Model SU-6, 6SS and 6AS Strainers

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.

Table of contents

Yoshitake INC.

■PDT-238a■

1. Usage of the product

The product is widely used for removing dust from water, oil, etc. It is primarily used for coolant, industrial water or the like.

2. Specifications and performance

Model		SU-6	SU-6SS	SU-6AS
Nominal size		200 – 650A		
Application		Water, oil or another non-dangerous fluids		
Maximum pressure		1.0MPa		
Maximum temperature		120°C		
Material	Body	Rolled steel or carbon steel pipe	Rolled steel or stainless steel	Stainless steel
	Screen	Stainless steel		
Standard screen	Perforated sheet	ϕ 10 –0.8 holes/cm^2		
	Mesh screen	40 mesh *		
Connection		JIS 10K FF flanged		

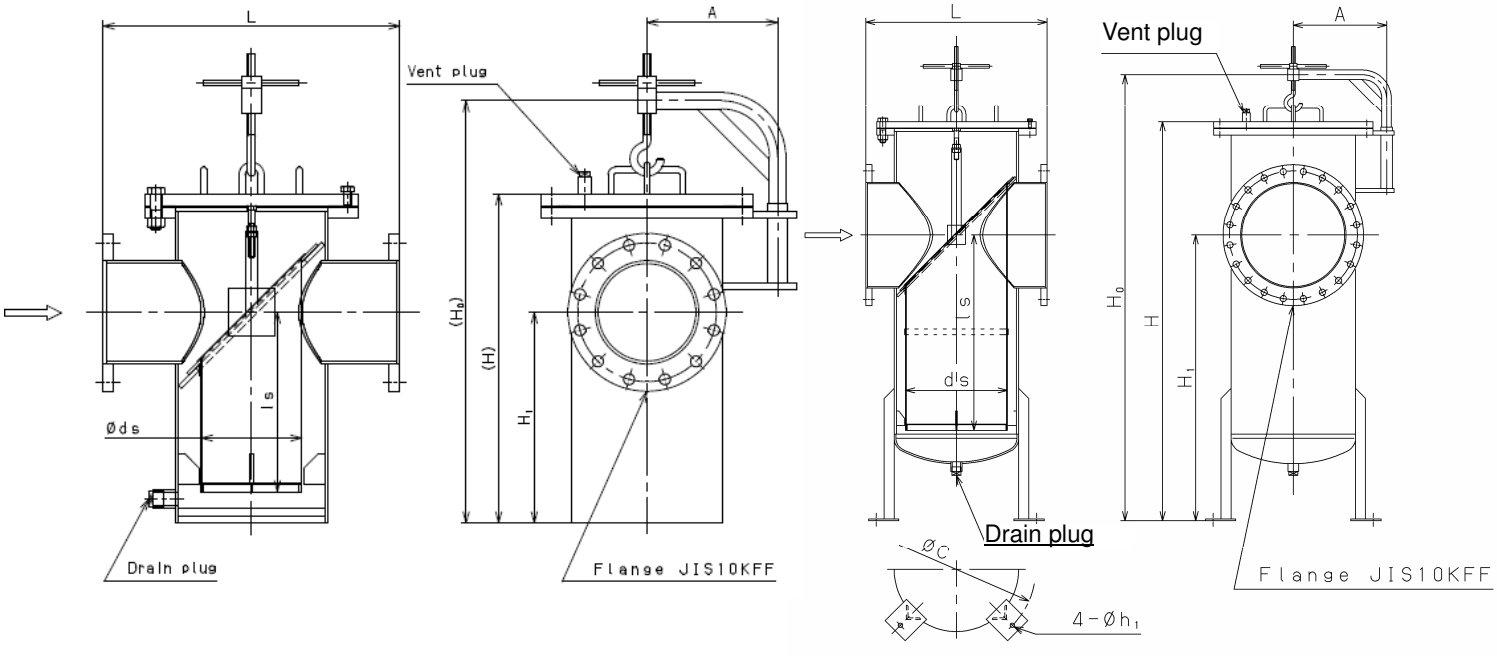
* 20 to 100 mesh screen are also available upon request.

* The product may be coated for rust prevention (by hot dip galvanizing) upon request.

⚠ Caution

(1) 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.

3. Dimensions



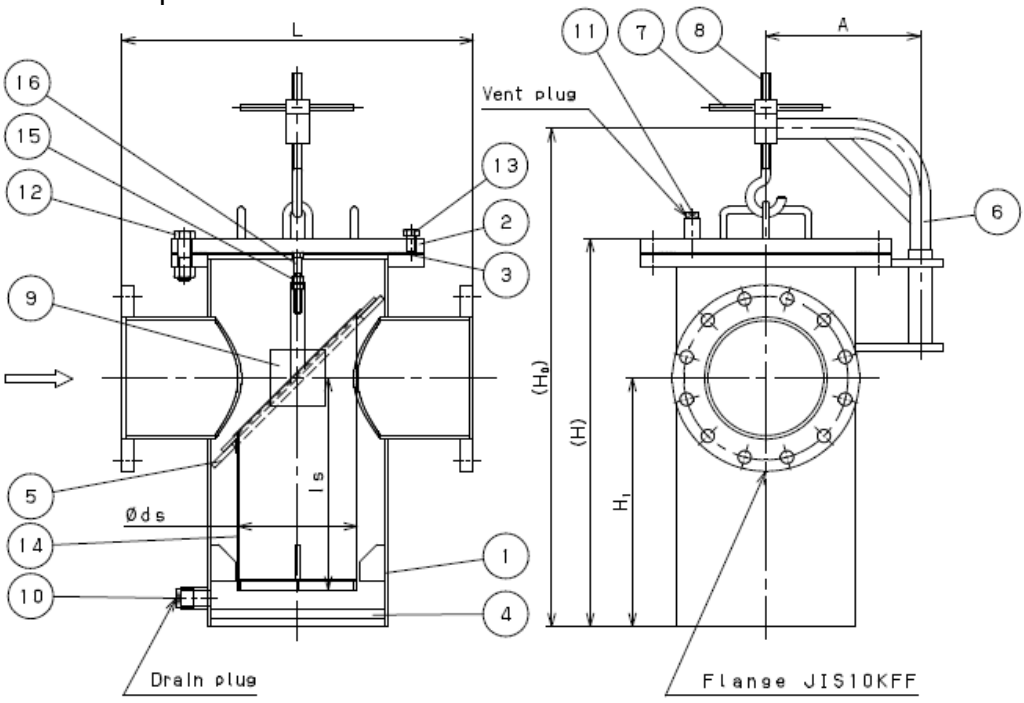
Nominal size: 200 - 450A

Nominal size: 500 - 650A

(mm)

Nominal size	L	A	H_0	H	H_1	C	h_1	ds	ls	Drain plug	Vent plug
200A	620	273	880	685	440	-----	-----	210	375	R1	R1/2
250A	660	295	1060	865	570	-----	-----	240	505	R1	R1/2
300A	710	330	1215	1020	670	-----	-----	290	600	R1	R1/2
350A	760	350	1305	1105	710	-----	-----	340	640	R1	R3/4
400A	810	400	1490	1255	810	-----	-----	390	740	R1	R3/4
450A	860	430	1655	1405	910	-----	-----	440	835	R1	R3/4
500A	910	455	2195	1945	1400	800	19	490	930	R1 1/2	R1
550A	960	480	2353	2107	1510	840	23	540	1030	R1 1/2	R1
600A	1010	510	2538	2237	1590	920	27	590	1100	R1 1/2	R1
650A	1060	545	2716	2419	1720	970	27	630	1220	R1 1/2	R1

4. Operation



No.	Part name
1	Body
2	Cover
3	Gasket
4	Bottom Cover
5	Blade of Screen
6	Davit Pipe
7	Handle
8	Hanger Rod
9	Name Plate
10	Plug
11	Plug
12	Bolt & Nut
13	Bolt
14	Screen
15	Nut
16	Bolt

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

5. 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.

5.1 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 5.3 “Chart for selecting nominal size.”)

5.2 Selection of nominal size of piping

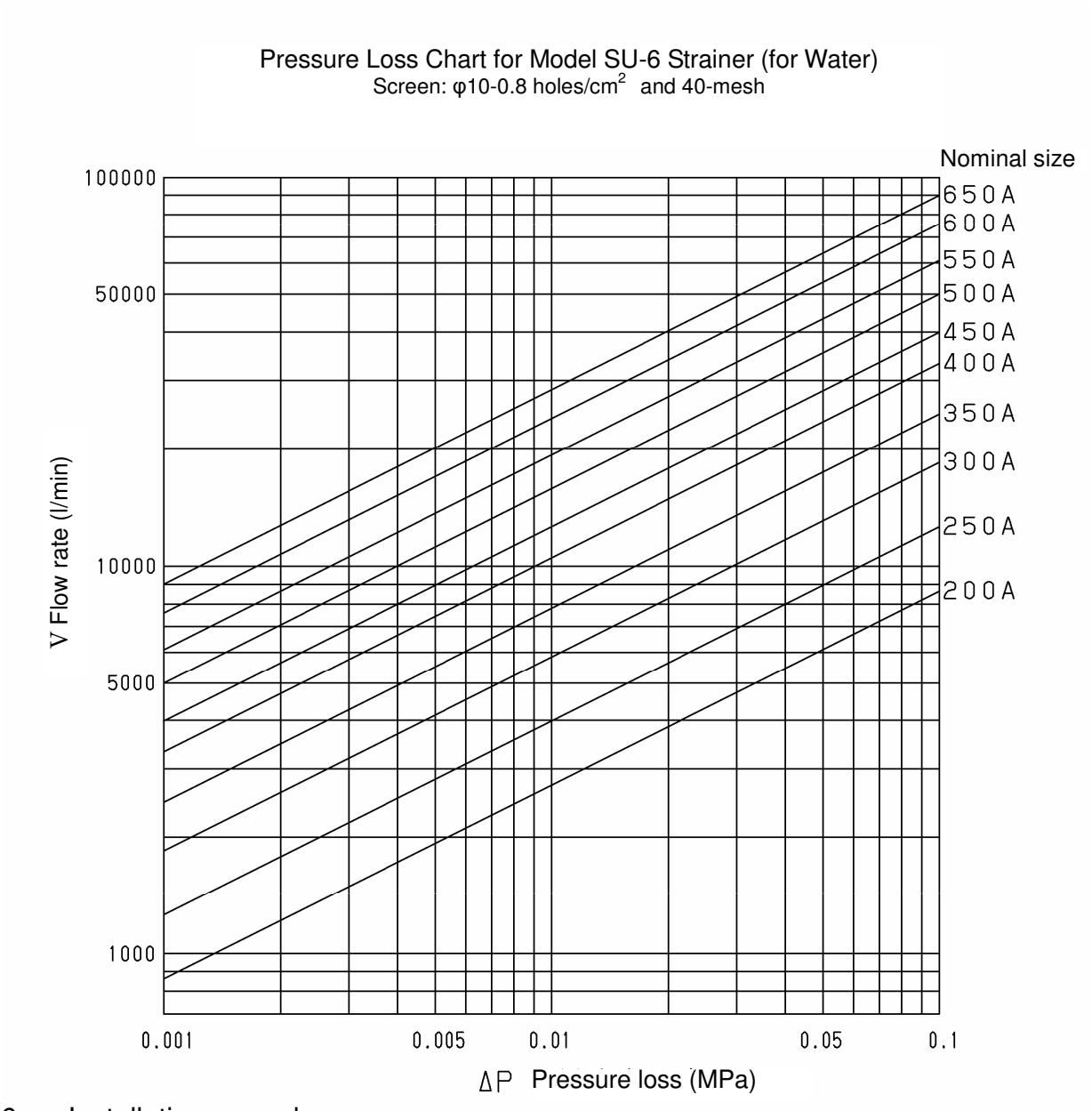
The Japanese Industrial Standard (JIS) designates the standard flow velocity for piping by type and features of the fluid and pipe size. Please refer to this in selecting the appropriate nominal size of the strainer.

<<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)

5.3. Chart for selecting nominal sizes



6. Installation procedures

6.1 Piping example

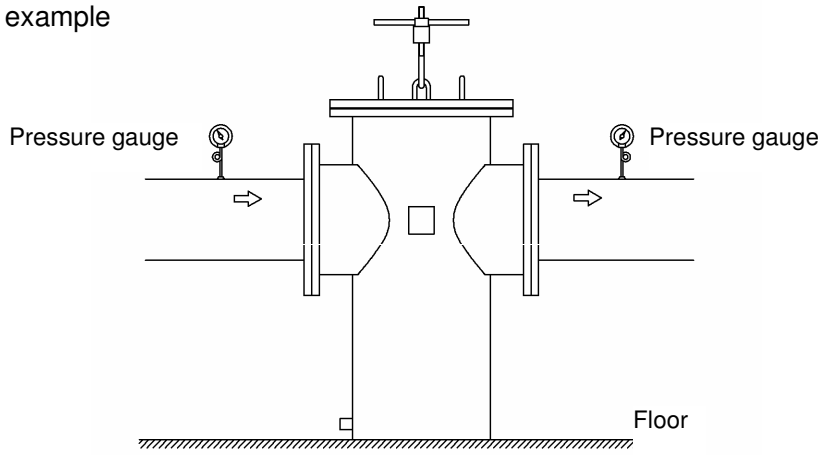


Figure 1: Piping example

6.2. 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.
* 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 sufficient 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.

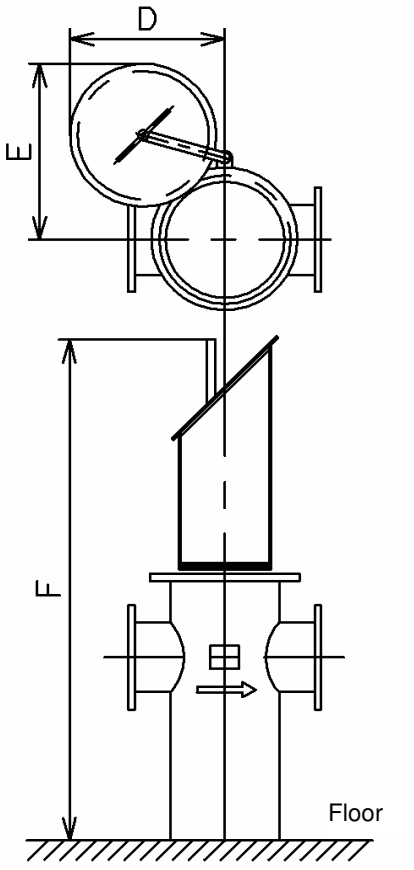


Table 1: Maintenance and inspection space

(mm)

Nominal size	D	E	F
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

7. Operation procedures

7.1 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 6.1 “Piping example”.)

8. Maintenance procedures

8.1 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.

8.2 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 down, possibly resulting in injury.

8.3 Disassembly procedures

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

(1) Remove the bolt and nut (12) from the cover (2).
(When loosening the nut, see Table 2 in 8.5 “Assembly procedures.”)
(2) Rotate the bolt (13) clockwise to push up the cover and separate the cover from the gasket and body.
(3) Rotate the handle 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.)

8.4 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 8.5 “Assembly procedures.”
* The fluid may leak out. If hot, it may scald your skin.

8.5. Assembly procedures

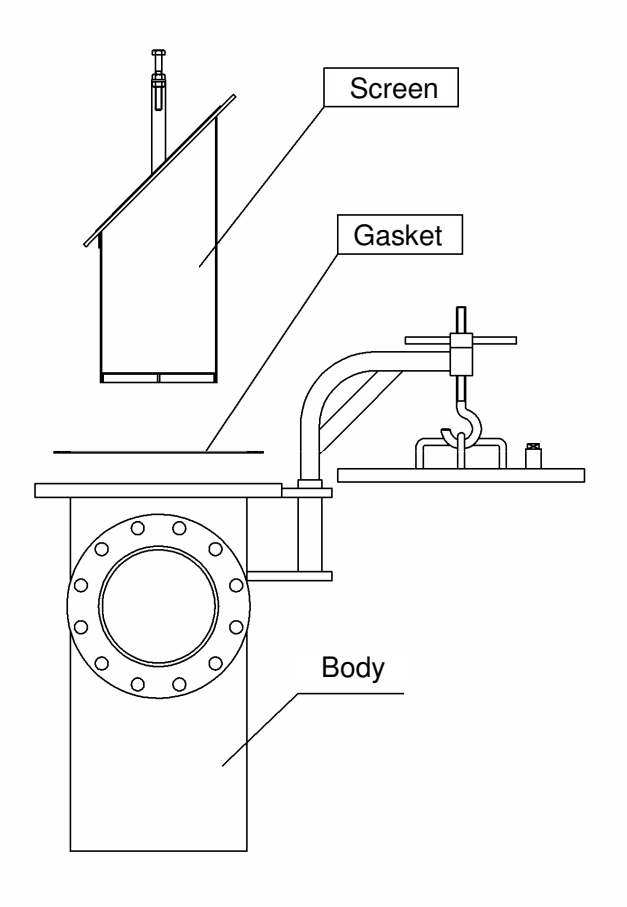
Assemble the product with the opposite procedures of disassembly (see 8.3 “Disassembly procedures”).
(The tightening torques for the bolt and nut (12) for the cover (2) are shown in Table 2.)

Table 2: Cover nut tightening torque (for reference)

Nominal size	Nominal nut size	Standard tightening torque in N-m (kgf-m)
200A	M22	300（30）
250A	M24	400（40）
300A		
350A		
400A		
450A	M30	700（70）
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.

8.6 Exploded drawing



are consumable parts.