

Thermoplastic Valves and Piping Systems



**Thermoplastic Valves & Actuators - Industrial & Environmental Piping Systems
High Purity Piping Systems - Wet Process Solutions - Welding Equipment**



www.asahi-america.com



Welcome to Asahi/America, Inc.

This catalog is an overview of Asahi/America's thermoplastic fluid handling products.

- Thermoplastic Valves
- Pneumatic and Electric Actuators
- Double Containment Piping Systems
- Industrial Piping Systems
- High Purity Piping & Fitting Systems
- Specialty Valves
- Welding Equipment
- Wet Process Solutions

Asahi/America pioneered the market for thermoplastic valves in the United States and Latin America, during a time when there was no viable alternative to metal for piping systems. Asahi/America began by promoting valves from a company known as Asahi Organic Chemical Industry Co., Ltd. (AOC) and piping through AGRU GmbH in Austria. Through distributor and end user education and acceptance, the use of thermoplastics has grown. Asahi/America now manufactures and distributes thermoplastic products including: valves, actuators, single and double wall piping systems and specialty components throughout the US and Latin America.

Asahi/America is headquartered in Malden, Massachusetts, where we operate a 100,000 square foot manufacturing & warehouse facility.

Asahi/America supports all of our products with a comprehensive selection of in-depth technical documents and product catalogs. To access any of Asahi/America's technical documentation, testing information, or product catalogs, visit the company's web site at www.asahi-america.com or contact Customer Service at 1-800-343-3618.

Why Thermoplastics?

Advances in thermoplastics have made it possible to meet the needed strength and heat/pressure tolerance for the vast majority of fluid flow applications. The main advantage of thermoplastics is its resistance to the corrosive effects of the widest possible range of chemicals. Thermoplastics install quickly, easily and last longer than metal products.

Thermoplastics benefits include smooth internal surfaces, negligible leach rates, and dielectric properties; meaning they cannot easily support an electric charge. Thermoplastics do not contaminate the fluids they transport. Consequently, many industries are replacing corroding metal components with corrosion resistant thermoplastic materials. Thermoplastics can operate effectively from -80° - 300° F, which constitutes a majority of all piping and valve applications.

The Advantages of Thermoplastics

1. Corrosion Resistant
2. Easy to Install
3. Lightweight
4. Rugged
5. Cost Effective

Why Asahi/America?

Asahi/America is a diversified ISO9001:2008 certified manufacturer and supplier of corrosion resistant fluid flow products.

What makes Asahi/America special is its ability to provide solutions for corrosive or high purity fluid handling systems individualized to meet virtually any customer's need. The Asahi/America technical staff is able to provide superior knowledge of products, applications and installations. Asahi/America is poised to support your next project with the assistance of our large distribution network.

Asahi/America's valve and actuation products have been used in the field for over four decades. Known for quality construction and dependability, Asahi/America's valves, actuators and piping systems provide answers to your fluid handling concerns.

Asahi/America offers a complete one source solution with high purity requirements. Featuring Purad™, PolyPure™ and PP-Pure™ pipe, valves and fittings, Dymatrix™ specialty valves, and EM Technik™ fittings and tubes, pipe, as well as cleanroom fabrication capabilities.

Another
Corrosion
Problem
Solved.™

Asahi/America features a full selection of industrial and environmental piping systems. We offer 4 unique double containment systems including Pro-Lock® PVC & CPVC systems, Fluid-Lok™ HDPE system, Poly-Flo® PP & HDPE and the versatile Duo-Pro® line. In addition, we feature a wide array of industrial single wall piping systems including Air-Pro™ for compressed air, Ultra Proline® Halar® system, Proline® polypropylene piping system and Super Proline® PVDF system.

Asahi/America Provides Answers

For the Distributor

- Online Ordering
- Online Price Quotes
- Engineering Support of All Products
- Inventory Management
- Quick Turn Around



For the Engineer

- 3-D Models of Valves & Pipe
- Chemical Resistance Review
- Compliance and Test Results
- Stress Analysis
- Product Approvals
- Take off Service
- Design Assistance



For the Installer/Contractor

- Welding Tool Rentals
- Weld Training and Certification
- Installation Tips
- Support Information
- Prefabrication Capabilities



Customers include the world's leading manufacturers in:

- Chemical Processing
- Petrochemical
- Mining
- Pulp and Paper
- Plating
- Pharmaceutical
- Food
- Semiconductor Processing
- Municipal & Industrial Water
- Wastewater Treatment
- Aquariums
- Landfill Recovery
- Ultra Pure Water
- Theme Parks
- Cruise Ship Construction
- Solar Panel Manufacturing
- Ethanol Production
- Railroad Yard Switching Systems



How do I purchase any of Asahi/America's products?

Asahi/America sells its products through the industry's largest distributor network with stocking locations nationally and throughout Latin America. If you are interested in becoming an authorized distributor or wish to locate your local distributor, contact Asahi/America's Customer Service department at **1-800-343-3618** or visit our web site at www.asahi-america.com and select the "where to buy" link.



Type 21 Ball Valve

Specifications

Sizes: 1/2" - 6"

Models: PVC and CPVC:

Socket, Threaded
and Flanged (ANSI)

PP and PVDF:

IPS and metric (DIN) socket,
threaded, butt and flanged (ANSI)

Bodies: PVC, CPVC, PP and PVDF

Seats: PTFE backed with EPDM or FKM

Seals: EPDM, FKM or AFLAS®

NSF-61 Approved

(1/2" - 4" PVC/EPDM/FKM)



Labcock® Ball Valve

Specifications

Size: 1/4"

Bodies: PVC

Seats: EPDM

Seals: EPDM

Models: Male thread x male thread,
male thread x hose (ID 3/8"),
male thread x female thread,
male thread x hose, hose x hose
female thread x female thread,
male thread elbow (OD .63") 90°

NSF-61 Approved

(1/4" PVC/EPDM)



Type 23 Multiport® Ball Valve

Specifications

Sizes: 1/2" - 6"

Models: Socket, Threaded
and Flanged (ANSI)

Bodies: PVC, CPVC, PP, PVDF

Seats: PTFE backed with
EPDM or FKM

Seals: EPDM, FKM or AFLAS®

NSF-61 Approved

(1/2" - 4" PVC/EPDM/FKM)



True Union Diaphragm Valve

Specifications

Sizes: 1/2" - 2"

Body: PVC, CPVC, PP and PVDF

Bonnet: PVC, PP, PPG and PVDF

End Connectors: PVC,

CPVC: IPS socket or
threaded PP, PVDF: IPS
& metric (DIN) socket,
threaded, butt

Diaphragms: EPDM, 3-Layer PTFE, Nitrile & FKM



Omni® Ball Valve

Specifications

Sizes: 3/8" - 3"

Models: Socket and Threaded

Bodies: PVC, CPVC

Seats: PTFE backed with EPDM

Seals: EPDM

NSF-61 Approved

(3/8" - 3" PVC/EPDM)



Flanged Diaphragm Valve

Specifications

Sizes: 1/2" - 10"

Body: PVC, PP, CPVC and PVDF

Bonnet: PVC, PP, PPG and PVDF

Diaphragms: EPDM, 3-Layer
PTFE, Nitrile & FKM (1/2" - 4")



Electromni® Ball Valve

Specifications

Sizes: 3/8" - 2"

Models: Socket and Threaded

Voltages: 120/220 Vac

12/24 Vac/Vdc

Enclosure: NEMA 4X

Valves: Omni

Type 21 Ball Valve

Type 23 Multiport



Globe Valve

Specifications

Sizes: 1/2" - 4"

Bodies: PVC and PP

Models: Flanged ANSI 1/2" - 4"

Socket or Threaded 1/2" - 2"

Seals: EPDM or FKM



Type 57 Butterfly Valve

Specifications

Sizes: Lever 1-1/2" - 8"

Gear: 8" - 14"

Models: Wafer Style

Operators: Lever and Gear

Bodies: PVC, PP and PVDF

Discs: PVC, CPVC, PP & PVDF

Seats and Seals: EPDM, FKM or Nitrile

Stems: 403 and 316 SS, Titanium, Hastelloy®

NSF-61 Approved
(1-1/2" - 14" PVC/PP/EPDM)



Type 57L Butterfly Valve

Specifications

Sizes: Lever 3" - 8"

Gear: 8" - 12"

Models: Lug Style

Operators: Lever and Gear

Bodies: PVC

Discs: PVC, CPVC, PP & PVDF

Seats and Seals: EPDM, FKM or Nitrile

Stems: 316 SS, Titanium, Hastelloy®

Lugs: 304 SS or 316 SS



Type 57LIS Butterfly Valve

Specifications

Sizes: 3" - 8"

Models: Wafer or Lug Style

Operators: Lever and Gear

Bodies: PVC

Discs: PVC, CPVC, PP & PVDF

Seats and Seals: EPDM, FKM or Nitrile

Stems: 316 SS, Titanium, Hastelloy®

Lugs: 316 SS



Type 75 Butterfly Valve

Specifications

Sizes: 18" - 24"

Models: Wafer Style/Machined Lug Style

Operators: Gear

Bodies: PP and PVDF

Discs: PP and PVDF

Seats and Seals: EPDM, FKM or Nitrile

Stems: 403 SS, 316 SS, Titanium, Hastelloy®

Lugs: 304 SS or 316 SS



Ball Check Valve

Specifications

Sizes: True union: 1/2" - 2"

Single union: 3" - 4"

Models: Socket, threaded, flanged (ANSI), butt

Bodies: PVC, CPVC, PP and PVDF

Seats: EPDM, FKM, PTFE

Seals: EPDM, FKM, PTFE

Options: Foot Valve Screen/SS Springs

NSF-61 Approved
(1/2" - 2" PVC/EPDM/FKM)



Horizontal Swing Check Valve

Specifications

Sizes: 3/4" - 8"

Models: Flanged (ANSI)

Bodies: HI-PVC, PP and PVDF

Seats: EPDM, FKM, PTFE

Options: Lever & Weight/SS Spring



Gate Valve

Specifications

Sizes: 1-1/2" - 14"

Body: HI-PVC

Models: Flanged (ANSI)

Types/Sizes: (non-rising stem)
1-1/2" - 8"

Seals: EPDM, FKM (optional)

NSF-61 Approved
(1-1/2" - 14" PVC/PP/EPDM/FKM)



Constant Flow Valve

Specifications

Sizes: 1/2", 3/4", 1", 2", 3" and 4"

Body: PVC

Bonnet: PVC

Models: Flanged ANSI

Seals: EPDM

Springs: 304 stainless steel with E-CTFE coating



Options available for Asahi/America Ball, Butterfly, Diaphragm & Gate Valves

Plasgear™ - Plastic Gear

Constructed of composite plastic with black urethane coating, Plasgear will not corrode or rust as a result of exposure to harsh chemicals. Plasgear is standard on all Asahi/America 1-1/2" - 14" Type 57 Butterfly Valves, or can be supplied without the valve.



Limit Switches

Limit switches are used for remote position indication with the use of lights or for sequencing of other equipment.



Ball Valve Options

Operating Nuts -Available in 2" square nut or "T" nut configurations.

Used for remote operation of a valve by a wrench.

Locking Handle -To prevent unauthorized operation, the valve handle can be padlocked in the open or closed position.



Chain Operators

Installed on the round handwheel of a valve in overhead, out-of-reach locations. The valve is operated by pulling on the chain.



Sediment Strainers

Specifications

Sizes: 1/2" - 4"

Models: Socket, Threaded, Flanged (ANSI)

Body: PVC

Screens: Standard 20 mesh PVC. (Optional 30 and 40

PVC, 20, 40 and 60 Stainless Steel)

Seals: EPDM, FKM



NSF-61 Approved

(1/2" - 4" PVC/EPDM/FKM)

Stem Extensions

For buried or submerged applications. A PVC housing surrounds the inner stem for protection from an aggressive environment or single piece stem extension.

For landfill applications, carbon steel outer housing is available.



AV Gaskets

Specifications

Materials/Sizes:

EPDM: 1/2" - 12"

PTFE-bonded EPDM:
1/2"-12"

PVDF-bonded EPDM:
1/2" - 10"

(except 1-1/4" and 2-1/2")



Globe Control Valves

Specifications

Sizes: 1/2" - 4"

Materials: PVC, PP, PVDF & PTFE

Model: Flanged (ANSI)

Stem Seal: PTFE bellows

Valve Seal: FKM, EPDM,
PTFE encapsulated FKM

Flow Curves: Linear or equal percentage

Rangeability: 1:50 for 1/2"-3", 1:30 for 4"



Series 79 Pneumatic Actuator

Specifications

Size: 1/2" - 24"

Torque: 50 in - lbs to 44611 in - lbs

Models: Air-to-Air, Air-to-Spring

Bodies: Glass filled polyamide, aluminum, 316 SS

Construction: Double piston, double rack/pinion

Indicator: Visual position indicator

Options: Positioners, Solenoids, Limit Switches, De-clutchable Gearbox Manual Overrides, Travel stops



Type 14 Pneumatic

Specifications

Sizes: 1/2" - 2"

Models: Air-to-Air, Air-to-Spring

Indicator: Top visual indication of valve position

Travel Stops: Adjustable stops prevent over tightening of diaphragm

Bodies: PVC, CPVC, PP & PVDF

Bonnet: PPG



Series 94 Electric Actuator

Specifications

Torque: 150, 300 in-lbs

Voltage: 230/115/12/24 Vac 12/24 Vdc

Action: Quarter-turn

Indicator: Visual indication of valve position.

Limit switch contacts for light indication.

Declutchable manual override.



NEMA 4X enclosure. 5 second cycle time.

UL-508 LISTED

AS-i Bus System

Specifications

Sizes: 1/2" - 4" ball valves 1-1/2" - 24" butterfly valves

Features: Network system with 2 wire self sealing cable. Open protocol via "Gateway." Nema 4X components

Indicator: Visual LEDs and Proximity feedback to PLC



(Consult factory for other style valves and electric models.)

Series 92 Electric Actuator

Specifications

Torque: 400, 700, 1100, 2000 in-lbs

Voltages: 230/115/24/12 Vac, 24/12 Vdc

Action: Quarter-turn

Indicator: Visual beacon indication of valve position.

Limit switch contacts for light indication. Declutchable manual override.



NEMA 4X/7 enclosure. 10 second cycle time (400 & 700)
25 second cycle time (1100 & 2000)

UL-508 LISTED
ATEX Directive 94/9EC

Local/Remote Station

Used in conjunction with Series 92 or Series 94 Electric Actuators. Permits actuator operation.

"Local" or "Remote" Nema 4X enclosure Open/Close selector Switch and Indicator lights 120 Vac.



Dymatrix™ Specialty Valves



The Dymatrix™ specialty valve product line is engineered to offer unique solutions to critical wet process applications. These valves are ideally suited for CMP Slurry, DI Water and Chemical Process applications.

Multiport Valves



MPV

Manufactured in our Malden, MA facility, the multiport valve manifold is available in an unlimited number of configurations. Its compact design and minimized deadleg make it perfect for custom high purity equipment integration.

Pinch Valves



PV3, PVM, PVEL

Dymatrix™ pinch valves eliminate particle generation in CMP Slurry applications.

Proprietary tube blend provides superior durability with outstanding chemical resistance.

Needle Valves



NVM

Needle valve features a dual stem for precise control. The needle tip is integrated into the PTFE diaphragm.

Pressure Regulators



HPRL, HPRS

We designed pressure regulators to provide precisely accurate and highly stable control of pressure fluctuations for flow control applications.

Diaphragm Valves



SDV, HDV, AD-16

We engineered these diaphragm valves for high cycle life and compact design.

Each diaphragm valve is designed to solve specific wet process application demands.

EM-Technik™

EM-TECHNIK



Utilizing state of the art lean manufacturing, the EMT product line offers high purity tubing connections, valves, and process control. Available in PP, PPn, PVDF, PFA and PTFE. Fittings & valves are available in sizes ranging for 1/8" to 1".

EMT is ideal for pharmaceutical, laboratory, OEM equipment.

- Series 1A/1C Compression Fittings
- Series 1D Flare Fittings
- Series 5 Specialty Valves
- Series 6 Ball Valves

Purad™ Ultra High Purity PVDF



The Purad™ UHP PVDF piping system is the premier product for high purity applications. Purad™ UHP PVDF is today's leading piping system in terms of supply range, resin, production,

supporting technologies and products. No other supplier can provide the product depth & quality of the Purad™ system.

Pipe and Fittings

20 - 280mm (1/2" - 11") SDR 21 / PN 16 / 230 psi

90 - 315mm (3" - 12") SDR 33 / PN 10 / 150 psi

Complete line of SDR 33 starting at 90mm (3") in stock for cost savings

PolyPure™ Polypropylene



PolyPure™ Natural Polypropylene systems provide excellent high purity performance and cost effective installation. PolyPure™ systems are specified and installed with confidence for a variety of high purity applications including USP Purified Water, Institutional

Laboratory Systems, Deionized Water and RO Water Systems.

Pipe and Fittings

20 - 110mm (1/2" - 4") SDR 11 / PN 10 / 150 psi

PP-Pure™ Pigmented Polypropylene



The PP-Pure™ piping system is constructed of pigmented polypropylene, manufactured to stringent high purity standards and double bagged. PP-Pure™ offers a cost savings and larger size range over traditional high purity materials.

Pipe and Fittings

20 - 315mm (1/2" - 12") SDR 11 / PN 10 / 150 psi

T-Series Diaphragm Valves



Two-Way T-342 Series and Zero Deadleg T-343 Series PVDF & PPn Diaphragm Valves are available in 1/2" to 4" size range with your choice of EPDM or PTFE diaphragms.

The T-342 and T-343 valves are available as manual valves or with an Air-to-Air or Air-to-Spring pneumatic actuator.

SP IR Equipment



The SP Series of automated fusion equipment provides unmatched quality, repeatability and ease of operation. The SP equipment features our cutting edge force controlled automated joining technology.

- SP 110-S for 20 - 110mm (1/2" - 4")
- SP 250 for 75 - 250mm (2-1/2" - 10")
- SP 315-S for 110 - 315mm (4" - 12") **NEW !**

Frank Pressure Regulators



Frank Series Regulators include pressure regulators, back pressure regulators, pressure relief valves and manual flow meters. Regulators are available in PVDF, PP and PVC up to 4" size, depending on model.

Polytetra Heat Exchangers



Polytetra Series are all-thermoplastic, corrosion resistant heat exchangers that are designed and built per customer specification, and are fully customizable.

Available in PFA, E-CTFE, PVDF and PP, the all-thermoplastic Polytetra tube and shell heat exchanger is an ideal solution for otherwise corrosive environments. Ideal for electroplating industries and clean chemistry applications such as photovoltaic and semiconductor processes.

Proline®

Asahi/America's Proline® polypropylene piping system consists of pipe, fittings and valves in a wide range of sizes from 1/2" up to 54".

Asahi stocks two standard pressure rating systems
Pro 150 & Pro 45.



Pipe and Fittings

Pro 150

Butt Fusion 20 - 500mm (1/2" - 20") 150 psi

Socket Fusion 20 - 110mm (1/2" - 4") 150 psi

Pro 45

Butt Fusion 110 - 220mm (4" - 48")

Ultra Proline® - Halar®

Ultra Proline® E-CTFE Halar® Systems offer superior chemical resistance to the most aggressive & corrosive media.

Halar® is a great substitute for rigid PFA pipe.



Halar® is the only thermoplastic material recommended for use in Sulphuric Acid applications where concentration levels reach 98%.

Pipe and Fittings

Butt Fusion

20 - 50mm (1/2" - 1-1/2") 150 psi

63 - 110mm (2" - 4") 120 psi

ProVent™ & Purad™ Vent



ProVent™ ventilation piping is specifically designed and manufactured for ventilation and exhaust systems that transport corrosive fumes. It is superior in performance to PVC, fiberglass and sheet metal

systems due to its ease of mechanical installation, chemical resistance, properties, weight & solid construction. It is perfect for applications as diverse as water treatment facilities, electroplating shops, semiconductor wet stations, and pharmaceutical processing. Available from 8" to 48".

Super Proline® - PVDF



Polyvinylidene fluoride (PVDF) general grade is a high molecular weight fluorocarbon possessing superior abrasion resistance, dielectric properties and mechanical strength. These characteristics are maintained over a temperature range of -40° F (-40° C) to 250° F (121° C), with a limited usage range extended to 300° F (178° C). PVDF is highly resistant to wet or dry chlorine, bromine and other halogens, most strong acids, aliphatics, aromatics, alcohols and chlorinated solvents.

Pipe and Fittings

20 - 400mm (1/2" - 16") SDR 21 / PN 16 / 230 psi

90 - 400mm (3" - 16") SDR 33 / PN 10 / 150 psi

Only supplier of 400mm PVDF in North America.

Air-Pro™ Compressed Air Piping



Air Pro™ is a unique piping system specifically designed for use with compressed air. Extensively tested by CAL-OSHA, Air-Pro™ is the only HDPE piping system approved for use, and warranted by the manufacturer, for compressed air applications. Air-Pro's™ specially formulated resins are resistant to both synthetic and mineral compressor oils. Other unique advantages include less scaling, minimal system pressure drops, and excellent corrosion resistance. Not only is Air-Pro™ a cost effective material choice for installations, it also leads to energy savings to the customer during compressor use.

Pipe and Fittings

20 - 110mm (1/2" - 4") SDR 7.4 / 230 psi

160 - 315mm (6" - 12") SDR 11 / 160 psi

Double Containment Piping

Duo-Pro®



Duo-Pro® is the most widely used double containment piping system of its kind on the market, with over 2000 successful installations. Duo-Pro® offers maximum versatility to meet the unique requirements of each individual application. The carrier and containment pipes may be of different materials and pressure ratings. This mix and match feature allows system designers to specify pipe material and ratings based on media and pressure changes throughout an entire system, while minimizing costs. We custom fabricate systems to meet engineers' demands.

Pipe and Fittings

1x3 through 16x20

Materials: Polypropylene, PVDF, & E-CTFE (Halar®)

Pro-Lock®

The newest addition to Asahi/America's Double Containment product line is the Pro-Lock® vinyl Double Containment Piping System. Ideal for Sodium Hypochlorite applications. Available in a variety of sizes & pressure ratings.



Pro-Lock® provides a cost-effective piping material with sound engineering design to create a reliable double-wall system.

Pipe and Fittings

1/2x2 through 4x8

Materials: PVC & CPVC

Welding Equipment



ProWeld welding equipment offers the latest innovations in reliable thermoplastic fusion technology. A full range of machines, based on your specific application, is available for rental or purchase. The ProWeld fleet includes many styles, including Shop (manual), Field (hydraulic), Socket (both Hand and Bench styles), Electro-fusion, Hot Air and Extrusion Welders.

Poly-Flo®



Poly-Flo® is a unique piping system of unitary construction, extruded by a patented process. Poly-Flo® is relatively inexpensive and extremely easy to cut and weld. Patented double O-ring flanges allow Poly-Flo® systems to be efficiently pre-assembled for easy field installation. Typical installations are in waste treatment, chemical processing applications, or for bulk chemical storage.

Pipe and Fittings

1x2, 2x3, or 4x6

Materials: Black Polypropylene & HDPE

Fluid-Lok™

Fluid-Lok™ is an engineered HDPE Double wall piping system offering the widest variety of sizes and pressure ratings available on the market. Fluid-Lok™ provides a cost effective piping solution, with a sound engineering design, created to provide reliable environmental protection.



Pipe and Fittings

1x3 through 18x24

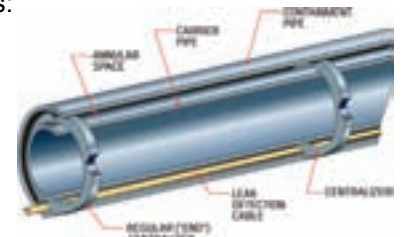
Materials: HDPE

Leak Detection Systems

Designed to meet EPA mandated requirements for automated leak detection for underground pressure systems of hazardous chemicals. Options include continuous sensing cable, low point sensors, or a combination of components, cable and probes. Each system is equipped with a multi-faceted monitoring panel, offering state of the art capabilities. Designed for use in double wall piping systems, Asahi/America offers two complete systems:

PAL-AT™: A continuous leak detection cable system that can also incorporate low point probes.

Liquid Watch™: A flexible, modular low point system based on inline probes.



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