades, brittled sealings etc.).

Groeneveld-BEKA will generally not accept guaranty claims for any damage caused by lubricants, even though those have been laboratory tested and released by Groeneveld-BEKA, as such damage (e.g. by over-stored or incorrectly stored lubricants, batch fluctuations, etc.) cannot be verified or reconstructed later.

8. Transport and storage

Use suitable lifting devices for transport.
Do not **throw** the device or expose it to **shocks**.
Secure the device against toppling down or slipping during transport.

8.1 Pump

Caution!

If the device is lifted at the pump bracket, the maximum load of 100 kg must be observed. The device must always be lifted without barrel or container.

Figure 7



8.2 Beka Stream E barrel version

The pump, the barrel cover and the follower plate must always be transported in a disassembled state (separately).

8.3 Beka Stream E container version

The device must be lifted at the transport eyelets (fig. 8, red arrows). In addition, it must be fixed to the pump bracket so that it cannot tip over. The device must only be transported when it is completely empty.

Figure 8



Observe all valid safety and accident prevention regulations for the transport. Wear suitable **protective equipment** if necessary. **Keep adequate distance to suspended loads**. The transport help or the elevating device must have the **adequate carrying capacity**.

Notice!

When storing the device pay attention that the storage area is cool and dry in order to avoid corrosion of the individual parts of the device.
Observe the storability of the contained lubricant for devices which are filled with lubricant. Exchange the lubricant when it is over-stored (separation of oil and soap).

9. Assembly instructions

Check the device for possible transport damage and for completeness before the assembly. Any installed equipment for transportation safety has to be removed.



Comply with the following conditions when assembling a complete machine from this device and other components. Mind a proper and eco-friendly assembly without impairment of persons' health and safety:

Assemble the device in balance on the installation location in order to ensure safe operation. Observe the information on the fastening holes given in the dimensional drawing. When selecting the set-up location, please mind that the device should be protected against ambient and mechanic influences. Ensure full access, e.g. for filling with lubricant.

Special measures concerning noise prevention or oscillation reduction do not have to be taken.

9.1 Prefilling of return connection (lubricant)

Notice!

This chapter must only be observed when the return connection for the lubricant is used. If the device is operated without this option, continue with chapter 9.2.

In order to avoid that air is pumped into the container / barrel, when the lubricant flows back, the return connection in the pump pipe must be prefilled with lubricant.

Caution!

Always ensure **utmost cleanliness** during the **prefilling**.

Step 1:

If the return connection (fig. 9, pos. 1) is sealed, the screw plug (fig. 9, pos. 2) has to be unscrewed with an Allen key AF10.

Notice!

The return connection is marked with an „R“ at the pump (fig. 10).

Figure 9



Figure 10



Step 2

Then screw the filling nipple (fig. 11, pos. 3) with AF 27 into the return connection (G1/2).

Figure 11



The filling nipple is not included in the scope of delivery (see chapter accessories).

Step 3:

Fill the return connection (G1/2) with a filling press until the lubricant escapes from the pump pipe (fig. 12 and 13).

Figure 12



Figure 13



Step 4:

After the filling, the filling zerk can be disassembled again. If the return connection is not used, it has to be closed again.

9.2 Assembly of Beka Stream E barrel version

Step 1:

Push the follower plate (fig. 14, pos. 6) into the barrel.

Step 2:

Attach suitable lifting straps or chains to the bracket (fig. 14, pos. B).

Step 3:

Push the pump (fig. 14, pos. 1) with a suitable lifting device through the central bore in the barrel cover (fig. 14, pos. 3).

Step 4:

Push the pump pipe (fig. 14, pos. 7) through the follower plate (fig. 14, pos. 6). Make sure that the barrel cover (fig. 14, pos. 3) does not slide downwards.

Step 5:

Push the pump (fig. 14, pos. 1) with cover (fig. 14, pos. 3) down until the cover rests on the barrel.

Step 6:

Tighten the wing screws (fig. 14, pos. 4) until the cover (fig. 14, pos. 3) is firmly fixed on the barrel.

Step 7:

If available, fold the tie rods (optional accessory) upwards and fix them with the straps (fig. 14, pos. 5) of the cover (fig. 14, pos. 3).

Step 8:

Push the pump (fig. 14, pos. 1) completely down until the pump pipe (fig. 14, pos. 7) rests on the bottom of the barrel. Then pull the pump up again by approx. 1 cm.

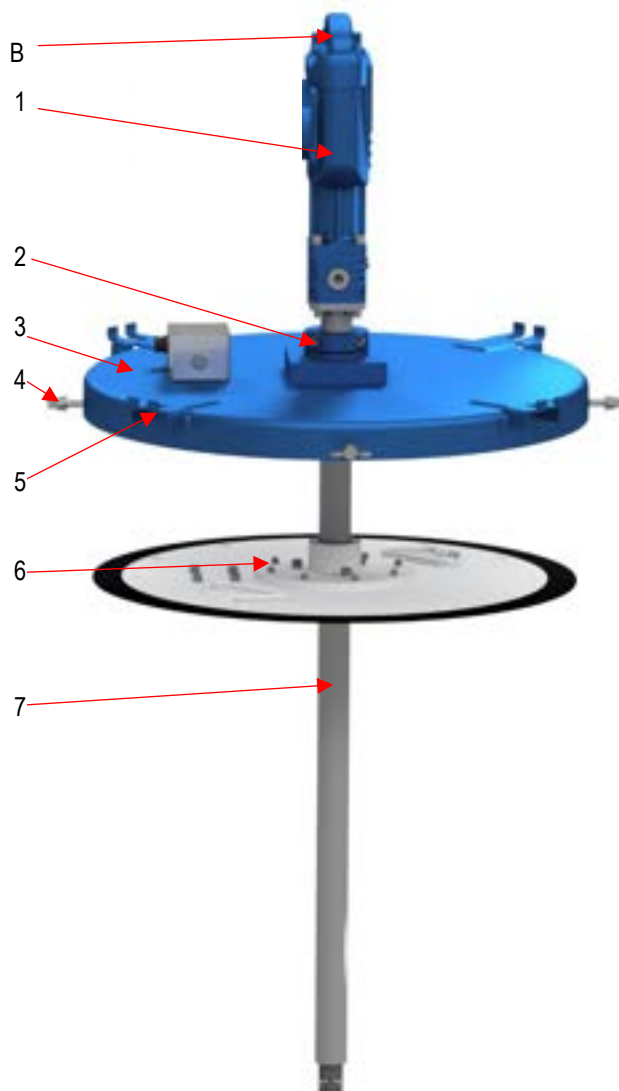
Step 9:

Fix the pump (fig. 14, pos. 1). Tighten the two clamping screws (hexagonal socket AF 6 – fig. 14, pos. 2).

Step 10:

Remove lifting straps or chains.

Figure 14 (View without motor)



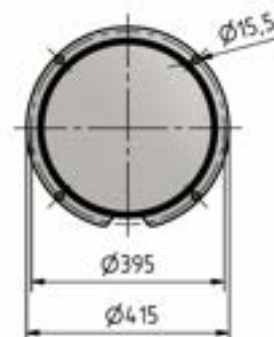
9.3 Assembly of Beka Stream E container version

Screw the device securely to the ground using the 4 fastening bores (fig. 15).

The ground has to be as even as possible.

The fasteners must be matched to the ground.

Figure 15



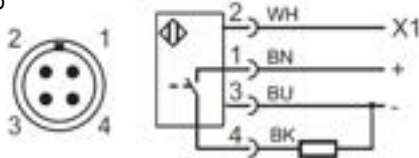
9.4 Power connection



- Power supply must be done by a professional electrician!
- Electrical device components must be wired professionally!
- Compare voltage details with the existing mains voltage!
- Equipotential bonding must be done professionally by the operator via an according ground connection!
- Connect the device according to the terminal diagram!

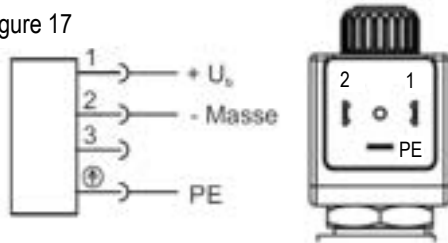
Terminal diagram of level monitoring

Figure 16



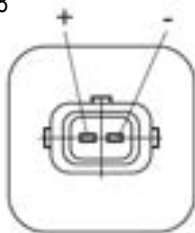
Terminal diagram 3/2-way change-over valve

Figure 17



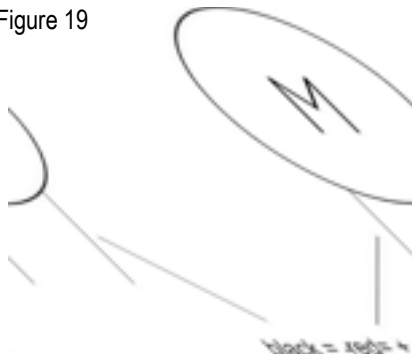
Terminal diagram of solenoid valve (only for single-line version)

Figure 18



Terminal diagram Motor

Figure 19



Note!

If the motor braids are not connected correctly, the motor does not start to operate.

10. Start up

10.1 Lubricants

The device is designed for commercial multipurpose greases up to NLGI class 2 without solid contents. A detailed description of the barrel change or the container filling can be found in chapter 12 „Maintenance“. Observe the following notices:

- Use greases with high pressure additives (EP-grease).
- Observe the machine manufacturer's lubricant details! Only use lubricants according to machine manufacturer's specifications!
- Collect leaking lubricant in a suitable reservoir and dispose it professionally!
- The lubricant viscosity changes with the operating temperature.
- Check the level several times in equal intervals during the first hours of operation and refill clean lubricant or change barrel, if necessary.
- Ensure utmost cleanliness when filling the lubricant!
- Use only greases with the same saponification.
- Observe the safety data sheet of the lubricant manufacturer!

10.2 Ventilation of the lubrication system

- Ventilate the whole lubrication system on first start-up and after each lubricant change!
- Ventilation is done by operating the system in pressureless condition and with open system outlets!
- Operate the pump until lubricant escapes from the pressure connection without air inclusions.

10.3 Adjustment of the level monitoring (barrel version)

Step 1:

Identify the barrel height (fig. 20, dimension B)

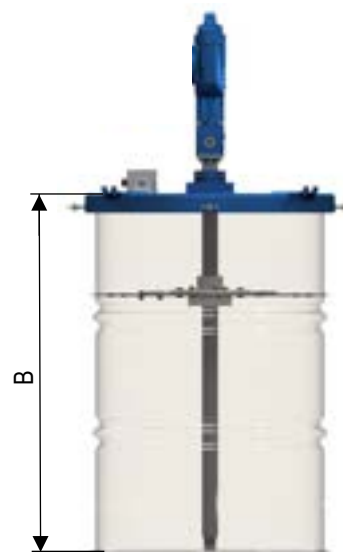
Step 2:

Set the level monitoring (ultrasonic sensor) to dimension B – 7 cm (empty signal). If a prewarning should also be set, the second switching point of the visual sensor can be set to a random height before the empty signal.

Caution!

Observe the separate technical documentation of the level monitoring enclosed.

Figure 20 (View without motor)



10.4 Setting the level monitoring (container version)

For the container version, the level monitoring (ultrasonic sensor) is already set ex works (empty signal).

10.5 Initial filling of container with lubricant



The pump must be depressurized and secured against unintentional start-up.

Step 1:

Open the ventilation screw (fig. 21, pos. 3) on the back side of the container at initial filling (hexagonal socket AF 10) and remove the screw plug on the filling connection G1 (fig. 22, pos. 1) (hexagonal socket AF 17).

Step 2:

Connect a suitable filling pump to the filling connection G1 (fig. 21, pos. 1) of the device.

Step 3:

Fill the container with clean lubricant via the filling connection G1 (fig. 21, pos. 1) until lubricant escapes from the ventilation screw (fig. 21, pos. 3)!

Step 4:

Retighten the ventilation screw (fig. 21, pos. 3) and dispose of excess lubricant environmentally friendly.

Step 5:

Fill the device slowly with clean lubricant via the filling connection G1 (fig. 21, pos. 1) until lubricant escapes from the overfill protection (fig. 21, pos. 2). Dispose of leaked lubricant environmentally friendly.

Step 6:

Remove the filling pump again and close the filling connection G1 (fig. 21, pos. 1).

Figure 21



11. Functional description

11.1 General

The device is used to supply the central lubrication system or individual lube points with lubricant. Depending on the type of application, the pump can be used for single-line, dual-line or progressive systems. There are various accessories available for the barrel pump BEKA Stream E (see chapter 20 "Accessories").

11.2 Pump

The pump is driven by a brushless DC motor. Due to an eccentric in the housing, the rotation motion of the motor is transformed to a stroke movement of the piston rod. The delivery piston of the pump is connected with the piston rod, thus a suction and pressure stroke is effected. Hence lubricant is pumped into the end of the conveying pipe and supplied to the pressure outlet. A reverse pumping of lubricant is avoided by a non-return valve. The integrated return connection can be used to led back surplus lubricant to the barrel.

11.3 Add-on parts

11.3.1 Level monitoring

An ultrasonic sensor monitors the lubricant level in the container or the barrel and sends a signal at minimum level.

The ultrasonic sensor sends a signal for barrel exchange as soon as the barrel is empty. The signal evaluation is done by the customer.

Two TEACH modes are available to configure the sensor:

- Individual programming of the lower and upper limit values, or
- Use of the "Auto-Window" feature to create an acquisition window around the programmed position.

Caution!

Also observe the technical documentation of the ultrasonic sensor enclosed.

In order to avoid that air is sucked into the lubrication circuit, the device should be switched off at an empty signal.

11.3.2 Ventilation valve

The ventilation valve in the reservoir cover is used to filter the incoming air during the pressure compensation that is caused by a varying level. The ventilation filter element has to be checked at regular intervals and renewed if it is visibly polluted.

11.3.3 Grease level dipstick

If the grease level dipstick is pulled out of the reservoir, the lubricant level is displayed at the stick. In order to avoid that dirt enters the reservoir, the dipstick has to be completely inserted into the bore.

11.3.4 Single-line block (optional)

A relief valve can be attached as a block at the pump pipe at a device for single-line systems. It is directly flanged to the pressure and return connection. The single-line block is equipped with a pressure relief valve, which enables the pressure line to be relieved as required for single-line systems.

11.3.5 Pressure limiting valve (optional)

Optionally, a pressure limiting valve can be attached to the device for progressive and dual-line systems. It is available as component for a customer-specific attachment in the entire system or as a module for direct attachment at the pump pipe. It has an opening pressure of 280 bar.

12. Maintenance



Disconnect the device from electrical energy supply before **maintenance or repairs**.

Only carry out **maintenance and repair** in **complete device standstill** and **pressureless condition**.

Check the surface temperature of the device to avoid the **risk of burns** by radiant heat. Wear heat-resistant gloves and safety goggles! Clean soiled or contaminated surfaces before maintenance, wearing protective equipment if necessary! Secure the device against recommissioning during maintenance and repair work!



Further information and technical details regarding the components can be found in the enclosed operating manuals of the components.

12.1 General maintenance

- Retighten all fittings 6 weeks after start up!
- Check all components for leakages and damage at least every four weeks!



If leakages are not repaired, lubricant **might escape under high pressure**. Remove possible puddles of lubricant immediately.

12.2 Lubricant change

Caution!

Pay attention to utmost **cleanness** when refilling lubricant!

- Check the level regularly and refill clean lubricant as necessary, see chapter start up.
- Change the lubricant according to the specifications of the lubricant manufacturer. Environmental influences like increased temperature or pollution may shorten these intervals!
- Please make sure to only use lubricants that are suitable for the device as well as the lubricated machine and that comply with the requirements of the particular operating conditions.
- In case of **different lubricant manufacturers**, ensure that the lubricant **quality** corresponds to the quality of the previously used one! As precautionary measure, drain the lubricant reservoir properly and clean it!

12.3 Filling of the container



The pump must be depressurized and secured against unintentional start-up.

Step 1:

Remove the screw plug from the filling connection G1 (fig. 22, pos. 1) (hexagon socket AF 17) and connect a suitable filling pump at the filling connection G1.

Step 2:

Fill the device slowly with clean lubricant via the filling connection G1 (fig. 22, pos. 1) until lubricant escapes from the overfill protection (fig. 22, pos. 2). Dispose of leaked lubricant environmentally friendly.

Step 3:

Remove the filling pump again and close the filling connection G1 (fig. 22, pos. 1).

Figure 22



12.4 Exchange of barrel



The pump must be depressurized and secured against unintentional start-up.

Step 1:

Attach suitable lifting straps or chains to the bracket (fig. 23, pos. B).

Step 2:

Disassemble the tie rods (if available – optional accessory) from the straps (fig. 23, pos. 5) of the cover (fig. 23, pos. 3) and fold them down.

Step 3:

Unscrew the wing screws (fig. 23, pos. 4) until the cover (fig. 23, pos. 3) can be removed from the barrel.

Step 4:

Pull the pump (fig. 23, pos. 1) incl. cover (fig. 23, pos. 3) out of the grease barrel using a suitable lifting device.



The relevant regulations on lifting loads must be observed. The grease barrel must not be lifted at the same time.

Caution!

Ensure that the pump pipe (fig. 23, pos. 3) is not damaged or soiled.

Step 5:

Pull the grease follower plate (fig. 23, pos. 6) out of the empty grease barrel and press it into the new barrel.

Step 6:

Now reinsert the pump pipe (fig. 23, pos. 7) through the follower plate (fig. 23, pos. 6) into the barrel.

Step 7:

Push the pump (fig. 23, pos. 1) with cover (fig. 23, pos. 3) downwards until the cover rests on the barrel.

Caution!

If the height of the new barrel differs from that of the old one, adjust the immersion depth of the pump pipe (fig. 23, pos. 1) to the new barrel. First, loosen the two clamping screws (hexagon socket AF 6 - fig. 23, pos. 2). Then proceed as described in chapter 9.2 "Assembly of Beka Stream E barrel version" (steps 4 to 8). The following steps 9 and 10 in this chapter are then omitted.

Step 8:

Tighten the wing screws (fig. 23, pos. 4) until the cover (fig. 23, pos. 3) is firmly fixed on the barrel.

Step 9:

If available, fold the tie rods (optional accessory) upwards and fix them with the straps (fig. 23, pos. 5) of the cover (fig. 23, pos. 3).

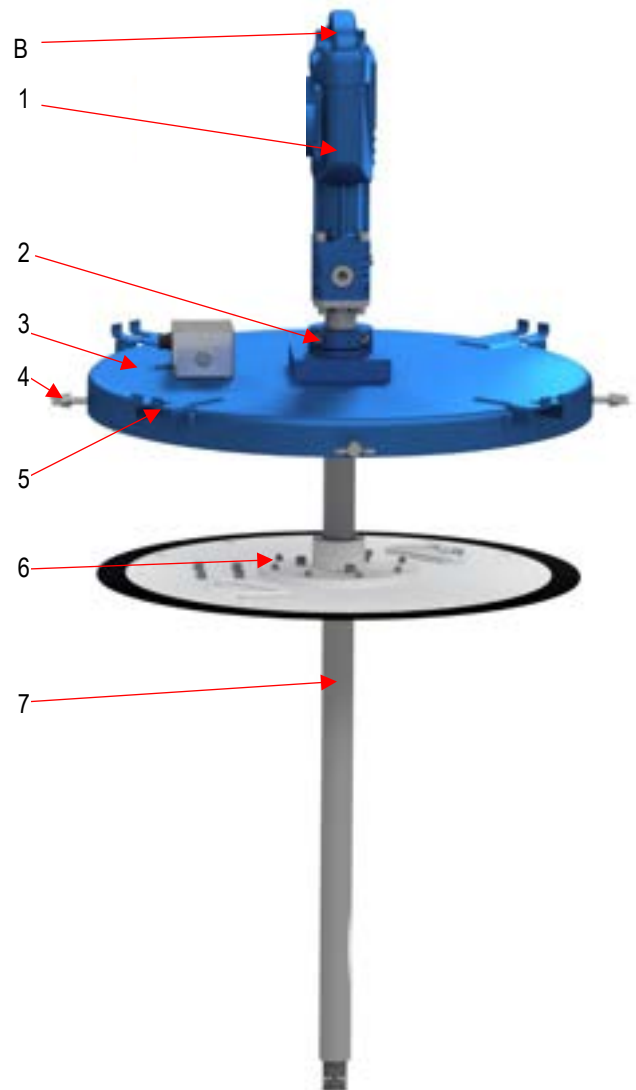
Step 10:

Remove lifting straps or chains.

Caution!

Use grease barrels only with original grease filling!
Do not use refillable barrels!

Figure 23 (View without motor)



12.5 Exchange of pump



The pump must be depressurized and secured against unintentional start-up. Shut off the circuit of the drive medium.

Step 1:

Attach suitable lifting straps or chains to the bracket (fig. 24, pos. B).

Step 2:

Disconnect the electrical wiring from the pump.

Step 3:

Loosen the clamping screw (hexagon socket AF 6 – fig. 24, pos. 2).

Step 4:

Lift the pump (fig. 24, pos. 1) out of the barrel or the container using a suitable lifting device.



The relevant regulations on lifting loads must be observed. The grease barrel must not be lifted at the same time.

Caution!

Ensure that the pump pipe (fig. 24, pos. 3) is not damaged or soiled.

Step 5:

Remove lifting straps or chains from the pump and attach them to the new pump.

Step 6:

Insert the new pump (fig. 24, pos. 1) into the container or the barrel. Carefully insert the pump pipe (fig. 24, pos. 3) into the opening in the middle of the cover and the follower plate.

Step 7:

Container version:

Push the pump (fig. 24, pos. 1) all the way down until the pump rests on the clamping block (fig. 24, red arrow).

Barrel version:

Push the pump (fig. 24, pos. 1) all the way down until the pump pipe (fig. 24, pos. 3) rests on the bottom of the barrel. Then pull the pump up again by approx. 1 cm.



Risk of crushing between clamping block and pump body (Fig. 24, red arrow). Slowly lower the pump.

Step 8:

Fix the pump (fig. 24, pos. 1). To do this, tighten the two clamping screws (fig. 24, pos. 2).

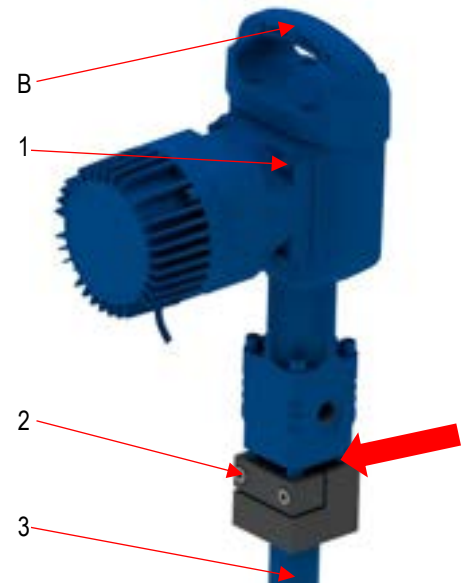
Step 9:

Connect the electrical wiring to the pump (see chapter 9 "Assembly instructions").

Step 10:

Remove lifting straps or chains.

Figure 24



13. Repair

Caution!

Always ensure utmost **cleanliness** during repair works. Repair works that you can perform yourself are listed in the following. **Other repair works** may only be done by BEKA.

Notice!

In chapter 13, pictures of pumps with special motors were used, which do not reflect the appearance of the standard motor.

13.1 Exchange of pump element

1. Step:

Demount 4 cylinder screws (A) with a hexagon socket wrench AF 6 (fig. 25).

Figure 25



2. Step:

Pull off pump pipe (B) (fig. 26).

Figure 26



3. Step:

Disassemble 4 motor fastening screws (C) with a ring/open-ended wrench SW10 (fig. 27).

Figure 27



4. Step:

Now turn the motor (D) clockwise or counterclockwise until the suction piston (E) reaches the down position (fig. 28).

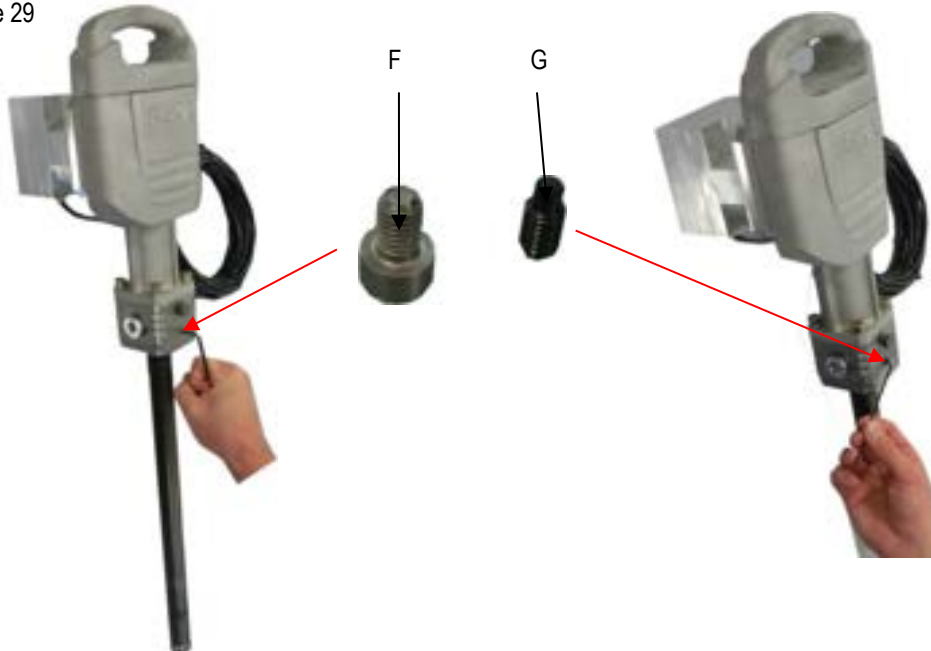
Figure 28



5. Step:

Remove both lock screws F (Hexagon socket screw AF4) and G (Hexagon socket screw AF 2,5) (fig. 29).

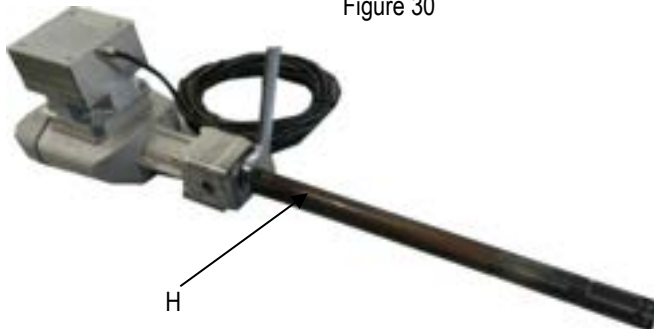
Figure 29



6. Step:

Unscrew the suction pipe (H) with an open-ended wrench AF26 and pull it out until stop (fig. 30).

Figure 30



7. Step:

Knock out the locking pin with a drift Ø3mm and a hammer and remove it completely (fig. 31 and 32).

Attention!

This is only possible if the suction piston is in the lower final position (see step 4).

Figure 31



Figure 32

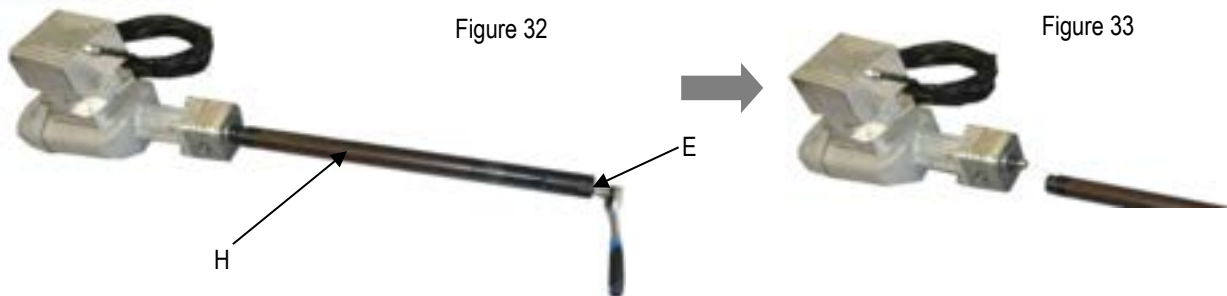


8. Step:

Now unscrew the supply pipe (H) via the hexagon (AF10) at the suction piston (E) from the pump and remove it (fig. 32 and 33).

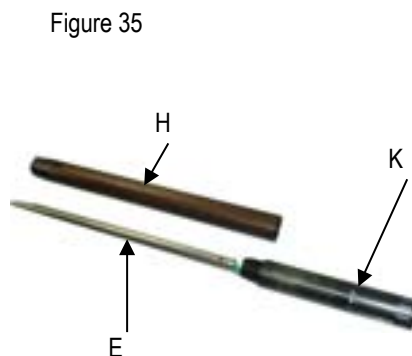
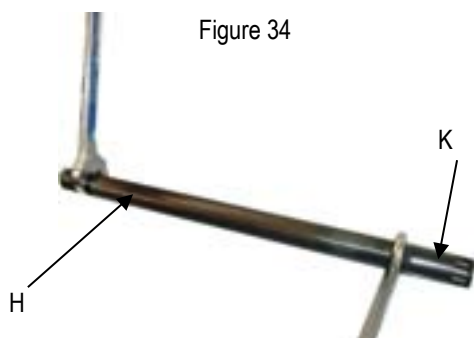
Figure 32

Figure 33



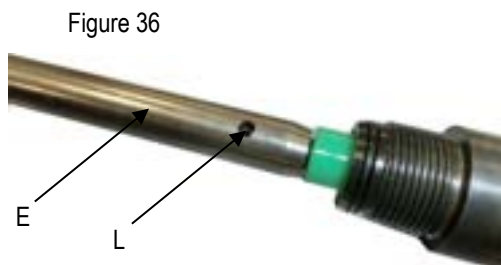
9. Step:

Unscrew the pump element (K) with an open-ended wrench AF28 from the supply pipe (H). Hold up the pipe with another wrench AF26 (fig. 34). Pull out the pump element (fig. 35) with suction piston (E).



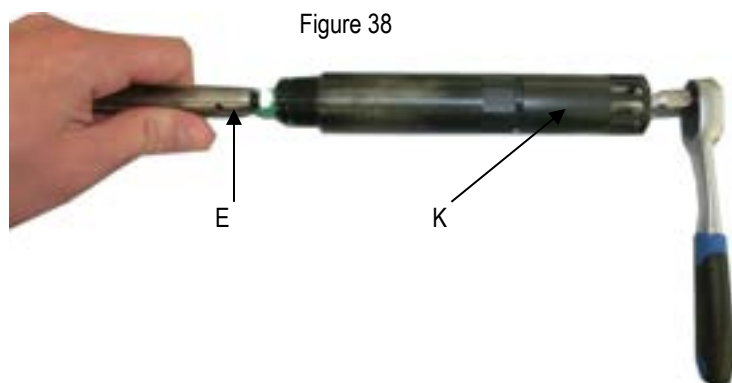
10. Step:

Demount the locking pin (L) from the suction piston (E) with a punch $\varnothing 3\text{mm}$ and a hammer and remove it (fig. 36 and 37).



11. Step:

Unscrew the pump element (K) via the hexagon (AF10) of the suction piston (E) from the piston rod and remove it (fig. 38).



12. Step:

Now the pump element can be changed and the pump shall be assembled in reverse order.

Attention!

All sealings must be installed correct and have no damages.

13.2 Exchange of motor

1. Step:

Disassemble 4 motor fastening screws (C) with a ring/open-ended wrench SW10 (fig. 39).

Figure 39



2. Step:

The motor (D) has to be lifted up now.

3. Step:

Reassemble new motor in reverse order (fig. 40).

Figure 40



13.3 Exchange of sealing bush

Please follow steps 1 to 8 from chapter 13.1 „Exchange of pump element“.

Step 9:

Disassemble the 4 cylinder screws (M) at the housing cover (N) (hexagon AF5). The pump must be in a vertically upright position to avoid that oil flows uncontrolled out of the pump housing (O) (fig. 41).

Figure 41



Step 10:

Remove the housing cover (N) and drain the oil in the pump housing (fig. 42). The oil is intended to be used for the entire life cycle of the pump and can therefore be reused.

Caution!

If the cover seal (S) is damaged, it must be replaced. In this case, fresh oil must also be filled in. The used oil cannot be reused.

Figure 42



Step 11:

Remove the 4 cylinder screws (P) from the pump housing (fig. 43).

Figure 43



Step 12:

For an easier disassembly, the housing cover (N) can be refastened to the pump housing using the 4 cylinder screws (M). Now pull off the connection body (Q) from the pump housing (O) (fig.s 44 and 45).

Figure 44

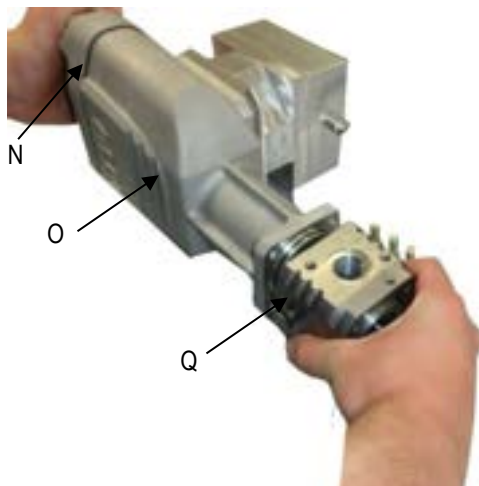


Figure 45



Step 13:

Pull out the sealing bush (R) with a gripper from the connection body (Q) (fig. 46). Now the sealing kit can be replaced by a new one.

Figure 46

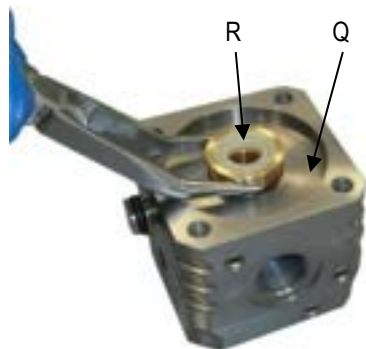


Figure 47



Step 14:

Reassemble the device in reverse order.

Caution!

All seals must fit correctly at installation and must not be damaged. Furthermore, the pump housing (O) must be filled with oil up to the "max. level" (fig. 48). Also observe the notices in step 10.

Figure 48



14. Shutdown

- Relieve the device from pressure!
- Turn off electrical energy supply!
- A qualified electrician has to disconnect electrical components from the electrical energy supply!
- Remove all pipes and hoses from the device and loosen all fastenings for disassembly!

15. Disposal

Notice!

Observe the disposal instructions of the lubricant manufacturer when lubricant is changed! Lubricants or cloths contaminated with lubricant, etc. must be collected in specially marked reservoirs and disposed of accordingly.

Disposal of the device must be done properly and professionally and according to the national and international laws and regulations.

16. Troubleshooting

Malfunction	Possible cause	Possible remedy
Pump does not supply lubricant	Barrel empty	Exchange barrel
	Air inclusions in lubricant	Ensure that pump can prime lubricant
Level monitoring glows	Barrel / container empty	Change barrel / fill up container
Level monitoring glows, although barrel is full	Ultrasonic sensor defective	Replace ultrasonic sensor
	Supply line to ultrasonic sensor defective	Insert new line
No pressure is build up in pump	Sealing bush of drive piston defective	Renew sealing bush
	Suction valve in pump defective or polluted	Renew or clean suction valve or pump (see 13.1)
	Air inclusions in lubricant	Ensure that pump can prime lubricant
Motor does not operate	Braids connected wrong	Correct connection of braids
	Motor defective	Change motor (see 13.2)

17. Spare part list and drawing

Spare part lists and drawings are available on request.
Please indicate the article number of your device for this.

18. Dimensional drawing of pump without accessories

Figure 49

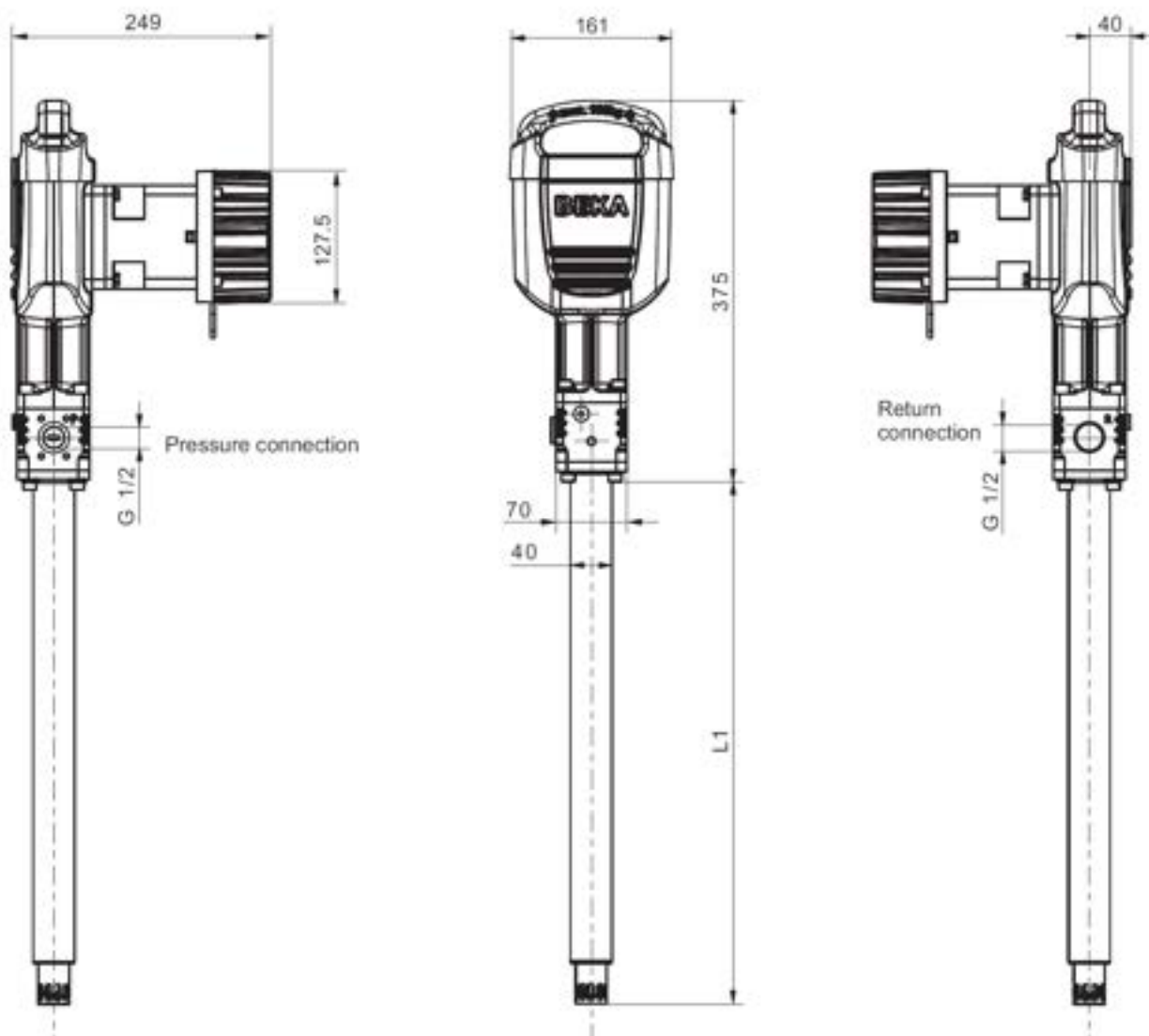


Table for dimension L1

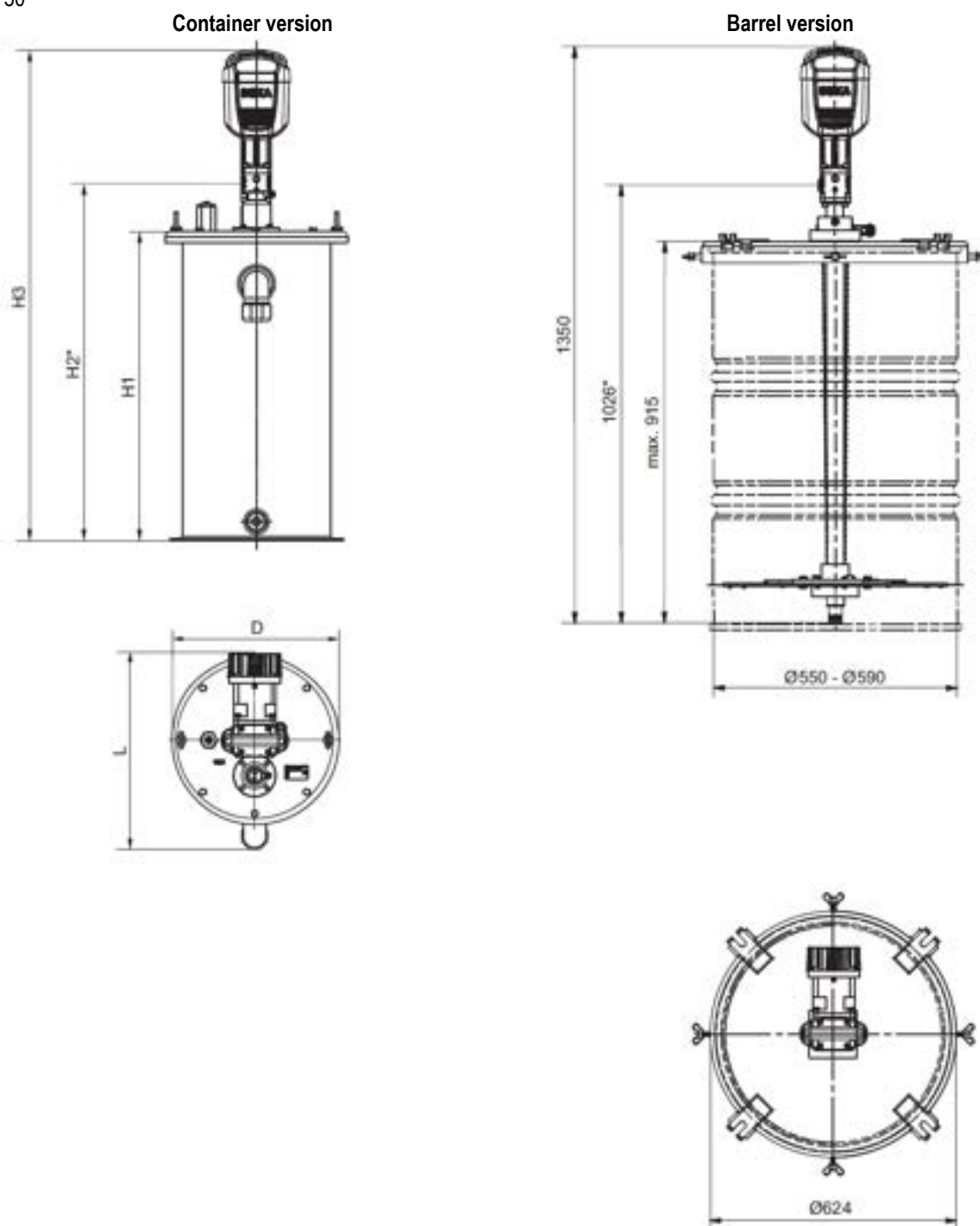
Container capacity (l / lbs)	L1 (mm)
41 / 60	494
54 / 90	640
68 / 120	786

Barrel capacity (l / lbs)	L1 (mm)
231 / 200	975

BAL2520_2521_Barrel_pump_Stream_E_0821EN

19. Dimensional drawing of pump with accessories

Figure 50



Container capacity (l / lbs)	H1 (mm)	H2* (mm)	H3 (mm)	L (mm)	D (mm)
41 / 60	449	560	884	504	Ø437
54 / 90	595	706	1030	504	Ø437
68 / 120	741	852	1176	504	Ø437

* Dimension up to the pressure outlet or return connection

20. Accessories

20.1 Filling zerk



Figure 51

Connection thread: G 1/2
Article number: 10118925

20.2 Pressure limiting valve for progressive and dual-line systems



Figure 52

Opening pressure: 280 bar
Connection thread: 2x G 1/2
Article number: 10123881

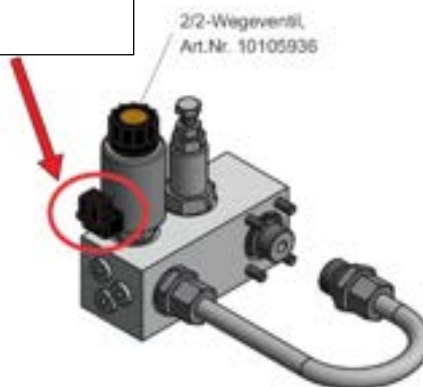
Note!

A pressure limiting valve with an opening pressure of 240 bar is always built in for single-line versions.

20.3 Pressure limiting valve / relief valve for single-line system

Connection cable incl. AMP bushing not included. Please order separately!

Figure 53



Article number: 10120291

Technical data 2/2-way valve

Operating voltage: 24 V DC
Nominal power: 26 W
Degree of protection: IP 65

BAL2520_2521_Barrel_pump_Stream_E_0821EN

20.4 Control unit Tronic-e

It is possible to control the barrel pumps BEKA Stream E and Stream E for progressive or single-line central lubrication systems by the external control unit Tronic-e.

Further information on the external control unit Tronic-e is available in the corresponding description (chapter 9 “Control and monitoring devices”) and operating manual (on request).



Figure 54

Supply voltage: 10 up to 60 V DC
 Current load max.: I = 6,0 A
 Fuse (not included in device): F 6,3 A (format 5x20) medium time lag
 Temperature range: -30° C up to +70° C
 Degree of protection: IP 41
 Article number: modification via code necessary (see description Tronic-e)

20.5 10 m connection cable incl. 1x AMP bushing

for the 2/2-way valve, open cable end.



Figure 55

Article number: 10138802

20.6 10 m connection cable for BEKA Stream E incl. 1x cubic bushing (socket acc. to EN175301-803 A)

for the 3/2-way change-over valve 24 V DC (standard equipment), open cable end.



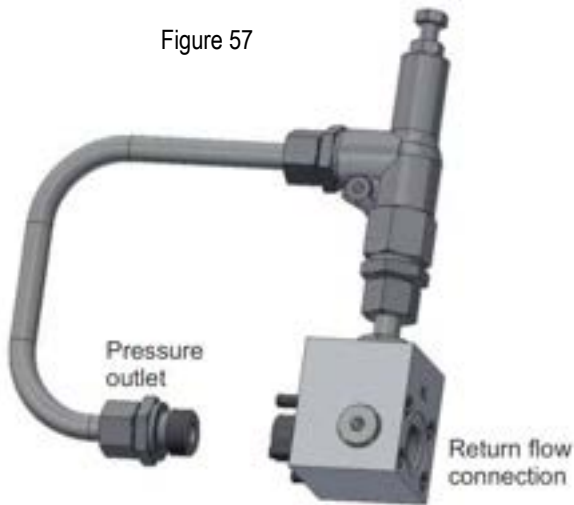
Figure 56

Article number: 10124967

BAL2520_2521_Barrel_pump_Stream_E_0821EN

20.7 Module with pressure limiting valve for progressive systems for direct installation on BEKA Stream E

Figure 57



Opening pressure: 280 bar
Connection thread: 2x G 1/2
Article number: 10126444

21. Details of the manufacturer

Groeneveld-BEKA GmbH

Beethovenstraße 14
91257 PEGNITZ / Bayern
Germany

Tel. +49 9241 729-0
FAX +49 9241 729-50

POSTFACH 1320
91253 PEGNITZ / Bayern
Germany

<http://www.groeneveld-beka.com>
E-Mail: info-de@groeneveld-beka.com

Our range of supply:

- Gear pumps
- Multi-line oil pumps
- Multi-line grease pumps
- Single-line central lubrication systems
- Dual line central lubrication systems
- Oil circulation central lubrication systems
- Oil-air and spray lubrication
- Wheel flange central lubrication systems
- Rolling mill central lubrication systems
- Commercial vehicle lubrication
- Progressive distributors
- Control and monitoring units

This document is provided solely to give you analysis tools and data to assist your use of our product. Product performance is affected by many factors beyond the control of Groeneveld-BEKA.

Groeneveld-BEKA products are sold subject to Groeneveld-BEKA terms and conditions of sale, which include our limited warranty and remedy. You can find these at <https://www.groeneveld-beka.com/en/>

Technical data is subject to changes without prior notification.

Please consult with your Groeneveld-BEKA engineer for more information and assistance.

Every reasonable effort has been made to ensure the accuracy of the information in this writing, but no liability is accepted for errors, omissions or for any other reason.