



# VALVES OVERVIEW

## BLAKEBOROUGH®



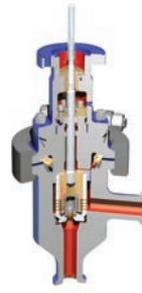
## General Service

## Features

- Top and bottom guided
- Contour trim
- Low pressure applications

**Class** - ASME 150-600  
**Sizes** - 1 1/2" - 6" (40mm-150mm)

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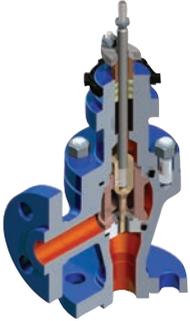
## Choke

## Features

- Stable cage guiding
- Erosion resistance
- Tungsten carbide trims
- High pressure drop control
- API designs available

**Class** - ASME 150-4500  
**Sizes** - 1" - 24" (25mm-600mm)

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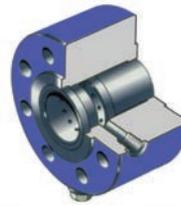
## Small Size Control

## Features

- Low Cv control
- High pressure drop
- Cage & seat guided
- Suitable for all applications
- Multi-stage trims available

**Class** - ASME 150-4500  
**Sizes** - 1/2" - 1" (15mm-25mm)

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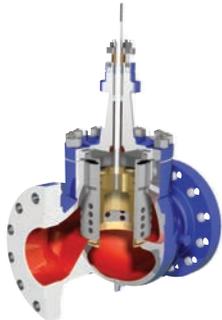
## Mini Desuperheater

## Features

- Steam conditioning for small pipe sizes
- Separate water control

**Class** - ASME 150-2500  
**Sizes** - 1/2" - 12" (15mm-300mm)

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## Cage Guided Control

## Features

- Stable cage guiding
- Single & multi-stage trims
- Used to eliminate effects of cavitation, flashing, noise & medium pressure drops

**Class** - ASME 150-4500  
**Sizes** - 1 1/2" - 36" (40mm-900mm)

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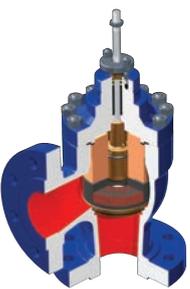
## Pipe Desuperheater

## Features

- Integrated water control
- Atomising nozzles
- Water is injected along the pipe centreline

**Class** - ASME 150-2500  
**Sizes** - 6" - 36" (150mm-900mm)

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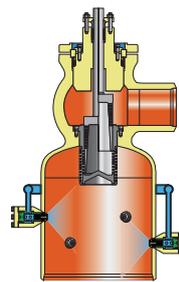
## X-Stream™ Severe Service

## Features

- Stable cage guiding
- Trim velocity control
- Patented flow path
- Used in high pressure drop applications

**Class** - ASME 150-4500  
**Sizes** - 2" - 24" (50mm-600mm)

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## Turbine Bypass

## Features

- Pressure reducing & desuperheating as an integral unit
- Noise & stable pressure control
- Water atomising nozzles

**Class** - ASME 150-4500  
**Sizes** - 1 1/2" - 36" (40mm-900mm)

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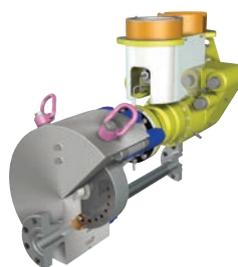
## Double Seated Control

## Features

- Top and bottom guided
- Contour trim
- Double seated valve for high capacities
- Ideal for mixing applications

**Class** - ASME 150-1500  
**Sizes** - 1 1/2" - 36" (40mm-900mm)

## MAC®



## Rotary Gate

## Features

- No displaced volume or cavity
- Straight through design: no bends
- Adaptable for isolation, chemical injection & throttling

**Class** - API 3000-15000  
**Sizes** - 1" - 6" (25mm-150mm)

**BATLEY VALVE® & BDK™** Softseal

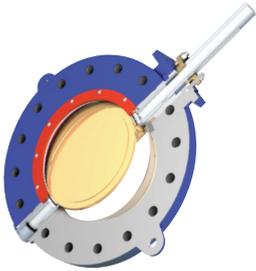


**Features**

- Low cost option for low temperature water sealing
- Rubber seal located on valve disk
- Single & double offset designs

**Class** - ASME 150-600  
**Sizes** - 6" - 80" (150mm-2000mm)

**BATLEY VALVE® & BDK™** Hyperseal/Metalseal

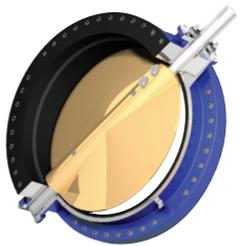


**Features**

- Single & double offset designs
- Seal clamped into valve body
- Resilient seated, metal seated, fire safe & swing through options

**Class** - ASME 150-900  
**Sizes** - 3" - 64" (80mm-1600mm)

**BATLEY VALVE® & BDK™** Rubber Lined



**Features**

- Low cost solution for controlling low temperature corrosive fluids
- Body & shaft material fully isolated from fluid

**Class** - ASME 150-300  
**Sizes** - 3" - 64" (80mm-1600mm)

**BATLEY VALVE®**

Anti-cavitation Disk



**Features**

- Swing through & Hyperseal designs
- Anti-cavitation cowl to prevent cavitation at reduced valve openings

**Class** - ASME 150-2500  
**Sizes** - 4" - 64" (100mm-1600mm)

**TRICENTRIC®**

Triple offset



**Features**

- Metal seat design
- Long life seats
- Bi-directional tight sealing
- API 598 - zero leakage

**Class** - ASME 150-900  
**Sizes** - 2" - 120"

**ATWOOD & MORRILL®**

FREE FLOW™ Reverse Current



**Features**

- Free-swinging disk allows independent movement with assured closure
- Inclined seat design
- Self aligning disk & disk arm

**Class** - ASME 150-1500  
**Sizes** - 3" - 48" (80mm-1200mm)

**ATWOOD & MORRILL®**

Boiler Feed Check



**Features**

- Double protection including positive closure & power-assisted closure
- Streamlined flow passages minimises pressure drop

**Class** - ASME 900-2500  
**Sizes** - 4" - 24" (100mm-600mm)

**ATWOOD & MORRILL®**

Compressor Check



**Features**

- Tight sealing pressure
- Low pressure drop
- Power-assisted
- Quick closure

**Class** - ASME 150-300  
**Sizes** - 8" - 56" (200mm-1400mm)

**ATWOOD & MORRILL®**

Wye Type Check



**Features**

- Y for lower pressure loss
- Bevelled seats for tight sealing
- Large seat bore for reduced pressure drop
- Prevents failure of valve stem

**Class** - ASME 900-2500  
**Sizes** - 6" - 24" (150mm-600mm)

**ATWOOD & MORRILL®**

Three Way



**Features**

- Allow two different flow directions from the same valve
- Simplifies piping layout
- Installation & maintenance savings

**Class** - ASME 150-2500  
**US Sizes** - 6" - 24" (150mm-600mm)  
**UK Sizes** - 2" - 24" (40mm-600mm)

**HOPKINSONS®**

Full Bore Parallel Slide



**Features**

- Full bore straight through design
- Complete flow isolation in either direction
- Suitable for any temperature

**Class** - ASME 150-3100  
**Sizes** - 1/2" - 36" (15mm-900mm)

**HOPKINSONS®**

Flexi-Wedge Gate



**Features**

- Bonnet over-pressure protection
- Flexible wedge design
- Precision body guides
- Bi-directional operation

**Class** - ASME 150-2500  
**Sizes** - 3" - 24" (80mm-600mm)

**HOPKINSONS®**

Venturi Parallel Slide



**Features**

- Smooth transitional flow
- Anti-vibration disk arrangement
- Minimum pressure drop
- Self aligning disks
- Sealing achieved by fluid

**Class** - ASME 150-3100  
**Sizes** - 1/2" - 26" (15mm-650mm)

**HOPKINSONS®**

Globe Isolation



**Features**

- High integrity shut-off
- Patented high grade nickel alloy seats
- Linear rising stem

**Class** - ASME 2500-3100  
**Sizes** - 1/2" - 2" (15mm-50mm)

**HOPKINSONS®**

Forged Parallel Slide



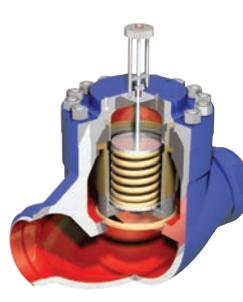
**Features**

- Superior forged material
- Ideal for high temperatures
- Minimum pressure drop
- Isolation in both directions

**Class** - ASME 900-4500  
**Sizes** - 3" - 26" (80mm-650mm)

**HOPKINSONS®**

Feed Heater Bypass



**Features**

- Recognised industry standard for extraction steam turbine protection
- Positive, tight sealing, fast closure & low pressure drop

**Class** - ASME 900-2500  
**Sizes** - 1" - 36" (25mm-900mm)

**HOPKINSONS®**

High Performance Drain



**Features**

- Can be installed singly or in a master and martyr configuration
- Winged seats
- Square gates

**Class** - ASME 900-3600  
**Sizes** - 3/4" - 4" (20mm-100mm)

**BDK™**

Low Pressure Wedge Gate



**Features**

- Sealing by wedge disk
- High integrity closure
- Ideal for general service shut-off applications
- Flanged bonnet

**Class** - ASME 150-2500  
**Sizes** - 1/2" - 120" (15mm-3000mm)

**HOPKINSONS®**

Uniflow Slide



**Features**

- Globe design with parallel slide design seating technology
- Ideal for isolation in small process lines
- Uni-directional sealing

**Class** - ASME 2500-3100  
**Sizes** - 3/8" - 2" (10mm-50mm)

**BDK™**

Pressure Seal Bonnet Wedge Gate



**Features**

- Sealing by wedge disk
- High integrity closure
- Pressure seal bonnet
- Bypass designs available

**Class** - ASME 900-2500  
**Sizes** - 12" - 120" (300mm-3000mm)

**SARASIN-RSBD®**

Spring Loaded Safety Relief



**Features**

- Full lift
- Full nozzle design
- Metal or soft seat
- Cast of forged body

**Class** - ASME 150-2500  
**Sizes** - 1/2" - 12" (15mm-300mm)

**SARASIN-RSBD®**

Spring Loaded Safety



**Features**

- Operating pressure up to 95% of the set pressure
- Slide rods design allows ease of maintenance
- Electronic valve tester adaptor

**Class** - ASME 150-4500  
**Sizes** - 1" - 8" (25mm-200mm)

**SARASIN-RSBD®**

Pilot Operated Safety Relief



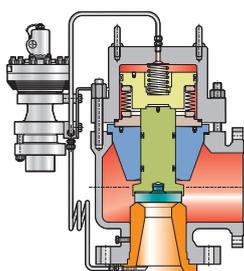
**Features**

- Semi or full nozzle design
- Metal or soft seat
- Non flowing pop or modulating action
- Operating pressure upto 95%

**Class** - ASME 150-2500  
**Sizes** - 1/2" - 12" (15mm-300mm)

**SARASIN-RSBD®**

Pilot Operated Safety



**Features**

- Full metal design (no elastomer) for very high temperatures
- Up to 180 barg of steam
- Non flowing pop action

**Class** - ASME 150-2500  
**Sizes** - 1" - 8" (25mm-200mm)

**SEBIM®**

Nuclear Pilot Operated



**Features**

- Excellent stability across steam, gas, liquid & two-phase conditions
- Design standard: RCC-M, ASME III, NP-068-05, OTT 87

**Class** - ASME 150-2500  
**Sizes** - 1/2" - 34" (15mm-850mm)

**BDK™**

2 Piece Trunnion Ball



**Features**

- Ability to offer in smaller sizes
- Low emission & positive sealing
- Constant operating torques
- Proven design
- Smooth operation

**Class** - ASME 150-2500  
**Sizes** - 2" - 48" (50mm-1200mm)

**BDK™**

3 Piece Trunnion Ball



**Features**

- Ability to offer in smaller sizes
- Low emission & positive sealing
- Constant operating torques
- Proven design
- Smooth operation

**Class** - ASME 150-2500  
**Sizes** - 2" - 48" (50mm-1200mm)

**BDK™**

Check



**Features**

- Heavy duty cover
- Pressure seal cover available
- Integral seat ring

**Class** - ASME 150-2500  
**Sizes** - 2" - 48" (50mm-1200mm)

**BDK™**

Diaphragm



**Features**

- Manually operated or diaphragm operated
- Trillium type design option
- Straight type design option
- Can be instrumented for control

**Class** - ASME 150-300  
**Sizes** - 1/2" - 14" (15mm-350mm)

**BDK™**

Plug



**Features**

- PTFE sleeved
- Fully jacketed with higher size flange
- Complies to API 599, BS 5353, API 6D

**Class** - ASME 150-600  
**Sizes** - 1/2" - 16" (15mm-400mm)

		Application														Manufacturing Location										
		Acid service	Chemical processing	Corrosive gases	Cryogenic	Fire protection	Gas pressure	Marine Seawater	Molten Salt	Oil & Gas	Petrochemical	Pharmaceuticals	Power Generation	Water treatment	Steam pressure	Steam conditioning	Subsea	Nuclear	China <small>(Trillium Flow Technologies Suzhou Ltd.)</small>	UK <small>(Trillium Flow Technologies UK LTD.)</small>	France <small>(Trillium Flow Technologies France SAS)</small>	India <small>(Trillium Flow Technologies India Private Ltd.)</small>	South Korea <small>(Trillium Flow Technologies Korea, Inc.)</small>	USA <small>(Trillium Valves USA)</small>		
	Full Bore Parallel Slide		■					■			■	■	■		■				■	■				■		
	Venturi Parallel Slide		■					■			■	■	■		■					■	■					
	Forged Parallel Slide		■					■			■	■	■		■					■	■				■	
	High Performance Drain											■		■						■	■				■	
	Uniflow Slide											■		■							■					
	Flexi-Wedge Gate											■		■						■	■					
	Globe Isolation		■					■			■	■	■		■					■	■				■	
	Feed Heater Bypass											■									■					
	Low Pressure Wedge Gate	■	■	■	■	■	■		■	■	■	■	■	■	■					■					■	
	High Pressure Wedge Gate	■	■	■	■	■	■		■	■	■	■	■	■	■					■					■	
	Spring Loaded Safety Relief	■	■	■	■	■		■	■	■	■	■	■	■	■					■					■	
	Spring Loaded Safety												■		■						■					
	Pilot Operated Safety Relief	■	■	■	■	■	■	■	■	■	■	■	■	■	■						■					
	Pilot Operated Safety	■	■	■	■	■	■	■	■	■	■	■	■	■	■						■					
	Nuclear Pilot Operated	■	■	■	■	■		■	■	■	■	■	■	■	■						■					
	2 Piece Trunnion Ball	■	■	■	■		■	■	■	■	■	■	■	■											■	
	3 Piece Trunnion Ball	■	■	■	■		■	■	■	■	■	■	■	■											■	
	Check	■	■	■	■		■	■	■	■	■	■	■	■											■	
	Diaphragm		■					■	■	■	■	■	■	■											■	
	Plug		■		■	■		■	■	■	■	■	■	■											■	





## Valve Services

Site Service	Workshop Services	Service Plans
Outage, shutdown and turnaround management	Mechanical valve overhaul and refurbishment	24hr Customer Service Number
Overhaul and refurbishment	Valve pressure testing	48hr Service Response Engineer
Installation and commissioning	Upgrades and modifications	LTSA (Long Term Service Agreement)
In-situ valve seat replacement	Control valve service, maintenance and monitoring	Embedded engineering programmes
In-situ testing and monitoring	Actuator servicing and torque testing	Asset management
Turnkey project management	Service exchange programmes for valves and actuators	Bespoke service management

