

LUBESNIPER Battery

LUBESNIPER Battery has various specifications of lubricant reservoirs to choose from. The operator can adjust the lubrication parameters in the field without the need for additional tools.



INFINITE POSSIBILITIES



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Working Principle

The **LUBESNIPER Battery** single-point lubricator is driven by two ER14505(3.6V) cell batteries and has an integrated controller, the motor drives the plunger to reciprocate and achieve the extraction and discharge of grease. The spring and follower plate assembly ensures that the grease in the reservoir is being completely extracted. The magnetic cap on the top protects the grease nipple filler from dust intrusion, and can also be used to adjust the operating parameters



Fig. 4.1 LUBESNIPER Battery



Technical Data

Ratedvoltage	DC 3.6 V
Power Supply	2×ER14505 (Lithium - thionyl Chloride Battery)
Discharge period	2500ml (2×ER14505 2700 mAh)
Controller	Built-in Integrated Controller Time-controlled (PAUSE TIME) Impulse-controlled (LUBE TIME)
Parameter display form	LED indicator display ^①
Lubricant	Greases up to NLGI- CI.2
Reservoir Capacity	120ml/250ml/500ml (refillable)
Preset lubrication cycle	1, 3, 6 ,12 ,24 months at +20°C/STABYL EOS E2
Operating Pressure	40bar (STABYL EOS E2 at 20°C) ^②
Greasing Volume per stroke	0.24cm ³ (STABYL EOS E2 at 20°C) ^②
Greasing volume per operation cycle	0.72cm ³ (STABYL EOS E2 at 20°C) ^②
Standard outlet connector thread	R3/8
Refilling inlet fitting	Grease nipple (DIN 71412)
Permissible operating temperature	-20°C to +60°C
Protection class	IP65
Rational service life	5000ml/No operating life limitation ^③

- 1. Operating parameter and alarm information will be displayed by different combinations of LED indicators. For details, please refer to P9 & P10.
- 2. The operating pressure and single pulse displacement are related to the viscosity of the grease, and the laboratory data.
- 3. In order to ensure that the equipment requiring lubrication will be done effectively, we recommend that the cumulative displacement of lubricant from the single-point pump reflects this data. Once ‘rational service life’ (see above) has been achieved, the single-point pump should be replaced.



Reservoir size	H
120 ml	192mm
250 ml	222mm
500 ml	282mm



Grease Refilling

1. Remove the magnet cap.
2. Connect the manual/automatic grease gun with the greasing nipple under the magnet cap.
3. Inject the grease into the reservoir smoothly until the “MAX. Grease Level” is reached.
4. Disconnect the grease gun and greasing nipple and clean the greasing nipple.
5. Put the magnet cap back into position .

*NOTICE: Please slow down the grease injection speed especially when the grease level in the reservoir almost reaches “MAX” to avoid possible pump damage due to over-filling.



Fig. 7.1 Grease Refilling

Important Tips for initial grease filling

During the initial filling, air might become entrapped in the reservoir. These air inclusions do not affect the function of the pump, but they are transported to the lubrication point, and lubrication may possibly be delayed or interrupted.

To drain the air, fill the **LUBESNIPER Battery** slowly until the follow up piston moves 1-2mm above the vent hole. The air should then drain from the overflow hole. (Fig. 7.2). Please make sure the **LUBESNIPER Battery** pump is placed vertically.

Please make sure the grease level is NOT higher than “MAX. Grease Level” during subsequent regular refilling processes.



Fig. 7.2 Ventilation of reservoir



Month-setting Options

The delivery amount of lubricant varies on the ‘month’ setting and the standard volume of the reservoir (see figure 8.1 and table)

The lubricator can be refilled at any time, but the discharge meant per day/stroke is fixed as the initial setting and will not vary with refills.

Do not discharge the **LUBESNIPER Battery** completely. It does not damage the pump, however the air is transported to the lubrication point, therefore it may be insufficiently greased, and ventilating the lubrication lines again after refilling will need to be performed.



Pad of Preset Operation Period in Month.

Fig. 8.1Preset of Operation Period
Example: Selected setting is 12 months, the standard volume of the reservoir is 500ml.
The grease will be discharged evenly within 12 months, with an average of 41.7cm³ per month / 9.3cm³ per week.

Recommended Grease Refilling Period

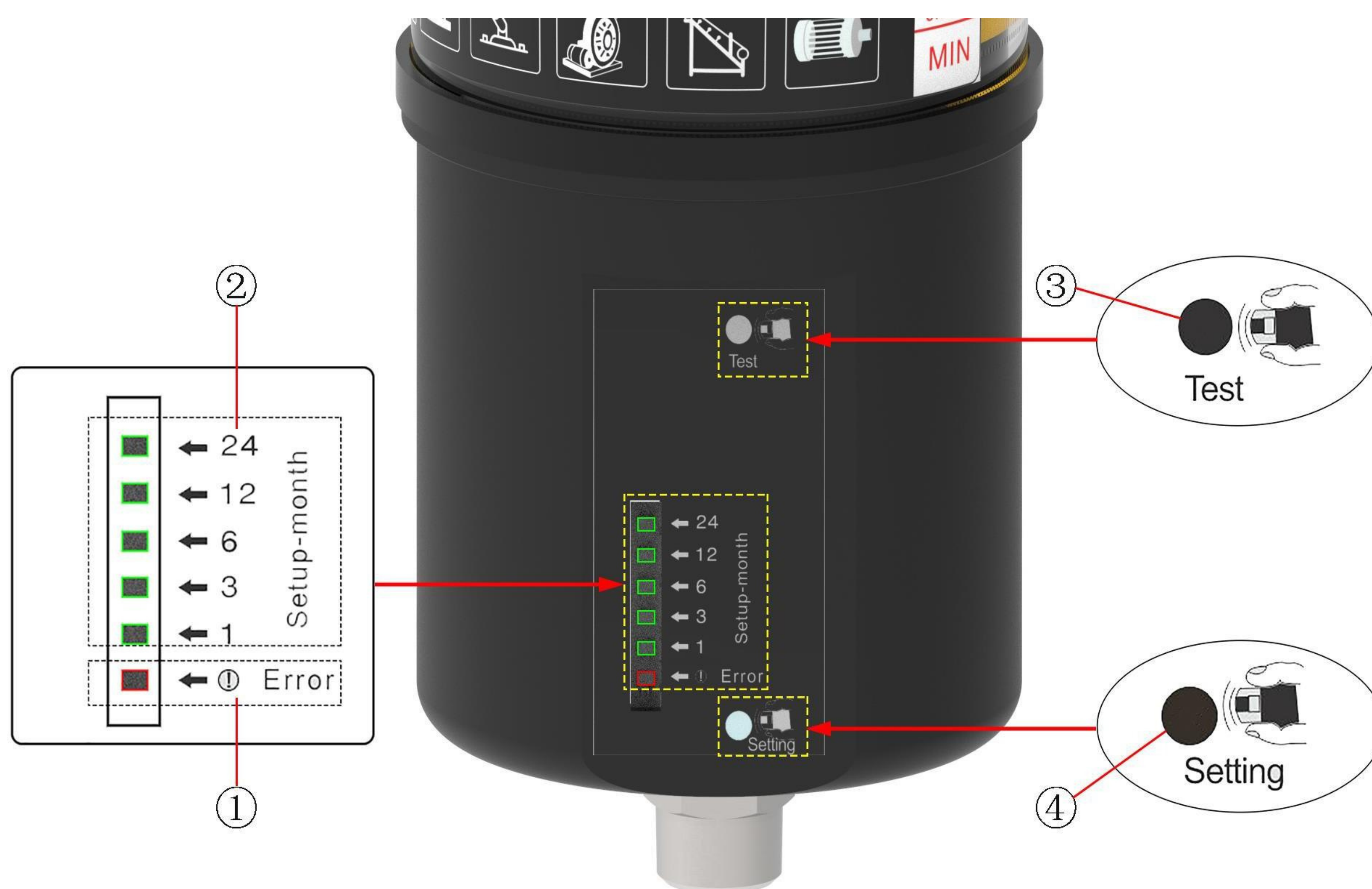
In order to ensure that the lubricating points are always well lubricated, a shorter grease refilling period is recommended (see table) to avoid injecting air into the friction pair and causing poor lubrication conditions.

		Lubrication amount					
		120 mL Reservoir		250 mL Reservoir		500 mL Reservoir	
Month setting	Ideal refilling interval	Per Month	Per Week	Per Month	Per Week	Per Month	Per Week
24 Months	20 Months	5 cm ³	1.1 cm ³	10.4 cm ³	2.3 cm ³	20.8 cm ³	4.6 cm ³
12 Months	10 Months	10 cm ³	2.3 cm ³	20.8 cm ³	4.6 cm ³	41.7 cm ³	9.3 cm ³
6 Months	5 Months	20 cm ³	4.6cm ³	41.7 cm ³	9.3 cm ³	83.3 cm ³	18.5 cm ³
3 Months	10 weeks	40 cm ³	9.2 cm ³	83.3 cm ³	18.5 cm ³	166.7 cm ³	55.6 cm ³
1 Months	24 days	120 cm ³	27.5 cm ³	250 cm ³	55.6 cm ³	500.0 cm ³	111.1 cm ³

* The greasing volume per cycle is 0.72 cm3 .



Introduction to the Controller



Dia. 9.1 Control Panel of LUBESNIPER Battery

The controller of the **LUBESNIPER** Battery Single point lubricator consists of an LED indicator light - 1, and 2 in (fig. 9.1) and magnetic induction area (③ and ④ in fig. 9.1).

LED indicator area: The **LUBESNIPER** Battery single-point lubricator has two colors, and a total of 6 lights, referring to the above diagram, ① has 1 red indicator, ② has 5 green indicator light. LED indicators assist users to understand the operating cycle and error codes through different display methods, such as constant lights and flashing. Please refer to P10. **Magnetic induction area:** Users can adjust the running parameters by using the magnetic cap (see fig.4.1 P4) to touch the magnetic area, and capture the running information to change the parameters (e.g. adjusting the pause and start settings, manual debugging and running).

- **Testing:** Test the induction point of starting the manual lubrication cycle. - **Setting:** Set the induction point of adjusting operation cycle. There are two ER14505 lithium batteries that power the LUBESNIPER Battery single-point lubricator, and are connected to a SPC1550 super capacitor in parallel. Which supplies high current when commencing the lubrication process, ensuring a consistent operation. The controller inside the **LUBESNIPER Battery** single-point lubricator oversees the timing, start and end of the lubrication process, through detecting the current and motor. The Controller has two states: on and off. Manual running and parameter adjustment cannot be attended during dormancy (off), only when the pump is on can the parameters be adjusted, as well as manual and automatic running under 'start' status.



LED Indicator Messages

When the controller is powered on for the first time or after it is fully discharged, it will light up and flash through the indicator light, Assisting the customer to learn the control program. Please refer the below table for details:

Item	Indicator light condition	Meaning
Initial power-on detection① (Fig. 10.1)	All 6 indicator light up and flash once:4 seconds on , 1 second off,Then 4 seconds on and then off	Shutdown state without lifespan limit ②
	All 6 indicator light are on 4 seconds and then off	Power-on state without lifespan limit
	All 6 indicator light on and flash once : 2 seconds on, 1 second off, and then 2 seconds and off	Shutdown state with lifespan limit
	All 6 indicator light are on 2 seconds and off	Power-on state with lifespan limit
A green indicator light is blinking (Fig. 10.1)	LED flash once LED flash 2 times slowly(1.5 seconds on , 1.5 seconds off)	120ml reservoir
	LED flash 2 times slowly(1.5 seconds on , 1.5 seconds off)	250ml reservoir
	LED flash 5 times slowly(1.5 seconds on , 1.5 seconds off)	500ml reservoir

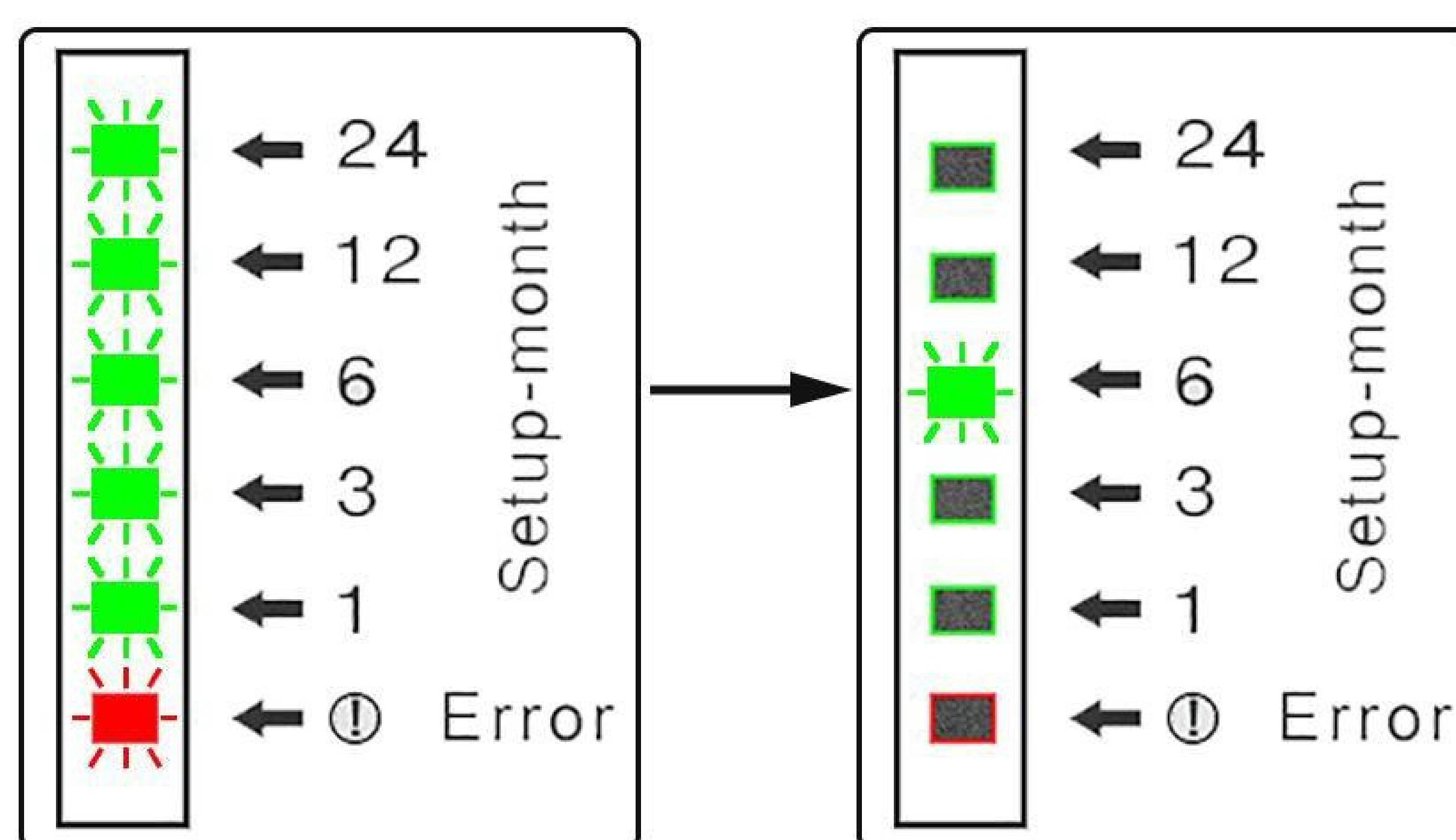


Fig. 10.1 Ventilation of reservoir

① The Initial power-on refers to when the controller is powered on for the first time or powered on after being completely discharged. When **LUBESNIPER Battery** Single point lubricator leaves the factory, the SPC 1550 super capacitor has to be connected to the controller. Normally the user will not see the indicator blinking unless the super capacitor is fully discharged. But we don't recommend this situation, please refer to P15.

② LUBESNIPER Battery Single point lubricator has the lifetime 'uncapped' protection model for specific demands: The normal single-point lubricator will stop lubrication after completing 25000 pulses (capped at about 5L of grease). This model is life-limited. The lifetime protection model has no such limitation.

③ The pre-set lubrication cycle is set to 6 months on all models leaving the factory.



LED Indicator Messages

While the running the **LUBESNIPER Battery**, the LED indicator light may blink or remain on in such a way to assist users in identifying the running cycle and error codes. Please refer to below table.

Description	Status	Cause	Troubleshooting
Running cycle and condition	The month indicator light blinking during lubrication process		LUBESNIPER Battery is currently lubricating
No pulse alarm signal	Continue to be on for 3 seconds after lubrication finished	Motor not working	Replace with a new LUBESNIPER Battery
Overflow alarm signal	Continue to be on for 3 seconds after lubrication finished	Back-pressure is too high	Find and remove blockages in lubrication lines
		Low temperature, the lubricant gets harder	Change to the appropriate lubricant and start a new test
Lifetime end alarm signal	Continue to be on for 3 seconds after lubrication finished	Max. number of cycles is reached	Replace with a new LUBESNIPER Battery
Multiple overflow lock alarm signal	Flash 5 seconds after lubrication finished	Controller has detected 5 consecutive overloads	

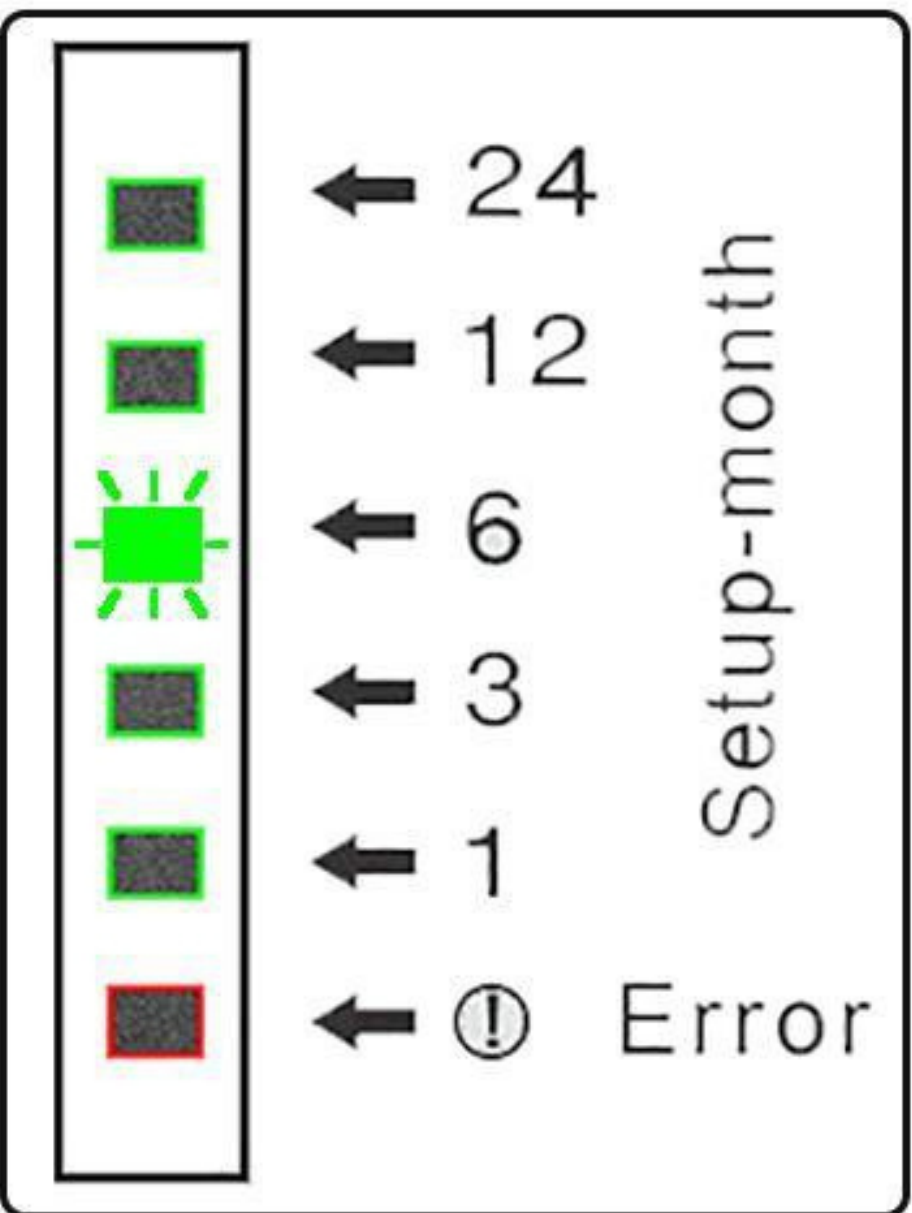


Fig. 11.1 Test greasing cycle

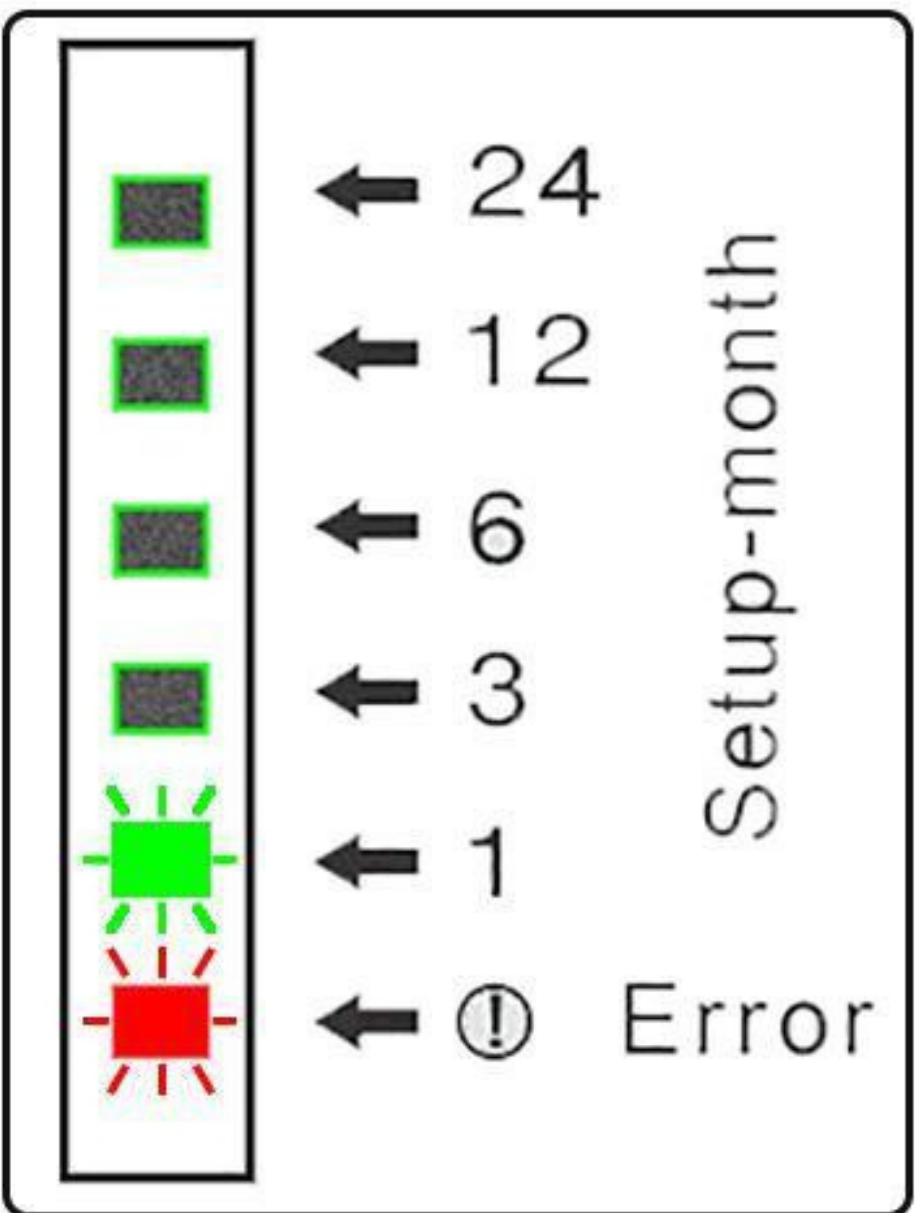


Fig. 11.2 No motor pulse warning

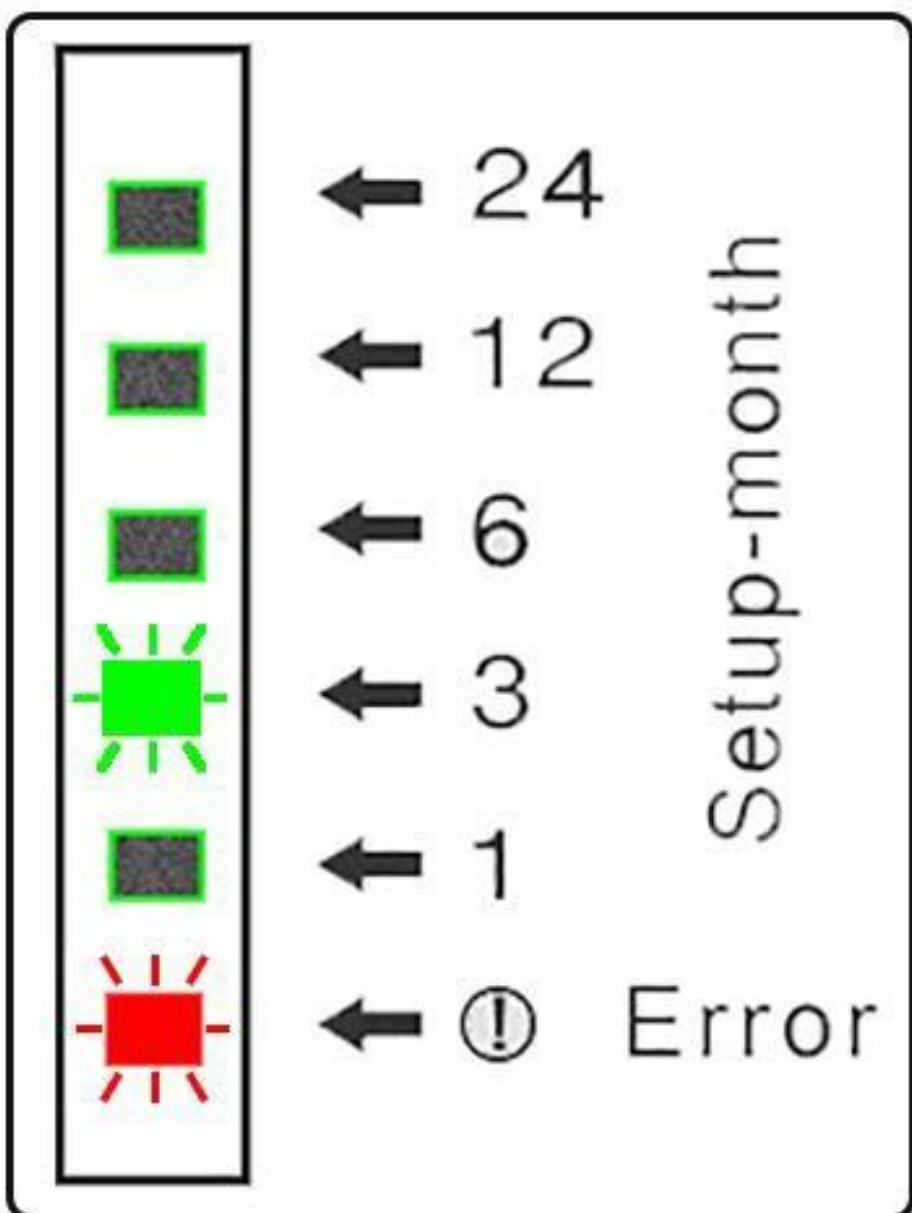


Fig. 11.3 Overload warning

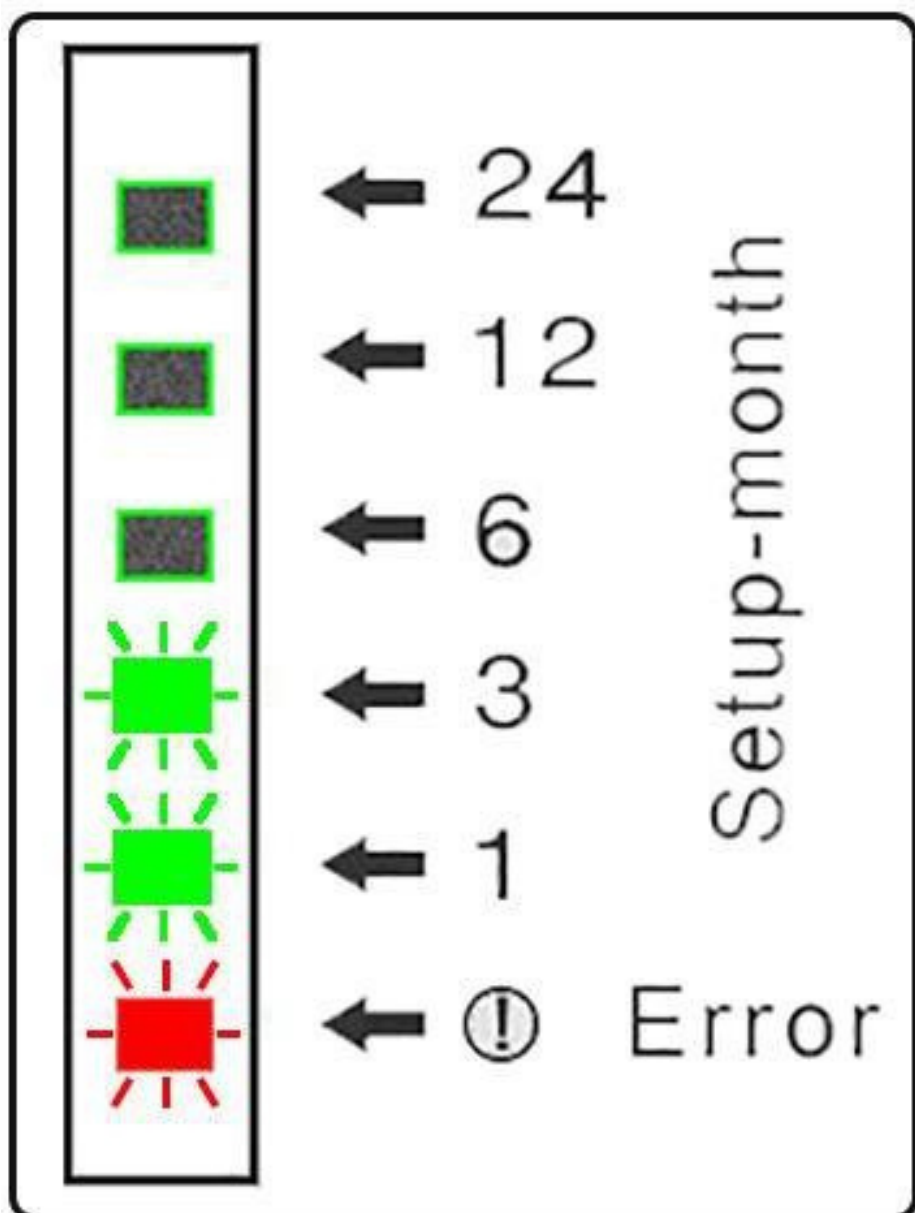


Fig. 11.4 End of life warning



Switch Off and On

When the single point lubricator leaves the manufacturer, The controller is off in case of the unnecessary operation. Please follow the below steps to start up the single point lubricator:

- ① Take off the magnetic cap and place it on the test area for 5 seconds, the red indicator light will be on.
- ② Put the magnetic cap on the setting area for 1 second, the red indicator and all green light will be on.

Then the controller enter to the start-up state ,as shown in Figure 12.1.

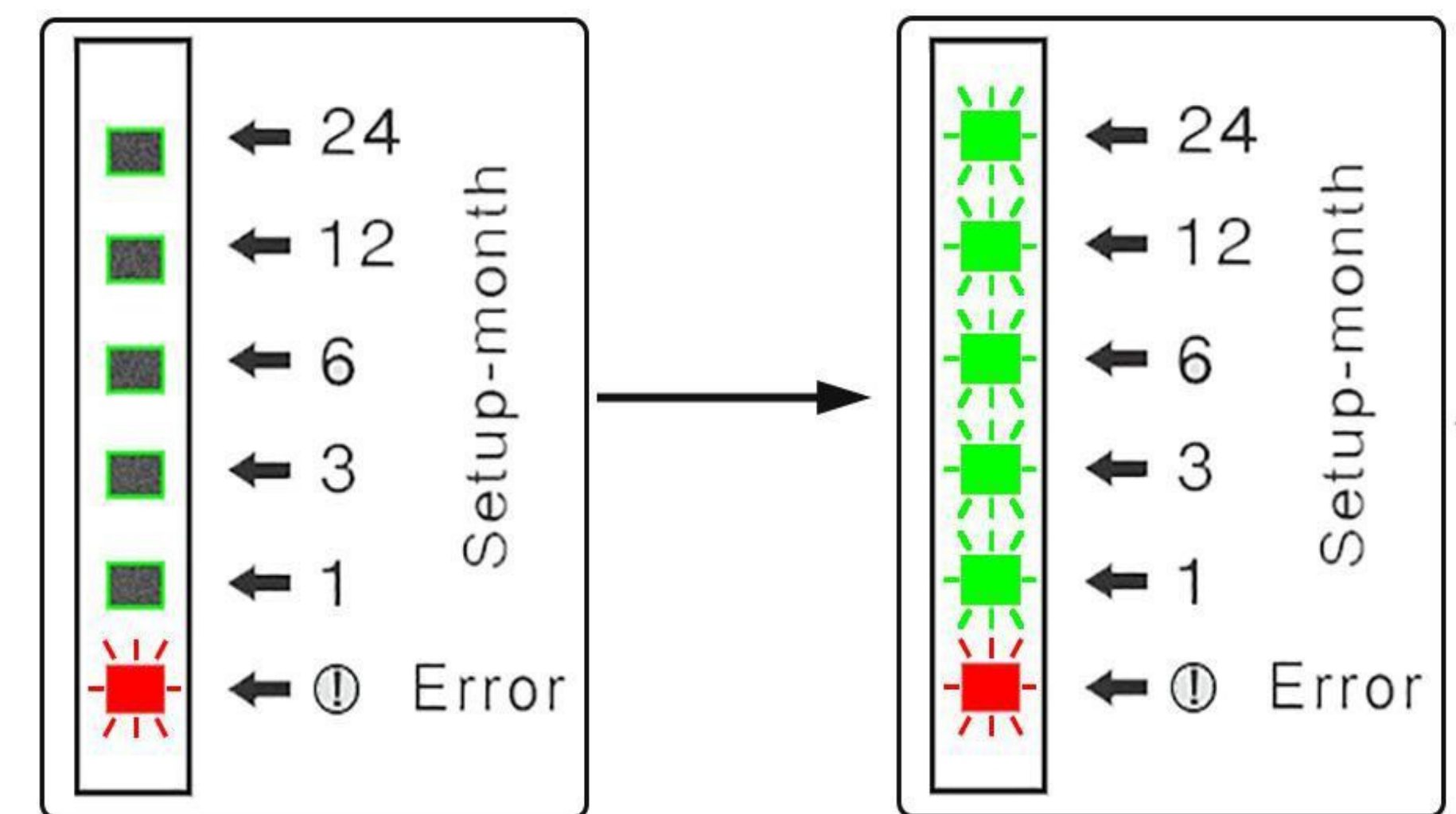


Fig. 12.1 Test greasing cycle

When shutting down the **LUBESNIPER Battery** single-point pump, repeat the above 2 steps.

- Please make sure that the two batteries have been installed into the **LUBESNIPER Battery** when turning it on.
- For battery installation steps, please refer to P14.

Adjusting the Operation Time

To change the preset operation period:

1. Use the magnetic cap vertically close to the setting induction point to activate the setting mode until the preset/default operation period LED turns on, then move the cap away.
2. Use the magnetic cap again to approach the sensing point for at least 2 seconds. Remove the magnetic cap after the indicator light jumps to the next value.
3. Repeat step 2 to choose the required length of operation period (months).
4. Remove the magnetic cap, let the LED of the desired value light up for 8 seconds and then turn it off to save the setting.

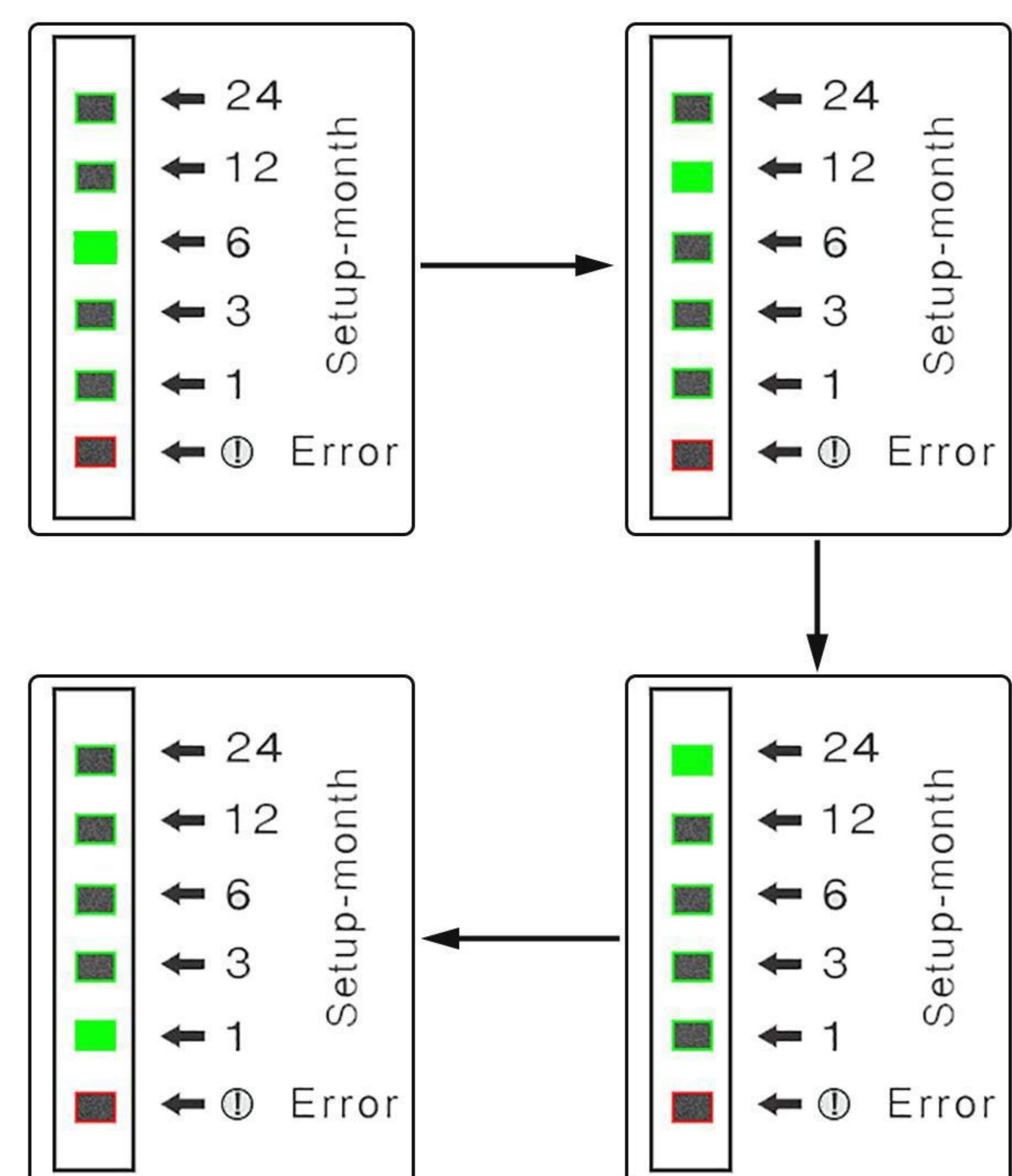


Fig. 12.1 Adjustment of Operation time

5. Put the magnetic cap back on top of the lubricator.
Adjustment of the operation period length finishes.

- The jumping sequence is 1 - 3 - 6 - 12 - 24 – 1
- When starting step 1, make sure the controller is switch on



Intermediate Lubrication and Ventilation

Activation of intermediate lubrication

Intermediate lubrication is a very necessary action during the installation, commissioning, and operation of **LUBESNIPER Battery**. The operator can start an intermediate lubrication when needed as follows. Use the magnetic cap to approach the test induction for about 3 seconds and remove the magnetic cap after the green indicator light is on. **LUBESNIPER Battery** will immediately start an intermediate lubrication (fixed running time is about 20s, and the total greasing volume around 0.6 cm³).

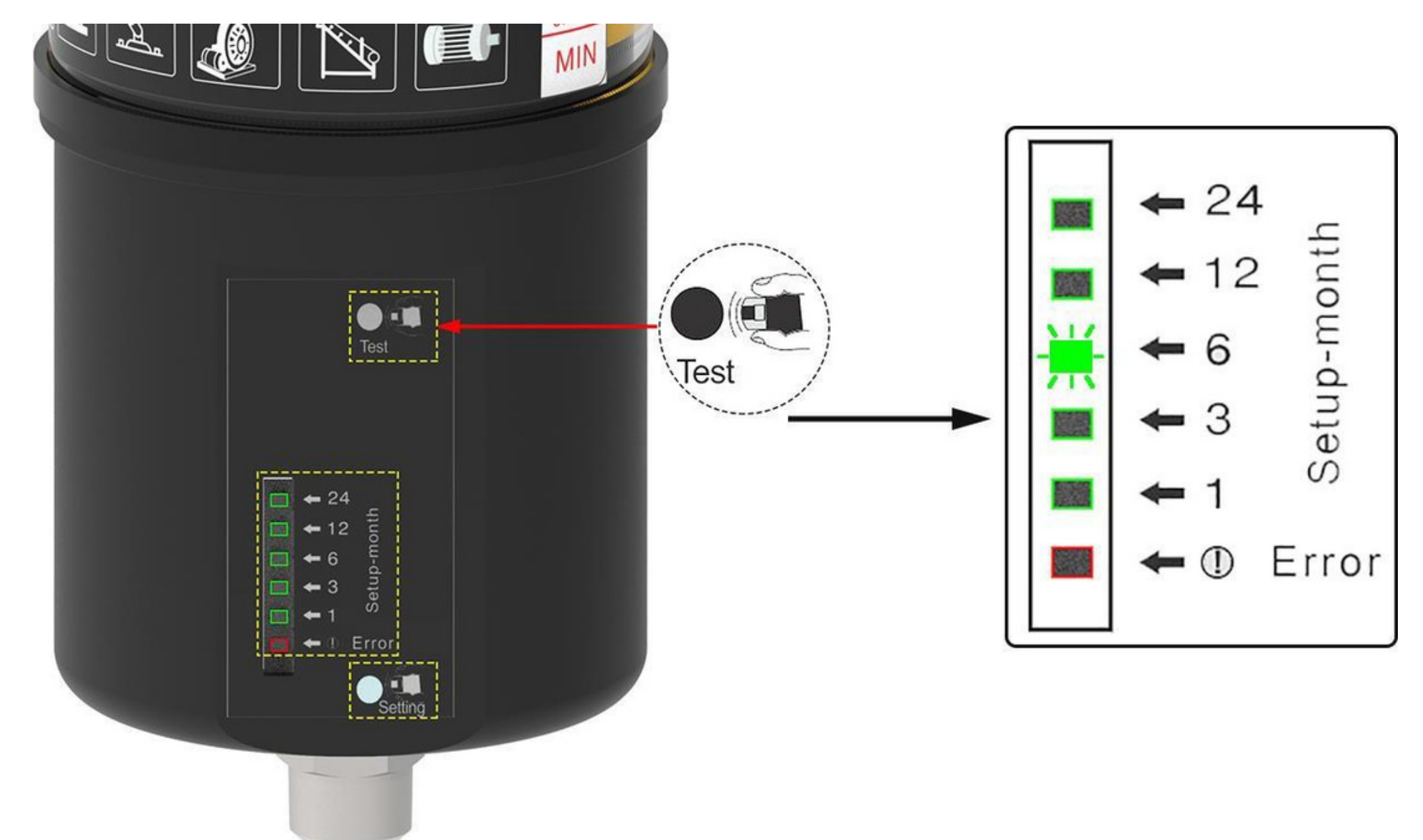


Fig. 13.1 Start an intermediate lubrication

During the intermediate lubrication process, use magnetic cap to approach the Test induction about 3 seconds to stop the lubrication immediately.

**Usually, the time of intermediate lubrication is equal to the normal automatic lubrication time, about 20s, it may be extended depending on the working condition and the type of lubricant, but it will not exceed 60s.*

For Initial Filling:

LUBESNIPER Battery will use some lubricating oil for testing and debugging during the manufacturing process. This oil will be left inside the single-point pump. In addition, some air will inevitably be left inside the pump during the first filling of grease. In order to avoid the air and lubricating oil from damaging your lubricating point, please start the intermediate lubrication 2 - 5 times after the initial filling of lubricating grease, and confirm that the grease discharged from the single point pump does not contain air and other lubricating oil.



Fig. 13.2 Adjustment of operation time



Assembly and start-up

Installing/Replacing the Battery

When the **LUBESNIPER Battery** leaves the factory, the battery is not installed. The specific steps for installing the batteries are as follows:

1. Use a Phillips screwdriver (PH0) to loosen the four fixing screws, and remove the battery compartment cover and sealing ring.
2. Put the new battery into the battery compartment. Pay attention to the direction of positive and negative poles;
3. Put the sealing ring into the groove and restore the battery compartment cover to its original position.
4. Use a phillips head screwdriver to tighten the four fixing screws with a torque of about 0.8Nm.



Fig. 14.1 Replace the battery

NOTICE: The replacement battery model must be ER14505. The wrong model may damage **LUBESNIPER Battery**. For the parameters of ER14505, please refer to the table 14.1.

Electrical characteristics	
Nominal voltage	3.6V
Maximum recommended continuous current	50mA
Nominal capacity	2700mAh
Pulse capability	150mA

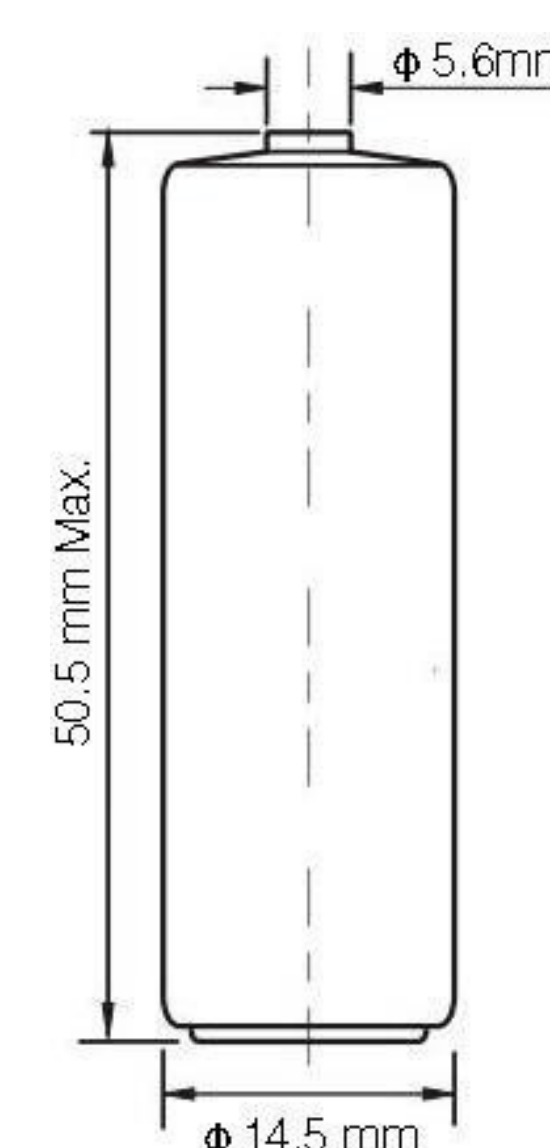


Fig. 14.1 Battery parameters

The Battery Replacement Interval

In the laboratory environment, we have obtained a large amount of battery life data. However, in actual use, the battery life correlates with the ambient temperature and the load pressure of the **LUBESNIPER Battery**. In order to ensure that the **LUBESNIPER Battery** can always operate normally, please replace the battery according to the time given in the table below.

Lubrication amount						
	120 mL Reservoir		250 mL Reservoir		500 mL Reservoir	
Month setting	Battery lifetime	Ideal replacement interval	Battery lifetime	Ideal replacement interval	Battery lifetime	Ideal replacement interval
24 Months	4285.5 days	2999.85 days	2947.8 days	2063.46 days	1854.4 days	1298.08 days
12 Months	3053.7 days	2137.59 days	1854.4 days	1298.08 days	1051.5 days	736.05 days
6 Months	1895.8 days	1327.06 days	1051.5 days	736.05 days	565.4 days	395.78 days
3 Months	1092 days	764.4 days	565.4 days	395.78 days	293.8 days	205.66 days
1 Months	402.2 days	281.54 days	198.7 days	139.09 days	100.6 days	70.42 days

The above data is based on the theoretical battery capacity of 2700mAh, which is laboratory data: At 1.0 mA, +25°C, 2.0 V cut off. The capacity restored by the cell varies according to current drain temperature cut off voltage.

In order to prevent **LUBESNIPER Battery** from working normally due to lack of battery power, please pay attention to the LED indicator of **LUBESNIPER Battery** during the daily inspection process. If the indicator light is dimmed, please replace the battery in time.

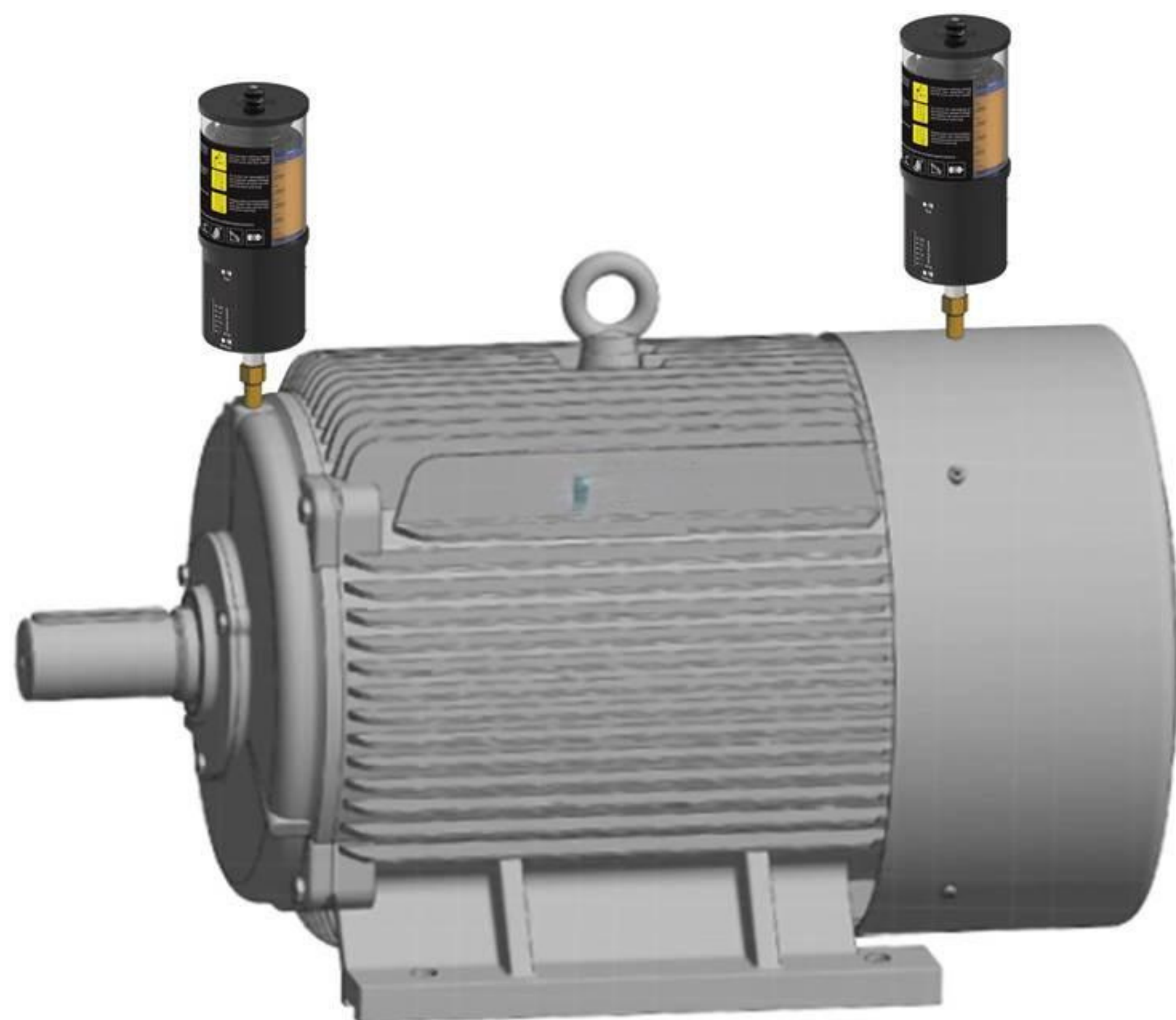
Assess Installation Method

The **LUBESNIPER Battery** single-point pump can be flexibly used in various types of applications, e.g. for belt conveyors, electric motors, blowers, etc. Single point pumps can be mounted directly at the lubrication points. Remote or indirect assembly via piping is also available.

The following questions can be used to help guide remote mounting decisions. A “YES” to any of the questions indicates that remote mounting is likely to be required.

ASSESS INSTALLATION METHOD		
Is it necessary to remove protective guards or safety cages to access the lubrication point?	YES	NO
Is it difficult or unsafe to access the lubrication point while the equipment is running?	YES	NO
Is the lubrication point in an environment with severe vibration or high temperature that may damage the LUBESNIPER Battery?	YES	NO
Is it necessary to get permits to access lubrication points when in confined spaces or fall protection is required?	YES	NO
Is the lubrication point exposed to excess water, dust, or impact from solid materials?	YES	NO

Comparison of Two Installation Methods



Advantages of direct installation

- ✓ Easy, quick mounting
- ✓ Fewer accessories required
- ✓ Lubricant can be supplied to the lubrication point immediately

Fig. 17.1 Direct installation



Advantages of remote installation

- ✓ Can be rearranged to a safe area
- ✓ The unreasonable factors at the lubrication point can be ignored
- ✓ It can be maintained during the operation of the equipment

Fig. 17.1 Direct installation

Attention!

In order to ensure that **LUBESNIPER Battery** can always run smoothly, please pay attention to the installation angle when installing directly.

max.±45°

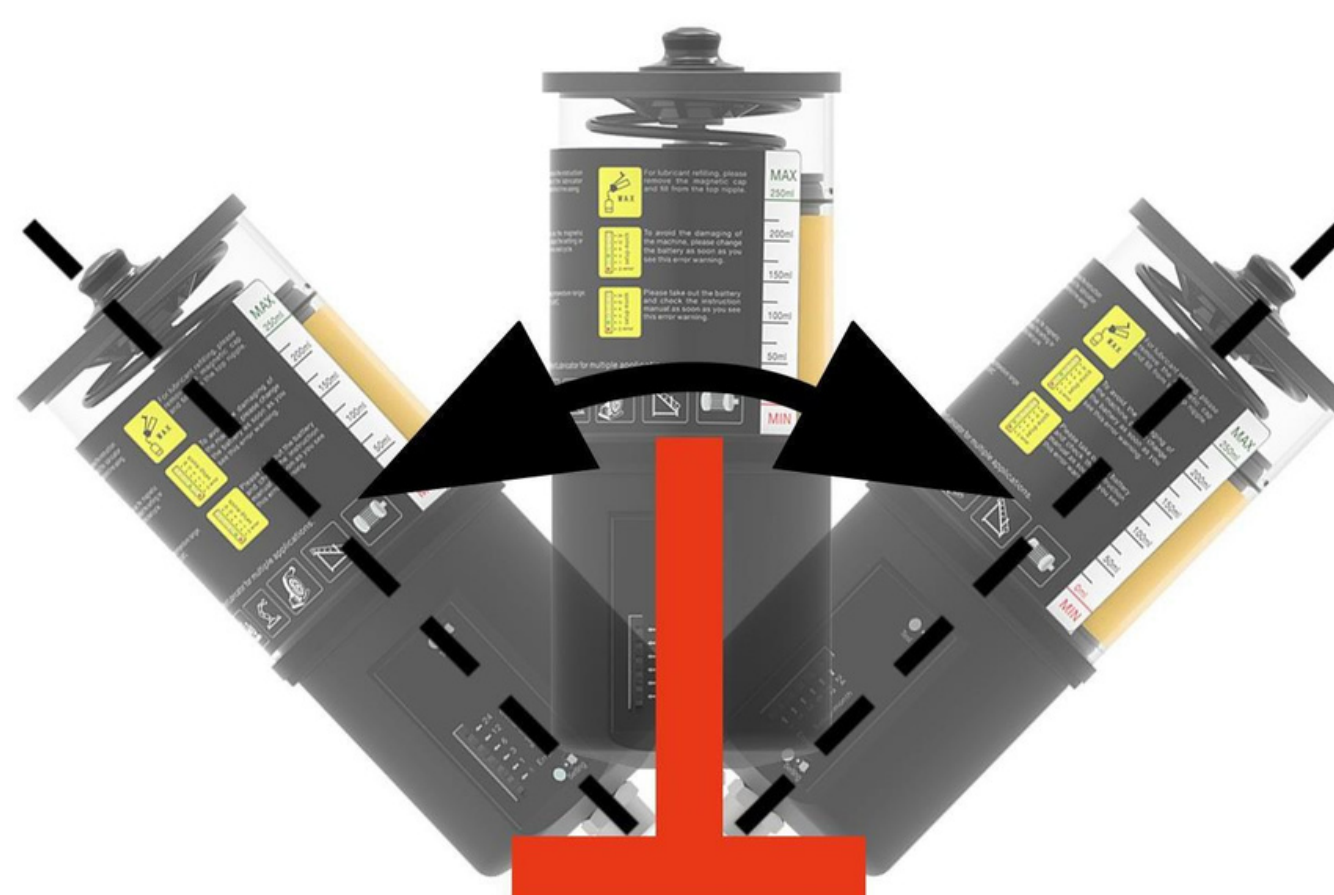


Fig. 17.3 Installation angle

General Accessories

Item	Specification	Part Number
LUBESNIPER Battery	120ml without lifespan limit	IP1022-120BAA-A
LUBESNIPER Battery	250ml without lifespan limit	IP1022-250BAA-A
LUBESNIPER Battery	500ml without lifespan limit	IP1022-500BAA-A



Fig. 18.1 LUBESNIPER Battery

Item	Specification	Part Number
Battery	ER14505 x2	IP-4007A x2



Fig. 18.2 Batteries

Item	Specification	Part Number
Magnet Cap	Magnet Cap	IP-4008A



Fig. 18.3 Magnet cap

Item	Specification	Part Number
Accessory Kit	Battery Cover, Sealing	IP-4009A

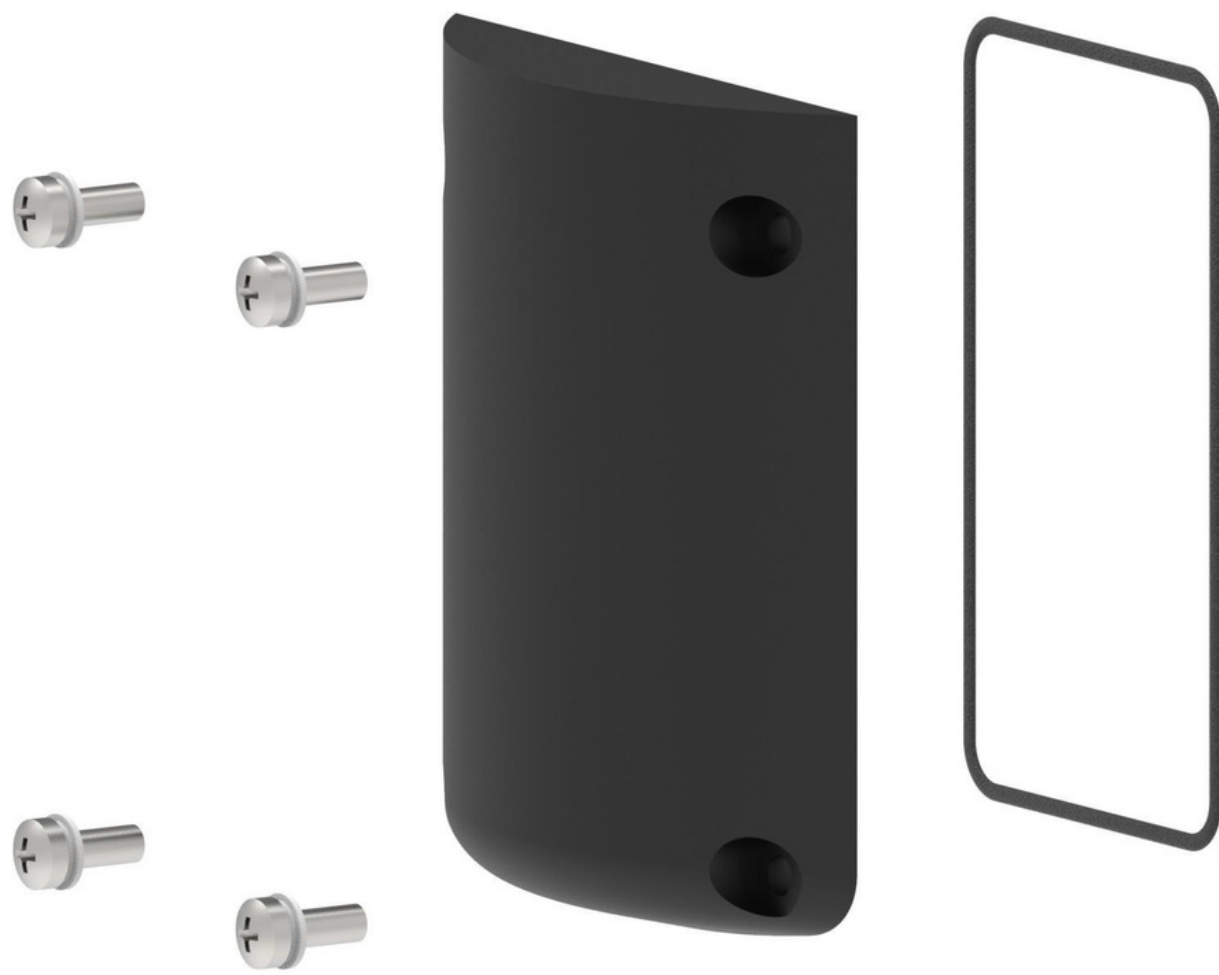


Fig. 18.4 Accessory kits

Item	Specification	Part Number
Bracket with coupling	G3/8 Bulkhead	IP-4010A



Fig. 20.2 Bracket with coupling



Innovation is in our DNA.

One of the most respected engineers of his time with over 250 provisional patents and over 112 accepted as world wide patented inventions, Richard Joseph (Dick) Ifield's engineering heritage lives on through the direct family lineage to Ifield Products.

As an accomplished inventor, Dick's most famous invention, a fuel pump known as the Ifield Pump was to become standard equipment on jet aircraft from Whittle's first jet engine through to the Concorde.

This invention alone earned Lucas Industries millions of pounds through their own sales and through the sale of manufacturing licenses.

Through Ifield products we continue Dick's legacy through constant unrelenting innovation as we work with our industry partners on developing engineering solutions.

Our vision is to provide a gateway for innovation to flow from inventor to manufacture and manufacture to global distribution. Our win-win attitude and belief in transparency ensures all relationships are built on trust.

Uncompromised integrity is the cornerstone of all policy and relationships. Only manufacturers and distributors that share this vision will join our network and value solutions will flow globally to end users.



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