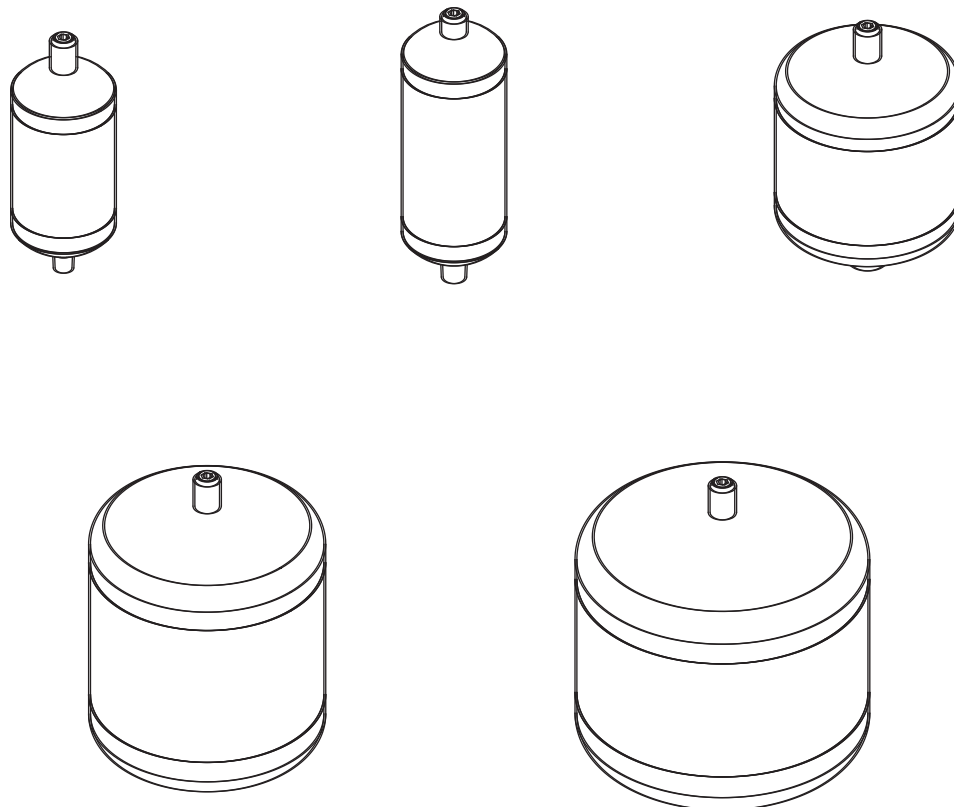




OPERATION MANUAL



For safety purposes please be sure to read and follow the instructions contained within this manual before pump installation and operation.

STS CHAMBER Series

Introduction

Thank you for Purchasing our STS chamber.

This product plays an important role as an accessory of our diaphragm pump. When it is installed in the discharge line, it can reduce pulsation pumps create. It can be used for a wide range of application such as preventing vibration of piping and protecting the filter.

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While STS chamber is in operation do not cover the liquid inlet port with your hand or any another part of your body.

If the STS chamber has remained unused for a long period or if you have any kind of misgivings about running the STS chamber, please consult with your local distributor or contact us directly.

Important Items

For safe operation

- Before using the pump, be sure to read this document carefully, particularly the “warnings and cautions,” and be fully familiar with the correct operating procedures.
- Within this document all the warnings and cautions will be indicated by the following symbols.



WARNING

If you ignore the warning described and operate the product in an improper manner, there is danger of serious bodily injury or death.



CAUTION

If you ignore the caution described and operate the product in an improper manner, there is danger of personal injury or property damage.

Furthermore, to indicate the type of danger and damage, the following symbols are also used along with those mentioned above:



This symbol indicates a DON'T, and will be accompanied by an explanation on something you must not do.



This symbol indicates a DO, and will be accompanied by instructions on something you must do in a certain situation.



This symbol indicates important information is contained here.

For safety



WARNING



- Pressure ratings are dependent on STS chamber material and liquid temperature variations.

Please see the [1.Specifications] and check for the allowable working pressure at the specific temperature of the liquid being pumped. Air pressure and discharge pressure must not exceed the allowable working pressure. If air pressure and discharge pressure exceed the allowable working pressure, it may cause liquid leaks, damage to the STS chamber casings and could cause a fatal accident.



- Before moving this product, make sure that the internal pressure is released. If the STS chamber is moved while under pressure, any shock imparted by knocking or dropping the STS chamber etc. may damage the STS chamber or even cause an explosion.



WARNING



- Before using this product, be sure you are familiar with the precautions regarding the fluid to be pumped, and verify the chemical compatibility of the parts that will come into contact with the fluid (wetted parts). NEVER use the product with any fluid against which it does not have sufficient compatibility or with a fluid that poses a risk of explosion. If you are unsure of the chemical compatibility, contact your nearest distributor or our company directly. If you use this product with any fluid against which it does not have sufficient compatibility, it may result in damaging the product and leakage of fluid.



- When using this product, kindly follow your local regulations concerning transfer and storage of chemicals, fire prevention, labor safety standards, etc.



- Hazardous fluids (such as strong acid or alkali, flammable or toxic liquids) or gas bubbles generated by such fluids may cause serious injury or even death if accidentally inhaled or consumed or if they come into contact with the eyes or adhere to the skin. Therefore, the following precautions are strongly advised.

*Be fully familiar with the properties of the fluid to be pumped and work in strict accordance with the operating instructions provided by the suppliers of such fluids (such as wearing goggles, gloves, mask or protective work clothes).

*When storing a hazardous fluid, strictly comply with the regulatory procedures (such as using proper containers, storage conditions, etc.).

*Install the piping and exhaust port of this pump away from areas frequented by human and animal traffic if there is a risk that transferring liquids may affect the human body.



- In case of transferring a high temperature fluid, it may heat the casing and piping that might cause burns.



- High purity PTFE series dampers are intended for pumping hazardous fluids such as those that contain strong acids or organic solvents. If you find any irregularity in this product, do NOT try to disassemble or service the product yourself. Contact your dealer or our regional office for service. If you disassemble or service this product yourself and if further irregularity occurs, it may cause a great risk, depending upon the kind of fluid to be pumped.

For safety



CAUTION



• Minimum back pressure of about 0.1MPa is required for the STS chamber to function properly.



• After you shut down the STS chamber and disconnect the piping, some fluid may still be remaining inside the STS chamber. Also, if the STS chamber is left unused for a prolonged period, some fluid may remain inside the STS chamber and within the connected piping. Therefore, be sure to empty the fluid and clean the STS chamber before prolonged disuse or storage. If the product is left unused for a prolonged period with fluid remaining in the connected piping as well as the STS chamber itself, the fluid may expand, depending on the ambient temperature (because of freezing or heat), which may cause damage to the STS chamber and/or piping and possible leakage of fluid.



• For safe transport, be sure to prevent liquid leaking from STS chamber.

It is the end-user's responsibility to thoroughly wash and clean the STS chamber(s) to prevent damages caused by liquid.



• Always use genuine parts when replacing component parts of this product. Do not attempt to modify the components parts or replace them with anything other than genuine parts.

Product information

1. Specifications

Model	AH0881	AH0880	AH1089	AH1254	AH1351
	STS10	STS15	STS25	STS40	STS50
Liquid port	R3/8	R1/2	R1	R1 · 1/2	R2
Material · Weight	Table 1				
Max discharge pressure	0.7 MPa [100 psi]			0.85 MPa [0-125 psi]	
Ambient temperature	0 ~ 70 °C [32-158 °F]				
Liquid temperature	0 ~ 100°C [32-212 °F]				
Dimensions	Table 2				

2. Accessories included with the pump

Pump Safety Manual..... 1

CAUTION



• After delivery, open the product packaging and make sure that all included accessories are present and in good order.



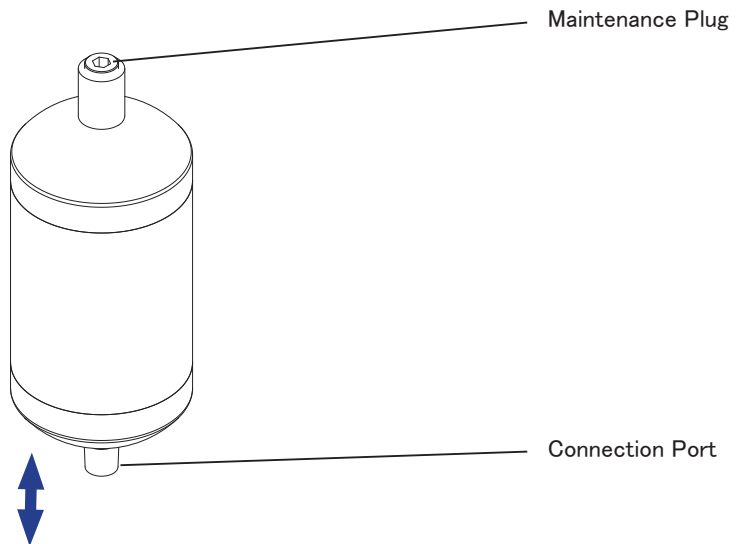
• When installing the accessories, please use the pipe sealing tape as provided for each threaded position, make sure that shredded sealing tape does not contaminate the liquid or air lines. It may cause failure of the STS chambers and air switching unit.

Product information

3.Names of parts and materials

Outside view

STS □



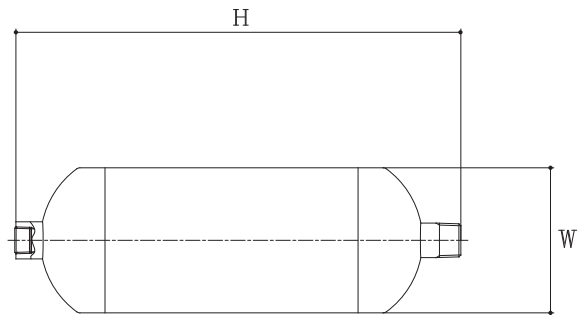
Material and weight

Model	STS10	STS15	STS25	STS40	STS50
Material	SUS316				
Weight	0.7 kg [1.5 lbs]	0.8 kg [1.8 lbs]	1.8 kg [4.0 lbs]	3.3 kg [7.3 lbs]	4.5 kg [9.9 lbs]

Table 1

Product information

4.Dimensions



STS □

MODEL	H	W	CONNECTION PORT
STS10	241 [9.49]	90 [3.54]	R3/8
STS15	276 [10.87]	90 [3.54]	R1/2
STS25	245 [9.65]	160 [6.30]	R1
STS40	316 [12.44]	204 [8.03]	R1 · 1/2
STS50	321 [12.64]	254 [10.00]	R2

(Measure : mm [inch])

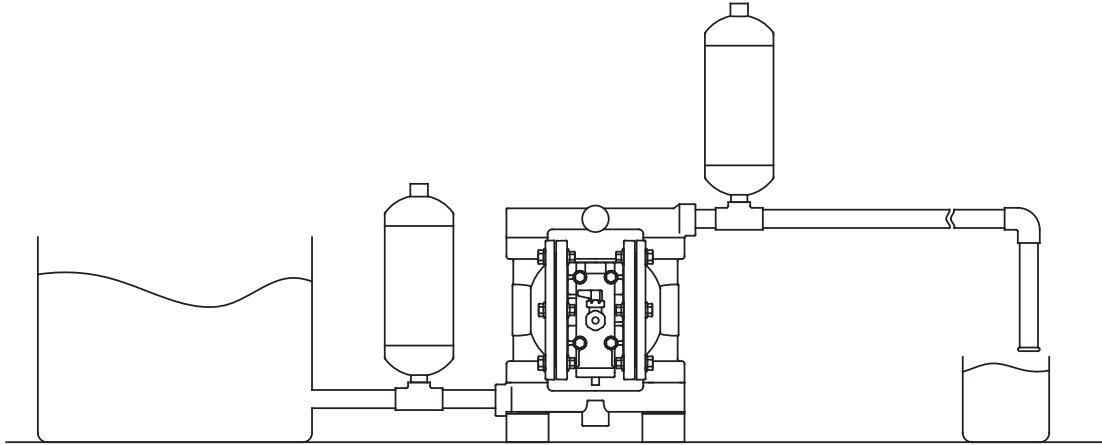
Table 2

Installation

1. Installing and connecting the pump

- Install the maintenance plug in an upward direction.

Examples of STS chamber installation



- * If the pump has a connection port, STS chamber can be mounted directly.



CAUTION



- Make sure that there is no external mechanical force or pressure applied to any connections of the STS Chamber. Be especially careful not to allow the STS Chamber to support part of the weight of the hose or the piping.



- When moving the pump, make sure that the pump does not fall. NEVER try to move the pump by pulling the hoses connected to the pump. Either the hose or the pump might get damaged.



CAUTION



- When fitting liquid hoses to the pump, make sure to use a sturdy hose that will not collapse when strong suction pressure is applied from the pump. Also make sure the hose has a sufficient pressure rating to cope with the required discharge pressure.



- When pumping a fluid that contains slurry, verify that the particle size is below the Max solid size (see[1.Specifications]). If it exceeds the limitation of slurries indicated in the main specifications, attach a strainer to the pump to avoid larger particles. Otherwise, such particles may cause a malfunction.



- When performing leakage test on to the piping, please do not apply pressure of the compressed air to the mounting port of STS chamber as it might cause pump damage.

Maintenance

- Daily maintenance checks

- A) Make sure that there is no leakage of fluid from any hose connections or the STS chamber body.
- B) Make sure that there are no cracks in the STS chamber casing or piping.
- C) Make sure that the pipe connections are not loose.
- D) If pulsation increases, use a maintenance plug to drain the liquid filled in the STS chamber.

