MODEL TA-16 Series

TA-16, TA-16L, TA-16CVA and TA-16CVS

AIR VENT VALVE

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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YOSHITAKE

1. Specifications and Capacities

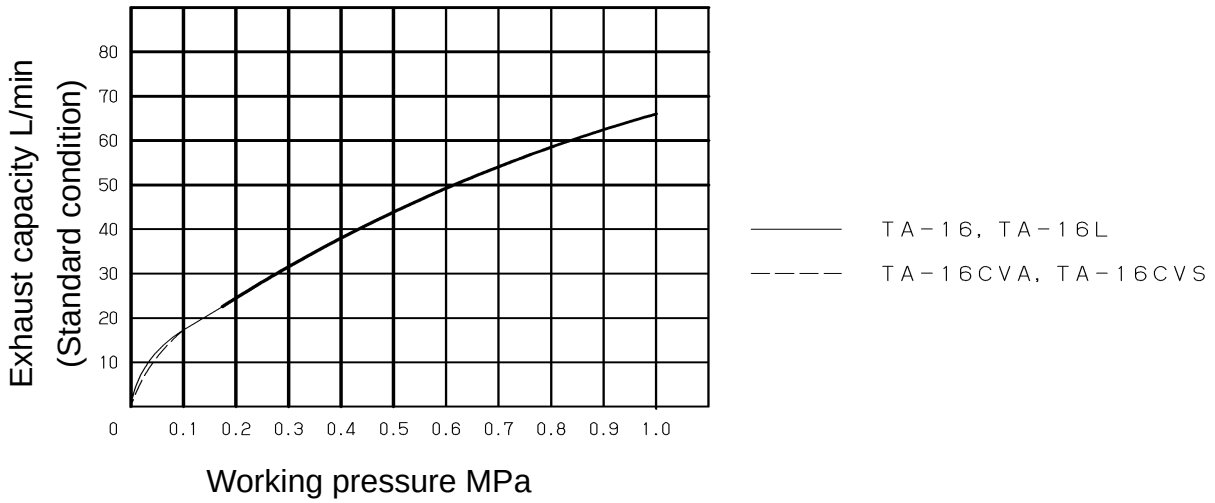
1.1 Specifications

Model		TA-16	TA-16L	TA-16CVA	TA-16CVS
Nominal size		15-25A			
Application		Cold and hot water			
Working pressure		0.01-1.0 MPa			
Check valve		No		Provided	
Maximum temperature		90°C			
Material	Body, cover, float	Stainless steel			
	Valve disc, gasket	FKM (fluororubber)			
	L-shaped hose joint	-	Brass	-	
	Check valve joint (check valve)	-	-	FKM (fluororubber)	
Connection	Inlet	JIS R screwed			
	Outlet	JIS Rc 1/4 screwed	Φ6 (hose inside diameter)	JIS Rc 1/4 screwed	

⚠ Caution

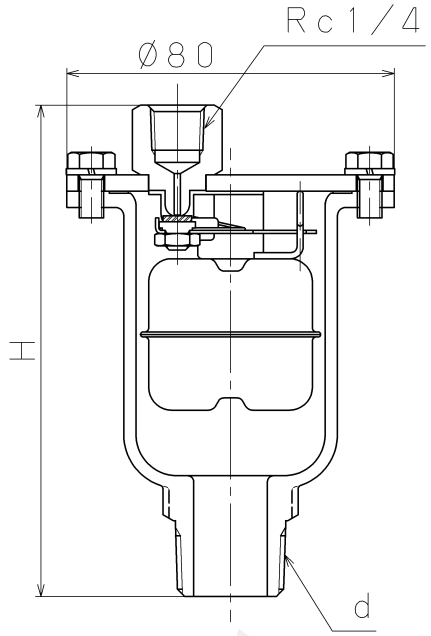
Please confirm that the indications on the product correspond with the specifications of the ordered product model before use.
*** If they are different, please contact us without using the product.**

1.2 Exhaust capacity chart



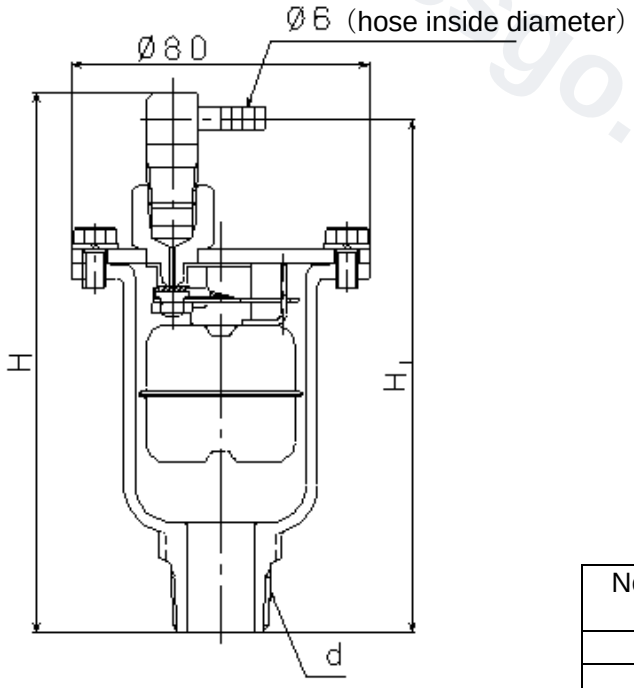
2. Dimensions and Weights

■ TA-16



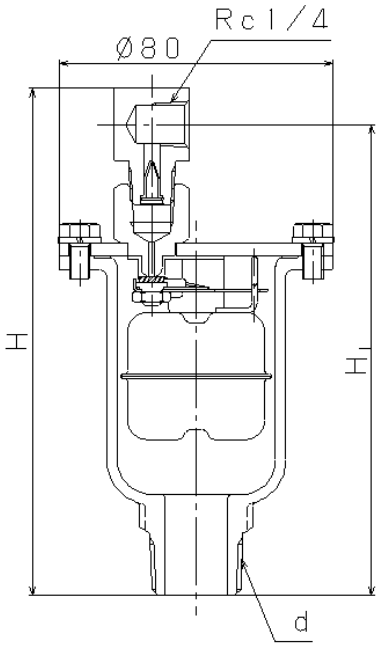
Nominal size	d	H	Weight (kg)
15A	R 1/2	118	0.66
20A	R 3/4	120	0.68
25A	R 1	124.5	0.74

■ TA-16L



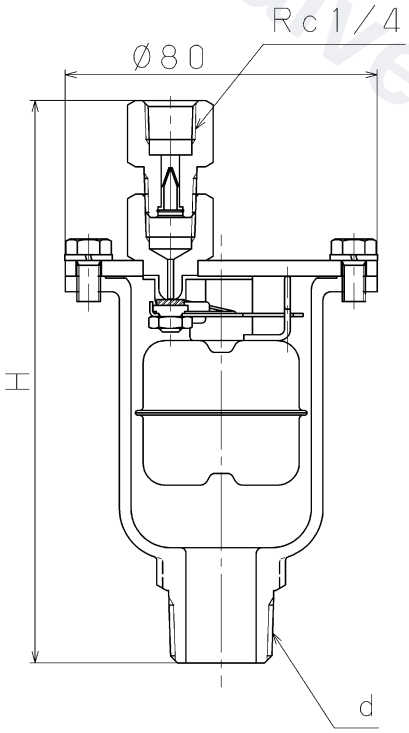
Nominal size	d	H_1	H	Weight (kg)
15A	R 1/2	136	143	0.70
20A	R 3/4	138	145	0.72
25A	R 1	142.5	149.5	0.78

■ TA-16CVA



Nominal size	d	H_1	H	Weight (kg)
15A	R 1/2	135.5	146	0.72
20A	R 3/4	137.5	148	0.74
25A	R 1	142	152.5	0.80

■ TA-16CVS



Nominal size	d	H	Weight (kg)
15A	R 1/2	142	0.70
20A	R 3/4	144	0.72
25A	R 1	148.5	0.78

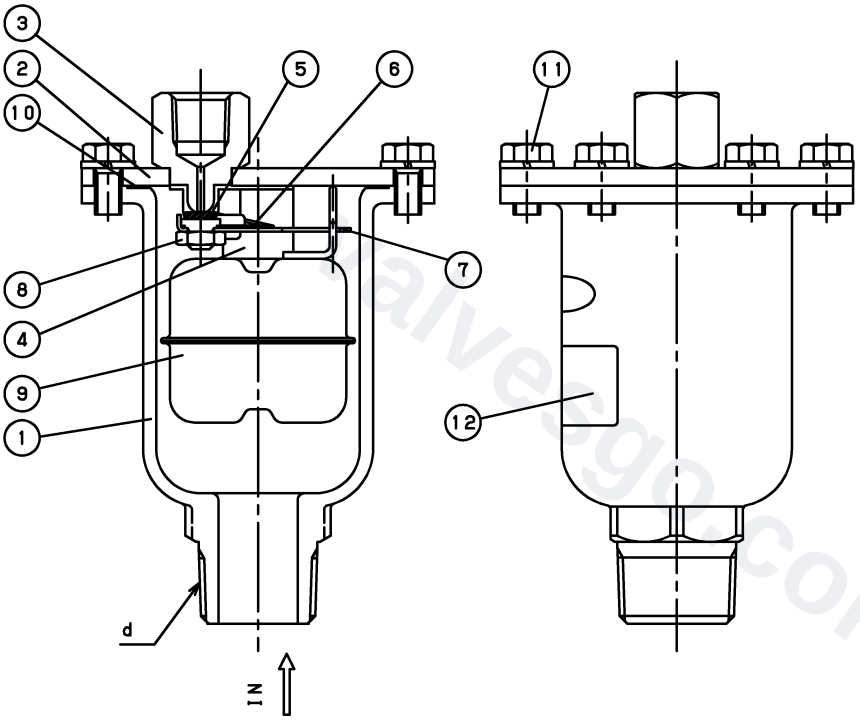
3. Operational description

1. After the installation, air exists in the product, and the float [9] is lowered by its own weight. In this condition, since the valve disc [5] is kept open by the lever [7], air is discharged outside by the internal pressure of the system.

2. When air is discharged, hot or cold water flows into the product to make the float [9] come up on buoyancy and the force that keeps the valve disc [5] open through the lever [7] is lost. Then the valve disc [5] is closed by the spring [6] and pressure to the valve disc [5].

3. When air bubbles are generated in the system and collected into the product, the inside water level drops, and the float loses buoyancy and opens the valve disc [5] to discharge air.

4. Then the operation goes back to the above process [2]. Repeating the processes [2] and [3], air in the system can be removed.

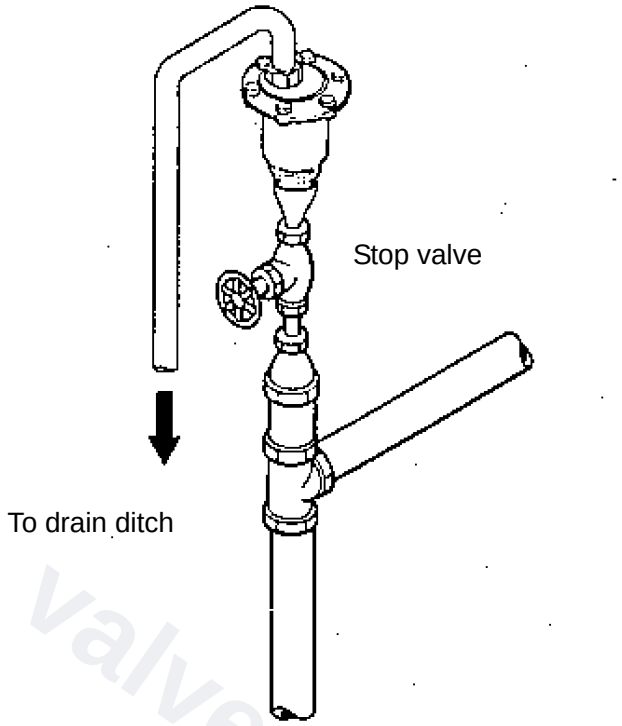


No.	Main parts
1	Body
2	Cover
3	Seat (Exhaust outlet)
4	Hanger Metal
5	Valve Disc
6	Spring
7	Lever
8	Nut
9	Float
10	Gasket
11	Bolt
12	label

The above drawing shows the structure of the TA-16. The TA-16L has L-shaped hose joint screwed in the seat [3]. The TA-16CVA and TA-16CVS have check valve joints (the CV-16A and CV-16S respectively) screwed in each seat [3].

4. Installation

4.1 Piping example



The drawing on the left shows a piping example of the TA-16.

4.2 Warning and Caution before use

⚠ Warning

1. Make sure to attach joint and hose to outlet of the product, and lead them to drain ditch.
   * Failure to follow this notice may contaminate the surroundings, result in burns for high-temperature fluid or cause bodily injury or damage to the property when valve leakage happens.
2. Make sure that end of piping or tube of the product outlet make space of 50mm over from the flood level rim of the vent.
   * Failure to follow this notice may contaminate the surroundings, result in burns for high-temperature fluid or cause bodily injury or damage to the property when valve leakage happens.

⚠ Caution

1. Install the product vertically(tolerance angle 5˚) to a place where air is easy to accumulate.
   * Failure to follow this notice may prevent the product from functioning properly.
2. Before installing the product, remove foreign substances and scale(seal material ect.)from the piping.
   * Failure to follow this notice may prevent the product from functioning properly.
3. Install stop valve (cock or gate valve) to inlet of the product for maintenance and inspection.
4. Plumb the exhaust outlet in a way that prevents backflow.

5. Operation

5.1 Warning and Caution for use

Warning	Do not touch the product with bare hands in case of high-temperature fluid. * Failure to follow this notice may result in burns.

Caution	1. A small amount of water may blow out with air at air discharge for initial operation. * This is not a failure of the product. 2. If there is a possibility of freezing or the product is not used for an extended period,completely discharge fluid from the product and pipes, and close the stop valve. * Failure to follow this notice may cause malfunction of the product due to rusting inside the product and the pipes or damaged by freezing. 3. If the piping is under negative pressure, it draw in outside air（TA-16,16L）.

6. Maintenance

6.1 Precaution for maintenance

Warning	Disassembling and inspections shall be performed by a professional or a valve manufacturer. 1. Completely discharge internal pressure of the product, piping and equipment, and cool down the product prior to disassembling or maintenance in case of high-temperature fluid. *Failure to follow this notice may result in scalds or bodily injury due to residual pressure.

6.2 Daily inspection・Periodic inspection

Please carry out daily and periodic inspections to maintain product functionality and performance.

●**Daily inspection**（1time/day）

item	How to inspect	actions to be taken
Working state	Make sure the air is venting.（However, the valve is closed when there is no air inside.）	See **6.4** Troubleshooting.
Valve seat leakage	Please check visually.	See **6.4** Troubleshooting.
external leakage	Please check visually.	See **6.4** Troubleshooting.

●**Periodic inspection**（1time/year）

item	How to inspect	actions to be taken
Valve Disc	Disassemble and check visually.	If scale such as dust to the Valve Disc, clean it. If there is any damage, replace the valve set.
Valve seat Gasket	Disassemble and check visually.	If scale such as dust to the Valve seat, clean it. If there is any damage, please replace the product. If the gasket is damaged, replace it.
Float	Disassemble and check visually.	If the float is damaged or deformed, replace the float.

6.3 Periodic replacement

Synthetic rubber is a consumable part. The replacement interval of the synthetic rubber part greatly varies depending on the use conditions. The general guide for the replacement interval is shown below.

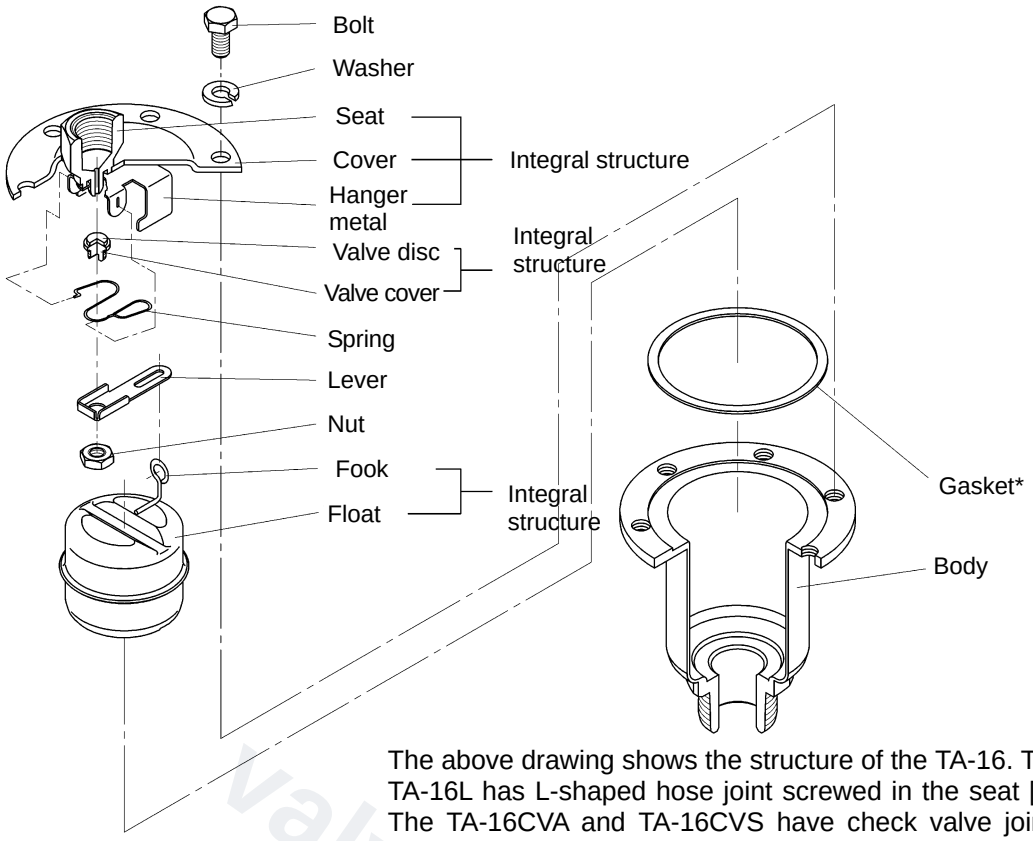
Recommended replacement year	Part name
3 years	Valve Disc [5] *
5 years	Gasket [10]

Parts marked with an asterisk (*) are replaced as a set of valve discs.

6.4 Troubleshooting

Trouble	Cause	Remedy
No air discharge	1. The stop valve on inlet side of the product is kept closed.	1. Open the stop valve fully.
	2. Internal piping pressure is more than the appropriate value.	2. Lower the internal piping pressure, or replace the valve by one for high pressure.
	3. Air accumulates too slowly.	3. Install the valve on a place where air is easy to accumulate.
Water blowout from Exhaust outlet	1. Foreign substances exist on the valve disc [5] and seat [3].	1. Remove and clean the valve disc [5] and seat [3].
	2. The float [9] is damaged and cannot work properly.	2. Replace the float [9].
external leakage	1. Damage or deformation of the body or cover due to abnormal pressure rise.	1. Replace the product.
	2. Gasket[10] is damaged.	2. Replace the gasket [10].
Sucking in air outside (the TA-16CVA and TA-16CVS)	1. Foreign substances exist on the check valve.	1. Remove foreign substances.

6.5 Exploded view



The above drawing shows the structure of the TA-16. The TA-16L has L-shaped hose joint screwed in the seat [3]. The TA-16CVA and TA-16CVS have check valve joints (the CV-16A and CV-16S respectively) screwed in each seat [3].
Parts marked with an asterisk (*) are consumable parts.

Caution for assembly

To attach the cover [2] to the body [1], place the body [1] from the above on the cover [2].

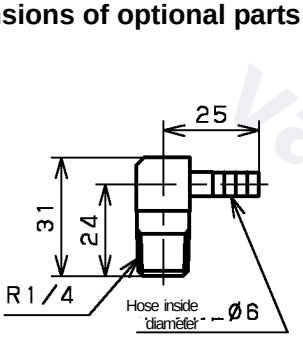
7. Optional parts

7.1 Optional parts (piping connection parts for exhaust outlet)

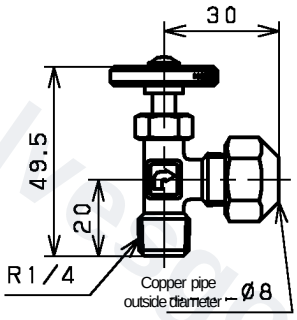
Optional parts	Connection	Others
L-shaped hose joint	R 1/4 X Φ6 (hose inside diameter)	This joint can be installed at our factory (Model: TA-16L).
Manual valve with copper joint	R 1/4 X Φ8 (copper pipe outside diameter)	Install this joint on the customer's side.
Manual valve with hose joint	R 1/4 X Φ6 (hose inside diameter)	Install this joint on the customer's side.
Swivel joint	R 1/4 X Rc 1/4	Install this joint on the customer's side.
Swivel copper pipe joint	R 1/4 X Φ8 (copper pipe outside diameter)	Install this joint on the customer's side.
Swivel hose joint	R 1/4 X Φ6 (hose inside diameter)	Install this joint on the customer's side.
Check valve joint (angle type)	R 1/4 X Rc 1/4	This joint can be installed at our factory (Model: TA-16CVA).
Check valve joint (straight type)	R 1/4 X Rc 1/4	This joint can be installed at our factory (Model: TA-16CVS).

Optional parts, except for L-shaped hose joint and check valve joint, are requested to be installed on the customer's side to comply with model registrations for Japan Water Works Association.

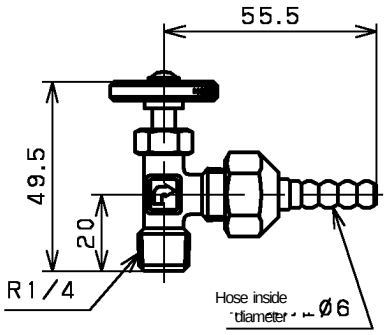
7.2 Dimensions of optional parts



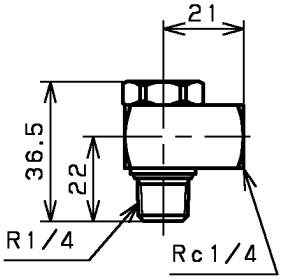
L-shaped hose joint



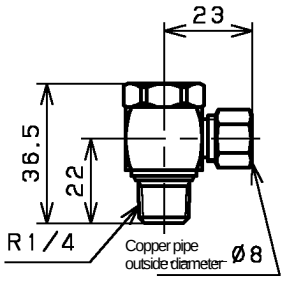
Manual valve with copper joint



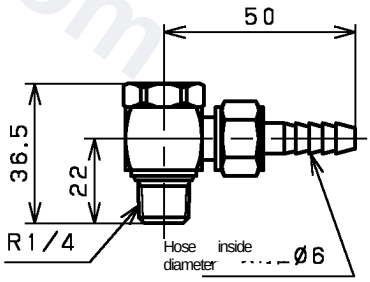
Manual valve with hose joint



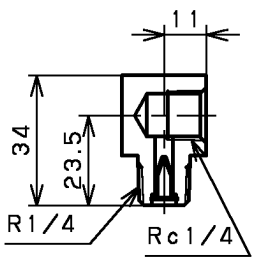
Swivel joint



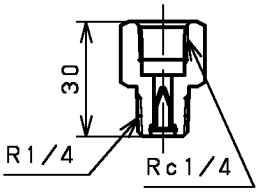
Swivel copper pipe joint



Swivel hose joint

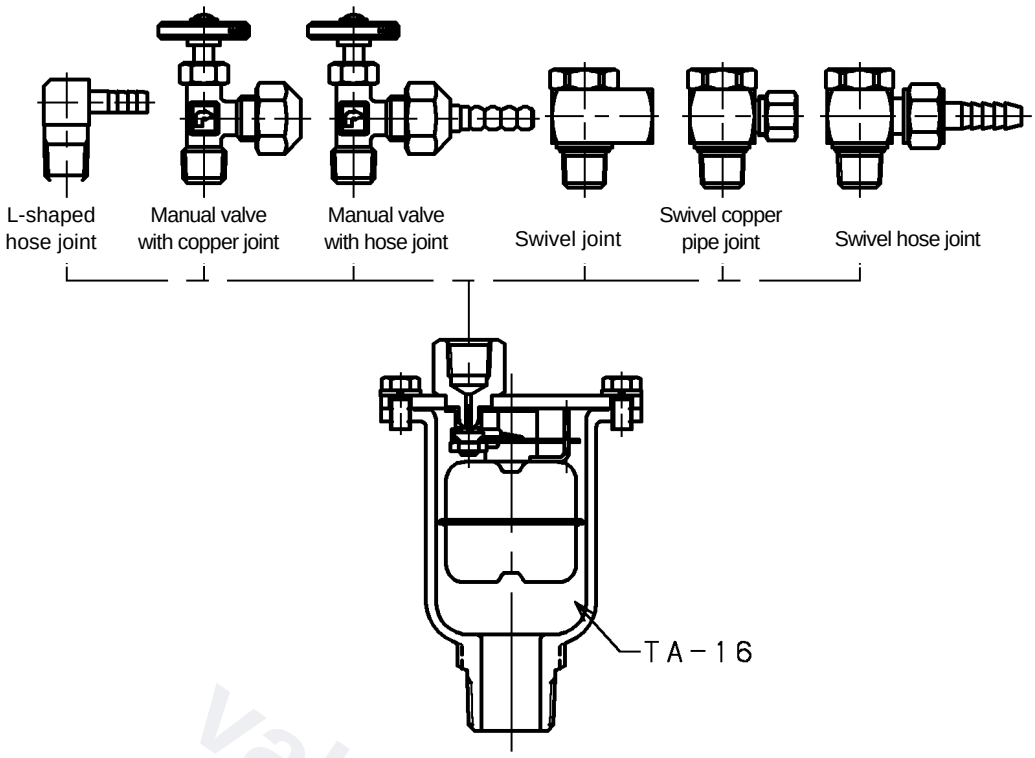


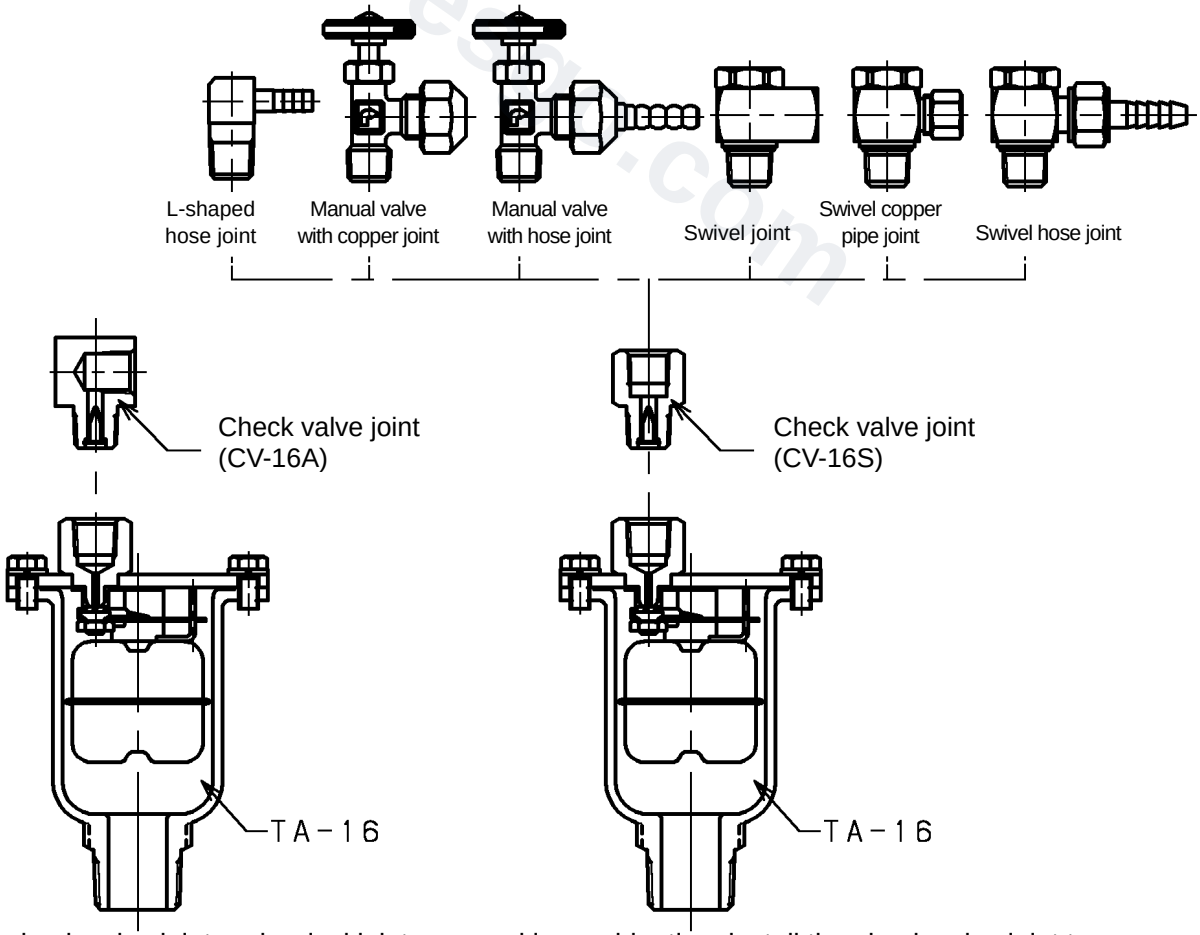
Check valve joint (angle type)



Check valve joint (straight type)

7.3 Combination of the product and optional parts





Caution: If check valve joint and swivel joint are used in combination, install the check valve joint to the TA-16 first, and then the swivel joint.

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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