



**THE STRATEGIC PARTNER
FOR YOUR SUCCESS**



PRODUCTS & SERVICES



INTRODUCTION

REALTEC Pte Ltd is a Singapore company established in 2002.

We have years of related experience in the supply of valve products to diversified industrial sectors such as oil & gas (upstream offshore & downstream refinery), petrochemical, pharmaceutical, water works (water treatment & desalination plants), marine and power generation plants.

We also provide system integration services to all our valued customers with our well-equipped fabrication workshop in Malaysia.

OUR VISION

To be the best business partner of our valued customers in engineering flow control solution, in an environmentally sustainable way; and improves the safety of the environment where we live, play and work.



ISO 9001

We operates under a quality management system that meets the requirements of ISO-9001: 2008 Certificate issued by KW Certification.



ISO 45001

Our facility location has fully integrated OH&S ISO 45001:2018 as certified by KW Certification.



Co. Reg. No.: 200205743M
GST Reg. No.: 20-0205743-M

biz SAFE STAR

Our facility location has achieved biz SAFE STAR certification from Singapore workplace safety health council

CORE BUSINESS ACTIVITIES

Supply of valves, flow aid equipment, tank protection components and pipeline related products.

Stockist and distributor of reputable valve manufacturers.

We provide valve testing and after-sales repair maintenance services.

OUR VALUED CUSTOMERS



PETRONAS

ExxonMobil



SIEMENS

NESTE OIL



Schlumberger



mitsui & co.



BW OFFSHORE

wood.



exyte



Seatrium



Pall Corporation



EVONIK
Leading Beyond Chemistry



Nouryon

Worley
energy | chemicals | resources



Air Liquide
creative oxygen



NOVARTIS

Lend Lease



GlaxoSmithKline

ARLANXEO
Performance Elastomers

Lonza



ATE Engineering & Engineering Pte Ltd



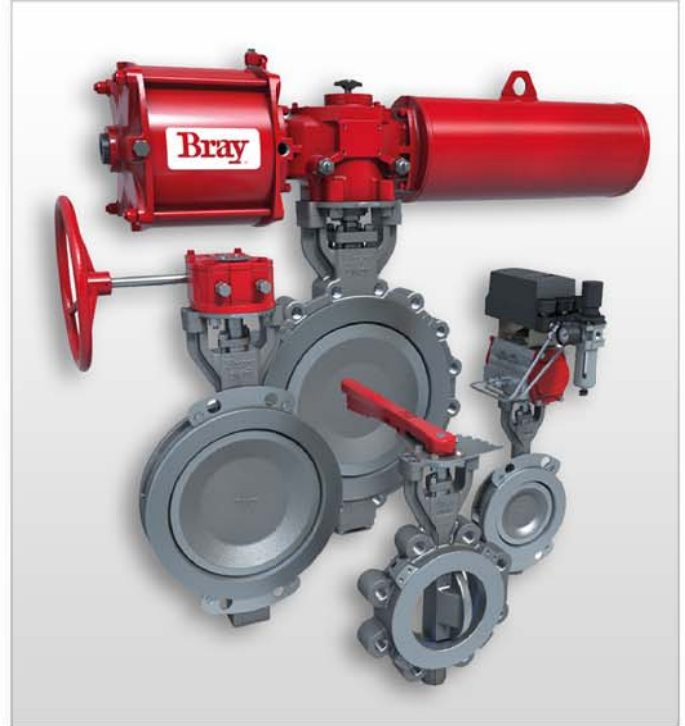
BUTTERFLY VALVES



Triple Offset Butterfly Valve BRAY TRI LOK®

**HIGH PRESSURE • ZERO LEAKAGE •
METAL TO METAL SEALING**

- ▶ Replaceable seat
- ▶ Splined disc-to-stem
- ▶ Packing is fully adjustable



Double Offset Butterfly Valve BRAY/McCANNALOK

HIGH PRESSURE & TEMPERATURE

- ▶ Wafer, lug and double flange
- ▶ Available with low temperature, cryogenic, metal to metal, and fire safe seat design
- ▶ Shut-Off class: Zero Leakage



Concentric Resilient Seated Butterfly Valves

Seat Materials

- ▶ EPDM
- ▶ BUNA-N
- ▶ FKM
- ▶ UHMWPE
- ▶ Neoprene
- ▶ Polyurethane
- ▶ PTFE lined EPDM
- ▶ Virgin PTFE
- ▶ Conductive PTFE
- ▶ HTEPDM

Size	Pressure (bar)	Wafer	Lug type	Double flanged	Remarks
1" - 20"	10.3	S20	S21	-	Sanitary - split body, 1 piece stem and disc
1" - 20"	10.3	S22	S23	-	Split body, PTFE seat and disc
2" - 12"	12	S30	S31	S3A	S3A is bonded seat
14" - 20"	10.3	S30	S31	S3A	S3A is bonded seat
2" - 20"	17.2	S30H	S31H	S3AH	Bonded seat
2" - 20"	20	S30U	S31U	-	DOT 54 fire protection. For marine.
22" - 36"	5.2	S32	-	S35	
22" - 36"	10.3	S33	-	S36	
40" - 120"	5.2	-	-	S35	
40" - 120"	10.3	-	-	S36	
24" - 54"	16			S36H	

ACTUATORS & CONTROL ACCESSORIES



ELECTRIC ACTUATOR

Low profile, compact, high output actuator for quarter turn applications

- ▶ Torque: 300 to 18,000 lb-ins (34 to 2030 Nm)
- ▶ Voltage: VAC: 24, 120, 220, VDC: 12, 24
- ▶ Explosion proof: NEMA Type 4, 4X, 7, 9
 - Class I, Div 1 & 2, Group C, D
 - Class II, Div 1 & 2, Group E, F, and G.
- ▶ Approvals & Certifications: ABS, BV, UL, CSA and CE
- ▶ Ingress Protection: IP 65 specifications



PNEUMATIC ACTUATOR

Bray rack and pinion actuators and scotch yoke actuator available in double acting and spring return

Rack and Pinion

- ▶ Torque: Double Acting up to 44,130 lb-in (4,986 Nm)
Spring End Torque up to: 14,173 lb-in (1,601 Nm)
- ▶ Pressure Range: 40 - 140 psi (2.8 - 10 bar)
- ▶ Material: Anodized Aluminium, Stainless Steel

Scotch Yoke

- ▶ Torque: Double Acting up to 885,000 lb-in (100,000 Nm)
Spring End Torque up to: 445,261 lb-in (50,306 Nm)
- ▶ Pressure Range: 40 - 150 psi (2.8 - 10.3 bar)
- ▶ Ingress Protection: IP66/IP67M per IEC 60529



Control Accessories

- ▶ Valve Status Monitors
- ▶ Electro-Pneumatic Positioner
- ▶ Solenoid Valve
- ▶ Pneumatic Positioner
- ▶ Filter Regulator
- ▶ Proximity Sensors



BALL VALVES



3 Piece Ball Valves

- ▶ Pressure Rating 400 psi to 2200 psi WOG
- ▶ Size: 1/4" through 12"
- ▶ ISO 5211 secure mount top flange



Flanged Ball Valves

- ▶ Metal seated and soft seated
- ▶ Pressure Rating: ASME Class 150 & 300
- ▶ Size: 1/2" through 12"
- ▶ ISO 5211 secure mount top flange



Specialty Valves

- ▶ Cryogenic Valves
- ▶ Segmented Valves
- ▶ Media Containment Unit
- ▶ V-Control Valves
- ▶ Spring Return (Deadman) Handles
- ▶ Multi-Port Ball Valves
- ▶ Severe Service Valves

KNIFE GATE VALVE AND SLURRY VALVE



**Bidirectional
Knife Gate Valves**



**Unidirectional
Knife Gate Valves**



**Bidirectional Slurry
Valves**



Ritepro Corporation
A Subsidiary of Bray International, Inc.



CHECK VALVES

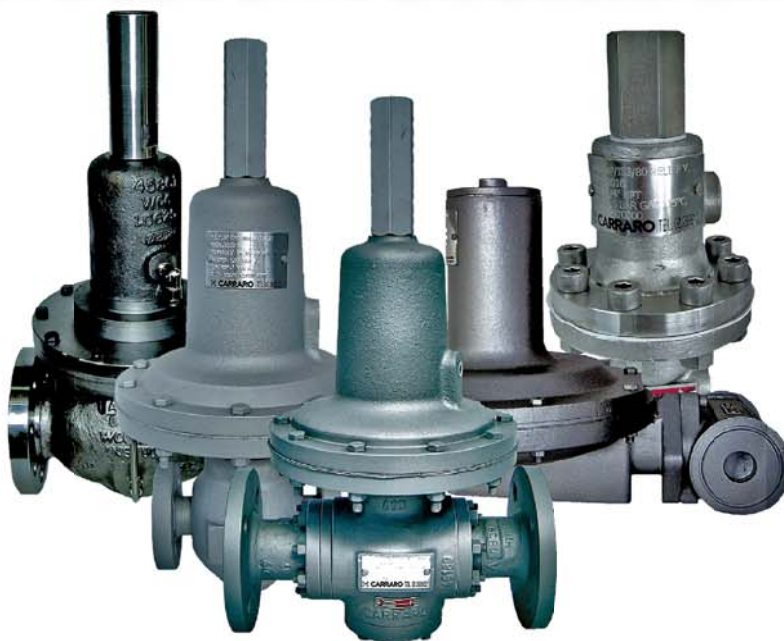
- ▶ Wafer Swing Check Valves
- ▶ Dual Flap Check Valves



CAMLOCK COUPLINGS

- ▶ Cam and Groove Couplings
- ▶ Camlock Couplings

REGULATOR, SAFETY VALVE & DESUPERHEATER



Regulator

FEATURES

- ▶ Pressure Reducing / Relief / Back Pressure Control / Differential Pressure Control
- ▶ Direct-operated pressure regulators
- ▶ Multifunction pilot-operated regulators
- ▶ Direct-operated temperature regulators
- ▶ Nitrogen Tank blanketing regulator solution

RANGE

- ▶ Size: 1/2" ~ 20" (Special)
- ▶ Pressure Rating: ANSI 150 ~ ANSI 1500
- ▶ Temperatures: - 196°C ~ 540°C
- ▶ Set Pressure: 0.0012 ~ 52 barg
- ▶ Special construction available upon request



Safety Valve

FEATURES

- ▶ Safety valves for vapours, gas, liquids
- ▶ Pop Action Safety Valve / Proportional Lift Safety Valve / Electropneumatic Safety Valve

RANGE

- ▶ Size: 1/2" ~ 10"
- ▶ Pressure Rating: ANSI 150 ~ ANSI 2500



Desuperheater

FEATURES

- ▶ Variable area desuperheaters
- ▶ Spring loaded nozzle desuperheaters
- ▶ Fixed nozzle desuperheaters

RANGE

- ▶ Size: 1" ~ 4"
- ▶ Pressure Rating: ANSI 150 ~ ANSI 1500

TANK PROTECTION EQUIPMENT & ACCESSORIES



Flame Arrester

- ▶ Inline & End of Line
- ▶ Deflagration & Detonation
- ▶ Size: 1" ~ 24"



Breather Valve

- ▶ Design to protect tank against rupturing or imploding
- ▶ Size: 2" ~ 12"



Pressure / Vacuum Relief Valve

Pressure Relief Valve

- ▶ Design to prevent tank deformation caused by increase in internal pressure
- ▶ Sizes: 1" ~ 12"

Vacuum Relief Valve

- ▶ Design to relief negative pressure
- ▶ Sizes: 2" ~ 12"



Emergency Vent & Gauge Hatches

Emergency Vent

- ▶ Provide emergency relief due to overpressure from tank internal
- ▶ Sizes: 10" ~ 24"

Gauge Hatches

- ▶ Sizes: 4" ~ 10"



API 6A Valves

Orion's API 6A valves designed for the demanding environments of onshore and offshore drilling and production, pressure and temperature extremes and heavy oil, sour, and subsea application.

Wedge Gate Valves API 6A | Single Disc Valves API 6A | Globe Valves API 6A | Axial Valves API 6A | Check Valves API 6A

- Pressure ratings: 2000 psi up to 20000 psi
- Temperature: -60°C (Min) up to 121°C (Max)
- Material: Carbon or low-alloy steel / Stainless steel / CRAc

**as defined by ISO 15156 - NACE MR 0175 / b in accordance with ISO 15156 - NACE MR 0175 / c corrosion resistant alloy*



High Integrity Pressure Protection System (HIPPS)

The High Integrity Pressure Protection Systems (HIPPS) is a mechanical and electrical system designed to protect downstream lines and plant portion from overpressure events and reduce the chance that the system pressure will exceed the tolerable allowable pressure. HIPPS is the ultimate and independent safety layer of a plant on prevention of dramatic even and protection against over-pressure is obtained by quickly isolating the source causing the overpressure.

The complete typical HIPPS is composed by the following subsystems :

- Initiators
- Logic solver
- Final Elemen

Valve interlock and trapped key solutions preventing hazardous situations under any condition



Electric Actuator



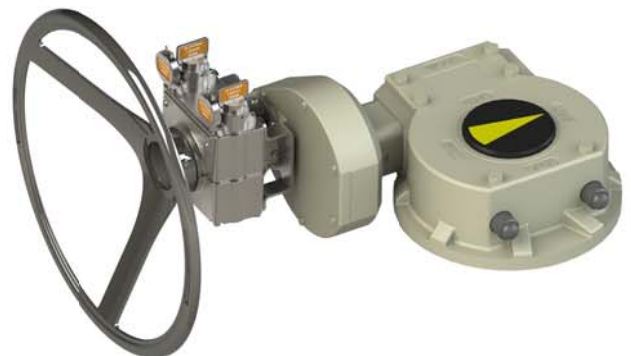
Mono Flange Valve

Instrument Valve



For every interlocking challenge Alcatraz can develop a custom-made valve interlock and trapped key solution

This to ensure our policy
"the key to your safety"
in your workflow

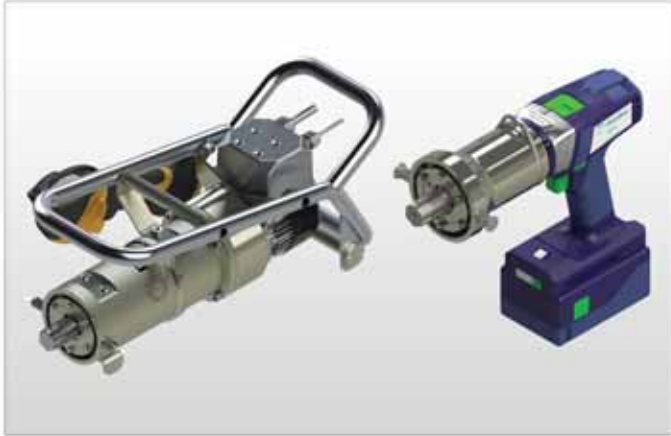


Pig Launchers & Closure Doors

Motor Operated Valve (MOV)

Double Block and Bleed Valve





Battery Powered PVA

Use of a battery - powered portable valve actuator to safely access and operate a hard-to-reach valve.

- Max torque : 1000 Nm (740 lb.ft)



Pneumatic PVA

No heat, spark or smoke ATEX certified High torque and speed Light & compact, Jam & blockage resistant.

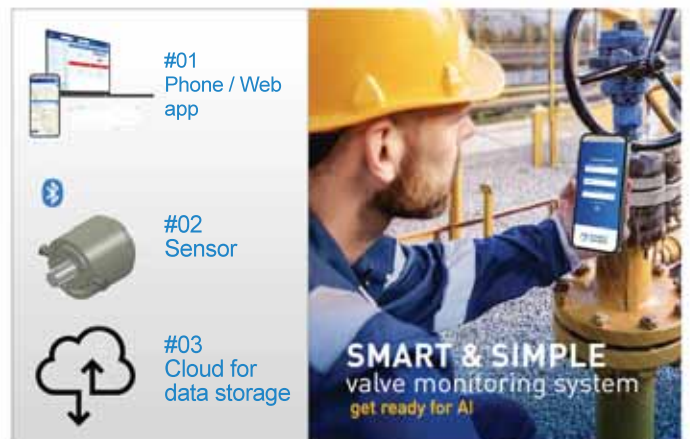
- Max torque : 1000 Nm (740 lb.ft)



Petrol - Gas PVA

Petrol - gas portable valve can be used in total autonomy. It is light and powerfull. They are particularly suitable for use in isolated outdoor places.

- Max torque : 1000 Nm (740 lb.ft)



modec connect

modec connect is an accessory to the Modec Portable Valve Actuators range that provides unique and complete information about valves' status.

- Compare valves status through time to do preventive maintenance
- Collect real-time data on your valves
- Trace valve operations
- Quick report generation
- Effortless data analysis



Our portable valve
actuators will ease your
work



Our team's technical expertise and commercial flexibility enable us to develop and provide innovative, robust and powerful solutions such as air motors, portable valve actuators, tapping machines and nut runners in a short and reliable time frame.



BUILD
YOUR OWN KIT

- Easy transport
- Simple setup
- Safe Operations



The lightweight
and functional kit
to simplify your operations

- Easy transport less than 15kg
- Simple set up
- Safe operations



MC89

PORTABLE VALVE ACTUATOR

Compact and lightweight
Maximum torque : 850 m (630 lb.ft)
Maximum speed : 450 rpm
Autonomy : 20/30 mins continously per battery
Speed controller
Integrated revolution counter (except Easy Duty)



MC89



2 FOOT HELD ARTICULATED
REACTION ARM
Max. torque : 250 Nm (185 lb.ft)
Does not require any special
attachment point

BA012



6 2 BATTERIES
& 1 CHARGER
Voltage : 18 DC & 220-240V AC
Capacity : 5 Ah
Charging time : 45 min

BAT143 & BAT145



3 REACTION ARM
Max torque : 1 000 Nm (740 lb.ft)

BR001



7 CHOOSE
YOUR SOCKET

DCxxx



4 TELESCOPIC
VALVE KEY
Max torque : 1 000 Nm (740 lb.ft)
Lenght : 0.6 to 0.9 m (23,6 - 35,4 in)

EB002



8 TRANSPORT AND STORAGE
SUITCASE

Allows you to check at
a glance that everything
is there.
Weight of the complete kit : less
than 25 Kg (55 lbs)

VT005



5 EXTENSION FOR
TELESCOPIC
VALVE KEY
Max. torque : 1 000 Nm
(740 lb.ft)
Length 0.5 m (19,7 in)

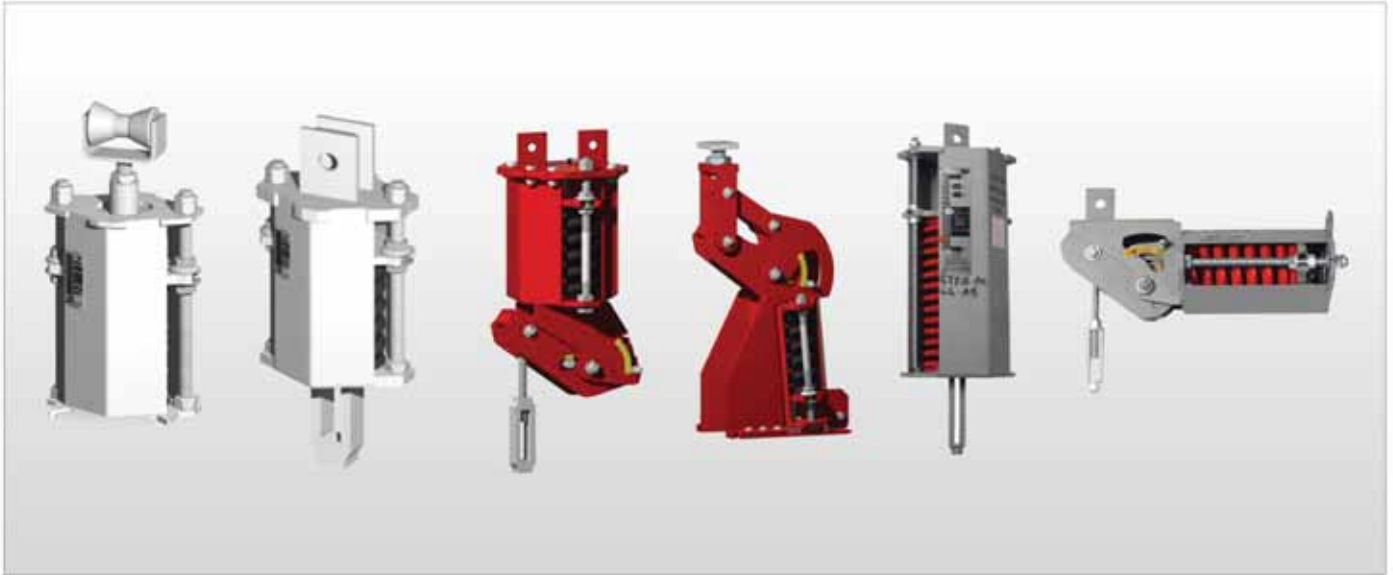
EB012



9 BACK PACK
Enables you to fit only the necessary
Pre-cutted protective foam
PVC fabric bag with double reflective
striping
Weight of the complete kit Less than 15 kg

VT009





Constant & Variable Effort Support

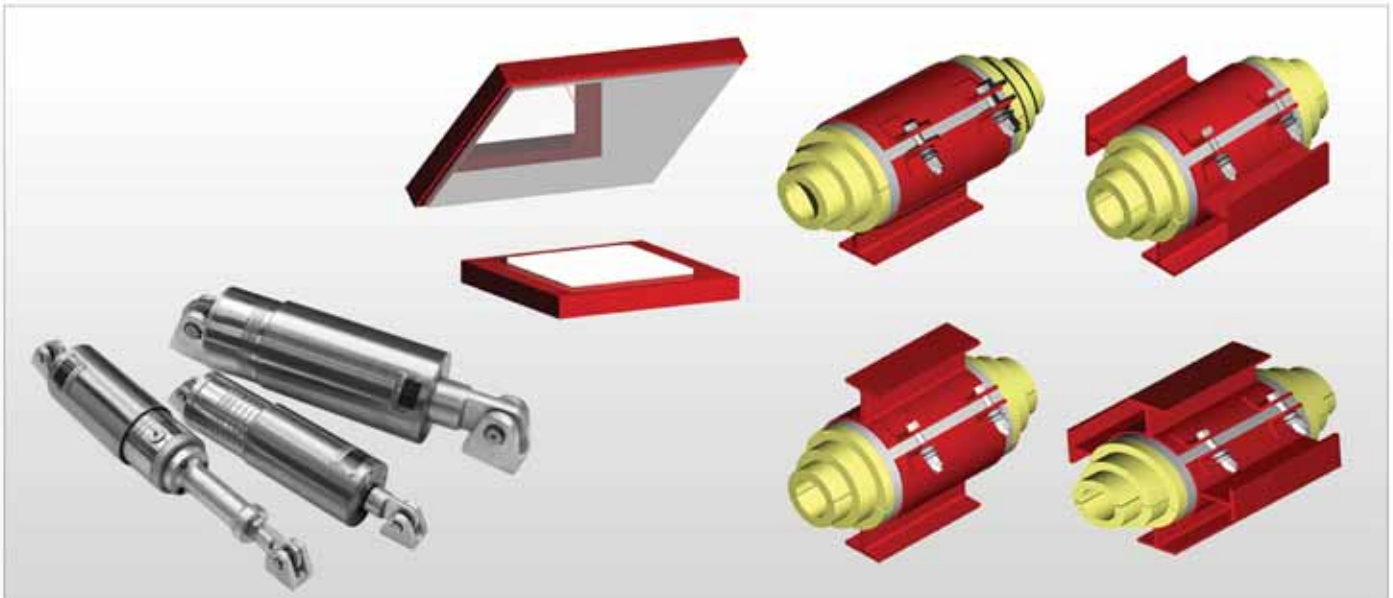
- ▶ Top Suspension - Horizontal / Vertical
- ▶ Based Mounted - Horizontal / Vertical

Constant Effort Support

Support pipework / equipment with an essentially constant supporting effort during what may be large vertical movement

Variable Effort Support

Support the weight of pipework / equipment whilst allowing a degree of movement relative to the supporting structure



Easislide Bearing

- ▶ To reduce frictional force between the item and the structure
- ▶ To prevent the development of high loads and stress
- ▶ Temperature Range: - 200°C ~ 400°C

Materials

- ▶ PTFE
- ▶ Lead Bronze
- ▶ Lubricated Manganese Bronze
- ▶ Graphite-lubricated Cast Iron

Snubbers & Restraints

- ▶ Compact, robust and corrosion resistant
- ▶ Internal, pressurised fluid reservoir
- ▶ Interchangeable with other manufacturers units
- ▶ Maintenance free, precision rod-end bearings

Cryogenic Support

- ▶ Material: High Density Polyurethane Foam (HD PUF)
- ▶ Can reach temperature as low as - 165°C

Functions

- ▶ To support the pipe by restraining it against static and thermally generated forces
- ▶ To isolate the pipe from the supporting structure
- ▶ To maintain the thermal condition within the pipe



Bergatherm® Composite Load Bearing Insulation

Advantages compared to conventional material.

- ▶ Environmentally friendly replacement material for hardwoods.
- ▶ Possesses excellent low temperature properties.
- ▶ Lower cost.
- ▶ Withstand high load capacity and cold temperature.
- ▶ Customization shape to avoid wastage.

- 1 Bergatherm Isolation Block
- 2 Bergatherm Pipe Wrap
- 3 Cryogenic Support with Bergatherm
- 4 Bergatherm Half-Round with Comlin U-Bolt



Comlin Isolation Support

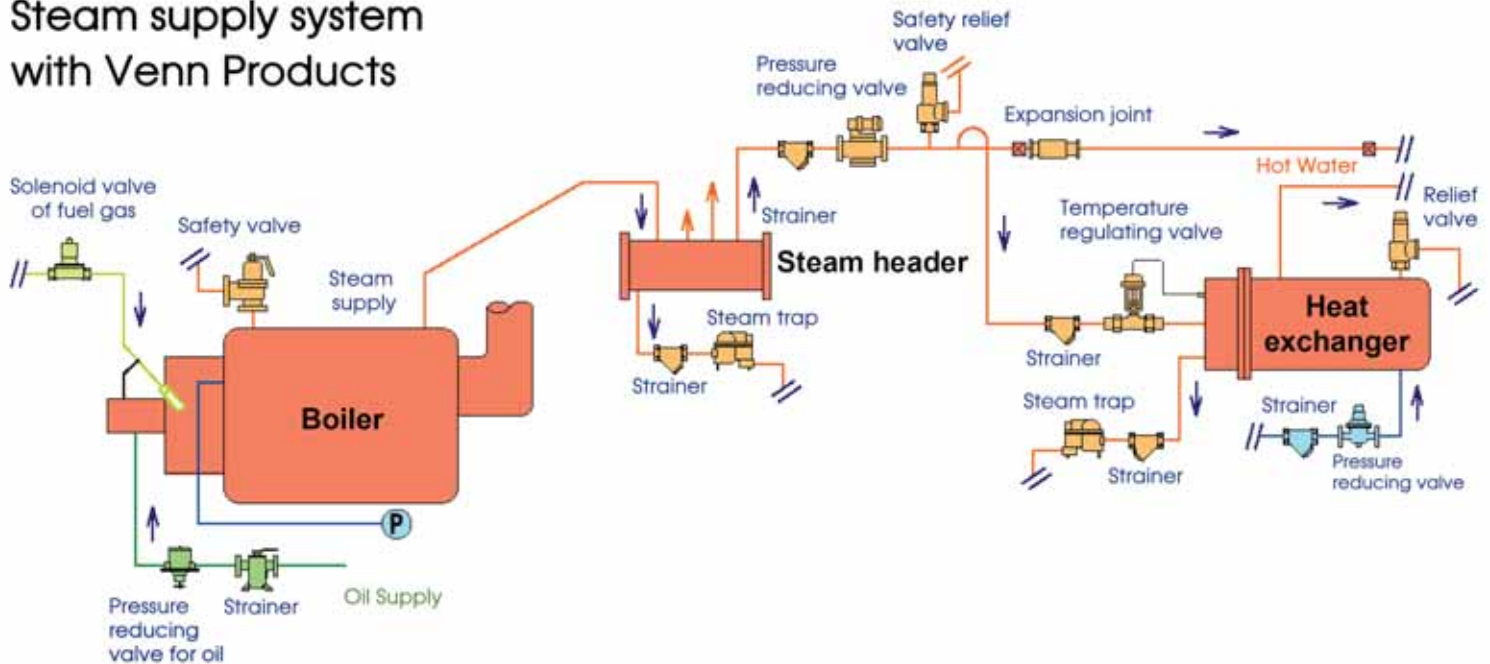
- ▶ Temperature Range: - 60°C ~ 300°C

Functions

- ▶ Reduction or elimination of noise and fatigue
- ▶ Prevention of galvanic corrosion
- ▶ Prevention of wear and / or crushing of composite

VENN CO., LTD. is a leading manufacturer of the automatic control valves

Steam supply system with Venn Products



- ▶ Temperature Control Valve
- ▶ Water Hammer Arrestor
- ▶ Safety Valves
- ▶ Relief Valves
- ▶ Temperature Regulating Valves
- ▶ Pressure Reducing Valves (Steam, Air, Gases, Water & Liquids)
- ▶ Steam Traps
- ▶ Drain Separator
- ▶ Silencer
- ▶ Air trap
- ▶ Air Vent Valves
- ▶ Various of Strainer
- ▶ Level Control Valves
- ▶ Vacuum Breaker
- ▶ Circuit Valves Primary Pressure Regulating Valves



DIRECT BLASTER



VIBRATION MOTOR



PNEUMATIC
BALL/PISTON VIBRATOR



KNOCKER



CONTROL PANEL



TROUBLE PHENOMENON



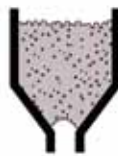
ADHERENCE TO WALL

Clinging materials and also materials easily influenced by the moisture and the temperature adhere to the wall and refuse to flow.



RATHOLING

Ratholing occurs when materials flow only above the exit, and form a tube that leaves the hopper filled with "dead" materials which will not move.



BRIDGING

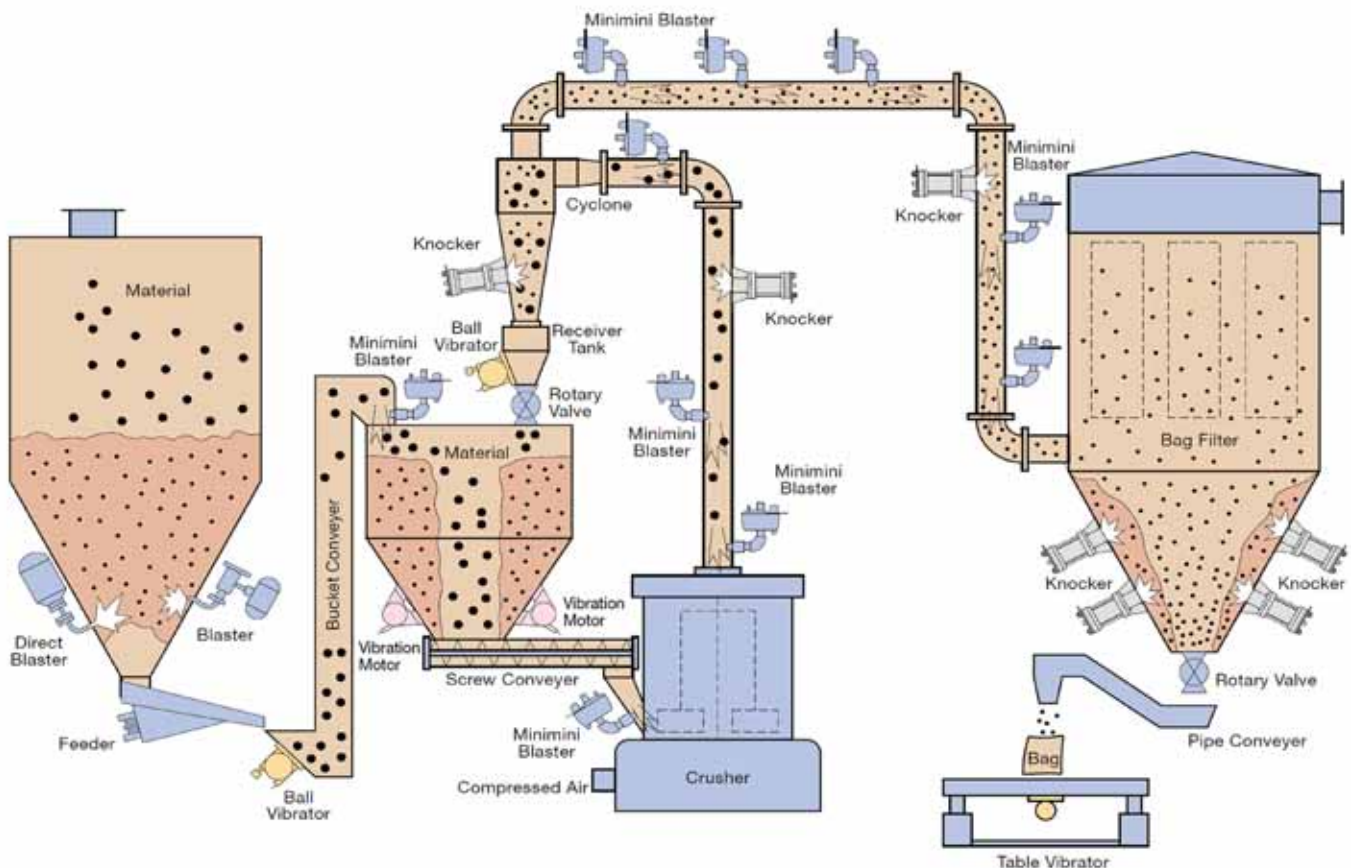
Bridging occurs when materials cling to the wall or compact above the discharge opening of the lower part in the hopper, and the flow of materials in the upper part is interrupted.



ARCHING

Arching occurs when materials in the lower part of the hopper flow out from the discharge opening, and an arch strong enough to support the entire headload in the hopper is formed.

TYPICAL FLOW AID SYSTEM INSTALLATION



The TuBore™ line is Habonim's sanitary ball valves for the Biotechnology, Pharmaceutical, Semiconductor, Chemical & Petrochemical industries, food and medical processes. The valves comply with the ASME BPE standard for applications in which cleanability and drainability are essential for product quality.



TUBE BORE SIZE BALL VALVE

Design Features

- Fully drainable valve
- True bore flow
- Blowout proof Stem
- Unexposed seats and ball
- FDA approved soft materials PTFE, TFM or virgin PEEK
- HermetiX™ stem seal
- Extended mounting kits
- Cavity or Flush ports (optional)

Technical Summary

Applications:

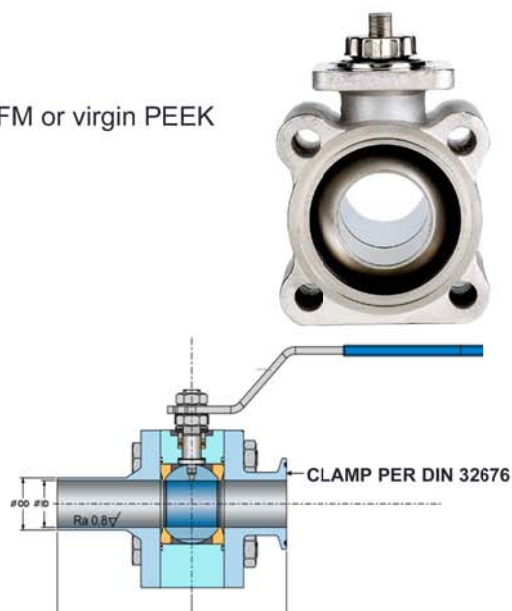
- ▶ Pharmaceutical
- ▶ Biotech
- ▶ Food & Beverage
- ▶ Cosmetics

Materials:

- ▶ SS316L
- ▶ Hasteloy C22
- ▶ AL-6XN
- ▶ Other exotic alloys

End Connectors:

- ▶ Extended tube OD (BPE) /
- ▶ Extended tube DIN 11850
- ▶ Extended tube ISO 1127
- ▶ Clamp end BS 4825
- ▶ Clamp end DIN 32676
- ▶ Clamp end ISO 2852



Polishing & electro-polishing

- ▶ Standard 25 Ra max
- ▶ Improve Cleanability
- ▶ Removes inclusions
- ▶ Enhance corrosion resistance



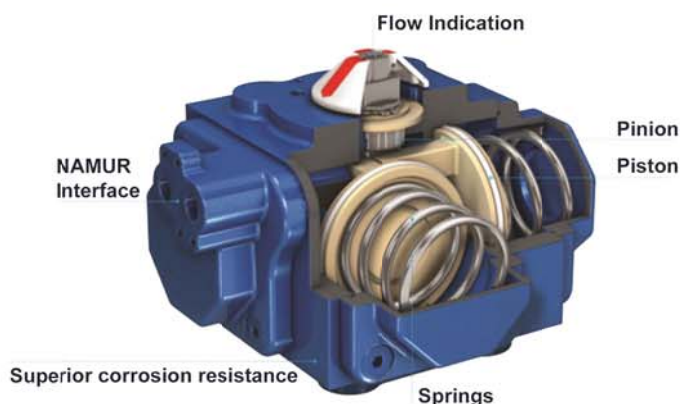
Ra Reading for Metallic Contact Surfaces			
Product			
ASME BPE	Ra Max.		Habonim
Surface designation	μ-in.	μ-m	Code
SF1	20	0.51	G32
SF2*	25	0.64	G24
Mechanically Polished and Electropolished			
ASME BPE	Ra Max.		Habonim
Surface designation	μ-in.	μ-m	Code
SF4	15	0.38	E32
SF5	20	0.51	E24
SF6	25	0.64	E18

* SF2 is the TuBore™ line standard surface finish, no need to add 'G24' suffix



Pneumatic Actuator COMPACT

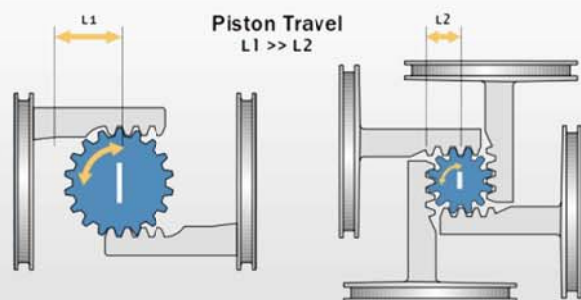
Habonim **Compact** Actuator is a quarter turn Rack & Pinion actuator. The superiority of the **COMPACT** actuator over single and double rack & pinion actuator designs, results from the four pistons which generate torque around a centrally located pinion, thereby giving more than double the torque achieved by these designs.



Specifications

Size Range	: C15-C90M
Pressure Range	: 20-120 PSI (1.5 - 8 bar) - DA actuators 30-120 PSI (2- 8 bar) - SR actuators
Max torque output	: 4754Nm for DA actuators 1748 Nm for SR actuators
Air supply connection	: Namur
Accessory top mount	: VDI/VDE 3845
Valve bottom mount	: ISO 5211
Factory certification	: ISO 9001
Certifications	: ATEX 2014/34/EU DNV IEC 61508-2/3:2010 SIL2/3

Compact has faster stroke due to shorter travel distance.



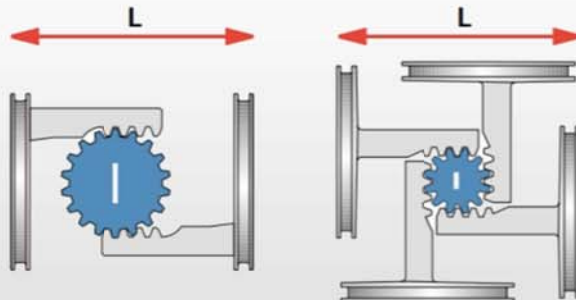
Traditional 2 piston actuator
X Nm

With same piston size
2X Nm

* Both actuator drive same torque values

COMPACT
PNEUMATIC ACTUATOR

Patented 4-piston actuator provides double the torque output than a dual piston actuator



Traditional 2 piston actuator
X Nm

With same piston size
2X Nm

COMPACT
PNEUMATIC ACTUATOR

Advantage



Space Saving, Fast Acting

A narrower pinion results in a shorter piston travel, which permits a **COMPACT**, space saving mechanism and fast acting travel from one position to the next.



Less Air Consumption

The small piston diameter of the **COMPACT** actuator shortens the pistons stroke and thus serves to minimize the volume of air required for generating specific torque.



Balance Forces

The cube-shaped configuration of the **COMPACT** positions the pistons so that each piston develops thrust along its own axis.

Actuator accessories Spring Assist



The Impact Spring Assist is a pneumatic device whose purpose is to increase spring closing torque on spring return actuators.

- Boosts the torque of any spring return actuator
- One size down actuator for the same functionality
- Increase system reliability
- No external energy required
- NAMUR interface

QUICK OPENING CLOSURE

Ringlock Type

The Main Features of the DB Ringlock quick opening closure are the extreme simplicity, and opening and closing speed.

TECHNICAL DATA	
DIMENSIONS	FROM 4" UP TO 64" (other sizes available upon request)
RATING	FROM 150# UP TO 2500# / API 10000
CONSTRUCTION MATERIAL	CARBON STEEL / STAINLESS STEEL / ALLOY
HINGE ORIENTATION	RIGHT OR LEFT
FINAL COATING	ANTI-RUST
SEAL TYPE	LIP SEAL (PUR / HNBR / VITON)
SECURITY SYSTEM	SAFETY VALVE AS PER ASME VIII DIV.1 UG-35 AND ASME VIII DIVISION 2 PARA. 4.8

Speedlock Type

DB Speedlock consist of a body and a cover with a system of interlocking teeth made of forged material, which prevents the opening of the QOC.

TECHNICAL DATA	
DIMENSIONS	FROM 4" UP TO 64" (other sizes available upon request)
RATING	FROM 150# UP TO 2500# / API 10000
CONSTRUCTION MATERIAL	CARBON STEEL / STAINLESS STEEL / ALLOY
HINGE ORIENTATION	RIGHT OR LEFT
FINAL COATING	ANTI-RUST
SEAL TYPE	LIP SEAL (PUR / HNBR / VITON)
SECURITY SYSTEM	SAFETY VALVE AS PER ASME VIII DIV.1 UG-35 AND ASME VIII DIVISION 2 PARA. 4.8

Camlock Type

DB Clamplock consist of a couple of clamps(or ties) machined to allow the perfect connection of the cover to the body, in order to share the pressure load over the entire circumference of the closure.

TECHNICAL DATA	
DIMENSIONS	FROM 4" UP TO 64" (other sizes available upon request)
RATING	FROM 150# UP TO 2500# / API 10000
CONSTRUCTION MATERIAL	CARBON STEEL / STAINLESS STEEL / ALLOY
HINGE ORIENTATION	RIGHT OR LEFT
FINAL COATING	ANTI-RUST
SEAL TYPE	O-RING (PUR / HNBR / VITON)
SECURITY SYSTEM	SAFETY VALVE AS PER ASME VIII DIV.1 UG-35 AND ASME VIII DIVISION 2 PARA. 4.8

PIG SIGNALLER

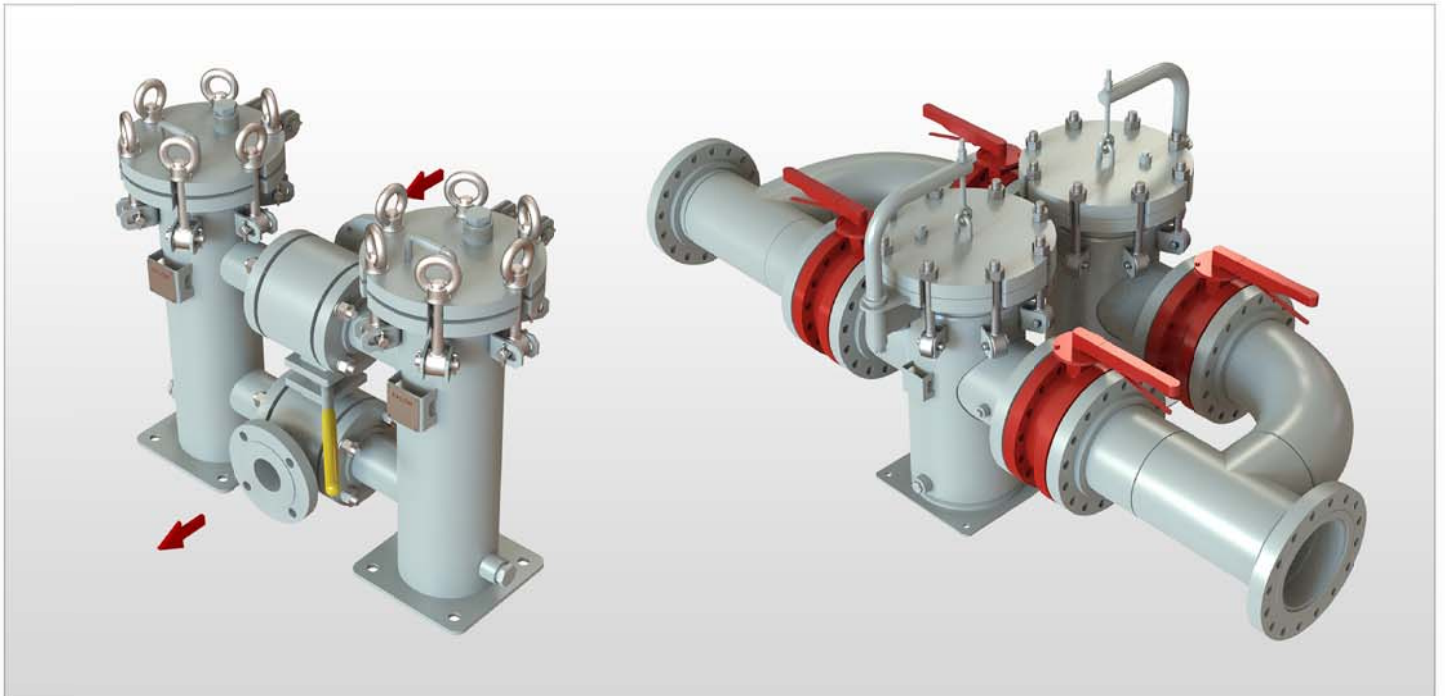
Pig signallers are used to provide confirmation of the movement of pipeline pigs through a pipeline.

They are normally positioned at both the pig launching and pig receiving stations and at key points along a pipeline. Its particular design makes it able to operate at 360° from any angle, thus making it impossible to mount in an incorrect position.

The seal system allows the extraction of the pig signaler with the pig trap still under pressure

TECHNICAL DATA	
DIMENSIONS	FROM 2" AND ABOVE
RATING	FROM 150# UP TO 2500#
CONSTRUCTION MATERIAL	CARBON STEEL / STAINLESS STEEL / ALLOY
SEAL MATERIAL	NITRILE / VITON / PTFE
FINAL COATING	PRIMER 75μ (C.S. PARTS)
AVAILABLE CONNECTION	<ul style="list-style-type: none"> - WELDING BOSS CONNECTION - FLANGED CONNECTION - FLANGED WITH ISOLATION VALVE FOR REMOVAL UNDER PRESSURE

DUPLEX BASKET STRAINERS



► Fabricated Type

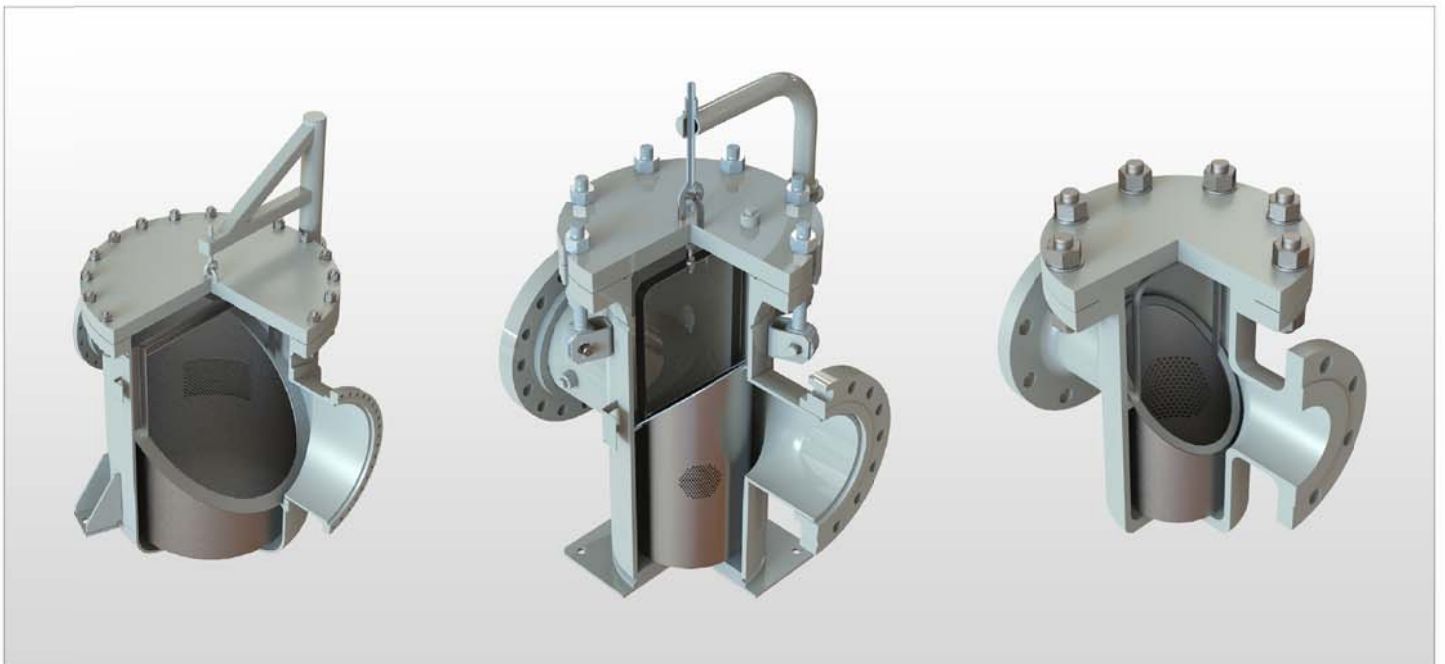
► Operation - Manual / Automated

► Type of Valves -

Butterfly Valves, 2 Way Ball Valves, 3 Way Ball Valve

► Operation - Manual / Automated

SIMPLEX BASKET STRAINERS



► Cast Type

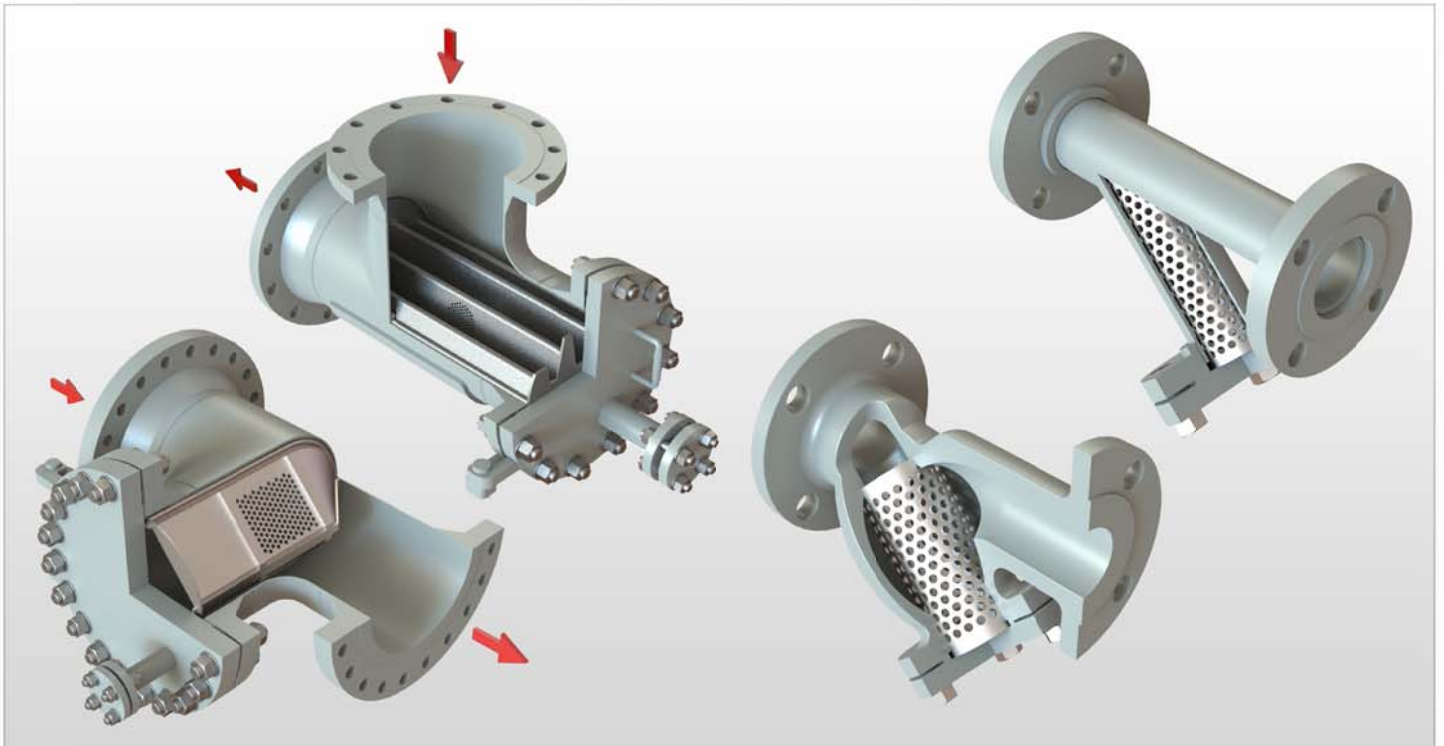
► Differential pressure
connection point

► Fabricated Type

► Quick Opening
Eye Bolt

► Davit arm design

TEE & Y - STRAINER



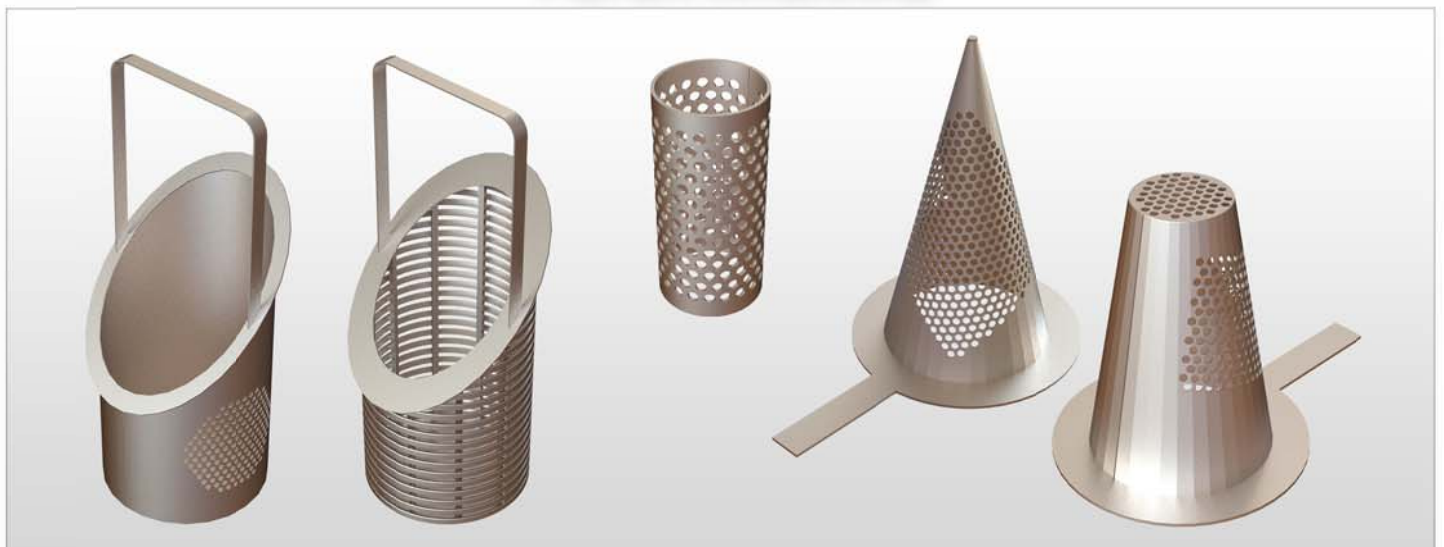
Tee Strainer

- ▶ Type: Cast and Fabricated
- ▶ Size: Up to 12" for cast type; Up to 36" for fabricated type
- ▶ Material: Carbon Steel up to Super Duplex Stainless Steel, Etc.
- ▶ Filter Element: Perforation Plate (up to 150 micron)
- ▶ Filter Element Design: Cylinder, Bathtub, Wave

Y - Strainer

- ▶ Type: Cast and Fabricated
- ▶ Size: Up to 12"
- ▶ Material: Carbon Steel up to Super Duplex Stainless Steel, Etc
- ▶ Filter Element: Perforation Plate (up to 400 micron)

FILTER INTERNAL



▶ **Basket strainer - Perforated**

▶ **Basket strainer - Wedge wire**

▶ **Y-strainer**

▶ **Temporary Conical Strainer**

EXPANSION JOINT



Basic Type of Expansion Joint

Unrestrained Assemblies

- ▶ Single Bellow
- ▶ Universal Expansion Joint

Basic Type of Expansion Joint

Restrained Assemblies

- ▶ Tied Single Bellow
- ▶ Tied Universal Expansion Joint
- ▶ Hinged Expansion Joint
- ▶ Gimbal Expansion Joint

Movement Capabilities

- ▶ Axial Movement
- ▶ Angular Movement
- ▶ Lateral Movement

Construction Material

- ▶ Stainless Steel
- ▶ Alloy 400, 600, 625, 800, 825, Etc.

WEDGE WIRE SCREEN



Johnson Screen Tube

Lateral Header

Wedge Wire Screen Panels / Cylinders

Filter Nozzle

- ▶ Lateral spacing, length, diameter and slot opening sizes are based on individual system needs.
- ▶ Slot size 0.002 in. (0.05 mm) and up in increments of 0.0004 in. (0.01 mm) and diameter from 0.787 in. (20 mm) up

OIL AND GAS INDUSTRY**Floating Ball Valve**

► Design Standard: API 6D, BS 5351, API 608, ASME B16.34

► Connection Standard: ASME B16.5

► **Optional Features:**

- Lockable Design
- Extended Stem For Isolation
- Multi- Seal Stem
(First - Gasket)
(Second - O-Ring)
(Third - Packing)
- Double Body Sealing

► **Features:**

- 2 Piece Body (Cast & Forged)
- Full & Reduced Bore
- Fire Safe Design to API607 / API 6FA
- Anti Static Device
- Blow Out Proof Stem Design
- Soft Seat / Metal Seat
- Self Cavity Pressure Relief
- Operation: Lever, Gear, Bare Shaft
- NACE MR 0175 Compliance
- ISO 5211 Top Mounting Connection
- Lockable Design

Floating Ball Valve					
Rating	Size	Cast Body	Forged Body	Soft Seat	Metal Seat
150LB	1/2" to 10"	✓	✓	✓	✓
300LB	1/2" to 10"	✓	✓	✓	✓
600LB	1/2" to 8"	NIL	✓	✓	✓
900LB	1/2" to 3"	NIL	✓	✓	✓
1500LB	1/2" to 3"	NIL	✓	✓	✓
2500LB	1/2" to 2"	NIL	✓	✓	✓

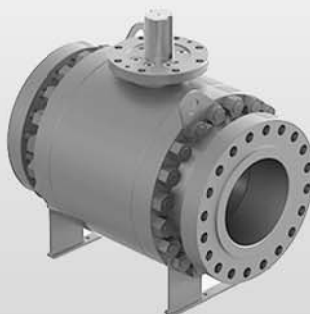
OIL AND GAS INDUSTRY



3-Pieces Side Entry Forged



2-Pieces Side Entry Casting



1-Pieces Top Entry Forged

Trunnion Ball Valve

- Design Standard: API 6D, ASME B16.34
- Connection Standard: ASME B16.5, ASME B16.47A

► **Optional Features:**

- SS304 Overlay On Seat Pocket Area
- Combination Seats:
 - Upstream Single Piston Effect
 - Downstream Double Piston Effect
- Primary Metal To Metal Seal
- Secondary O-Ring Seal Seats
- Emergency Sealant Injection (Standard For 6" & Larger)
- Vent Valve (Standard For 6" & Larger)
- Lifting Lug & Supporting Feet (Standard For 8" & Larger)

► **Features:**

- 3 Piece Forged Body (Side Entry)
- 2 Piece Cast Body (Side Entry)
- 1 Piece Forged Body (Top Entry)
- Full & Reduced Bore
- Fire Safe Design to API607 / API 6FA
- Anti Static Device
- Blow Out Proof Stem Design
- Cavity Pressure Relief Seat
- Double Block & Bleed double block & bleed
- NACE MR 0175 Compliance
- ISO 5211 Top Mounting Connection
- Lockable Design
- Online Maintenance (Top Entry Only)

Trunnion Mounted Ball Valve						
Rating	Size	Cast Body	Forged Body	Top Entry	Soft Seat	Metal Seat
150LB	2" to 24"	✓	✓	✓	✓	✓
150LB	26" to 40"	NIL	✓	NIL	✓	NIL
300LB	2" to 24"	✓	✓	✓	✓	✓
300LB	26" to 40"	NIL	✓	NIL	✓	NIL
600LB	2" to 12"	✓	✓	✓	✓	✓
600LB	12" to 24"	✓	✓	NIL	✓	NIL
600LB	26" to 40"	NIL	✓	NIL	✓	NIL
900LB	2" to 12"	NIL	✓	✓	✓	✓
900LB	12" to 24"	NIL	✓	NIL	✓	NIL
1500LB	2" to 12"	NIL	✓	✓	✓	✓
1500LB	12" to 24"	NIL	✓	NIL	✓	NIL
2500LB	2" to 12"	NIL	✓	NIL	✓	NIL

OIL AND GAS INDUSTRY



Cast Steel Gate Valve

- Design Standard: ASME B16.34 / API 600 / BS 1873
- Connection Standard: ASME B16.5
- **Features:**
 - Rising Stem
 - Bolted Bonnet
 - Flexible Wedge Design
 - Swing Bolted Packing
 - NACE MR 0175 Compliance
- **Optional Features:**
 - Extended Bonnet Design
 - Extended Stem
 - By-pass System
 - Bellow Seal Design
 - Double Packing Design
 - Locking Device
 - Pressure Seal Available Class 900 & Above



Forged Steel Gate Valve

- Design Standard: ASME B16.34 / API 602 / BS 5253
- Connection Standard:
 - Socket Weld Ends to ASME B16.11
 - Srewed Ends (NPT) to ASME B1.20.1
- **Features:**
 - Rising Stem
 - Bolted Bonnet
 - Flexible Wedge Design
 - Swing Bolted Packing
 - NACE MR 0175 Compliance
- **Optional Features:**
 - Extended Bonnet Design
 - Extended Stem
 - By-pass System
 - Bellow Seal Design
 - Double Packing Design
 - Locking Device
 - Pressure Seal Available Class 900 & Above

Cast Steel Gate Valve												
Rating	Sizes											
	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
150 LB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
300 LB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
600 LB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
900 LB	✓	✓	✓	✓	✓	✓	✓	NIL	NIL	NIL	NIL	NIL
1500 LB	✓	✓	✓	✓	✓	✓	✓	NIL	NIL	NIL	NIL	NIL
2500 LB	✓	✓	✓	✓	✓	✓	✓	NIL	NIL	NIL	NIL	NIL

Forged Steel Gate Valve					
Rating	Sizes				
	1/2"	3/4"	1"	1-1/2"	2"
800 LB	✓	✓	✓	✓	✓
1500 LB	✓	✓	✓	✓	✓
2500 LB	✓	✓	✓	✓	✓

OIL AND GAS INDUSTRY



Cast Steel Globe Valve

- Design Standard: ASME B16.34 / BS 1873
- Connection Standard: ASME B16.5
- **Features:**
 - Rising Stem
 - Bolted Bonnet
 - Conic Disc
 - Swing Bolted Packing
 - Impact Handwheel Standard for 6" & above
 - NACE MR 0175 Compliance
- **Optional Features:**
 - Extended Bonnet Design
 - Extended Stem
 - Bellow Seal Design
 - Double Packing Design
 - Locking Device Double
 - Pressure Seal Available Class 900 & Above
 - Stop Check Design - Screwed Down Non-Return



Forged Steel Globe Valve

- Design Standard: ASME B16.34 / API 602
- Connection Standard:
 - Socket Weld Ends to ASME B16.11
 - Srewed Ends (NPT) to ASME B1.20.1
 - Butt Welding Ends to ASME B16.25
- **Features:**
 - Outside Screw and Yoke (OS&Y)
 - Rising Stem
 - Bolted Bonnet
 - Solid Wedge
 - Self-aligning two-piece packing gland
 - Integral Backseat

Cast Steel Globe Valve										
Rating	Sizes									
	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"
150 LB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
300 LB	✓	✓	✓	✓	✓	✓	✓	✓	NIL	NIL
600 LB	✓	✓	✓	✓	✓	✓	✓	NIL	NIL	NIL
900 LB	✓	✓	✓	✓	✓	NIL	NIL	NIL	NIL	NIL
1500 LB	✓	✓	✓	✓	✓	NIL	NIL	NIL	NIL	NIL
2500 LB	✓	✓	✓	✓	✓	NIL	NIL	NIL	NIL	NIL

Forged Steel Globe Valve					
Rating	Sizes				
	1/2"	3/4"	1"	1-1/2"	2"
800 LB	✓	✓	✓	✓	✓
1500 LB	✓	✓	✓	✓	✓
2500 LB	✓	✓	✓	✓	✓

OIL AND GAS INDUSTRY



Swing Check Valve

- ▶ Design Standard: ASME B16.34 / BS 1868
- ▶ Connection Standard: ASME B16.5
- ▶ Size: 2"~24"
- ▶ Pressure Ratings: ANSI 150~2500 LB
- ▶ **Features:**
 - Cast Typed
 - Bolted Bonnet
 - Swing Type Disc
 - Full Port
 - Internal / External Hinge Pin Design
 - NACE MR 0175 Compliance
- ▶ **Optional Features:**
 - Damping Device Available
 - Full Opening Pigable
 - Pressure Seal Available Class 900 & Above

Piston Check Valve

- ▶ Design Standard: ASME B16.34 / API 602
- ▶ **Connection Standard:**
 - Socket Weld Ends to ASME B16.11
 - Srewed Ends (NPT) to ASME B1.20.1
 - Butt Welding Ends to ASME B16.25
- ▶ Size: 1/2"~2"
- ▶ Pressure Ratings: ANSI 800~2500 LB
- ▶ **Features:**
 - Forged Type
 - Bolted Bonnet
 - Full or Standard Port
 - Separate Seat Ring Design
 - NACE MR 0175 Compliance

Cast Steel Swing Check Valve													
Rating	Sizes												
	2"	2-1/2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
150 LB	√	√	√	√	√	√	√	√	√	√	√	√	√
300 LB	√	√	√	√	√	√	√	√	√	√	√	√	√
600 LB	√	√	√	√	√	√	√	√	√	√	√	√	√
900 LB	√	√	√	√	√	√	√	√	NIL	NIL	NIL	NIL	NIL
1500 LB	√	√	√	√	√	√	√	√	NIL	NIL	NIL	NIL	NIL
2500 LB	√	√	√	√	√	√	√	√	NIL	NIL	NIL	NIL	NIL

Forged Steel Piston Check Valve					
Rating	Sizes				
	1/2"	3/4"	1"	1-1/2"	2"
800 LB	√	√	√	√	√
1500 LB	√	√	√	√	√
2500 LB	√	√	√	√	√



Double Disc Check Valve

- ▶ Design Standard: API 594 / API 6D
- ▶ Connection Standard: ASME B16.34
- ▶ Size: 2"~24"
- ▶ Pressure Rating: ANSI 150~2500 LB
- ▶ **Features:**
 - Retainerless Type
 - Wafer / Lug Type
 - Spring gives better reaction to close
 - Soft / Metal Seat
 - Long Pattern / Short Pattern
 - NACE MR 0175 Compliance



Nozzle Check Valve

- ▶ Design Standard: API 594 / API 6D
- ▶ Connection Standard: ASME B16.34
- ▶ Size: 2"~24"
- ▶ Pressure Ratings: ANSI 150~2500 LB
- ▶ **Features:**
 - Soft Seat
 - Single Spring
 - Disc Design
 - Standard & Short Pattern
 - NACE MR 0175 Compliance

Cast Steel Double Disc Check Valve												
Rating	Sizes											
	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
150 LB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
300 LB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
600 LB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
900 LB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1500 LB	✓	✓	✓	✓	✓	✓	✓	NIL	NIL	NIL	NIL	NIL
2500 LB	✓	✓	✓	✓	✓	✓	✓	NIL	NIL	NIL	NIL	NIL

Cast Steel Nozzle Check Valve												
Rating	Sizes											
	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
150 LB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
300 LB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
600 LB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
900 LB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1500 LB	✓	✓	✓	✓	✓	✓	✓	NIL	NIL	NIL	NIL	NIL
2500 LB	✓	✓	✓	✓	✓	✓	✓	NIL	NIL	NIL	NIL	NIL

OIL AND GAS INDUSTRY



Single Disc Check Valve

- Design Standard: API 594 / API 6D
- Connection Standard: ASME B16.34
- Size: 2"~24"
- Pressure Rating: ANSI 150~2500 LB
- **Features:**
 - Wafer / Lug Type
 - Spring gives better reaction to close
 - Soft / Metal Seat
 - Long Pattern / Short Pattern
 - NACE MR 0175 Compliance



Tilted Disc Check Valve

- Design Standard: API 594 / API 6D
- Connection Standard: ASME B16.34
- Size: 2"~24"
- Pressure Rating: ANSI 150~2500 LB
- **Features:**
 - Double Offset
 - Retainer Ring
 - Seat Ring
 - Pressure Seal Bonnet
 - NACE MR 0175 Compliance

Cast Steel Single Disc Check Valve												
Rating	Sizes											
	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
150 LB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
300 LB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
600 LB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
900 LB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1500 LB	✓	✓	✓	✓	✓	✓	✓	NIL	NIL	NIL	NIL	NIL
2500 LB	✓	✓	✓	✓	✓	✓	✓	NIL	NIL	NIL	NIL	NIL

Cast Steel Tilted Disc Check Valve												
Rating	Sizes											
	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
150 LB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
300 LB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
600 LB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
900 LB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1500 LB	✓	✓	✓	✓	✓	✓	✓	NIL	NIL	NIL	NIL	NIL
2500 LB	✓	✓	✓	✓	✓	✓	✓	NIL	NIL	NIL	NIL	NIL

WATER WORKS INDUSTRY

E-FLOW valves for water works industry include butterfly valve, check valve, knife gate valve, gate valve, globe valve and y-strainer. Providing **fusion bonded epoxy coating** for good corrosion resistance. **NSF** or **WRAS** approved coating used for potable water available upon request.

Conventional Check Valve



Single Disc Check Valve
(DIN 3202 - K3)



Swing Check Valve
(EN 558 Series 10)

Non-Slam Type Check Valve



Tilted Disc Check Valve
(EN 558 Series 10)



Nozzle Axial Check Valve
(EN 558 Series 10)



Ball Check Valve
(EN 558 Series 48)



Double Disc Check Valve
(EN 558 Series 16)



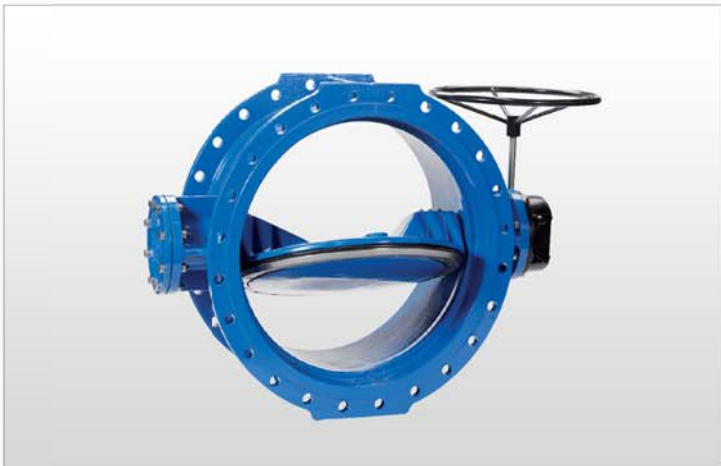
Counterweight Swing Check Valve
(EN 558 Series 10)

Check Valve

- ▶ Design Standard: BS EN 16767 (BS EN 12334)
- ▶ Size: 2" ~ 24"
- ▶ Pressure Rating: PN10 / 16, ANSI 150
- ▶ Connection Standard: EN 1092, ASME B16.5
- ▶ Body Material: Ductile Iron
- ▶ Disc Material: SS 316

WATER WORKS INDUSTRY**Y - Strainer**

- ▶ Design Standard:
ASME Section VIII, Div 1/ ASME B31.3
- ▶ Face to Face Standard: EN 558 Series 1
- ▶ Size: 2" ~ 24"
- ▶ Pressure Rating: PN10 / 16, ANSI 150
- ▶ Connection Standard: EN 1092, ASME B16.5
- ▶ Body Material: Ductile Iron, Cast Iron
- ▶ Disc Material: SS 316

**Double Flanged Butterfly Valve**

- ▶ Design Standard: EN 593
- ▶ Face to Face Standard: EN 558 Series 13 or 14
- ▶ Double eccentric butterfly valve
- ▶ Size: 12" ~ 60"
- ▶ Pressure Rating: PN10 / 16, ANSI 150
- ▶ Connection Standard: EN 1092, ASME B16.5
- ▶ Body Material: Ductile Iron
- ▶ Disc Material: SS 316

**Wafer / Lugged Butterfly Valve**

- ▶ Design Standard: EN 593
- ▶ Face to Face Standard: API 609 or EN 558 Series 20
- ▶ Concentric Butterfly Valve
- ▶ Size: 2" ~ 10"
- ▶ Pressure Rating: PN10 / 16, ANSI 150
- ▶ Connection Standard: EN 1092, ASME B16.5
- ▶ Body Material: Ductile Iron
- ▶ Disc Material: SS 316



Knife Gate Valve

- ▶ Bonnet / Bonnetless
- ▶ Pressure Rating: PN10 / 16, ANSI 150
- ▶ Design Standard: MSS-SP-81 (2" ~ 24")
- ▶ Body Material: SS 316/316L, Ductile Iron
- ▶ Face to Face Standard: MSS SP-81 (36" or less than)
- ▶ Unidirectional / Bidirectional
- ▶ Connection Standard: EN 1092, ASME B16.5
- ▶ AWWA C520-14 (28" ~ 96")
- ▶ Wedge Material: SS 316L
- ▶ Custom designed for valve larger than 36"



Gate Valve

- ▶ Resilient Seated / Metal Seated
- ▶ Rising Stem / Non Rising Stem
- ▶ Design Standard: BS 5163 / BS EN 1171
- ▶ Face to Face Standard: EN 558 Series 3
- ▶ Size: 2" ~ 24"
- ▶ Pressure Rating: PN10 / 16, ANSI 150
- ▶ Connection Standard: EN 1092, ASME B16.5,
- ▶ Body Material: Ductile Iron
- ▶ Disc Material: Ductile Iron + NBR/EPDM, SS 316



Globe Valve

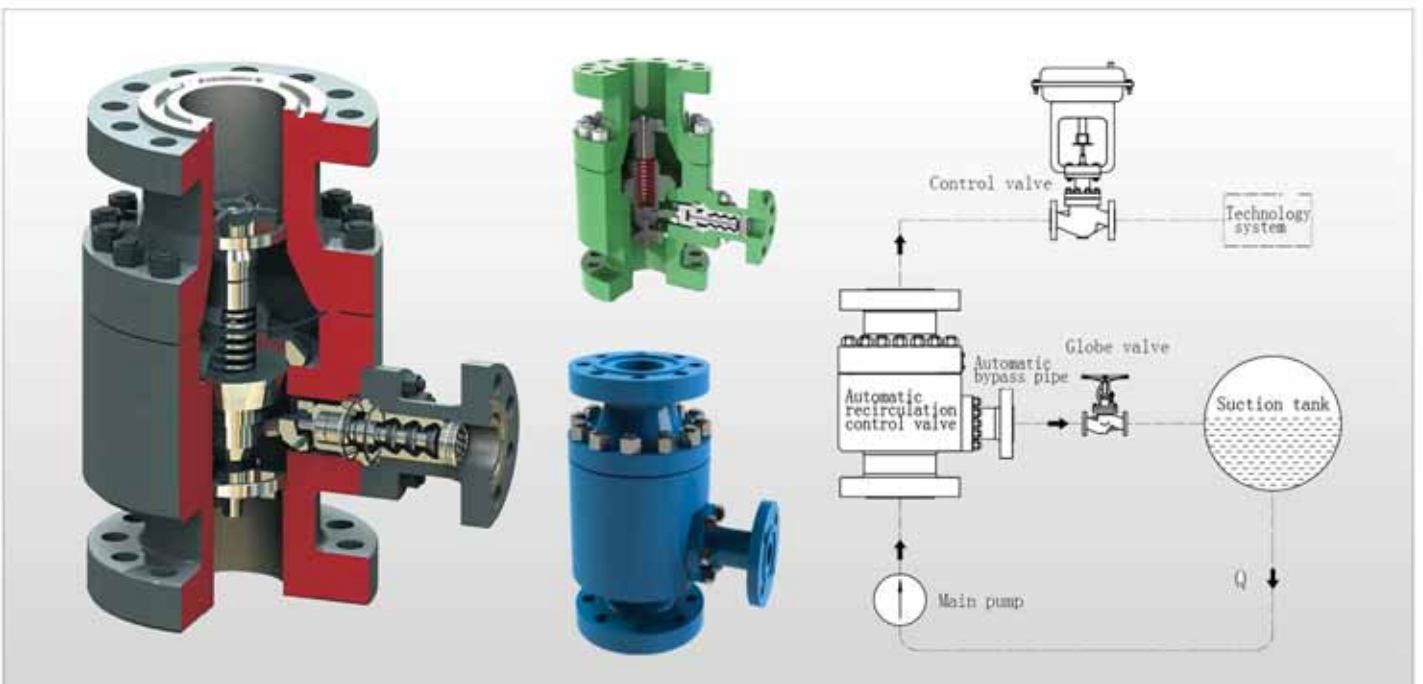
- ▶ Design Standard: ISO 15761 / BS 1873 / BS 13789
- ▶ Face to Face Dimension: EN 558 Series 10
- ▶ Size: 2" ~ 24"
- ▶ Pressure Rating: PN10 / 16, ANSI 150
- ▶ Connection Standard: EN 1092, ASME B16.5
- ▶ Body Material: Cast Iron
- ▶ Disc Material: Bronze



COWIN Instrument Valves and Fittings

- ▶ Check Valve
- ▶ Needle Valve
- ▶ Ball Valve
- ▶ Safety Relief Valve
- ▶ Filter
- ▶ Metering Valve
- ▶ Pressure Regulator
- ▶ Double Block & Bleed Valve
- ▶ Vent Valve
- ▶ Valve Manifold
- ▶ Bellows Sealed Valve
- ▶ Fittings

CAVAL



Automatic Recirculation Control Valve

Multifunctional valve whose primary purpose is to ensure that a pre-determined minimum flow is assured through a centrifugal pump at all times.

- ▶ Modular design
- ▶ Automatic bypass operation
- ▶ Non return function
- ▶ Pressure modulation in bypass
- ▶ Self cleaning bore
- ▶ Linear or customised pressure control

VALVE SERVICING AND TESTING



Valve performance is crucial to the safe, efficient operation plants or FPSO. We have extensive experience and qualified technical to valve overhaul, testing, valve automation and modification to suit the client's specification.

With our Hydraulic Valve test Bench, we have the capability to service valves with size up to 24" (DN600) and pressure rating up 5500 psi.

We can provide testing on large valve with pressure rating up to 10000 psi together with chart recorder to suit client special requirement.

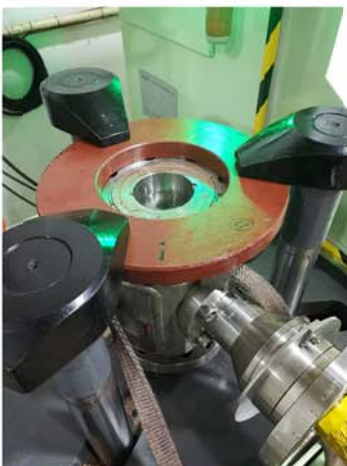
Valve shell and seat integrity tests:

- API 598
- API 6D
- AMSE B16.34

VALVE SERVICES

Valve services:

- Valve repair / Refurbishment
- Hydrostatic Testing
- Low Pressure Pneumatic Air Testing
- Manual Valve Functional Tests
- Actuated Assembly FAT



**Bergen
Pipe Supports**

Alcatraz

**Carraro, Innova,
DB Progetti, Orion**

modec

EXEN, Venn

**Bray, Flowtek,
Rite**

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