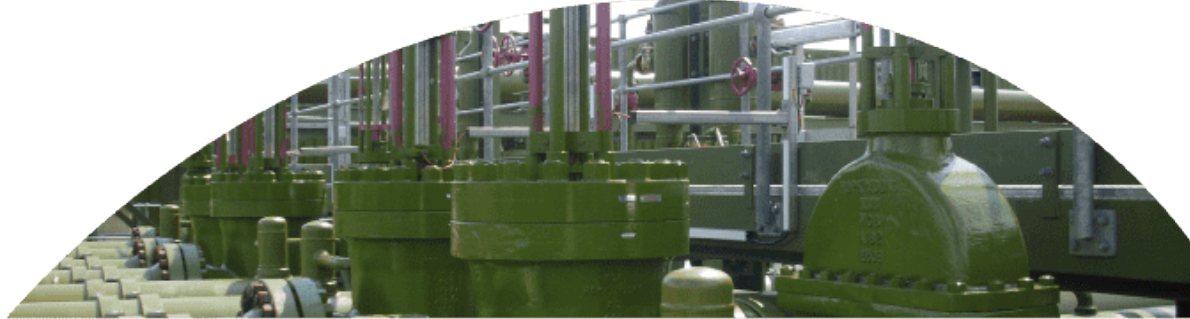


HOPKINSONS® PARALLEL SLIDE GATE & GLOBE VALVES



A PROVEN TRACK RECORD

We have extensive references and a proven track record in the supply of valves across a number of key industries. Our valves are industry renowned brands, each with an established reputation for quality engineering and reliability.

VALVE TESTING

All pressure containing items are hydrostatically tested, seat leakage tested and functionally tested. We can also perform gas, packing emission, cryogenic and advanced functional testing, as well as seismic testing for nuclear applications.

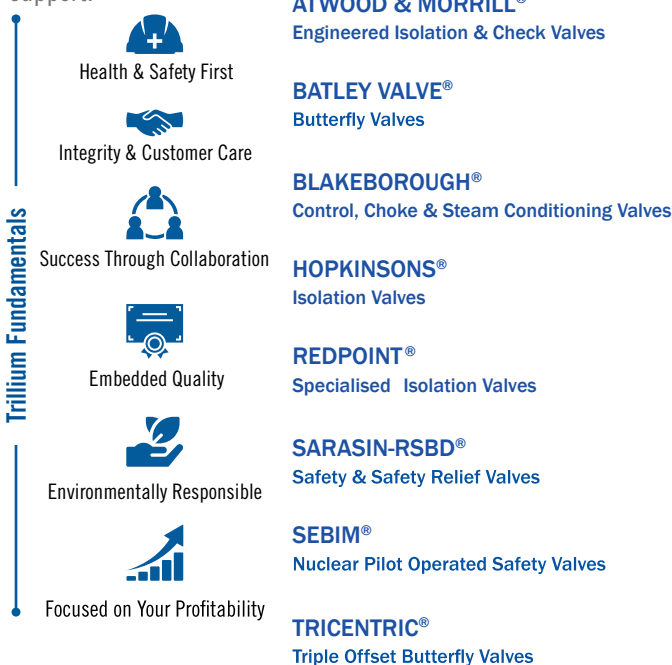
MATERIAL TESTING

- Non-destructive examination by radiography, ultrasonics, magnetic particle and liquid penetrant
- Chemical analysis by computer controlled direct reading emission spectrometer
- Mechanical testing for tensile properties at ambient and elevated temperatures, bend and hardness testing. Charpy testing at ambient, elevated and sub-zero temperatures

AFTERMARKET SOLUTIONS

Our valve aftermarket solutions are based on our engineering heritage, applying our OEM knowledge and expertise to maintenance strategies, life extension and upgrade projects. Trillium Control & Choke Valves provides a wide range of control valves for the process industry. These include severe service, choke, desuperheating and turbine bypass applications.

Our world-wide reputation is based on engineering excellence applied to a comprehensive range of specialist products and effective customer support.



Portfolio of engineered service solutions and aftermarket support



DESCRIPTION

The Hopkinsons® Full Bore valves are used when an isolation gate valve is required for steam or feedwater duty in medium and high pressure ranges. The outstanding feature of the Full Bore parallel slide design is that of maintaining fluid-tightness without the aid of a wedging action. As the valve seats with the aid of pressure no mechanical stress is exerted on the discs and there are no problems associated with fluid cool-down.



APPLICATIONS

- General purpose stop valve
- Main steam and feedwater isolation
- Boiler circulating pump isolation
- The basic design is also incorporated in valves for other duties such as: Feedwater heater protection; Feed pump leak-off; Nuclear Applications (ASME Section III, Class 1, 2 & 3) (Described in other publications available on request); Regulating duty with V-ported seat

FEATURES

- Fluid tightness achieved by fluid pressure – not from mechanical wedging action thus eliminating thermal binding
- Complete flow isolation in either direction
- Minimum pressure drop
- Freedom from leakage independent of temperature or pressure changes
- Self-aligning fully supported discs
- Inherent self-cleaning action
- In-line maintenance
- Valves can be offered to incorporate features such as quick closure, live loaded gland, double stuffing box with lantern ring and bleed-off point, back seat, seal welded body/cover joint

DESIGN STANDARDS

- ASME B16.34
- ASME section III
- EN 12516
- RCC-M
- Alternatively, valves can be supplied to other international standards

DESIGN RATINGS

- ASME Class 150 to 3100

SIZE RANGE/DIMENSIONS

- 15 to 1200 mm (1/2" to 36")

TEMPERATURE RANGE

- -29°C to 620°C (-20°F to 1150°F)

MATERIALS

- Carbon Steel, Alloy Steel, Stainless Steel



DESCRIPTION

The Hopkinsons Venturi design is used when a slightly higher pressure drop is acceptable. The well-established principle of fluid flow through a Venturi is used in order to minimise pressure drop. Venturi valves incorporate the design feature of an eye follower. In the fully open position the eye follower bridges the gap between the seats thus giving a smooth flow path and completing the Venturi profile.

APPLICATIONS

- General purpose stop valve
- Main steam and feedwater isolation
- Boiler circulating pump isolation
- The basic design is also incorporated in valves for other duties such as: Feedwater heater protection; Feed pump leak-off; Nuclear Applications (ASME Section III, Class 1, 2 & 3) (Described in other publications available on request); Regulating duty with V-ported seat

FEATURES

- Smooth transitional flow
- Anti-vibration disc arrangement
- Fluid tightness achieved by fluid pressure – not from mechanical wedging action thus eliminating thermal binding
- Complete flow isolation in either direction
- Minimum pressure drop
- Freedom from leakage independent of temperature or pressure changes
- Self-aligning fully supported discs
- Inherent self-cleaning action
- In-line maintenance
- Valves can be offered to incorporate features such as quick closure, live loaded gland, double stuffing box with lantern ring and bleed-off point, back seat, seal welded body/cover joint

DESIGN STANDARDS

- ASME B16.34
- ASME section III
- EN 12516
- RCC-M
- Alternatively, valves can be supplied to other international standards

DESIGN RATINGS

- ASME Class 150 to 3100

SIZE RANGE/DIMENSIONS

- 15 to 650 mm (1/2" to 26")

TEMPERATURE RANGE

- -29°C to 620°C (-20°F to 1150°F)

MATERIALS

- Carbon Steel, Alloy Steel, Stainless Steel



DESCRIPTION

The Hopkinsons® Full bore Forged Gate Valve has been designed to provide assured, consistent, and durable quality for high temperature and high pressure applications. Our Forged Gate Valves offer customers a choice of materials across sub-critical, super-critical, and ultra-super-critical steam applications. The use of forged materials ensures minimal material defects; lowering the total cost of ownership, maintenance burdens and ensuring maximum uptime throughout the service life.

APPLICATIONS

- Steam isolation duties

FEATURES

- Forging process - helps minimise material defects and delivers a valve with exceptional durability
- Available in a range of sizes and pressure classes
- Dual certification – our Forged Gate Valve is compliant with EN and ASME qualifications
- Fluid tightness achieved by fluid pressure – not from mechanical wedging action thus eliminating thermal binding
- Complete flow isolation in either direction
- Minimum pressure drop
- Freedom from leakage independent of temperature or pressure changes
- Self-aligning fully supported discs
- Inherent self-cleaning action
- In-line maintenance
- Valves can be offered to incorporate features such as quick closure, live loaded gland, double stuffing box with lantern ring and bleed-off point and back seat

DESIGN STANDARDS

- ASME B16.34
- ASME III
- EN 12516
- Alternatively, valves can be supplied to other international standards

DESIGN RATINGS

- ASME Class 900 to 4500

SIZE RANGE/DIMENSIONS

- 80mm to 650mm (3" to 26")
- Larger sizes available upon request

TEMPERATURE RANGE

- -29°C to 620°C (-20°F to 1150°F)

MATERIALS

- Carbon steel, alloy steel, stainless steel



DESCRIPTION

The highly versatile Hopkinsons® Flexi-Wedge Design of gate valve is designed for containment isolation duties in the nuclear industry where a wedge gate valve is the preferred design option. The wedge gate valve seals by using mechanical force. Closure is achieved by applying a downward force to the wedge to seal on both tapered seats. The seat faces are self centering which ensures consistent closure through the lift of the valve.

APPLICATIONS

- General purpose stop valve
- Main steam and feedwater isolation
- Boiler circulating pump isolation
- The basic design can also be incorporated in valves for other duties such as:
 - Feedwater heater protection
 - Feed pump leak-off
 - Nuclear Applications (ASME Section III, Class1, 2 & 3)
 - Oil & Gas applications upstream, midstream and downstream

FEATURES

- Position indication
- Bonnet overpressure protection
- Bi-directional operation
- Flexible wedge design
- Precision body guides
- Inlet and outlet sealing
- Integral bypass arrangements/option
- Instrumented stem
- Designed for containment isolation duties

DESIGN STANDARDS

- ASME B16.34
- ASME section III
- EN 12516
- RCC-M
- Alternatively, valves can be supplied to other international standards

DESIGN RATINGS

- ASME Class 150 to 2500

SIZE RANGE/DIMENSIONS

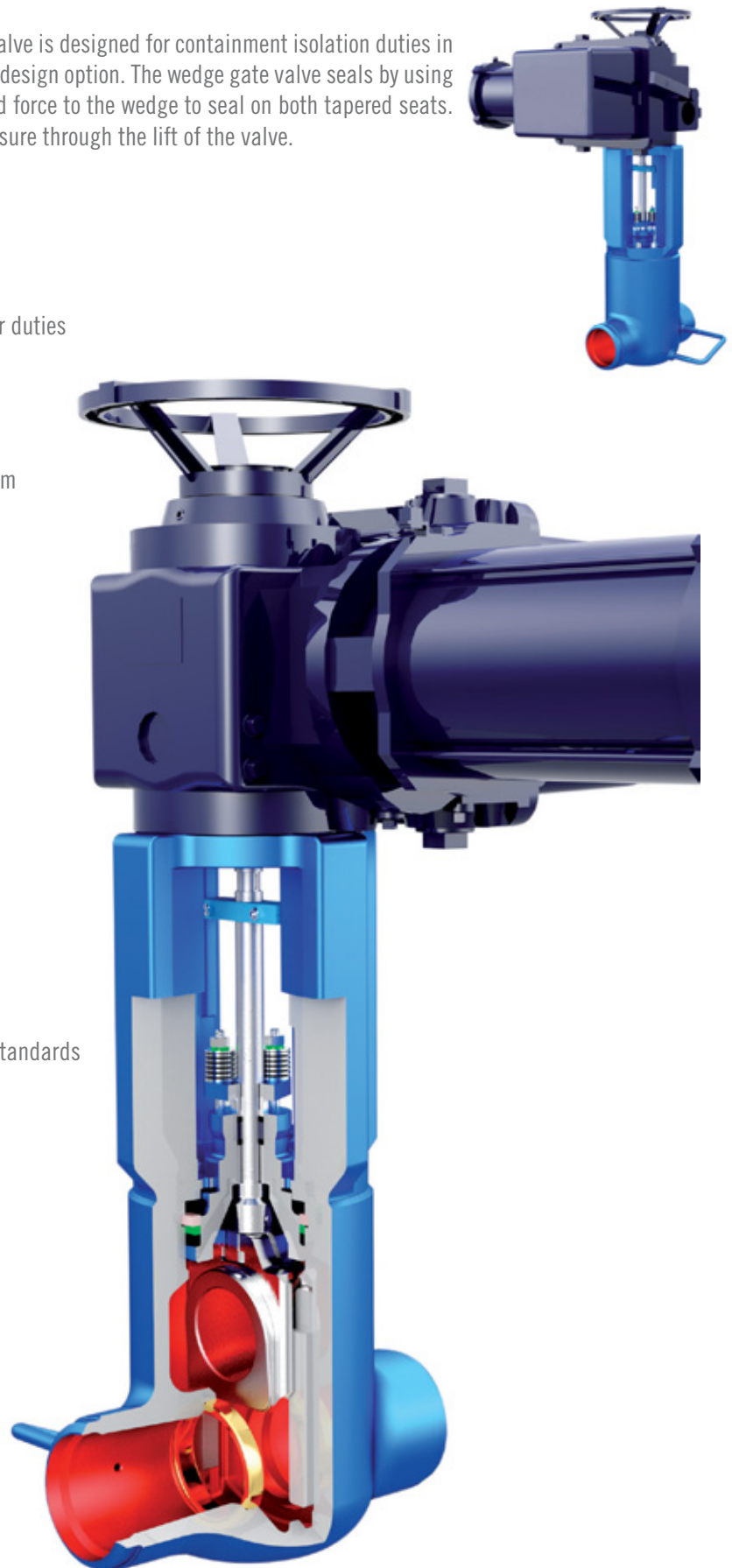
- 80 to 600 mm (3" to 24")

TEMPERATURE RANGE

- -29°C to 620°C (-20°F to 1150°F)

MATERIALS

- Carbon Steel, Alloy Steel, Stainless Steel



DESCRIPTION

Hopkinsons® offer a robust general purpose range of globe valves suitable for regulating, isolating and blowdown duties. The seat joint is made by accurately machining the tapered surfaces. An extension on the underside of the valve acts as a throttling device to protect the seating faces against the scoring or cutting action of steam during opening and closing.

APPLICATIONS

- Power Plants manual isolation for high pressure line

FEATURES

- High integrity shut-off
- Seating components are of high grade nickel alloy (Hopkinsons® Platnam)
- Optional index to indicate closed and open positions
- Locking device to secure valves in open or shut position

DESIGN STANDARDS

- ASME B16.34
- ASME section III
- EN 12516
- RCC-M
- Valves can be supplied to other international standards

DESIGN RATINGS

- ASME Class 2500 to 3100

SIZE RANGE/DIMENSIONS

- 15 to 50 mm (1/2" to 2")

TEMPERATURE RANGE

- -29°C to 565°C (-20°F to 1022°F)

MATERIALS

- Carbon steel, alloy stainless steel



DESCRIPTION

For extreme service conditions such as on superheated steam drain lines, the Hopkinsons® range incorporates the High Performance Parallel Slide Gate valves to ensure optimum sealing. High Performance Drain valves give extended service life and continued tight shut-off when subject to frequent operation, two phase flow, thermal shock and large pressure drops. Unique features of the valves include square discs (gates) and 'winged' seats. These provide accurate gate guidance, low seat contact stresses and enhanced wear resistance for the repeat handling of large pressure drops in the part open position.

APPLICATIONS

- Power Plants condensate drainage

FEATURES

- The valves can be installed singly but for maximum effect, two valves operating in a martyr valve and master valve configuration are recommended
- Winged seats - the seating area is extended in the opening direction providing greater contact area with the gates
- Square gates - provide greater contact area and support during operation. Titanium nitride coating gives improved erosion resistance
- Pairs of valves can be supplied with a joining piece of pipework, welded and tested, to simplify site installation
- The standard 50% 'V' port provides excellent all round performance and is appropriate for the majority of applications. Where necessary, 'V' ports from 20% to 80% area, and parallel ports from 5% to 30% area for linear regulation can be selected for specific applications

DESIGN STANDARDS

- ASME B16.34
- ASME section III
- EN 12516
- RCC-M
- Alternatively, valves can be supplied to other national standards

DESIGN RATINGS

- ASME Class 900 to 3600

SIZE RANGE/DIMENSIONS

- 20 to 100 mm (3/4" to 4")

TEMPERATURE RANGE

- -29°C to 538°C (-20°F to 1000°F)

MATERIALS

- Carbon steel, alloy steel



DESCRIPTION

Hopkinsons® Uniflow Slide Valves are specially designed for one way isolation and blowdown duties where there is no possibility of flow reversal. The Uniflow valve is an adaptation of the parallel slide valve. It is ideal for drain, vent, instrument isolation and other auxiliary applications. It has one disc which slides over the seat face to isolate the flow by fluid pressure energising the seat. An Inconel Alloy spring keeps the disc in contact with the seat when the valve is not in under pressure. Only one third of a turn is required to operate the valve between the open and shut positions which is indicated by the index plate.



APPLICATIONS

- Power Plants manual isolation for high pressure line

FEATURES

- Pipe Connections: Flanged, butt weld or Socket weld
- Seat is a grade 6 Stellite
- Disc is high grade nickel alloy (Hopkinsons® Platnam)
- Optional: Locking device to secure valves in open or shut position
- Index with travel limit stops
- Needle bearings in bridge for ease of operation
- Pressure sealed lid joint incorporating an Expanded Graphite joint ring
- Sliding action of disc cleans seating faces
- Quick Action
- Easy access to seating area for maintenance

DESIGN STANDARDS

- ASME B16.34 standards
- ASME section III

DESIGN RATINGS

- ASME Class 2500 to 3100

SIZE RANGE/DIMENSIONS

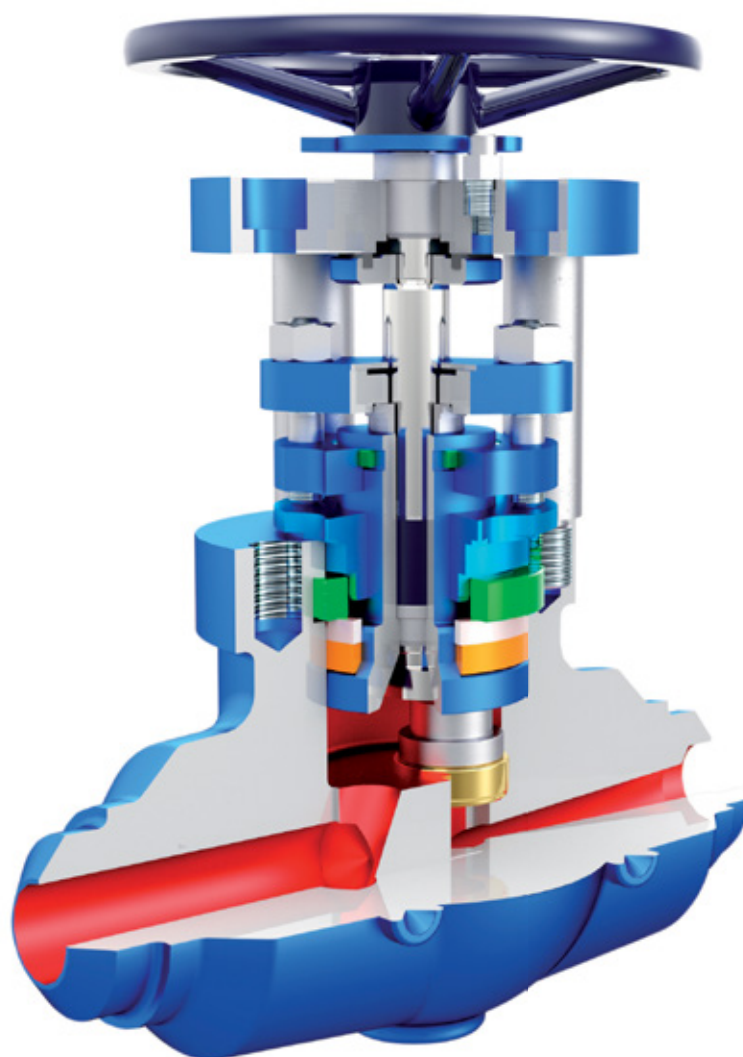
- 10 to 50 mm (3/8" to 2")

TEMPERATURE RANGE

- -29°C to 565°C (-20°F to 1022°F)

MATERIALS

- Carbon steel, alloy steel, stainless steel



PRODUCT SUPPORT

With manufacturing and service facilities globally located, we are uniquely positioned to provide prompt, comprehensive, aftermarket support.

These services include:

- Spare and replacement parts
- Modifications and upgrade engineering
- Valve replacement

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

SERVICE PLANS

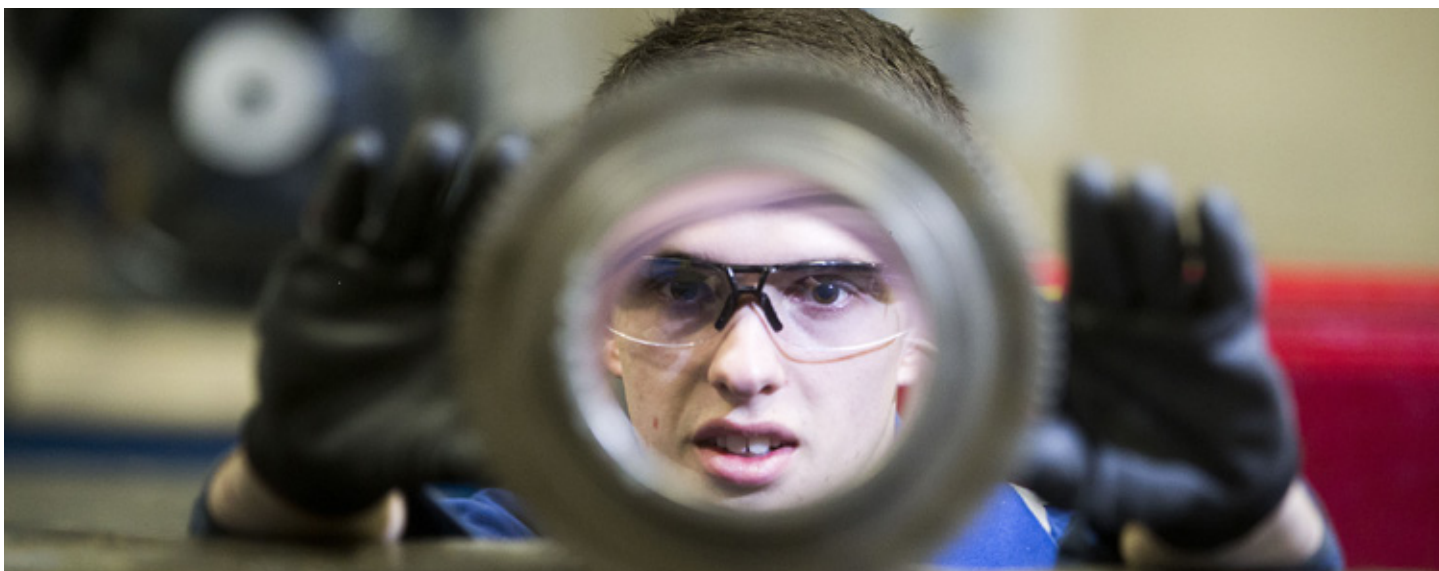
- LTSA (Long Term Service Agreement)
Holistic asset management
- Plant asset management
- Report of equipment initial condition.
- Defined service strategy plan for product overhaul/repair
- Trillium Flow Technologies™ embedded engineer
- On-site permanent delivery of LTSA aligned with customers service delivery team

CUSTOMER BENEFITS

- Low cost annual charge
- Programmed dedicated service response engineering team
- Reduced service rates
- Reduced spares prices
- Quarterly LTSA review to capture dynamic site events
- Determination and extension of MTBR (Mean Time Before Repair)
- Plant life cycle and extension aspirations professionally engineered
- Access to service exchange programmes and workshops
- Access to valve condition programme models (Profiler)
- Product upgrades & re-rates
- Comprehensive customer training
- Product warranty extensions

CUSTOMER BENEFITS

- Embedded engineer
- On-site dynamic service programme management
- HSEQ, Sub-contract management, engineering conduit
- Permanent interface between Trillium Flow Technologies™ and customers' responsible engineers
- On-site outage management (Independent of contractor)
- Customers 'stores' appraisal
- Reclamation and overhaul of redundant valves and actuators
- Negotiable rates for permanent site presence



NOTES:



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