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.

- 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
  - 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.
Sampling Valves / Drain Valves:

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.
**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.

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**IJ type**

2IJ180 type
300psi-750/650A BW x 100RF
Air cylinder operated
Injection valve
Twin valve type

Expanded view of 2IJ180 type (see left).

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**2IJF type**

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

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**IJ type**

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

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**3IJF type**

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

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**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**

**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

- 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.

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<th>W3H type</th>
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<td>Electric motor operation (control valve)</td>
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Other Custom made Special Valves and Products:

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:

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<thead>
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