


# The solution to your valve and piping problems has a name.



## Overview: Check Valve



The largest selection in the world  
in thermoplastic valves.



# Check Valves

## Overview



# Why ASAHI AV ?

Asahi Yukizai was founded in March 1945 as a company that built aircraft parts from wood rather than metal. Since the foundation of the company, Asahi Yukizai has continued to grow with a DNA that finds organic alternatives to metal materials, and is still one of the global leaders in the development and manufacture of thermoplastic valves and pipeline systems, setting new standards year by year.

Today, we offer solutions to customers in a wide range of fields in three core businesses;

## » “ASAHI AV” - Valve & Piping Systems Business

Started the manufacturing of thermoplastic valves first in the world in 1956.

## » Resin Business

Founded in the core technologies of phenol resin polymerization and synthesis technologies which allows Asahi Yukizai to develop unique raw materials and to offer outstanding product performances.

## » Water Treatment & Natural Resources Development Business

Pursues the potential of water and renewable resources and provides solutions for design and realization of enormous projects and infrastructures.

## Made in Japan

We take pride in quality control every step of the way through the raw materials, molding, processing, precision measuring, assembly, testing, evaluation and analysis, and finally, through our “Action Guarantee”, and all these steps are carried out in Nobeoka, Japan. At our raw material factory, we do everything from blending our main raw materials to manufacturing pellets. To ensure durability of our valves and actuators, our pass-fail criteria are based on 100,000 successful open/close cycles. Even after products clear the pass-fail criteria, we check their limit values. We carry out durability testing on valves with our customers’ use cases firmly in mind. In order to eliminate human error, we ensure that all actions through the process are guaranteed - what we call “Action Guarantee”.

Our corporate culture to work closely with our customers and fully solve their problems that they face is the very thing that has supported our growth for more than 70 years. Asahi Yukizai remain dedicated to creating products that please and satisfy customers by solving their problems.

# Applications in Industry

We believe in making a world without corrosion. From heavy industry and chemicals, to water treatment, desalination plants, device manufacturing, and even aquariums, Asahi Yukizai is here to provide safe and reliable solutions that support people all across the world. We offer an extensive range of ASAHI AV thermoplastic valves and associated products to suit many demanding processes and harsh environments. ASAHI AV valves are particularly durable and resistant to aggressive media and it is the right solution for your application.



Chemical  
Industry Plants



Steel  
Manufacturing



Seawater  
Desalination  
Plants



Water  
Treatment  
Services



Food  
Factories



Power  
Plants



Semiconductors  
and  
LCD Factories



Aquaculture



Agricultural  
and Fertilizer



Aquariums



Refineries



Spa and  
Hot Spring  
Facilities



Public  
Facilities

The right product for all your needs

# Check Valves

Asahi Yukizai's ASAHI AV range of check valves provides solutions for every application. Even for very demanding and requiring processes, you will find the perfect ASAHI AV check valve, which is corrosion-free, precise, reliable, and extremely safe. Our tradition is to never overlook challenges and our priority is to meet your requirements.



## Swing Check Valve

ASAHI AV swing check valves offer several advantages in comparison to other check valve models. The swing check valve is the ideal choice for a long-lasting solution even in case of media that may contain debris or other items that could potentially damage or clog the valve. The smooth sealing movement without any vibrating components inside increases the durability to the highest level, proven in decades of operation in our customers' plants. In terms of maintenance, the removable bonnet allows comfortable and easy access into the valve body. This enables to reduce maintenance costs significantly. Only a minimal pressure is required for the smooth sealing in horizontal as well as vertical installation and the fluid's "full flow" design provides a minimum pressure drop, reducing costs for needed pump power.

# Ball Check Valve

The ASAHI AV ball check valve employs a moving ball, which permits flow in one direction and prevents back-flow. The valve design that eliminates any metallic components offers a corrosion-free solution ideal for applications with aggressive, corrosive or soiled media. Thanks to its high degree of reliability and safety, this valve is perfect not only for sewage, drainage, and storm water but also for industrial usage. Intended for horizontal or vertical mounting and available in a variety of connections.



# Ball Foot Valve

The ASAHI AV ball foot valves can be installed vertically or horizontally on the suction side of a pump. The valve design assures the highest degree of safety and durability. Commonly used in chemical processes, mining, water & wastewater, landfills and irrigation applications.

# Wafer Check Valve

Asahi's wafer check valves avoids back-flow thanks to the solid thermoplastic sealing disc. Typical applications for the valve include tank inlets/outlets, preventing back-flow into a pump, one-way mixing, water hammer mitigation, pressure balancing, and process intakes.

Face-to-face dimensions conform to ISO 5752 allowing replacing metallic valves with the corrosion-free alternative. Spring attached disc to assist a quicker sealing, and drain plug integrated body for fast drainage of the pipeline in case of maintenance are available as option.



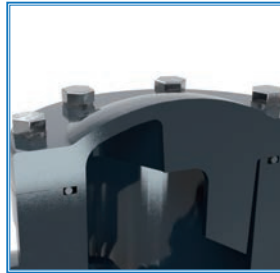
# Small details make big difference

## Swing Check Valve

Reliable, easy-care and efficient

### 1 Removable bonnet

Removable bonnet design allows an easy care. Maintenance can be performed by unscrewing a few bolts the bonnet assembly including shaft and disc can be removed from the body. All this can be done without removing the valve from the pipeline.



### 7 Smooth swinging movement

Asahi Yukizai successfully designed the shaft/disc structure to allow the self-return disc to swing smoothly for better operation and control. This allows the valve to withstand wear and tear.



### 6 Soft sealing

The disc has a soft sealing. This will help all components fit and tight together without excess vibrations which could lead to a frequent maintenance. It contributes to a longevity of the valve.





This industrial ASAHI AV swing check valve's optimized design offers you unconditional safety even in installations that may contain debris or other items that could potentially damage the valve. The fluid's "full flow" design only allows minimal pressure loss resulting in cutback of costs, required pump power and size. For each and every demand of our customers, we have a solution.

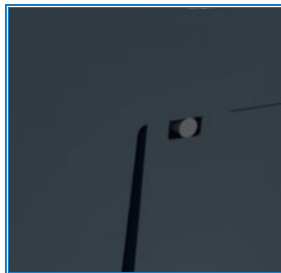
**2** Metallic liner on request

In order to withstand harsh conditions such as high temperatures, the metallic liner can be installed upon request. This will support the bonnet and the body tightly stay together for a long period of time, resulting in reducing maintenance costs and downtime.



**3** Extra sealing for maximum safety

O-Ring is inserted in between the bonnet and the body which will not allow any leakage to occur and ensures maximum safety when in operation. The O-Ring can be selected from various material choices that are anti-corrosion.



**4** Solid anti-corrosive thermoplastic body

The solid and robust thermoplastic body and a variety of material choice for O-rings and seats promise longevity of the valve, promising corrosion-free and safety under harsh conditions.

**5** Full flow design

When the disc is in a fully-open position, the valve has a clear pathway for the media to flow without any obstructive components in the way. This „full flow“ design allows the pressure to drop as little as possible contributing in minimising pumping energy.

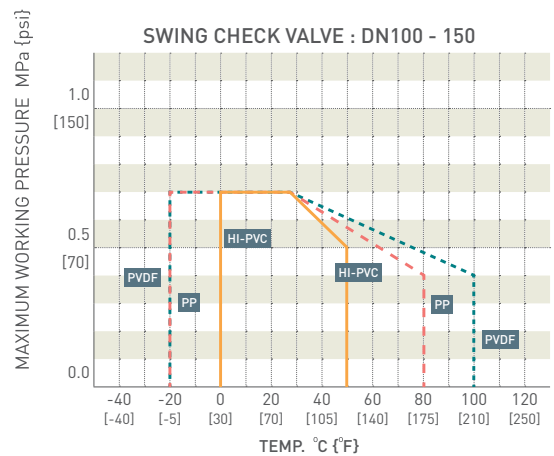
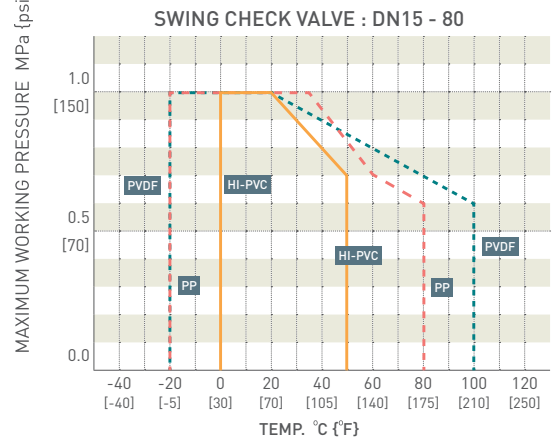


# Swing Check Valve

The current version of ASAHI AV's thermoplastic swing check valve is the result of over 70 years' product development and experience in multiple industrial fields and applications. This valve provides a large fluid flow area and can handle media that contain debris or contaminations well.



## Working pressure vs. Temperature



## For chlorine electrolysis application

PVDF is often used in chlorine electrolysis applications in combination with low pH values. This often results in blistering on the surfaces of PVDF valves. To avoid this and elongate the valve life, Asahi Yukizai has developed the special material, EL-PVDF. Various tests and many years of experience have shown that valves in the EL version increase the service life considerably, compared with the standard PVDF. These yellow valves will provide you peace of mind even under harsh conditions. Dimensions available from the smallest DN15 up to DN150.





⋈ Vertically-installed swing check valve at an aquarium in Japan.



⋈ PVDF swing check valve installed horizontally at a chemical plant and has been working for more than 20 years.

## Ball Check Valve

Our ball check valves are simple and reliable with a ball inside the valve body is the only moving part. The ball will seal against a seat and check properly when exposed to back flow conditions. Asahi Yukizai offers a variety of materials and connections for the valve to serve your needs in the pipelines.

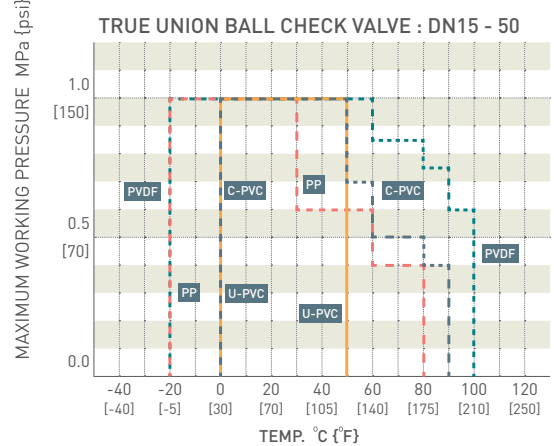


True Union Ball Check Valve  
(DN15-50)



Single Union Ball Check Valve  
(DN15-100)

### Working pressure vs. Temperature



# Approvals and Certificates

## Quality management

For Asahi Yukizai, quality is a decisive criteria for ensuring long-term relationships with our customers and business partners, and it is a value shared by every employee as an ISO 9001 certified company. Besides certifications, we are always working to reach the highest quality level towards one of our most important objectives: the satisfaction of our customers and stakeholders.

## Environmental management

Asahi Yukizai introduced an environmental management system certified to ISO 14001 in order to promote and continually improve our environmental performance. For us, sustainability is a clear goal.






## International Standards

Complying with its own national and international standards is more than just a duty for Asahi Yukizai. ASAHI AV products are produced and tested in accordance with the applicable standards and laws to be delivered globally.



# System Overview at a Glance

## >> General Info.

Product					
	Swing Check Valve	Single Union Ball Check Valve	True Union Ball Check Valve	Ball Foot Valve	Wafer Check Valve
Dimension: DN (inch)	DN15 - 200 (1/2" - 8")	DN15 - 100 (1/2" - 4")	DN15 - 50 (1/2" - 2")	DN15 - 100 (1/2" - 4")	DN80 - 300 (3" - 12")
Nominal Pressure: PN (MPa)	PN5 - 10 (0.5 - 1.0 MPa)	PN5 - 10 (0.5 - 1.0 MPa)	PN5 - 10 (0.5 - 1.0 MPa)	PN5 - 10 (0.5 - 1.0 MPa)	PN6 - 10 (0.6 - 1.0 MPa)

## >> Connections

Wafer					•
Flanged	•	•	•	•	
Socket		•	•	•	
Threaded		•	•	•	
Spigot		•	•	•	

## >> Body/ball Materials

HI-PVC	•				
PVC-U		•	•	•	•
PVC-C		•	•	•	
PP	•	•	•	•	
EL-PVDF	•				
PVDF	•	•	•	•	

## >> Disc Materials

HI-PVC	•				
PVC-U					•
PP	•				
PVDF	•				

## >> Seal Materials

EPDM	•	•	•	•	•
PTFE	•				
FKM	•	•	•	•	•
FKM-F	•	•	•	•	
FKM-C	•	•	•	•	
NBR	•	•	•	•	
PFA	•				
Others / Special Materials	•	•	•	•	

## >> Options & Accessories

Metal Liner	•				
Label / Chain Tag	•	•	•	•	•
Lubricant Free	•	•	•	•	•
Drain Plug					•
Spring					•
Drain Plug & Spring					•

For more detail, please contact us or refer to our technical datasheets and catalogue.

## System Overview

Asahi Yukizai's comprehensive product range up to DN1200 offers high product reliability. We are able to provide you complete system solutions for your applications. Customized solutions are also available on request.



### PVDF System

Excellent chemical resistance and thermal stability. Connections choices of socket, spigot, flange and threaded.

Diameters: DN10 – DN700 (3/4" – 28")

Temperature: -40 – 120 °C (-40 – 250 °F)



### PP System

High chemical resistance. Connections choices of socket, spigot, flange and threaded.

Diameters: DN10 – DN700 (3/8" – 28")

Temperature: -20 – 80 °C (-5 – 175 °F)



### PVC-U System

Solvent cementable plastic, universal use, very good chemical resistance, easy to join with adhesives. Connections choices of socket, spigot, flange and threaded.

Diameters: DN10 – DN350 (3/8" – 14")

Temperature: 0 – 60 °C (30 – 140 °F)



### PVC-C System

Solvent cementable plastic, universal use, very good chemical resistance, easy to join with adhesives. In grey or brown colours. Connections choices of socket, spigot, flange and threaded.

Diameters: DN10 – DN100 (3/8" – 4")

Temperature: 0 – 90 °C (30 – 195 °F)



### EL-PVDF System

Unique material for higher chemical resistance and thermal stability. Suitable for electrolysis processes. Flange connection.

Diameters: DN15 – DN150 (3/4" – 6")

Temperature: -40 – 120 °C (-40 – 250 °F)

#### And much more...

##### >> Large diameters

Products are available up to DN1200.

##### >> Raw materials

Variety of materials for valves and seals available.

##### >> Automation

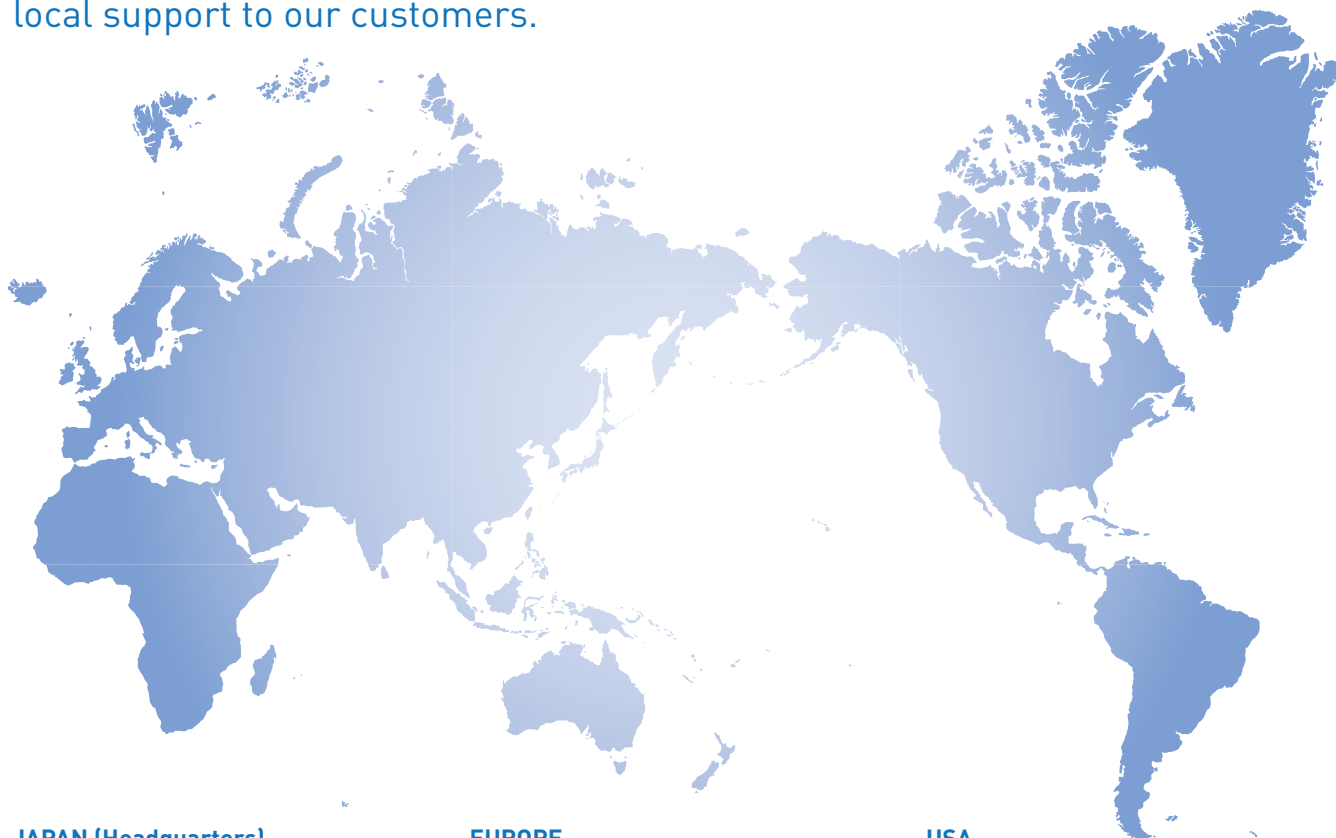
Extensive range of pneumatic and electric actuators.

For more details, please contact us.



## We are close to you

Our branch offices and global sales network guarantee local support to our customers.



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