



## LUBYACE SYSTEM &amp; LUBMAX SYSTEM (SINGLE LINE LUBRICATION SYSTEM)


## INSTRUCTION MANUAL


Product : FM3-type Grease Charge Pump

## ATTENTION FOR SAFETY USE

Before operation, read carefully the instructions below for the safety use of LUBYACE and LUBMAX lubrication system.

These safety-use instructions, composed of “ Warning” and “ Caution”, are designed to protect customers from any possible harm and damage caused by misusing this system. Read and follow these instructions carefully to prevent misuse-driven this system troubles and protect yourself from danger.

 **Warning** If ignoring instructions with this sign and operating wrong way, death or serious injury will happen.

 **Caution** If ignoring instructions with this sign and operating wrong way, injury and equipment damage will happen.

 **Warning**

1. Do not step on or pull the lubricator and pipe-related section as foothold or hand rail; you will slip and fall or it will damage the lubrication system.
2. Do not remodel or disassemble the equipment. If necessary, contact us beforehand. And if on-site maintenance job is needed, professional staff familiar with the mechanism must to work on it.

 **Caution**

1. Use protectors whenever handling grease; otherwise eye damage or skin inflammation will happen when grease contacts your eyes or skin.
2. Do periodical inspection, such as checking grease amount and operation, to maintain the lubrication system.  
If do not, machine trouble driven by bearing injuring will happen.
3. When operating manual-type pump, be careful link construction of the handle. It will catch your hand and cause injury.
4. Use the system within the rated capacity and under the adequate operational environment. If ignoring them and using it beyond the capacity or under the dangerous environment, including its installment nearby fire and explosives, the system will have mechanical problems or cause fire.

5. When replenishing grease outdoors or on vibratory machine, remove charge pump and keep it safety indoors after using. If leaving the charge pump, it may be falled down or it may cause troubles by including rain and dust.
6. Do not use residual grease to move from another pail-can, because the lubrication system may be broken by including bubbles and dust.

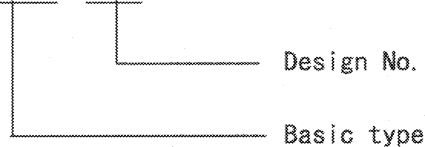
### ■ General Description

This pump is a grease charge pump for use in replenishing the follower plate type tank construction with replenishing fittings manually operated pump and motor driven pump. When using, this pump should be direct fitted to 16 kg or 18 kg pail-can on the market.

### ■ Key to Type Code

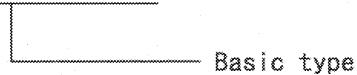
Charge Pump

FM3-10



Follower plate assembly (option)

FM3-OP-FL

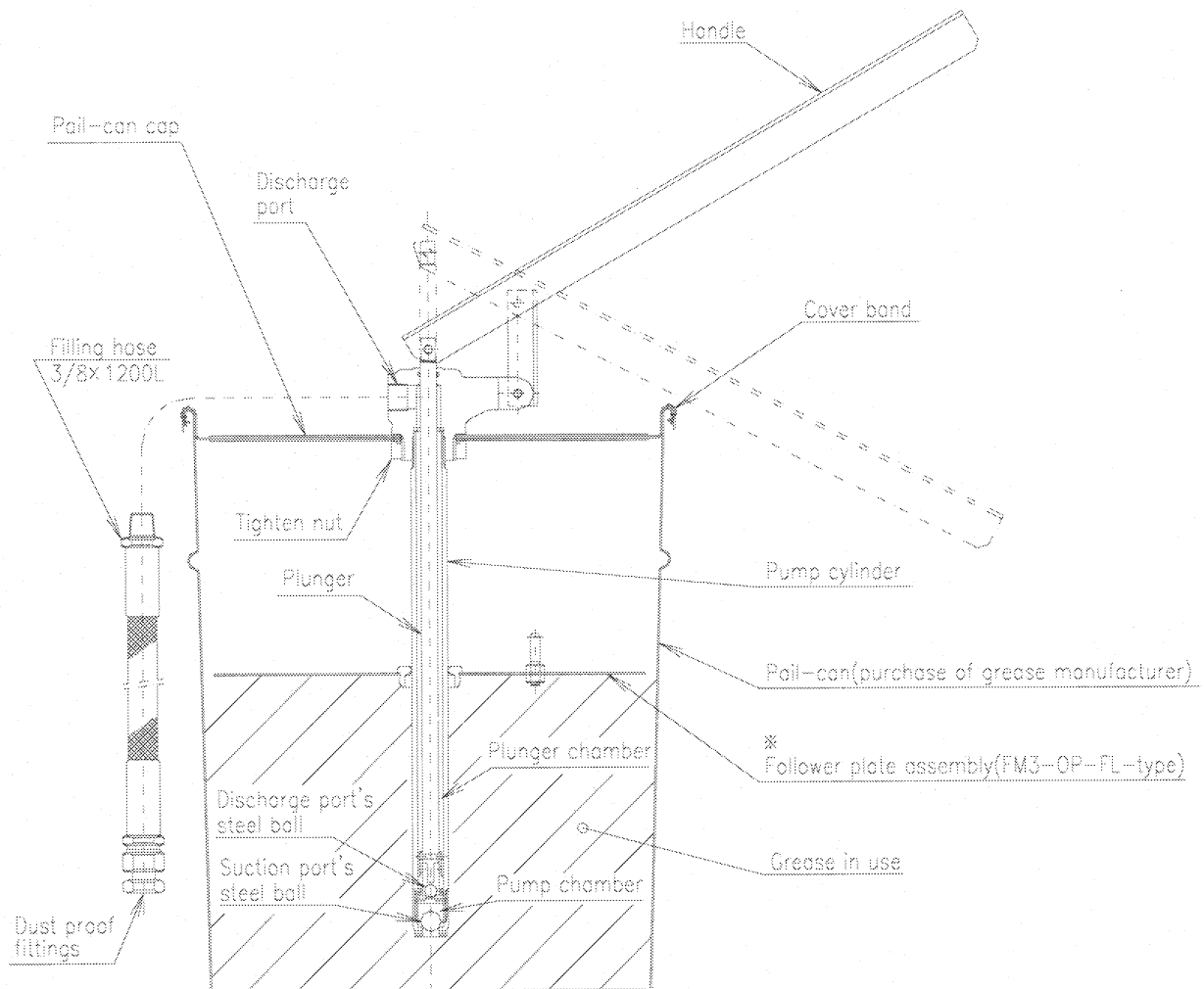


### ■ Specifications

	Max. working pressure	4.4 MPa
	Discharge rate	9 cm <sup>3</sup> /stroke
	Handle operating force (at max. working pressure)	147 N
	Standard handle operating speed	2 sec/1 go and return
*1	Grease in use	Centralized lubricating grease (Lithium group) NLGI consistency No.0 to 2
*2	Grease in container	16 kg or 18 kg pail-can
	Working temperature range	-10 to 50 °C
	Weight	2.4 kg

- \* Notes) 1. When filling grease pump of centralized lubrication system with grease, select the grease which is recommended.  
2. Since much grease is remained about 18 kg pail-can, use 16 kg pail-can if possible.

■ Name of Function



- 1) When operating the handle upper side, plunger moves lower side and suction port's steel ball closes oil path. Then discharge port's steel ball opens oil path to flow into plunger chamber with grease.
- 2) When operating the handle lower side, plunger moves upper side. Since suction port's steel ball is opened and discharge port's steel ball is closed, grease in pail-can is sucked up to pump chamber. Then grease in plunger chamber is come out from discharge port.

Note) ※ mark, "Follower plate assembly" is optional parts.

When sucking up grease from pail-can, use follower plate to lower the oil surface level uniform and not to include bubbles.

The standard temperature in need of folower plate:

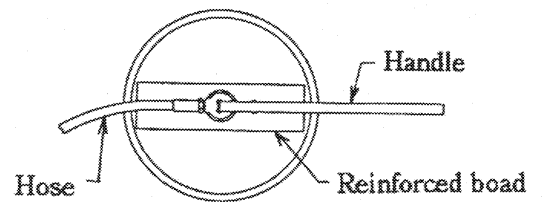
NLGI consistency No.2 grease: 10 °C or less

No.1 grease: 0 °C or less

### ■ Handling

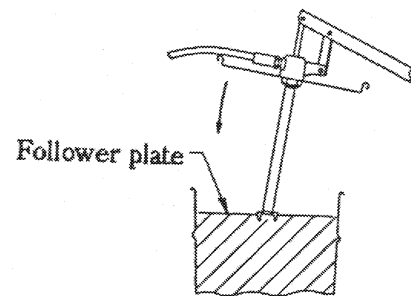
#### 1. Installation of the pump

- Put the reinforced board's long side of the pail-can to handle and fix the pump with the tighten nut.  
Tightening torque: 6080 to 7280 N·cm
- Screw up the hose.  
Tightening torque: 4220 to 4510 N·cm



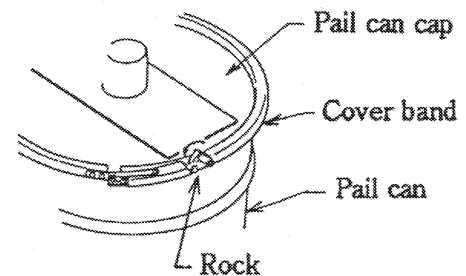
#### 2. Installation of the follower plate

- Push slowly the follower plate to grease surface and insert the pump cylinder as the grease comes out from the central port.



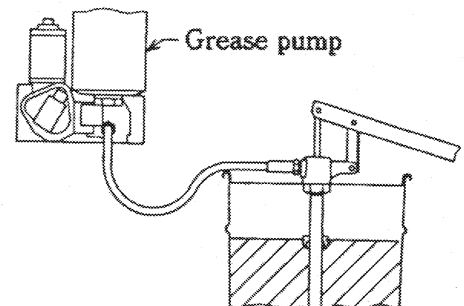
#### 3. Installation of the cover band

- Put the pail-can cap on the pail-can.
- Fix to close the rock of the cover band.



#### 4. Method of grease replenishment

- After the filling hose is filled with grease, connect the grease pump.
- When replenishing No.2 grease under low temperature, operate the handle slowly.



### ■ Type for grease replenishment

	LUBMAX lubrication system	LUBYACE lubrication system
• Manually operated pump	LM05F	LB05F
• Motor driven pump	LD05F	LE05F
	LD10F	LE10F