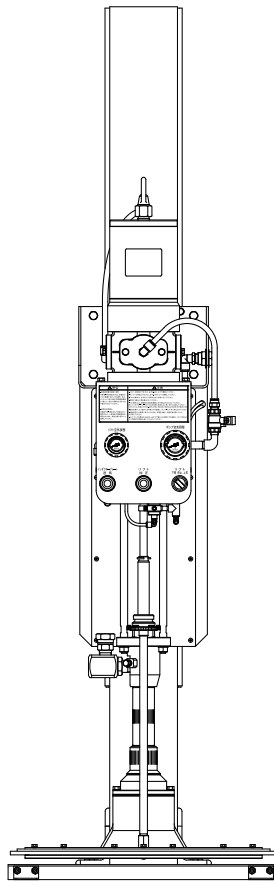


# INSTRUCTION

## High Viscosity Material Supply Pump Unit (Drum) 140 / 125 type series

SR140P25PDAL	ITEM No.881113
SR140P38PDAL	ITEM No.881114
SR140P50PDAL	ITEM No.881115
SR125D13DAL	ITEM No.881125



### **WARNING**

Prior to operating this pump, be sure to read this operation manual for safety. After reading the manual, please keep it at hand any time for your quick reference.

## YAMADA CORPORATION

## - Preface

Thank you for purchasing a Yamada Pump.

The SR-140 / 125DAL series is air operated pump units designed for use with a drum (Refer to "6.Specifications"). With a combination of a type 140 / 125 air powered pump and an air operated lift, the unit is suitable for transferring/supplying high viscosity materials like grease.

Through pipes and hoses, material can be supplied to various sections of a work site. At each section, you can use material anytime just by controlling an outlet valve.

The inductor plate provides a tight seal between the plate and a drum, prevents an air pocket from forming in the suction port, and helps to pump and transfer material efficiently until a drum gets empty.

Furthermore, a punch plate attached to the bottom of the inductor plate makes it possible to use up material in a drum as much as possible.

## - For Safe Operation

This document describes the items that are important for the user to operate this product safely, correctly, and efficiently. Before operating this product, read this manual thoroughly, in particular, "Warnings and Cautions" at the beginning of this manual, with a good understanding of its contents. Keep this manual carefully in an easy-to-access place so that the user may refer to it whenever necessary.

## - Warnings and Cautions

To use this product safely, be sure to observe the contents of the following description. In this manual, warnings and cautions are indicated by using symbols. These symbols are intended to prevent death or serious injury that may be caused to the operator or those who are around the product and damage that may be caused to the articles that are around the product, as well as to use the product safely and correctly. Each symbol is indicated and has a meaning as shown below. Read the description with a good understanding of its contents.



**WARNING** : This indicates the existence of potential hazard which, if not avoided, will result in death or serious injury.



**CAUTION** : This indicates the existence of potential hazard which, if not avoided, may result in bodily injury or in physical damage.

To indicate the contents of danger and damage, the following symbols are used together with the above indications.



This symbol indicates an act that is prohibited (prohibition). The concrete contents of prohibition are indicated by the side of the indication.



This symbol indicates the contents that must be observed. The concrete contents of observance are indicated by the side of the indication.

## - Precautions on Use

The following warnings and cautions are very important. Be sure to observe them.

### **WARNING**

#### [Operating condition]



- Read this manual thoroughly before use.  
For your safety, read and understand all information provided in this manual.  
If you have lost or damaged your instruction manual, please contact us or our distributor to place an order.



- Restriction on handling  
Never let anyone operate this unit without understanding this manual.

#### [Operating method]



- Understand this manual completely before operating the machine.  
Operators and maintenance personnel are required to read this manual thoroughly before operating or servicing. Do not handle this machine without understanding the instructions.



- Do not use inappropriately.  
Use of the product for any purpose other than those specified in this manual may result in personal injury or property damage. Be sure to use the unit in accordance with the specifications described in "6. Specifications" in this manual.

#### [Installation and piping]



- Ground connection  
Make ground connection to pump and peripheral equipment. Rapid pumping of material can result in static electrical charge. Also, be sure to provide proper ventilation where a flammable atmosphere may exist.

#### [Disassembly, maintenance and inspection]



- Shut off air supply.  
Performing these tasks when air supply is on may cause a sudden movement of the lift or an unexpected discharge of material. Be sure to shut off the air source to stop the machine before servicing.



- No alternation is permitted.  
Alternating the unit may result in personal injury or product malfunction. Please do not try to alter, modify, or change the machine.



- Replacement time for consumables  
The life of consumables varies depending on operating conditions. Replace a degraded part with a new one.

 **CAUTION****[Operating method]**

- Air may leak slightly from air valve, and it will mix into the material from the inductor plate. If you do not prefer it, please consult to YAMADA.



- Stop operation.  
If any abnormality is found during operation, immediately stop the machine. Do not restart until the cause has been identified and corrected.

**[Installation and piping]**

- Install an emergency stop valve.  
Attach an emergency stop valve to the air piping (somewhere accessible between the air source and unit) and close this valve in case of emergency.



- Shut off air supply.  
Shut off the air source BEFORE installation and piping.



- Install properly.  
Install the unit properly according to the requirements for location and material, pressure resistance, and size of hoses and other device, avoiding lift operation failure and pipe leakage or breakage.



- Do not plumb directly.  
Do not connect the material outlet and piping directly. Attach a flexible tube like a hose to connect the pump to the piping. The pump, if connected directly to the piping, may cause many problems (e.g., noise caused by vibration, damage to the piping, operation failure of the lift, and failure of maintenance).

**[Shutdown and storage]**

- When left unused for a long time (an hour or more) or shutdown  
In such case, close the air source and open the bleeder valve to release residual pressure inside the pump. (Close the bleeder valve after the residual air and material is removed.)  
If a drum is not mounted, move the lift to the lower limit and put a plastic bag over the inductor plate to prevent dust.

# Table of Contents

- Preface	
- For Safe Operation	
- Warnings and Cautions	
- Precautions on Use	
- Table of Contents	
<b>1. Part Names</b>	
1.1 Part names	1
1.2 Contents of a package	2
<b>2. Installation</b>	
2.1 Lift installation	3
2.2 Discharge piping	3
2.3 Air piping	3
2.4 Pump installation	4
2.5 Connecting the ground wire	5
<b>3. Operating Method</b>	5
3.1 Description of control and valve	6
3.2 Placement of drum	7
3.3 Operation	7
3.4 Replacement of drum	8
3.5 After work	8
<b>4. Maintenance and Inspection</b>	
4.1 Maintenance and inspection	9
4.2 Troubleshooting	11
4.3 Consumables	12
4.4 Design standard use period	12
<b>5. Parts Disassembly Drawing and Parts List</b>	13
<b>6. Specifications</b>	
6.1 Unit specifications	16
6.2 Pump specifications	16
6.3 Dimensions	16
<b>7. Limited Warranty</b>	17

# 1. Part names

## 1.1 Part names

Fig. 1 and Fig. 2 show the names of each part used in the instructions in this manual. Use them as a reference.

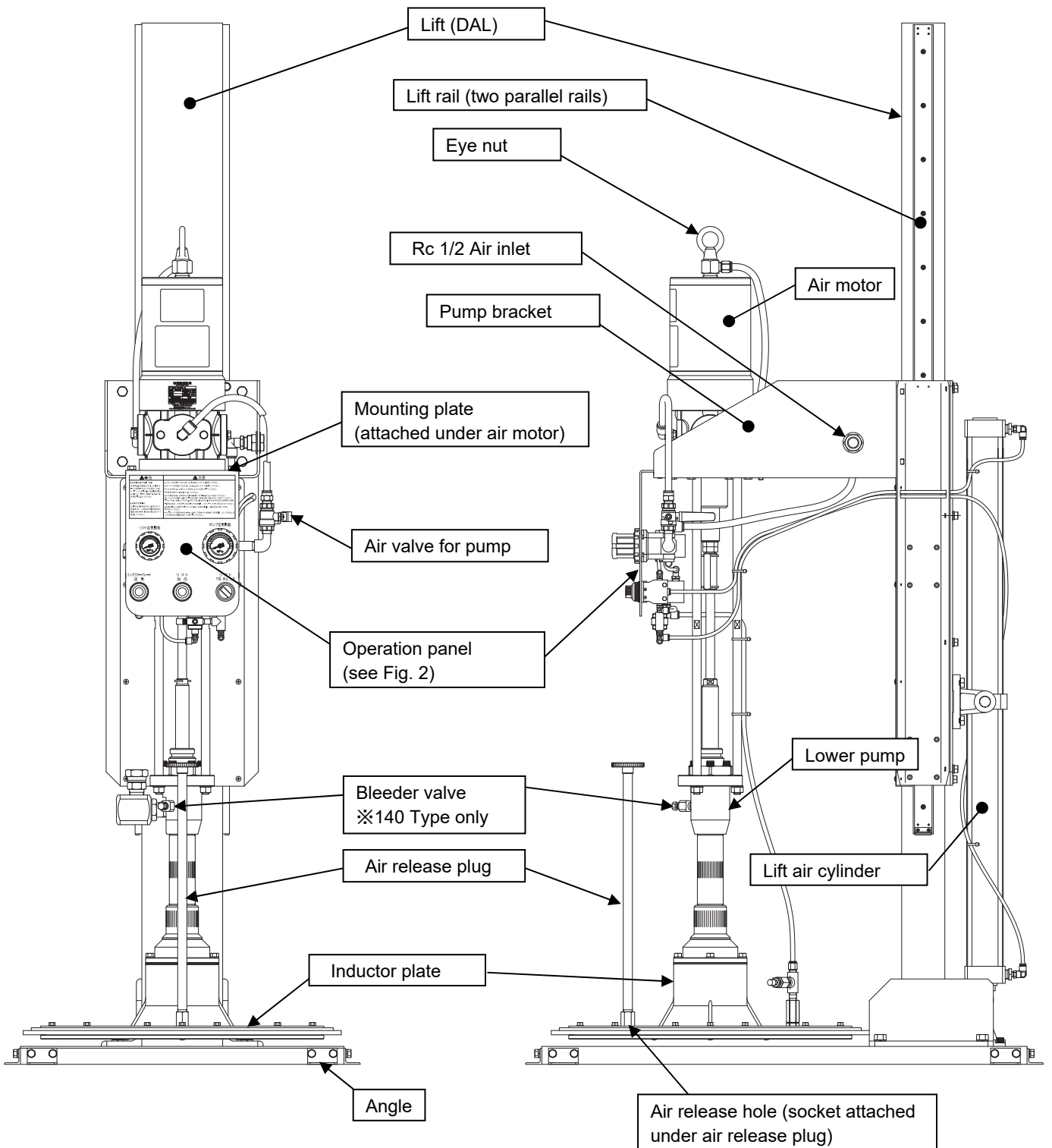


Fig. 1 Part names

Warnings/Cautions  
Carefully read the label attached to the panel before use.

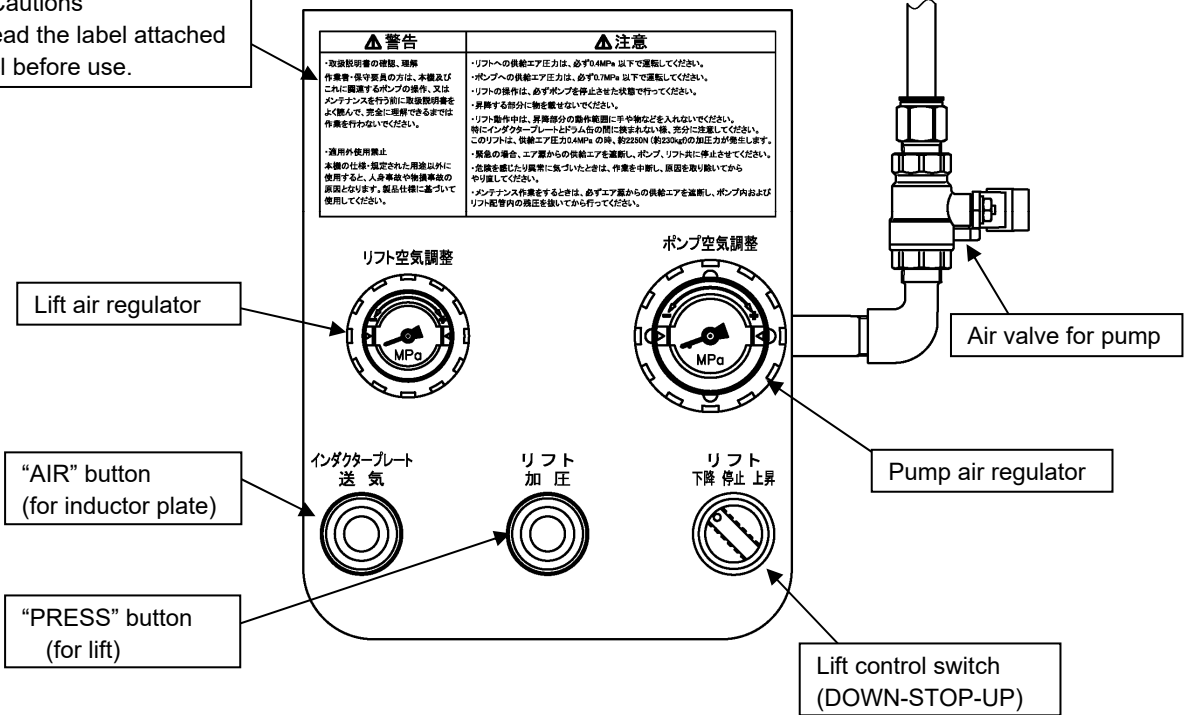


Fig. 2 Part names of operation panel

1.2 Contents of package

The unit is packed in a wooden box.  
Please make sure no damage during shipment and no missing accessories after unpacking as soon as possible.  
Please make sure no loose screws, piping connections, and fastener components.  
Please retighten if any screws, piping connections, and fastener components are loose.

2. Installation

<b>⚠ CAUTION</b>	
<b>!</b>	- This unit rises up to a full height of 2503 mm. Be sure to have enough space around the unit when installing.
<b>!</b>	- Be sure to turn each air regulator all the way to the left (counterclockwise) BEFORE connecting hoses.
<b>!</b>	- Apply sealing compound or sealing tapes to the male screws and tighten tightly when the pipes are connected. Be careful not to allow the sealing materials to enter the piping. Do not apply the tip of the terminal (two thread ridges) to maintain conductive property of the ground. (However, no applying is necessary if it will be connected to the hose union.) Check that there is no leakage or electrical continuity in each part after connecting the piping.
<b>⊘</b>	- Keep yourself away from the lift when operating it. Do not touch any part of the unit other than the switches on the operation panel.
<b>⊘</b>	- Do not put your hand or any other parts of your body between a drum and the inductor plate when installing a drum. An unexpected body injury may be caused.

## 2.1 Lift installation

- 1) Install the lift in your work site. Make sure the environment satisfies the following conditions:
  - A flat surface indoor (area where exhaust from the pump does not affect peripheral equipment)
  - Enough space for up/down movement of the lift (full height of the lift: 2503 mm)
  - Enough space to perform maintenance
- 2) Attach the angles to the lift base with the furnished bolts and washers. You can use either one of the two mounting positions shown below. Be sure to put one angle in each corner. (Fig. 3)
- 3) Secure the angles to the floor using anchor bolts (M12, sold separately).

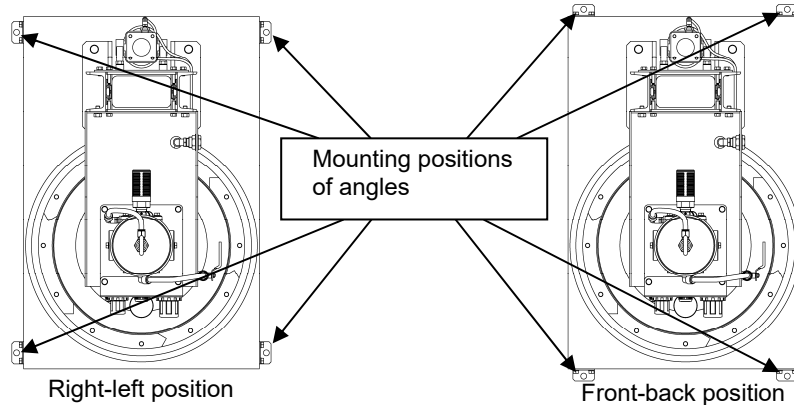


Fig. 3 Mounting positions of angles

## 2.2 Discharge piping

- 1) Connect a discharge hose to the pump outlet. Make sure the hose satisfies the following requirements:
  - Resistant to material being pumped and unaffected by environment
  - Satisfying the following normal operation pressure:
    - 13×1 ratio pump: 10 MPa or more
    - 25×1 ratio pump: 18 MPa or more
    - 38×1 ratio pump: 27 MPa or more
    - 50×1 ratio pump: 35 MPa or more
  - Recommended size: 3/4 inch or more
  - Hose fitting or joint: <140 Type>Connectable to G 3/4(F) material outlet, hose union with a 30-degree male seat  
<125 Type>Connectable to R c3/4 material outlet
  - Flexible hose, comfortable length for up/down movement of the lift
- 2) Connect the other end of the hose to a delivery pipeline. Attach a valve at the connection between the hose and the piping for maintenance and keep it closed until unit installation is completed.

## 2.3 Air piping

- 1) Attach an emergency stop valve to the air pipe (somewhere accessible between the air source and unit).
- 2) Select an air supply hose, fitting, and air equipment that satisfy the following requirements. With these devices, connect an air piping and the air inlet of the lift. Be careful not to let the hose get caught on peripheral equipment.
  - Designed for use with air and unaffected by environment
  - Normal operation pressure: 0.7 MPa or more
  - Recommended size: 3/8 inch or more
  - Hose fitting or joint: Connectable to Rc 1/2 air inlet
  - Comfortable hose length for up/down movement of the lift
  - Flow rate: 1300 L/min (ANR) or more

## 2.4 Pump installation

### CAUTION



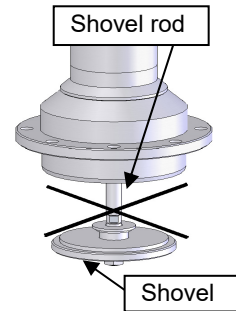
- Total weight of the pump and inductor plate is more than 60 kg. Use a chain block for installation to prevent injury. Be very careful during installation.



- Before installing the pump, verify that the shovel at the bottom is NOT sticking out. Failure to follow this instruction may result in damage to the shovel rod causing a pump failure. (Fig. 4)



- Do not put your hand between the pump body and shovel. Hand injury may be caused by a sudden movement. (Fig. 4)



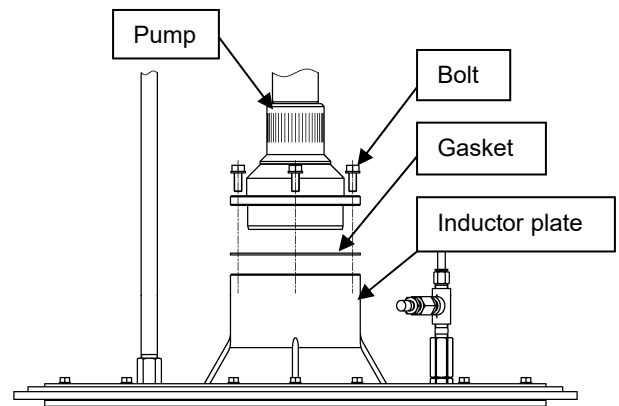
**Fig. 4** Shovel part

Normally, the product is delivered with the pump already installed. If you have dismantled the pump for maintenance or replacement, mount it again according to the following procedure. The lift is compatible with any of the following pumps: SR140P25-D (No.854560), SR140P38-D (No.854561), SR140P50-D (No.854562), SR125D13(No.854664)

#### ① Connecting pump to inductor plate

Insert the lower part of the pump through the gasket into the inductor plate. Rotate the holes in the gasket and flanged part of the pump to align with the bolt holes in the inductor plate. Insert bolts with wave spring washers through each hole and tighten them securely. (Fig. 5)

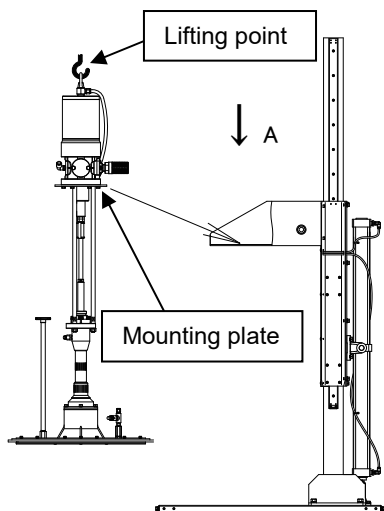
Make sure the air release plug is positioned in the front side of the pump facing away from the bleeder valve.



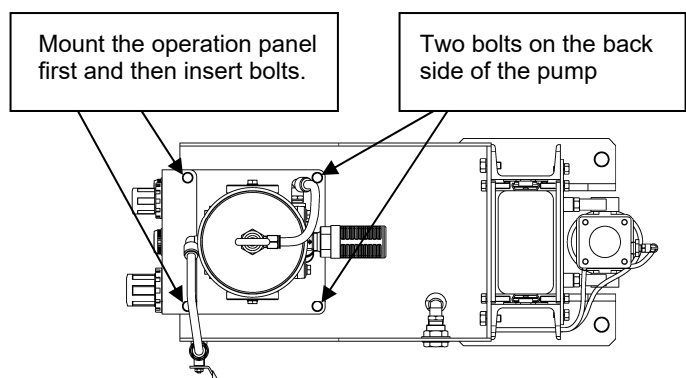
**Fig. 5** Connecting pump to inductor plate

#### ② Mounting pump on lift

Lift the pump together with the inductor plate using the eye nut on the top. Put the mounting plate of the pump on the pump bracket of the lift. Align the holes on the mounting plate with the screw holes on the pump bracket. Insert two bolts with wave spring washers on the back side of the pump and tighten them temporarily. (Fig. 6 and 7)



**Fig. 6** Mounting pump on lift



**Fig. 7** View on arrow A in Fig. 6

③ Installing operation panel

Mount the operation panel on the front side of the mounting plate. Insert two bolts with wave spring washers and tighten them securely. Then, perform final tightening on the two bolts temporarily tightened above. (Fig. 7)

④ Connect tubes according to the wiring diagram on P.15 and carefully verify that the lift can be operated properly with the control switches.

## 2.5 Connecting the ground wire

### WARNING



- Make ground connection when working with flammable material or in explosive atmosphere. Rapid pumping of material can result in static electrical charge. Also, be sure to provide proper ventilation where a flammable atmosphere may exist.

- 1) When installing the pump, be sure to connect the ground wire at the specified position. (Fig. 8)
- 2) Also connect ground wires to peripheral equipment and piping.
- 3) Use 2.0mm<sup>2</sup> minimum ground wire.

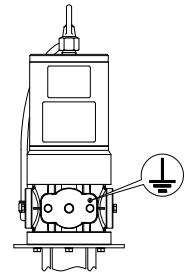


Fig. 8 Position for connecting the ground wire

## 3. Operating method

### CAUTION



- Keep your face away from the bleeder valve. Material may spurt out together with compressed air.



- Do not exceed the maximum operating pressure of the pump (0.7 MPa). Overpressure may cause a product failure resulting in serious personal injury and/or property damage.



- Do not exceed the maximum operating pressure of the lift (0.4 MPa). Overpressure may cause a product failure resulting in serious personal injury and/or property damage.



- Keep your hand away from the three studs connecting the air motor and lower pump. Fingers can get caught in the reciprocating plunger.



- If a defect occurs during lift operation, immediately stop the lift by adjusting the lift control switch to "STOP".



- To prevent excessive pressure in a drum, do not push the "AIR" button when the lift control switch is set to "STOP".



- Leave the lift control switch "DOWN" until a drum becomes empty. A suction failure may be caused if the switch is set to "STOP". Also, if the "AIR" button is pushed when there is still material in a drum, air bubbles will be produced in material.



- When the lift stops due to a foreign object caught in the sliding part, be sure to move the lift to the opposite direction BEFORE removing an object. The lift may suddenly start moving if a foreign object is removed directly.

### 3.1 Description of control and valve

(Refer to “Fig. 1 Part names” and “Fig. 2 Part names of operation panel”)

#### - Pump Air Regulator

Function : Controlling air pressure for pump operation.

To operate : Clockwise turn will increase pressure. Counterclockwise turn will decrease pressure.  
(It can be locked by pushing the knob in.)

Note : The maximum allowable operating pressure of the pump is 0.7 MPa. DO NOT exceed this limit.

Remark : Discharge pressure can be calculated by multiplying the air pressure by the pump ratio.

#### - Air Valve, Pump (ball valve attached to the right side of pump air control)

Function : Starting/Stopping the pump.

To operate : When the lever is parallel to the pipe, the valve is open. If the lever is perpendicular to the pipe, the valve is closed.

Note : In case of emergency, close the emergency stop valve attached to the air piping instead of this valve.

#### - Lift Air Regulator

Function : Controlling air pressure for lift and inductor plate operation.

To operate : Clockwise turn will increase pressure. Counterclockwise turn will decrease pressure.  
(It can be locked by pushing the knob in.)

Note : Set the normal operating air pressure to 0.4 MPa.

#### - Lift Control switch (UP/DOWN/STOP)

Function : Raising/Lowering/Stopping the lift. While moving up by air pressure, the lift moves down by its own weight. In the “STOP” mode, air supply is turned off, and the lift stops in a balanced position by residual pressure. The lift speed is maintained at a constant level by the throttle valves attached on the air inlet of the air cylinder of the lift.

To operate : Adjust the switch to each position depending on the intended use.

#### - PRESS button, Lift

Function : Setting the inductor plate in a drum and filling the inductor plate with material.

To operate : Push the button while the lift control switch is “DOWN”. It functions only when the “Press” button is depressed. Keep holding the button as long as you need. Note that this button doesn’t work unless the lift control switch is set to “DOWN”.

#### - AIR button, Inductor Plate

Function : Separating the inductor plate from a drum when a drum becomes empty.

To operate : Air is supplied as long as the button is depressed.

Note : Pressing the button when a drum is not empty may be a cause of air bubbles in material.

#### - Bleeder Valve

Function : Removing air from the pump and inductor plate after setting the inductor plate in a drum.

To operate : Holding the hexagonal head with a wrench (13 mm), counterclockwise turn will open the valve.  
Clockwise turn (all the way) will close the valve. 3-4 turns will be enough for bleeding.

Note : Be sure to close the valve securely after releasing air.

#### - Air Release Plug










Function : Removing air from the pump and inductor plate when setting the inductor plate in a drum. Open the plug before inserting the inductor plate into a drum and close it once material comes out of the air release hole.

To operate : Open and close by turning the plug holding the knurled part on the top by hand. Left turn will loosen the plug. Right turn will tighten the plug. Be sure to securely turn it when closing (tightening).

### 3.2 Placement of drum

- 1) Adjust the lift control switch to "DOWN" before turning on air supply.
- 2) Gradually increase lift air pressure up to 0.4 MPa by adjusting the lift air regulator knob. Then adjust the lift control switch to "UP" to raise the lift to the full height.
- 3) Turn the air release plug on the inductor plate 3-4 times counterclockwise to loosen it.
- 4) Place a drum right under the inductor plate. Turn the switch to "DOWN" to lower the lift. Turn the switch to "STOP" when the inductor plate has reached 2-3 cm above a drum. Then, readjust the position of a drum.
- 5) Again, set the lift control switch to "DOWN". The inductor plate will automatically stop when it reaches the brim of the drum.
- 6) Press the "PRESS" button with the lift control switch set to "DOWN". The inductor plate will be gradually pressed into a drum while air is being released from the air release hole. Keep holding the "PRESS" button until material comes out of the hole. Stop pressing the button and secure the plug.
- 7) In the event material doesn't come out of the hole even though the button is held down, please follow the following procedure:
  - ① Close the air release plug on the inductor plate.
  - ② Close the valve on the piping to prevent material from being discharged.
  - ③ Open the bleeder valve by turning it 3-4 times for releasing air.
  - ④ Open the air valve for the pump and increase air pressure gradually with the pump air regulator. The pump will start operating at approx. 0.05 MPa. Adjust the pump air regulator to set pump speed to 5-8 seconds per cycle.
  - ⑤ Keep pressing the "PRESS" button until material comes out of the bleeder valve.
  - ⑥ Once material comes out, close the bleeder valve. Then, close the air valve for pump and set the pump air regulator to 0 MPa.

### 3.3 Operation



 <b>CAUTION</b>	
	- Material, if containing air bubbles, may gush out when discharged. Put a plastic bag over the material outlet to receive spurting material.
	- Do not exceed the maximum operating pressure of the pump (0.7 MPa). Overpressure may cause a product failure resulting in serious personal injury and/or property damage.
	- Do not exceed the maximum operating pressure of the lift (0.4 MPa). Overpressure may cause a product failure resulting in serious personal injury and/or property damage.
	- Keep your hand away from the three studs connecting the air motor and lower pump. Fingers can get caught in the reciprocating plunger.
	- If a defect occurs during lift operation, immediately stop the lift by adjusting the lift control switch to "STOP".
	- Do not push the "AIR" button when the lift control switch is set to "STOP" to prevent excessive pressure in a drum.
	- Leave the lift control switch "DOWN" until a drum becomes empty. A suction failure may be caused by setting the switch to "STOP". Also, if the "AIR" button is pushed when there is still material in a drum, air bubbles will be produced in material.
	- When the lift stops due to a foreign object caught in the sliding part, be sure to move the lift to the opposite direction BEFORE removing an object. The lift may suddenly start moving if a foreign object is removed directly.

- 1) When filling the delivery piping with material for the first time, the air inside the piping will blow out. Please follow the following procedure.
  - ① Put a plastic bag over the material outlet to receive discharged material.
  - ② Open the valve on the delivery piping.
  - ③ Open the air valve for the pump and set the pump air regulator for minimum operating pressure.
  - ④ The pump will start discharging material from the outlet. Once the air in the piping is released completely, close the air valve for the pump and set the pump air regulator to 0 MPa.
  - ⑤ The pump is now ready for operation.
- 2) Adjust the pump air regulator to set to the desirable operating pressure. An estimate of the material discharge pressure to the supply air pressure is calculated by “supply air pressure × pump ratio”.  
(e.g. When operating a 38:1 ratio pump at 0.7 MPa supply air pressure, material will be discharged at approx. 26.6 MPa.)

**<NOTE>**



Material viscosity varies with changes in temperature. It is recommended to make a note of appropriate pressure for each season.

### 3.4 Replacement of drum

 <b>CAUTION</b>	
	- Do not try to separate the inductor plate from a drum at once with the “PRESS” button depressed. Compressed air built up inside a drum may be released causing a spurt of residual material.





- 1) When a drum becomes empty, the pump will run dry and NOT stop automatically. Close the pump air valve and adjust air pressure to 0 MPa using the pump air regulator.
- 2) Verify that the lift control switch is set to “DOWN” and the air release plug on the inductor plate is closed.
- 3) Keep holding the “AIR” button until the inductor plate reaches 10 cm below the point where it is separated from a drum. The inductor plate sometimes separates automatically from a drum. If it doesn't, press and release the “AIR” button repeatedly to separate the inductor plate gradually from a drum.
- 4) Once the inductor plate is separated from a drum, turn the switch to “UP” to raise the lift to the upper limit.
- 5) Set a new drum according to the procedure described in “3.2 Placement of drum”.

### 3.5 After work

 <b>CAUTION</b>	
	- After work or when shutting down the unit for a long period, be sure to turn off the air supply source to disconnect air supply to the pump and open the valves on the material outlet or gun to release residual pressure inside the pump and piping. Failure to shut off air may cause damage to the hoses and pipes and/or leak in the valves and gun. Any secondary accidents caused by the failure mentioned above are the responsibility of the users.

- 1) Close the air valve for the pump and set the pump air regulator to 0 MPa.
- 2) Adjust the lift control switch to “STOP”.

## 4. Maintenance and inspection

 <b>CAUTION</b>	
	- Be careful not to allow the pump and lift to accidentally operate during maintenance and inspection.
	- When performing maintenance or inspection, notify workers by hanging a sign or other method to keep them from touching the unit.
	- Gasoline is a high volatile fuel. Never use it for cleaning of the unit. Risk of fire or explosion may exist.

### 4.1 Maintenance and inspection

INTERVAL	ACTION
Daily	① Inspect operation of pump.
	② Inspect operation of lift.
Weekly	③ Lubricate pump. (turbine oil, class#1, additive-free: ISO V 32)
Annually	④ Check for loose bolts and nuts.
	⑤ Clean and lubricate lift rail. (lithium soap base grease: No.1)
Triennially	⑥ Overhaul pump.

#### ① Inspect operation of pump

Inspect pump to ensure the following:

- The pump operates normally and smoothly,
- There is no air/material leak in each part of the pump or air/material piping,
- There is no abnormal noise during pump operation, and
- There is no abrasion or deterioration apparently in each part of the pump.

#### ② Inspect operation of lift

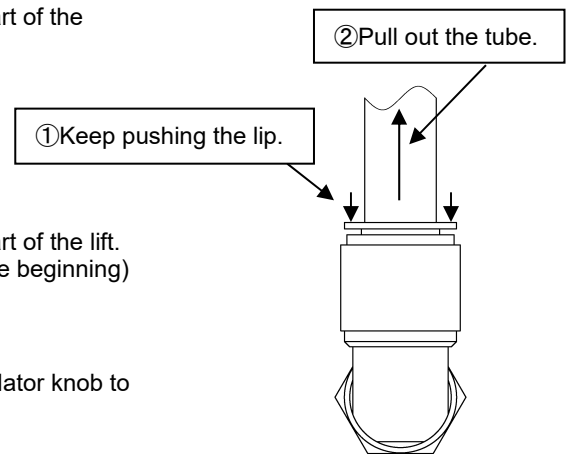
Inspect lift to ensure the following:

- The lift operates normally and smoothly,
- There is no air leak in air piping of the lift,
- There is no abnormal noise during lift operation, and
- There is no abrasion or deterioration apparently in each part of the lift.
- When the unit moves, shaking isn't big. (Compared with the beginning)

#### ③ Lubricate pump

Lubricate pump according to the following procedure:

- Close the air valve for the pump and set the pump air regulator knob to 0 MPa.
- Disconnect a tube from fitting on the air inlet. (Fig. 9)
- Apply a few drops of lubricant oil (turbine oil, class#1, additive-free: ISO VG 32) to the port of the fitting from which the tube has been disconnected.
- Reinsert the tube all the way into the fitting. Then, pull it to ensure it is securely connected.



**Fig. 9** Removal of tube

**④Check for loose bolts and nuts**

Check bolts and nuts according to the following procedures:

- Completely shut down the pump and lift by disconnecting from the air source, for example.
- Ensure that all visible bolts and nuts on the pump and lift cannot be loosened by hand.

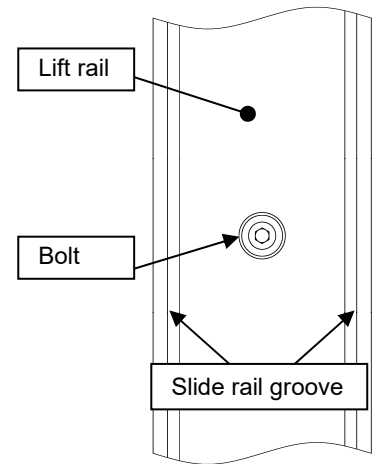
**⑤Clean and lubricate lift rail**

Clean and lubricate according to the following procedures:

- Shut off the lift.
- Wipe off any visible contaminated grease on the lift rail.
- Apply clean grease (lithium soap-based grease: No.1) to slide rail grooves. (Fig. 10)
- Move the lift to clean and lubricate the other section of the rail.

**⑥Overhaul pump**

Pump needs to be overhauled triennially. Please contact the retail store where you purchased your pump or our business office for overhaul. Earlier overhaul is recommended depending on use frequency and deterioration degree.



**Fig. 10** Where to apply grease on lift rail

## 4.2 Troubleshooting

If you suspect that you have a problem with your product, consult the table below for some common problems and their solutions. Contact the retail store where you purchased your product or our business office if all else fails.

PROBLEM	POSSIBLE CAUSE	REMEDY
Pump doesn't run	Compressor is off.	Turn on compressor.
	Valve on air piping is closed.	Open valve.
	Air pressure setting is under 0.2 MPa.	Set air pressure to 0.2 MPa or above.
	Valve on material outlet is closed.	Open valve.
	Frost occurs inside silencer.	Use dry air.
	O ring on sliding part of air piston is worn out. (Air leak occurs from silencer.)	Replace worn out or damaged part.
	Block (No.773425) and ball (No.686271) in valve body (No.804815) are worn out.	
	Any parts (e.g. spring, pin) used in switching system in valve body (No.804815) or air motor (No.804814 / No.804856) are damaged.	
Air leak from air motor	- Fasteners are loose. - O rings and packings are worn out.	- Retighten loose parts. - Replace worn part.
Air leak from silencer during shutdown	- Foreign object is caught between block (No.773425) and valve seat (No.716246) in valve body (No.804815). - Seating part is worn out.	- Remove foreign object. - Replace worn part.
Pump doesn't run and air leaks from silencer	- Foreign object is caught between spindle (No.716299) and valve switcher (No.832996) in air motor (No.804814 / No.804856). - There exists damage that prevents sliding movement of parts below.	- Remove foreign object. - Replace worn part.
Pump doesn't draw material at first time of operation	Pump operating speed is so fast that lower pump suction cannot keep up with pump movement. (Valve inside lower pump is not working well.)	Set pump speed to 5-8 sec. per cycle until material is pumped out.
Material cannot be pumped out	If upward movement of plunger is faster, - seat surface of piston valve is defective (wear of seat surface, inclusion of foreign material) or - packings are damaged.	- Remove foreign object. - Replace worn part.
	If downward movement of plunger is faster, - seat surface of foot valve is defective (wear of seat surface, inclusion of foreign material), - packings are damaged, or - shovel rod is bent.	
	If downward movement of plunger is faster, operating speed is so fast that lower pump suction cannot keep up with pump movement. (Vacuum is caused inside lower pump.)	Decrease air pressure until material comes out. (This pressure is the upper limit of normal operating pressure.)
	Connecting rod connecting air motor and lower pump is completely separated from air motor. (In this case, parts inside of lower pump may be damaged.)	Inspect inside lower pump first, then replace damaged part, and retighten each part.
Pump doesn't stop	Leak occurs in delivery pipe.	- Retighten loosened parts. - Replace damaged part.
	Leak occurs in lower pump (connections are loosened or o ring, backup ring, or packing is damaged).	
Material leak from lower pump	- Fasteners are loose. - O ring, backup ring, or packing is damaged.	- Retighten loosened parts. - Replace damaged part.
Material contains air bubbles even after bleeding	Internal diameter of drum is larger than specified.	Use the drums described in the "6.Specifications".
	Air release plug is loosened.	Secure air release plug.
	Packing of inductor plate is deteriorated.	Replace packing.
	- Fasteners are loosened. - O ring or backup ring is damaged.	- Retighten loosened parts. - Replace damaged part.
Material leak around inductor plate	Internal diameter of drum is larger than specified.	Use the drums described in the "6.Specifications".
	Drum surface is uneven.	Use straight side drum.
	Packing of inductor plate is deteriorated.	Replace packing.
Lift doesn't move up/down	Compressor is off.	Turn on compressor.
	Air supply is off.	Turn on air supply.
	Valve on air piping is closed.	Open valve.
	Air pressure setting is not enough.	Set air pressure to 0.4 MPa.
	Drum surface is uneven.	Use straight side drum.
	Cylindrical section of lift air cylinder is dent.	Replace part.
	Foreign object is caught in sliding part of lift. Foreign object is caught in slider roller of lift rail.	Remove foreign object.
Drum raises together with lift	Lift control switch is adjusted to "UP".	Adjust switch to "DOWN".
Lift doesn't raise with AIR button	Lift control switch is adjusted to "STOP".	Adjust switch to "DOWN".
	Air release plug on inductor plate is not secured.	Tighten air release plug.

### 4.3 Consumables

1) **Pump**

Refer to “Instruction Manual for Doc. No. APP 067U” for replacement time for consumables used in the pump. The replacement time should be used only as a guide. Consumption varies depending on use conditions. Also, be sure to replace a part when you find any defect like a leak during operation.

2) **Lift**

- The plastic tubes will be degraded naturally. Replace them all every six years.
- The switches and regulators should be replaced if you find they are not working properly. Never use a defective device.

3) **Inductor Plate**

- The wiper will get worn out due to sliding contact with a drum. Considering natural degradation, replace it every six years.
- The gasket used for the connection between the pump and inductor plate will get worn out by repetitive mounting and removal of the inductor plate. Replace it with a new one when it is damaged at the time of inductor plate removal.

### 4.4 Design standard use period

Design standard use period is established for the product. (See the table below.)  
Use of the product beyond this period may result in personal injury or property damage.

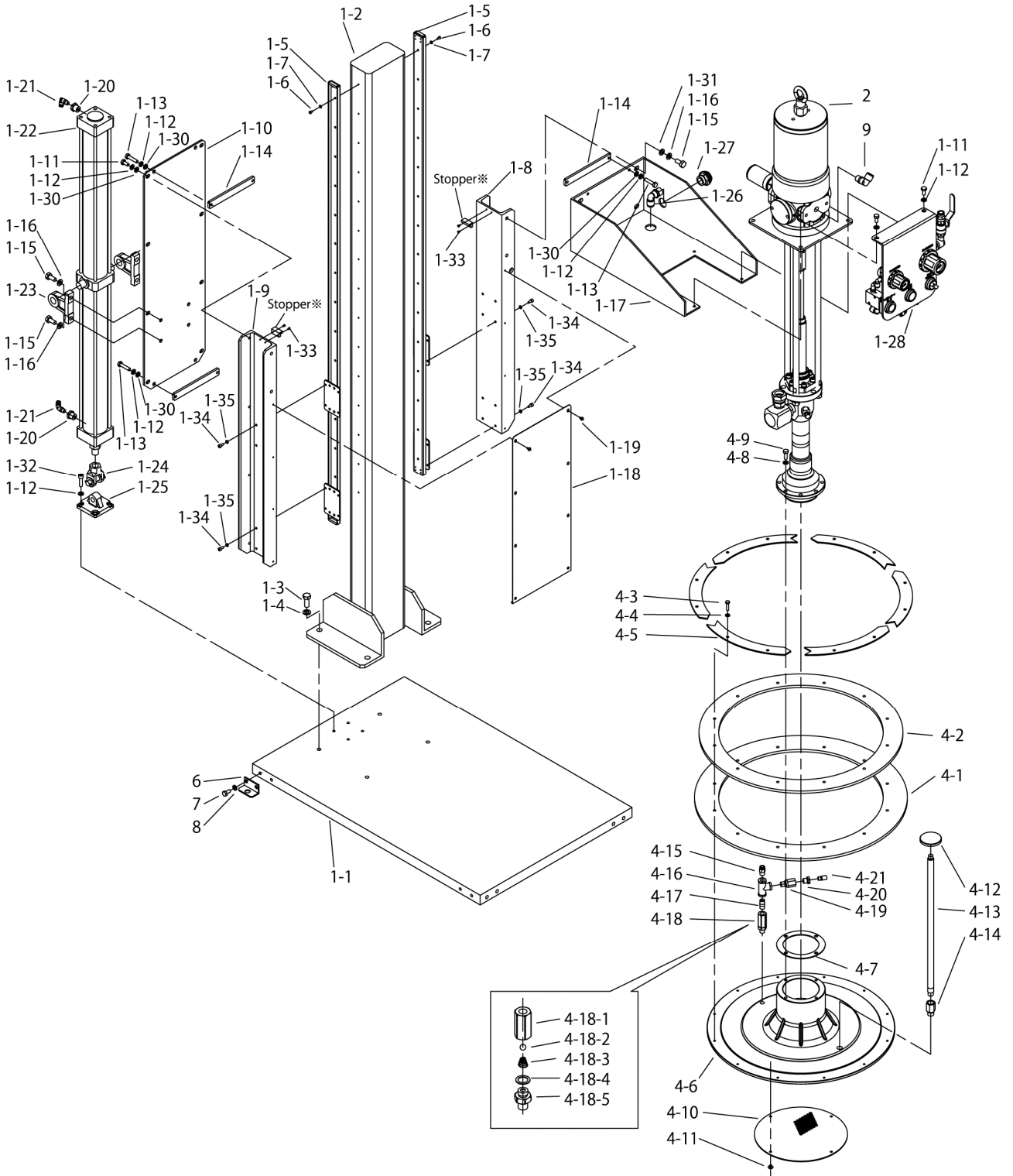
- **Pump**---Refer to “Instruction Manual for Doc. No. APP067U”.

- **Lift and inductor plate**---10 years

Standard Conditions of Use for Lift and Inductor Plate	
Application	Pumping and transferring grease
Season	Spring and Fall
Temperature	20 °C
Material being pumped	Lithium Soap Grease: No.1
Container	JIS Z 1600 Open Head Steel Drums, Drum type D (208 L)
Operating pressure for lift	0.4 MPa
Daily Amount of Material being pumped	1 drum
Operating Days per year	260 days (5 days a week)

# 5. Parts Disassembly Drawing and Parts List

## ■Parts Disassembly Drawing



■Parts List

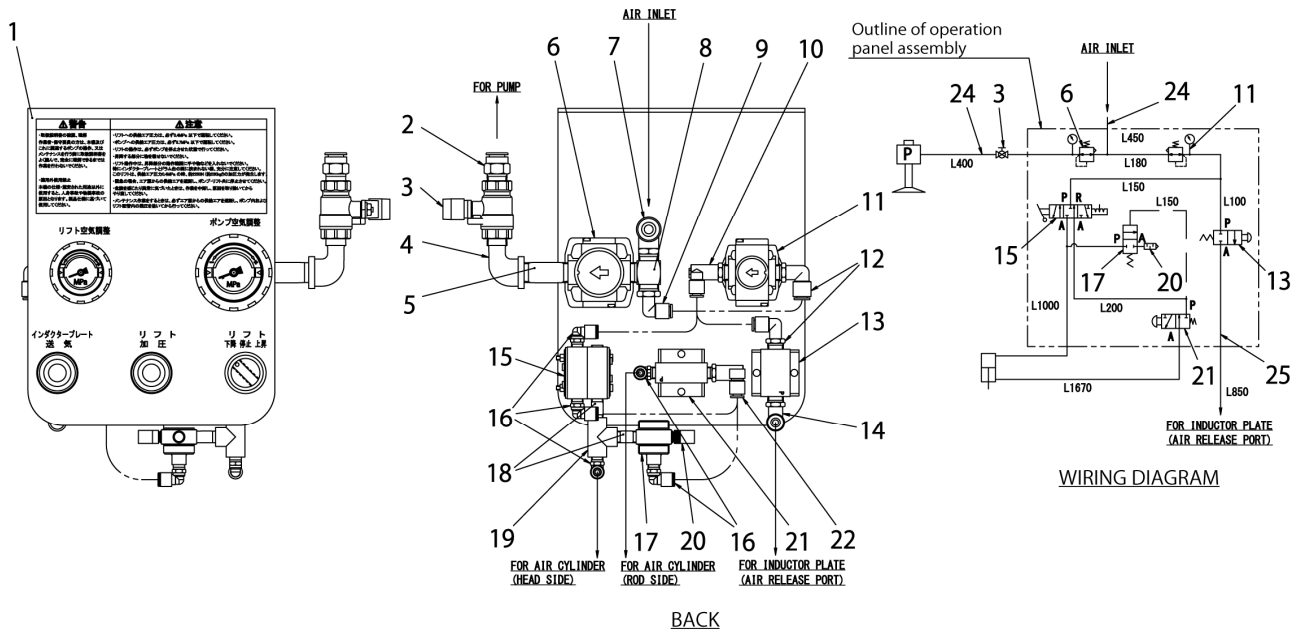
No.	Part No.				Description	Q'ty
	SR140P25DAL <881113>	SR140P38DAL <881114>	SR140P50DAL <881115>	SR125D13DAL <881125>		
1	(854564)				Drum lift assembly	—
1-1	832981				Drum base assembly	1
1-2	832983				Lift assembly	1
1-3	611197				Bolt	4
1-4	631918				Spring washer	4
1-5	686820				Slide pack	2
1-6	686327				Bolt	30
1-7	631495				Washer	30
1-8	717094				Slide base	1
1-9	717093				Slide base	1
1-10	716325				Plate	1
1-11	611145				Bolt	12
1-12	631916				Spring washer	22
1-13	611153				Bolt	6
1-14	716326				Spacer	3
1-15	611172	←	←	←	Bolt	8
1-16	631917				Spring washer	8
1-17	832982				Pump base assembly	1
1-18	716327				Cover	1
1-19	602992				Screw	8
1-20	686326				Bushing	2
1-21	686324				Throttle	2
1-22	686308				Air cylinder	1
1-23	686309				Trunnion holder	1
1-24	686310				Knuckle joint	1
1-25	686311				Clevis	1
1-26	683821				Elbow fitting	1
1-27	686329				Pannel union	1
1-28	804822				Operation pannel assembly	1
1-30	631013				Plain washer	14
1-31	631014				Plain washer	4
1-32	619151				Bolt	4
1-33	602702				Screw	4
1-34	619075				Bolt	16
1-35	631417				Spring washer	16
2	854560	854561	854562	854664	Pump assembly	1
4	(804823)				Inductor plate assembly	—
4-1	770218				Packing	1
4-2	770217				Packing	1
4-3	611103				Bolt	12
4-4	631418				Spring washer	12
4-5	710931				Plate	6
4-6	716332				Follow plate	1
4-7	772150				Gasket	1
4-8	631916				Spring washer	4
4-9	611149				Bolt	4
4-10	716333				Filter	1
4-11	686331				Screw	4
4-12	701764				Handle	1
4-13	715802	←	←	←	Valve rod	1
4-14	715803				Socket	1
4-15	682802				Fitting	1
4-16	634061				Tee	1
4-17	634802				Nipple	1
4-18	800977				Check valve	1
4-19	685680				Relief valve	1
4-20	634595				Bushing	1
4-21	681170				Silencer	1
6	716322				Angle	4
7	611145				Bolt	8
8	631916				Spring washer	8
9	683820				Elbow fitting	1

※Stopper is included with 686820 slide pack.

**800977 Check valve**

No.	Part No.	Description	Q'ty
4-18-1	704407	Valve body	1
4-18-2	630316	Ball	1
4-18-3	704408	Tapered spring	1
4-18-4	706513	Washer	1
4-18-5	704409	Union	1

■804822 OPERATION PANEL ASSEMBLY



No.	Part No.	Description	Q'ty
1	716344	Operation panel	1
2	684524	Fitting	1
3	685731	Valve	1
4	634032	Elbow	1
5	686184	Long nipple	1
6	686313	Regulator	1
7	683820	Elbow fitting	1
8	686330	Tee	1
9	684550	Elbow fitting	1
10	684151	Elbow fitting	1
11	686312	Regulator	1
12	682649	Elbow fitting	2
13	687142	Mechanical valve	1
14	683585	Elbow fitting	1
15	686314	Mechanical valve	1
16	682933	Elbow fitting	5
17	683717	Air operate valve	1
18	634801	Nipple	2
19	634060	Tee	1
20	681170	Silencer	1
21	686315	Mechanical valve	1
22	686322	Elbow fitting	1
23	570062	Nylon tube (black)	1
24	570145	Tube (white)	1
25	570068	Tube (black)	1

## 6. Specifications

### 6.1 Unit specifications

ITEM No.		881113	881114	881115	881125
TYPE (PUMP)		SR140P25DAL (SR140P25-D)	SR140P38DAL (SR140P38-D)	SR140P50DAL (SR140P50-D)	SR125D13DAL (SR125D13)
PUMP RATIO		25 × 1	38 × 1	50 × 1	13 × 1
MATERIAL CONNECTION	DISCHARGE PORT	G 3/4(F) with 30° male seat			Rc 3/4
AIR CONNECTION	SUPPLY PORT	Rc 1/2			
COMPATIBLE MATERIALS		Grease : NLGI No.0-3			Grease : NLGI No.0-2
		<ul style="list-style-type: none"> <li>• Special materials like silicone grease are not applicable.</li> <li>• The pumps are NOT available for use in food and slurry-containing materials.</li> <li>• Usable range of NLGI No. is a rough indication.</li> </ul> The range may be different depending on property of the grease.			
APPLICABLE CONTAINERS		Equivalent to JIS Z 1600 Open Head Steel Drums, drums, type A and C and D.			
SUPPLY AIR PRESSURE MAXIMUM VALUE OF PAIL LIFT		1.0 MPa [145 psi]			
RANGE OF LIFT OPERATION AIR PRESSURE		Max. 0.4 MPa [58.2 psi]			
MAXIMUM OPERATING NOISE	A-WEIGHTED SOUND PRESSURE LEVEL ※1	80.9 db		78.4 db	
	A-WEIGHTED SOUND POWER LEVEL ※2	89.0 db		88.4 db	
AMB. TEMP. RANGE	ENV. TEMPERATURE	0 ~ 60 °C			
	MATERIAL TEMP.	0 ~ 80 °C			
WEIGHT		173.0 kg			174.0 kg

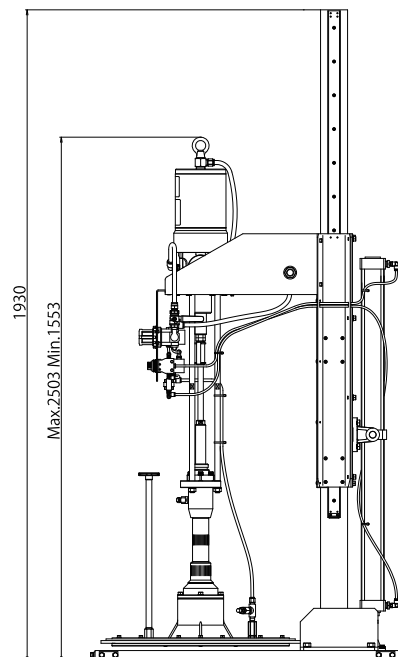
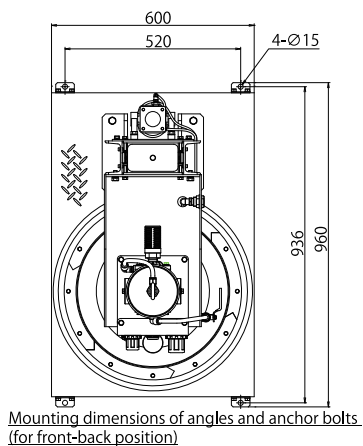
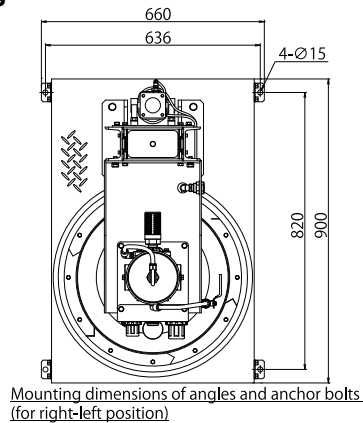
※1 Measurement method of A-weighted sound pressure level is based on ISO 1996.

※2 Measurement method of A-weighted sound power level is based on ISO 3744.

### 6.2 Pump specifications

Refer to "Instruction Manual for Doc. No. APP 067U" for pump specification.

### 6.3 Dimensions



## 7. Limited Warranty

If an abnormality occurs during normal operation in accordance with the operating instructions and other operating cautions within the warranty period (12 months after date of purchase) that can be attributed to a manufacturing defect, the defective parts of this product will be serviced or the product will be replaced free of charge. However, this warranty will not cover compensation for incidental damage or any malfunction listed below.

### 1. Warranty period

This warranty will be valid for a period of 12 months after the date of purchase.

### 2. Warranty

If, during the warranty period, any of the material of the genuine parts of this product or the workmanship of this product is found defective, and is so verified by our company, the servicing cost will be fully born by our company.

### 3. Exclusion

Even during the warranty period, this warranty does not cover the following.

- 1) Malfunction arising from use of parts other than manufacturer-specified genuine parts
- 2) Malfunction arising from misuse or operating errors, or lack of storage or maintenance care
- 3) Malfunction arising from use with a fluid that may cause corrosion, inflation or dissolution of the component parts of the product
- 4) Irregularity arising from repair made by other than by our firm, our regional office, dealer or authorized service personnel
- 5) Malfunction arising from modification of the product by other than authorized service personnel
- 6) Wear and tear of parts that must be regularly replaced in the course of normal operation, such as packings, O-rings and hose.
- 7) Malfunction and/or damage due to use with incorrect voltage.
- 8) Malfunction and/or damage due to transportation, moving or drop page of the product after purchase
- 9) Malfunction and/or damage due to fire, earthquake, flood or other force majeure
- 10) Malfunction arising from use of compressed air that contains impurities or excessive moisture, or use of gases or fluids other than the specified compressed air
- 11) Malfunction arising from use of excessively abrasive material or of inadequate grease.

Furthermore, this warranty does not cover the rubber parts, or other parts used in this product and its accessories, which are subject to wear in normal operation.

- hoses
- packings
- cords

### 4. Parts

Parts for this product will be kept available for 5 years after discontinuation of production. Once 5 years have elapsed after close of production, availability of parts for this product cannot be guaranteed.



## **YAMADA CORPORATION**

### **International Sales Department**

1-1-3, Minami-Magome, Ota ku, Tokyo, 143-8504, Japan

PHONE : +81-(0)3-3777-0241

FAX : +81-(0)3-3777-0584

E-mail : intl@yamadacorp.co.jp

Web : www.yamadacorp.co.jp

## **YAMADA (THAILAND) CO., LTD**

41/79 Moo 6, Bangcha-long, Bangplee, Sumutprakarn 10540, Thailand

PHONE : +66-(0)2-130-0990

FAX : +66-(0)2-130-0993

E-mail : sales@yamada-th.com