

# Шаровые клапаны

## Технические характеристики

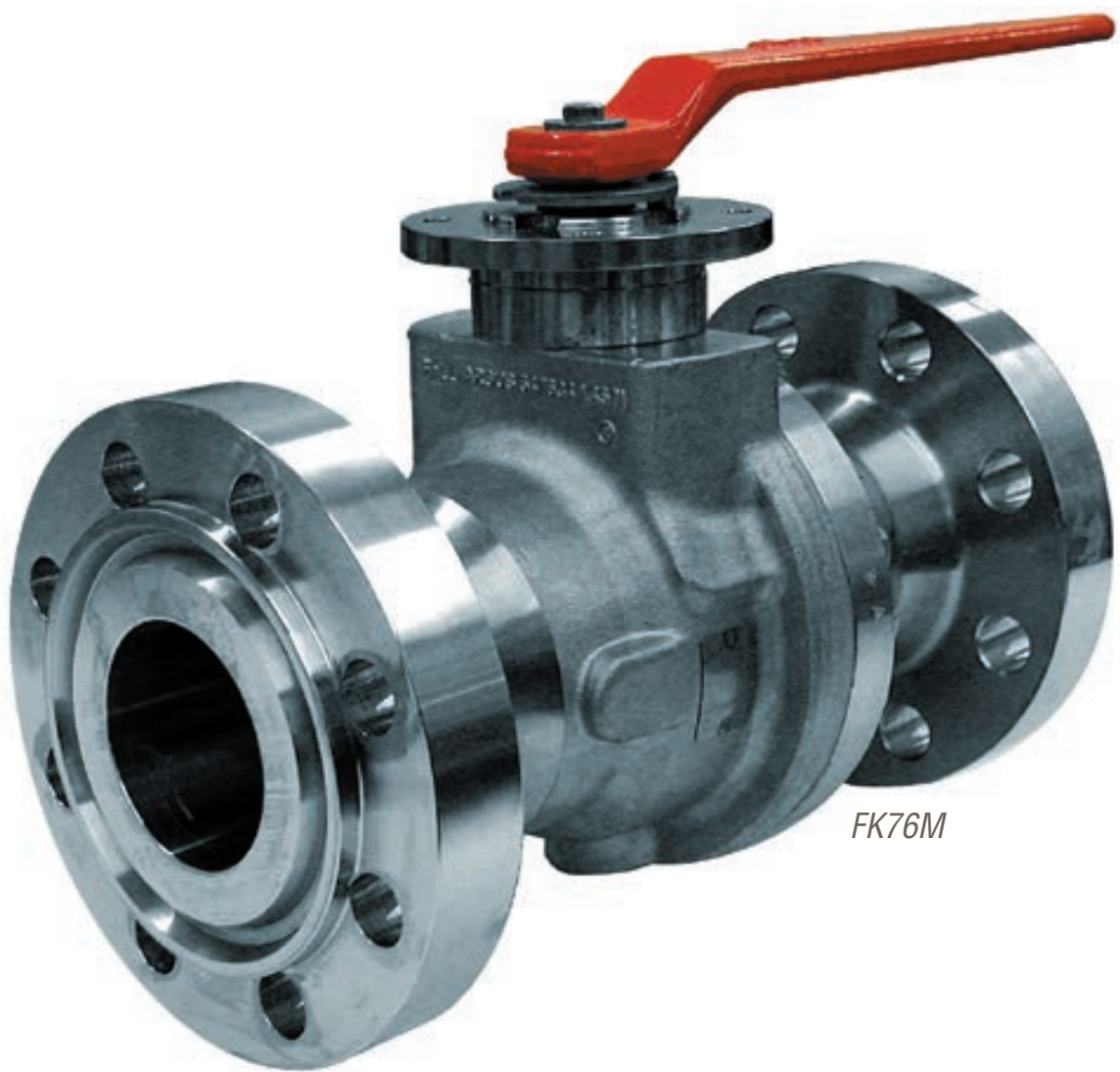
Архангельск (8182)63-90-72  
Астана (7172)727-132  
Астрахань (8512)99-46-04  
Барнаул (3852)73-04-60  
Белгород (4722)40-23-64  
Брянск (4832)59-03-52  
Владивосток (423)249-28-31  
Волгоград (844)278-03-48  
Вологда (8172)26-41-59  
Воронеж (473)204-51-73  
Екатеринбург (343)384-55-89  
Иваново (4932)77-34-06  
Ижевск (3412)26-03-58  
Казань (843)206-01-48  
Калининград (4012)72-03-81  
Калуга (4842)92-23-67  
Кемерово (3842)65-04-62  
Киров (8332)68-02-04  
Краснодар (861)203-40-90

Красноярск (391)204-63-61  
Курск (4712)77-13-04  
Липецк (4742)52-20-81  
Магнитогорск (3519)55-03-13  
Москва (495)268-04-70  
Мурманск (8152)59-64-93  
Набережные Челны (8552)20-53-41  
Нижний Новгород (831)429-08-12  
Новокузнецк (3843)20-46-81  
Новосибирск (383)227-86-73  
Омск (3812)21-46-40  
Орел (4862)44-53-42  
Оренбург (3532)37-68-04  
Пенза (8412)22-31-16  
Пермь (342)205-81-47  
Ростов-на-Дону (863)308-18-15  
Рязань (4912)46-61-64  
Самара (846)206-03-16  
Санкт-Петербург (812)309-46-40

Саратов (845)249-38-78  
Севастополь (8692)22-31-93  
Симферополь (3652)67-13-56  
Смоленск (4812)29-41-54  
Сочи (862)225-72-31  
Ставрополь (8652)20-65-13  
Сургут (3462)77-98-35  
Тверь (4822)63-31-35  
Томск (3822)98-41-53  
Тула (4872)74-02-29  
Тюмень (3452)66-21-18  
Ульяновск (8422)24-23-59  
Уфа (347)229-48-12  
Хабаровск (4212)92-98-04  
Челябинск (351)202-03-61  
Череповец (8202)49-02-64  
Ярославль (4852)69-52-93

Киргизия (996)312-96-26-47    Казахстан (772)734-952-31    Таджикистан (992)427-82-92-69





FK76M

# BALL

Long life and safe operation in tough services, from cryogenics to highly corrosive fluids — these are the hallmarks of our comprehensive and respected ball valve portfolio. Maximum safety and environmental protection are the driving factors in every design, achieved through corrosion-resistant materials, fire-safe testing, blowout-proof stems and tight shut-off features. Global customers can fulfill requirements from dozens of configurations built to a full range of international design and performance standards.

## Ball – Quick Reference\*

Product	Sub-Type	Sizes	Pressures	Temperatures
<b>FK75M</b>	Floating	DN 65 to 200 NPS 2½ to 12	PN 16 to 40 Class 150 to 900	-48°C to 230°C (-54°F to 446°F)
<b>FK79</b>	Floating	DN 15 to 50 NPS ½ to 2	PN 16 to 250 Class 150 to 2500	-105°C to 650°C (-157°F to 1202°F)
<b>Duball™ DL</b>	Floating	DN 25 to 400 NPS 1 to 16	PN 10 to 40 Class 150 to 300	-30°C to 250°C (-22°F to 482°F)
<b>EK71</b>	Floating	DN 25 to 400 NPS 1 to 16	PN 10 to 40 Class 150 to 300	-30°C to 250°C (-22°F to 482°F)
<b>Three-Piece Ball</b>	Floating	DN 8 to 150 NPS ¼ to 6	PN 100 Class 600	-46°C to 230°C (-51°F to 446°F)
<b>Flanged Ball</b>	Floating	DN 15 to 250 NPS ½ to 10	PN 20 to 50 Class 150 to 300	-46°C to 315°C (-51°F to 600°F)
<b>Cryogenic Ball</b>	Floating	DN 8 to 150 NPS ¼ to 6	PN 100 Class 600	-196°C to 82°C (-321°F to 180°F)

\* Additional products shown on next two pages

## Ball – Quick Reference, cont'd.

Product	Sub-Type	Sizes	Pressures	Temperatures
<b>CryoSeal</b>	Floating	DN 15 to 200 NPS ½ to 8	PN 20 to 110 Class 150 to 600	-196°C to 200°C (-320°F to 400°F)
<b>ProCap Capping Valve</b>	Segmented	DN 500 to 750 NPS 20 to 30	PN 16 Class 150	-30°C to 250°C (-157°F to 482°F)
<b>FK76M</b>	Trunnion-Mounted	DN 25 to DN 50 NPS 2½ to 36	PN 16 to 160 Class 150 to 900	-105°C to 650°C (-157°F to 1202°F)
<b>HK35</b>	Trunnion-Mounted	DN 50 to 500 NPS 2 to 20	PN 150 to 260 Class 900 to 1500	-105°C to 650°C (-157°F to 1202°F)
<b>VW1</b>	Trunnion-Mounted	DN 50 to 1600 NPS 2 to 64	PN 20 to 420 Class 150 to 2500	-46°C to 220°C (-50°F to 428°F)
<b>VB2 and VB3</b>	Trunnion-Mounted	DN 25 to 1600 NPS 1 to 64	PN 20 to 420 Class 150 to 2500 API 2000 to 10 000	-196°C to 400°C (-320°F to 750°F)
<b>Subsea</b>	Trunnion-Mounted	DN 50 to 1400 NPS 2 to 56	PN 20 to 420 Class 150 to 2500 API 2000 to 10 000	-46°C to 150°C (-51°F to 302°F)
<b>Double Block and Bleed</b>	Trunnion-Mounted	DN 50 to 1200 NPS 2 to 48	PN 20 to 420 Class 150 to 2500	-196°C to 400°C (-320°F to 750°F)
<b>Cryogenic Ball Valve</b>	Trunnion-Mounted	DN 25 to 1400 NPS 1 to 56	PN 20 to 420 Class 150 to 2500	-196°C to 200°C (-320°F to 392°F)
<b>Trunnball™ DL</b>	Trunnion-Mounted	DN 150 to 900 NPS 6 to 36	PN 10 to 40 Class 150 to 300	-30°C to 250°C (-22°F to 482°F)
<b>Rising Stem Ball Valve (RSBV)</b>	Rising Stem	DN 25 to 600 NPS 1 to 24	PN 10 to 320 Class 150 to 2500	-196°C to 600°C (-321°F to 1112°F)
<b>AKH2</b>	Lined	DN 15 to 350 NPS ½ to 14	PN 16 Class 150	-10°C to 200°C (14°F to 392°F)
<b>AKH2-300</b>	Lined	DN 25 to 150 NPS 1 to 6	PN 50 Class 300	-10°C to 200°C (14°F to 392°F)
<b>AKH2A</b>	Lined	NPS 1 to 6	Class 150	-10°C to 200°C (14°F to 392°F)

Product	Sub-Type	Sizes	Pressures	Temperatures
<b>AKH3</b>	Lined	NPS 1 to 14	Class 150	-10°C to 200°C (14°F to 392°F)
<b>AKH5</b>	Lined	DN 25 to 150 NPS 1 to 6	PN 16 Class 150	-10°C to 350°C (14°F to 662°F)
<b>AKH7-KP</b>	Lined	DN 25 to DN 50 NPS 1 to 2	For glass connections	-10°C to 200°C (14°F to 392°F)
<b>AKH8</b>	Lined	DN 15 to 150 NPS ½ to 6	PN 16 Class 150	-10°C to 200°C (14°F to 392°F)
<b>V-Port</b>	Lined	DN 25 to 150 NPS 1 to 6	Varies, depending on valve	Varies, depending on valve
<b>AMP3</b>	Lined	DN 25 to 150 NPS 1 to 6	PN 16 Class 150	-10°C to 200°C (14°F to 392°F)
<b>Sight Glass Series</b>	Lined	DN 25 to 150 NPS 1 to 6	PN 16 Class 150	-10°C to 200°C (14°F to 392°F)
<b>AKH6 Fully Lined Tank Drain</b>	Lined	DN 25x50 to 150x200 NPS 1x2 to 6x8	PN 16 Class 150	-10°C to 200°C (14°F to 392°F)
<b>McCANNASEAL®</b>	Top-Entry	DN 15 to 450 NPS ½ to 18	PN 20 to 260 Class 150 to 1500	-196°C to 815°C (-320°F to 1500°F)
<b>VT1</b>	Top-Entry	DN 50 to 1400 NPS 1 <sup>3</sup> / <sub>16</sub> to 16 <sup>3</sup> / <sub>4</sub>	PN 20 to 420 Class 150 to 2500 API 2000 to 10 000	-196°C to 400°C (-320°F to 750°F)

## BALL

### FLOATING

#### FK75M



Argus®

A split-body ball valve for the chemical and petrochemical industries with a highly standardized design.

- Increased uptime and durability from robust design with chemical coating and high-performance cladding
- Reliable performance to highest zero-tightness demands enabled by FCI 70-2 Class VI seat design
- Reduced replacement cost via easy upgrades and chemical coating options for diverse applications
- Improved plant and personnel safety assured by valve compliance with fugitive emissions standard ISO 15848

#### SPECIFICATIONS

Sizes: DN 65 to 200; NPS 2½ to 12  
Press: PN 16 to 40; Class 150 to 900  
Temp: -48°C to 230°C (-54°F to 446°F)

Refer to literature ARAFL0001-W-FK75M at /library.

### FLOATING

#### FK79



Argus

With many innovative design features, the FK79 represents the highest standard in valve technology and is designed to meet API-6D, ANSI 16.34 and BS 5351 requirements.

- High performance in severe service conditions and extreme environments ensured by durable design with chemical coating and high-performance cladding
- Reliable performance to highest zero-tightness demands enabled by FCI 70-2 Class VI seat design
- Long service life via double-stem seal system and stem supported in bearings, ensuring seals are free from operating loads
- Reduced environmental impact and improved safety ensured by compliance with TA-Luft, EPA (Method 21) and ISO 15848 fugitive emissions requirements

#### SPECIFICATIONS

Sizes: DN 15 to 50; NPS ½ to 2  
Press: PN 16 to 250; Class 150 to 2500  
Temp: -105°C to 650°C  
(-157°F to 1202°F)

Refer to literature ARAFL0001-W-FK79 at /library.

### FLOATING

#### Duball DL



NAF®

A high-performance, metal-seated, full-bore ball valve, equally suitable for isolation, on-off and modulating control applications.

- Long, maintenance-free, safe operation in automated on-off and control service assured by spring-loaded stem seal packing
- Increased plant and personnel safety via blowout-proof stem and high-torque transmission with minimum mechanical backlash
- Broad application versatility enabled by extensive size range and options, including fire-safe tested versions

#### SPECIFICATIONS

Sizes: DN 25 to 400; NPS 1 to 16  
Press: PN 10 to 40; Class 150 to 300  
Temp: -30°C to 250°C (-22°F to 482°F)

Refer to literature NFENTB4167 at /library.

## FLOATING

**EK71***Argus*

An end-entry ball valve for the oil and gas industry to prevent losses from production or material leakage. Designed to meet API-6D, ANSI 16.34 and BS 5351 requirements.

- Environmental compliance via end-entry design that reduces fugitive emissions
- Reliable performance to highest zero-tightness demands from FCI 70-2 Class VI seat design
- Improved plant and personnel safety with ISO 15848 compliance

## SPECIFICATIONS

Sizes: DN 15 to 50; NPS ½ to 2  
 Press: PN 16 to 100; Class 150 to 600  
 Temp: -48°C to 230°C (-54°F to 446°F)  
 Refer to literature ARAFL0001-W-EK71 at /library.

## FLOATING

**Three-piece Ball***Worcester®*

The most respected ball valve design in the industry, designed to ANSI B16.34 specifications.

- Significantly longer service life compared to conventional ball valves via improved stem seal design
- Increased durability from heavy-duty bolting and valve constructions
- Ease of maintenance enabled by design that allows actuators and brackets to be removed without affecting valve or piping integrity, plus easy access for stem seal adjustment
- Low inventory carrying costs made possible by common mounting brackets for three-piece and equivalent flanged valves

## SPECIFICATIONS

Sizes: DN 8 to 150; NPS ¼ to 6  
 Press: PN 100; Class: 600  
 Temp: -46°C to 230°C (-51°F to 446°F)  
 Refer to literature WCABR1050 or WCE4459 at /library.

## FLOATING

**Flanged Ball***Worcester*

A standardized line of flanged ball valves offering tight shutoff and leak-tight stem seals. Designed for high-cycle operation, pressure integrity, material compatibility, fast operation and high-temperature endurance.

- Longer service life through unique seat design that minimizes friction and wear
- Economical operation facilitated by low operating torque
- Improved plant and personnel safety via compact, blowout-proof stem

## SPECIFICATIONS

Sizes: DN 15 to 250; NPS ½ to 10  
 Press: PN 20 to 50; Class 150 to 300  
 Temp: -46°C to 315°C (-51°F to 600°F)  
 Refer to literature WCABR1013 and PB 800 at /library.

## BALL

### FLOATING

## Cryogenic Ball

High-performance shutoff valves for tough applications involving all types of cryogenics, including oxygen, hydrogen, methane, ammonia, nitrogen, fluorine, LNG and deuterium.

- High performance and low thermal stress assured by valve design that assures tight shutoff, zero-body leakage and low torque through large thermal excursions from ambient to -253°C (-425°F)
- Economical performance provided by eliminating the expensive high-maintenance stuffing box common in rising stem globe valves
- Increased plant and personnel safety assured by zero-leak packing, fire-tight design and blowout-proof/pressure-safe stem

### SPECIFICATIONS

Sizes: DN 8 to 150; NPS ¼ to 6 Press: PN 100; Class 600 Temp: -196°C to 82°C (-321°F to 180°F)

Refer to literature WCABR1040 or WCEBR0013 at /library.



Worcester

### FLOATING

## CryoSeal

The optimum solution for cryogen flow isolation at temperatures as low as -196°C (-320°F), including LNG liquefaction, transportation and regasification. Certified fire-safe and meets ISO 15848 standards.

- Environmental and regulatory compliance made possible by design engineered to meet ISO 15848, ASME B16.34, BS 6364, MSS SP-134, MESG SPE 77/200, ASME B16.10 and API 6D specifications
- Easy in-line maintenance via top-entry design
- Simple and cost-effective to automate due to quarter-turn operation and low-torque seat profiles

### SPECIFICATIONS

Sizes: DN 15 to 200; NPS ½ to 8 Press: PN 20 to 110; Class 150 to 600 Temp: -196°C to 200°C (-320°F to 400°F)

Refer to literature MMENBR1027 or MMENIM2007 at / library.



McCANNA™

### SEGMENTED

## ProCap Capping Valve

Unique high-tech capping valve designed for automated filling of wood chips for batch digester applications in the pulp industry.

- Maximized uptime and reduced maintenance requirements via eccentric hubs, which load the seat and provide tight shutoff
- Increased efficiency provided by its unique design that prevents wood chips from getting stuck between the housing and the ball
- Improved safety and environment compliance due to tight shutoff that prevents leakage to the atmosphere during cooking sequence
- Excellent corrosion resistance from EN 1.4408/ASTM A351 CF8M body

### SPECIFICATIONS

Sizes: DN 500 to 750; NPS 20 to 30 Press: PN 16; Class 150 Temp: -30°C to 250°C (-22°F to 482°F)

Refer to literature Fk 41.55 at / library.



NAF



Argus

## TRUNNION-MOUNTED

**FK76M**

Designed to meet API-6D, ANSI B16.34 and BS 5351 requirements, the FK76M delivers durability and low operating torques with a clear separation of sealing and bearing functions. Fire-safe to BS 6755 and API 607.

- Long service life in severe applications owing to chemical coating and high-performance cladding
- Reliability ensured by seat design to FCI 70-2 Class VI, enabling it to meet the highest demands with zero tightness
- Reduced replacement cost, as performance capabilities of valves can be easily upgraded and coatings can be applied to suit different applications
- Improved plant and personnel safety from valve design, which meets fugitive emission standard ISO 15848

## SPECIFICATIONS

Sizes: DN 65 to 900; NPS 2½ to 36  
 Press: PN 16 to 160; Class 150 to 900  
 Temp: -105°C to 650°C  
 (-157°F to 1202°F)

Refer to literature ARENTB0001 at / library.



Argus

## TRUNNION-MOUNTED

**HK35**

All the benefits of the FK76M in a high-pressure design. Designed to meet API-6D, ANSI B16.34 and BS 5351 requirements.

- Extended service life and low operating torques provided by clear separation of sealing and bearing functions on both ball and stem
- Environmental compliance assured by stem seal design, which meets current TA-Luft and EPA (method 21) standards
- Increased plant and personnel safety via fire-safe design and construction that complies with fugitive emission standard ISO 15848
- Installation ease enhanced by included DIN ISO mounting plate

## SPECIFICATIONS

Sizes: DN 50 to 500; NPS 2 to 20  
 Press: PN 150 to 260;  
 Class 900 to 1500  
 Temp: -105°C to 650°C  
 (-157°F to 1202°F)

Refer to literature ARGBR 1111 at / library.



Valbart®

## TRUNNION-MOUNTED

**VW1**

This API 6D-compliant, welded-body valve seals off both seats at the same time and allows bleeding of the entrapped cavity pressure (double block and bleed) with the ball in the closed position.

- Reduced fugitive emissions made possible by welded-body construction, which eliminates leak paths
- Greater process control and safety assured by dual independent floating seat design, guaranteeing sealing power at any pressure level
- Economical performance due to low torque requirements
- Simplified seal verification made possible by double block and bleed feature

## SPECIFICATIONS

Sizes: DN 50 to 1600; NPS 2 to 64  
 Press: PN 20 to 420; Class 150 to 2500  
 Temp: -46°C to 220°C (-50°F to 428°F)

Refer to literature VBEEBR1009 or VBENBR1010 at / library.

# BALL

## TRUNNION-MOUNTED

### VB2 and VB3

The Valbart VB2 and VB3 are repairable, bolted body, side-entry, trunnion-mounted ball valves featuring a fixed ball and floating seat rings. Compliant with API 6D and 6A.

- Greater efficiency, safety and control enabled by pressure-absorbing bearings, seat-sealing action at any rated pressure and anti-static design
- Plant and personnel protected by anti-blowout design that ensures the stem is retained by the stem cover
- Environmental compliance assured by zero-emission design
- Reduced actuation costs, as seat design minimizes the torque required to operate the valve without losing the sealing power

#### SPECIFICATIONS

Sizes: DN 25 to 1600; NPS 1 to 64  
Press: PN 20 to 42; Class 150 to 2500;  
API 2000 to 10 000  
Temp: -196°C to 400°C  
(-320°F to 750°F)

Refer to literature VBEEBR1009 or  
VBENBR1010 at / library.



Valbart

## TRUNNION-MOUNTED

### Subsea

Quarter-turn ball valve designed for total reliability against internal and external leaks in shallow and deep-water applications.

- Application flexibility derived from compatibility with hydraulic actuators, ROV-operated gear boxes, and electrical and hydraulic umbilical systems
- Extended life due to robust design that protects against leaks with metal-to-metal seats, elastomeric and thermoplastic seals, and corrosion-resistant alloy seal housing
- Minimized leak paths made possible by body designs plus corrosion-resistant materials of construction
- Complete safety and functionality compliance ensured by hyperbaric chamber testing (API 6DSS certification/API Spec Q1)

#### SPECIFICATIONS

Sizes: DN 50 to 1400; NPS 2 to 56  
Press: PN 20 to 420; Class 150 to 2500; API 2000 to 10 000  
Temp: -46°C to 150°C (-51°F to 302°F)

Refer to literature VBENBR1005 at / library.



Valbart

## TRUNNION-MOUNTED

### Double Block and Bleed

Side-entry ball valve, with either a bolted or welded body, designed for use in upstream, midstream and downstream oil and gas applications.

- Initial and installation cost savings owing to reduced structural requirements of design that saves both space and weight
- Increased system reliability from single valve with bleed port between two valves
- Improved plant and personnel safety due to anti-blowout stem, fire-safe construction and anti-static design

#### SPECIFICATIONS

Sizes: DN 50 to 1200; NPS 2 to 48  
Press: PN 20 to 420; Class 150 to 2500  
Temp: -196°C to 400°C  
(-320°F to 750°F)

Refer to literature VBENBR1004 at / library.



Valbart



Valbart

## TRUNNION-MOUNTED

**Cryogenic Ball Valve**

Meets demanding end-user requirements for leak rate and fugitive emission performance. Body construction and flexible trim configurations ensure proper safe isolation.

- Improved seal performance at extremely low temperatures enabled by isolating stem seals from cold media
- Guaranteed optimum leakage resistance in demanding cryogenic applications via primary energized lip seal
- Increased reliability and safety from automatic discharge of excessive body pressure by internal self-relieving system (top- and side-entry models only)

## SPECIFICATIONS

Sizes: DN 25 to 1400; NPS 1 to 56  
 Press: PN 20 to 420; Class 150 to 2500  
 Temp: 196°C to 200°C (-320°F to 392°F)  
 Refer to literature VBEEBR1002 at / library.



NAF

## TRUNNION-MOUNTED

**Trunnball DL**

Full-port process ball valve well-suited for the most challenging operating conditions. Frequently used for isolation or on-off applications, but equally suitable for control.

- Improved plant and personnel safety provided by the Z-trim option's excellent cavitation control and noise reduction
- Reduced maintenance enabled by spring-loaded stem seal packing
- Broad application flexibility facilitated by the extensive size range
- Optimum controllability through the use of a sturdy blowout-proof stem that provides high torque transmission with minimal mechanical backlash

## SPECIFICATIONS

Sizes: DN 150 to 900; NPS 6 to 36  
 Press: PN 10 to 40; Class 150 to 300  
 Temp: -30°C to 250°C (-22°F to 482°F)  
 Refer to literature NFENTB4168 at / library.

**Performance You Can Count On**

From the bone-chilling cold of the Arctic to the stifling dry heat of desert regions to the hot salty air of tropical coasts, Flowserve solutions can be found anywhere fluid motion and control are mission-critical. Our products excel, even in these challenging environments. And our flow control experts are right there with them to provide the engineering, installation and maintenance support you need to get the most out of your operations.



## BALL



Valbart

### RISING STEM

## Rising Stem Ball Valve (RSBV)

The oil and gas industry's choice for applications requiring a mechanically energized metal or soft seat to prevent losses from process contamination or material leakage. Ideal for frequent cycling.

- Extended service life and low maintenance costs due to unique helix coil stem design, which enables friction-free opening and closing
- Improved product quality, efficiency and safety with tightness performance up to ANSI FCI-70-2 Class VI
- Easy in-line inspection and maintenance enabled by top-entry design
- Reduced corrosion due to heavy wall thickness in excess to ASME/ANSI B16.34
- Improved personnel safety from blowout-proof stem that meets international standards of API 600 and 6D

### SPECIFICATIONS

Sizes: DN 25 to 600; NPS 1 to 24  
Press: PN 10 to 320; Class 150 to 2500  
Temp: -196°C to 600°C  
(-321°F to 1112°F)

Refer to literature VBENBR1008 at / library.

### LINED

## AKH2

Designed to reduce energy and pumping costs, the AKH2 two-piece, full-port design minimizes pressure losses and increases flow capacity.



Atomac®

- Minimized downtime and maintenance from long-life seats and large stem sealing area, plus substantial middle flanges and molded liner
- Reduced energy costs enabled by low frictional coefficients and operating torques
- Reduced fugitive emissions made possible by reduction of stem side loads, eliminating potential valve gland leaks
- Increased plant and personnel safety assured by anti-blowout stem and anti-static design

### SPECIFICATIONS

Sizes: DN 15 to 350; NPS ½ to 14  
Press: PN 16; Class 150  
Temp: -10°C to 200°C (14°F to 392°F)

Refer to literature ATENTB0010 at / library.

### LINED

## AKH2-300

This valve offers the same advantages as the AKH2 series, while meeting the stricter pressure requirements, wall thickness, face-to-face and flange dimensions of ANSI Class 300.



Atomac

- Enhanced safety derived from ANSI Class 300 piping requirements demanded in the chlorine and related industries
- Low inventory carrying costs and simplified maintenance made possible by the high degree of interchangeability with the entire AKH2 series

### SPECIFICATIONS

Sizes: DN 25 to 150; NPS 1 to 6  
Press: PN 50; Class 300  
Temp: -10°C to 200°C (14°F to 392°F)

Refer to literature ATETB001 or ATENTB0010 at / library.



Atomac

## LINED

**AKH2A**

The AKH2A is a short-pattern, full-port lined ball valve that offers the same benefits as the AKH2 at reduced space and weight. Designed per ASME B16.5 Class 150 flange dimensions and ASME B16.10 face-to-face dimensions.

- Broad application versatility enabled by a variety of metallic and non-metallic ball material options as well as available characterized ball for throttling services
- Greater application flexibility and decreased structural impact from reduced space and weight (compared to the AKH2)
- Lower operating costs resulting from high-efficiency performance
- Reduced automation costs due to low turning torque and ISO 5211 universal mounting pad

## SPECIFICATIONS

Sizes: NPS 1 to 6

Press: Class 150

Temp: -10°C to 200°C (14°F to 392°F)

Refer to literature ATETB001  
or ATENTB0010 at / library.



Atomac

## LINED

**AKH3**

The AKH3 is an ANSI B16.10 short-pattern, reduced-port, lined ball valve. The floating ball design ensures bubble-tight shut-off.

- Economical performance and improved process efficiency from bubble-tight shutoff across the pressure range of 1 mbar to 19 bar (14.5 psi to 275 psi)
- Long-term external leak protection provided by PTFE chevron packing rings in a deep stuffing box, substantial body flanges and molded liner seal
- Low installation costs, as ASME dimensions permit the replacement of previously installed valves with no need to alter existing piping
- Safety assured by blowout-proof stem assembly and anti-static device

## SPECIFICATIONS

Sizes: NPS 1 to 14

Press: Class 150

Temp: -10°C to 200°C (14°F to 392°F)

Refer to literature ATETB001  
or ATENTB0010 at / library.



Atomac

## LINED

**AKH5**

These full-port, ceramic-lined valves are recommended when nothing else will work in applications with abrasive slurries, high-temperature corrosives and services with high-temperature fluctuations.

- Long service life and wear resistance enabled by Mg-PSZ ceramic surfaces that resist erosion, corrosion and extreme temperature shock
- Increased uptime from minimal cavity space, which significantly reduces retention of line media and product contamination
- Reduced energy and pumping costs due to full port design, which minimizes pressure loss and increases flow capacity
- Shutoff to ANSI FCI 70-2 Class IV
- Virtually no maintenance and low stem torque enabled by large stem sealing area

## SPECIFICATIONS

Sizes: DN 25 to 150; NPS 1 to 6

Press: PN 16; Class 150

Temp: -10°C to 350°C (14°F to 662°F)

Refer to literature ATETB001  
or ATENTB0010 at / library.

## BALL

### LINED

## AKH7-KP

Engineered exclusively for glass pipe systems. Available with socket/ball or plane end connections per DN EN 12585 or DN EN 1092. For flange/glass end connections, the AKH7-KPF is available.



Atomac

- Long service life and high corrosion resistance via FEP- or PFA-molded fluorocarbon resin liners (others available on request)
- Handling of highly viscous fluids or process applications with high purity requirements enabled by liners' inert, non-stick properties
- Increased plant and personnel safety assured by anti-static design and anti-blowout stem, plus long-term leak protection provided by PTFE chevron packing rings and molded liner/seal

### SPECIFICATIONS

Sizes: DN 25 to DN 50; NPS 1 to 2  
Press: For glass connections  
Temp: -10°C to 200°C (14°F to 392°F)  
Refer to literature ATETB001 or ATENTB0010 at / library.

### LINED

## AKH8

This full-port monoblock ball valve improves sticky, adhesive and highly viscous fluid applications, particularly in high cycling requirements that can cause deterioration in floating ball design valves.



Atomac

- Superior performance in high-viscosity applications made possible by single-piece ball and stem unit
- Reduced downtime and maintenance enabled by metal-to-metal body joint, which absorbs destructive pipe vibrations and negative effects of thermal cycling
- Greater efficiency provided by larger diameter seats and integral retention lip, which minimize flow turbulence and enhance seat stability

### SPECIFICATIONS

Sizes: DN 15 to 150; NPS ½ to 6  
Press: PN 16; Class 150  
Temp: -10°C to 200°C (14°F to 392°F)  
Refer to literature ATDEENFL0007 at /library.

### LINED

## V-Port

V-Port valves enable you to achieve precise control and modulation of aggressive products without the expense and long deliveries of exotic alloy valves.



Atomac

- Greater process control and modulation for throttling applications via characterized ball valve
- Available in models AKH3, AKH8, AKH2A and AKH2; or in Mg-PSZ ceramic for model AKH5.

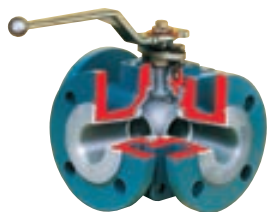
### SPECIFICATIONS

Sizes: DN 25 to 150; NPS 1 to 6  
Press: Varies, depending on valve  
Temp: Varies, depending on valve  
Refer to literature ATENTB0010 at /library.

LINED

**AMP3**

The compact design of this three-way ball valve permits use in corrosive diverter applications with space constraints.



Atomac

- Lower capital cost in difficult services than alloy valves, with equal or superior corrosion resistance
- Reduced plant operating costs made possible by high-flow capacity, which minimizes valve pressure losses
- Broad application versatility for a wide variety of 90° or 180° flow patterns enabled by L- or T-ball configurations
- Improved efficiency due to floating ball seat design which ensures bubble-tight shutoff across the pressure range

## SPECIFICATIONS

Sizes: DN 25 to 150; NPS 1 to 6

Press: PN 16; Class 150

Temp: -10°C to 200°C (14°F to 392°F)

Refer to literature ATETB001 or ATENTB0010 at / library.

LINED

**Sight Glass Series**

Atomac sight glasses offer clear visual inspection from either side. An integrated drip lip with a cast core provides visual flow indication, even at low velocity. Available in standard, three-way and four-way models.



Atomac

- Convenience, efficiency and ease of visual inspection enabled by sight glass on either side
- High durability of inspection apertures assured by borosilicate glass, utilized to withstand high temperatures, mechanical stress and corrosion per DIN 7080
- Long service life and high corrosion resistance due to thick, uniform, blowhole-free FEP or PFA liners for all non-glass internal components

## SPECIFICATIONS

Sizes: DN 25 to 150; NPS 1 to 6

Press: PN 16; Class 150

Temp: -10°C to 200°C (14°F to 392°F)

Refer to literature ATETB001 or ATENTB0010 at / library.

LINED

**AKH6 Fully Lined Tank Drain**

Primarily used for tank drainage, AKH6 valves are also commonly installed in place of reducing spools to downsize piping dimensions.



Atomac

- Lower energy and pumping costs facilitated by larger inlet port and full-port design, which minimizes pressure loss and increases flow capacity
- Improved handling of highly viscous or high-purity services assured by inert, non-stick liners
- Reduced downtime and easy maintenance made possible by interchangeability of all internal components and spare parts with entire AKH2 series

## SPECIFICATIONS

Sizes: DN 25x50 to 150x200;

NPS 1x2 to 6x8

Press: PN 16; Class 150

Temp: -10°C to 200°C (14°F to 392°F)

Refer to literature ATETB001 or ATENTB0010 at / library.

## BALL

### TOP-ENTRY

## McCANNASEAL



McCANNA

A high-performance, top-entry, metal- or soft-seated ball valve designed for use in PTA production and other general applications. Ideal for remote operations with high-cycle frequency.

- Reliable operation assured by sealing of carbon graphite seat, with wedge design for consistently “clean” finished product
- Economical performance via quarter-turn and low torque for compatibility with cost-effective actuators
- Improved personnel safety with fire-seal seats and two-way shutoff
- Fast, easy maintenance enabled by top-entry design that permits in-line service and emergency entrance in minutes
- Longer service life from engineered design that maximizes seal and seat lives

### SPECIFICATIONS

Sizes: DN 15 to 450; NPS ½ to 18  
Press: PN 20 to 260; Class 150 to 1500  
Temp: -196°C to 815°C  
(-320°F to 1500°F)

Refer to literature MMENBR1015 at / library.

### TOP-ENTRY

## VT1



Valbart

An in-line repairable valve that assures bi-directional sealing with two independent floating seats. Double block and bleed feature, fire-safe design and anti blow-out stem.

- Increased efficiency enabled by independent ball and stem, which minimizes side thrust caused by pressure on the ball
- Improved safety assured by anti-static design that guarantees electrical continuity between all metallic components
- Simplified in-line inspection and maintenance made possible by top-entry design
- Compliance with the most severe pollution-control regulations owing to low-emission valves

### SPECIFICATIONS

Sizes: DN 50 to 1400; NPS 1 13/16 to 16 3/4  
Press: PN 20 to 420; Class 150 to 2500;  
API 2000 to 10 000  
Temp: -196°C to 400°C  
(-320°F to 750°F)

Refer to literature VBEEBR1009 or  
VBENBR1010 at / library.

## Your Partner in Safety – Valves for O<sub>2</sub> Service

The inherent danger of oxygen and oxygen-enriched applications poses particular safety hazards to your plant and personnel. Flowserve can help mitigate these risks. Our global network of oxygen-trained personnel is ready to work with you to ensure the valves used in your process meet or exceed industry requirements for safety and performance. Whether your application calls for on-off or control valves, Flowserve can provide consistently safe results.



## По вопросам продаж и поддержки обращайтесь:

Архангельск (8182)63-90-72  
Астана (7172)727-132  
Астрахань (8512)99-46-04  
Барнаул (3852)73-04-60  
Белгород (4722)40-23-64  
Брянск (4832)59-03-52  
Владивосток (423)249-28-31  
Волгоград (844)278-03-48  
Вологда (8172)26-41-59  
Воронеж (473)204-51-73  
Екатеринбург (343)384-55-89  
Иваново (4932)77-34-06  
Ижевск (3412)26-03-58  
Казань (843)206-01-48  
Калининград (4012)72-03-81  
Калуга (4842)92-23-67  
Кемерово (3842)65-04-62  
Киров (8332)68-02-04  
Краснодар (861)203-40-90

Красноярск (391)204-63-61  
Курск (4712)77-13-04  
Липецк (4742)52-20-81  
Магнитогорск (3519)55-03-13  
Москва (495)268-04-70  
Мурманск (8152)59-64-93  
Набережные Челны (8552)20-53-41  
Нижний Новгород (831)429-08-12  
Новокузнецк (3843)20-46-81  
Новосибирск (383)227-86-73  
Омск (3812)21-46-40  
Орел (4862)44-53-42  
Оренбург (3532)37-68-04  
Пенза (8412)22-31-16  
Пермь (342)205-81-47  
Ростов-на-Дону (863)308-18-15  
Рязань (4912)46-61-64  
Самара (846)206-03-16  
Санкт-Петербург (812)309-46-40

Саратов (845)249-38-78  
Севастополь (8692)22-31-93  
Симферополь (3652)67-13-56  
Смоленск (4812)29-41-54  
Сочи (862)225-72-31  
Ставрополь (8652)20-65-13  
Сургут (3462)77-98-35  
Тверь (4822)63-31-35  
Томск (3822)98-41-53  
Тула (4872)74-02-29  
Тюмень (3452)66-21-18  
Ульяновск (8422)24-23-59  
Уфа (347)229-48-12  
Хабаровск (4212)92-98-04  
Челябинск (351)202-03-61  
Череповец (8202)49-02-64  
Ярославль (4852)69-52-93

Киргизия (996)312-96-26-47    Казахстан (772)734-952-31    Таджикистан (992)427-82-92-69

**Единый адрес для всех регионов: [fvr@nt-rt.ru](mailto:fvr@nt-rt.ru) || [www.flowserve.nt-rt.ru](http://www.flowserve.nt-rt.ru)**