

MODEL ST-1 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.

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1. Overview

The ST-1 corn-type temporary strainer is widely used for dust removal in various types of pipelines and for flushing at start-up of operation.

2. Features

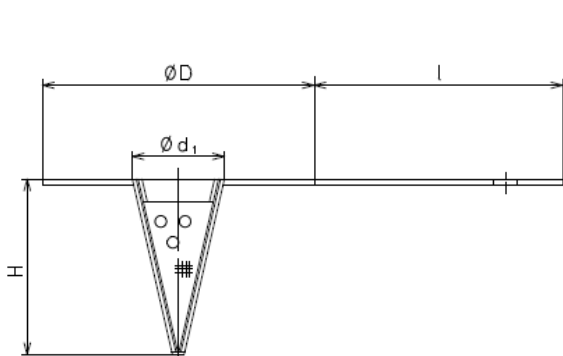
The product is a simple strainer to be placed between the flanges of short pipes.

3. Specifications

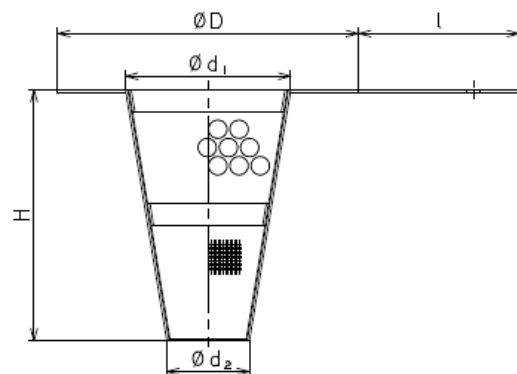
Model		ST-1-10	ST-1-20	ST-1-30	ST-1-40
Application		Steam, air, cold and hot water and other non-dangerous fluids			
Max. pressure		1.0 MPa	2.0 MPa	3.0 MPa	4.0 MPa
Max. temperature		220 °C			
Material		Stainless steel			
Screen	Perforations	$\phi 8-0.954$ holes/cm ²			
	Mesh	Standard 80 mesh			

- Available with 20 to 250 mesh filter upon request.

4. Dimensions



Nominal size: 25A-65A



Nominal size: 80A-300A

- For the product with high pressure resistance or with mesh size of 150 or more, its structure differs from the above.

Nominal size	d_1	d_2	H	l	D [mm]			
					ST-1-10	ST-1-20	ST-1-30	ST-1-40
25A	24	—	46	65	71	71	76	76
32A	30	—	55	65	81	81	85	85
40A	38	—	73	65	86	86	97	97
50A	48	—	93	65	101	101	111	111
65A	60	—	118	65	121	121	137	137
80A	72	36	110	70	131	137	147	147
100A	95	48	135	70	156	162	170	180
125A	118	60	165	70	187	200	205	223
150A	142	72	195	85	217	235	248	262
200A	188	95	250	85	267	280	293	312
250A	235	119	330	85	330	353	357	377
300A	280	141	395	85	375	403	417	431

5. Nominal Size Selection

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

4.1 Selection of nominal size

Select a nominal size of the product equivalent to that of the pipe (nominal pipe size = nominal size of strainer). Note that use of a smaller nominal size increases the pressure loss through the strainer, and may possibly reduce the equipment inlet pressure below the specified limit.

4.2 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 increase. 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. $\phi 75 - \phi 250$	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]

* This table is based on the requirements provided in JIS F 7101 [Shipbuilding – Pipes of machinery – Standard velocity of flow].

6. Precautions for Operation

Caution

1. When installing, check the direction of the product.
* Setting the product in wrong directions hampers the product from performing as intended.
2. When installing, reserve a space required for maintenance and inspection (cleaning of the screen) so that an operator can pick up the screen from the product.

(1) Clogging inside the product can be known from the differential pressure measured when pressure gauges are installed in upstream and downstream of the product.



Warning

When the product is used for hot fluid, do not touch the product with bare hands.
* The product having hot fluid may scald your skin.



Caution

Use the product with a maximum pressure loss of 0.1 MPa or below.
Clean the screen periodically.
* Failure to follow this notice may damage the screen.

7. Precaution for Removal from Piping after Brushing



Warning

Before disassembling or inspecting, make sure that the internal pressure is completely released from the product and the piping.
When the product is used for hot fluid, cool down the product to the condition that it can be touched with bare hands.
*Residual pressure or hot fluid may result in scalds or injury.

8. Piping Example

