MODEL SY-8
STRAINER
PRODUCT MANUAL

Thank you very much for choosing the Yoshitake's product. To ensure the correct and safe use of the product, please read this manual before use. This manual shall be kept with care for future references.
The symbols used in this manual have the following meanings.

Warning	This symbol indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury.
Caution	This symbol indicates a hazardous situation that, if not avoided, may result in minor or moderate injury or may result in only property damage.

Table of Contents

YOSHITAKE

■EPDT-048b■

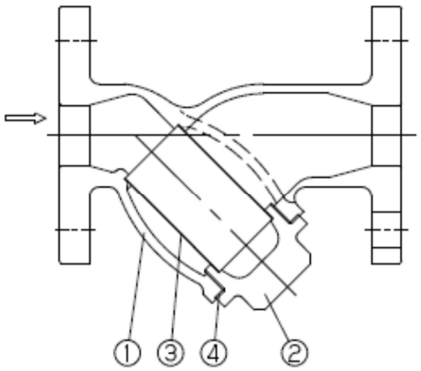
1. Specifications

Application		Steam, Air, Cold and hot water, Oil, Other non-dangerous fluids
Nominal size		15A~150A
Max. pressure		1.0 MPa
Max. temperature		100 °C (250 °C) *
Material	Body	Cast stainless steel
	Screen	Stainless steel
	Gasket	Fluorine-based resin *
Screen	Perforations	15A to 100A = φ2.5 – 4P 125A to 150A = φ6 – 7.5P
	Mesh	Standard 80 mesh
Connection		JIS 10K FF flanged

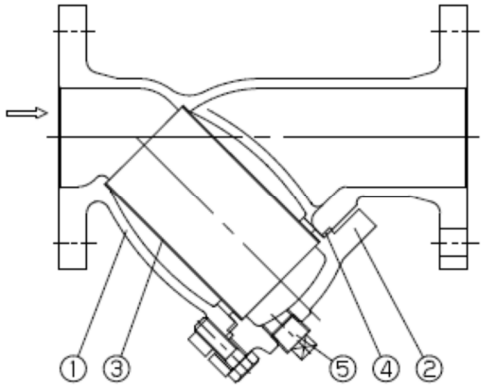
***** If the temperature is over 100 °C, another material is used for the gasket. Please contact us.

- Available with 20 to 100 mesh screens.

2. Operation



15A - 50A



65A - 150A

No.	Parts Name
1	Body
2	Cap (15A-50A) Cover (65A-150A)
3	Screen
4	Gasket
5	Plug

Dust, scale, and other foreign substances which flow into the inlet side of the strainer are removed by the screen [3].

3. Nominal Size Selection

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

Select a strainer of the same nominal size as that of the pipe (nominal size of piping = nominal size of strainer). Note that using a strainer of a smaller nominal size increases the pressure loss of the strainer and may result in the pressure fallen below the specified level at the inlet side of the equipment.

3.2 Selection of nominal pipe size

When selecting an appropriate nominal pipe size, it is necessary to consider fluid type, maximum flow rate, permissible pressure loss, costs of piping and equipment, etc.
If the nominal pipe size is smaller, the costs of piping and equipment decreases while the pressure loss through the pipe increases to generate disturbances, possibly resulting in pipe wear, noise and/or vibration. If the nominal pipe size is too large, not only the costs of piping and equipment but also the thermal loss increases.
As a reference, the standard flow velocity is specified in the Japanese Industrial Standards (JIS) as a guide to select an appropriate nominal pipe size. See the following table.

<<Standard flow velocity>>

Fluid	Remarks	Standard flow velocity
Saturated steam	Auxiliary piping for vacuum or small-diameter piping	15 m/s [10-20]
	Large-diameter piping	30 m/s [20-40]
Superheated steam	Piping diameter: approx. Φ75 –Φ250	40 m/s [30-50]
	Piping of high-grade material	70 m/s [65-80]
Inlet of steam coil	0.3-0.7 MPa	30 m/s [25-30]
Air	Higher pressure: 1.0 MPa or more	20 m/s [20-25]
	Lower pressure	15 m/s [5-15]
	Extremely low pressure: 0.1 MPa or less	10 m/s [3-10]
Water, Oil	———	2 m/s [2- 4]

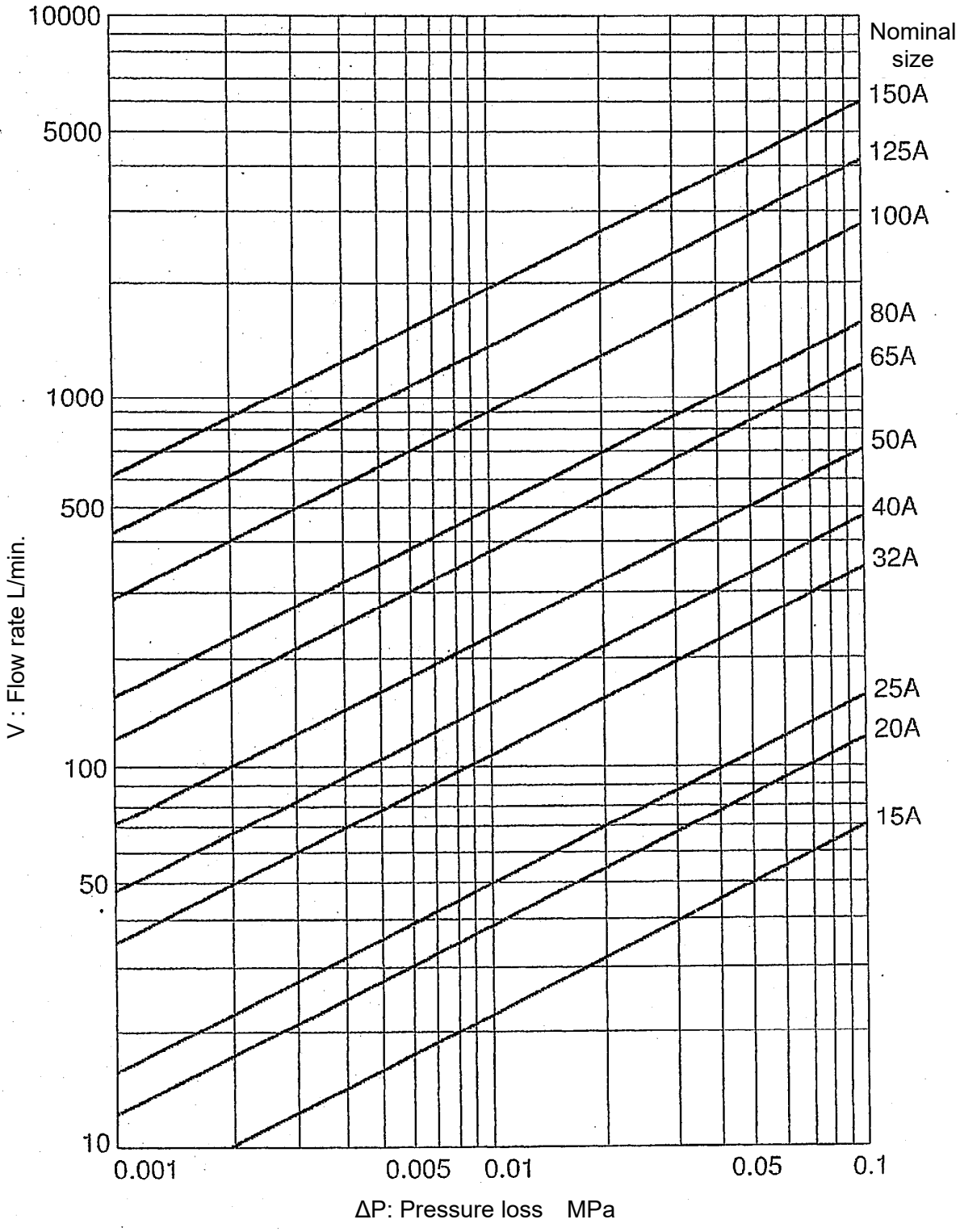
* The above table is based on the requirements in JIS F 7101 “Shipbuilding - Pipes of machinery - standard velocity of flow”.

3.3 Pressure Loss Chart

[Screen]

15A to 100A = φ2.5 – 4P Mesh = 80 mesh

125A to 150A = φ6 – 7.5P Mesh = 80 mesh



4. Installation

4.1 Piping Example

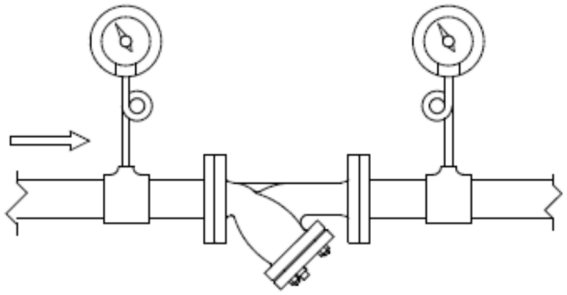


Fig.1

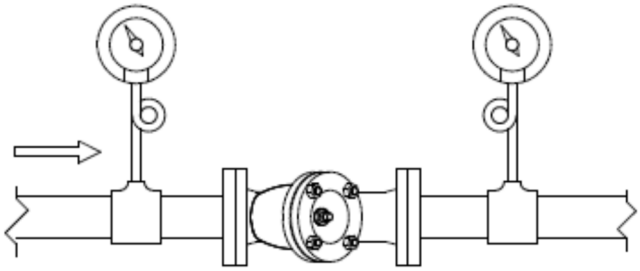


Fig.2

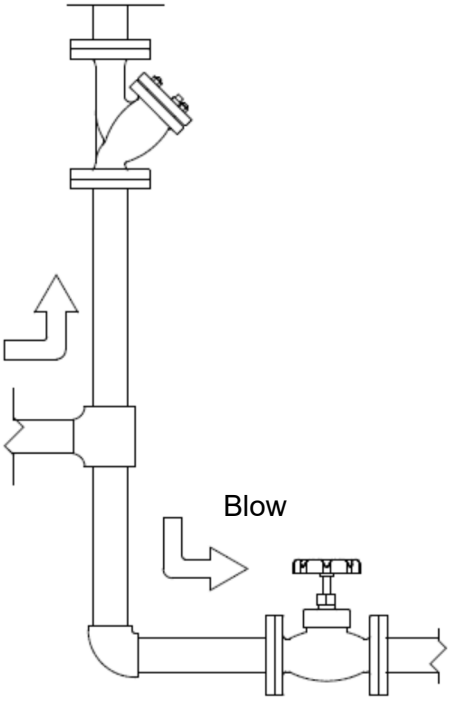


Fig.3

(1) The amount of clogging matter may be estimated from the differential pressure measured with pressure gauges installed upstream and downstream of the strainer. (See Fig.1)
(2) They shall be installed with the cap or cover (2) facing downward. If drainage or similar problem may occur in a steam line, the cap or cover shall be installed so that the cap or cover faces sideways. (See Fig.2)
(3) If the product can only be piped to run the fluid from the bottom to the top, a blow valve shall be installed to remove the scale accumulated at the bottom of the riser pipe. (See Fig.3)

4.2 Precaution for Installation

⚠ Warning

1. Since the product is heavy, securely support it with lifting devices or the like while installing. Refer to the delivery drawing for product weight.
   * Failure to follow this notice may cause falling accident of the product, resulting in bodily injury.

⚠ Caution

1. When installing, check the direction of the product so that the fluid flowing and the arrow marked on the product are in the same direction.
   * Setting the product in wrong directions keeps the product from functioning properly.
2. Make sure to support pipes and to secure the product firmly.
   * If an excessive piping stress is applied, the product may be deformed.
3. When installing, secure the space required for maintenance or inspection (cleaning of the screen) as shown in Fig. 4
   * Failure to follow this notice hampers maintenance and inspection (cleaning of the screen).
4. Do not apply excessive load, torque or vibration to the product.
   * Failure to follow this notice may result in fluid leakage.
5. Connect the product to the pipes securely.
   * Improper connecting may cause fluid leakage from the pipes when vibration is applied to them, resulting in property damage.
6. If there is a possibility of freezing, take proper measures to remove water inside of the product and piping, and insulate the product.
   * Freezing may damage the product.

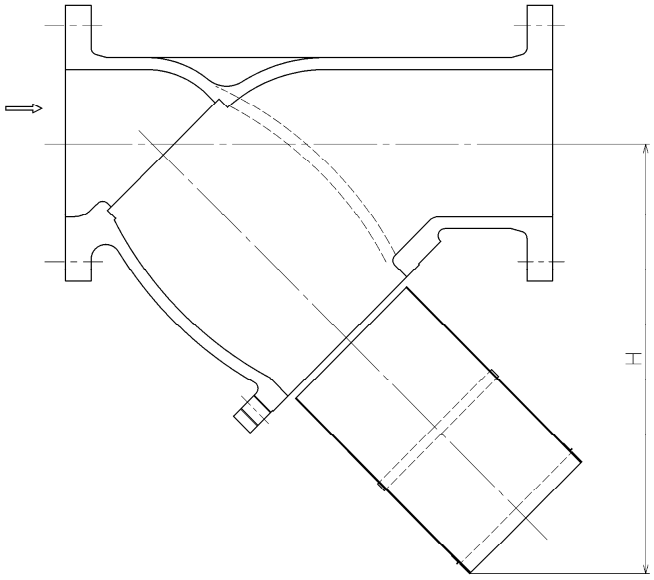


Fig.4

(mm)

Nominal size	H
15A	80
20A	105
25A	125
32A	145
40A	160
50A	200
65A	220
80A	245
100A	310
125A	400
150A	445

5. Operation

5.1 Precaution for operation

⚠ Warning

1. Before letting the fluid into the product, make sure that there is no danger when the fluid flows at the ends of piping.
   * The hot fluid, if spouted out, may scald your skin.
   * The fluid outflow may cause physical damage.

⚠ Caution

1. Use the product under a maximum pressure loss of 0.1 MPa or less. Periodically clean the screen.
   * The screen may be broken.

6. Maintenance

6.1 Precaution for maintenance and inspection

⚠ Warning

1. Disassembly and inspections must be performed by a professional or the manufacturer.
2. When overhauling or inspecting the product, check that the product and piping internal pressures have been released to the atmosphere. When the fluid is hot, cool it down until it can be touched by bare hand.
   * The residual pressure in the product or piping may lead to injury or burn.
3. When using a hot fluid, do not touch the product by bare hand.
   * Doing so may scald your skin.
4. Clean the screen periodically.
   * Scale clogging to the screen may cause its damage.

⚠ Caution

1. Conduct daily inspection to maintain the optimal performance of the product.
   * Failure to follow this notice may prevent the product from functioning properly.
   * See “6.2 Troubleshooting” if trouble is observed.

6.2 Troubleshooting

Trouble	Cause	Remedy
Fluid does not flow.	1. The screen [3] is clogged.	1. Disassemble the product and clean the screen [3].
	2. Stop valves before or after the product are closed.	2. Open the stop valves.
Excessive pressure loss.	1. The screen [3] is clogged.	1. Disassemble the product and clean the screen [3].
	2. Pressure gauge is out of order.	2. Replace the pressure gauge with a new one.
	3. Nominal size of the product is too small for the flow rate.	3. Replace the product with a new one proper for the flow rate.
Outside leakage	1. Gasket[4] is deteriorated or damaged.	1. Replace gasket[4] with new one.

6.3 Daily and periodic inspections

Conduct daily and periodic inspections to maintain the optimal performance of the product. See ”6.2 Troubleshooting” for the remedies if trouble is observed.

*Daily inspection (once a day)

Items	Standards for Inspection
Flow discharge condition	Pressure loss below 0.1 MPa.
Outside leakage	No outside leakage of fluid.

*Periodic inspection (once a year)

Items	Standards for Inspection
Dirty screen	No clogging or damage to screen.

6.4 Disassembly procedure

1. After checking the pressure gauge to make certain there is no pressure inside the body [1], remove the cap or cover [2] and screen [3]. Clean up the screen by compressed air or water.

6.5 Precaution for reassembly

⚠ 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 uniformly tighten bolts in the diagonally opposite directions to prevent uneven tightening.
   * The fluid may leak out. If hot, it may scald your skin.

6.6 Reassembly procedure

1. After cleaning the gasket contact surfaces of both the body [1] and the cap or cover [2], attach a new gasket [4] to the cap or cover, and then attach the cleaned screen [3] into the groove on the cap or cover. Install the assembly (cap or cover , gasket, and screen) to the body.

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.

YOSHITAKE