

Motorized grease pump

EGM II / EGME II -type
(LHL grease Specification)

INSTRUCTION MANUAL

- For your safety, read and understand this manual thoroughly before handling the pump.
- Keep this manual at a designated place for easy access at all times.



LUBECORPORATION

Introduction

■ System Application

This Motorized Grease Pump “EGME II -8S-4-7CL-LHL” “EGME II -8S-4-7CLFB-LHL” “EGM II -8S-4-7CL-LHL” “EGM II -8S-4-7CLfB-LHL” is designed to lubricate each point on a machine by delivering relatively small amount of grease through a metering valve.

Do not use this system for any other purposes.

■ Marks used in Manual

In this Manual, safety precautions are provided using the marks below in order to prevent accidents which might cause injuries to human bodies. Be sure to carefully read these safety precautions to understand the contents thoroughly before handling the pump.

 WARNING	Indicates a potentially hazardous situation which, if ignored, could result in death or serious injury.
 CAUTION	Indicates a potentially hazardous situation which, if ignored, may result in minor or moderate injury.

In addition to the above, the marks below will also appear in this Manual. Please read the following explanation in order to handle the pump correctly.

	Indicates referential information or points to which special attention should be paid while handling the pump. If ignored, the pump and/or the machine could be damaged.
	Indicates referential information or points which are helpful for handling the pump.
	Indicates a reference clause.

■ Questions/Contacts

If any question or doubt arises concerning the contents of this Manual, please contact the following.

■ Japan

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■ Changes in Specifications

Details of all illustrations and specifications in this Manual are subject to change without prior notice for improvement and development of the pump.

■ Resale or Leasing

At the time of resale, leasing out or lending out the pump to the third party, make sure to include with the pump all the manuals and any other documents supplied with the pump.

■ Disposal of Pump/Grease

Make sure to dispose pump or grease as designated by National laws and/or local regulations.

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1 .Safety Precautions

1-1 Basic Safety Precautions



- Carefully read this Manual and understand the contents before handling the pump.
- Keep this Manual at a designated place for easy access at all time.
- This pump is handled by only personnel who have the knowledge and skill of its installation and adjustment.
- Never modify or change this pump without prior permission from LUBE.

1-2 Labels

The following labels are affixed on the pump. If any label gets damaged or becomes illegible, contact LUBE immediately. A new one will be supplied at your own cost.



- Strictly observe the instructions on the labels affixed to the pump.
- Never remove nor disfigure any labels on the pump.

1 - 2 - 1 Type of Labels

①



②

注意

- 必ず、当社指定のカートリッジグリースを使用してください。
- カートリッジへの再充填は出来ません。必ず新しいカートリッジに交換してください。
- カートリッジやポンプ内にエアが入るとグリースが出なくなることがあります。エアが入らないように注意してください。
- ポンプ電源には極性があります。配線時には必ず (+)、(-) を確認してください。

CAUTION

- Use specified cartridge grease only.
- Replace the cartridge when it becomes empty.
- Avoid air mixing into cartridge and pump because it may cause no discharge.
- Pump have polarities. For electrical connection. Please make sure the polarities. (+) and (-).

注意

- 請必須使用我公司指定的 備油脂。
- 卡筒不能充油次使用，必須更換 備油脂。
- 卡筒和油 環內混入空氣後會使系統出油。注意不要混入空氣。
- 油 泵有電源極性。接線 必須確認 (+)、(-)。

CE

③



④



⑤

AUTOMATIC LUBRICATOR

MODEL EGM**--**--4--**

VOLTAGE DC24V

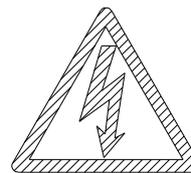
DIS. PRESSURE *.0MPa

DIS. VOLUME 10ml/min

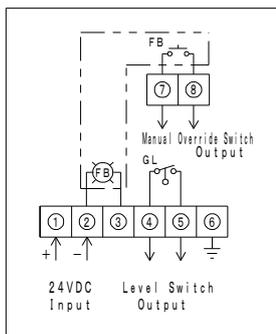
CODE NO. * * * * *

SERIAL NO. 09/07/ 010

⑥



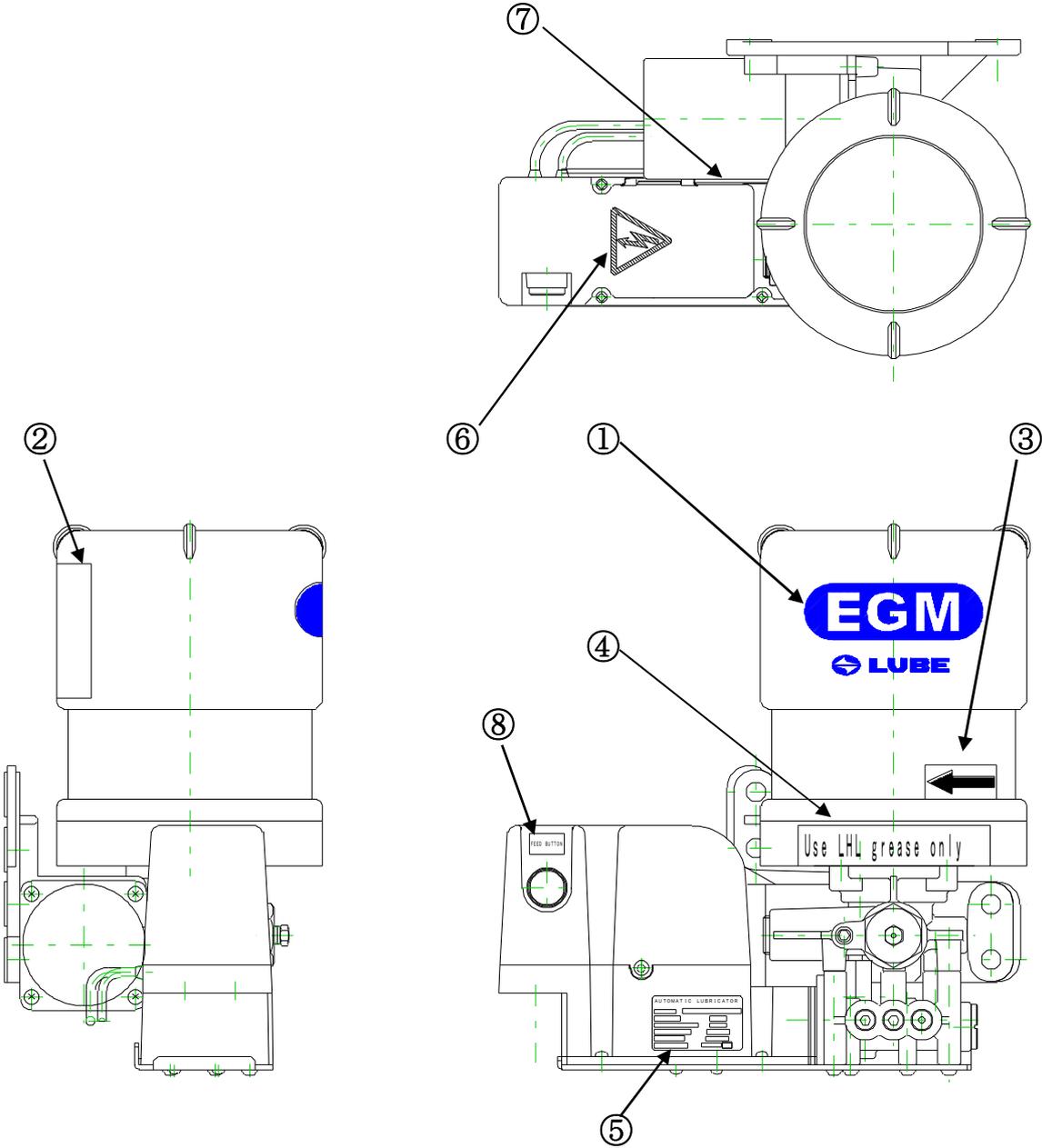
⑦



⑧



1 - 2 - 2 Location of Labels



2 .Specification and Outline

2 – 1 Specification

E G M E II type

Item		Specification
Power voltage		24VDC±10%
Pump unit	Rated load current	2.8A (within 0.82 sec. of the pump start)
	Continuous rated current	1.2A (after 0.63 sec. of the pump start/switching control)
Motor	Rated voltage	24VDC ± 10%
	Rated output	19.2W
	Rated current	0.8A
Pump	Discharge amount	10ml/min
	Discharge pressure	8MPa
Solenoid	Rated voltage	24VDC ± 10%
	Rated load current	2.0A (within 0.63 sec. of the pump start)
	Continuous rated current	0.4A (after 0.63 sec. of the pump start/switching control)
Abnormal output contact capacity (grease level switch)		200V AC/DC, 0.5A
Noise level		64dB (A)
IP code		IP54 Category2 (IEC/EN60529, IEC/EN60034-5)
Overseas standards		CE standards
Feed button contact capacity		24V AC/DC, 0.7A

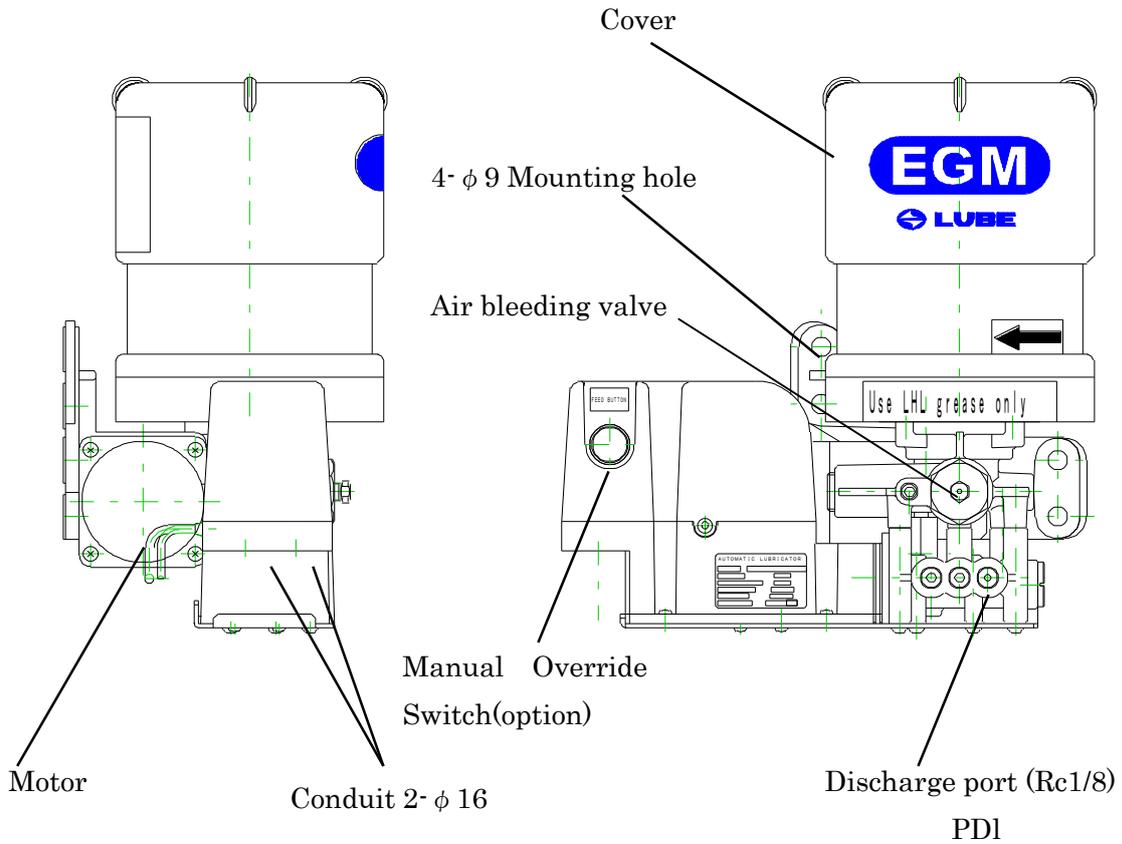
* The feed button is optional.

E G M II type

Item		Specification
Power voltage		24VDC±10%
Total power capacity		1.9A
Motor	Rated voltage	24VDC±10%
	Rated output	19.2W
	Rated current	0.8A
Pump	Discharge amount	10ml/min
	Discharge pressure	8MPa
Solenoid	Rated voltage	24VDC±10%
	Rated output	26W
	Rated current	1.1A
Abnormal output contact capacity (grease level switch)		200V AC/DC, 0.5A
Noise level		64dB (A)
IP code		IP54 Category2 (IEC/EN60529,IEC/EN60034-5)
Overseas standards		CE standard
Feed button contact capacity		24V AC/DC, 0.7A

* The feed button is optional.

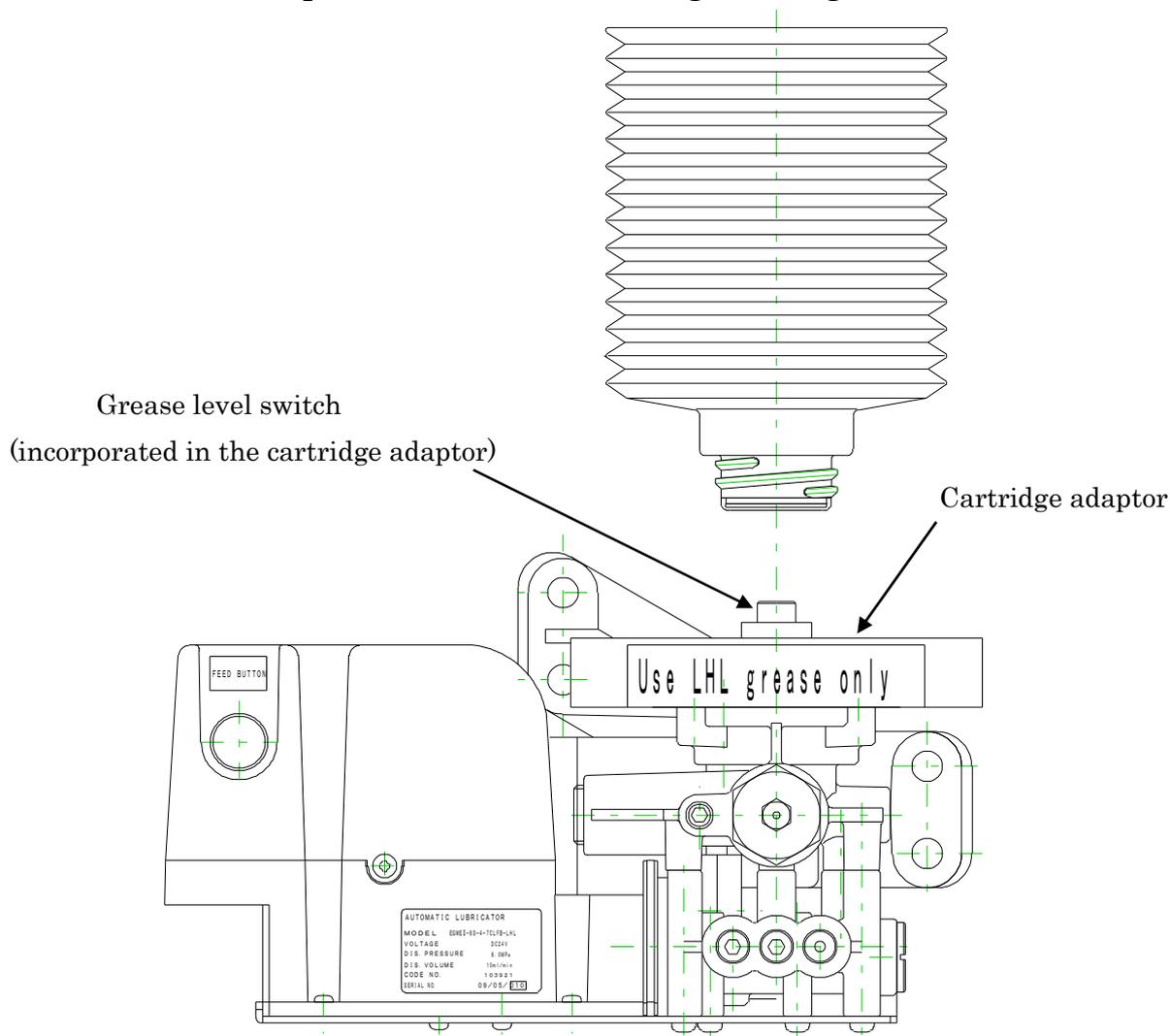
2 – 2 Name of Each Component



Model	Code number	Manual Override Switch
EGME II -8S-4-7CL-LHL	103920	Without
EGME II -8S-4-7CLFB-LHL	103921	With
EGM II -8S-4-7CL-LHL	103935	Without
EGM II -8S-4-7CLFB-LHL	103936	With

2-3 Grease level switch

The grease level switch is attached to the machine as standard. This switch is incorporated in the cartridge adaptor. It starts to function before grease in the cartridge becomes completely short in order to prevent air from mixing in the grease.



Specification

Contact method	A contact
Max. working voltage	200V AC/DC
Max. switching capacity	50VA/50W
Max. switching current	0.5A AC/DC

3. Installation

3 – 1 Environmental requirement

Be sure to use this in the following environment

Ambient temperature: +5~+40°C

Humidity : 35~85%RH

Vibration : 4.5G(44m/s²) and below (recommended)

3 – 2 Mounting unit



Make sure to fix the pump firmly. Insufficient mounting of the pump could fall itself and cause injury.

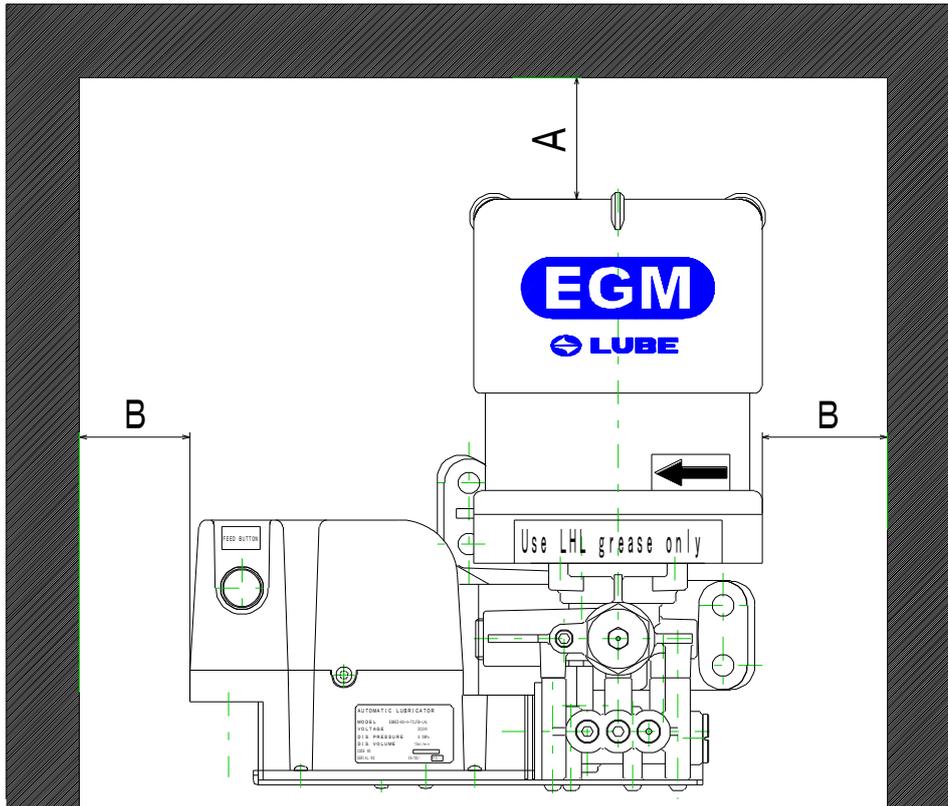
Be sure to fix the pump against the vertical and flat surface, which can sustain its weight sufficiently. Mount and fix the pump firmly using four (4) M8 bolts through $\phi 9$ holes.



LUBE recommends anti-vibration rubber to be applied when the vibration level might exceed 4.5G (44m/s²)

Be sure to allow necessary space as marked in the chart below for operation and maintenance around the pump.

■ Pump weight and necessary space



Model	Code number	Weight * (kg)	Necessary space (mm)
EGME II -8S-4-7CL-LHL	103920	2.0	A:250, B:200
EGME II -8S-4-7CLFB-LHL	103921	2.0	A:250, B:200
EGM II -8S-4-7CL-LHL	103935	2.1	A:250, B:200
EGM II -8S-4-7CLFB-LHL	103936	2.2	A:250, B:200

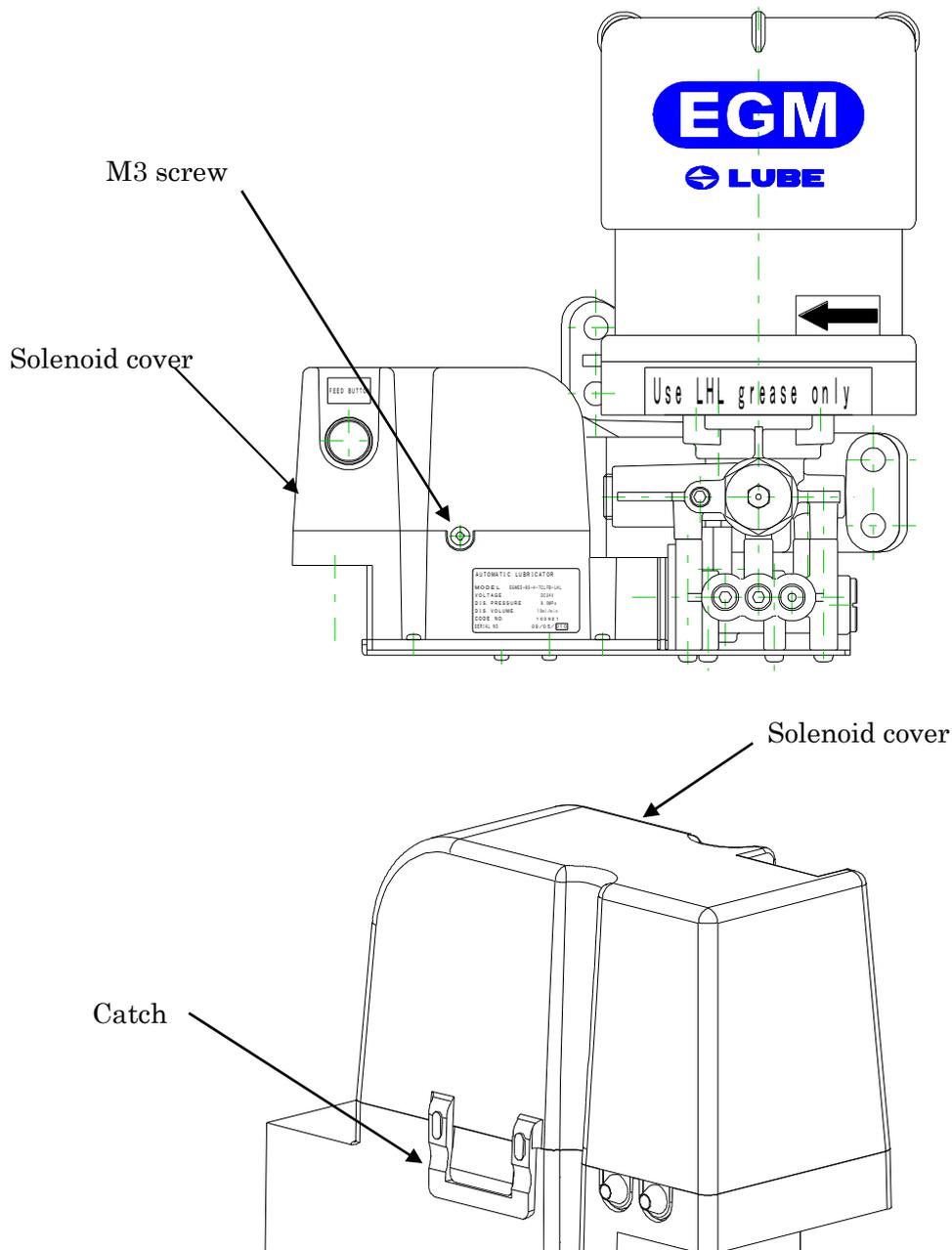
* The weight of grease is excluded

3 – 3 Dismounting of solenoid cover

Dismount the solenoid cover in the procedure below:

1. Remove the M3 screw on the front of the pump.
2. Take up the solenoid cover upward while manually removing the catch on the rear of the solenoid cover.

*** Do not dismount the solenoid cover forcibly. Doing so may damage the cover.**



*** Manually remove the catch and take up the solenoid cover upward.**

3 – 4 Wiring



Only qualified personnel for electrical work should connect wiring.

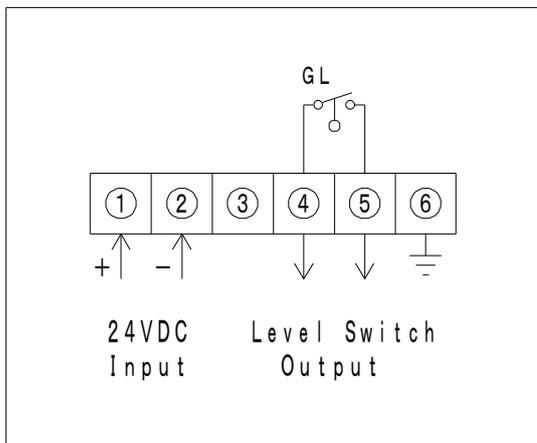
The motor and the solenoid have polarities.

Pay attention and confirm the color and polarities of the leads by referring to the following diagram when connecting the (+) and (-) leads.

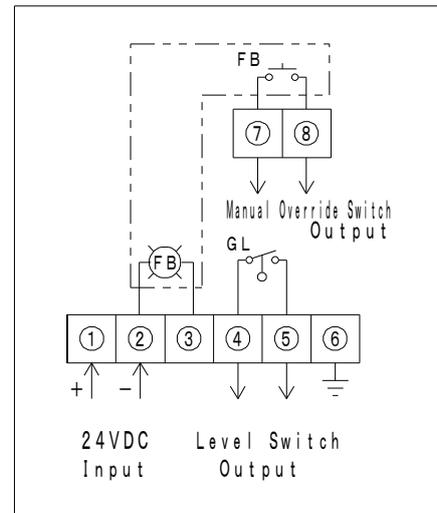
When the wire coming out of DC24V Power Source may touch the machine body, human body and/or surrounding objects, use insulated wires.

EGME II type (terminal connection)

Without Manual Override Switch



With Manual Override Switch



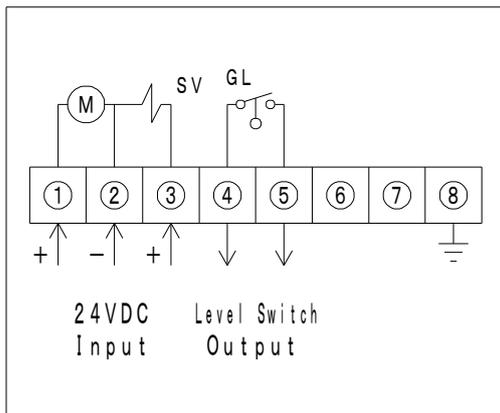
* The terminal block connection name plate is attached to the rear of the solenoid cover.

* Feed button (optional)

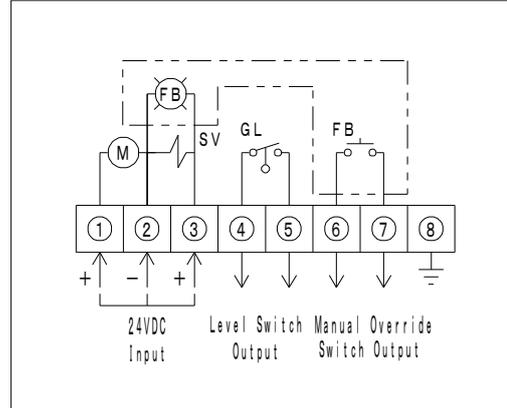
- The green lamp is lit during pump operation.
- The feed button functions only for the contact. Therefore, the pump is not operated by the feed button but needs to be controlled by the machine.

EGM II type (terminal connection)

Without Manual Override Switch



With Manual Override Switch



* The terminal block connection name plate is attached to the rear of the solenoid cover.

* Feed button (optional)

- The green lamp is lit during pump operation.
- The feed button functions only for the contact. Therefore, the pump is not operated by the feed button but needs to be controlled by the machine.

3 – 5 Tubing connection

Connect tubing to the machine to the discharge port (Rc1/8).



Use tubing good for the pressure 20 MPa or higher.

Fix the joint with hands and then tighten it 2.5 (two and a half) to 3 (three) turns with a spanner.



Proper torque for fastening : 7.1 N·m

After connection, make sure there is no grease leakage from the joint. For EGM-S type and EGM-T type, make sure to bleed air from the tubing and the pump after connection.



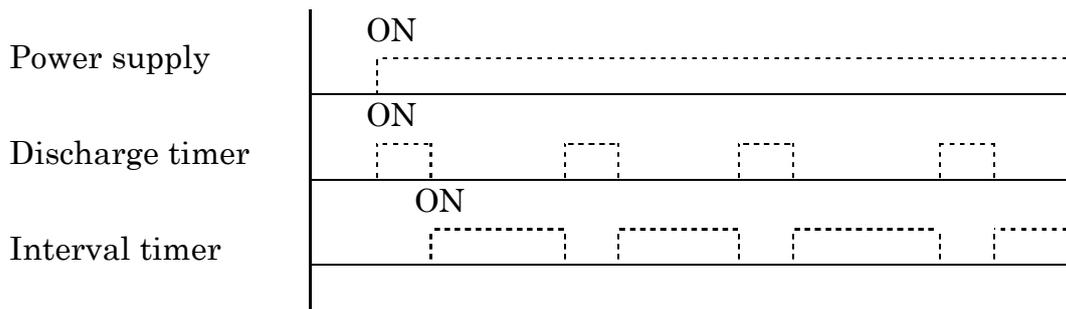
Refer to “6-1 Bleeding air” .

4. Setting of timer on machine

Install timer(s) on the machine and set the discharge time and interval cycle as defined below.

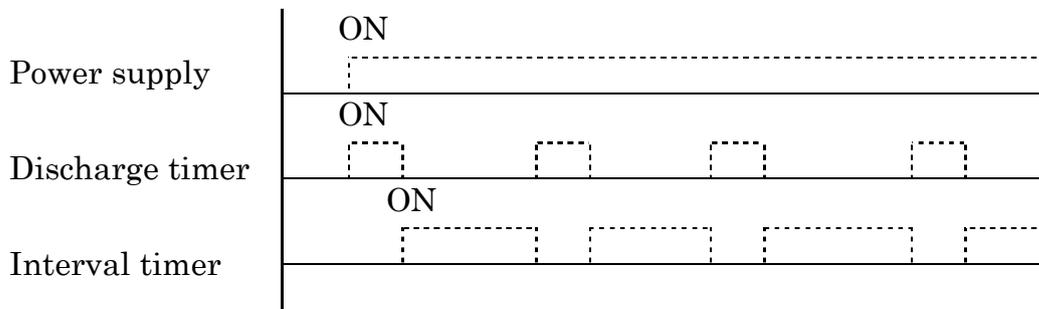
■ EGME II type

- ① Power supply from the machine controller for the pump “ON”
- ② Discharge timer “ON” . (Timer on the machine)
- ③ Interval timer “ON” . (Timer on the machine)
- ④ Repeat from ② to ③.



■ EGM II type

- ① Power supply from the machine controller for the pump “ON”
- ② Discharge timer “ON” . (Timer on the machine)
- ③ Interval timer “ON” . (Timer on the machine)
- ④ Repeat from ② to ③.



ON time should be less than 7 min 30 sec and OFF time should be at least three (3) times longer than ON time.



Ignoring this activates solenoid valve thermostat and pump pressure does not rise.

When filling the main tubing with grease or commissioning, make sure to run the cycle of ON time sec. and OFF time 90 sec within 30 min and take one (1) hour interval.

5. Refilling grease

5 – 1 Grease refilling method

Model	Code number	Grease refilling method
EGM II -8S-4-7CL-LHL	103920	400 · 700 m ℓ cartridge
EGM II -8S-4-7CLFB-LHL	103921	400 · 700 m ℓ cartridge
EGM II -8S-4-7CL-LHL	103935	400 · 700 m ℓ cartridge
EGM II -8S-4-7CLFB-LHL	103936	400 · 700 m ℓ cartridge

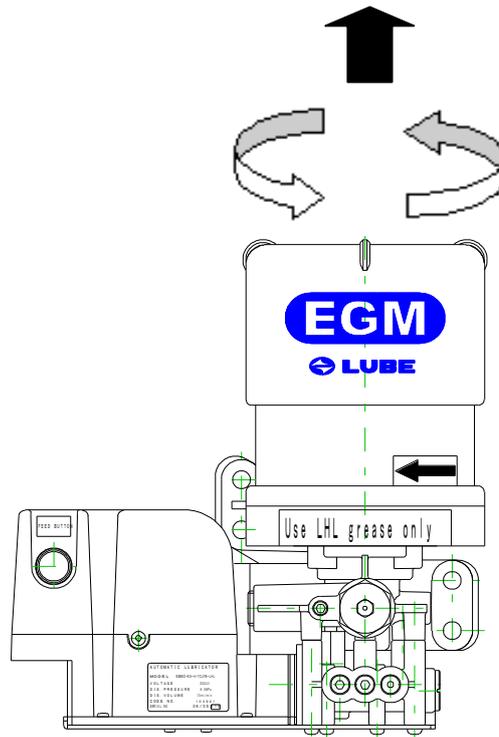
5 – 2 Replacement of grease (Cartridge type only)

If the grease level switch functions or the cartridge shrinks as a designated amount of grease is used up, replace the cartridge in the procedure below:

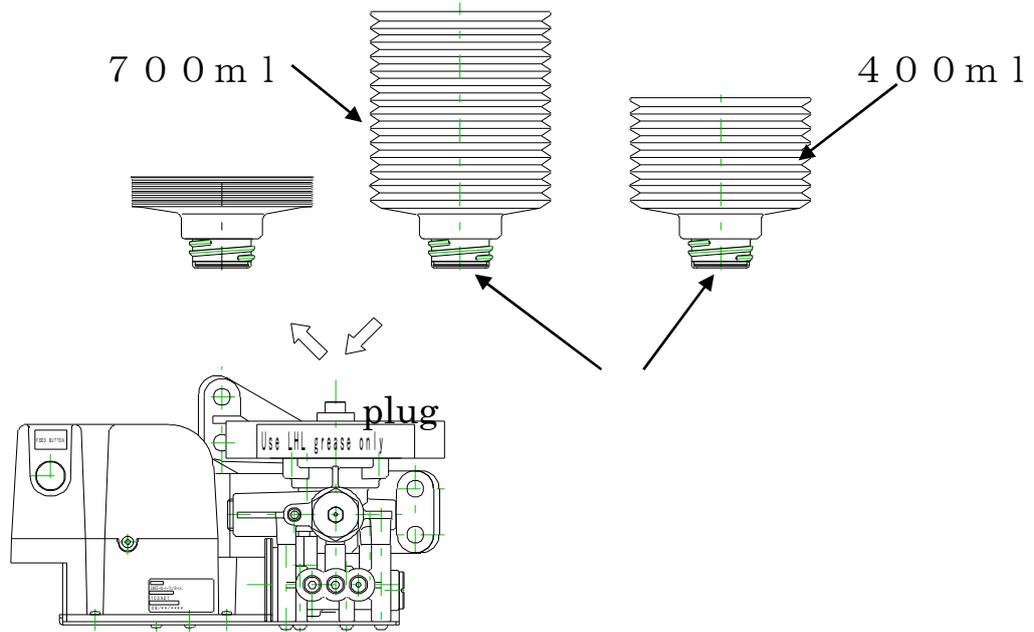


- Use recommended cartridge only.
Recommended cartridge:
LUBER LHL grease
- Cartridge is NOT recyclable. Never refill grease into the empty cartridge. Cartridge may burst.
- Return the empty cartridge to the nearest Lube office for collection.

1) Turn the cover CCW with hands remove it from the pump.



2) Turn the empty cartridge CCW and remove it.



3) Mount a new cartridge. When mounting, turn the cartridge together with an inner plug attached to the cartridge container by turning it CW. (The inner plug becomes broken at this time.)



During replacement, be careful no air and/or foreign particle is introduced.

4) Put the cover back and turn it CW with hands until it stops.

6. Maintenance

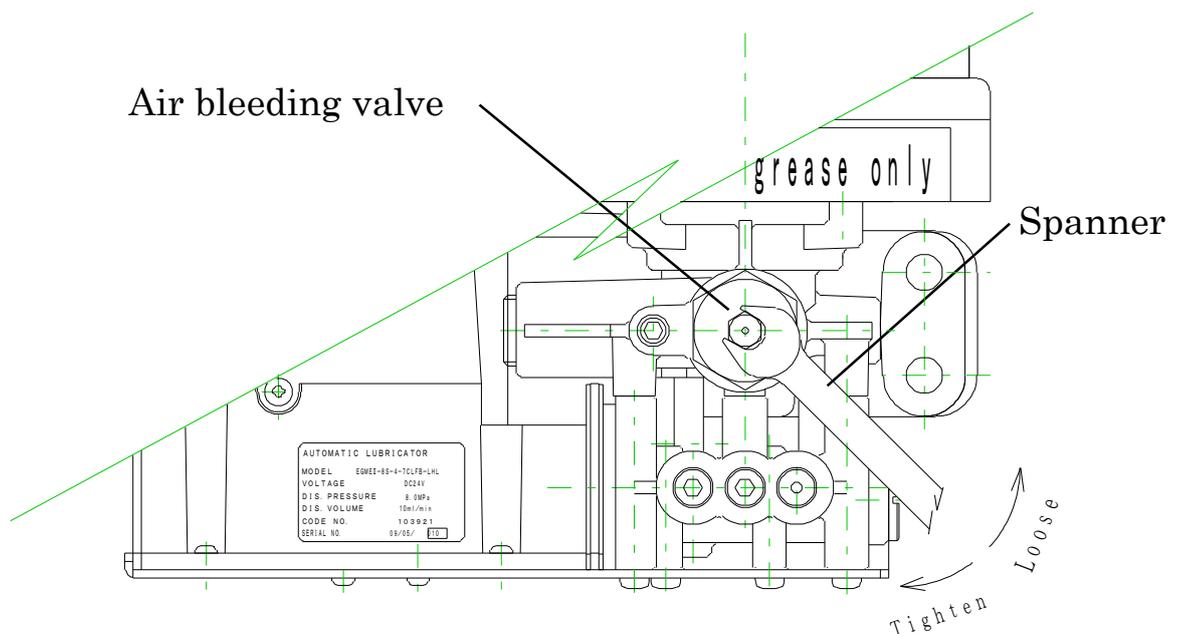
6 – 1 Bleeding air

Make sure to bleed air when air is introduced into the pump.



Air and grease often splash out from air bleeding valve.
Wear safety glasses during air bleeding.

- 1) Loose the air bleeding valve (roughly one turn CCW) with a spanner, etc.



- 2) Activate the pump.
 - Air and grease come out from the hole at the end of the valve.
- 3) When only grease comes out, stop the pump.
- 4) Turn the valve CW and tighten it.

6 – 2 Troubleshooting

When troubles occur, take the measures as defined in the chart below.

Trouble	Cause	Measures to take
No grease discharged from pump	Little grease left in the tank or cartridge	Refill tank with the same or equivalent grease or replace cartridge  Refer to “ 5 . Refilling grease”
	Air in the pump	Bleed air  Refer to “ 6 – 1 Bleeding grease”
	Pump does not operate	Check connection of wires and correct wiring if wrong If motor total operation time exceeds 500 hours, replace motor
Pressure in main tubing is not built up	No grease discharged from pump due to any of above causes	Refer to above measures
	Air in the tubing	Take off closure plug(s) at the end and operate pump and bleed air in tubing
	Foreign particle(s) at the ball seating section of relief valve	Contact LUBE
	Pump discharge low pressure due to relief valve wrong pressure setting	Contact LUBE  The relief valve pressure has been set before shipment

Trouble	Cause	Measures to take
Pressure in main tubing is not built up	Grease leaking from pump discharge port or pipe connection parts on machine (Due to looseness or excessive tightness)	Tighten them with proper torque or re-pipe them  For proper torque, refer to “Tightening level for connecting Sections” of the next page
	Damaged tubing	Replace damage tubing
	Malfunction of switching solenoid valve timer	Check wiring and correct it if wrong
Air in the system	Air in the system due to above reasons	Refer to above measures for “Air in the pump” and “Air in the tubing”
	Due to low level of grease in tank or cartridge, air is introduced into pump	Refill tank with same or equivalent grease or replace cartridge and then bleed air
No grease discharged from valve(s)	Clogged valve(s)	Replace valve(s)
	No grease is filled in tail tubing	Fill tail tubing with grease at installation
	Malfunction of switching solenoid valve timer	Check wiring and correct it if wrong
Pressure in pipe does not decrease properly	Clogged termination fitting(s) and valve(s)	Replace termination fitting. Disassemble valve, inspect and replace them, if necessary
	Crashed tubing	Replace the tubing
	NLGI# of grease and ambient temperature do not match	Check NLGI# and ambient temperature

■ Tightening level for connecting sections

	Tightening level	Reference torque (N · m)
OD 4 mm nylon pipe (Valve discharge port)	Turn compression bushing with hands until it stops and then tighten it 2/3 turn with a spanner, etc	3.5
OD 6 mm nylon pipe (Valve discharge port)	Turn compression bushing with hands until it stops and then tighten it 2/3 turn with a spanner, etc	3.5
OD 6 mm copper tubing & steel tubing (Undercut joint)	Turn the nut part with hands until it stops and then tighten it 1/4 turn with a spanner, etc	21
OD 8 mm copper tubing & steel tubing (Undercut joint)	Turn the nut part with hands until it stops and then tighten it 1/4 turn with a spanner, etc	25
Taper screw for tubing Rc1/8 (Pump discharge port & junction)	Turn the undercut joint with hands until it stops and then tighten it two and a half to three turns with a spanner, etc	7.1

Appendix. Grease contamination: Causes and measures

■ Causes

Causes for contamination can be divided into two categories.

○ Before the completion of installation

Foreign particles in the tubing or pump tank.

(Manufacturing defects of the assembly parts or connecting parts and unconformity during construction.)

○ During operation

Foreign particles from outside or generated inside of the system.

(Condensation of the moisture in the air due to change in temperature or separation of grease ingredients.)

■ Measures

1. Clean the tank and remove the foreign particles.

2. Keep the grease for refilling in the proper place.

If the system is installed and/or grease is stored outdoor, proper care must be taken since introduction of dust or rain into the grease would lead to system malfunction.