



TECHNOLOGY IN POLYMER

ASKA CORPORATION

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Corporate Profile and Product Introduction

Aska Corporation, founded in 1974, is a skilled Japanese manufacturer of tailor-made specialty valves. It supplies large quantities of valves to petrochemical, synthetic fiber, pharmaceutical, agricultural chemicals, and power and energy companies in over 40 countries worldwide.

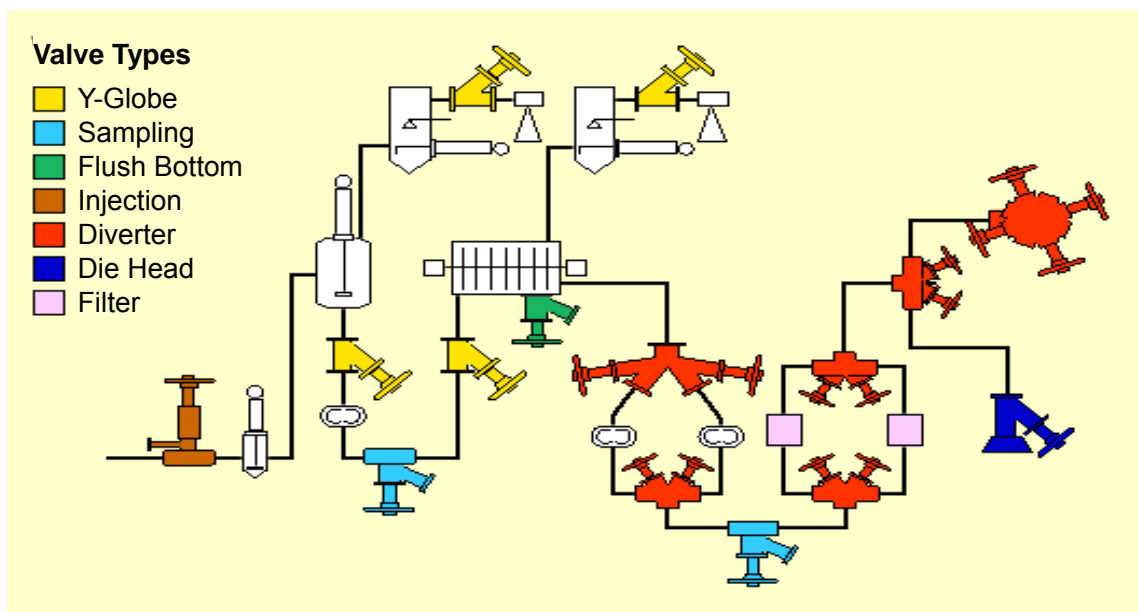


Features of Aska Special Valves

1. ORIGINAL VALVES
All of Aska valves are manufactured according to customer order. Valve design reflects customer specifications, so all valves are unique.
2. HEATING UNIFORMITY
The full jacket (heating shell) type valve has no locally hot nor cool parts. Jacketed flanges are also available.
3. DEAD SPACE FREE
No dead space in the valve allows smooth fluid flow.
4. BUFFING
Mirror-buffed finish is available, also allowing smooth fluid flow.
5. TIGHT SEALING
Valve seats and valve discs all come with a Stellite® welded face. High precision machining assures a tight seal even under vacuum.
6. HEAT TREATMENT
Welded valves are heat treated to avoid physical stress deformation.
7. INSPECTION AND TESTING
In addition to the manufacturer's standard inspection, high temperature operation and leak test is also available.
8. MATERIALS
Stainless steel is our standard: CF8 (SS304), CF8M (SS316), etc. Special materials such as Hastelloy®, titanium, Carpenter®, Monel®, nickel etc. are available upon request. Teflon® coating and lining are also available.
9. APPLICATION
Aska valves are used in processes involving chemicals, fine chemicals, fibers, film, resin, pharmaceuticals, nuclear power, food and beverages, and more.
Used especially for PET, PC, PBT, PP, PE, PS, PU, PVC, PTA, PLA, LCD, PA etc.

Application To Polymerization Process

To introduce the various types of our products, the following is an image of the polymerization process, as an example, showing what type of valve is used at each of the various stages of the process. The illustration is simplified, and is not an exact process flow diagram.



Variety of Valves

Below is an introduction to the variety of valves we manufacture. The valves described are only a few examples of the many possible. Please contact us with your specifications for other type of valves.

Flush Bottom Tank Valve (Disc type):

Flush bottom valves are designed to provide drainage and dead-space-free shutoff for reactors, vessels, autoclaves and storage tanks. The dead-space-free shutoff is accomplished by fitting the valve seat to the bottom of the vessel. This eliminates any buildup of product within the vessel nozzle itself.

The advantage of the disc type is its short stroke for opening/closing operations.

Air cylinder (pneumatic cylinder) operation is usual for saving labor.

[Ram \(Piston\) type valves are suitable for polymer applications.](#)



TO type

TI type

- 2 types of Disc type flush bottom valve available.

Left: Rising Disc Type (TO type)

Right: Lowering Disc Type (TI type)

- Flexible design fitting any vessel nozzle configuration
- Exact fit to the wall for Disc lowering type
- Crust breaking is available for Disc rising type
- Temperature measurement of vessel is available with built-in thermometer.

- Manual, gear, pneumatic cylinder (spring return or double action) with or without handwheel, electric, air motor, hydraulic operations
- Jacketed type (full-jacketed, semi-jacketed) or non-jacketed (single) type.
- Teflon® coating and lining available for corrosion resistance, chemical resistance and adhesion prevention of impurities. Not only for polymer, but also pharmaceutical and food applications.

Examples of Aska Flush Bottom Tank Valves (Disc Type)



TO type
20K-4"x3"
Flange type
Air cylinder operated
Flush Bottom Valve



TO type
150psi-5"3"x3"2"
Flange type
Jacketed
Flush Bottom Valve



TI type
20K-20" x16"
Large size
Flush Bottom valve
Electric motor operated



TI type
10K-2"x1.5"
Flange type
Flush Bottom Valve
with Thermometer
PTFE Seat & Lining

Piston Valve / Ram Valve: Ram-type Drain Valve



- Flexible design fitting any vessel nozzle configuration.
- Sampling or flushing from pipe line.
- PTFE radial seal for low temperatures.
- Metal to metal seal for high temperatures.
- Flange connection, threaded, etc.
- Crust breaking type available by sharpening top of piston.
- Manual, pneumatic cylinder (double action) with or without handwheel, air motor, electric operations.

The Aska Ram valve (Piston valve) is a drain valve with a piston-type disc. It is used for drain, flush and dead space free shut-off for reactors, vessels, pipelines, etc.

Ram valves are preferred to Disc type flush bottom valves when full flow is required.

The Aska Ram valve guarantees full flow, as the valve disc (ram) completely cleans out the valve. The Ram valve is ideal for slurry applications, as the inside of the valve is cleaned when the ram moves.



P type
600psi-3"2"
Jacketed
Piston Valve



P type
600psi-3"x3"
Non-jacketed
Air motor operated
Piston Valve

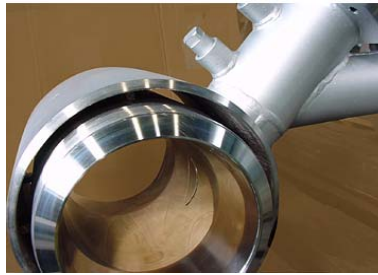
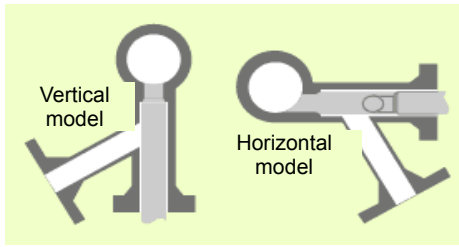


PCB type
300psi-4"x4"
Non-jacketed
Air cylinder operated
Piston Valve, Crust Breaking



P type
300psi-10"8"
Jacketed
Air cylinder operated
Piston valve
with Volume tank

Sampling Valves / Drain Valves:



SP type

SPD type

Sampling valves and Drain valves are used to extract fluid from a pipeline. They can be used under high pressure or even vacuum conditions.

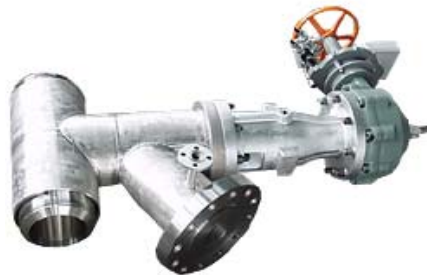
The ram tip is contoured to match the pipe's inside shape when closed so as not to disrupt fluid flow in the pipe.

There is no flange between the main pipe and valve body. This feature is effective for polymer applications to prevent polymer freezing in the valve.

The Aska Vertical model or Horizontal (Tangential) model Sampling Valves / Drain Valves achieve complete draining of the process line. Can be combined with Diverter valves and Y-Globe valves.



SP type
250K-6"/4" BW x 4"/2" BW
Jacketed
Electric motor operation.
Sampling valve



SP type
2500psi-12"/10" BW x 8"/6" RF
Jacketed Sampling Valve



SPD type
2500psi-10"/8" BW x 3"/1.5"
Jacketed Drain valve
Horizontal type
Ram disc tangential to inside of pipe.



SP type
300#-4"x1" RF
Wafer Sampling Valve
Non-Jacketed
Pneumatic cylinder



SP type
300psi-24"/22" BW x 4" RF
Jacketed
Air motor operated
Sampling valve

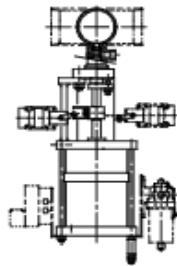


SPD type
10K-8"/6" BW x 3/4"
Jacketed Drain valve
Horizontal type

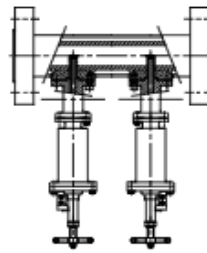
Injection Valves:

Injection valves are used for injecting liquid additives directly into the pipeline.

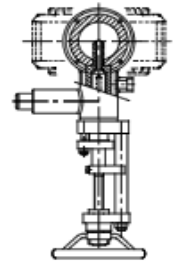
- Liquid is injected to the center of stream, preventing channeling.
- Seat is open only while liquid is being injected.
- Can be mounted on any pipe arrangement.
- Jacketed type (Full-jacketed, Semi-jacketed), or Non-jacketed type.



IJ type



2IJF type



IJ type



2IJF type
300psi-BW x 20A, 15A
Air cylinder operated
Double injection valve



2IJ180 type
10K-750/650A BW x 100A RF
Air cylinder operated
Injection valve
Twin valve type



Expanded view of 2IJ180 type (see left).



IJ type
600psi-20A-(φ6 x 1500psi-15A
Air cylinder operated
Injection valve

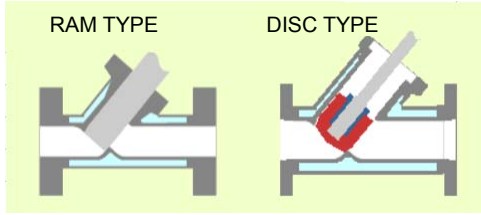


3IJF type
300psi-6"/4"BW x 3"/1.5RF
Air cylinder operated
Triple injection valve
Triple valve type



IJ type
300psi-80A BW x 15A
Air cylinder operated
Injection valve

Y-Globe Valves:



- No pocket inside valves.
- Effective back seat for Disc type available.
- Full bore flow through valve
- Low pressure drop
- Disc-type and Ram-type designs
- Bellows seal available for vacuum service
- Manual or automatic operation
- Y-type valve combined with flushing valve



300psi-12"/10"
Jacketed
Y-Globe valve



900psi-8"/5"
Jacketed
Y-Globe valve
with 2 x 3" Drain valves



4500psi-5"/3"
Jacketed
Y-Globe valve
with 3 x 3"+2" Drain valves

[1]



300psi-16"/14"
Jacketed
Y-Globe valve
with 2 x 3" Drain valves



1500psi-5"/3"
Jacketed
Y-Globe valve
with 4" Drain valve



300psi-5"/3"
Jacketed
Y-Globe valve
with 2 x 2" Drain valves

Pharmaceutical valves, PTFE coated/lined valves

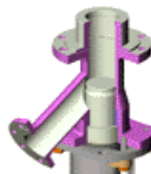
PTFE COATING, LINING AVAILABLE WITH ASKA VALVES



Bellows seal
with thermometer



Flush Bottom Valve



Ram/Piston Valve



Sampling Valve



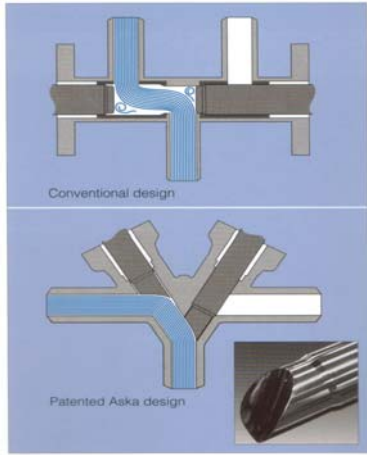
Y-Globe Valve

- Corrosion- and chemical-resistant
- Prevention of impurity adhesion
- Easy flushing inside valve
- Electrification prevention coating against static electricity explosions
- Built-in thermometer (Thermo resistance)
- Flush Bottom Valve with Thermometer
- Bellows seal

Diverter Valves: 3-way, 4-way, 5-way, 6-way, 7-way

Diverter valves are fabricated from combinations of Y-valves and are used to change, isolate or separate flow streams. With one diverter valve, you can get the same functionality as with using multiple valves, and reduce costs.

Dead Space Free (No Pocket Characteristic)



Dead-Space-Free is achieved by the Aska patented rotary ram stem with a concave disc tip.

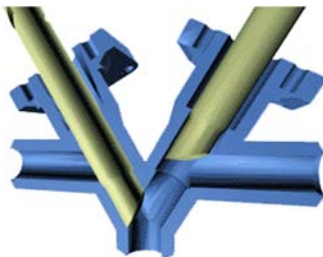
See illustrations at left

Above is a conventional design with a ram stem with a flat disc tip. Below is an Aska patented rotary ram stem with a concave disc tip.

The Aska diverter valve incorporates a patented rotary ram stem with a concave disc tip. It allows smooth and gentle polymer flow. As the ram moves from the closed to open position, it rotates so the tip is properly aligned with the flow path.

Aska recommends the use of its patent diverter valves for polymer lines used in high temperature, high pressure processing.

For low temperature, low pressure, we also manufacture as a standard product the flat-disc-with-ram-type-stem pipe diverter valve, available at a reasonable cost.



W3Z type
3-way Isolation Valve
150psi-34"/28"x 28"/24"
Flange connection
Jacketed, Electric Motor operated



W6SPY Type
6-way Valve
250K-8"/6" x 6"/4" BW
Jacketed
Manual operation



W5F type
2500psi-6"/4" 5-way Valve
Grayloc® connection
Jacketed
Manual operation



W3A-H type
PN10-10"/8" BW
Jacketed
Manual operation



W3H type
220K-10"/7"x8"/6" BW
Jacketed 3-way Valve
Electric motor operation
(control valve)



W4S type
160K-12"/8" x 10"/7"x 6"/4" BW
Jacketed 4-way Valve
Electric motor operation
(control valve)

Other Custom made Special Valves and Products:



300psi-8 1/2 RF
JACKETED CHANGEOVER



300K-1/2" CO2 OPEN VALVE (Supercritical CO2)
300K-1/2" CO2 OPEN VALVE (Supercritical CO2)



SPRAY CONDENSER PROBE
STROKE 2000mm

Spray Condenser Probe (at left)

Mounted on wet-type condenser.

Used to scrape built-up condensed polymer out of the vapor inlet nozzle.

For details and more examples of our products, please visit our website:

<http://www.bb-aska.co.jp>

We welcome specific inquiries. Contact us below with the details of your requirements, and will reply with a quotation. Contact:

Sales Office

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