

THE CHEMICAL-RESISTANT TYPE
HAND ROTARY PUMP

《HRP-25III》

《HRP-25III H》

《HRP-25III 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.

Cause when it comes to pumps...

AQUA
SYSTEM CO.,LTD.

... there's no better choice!

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.
- When willing to transfer explosive or inflammable fluids, remember to ALWAYS use a ground wire. Not using a ground wire may result in fire and explosion. During the operation of the device, it is STRICTLY PROHIBITED to use fire!
- Before changing the liquid, make sure you have removed any leftover liquid you have transferred before. Not doing so may cause dangerous chemical reactions.
- Always store the liquid in a place unreachable for children. Also, read the instructions on how to properly store a liquid.
- Remember – do not use fire when operating the device!

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 instructions.
- Disassembly, reassembly and service are restricted to 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 operation may result in fire and human injuries.
- The device has a fixed direction of operation. 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	
Solvents · Chemicals	Acetone
	Ethylene Glycol
	Ethylene Chlorohydrins
	Octane
	Xylene
	Amyl Acetate
	Ethyl Acetate
	Butyl Acetate
	1.4 Dioxane
	Cyclohexanon
Cyclohexane	

Liquid's name	
Solvents · Chemicals	Chlorofluorocarbon Replacing Material
	Triethylamine
	Toluene
	Nitrobenzene
	Nitromethane
	Carbon Disulfide
	Furfural
	Hexane
	Benzene
	Methyl Isobutyl Ketone
Methyl Ethyl Ketone	

Liquid's name	
Petroleum Fuel	Gasoline (HM model only) Kerosene, diesel oil, light oil
Machine Oil	Lubricants (machine oil, gear oil), torque converter oil, break fluid

Liquid's name	
Cutting Fluids	
Other	Ocean water, salt water, antifreeze, soapy water, detergents

Usage Conditions

Liquid's Relative Density: 1.1 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 above 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		HRP-25 III
Delivery Rate		200 cc/rotation
Materials	Pump	PPS, Teflon
	Piping	SUS304
Weight	Pump with handle	1.4 kg
	Pump with piping	3.2 kg
Includes	<ul style="list-style-type: none"> ● Assembly parts: <ul style="list-style-type: none"> Handle Manual Warranty Card Pump's main body [1] Delivery pipe [1] Suction pipe [1] 1-1/2" & 2" Adapter [1] 	

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)

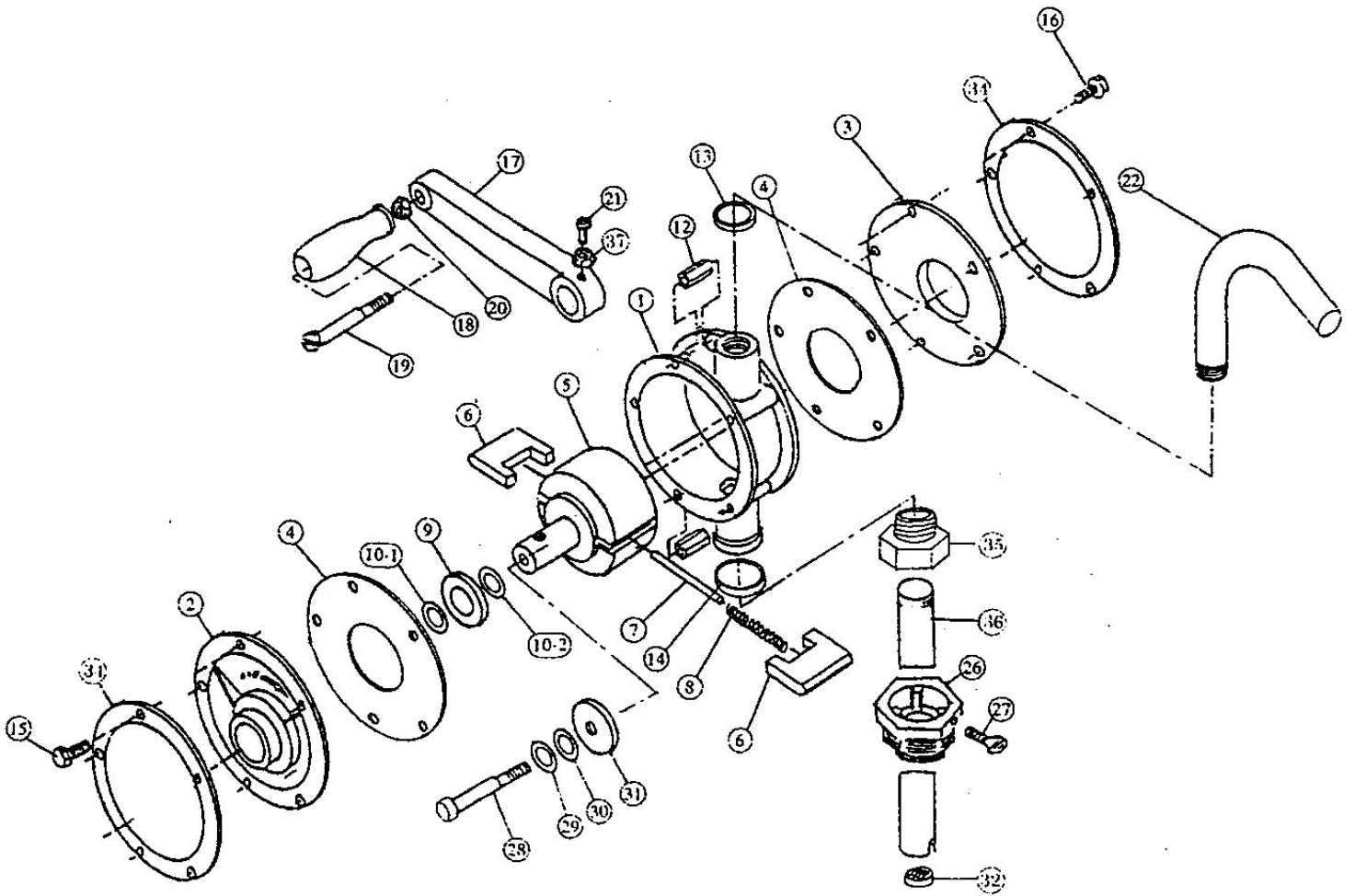
When trying to transfer high relative density fluids (1.1~1.5), and experiencing difficulties with suction or no suction at all, do not rotate the handle idly. Doing so may result in inner vane's damage.

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.

ASSEMBLY AND USAGE INSTRUCTION. PARTS LIST.



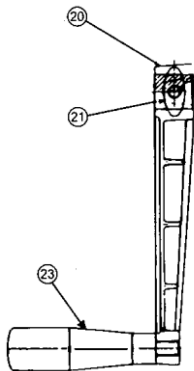
No.	Part	Material	Amount	Notes	No.	Part	Material	Amount	Notes
1	Main Body	PPS	1		18	Grip (Handle)	Nylon	1	
2	Cover (A)	PPS	1		19	Handle Shaft	S20C	1	3/8-16UNC x 95
3	Cover (B)	PPS	1		20	Nut (Handle)	S30C	1	3/8-16UNC
4	Side Sheet	Teflon	2		21	Set Bolt (Handle)	S30C	1	5/16-8UNC x 18
5	Rotor	PPS	1		22	Delivery Pipe	SUS304	1	Outer Diameter 25.4 x t1.3
6	Vane	Teflon	2		26	Adapter	Die Cast Aluminum	1	
7	Shaft (Vane)	SUS316	1		27	Set Bolt (Adapter)	S30C	1	1/4-20UNC x 15
8	Spring (Vane)	SUS316	1		28	Bolt (Rotor)	SUS304	1	M10 x 60
9	Oil Seal	Teflon, SUS316	1		29	Washer (Rotor)	SUS304	1	M10
10-1	O-Ring (Rotor)	Perfluoro	1	P22	30	O-Ring (Rotor)	Fluoro-rubber + Teflon Coating	1	P10
10-2	O-Ring (Rotor)	Teflon	1	P22	31	Metal Washer (Rotor)	SUS303	1	
12	Nut (cover bolt)	Brass	2	BsE M-D2-F	32	Strainer	SUS304	1	#40
13	Protection Ring (Delivery)	SUS304	1		34	Cover Ring	SUS304	2	
14	Protection Ring (Suction)	SUS304	1		35	Suction Pipe Adapter	SUS304	1	
15	Bolt (Cover)	SUS304	6	5/16-8UNC x 18	36	Suction Pipe (D)	SUS304	1	Outer Diameter 32 x t1.5
16	Bolt (Cover)	SUS304	4	5/16-8UNC x 25	37	Nut (Handle)	SUS304	1	5/16-18UNC
17	Handle	Die Cast Aluminum	1						

USAGE INSTRUCTIONS

1. Take the adapter from pump's main body and attach it to the drum can.
2. Insert the pump into the adapter and firmly fix it with set bolts.
3. Attach the handle to pump's main body.
4. 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.
5. 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 should by all means not get into the liquid, please install a filter at the end of a delivery pipe or delivery hose.
- Due to pump's inner parts' abrasion, suction efficiency may decrease. In order to restore pump's suction efficiency, the worn parts must be replaced.
- 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.
- (31) Tighten the nut. (21) Firmly fix the set bolt.