

Model SU-6, 6AS

Strainer

Operation Manual

Thank you very much for choosing the Yoshitake's product. It is important that you carefully read through this manual before using it. Keep this manual in convenient place so you can refer to it as you need.

— — — Please note the following caution icons and conventions used in this manual. — — —



Warning

This symbol indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



Caution

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It is also used to alert against property damage.

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1. Specifications

Model		SU-6	SU-6AS
Nominal size		150 – 650A	200 – 650A
Application		Cool and hot water, oil, or another non-dangerous fluid	
Maximum pressure		1.0MPa	
Maximum temperature		120°C	
Material	Body	Rolled steel or carbon steel pipe	Stainless steel
	Screen	Stainless steel	
Standard screen	Perforated sheet	ϕ 6 –8P (150A) ϕ 10 –12.5P (200-650A)	
	Mesh screen	40 mesh *	
Connection		JIS 10KFF flanged	

* 20 to 100 mesh screens are also available upon request.

* The product may be coated for rust prevention (by hot dip galvanizing) upon request. (SU-6 200-650A)

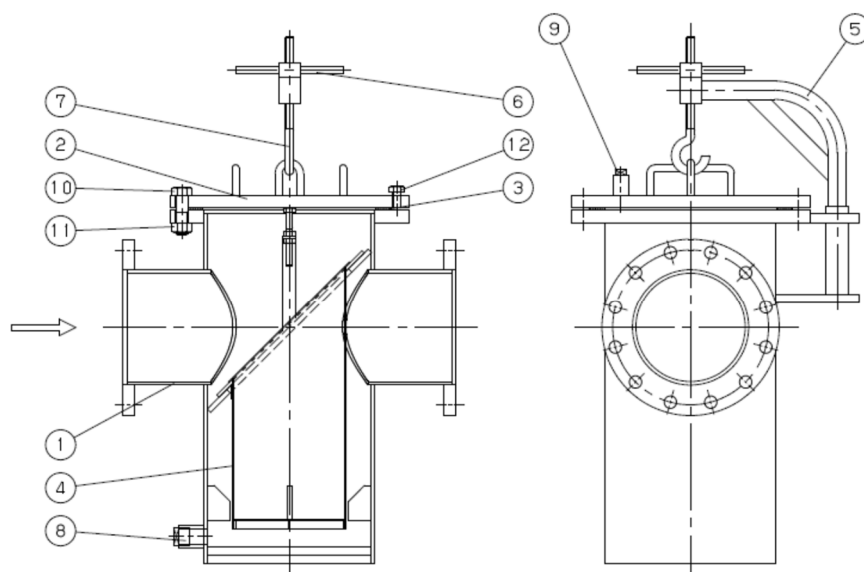


Caution

Please confirm that the indications on the product plate coincide with the specifications of the ordered model. Also confirm that the conditions for usage coincide with the Specifications (in the chart above).

* In case they do not coincide, do not use the product and contact us.

2. Operation



No.	Part name
1	Body
2	Cover
3	Gasket
4	Screen
5	Davit Pipe
6	Handle
7	Hanger Rod
8	Plug
9	Plug
10	Bolt
11	Nut
12	Bolt

*The structure differs depending on the nominal size.

Dust, scale and other foreign matter from the fluid flowing into the strainer through the inlet port are removed by the screen (14).

3. Selection of nominal size

To make the best use of the strainer and satisfy the operating requirements to the maximum, take notice of the following.

3.1 Selection of nominal size of strainer

The nominal size of the strainer should be the same as that for the piping. (Nominal size of piping = nominal size of strainer). Please note that if the nominal size of the strainer is smaller than that for the piping, the pressure loss of the strainer may grow, resulting in failure to maintain the required pressure at the inlet of the equipment. (See the chart in 4.3 "Chart for selecting nominal size.")

3.2 Selection of nominal size of piping

The Japanese Industrial Standard (JIS) designates the standard flow velocity for piping by type and features of the fluid and pipe size. Please refer to this in selecting the appropriate nominal size of the strainer.

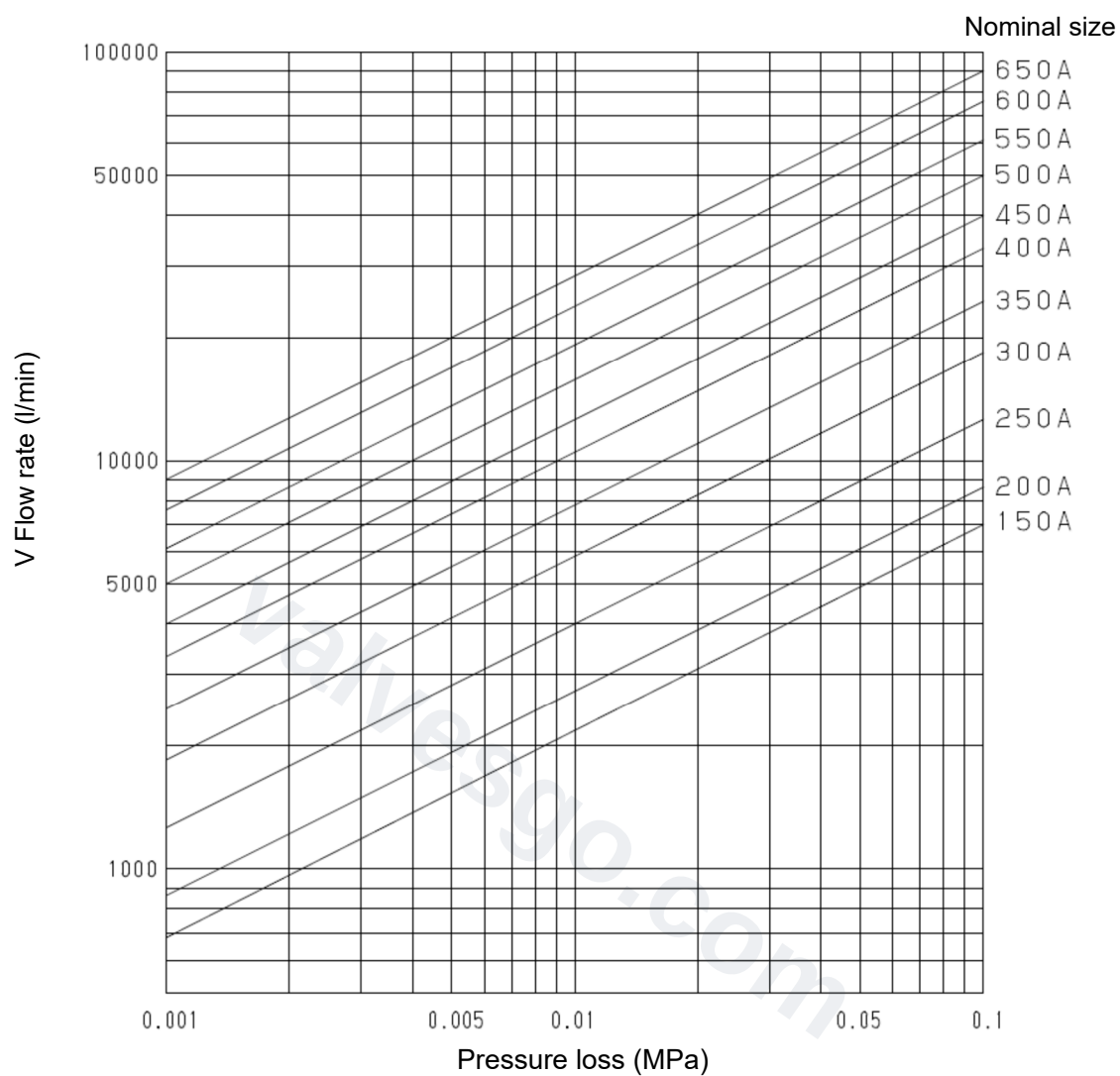
<<Standard flow velocity by fluid>>

Fluid	Standard velocity
Water & oil	2 m/s (2 – 4)

* JIS F 7101 (2002 Fluid Velocity Standard for Ship Engine Pipes)

3.3. Chart for selecting nominal sizes

Pressure Loss Chart for Model SU-6 Strainer (for Water)
Screen: $\phi 10-12.5P$ and 40-mesh



4. Installation procedures

4.1 Piping example

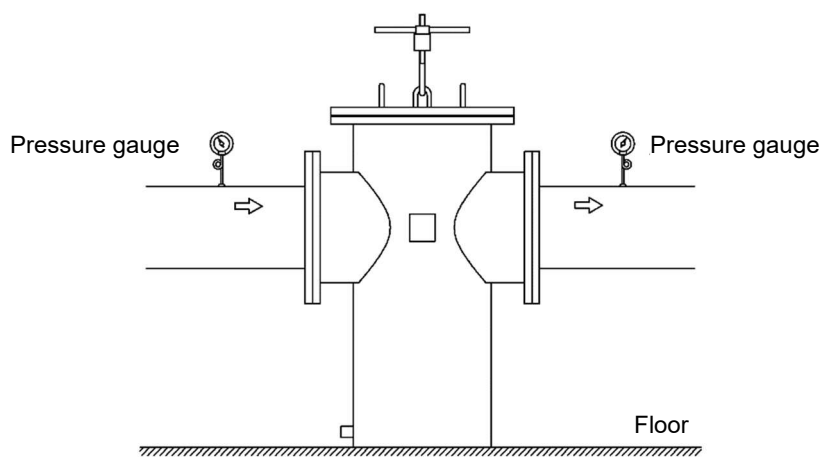


Figure 1: Piping example

4.2. Caution in installation



Warning

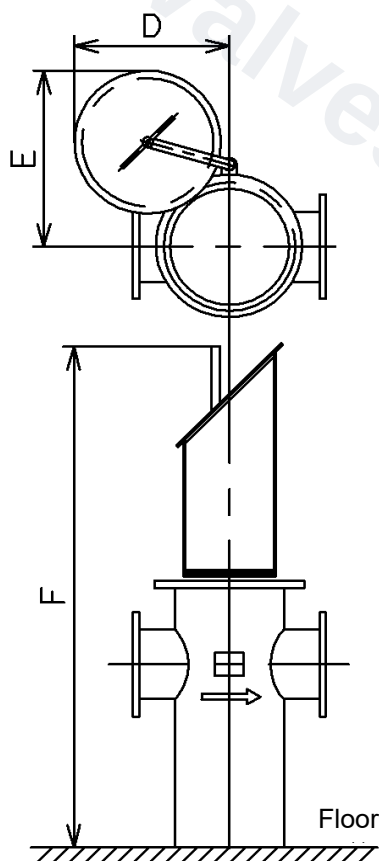
- (1) As this product is heavy, please use a hanging device to securely support the product upon connection to the piping. For product weight, please refer to the drawing.
* Please note that falling of the product can result in injuries.



Caution

- (1) Please confirm that the direction of the fluid flow and the arrow on the product coincide before installing the product.
* The product will not function if it is installed in the wrong direction.
- (2) Please support the piping and fix on the product securely.
* The product may deform from too much stress from the piping.
- (3) Upon installation, please secure enough space for maintenance and inspection (Including cleaning of the screen) as specified in Table 1.
* You will be unable to maintain (including cleaning of the screen) and inspect the product if there is not enough space.
- (4) Confirm the connect pipes.
* If incompletely connected, the fluid may leak from pipes when vibration is caused. The fluid may scald your skin.
- (5) Do not install the product where it may be exposed to vibration.
* Doing so may loosen and disconnect the cover bolts and/or screen hanging lock nut.

Table 1: Maintenance and inspection space
(mm)



Nominal size	D	E	F
150A	454	430	1190
200A	496	482	1205
250A	540	540	1565
300A	610	628	1860
350A	656	715	2020
400A	737	766	2290
450A	800	855	2585
500A	847	924	3271
550A	894	995	3581
600A	950	1078	3801
650A	1017	1153	4151

5. Operation procedures

5.1 Caution in operation



Warning

(1) Please make sure that there is no danger at the pipe end before pouring the fluid.

- * You may get scalded in case hot fluid blow out.
- * Physical damage may occur from fluid outflow.



Caution

(1) This product should be used only when the maximum pressure loss is 0.1MPa or less. Please also clean the screen regularly.

- * Neglect can result in damage of the screen.

(1) The amount of screen clogging matter can be monitored with pressure gauges installed upstream and downstream of the strainer. (See Figure 1 in 4.1 "Piping example".)

6. Maintenance procedures

6.1 Troubleshooting

Condition of failure	Causes	Measures and treatment
Fluid does not flow.	1. Screen (14) is clogged. 2. The stop valves at either end of the strainer are closed.	1. Disassemble the strainer and clean screen. 2. Open the stop valves.
Pressure loss is high.	1. Screen (14) is clogged. 2. Pressure gauge is out of order. 3. The nominal size is too small for the actual flow rate.	1. Disassemble the strainer and clean screen. 2. Exchange the pressure gauge. 3. Use a strainer with a larger nominal size.

6.2 Caution in maintenance and inspection



Warning

(1) Remove all pressure within the product, piping, and equipment before disassembly and inspection. In case of hot fluid, cool down the product body, so you can touch it with your bare hand before disassembly and inspection.

- * Residual pressure in the product or piping can result in injuries or scalding.

(2) When using a hot fluid, do not touch the product by bare hand.

- * Doing so may scald your skin.

(3) The screen is heavy and shall be securely suspended with a hoist or the like when removed from the product.

- * Failure to suspend the screen may cause it to fall, possibly resulting in injury.

6.3 Disassembly procedures

After checking that there is no residual pressure in the strainer, disassemble it with the following procedures.

- (1) Remove the bolt [10] and nut [11] from the cover [2]. (When loosening the nut, see Table 2 in 6.5 “Assembly procedures.”)
- (2) Push up the cover and separate the cover from the gasket and body. (For 200-650A, rotate the bolt [12] clockwise to push up the cover and separate the cover from the gasket and body.)
- (3) Rotate the handle [5] clockwise for 3 to 5 turns.
- (4) Rotate the davit to the right or left.
- (5) Remove the screen and clean it with compressed air or cleaner. (The screen is heavy and large and shall be removed using a hoist or the equivalent.)

6.4 Caution in assembling after disassembly



Caution

- (1) When assembling, completely assemble all parts.
* The parts may be deformed or broken.
- (2) When assembling, replace the gasket with a new one and evenly tighten bolts in the diagonally opposite directions to prevent uneven tightening. For the cover nut tightening torques, see 6.5 “Assembly procedures.”
* The fluid may leak out. If hot, it may scald your skin.

6.5 Assembly procedures

Assemble the product with the opposite procedures of disassembly (see 6.3 “Disassembly procedures”).

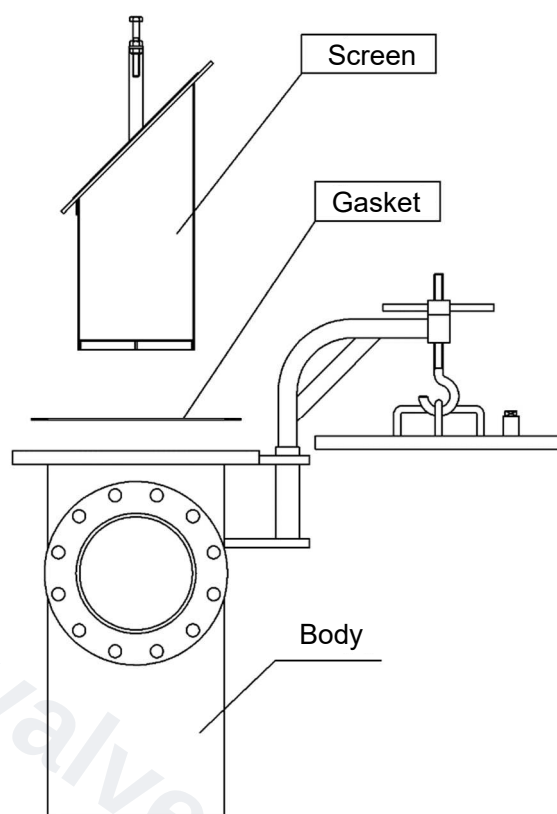
(The tightening torques for the bolt and nut [11] for the cover [2] are shown in Table 2.)

Table 2: Cover nut tightening torque (for reference)

Nominal size	Nominal nut size	Standard tightening torque in N-m
200A	M22	300
250A		
300A	M24	400
350A		
400A		
450A	M30	700
500A		
550A		
600A		
650A		

* As the cover nut tightening torques are large, it is recommended to use a power tool (impact wrench or so) capable of tightening to such torques for disassembly and assembly.

6.6 Exploded drawing



 are consumable parts.

Warranty Information

1. Limited warranty

This product has been manufactured using highly-advanced techniques and subjected to strict quality control. Please be sure to use the product in accordance with instructions on the manual and the label attached to it.

Yoshitake warrants the product to be free from any defects in material and workmanship under normal usage for a period of one year from the date of receipt by the original user, but no longer than 24 months from the date of shipment from Yoshitake's factory.

2. Parts supply after product discontinuation

This product may be subject to discontinuation or change for improvement without any prior notice. After the discontinuation of the product, Yoshitake supplies the repair parts for 5 years otherwise individually agreed.

3. This warranty does not cover the damage due to any of below:

- (1) Valve seat leakage or malfunction caused by foreign substances inside piping.
- (2) Improper handling or misuse.
- (3) Improper supply conditions such as abnormal water pressure/quality.
- (4) Water scale or freezing.
- (5) Trouble with power/air supply.
- (6) Any alteration made by other than Yoshitake.
- (7) Use under severe conditions deviating from the design specifications (e.g. in case of corrosion due to outdoor use).
- (8) Fire, flood, earthquake, thunder and other natural disasters.
- (9) Consumable parts such as O-ring, gasket, diaphragm and etc.

Yoshitake is not liable for any damage or loss caused by malfunction or defect of the product.

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