

# **THE STAINLESS TYPE HAND ROTARY PUMP 《HRD-25 SUS》 《HRD-25 SUS H》 《HRD-25 SUS HM》**

## **USE AND MAINTENANCE MANUAL**

- This manual contains safety and operating instructions, which will help you to use the device correctly and safely. Please read it carefully before using the device. Using the device in a wrong way may cause malfunction of the equipment and human injuries.
- Keep this manual in a safe place, as you may need it in the future. Refer to it whenever necessary.

## **SAFETY INSTRUCTIONS**

### **WARNING!**

- This pump is intended to be manually operated for the purpose of delivering liquids stored in drum cans. Do not use the pump for any other purpose.
- Do not use the pump in a way, which may cause excessive inner pressure (use it only manually). Operating the pump differently may result in leakage and fire.
- Before transferring a liquid it is advised to carefully read information on liquid's use.
- In case of direct contact with liquid (ingestion, skin contamination etc.), immediately proceed with safety procedures and seek medical attention.
- Before changing the liquid, make sure you have removed any leftover liquid you have transferred before. Not doing so may lead to dangerous chemical reactions.
- Always store the liquid in a place unreachable for children. Also, read the instructions on how to properly store a liquid.
- During operation of the device, it is strictly prohibited to use fire.

## **CAUTION!**

- Store the liquid in a safe place, unreachable for children.
- If you believe the liquid may have affected your physical condition, immediately seek medical attention.
- Always remember about necessary safety measures according to the liquid's usage instruction.
- Disassembly, reassembly and service matters are restricted to authorized experts.

## **CAUTION!**

- Do not run the device in a dry state (with no liquid inside).
- If the device suddenly stops operating or operates in a strange manner, immediately turn it off and contact the vendor, or an authorized service. Continuing the operation may result in fire and human injuries.
- The device has a fixed rotation direction. Do not rotate the handle in a direction opposite to the marking on the device.
- Protect the main body of the device from shock. Do not drop it. Doing so may cause malfunction of the device, and lead to leakage.

\* Please remember, that the safety measures and warnings pointed out in this manual are not exhaustive for all possible situations. Although we have designed our product to be as safe as possible, persons operating and maintaining the device should strictly follow all safety rules in the operation/maintenance area.

## PERMITTED LIQUIDS

Liquid's name		Liquid's name	
Solvents • Chemicals	Acetone	Solvents • Chemicals	Triethylamine
	Ethyl Alcohol		1.2.2 Trichloroethane
	Ethylene Glycol		Trichloroethylene
	Ethylene Chlorohydrins		Toluene
	Ethylene Chloride		Nitrobenzene
	Methylene Chloride		Nitromethane
	Octane		Carbon Disulfide
	Xylene		Butyl Alcohol
	Chloroform		Furfural
	Amyl Acetate		Propyl Alcohol
	Ethyl Acetate		Hexane
	Butyl Acetate		Benzyl Alcohol
	Diacetone Alcohol		Benzene
	1.4 Dioxane		Methyl Alcohol
	Cyclohexanon		Methyl Isobutyl Ketone
	Cyclohexane		Methyl Ethyl Ketone
	Alternative CFCs		

Liquid's name	
Petroleum Fuel	Gasoline, Kerosene, Diesel Oil
Machine Oil	Lubricants (machine oil, gear oil), torque converter oil, break fluid
Other	Antifreeze, soapy water, detergents

### Usage Conditions

Liquid's Relative Density: 1.5 max

Liquid's Viscosity: 500 cP max

Temperature: 10~60°C (if the temperature is outside the given range, device's performance may be lower)

### CAUTION!

- The liquids listed before are usable, however, because different operating conditions and environmental conditions may affect the liquid, you should always decide on your own whether it is safe to transfer the liquid, or not.
- There are many different types of thinners. You should always check whether the substance can be safely transferred using this pump.

### SPECIFICATIONS

Product's name		Rotary Hand Pump
Model		HRD-25 SUS
Delivery Rate		220 cc/rotation
Materials	Pump	SUS304
	Piping	SUS304
Weight	Pump with handle	5.4 kg
	Pump with piping	7.2 kg
Includes	<ul style="list-style-type: none"><li>● Assembly parts:</li></ul> <div><div>Pump's main body [1]</div><div>Delivery pipe [1]</div><div>Suction pipe [1]</div><div>1-1/2" &amp; 2" Adapter [1]</div></div> <div><div>Handle</div><div>Manual</div><div>Warranty Card</div></div>	

As far as consumable parts are concerned, the repair service is not free.  
(Parts such as the O-ring, seal ring, side sheet, vane etc...)

### CAUTION! (concerning high relative density fluids' use)

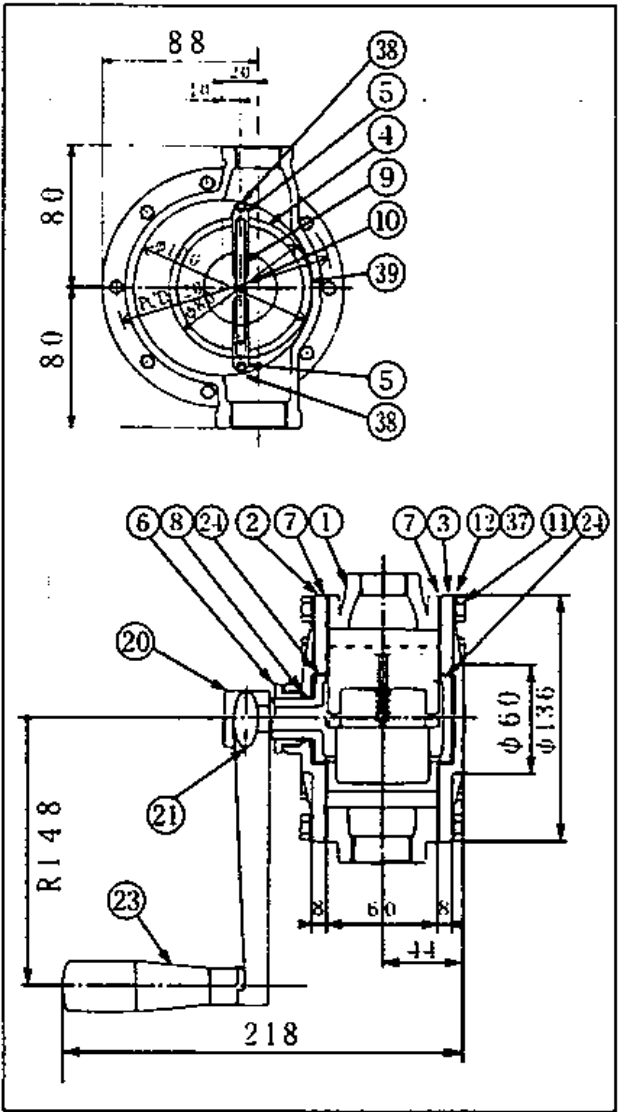
When trying to transfer high relative density fluids (1.1~1.5), and experiencing difficulties with suction or no suction at all, do not rotate the handle idly. Doing so may result in inner vane's damage.

Please follow the next steps:

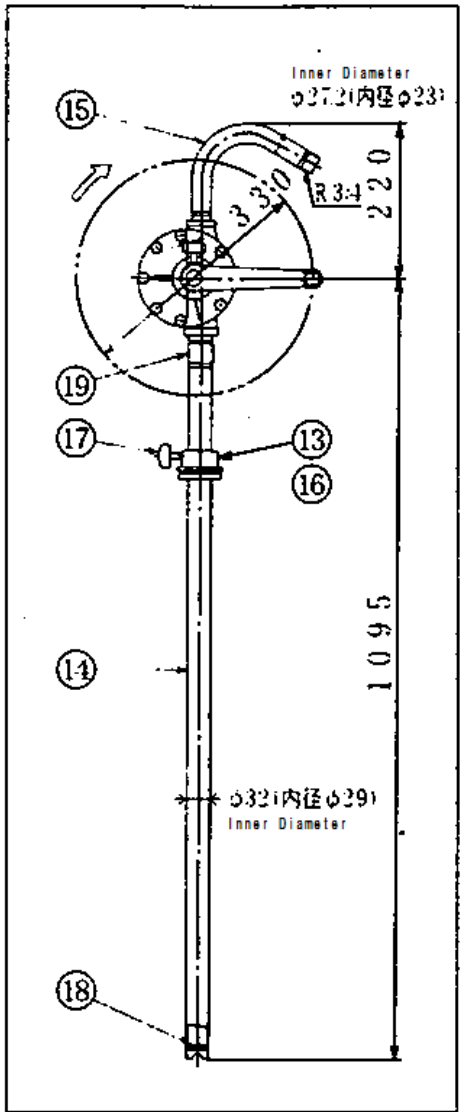
- 1) Insert some of the liquid into delivery pipe.
- 2) Rotate the handle quickly (3~5 rotations/second)

If the pump still refuses to suck the liquid, please discontinue the operation.

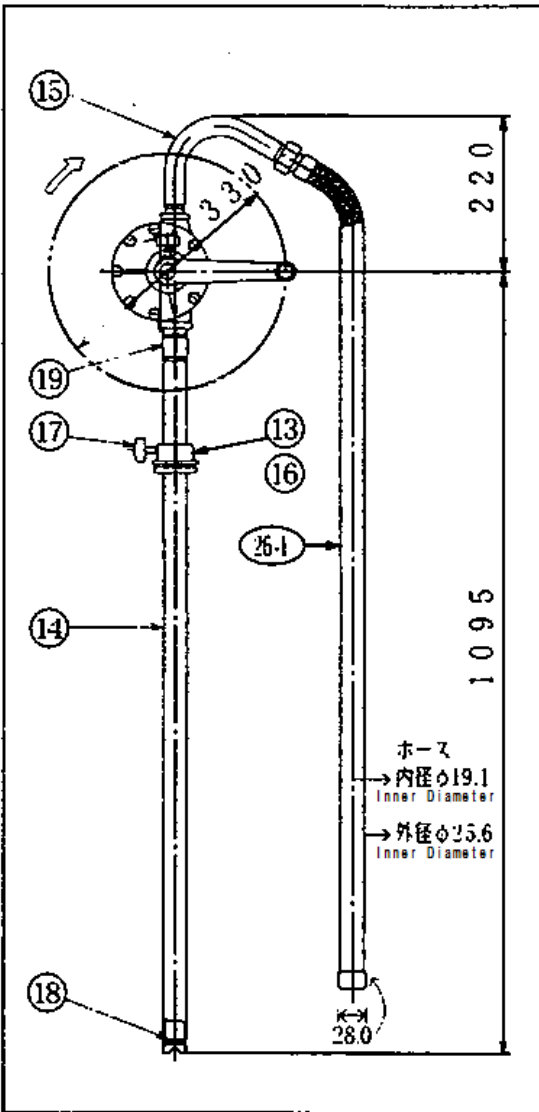
# ■ Dimensions



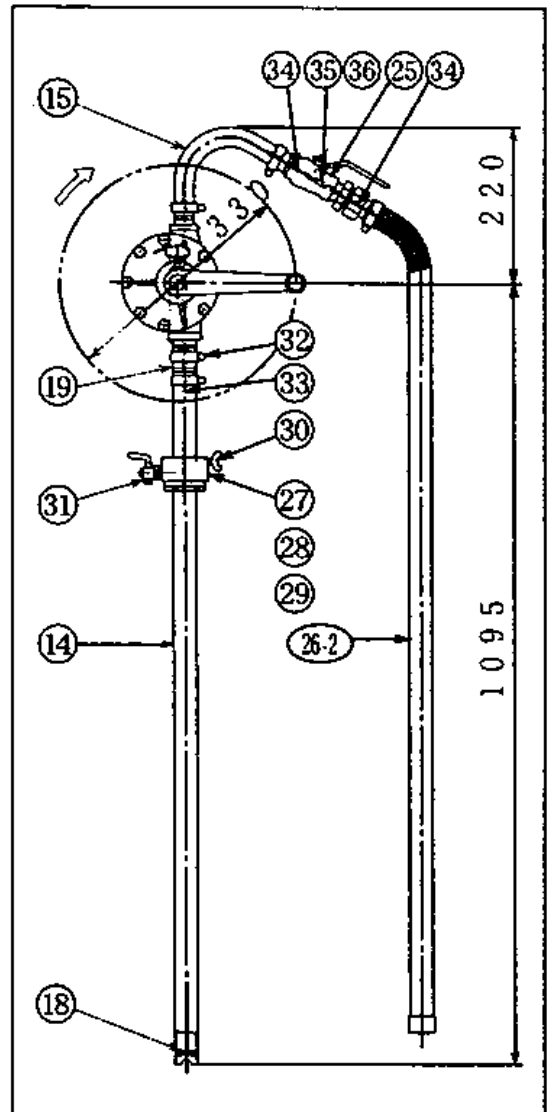
HRD-25 Main body



HRD-25 SUS



HRD-25 SUS H



HRD-25 SUS HM

内径 inner diameter  
ホース hose

## Parts Table

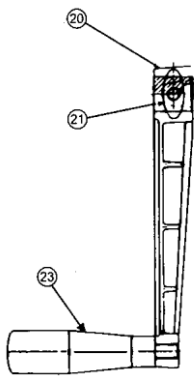
No.	Part	Material	Amount	Notes	No.	Part	Material	Amount	Notes
1	Main Body	SCS13	1		21	Set bolt	SS400	1	
2	Cover (A)	SCS13	1		23	Grip	SS400	1	
3	Cover (B)	SCS13	1		24	Bearing	Teflon	2	
4	Rotor	SCS13	1		25	Ball valve	SCS14	1	RC3/4
5	Vane	SCS13	2		26-1	Hose	SUS304	1	R3/4 1.2M
6	Packing Support	SUS303	1		26-2	Hose	SUS304	1	RC3/4 1.2M
7	Side Sheet	Teflon	2		27	Adapter	SUS304	1	
8	O-Ring	Teflon	1	P22	28	O-Ring	Viton and Teflon coating	1	P31.5
9	Pin	SUS304	1		29	O-Ring	Teflon	1	JASO 3056
10	Spring	SUS304	1		30	Set bolt	S35C	1	M6 x 20
11	Hexagon Head Bolt	SUS304	16	M8 x 20	31	Peacock thread	SUS304	1	R1/4
12	Washer	SUS304	16	M8	32	Hose band	SUS304	5	
13	Adapter	SUS303	1		33	Ground wire (by main body)	SUS304	1	L=250 mm
14	Pipe (IN)	SUS304	1		34	Ground wire (by delivery)	SUS304	2	L=110 mm
15	Pipe (OUT)	SUS304	1		35	Pan head screw	SUS304	1	M4 x 14
16	Ring	SUS304	1		36	Hexagon nut	SUS304	1	M4
17	Set bolt	SS400	1	LS8x25	37	SW	SUS304	16	8
18	Strainer	SUS304	1	#40	38	Vane packing	Teflon	2	
19	Connector	SUS204	1		39	Main body's Packing	Teflon	1	
20	Handle	ADC	1						

### How to use the pump

1. Insert the pump (with adapter attached to its body) into the drum can.
2. Fix the adapter to the drum can.
3. Make sure the pump's suction pipe touches the bottom of the can.
4. Fix the adapter to pump's main body using the set bolt.
5. Attach the handle to pump's main body.
6. To transfer the liquid, rotate the handle in the direction marked on pump's main body.
  - As far as HM model is concerned, remember to release the valve and the peacock thread. Leaving them closed will prevent the transfer.
7. After use, **before pulling out the HM model**, remember to close the ball valve and fasten the peacock thread.

## USAGE PRECAUTIONS

- When using the rotary pump, there is a possibility that tiny parts of pump's main body and vane may get into the fluid (because of the friction). If those parts could affect the liquid, please install a filter at the end of a delivery pipe or delivery hose.
- When willing to transfer high relative density liquids, please refer to page 4.
- Do not transfer liquids, which tend to thicken when in contact with air.
- Please do not cause shock to the handle. Also, do not operate the handle with too much force. This may cause damage to the rotor, as well as result in leakage.
- Instructions on handle assembly:



- (21) After making sure that the set bolt is inserted into the axial set's hole, please fasten the set bolt, however, not excessively. Excessive tightening may result in damaging the handle.