

INSTRUCTION MANUAL
OF
BARREL PUMP

BA-2(H)-10

This pump is intended for proper charge into the grease tank of each pump inserting into a drum-can and automatically sucking up the grease inside the drum.

1. Main Particulars

BA-2-10 (standard type)

- Discharge capacity : 1400cm³/min(60Hz), 1170 cm³/min(50Hz)
- Discharge pressure : 3MPa
- Pump revolution : 72min⁻¹(60Hz), 60min⁻¹(50Hz)
- Motor : 0.4kW 4P 3φ Total enclosed fan cooled type • Flange type
- Magnet switch : Magnet switch with push button

BA-2H (high pressure type)

- Discharge capacity : 630cm³/min(60Hz), 525 cm³/min(50Hz)
- Discharge pressure : 6MPa
- Pump revolution : 72min⁻¹(60Hz), 60min⁻¹(50Hz)
- Motor : 0.4kW 4P 3φ Total enclosed fan cooled type • Flange type
- Magnet switch : Magnet switch with push button

2. Explanation of Construction and Operation (Refer to Fig.-I.)

The turning effort obtained by starting the motor is transferred to a ① Worm and ② Worm Wheels and changed into the reciprocating motion of the ④ Piston Rod by the ③ Crank. Grease is sucked up from the inlet of a ⑦ Ball Holder by ⑤ Piston Movement.

First, in case of the crank moves from the bottom position to the upper direction, when the piston goes up, the space between the piston and the Ball holder becomes vacuum, therefore, the ⑧ Ball is opened and grease is sucked into the ⑥ Piston Cylinder.

Next, the grease inside the piston cylinder is pressed by means of descent of the piston to pressingly open the ⑩ Ball of the ⑨ Piston Valves seat and forwarded to the ① Connecting Pipe side. And then, the grease forwarded further up in the connecting pipe pressingly opens the ⑫ Ball Valve and discharged from the outlet. As the side of the outlet is fitted an air vent valve and a pressure gauge for discharge pressure.

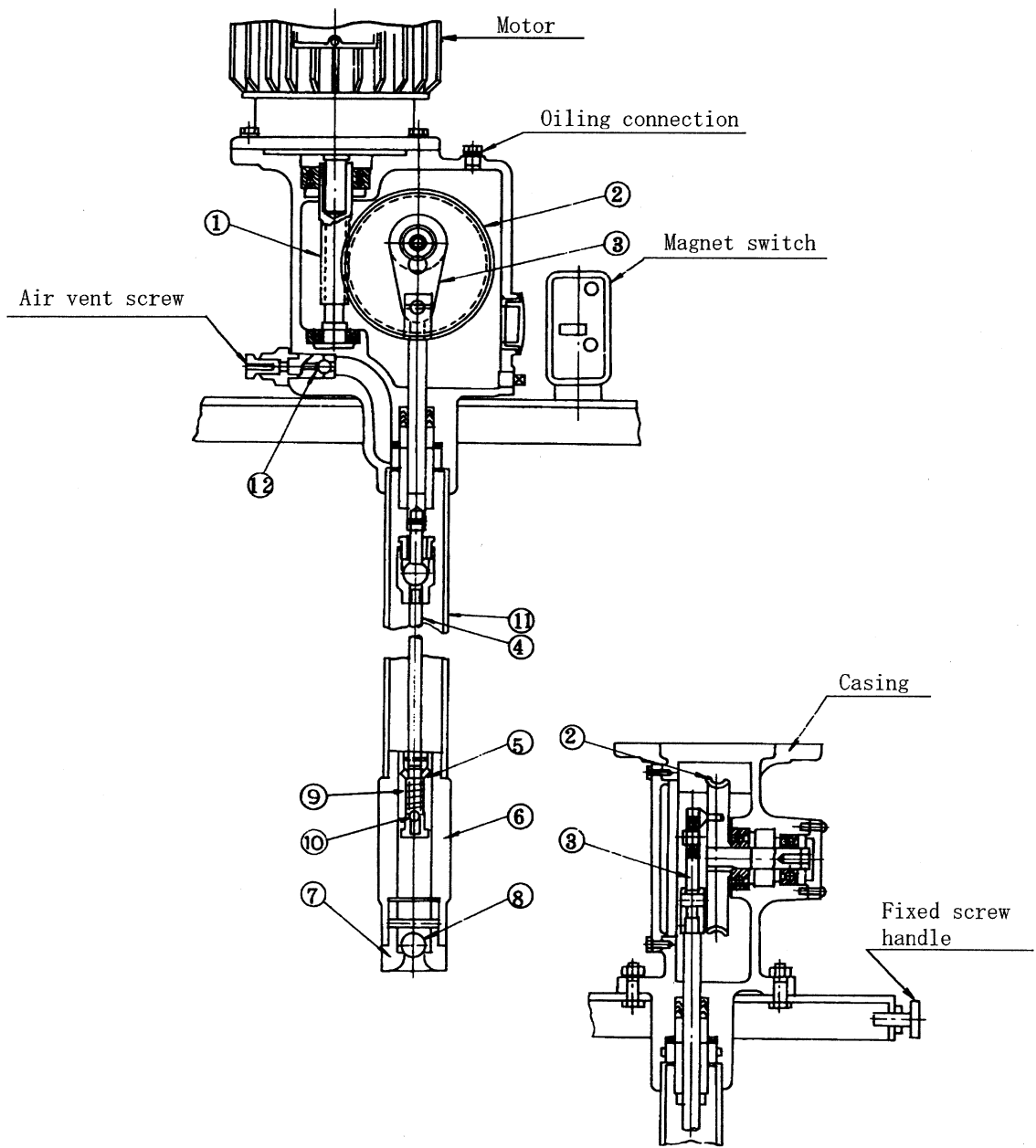


Fig. - I

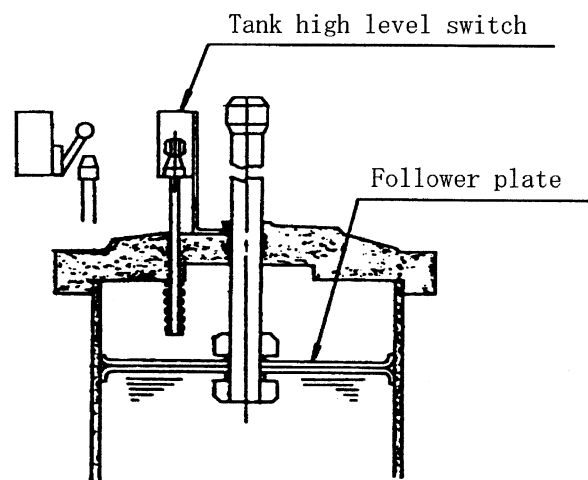
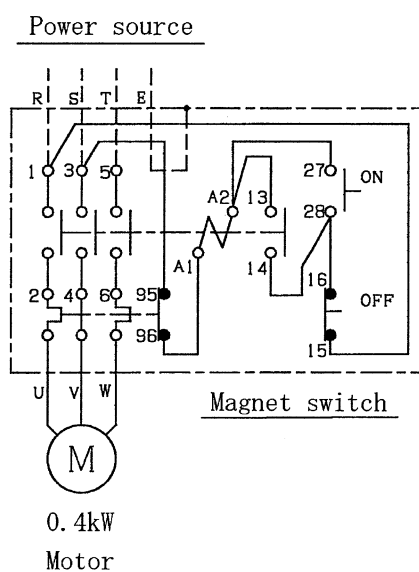
3. How to Use

3.1 Grease filling is started by press (|) push button switch the magnet switch with cover, and the filling is stopped by pressing (O).

3.2 Semi-automatic system

As tank high level switch on grease pump is connected, semi-automatic operation can be executed.

Wiring diagram



Starting is made optionally pushing a operating button and grease charging is begun. When the oil level inside the tank increases, the tank high level switch of the grease pump turns of and the signal of completion of supply is given, the pump automatically stops.

In no case of connection with the tank high level switch, grease supply is to be completed by observing the increase of the piston rod by eyes and by operating optionally the stop push button.

4. Precaution For Handling

4.1 After putting the pump on the drum-can, tighten the lid with fixed screw handle to fix the pump.

4.2 Make sure before operation that lubricating oil is filled in the casing tank. The lubricating oil is something like the cylinder oil (210F-140 SSU) containing grease and should be replaced every five to six months.

4.3 Wiring is to be made so that the turning direction of the main shaft of the pump may be set in the arrow direction of the cover.

Long time reverse turning will lead the pump to breakage.

4.4 When first discharging grease, leave the air vent valve open for complete removal of the air inside the connecting pipe.

The air will come out into the grease in foamed condition, therefore, after complete removal of the air, tighten the air vent valve.

4.5 Shortage in grease inside the drum will lead to the suction of air, care should be taken to the remains of the grease.

4.6 Connect the grease filler hose to supply port of the grease pump after filling the hose with grease. If connect the hose in empty condition, air in the hose will be mixed into the grease and the pressure of the grease pump will not certainly come up.

Moreover, if the air will be mixed into the grease, removal of the air foam is difficult, so that, remove the air together with the grease.

4.7 When exchange the empty drum-can with new one, be careful to avoid the mixture of dust or alien materials or air.

MODEL BA-23 AUTOMATIC BARREL PUMP
INSTRUCTION MANUAL

This pump is intended for proper charge into the grease tank of each pump of U and UE type inserting into a drum can and automatically sucking up the grease inside the drum.

1. Main Particulars :

BA-23

Discharge Capacity : 1.40 L/min (60Hz)
1.17 L/min (50Hz)

Discharge pressure : 3 MPa

Pump revolution : 72 min⁻¹ (60Hz), 60 min⁻¹ (50Hz)

Motor : 0.4kW, 4P, 3 ϕ , totally enclosed fan cooled type

Accessories : Hose assemblies (Length 2000mm)

2. Explanation of Construction and Operation (refer to Fig. I.) :

The turning effort obtained by starting the motor is transferred to a Worm ① and Worm Wheels ② and changed into the reciprocating motion of the Piston Rod ④ by the Crank ③. Grease is sucked up from the inlet of a Ball Wolder ⑦ by Piston movement ⑤. First, in case of the crank movement from the bottom position to the upper direction, i. e. when the piston goes up, the space between the piston and the Ball holder becomes vacuum ; therefore, the Ball ⑧ is opened and grease is sucked into the Piston Cylinder ⑥. Next, the grease inside the piston cylinder is pressed by means of descent of the piston to pressingly open the Ball ⑩ of the Piston Valve seat ⑨ and forwarded to the Connecting Pipe side ①. And then, the grease forwarded further up in the connecting pipe pressingly opens the Ball Valave ⑫ and discharged from the outlet. As the side of the outlet is fitted an air vent valve and a pressure gauge for discharge pressure.

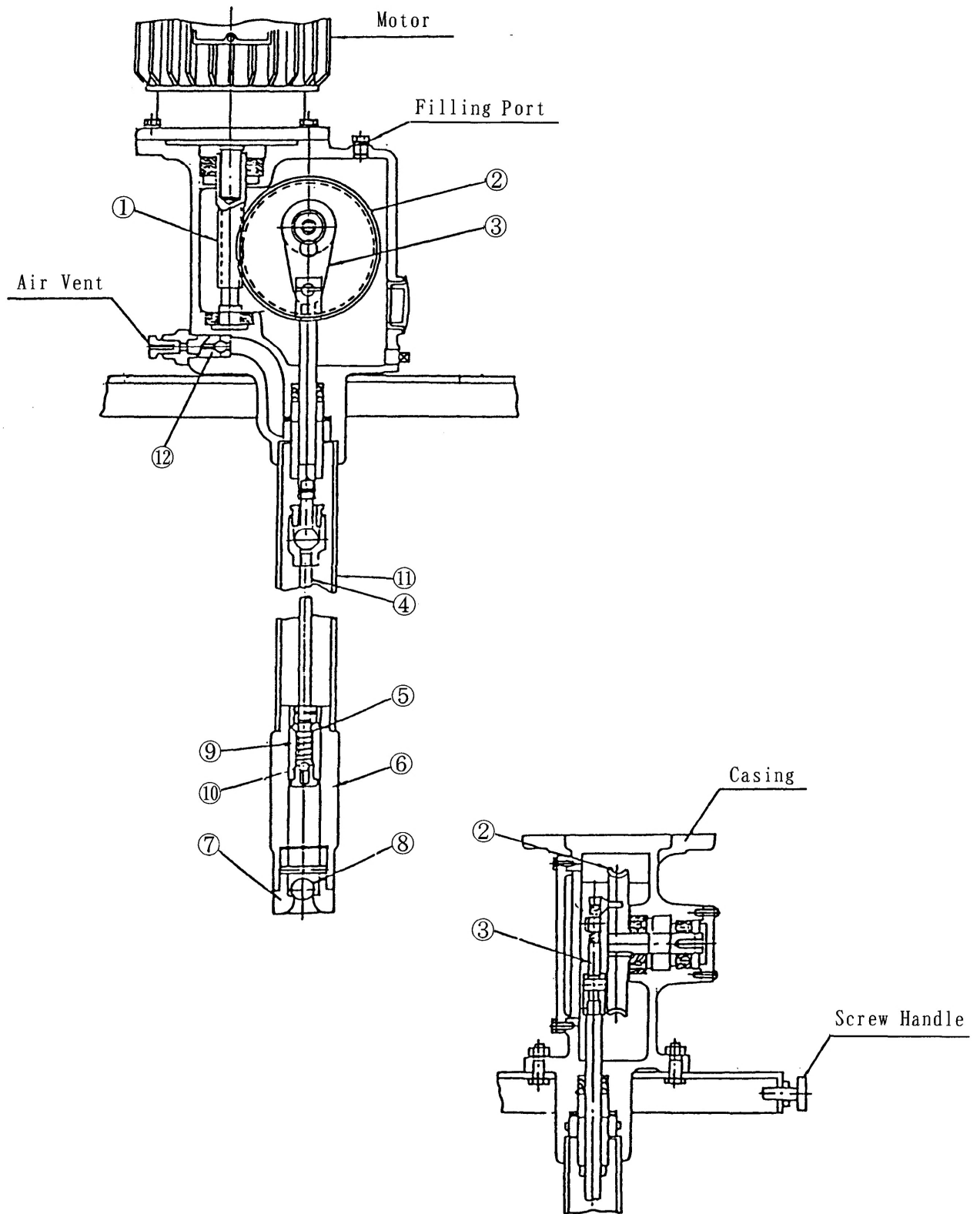


Fig. I

3. How to Use :

In case of using the electric control panel without using the magnet switch, the lead wire of the motor is connected with the control panel directly.

(The wiring method is described in the attached control panel.) If the oil level of the grease pump is low, the tank level switch will turn on, leading automatic starting on receipt of the signal of supply commencement. Grease is charged, the tank high level switch turns on due to the increase in the oil level inside the tank and the pump automatically stops on receipt of the signal of the supply completion.

4. Precaution For Handling :

- 1) After putting the pump of the drum can, tighten the lid with fixed screw handle to fix the pump.
- 2) Before operating pump fill pump gear housing with lubrication oil (Gear oil VG220 JISK2219 classification-2 or equivalent) to the specified level indicated by the red mark of oil gauge (0.35 liter) Should be replaced every five to six months.
- 3) Wiring is to be made so that the turning direction of the main shaft of the pump may be set in the arrow direction of the cover. Long time reverse turning will lead the pump to breakage.
- 4) When first discharging grease, leave the air vent valve open for complete removal of the air inside the connecting pipe.
The air will come out into the grease in foamed condition ; therefore, after complete removal of the air, tighten the air vent valve.
- 5) Shortage in grease inside the drum will lead to the suction of air; care should be taken to the remains of the grease.

MODEL BA-23H AUTOMATIC BARREL PUMP
INSTRUCTION MANUAL

This pump is intended for proper charge into the grease tank of each pump of U and UE type inserting into a drum can and automatically sucking up the grease inside the drum.

1. Main Particulars :

BA-23H

Discharge Capacity	: 630 cm ³ /min (60Hz)
	525 cm ³ /min (50Hz)
Discharge pressure	: 6 MPa
Pump revolution	: 72 min ⁻¹ (60Hz), 60 min ⁻¹ (50Hz)
Motor	: 0.4kW, 4P, 3 ϕ , totally enclosed fan cooled type
Accessories	: Hose assemblies (Length 2000mm)

2. Explanation of Construction and Operation (refer to Fig. I.) :

The turning effort obtained by starting the motor is transferred to a Worm ① and Worm Wheels ② and changed into the reciprocating motion of the Piston Rod ④ by the Crank ③. Grease is sucked up from the inlet of a Ball Wolder ⑦ by Piston movement ⑤. First, in case of the crank movement from the bottom position to the upper direction, i. e. when the piston goes up, the space between the piston and the Ball holder becomes vacuum ; therefore, the Ball ⑧ is opened and grease is sucked into the Piston Cylinder ⑥. Next, the grease inside the piston cylinder is pressed by means of descent of the piston to pressingly open the Ball ⑩ of the Piston Valve seat ⑨ and forwarded to the Connecting Pipe side ①. And then, the grease forwarded further up in the connecting pipe pressingly opens the Ball Valave ⑫ and discharged from the outlet. As the side of the outlet is fitted an air vent valve and a pressure gauge for discharge pressure.

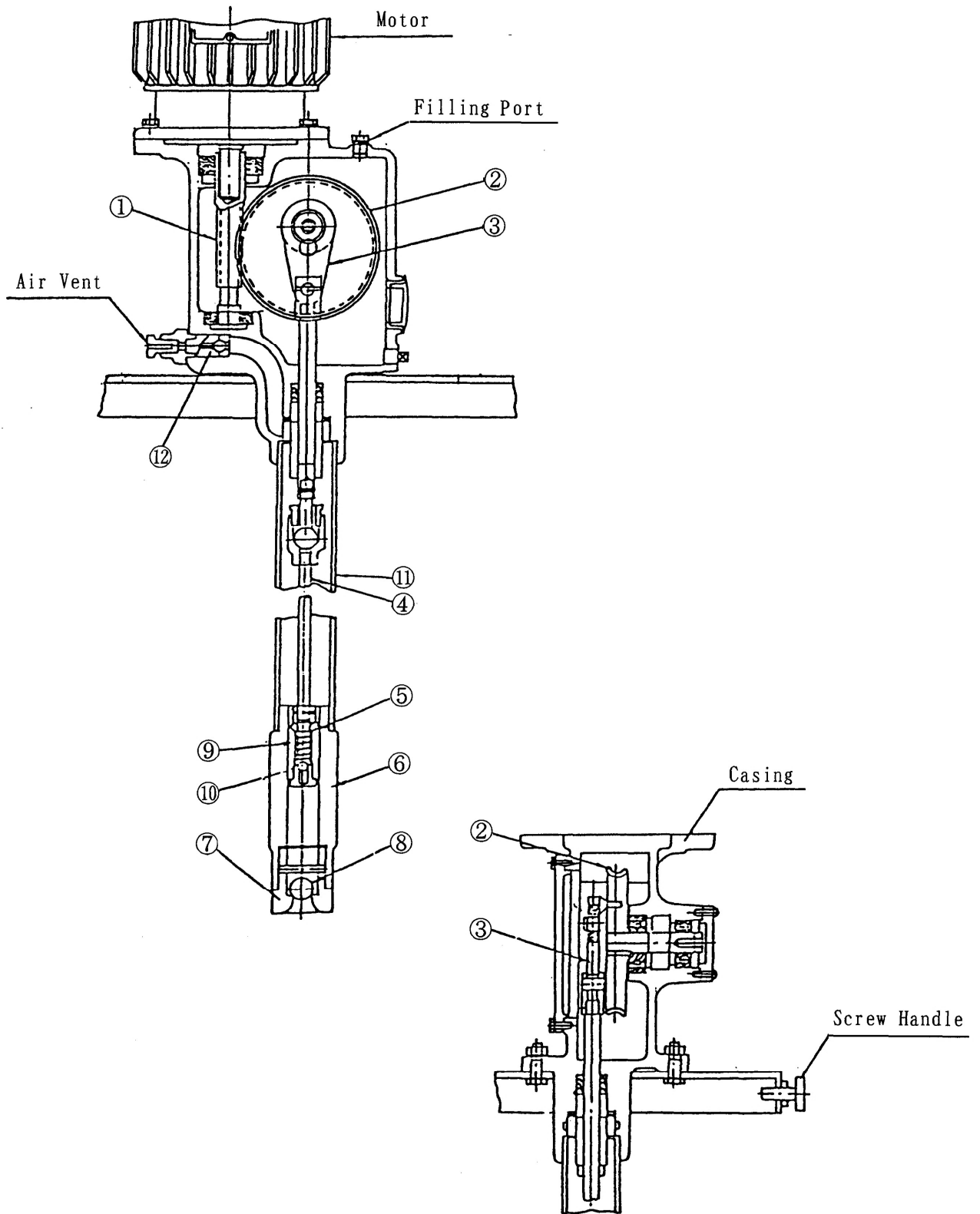


Fig. 1

3. How to Use :

In case of using the electric control panel without using the magnet switch, the lead wire of the motor is connected with the control panel directly.

(The wiring method is described in the attached control panel.) If the oil level of the grease pump is low, the tank level switch will turn on, leading automatic starting on receipt of the signal of supply commencement. Grease is charged, the tank high level switch turns on due to the increase in the oil level inside the tank and the pump automatically stops on receipt of the signal of the supply completion.

4. Precaution For Handling :

- 1) After putting the pump of the drum can, tighten the lid with fixed screw handle to fix the pump.
- 2) Before operating pump fill pump gear housing with lubrication oil (Gear oil VG220 JISK2219 classification-2 or equivalent) to the specified level indicated by the red mark of oil gauge (0.35 liter) Should be replaced every five to six months.
- 3) Wiring is to be made so that the turning direction of the main shaft of the pump may be set in the arrow direction of the cover. Long time reverse turning will lead the pump to breakage.
- 4) When first discharging grease, leave the air vent valve open for complete removal of the air inside the connecting pipe.
The air will come out into the grease in foamed condition ; therefore, after complete removal of the air, tighten the air vent valve.
- 5) Shortage in grease inside the drum will lead to the suction of air; care should be taken to the remains of the grease.

INSTRUCTION MANUAL
OF
BARREL PUMP

BA-24 (H) -10

This pump is intended for proper charge into the grease tank of each pump inserting into a drum-can and automatically sucking up the grease inside the drum.

1. Main Particulars

BA-24-10 (standard type)

- Discharge capacity : 1400cm³/min(60Hz), 1170 cm³/min(50Hz)
- Discharge pressure : 3MPa
- Pump revolution : 72min⁻¹(60Hz), 60min⁻¹(50Hz)
- Motor : 0.4kW 4P 3 ϕ Total enclosed fan cooled type • Flange type
- Accessories : Drum-Can Detecting Limit Switch

BA-24H-10 (high pressure type)

- Discharge capacity : 630cm³/min(60Hz), 525 cm³/min(50Hz)
- Discharge pressure : 6MPa
- Pump revolution : 72min⁻¹(60Hz), 60min⁻¹(50Hz)
- Motor : 0.4kW 4P 3 ϕ Total enclosed fan cooled type • Flange type
- Accessories : Drum-Can Detecting Limit Switch

2. Explanation of Construction and Operation (Refer to Fig.-I.)

The turning effort obtained by starting the motor is transferred to a ① Worm and ② Worm Wheels and changed into the reciprocating motion of the ④ Piston Rod by the ③ Crank. Grease is sucked up from the inlet of a ⑦ Ball Holder by ⑤ Piston Movement.

First, in case of the crank moves from the bottom position to the upper direction, when the piston goes up, the space between the piston and the Ball holder becomes vacuum, therefore, the ⑧ Ball is opened and grease is sucked into the ⑥ Piston Cylinder.

Next, the grease inside the piston cylinder is pressed by means of descent of the piston to pressingly open the ⑩ Ball of the ⑨ Piston Valves seat and forwarded to the ① Connecting Pipe side. And then, the grease forwarded further up in the connecting pipe pressingly opens the ⑫ Ball Valve and discharged from the outlet. As the side of the outlet is fitted an air vent valve and a pressure gauge for discharge pressure.

Also, when grease in drum-can is decreased, ⑬ Float goes down and the ⑮ Cam is pulled down by ⑯ Chain is connected to ⑬ Float.

⑭ Limit Switch operates by movement of ⑮ Cam and detects decrease of grease in drum-can.

3. How to Use

- 1) Provide electric wiring in accordance with Electric Control Panel Wiring Diagram. Operating method of barrel pump is different by Electric Control Panel type. As ordinary way of use, operation of barrel pump is controlled by Tank Low Level Limit Switch and High Level Limit Switch are loaded on the grease pump is supplied. When grease level in tank goes down, Tank Low Level Limit Switch is turned on and the barrel pump automatically starts on receiving the signal of "Start of supply". Filling grease is done, Tank High Level Limit Switch is turned on by rising of grease level in tank, and the barrel pump automatically stops on receiving the signal of "Finish of supply".
- 2) When grease in drum-can is decreased, Drum-Can Detecting Limit Switch operates, alarm of "Drum-can empty" is raised, and the barrel pump is stopped.

4. Precaution For Handling

- 4.1 Before loading of pump on drum-can, connect the tip of ⑯ Chain to the hook part of ⑬ Float.
- 4.2 After putting the pump on the drum-can, tighten the lid with fixed screw handle to fix the pump.
- 4.3 Make sure before operation that lubricating oil is filled in the casing tank. The lubricating oil is something like the cylinder oil (210F-140 SSU) containing grease and should be replaced every five to six months.
- 4.4 Wiring is to be made so that the turning direction of the main shaft of the pump may be set in the arrow direction of the cover. Long time reverse turning will lead the pump to breakage.
- 4.5 When first discharging grease, leave the air vent valve open for complete removal of the air inside the connecting pipe. The air will come out into the grease in foamed condition, therefore, after complete removal of the air, tighten the air vent valve.

4.6 Shortage in grease inside the drum will lead to the suction of air, care should be taken to the remains of the grease.

4.7 Connect the grease filler hose to supply port of the grease pump after filling the hose with grease. If connect the hose in empty condition, air in the hose will be mixed into the grease and the pressure of the grease pump will not certainly come up.

Moreover, if the air will be mixed into the grease, removal of the air foam is difficult, so that, remove the air together with the grease.

4.8 When exchange the empty drum-can with new one, remove the grease stuck to ⑬ Float and be careful to avoid the mixture of dust or alien materials or air.

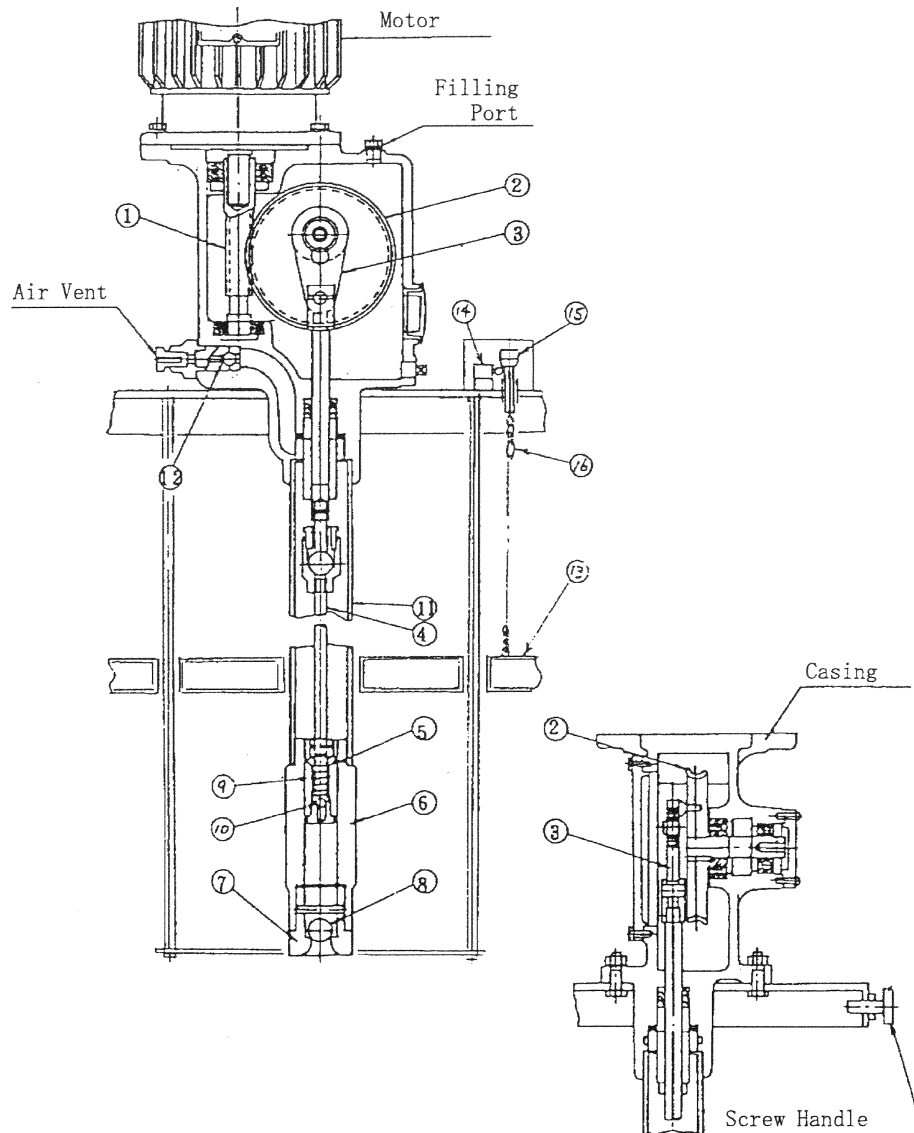


Fig. - I