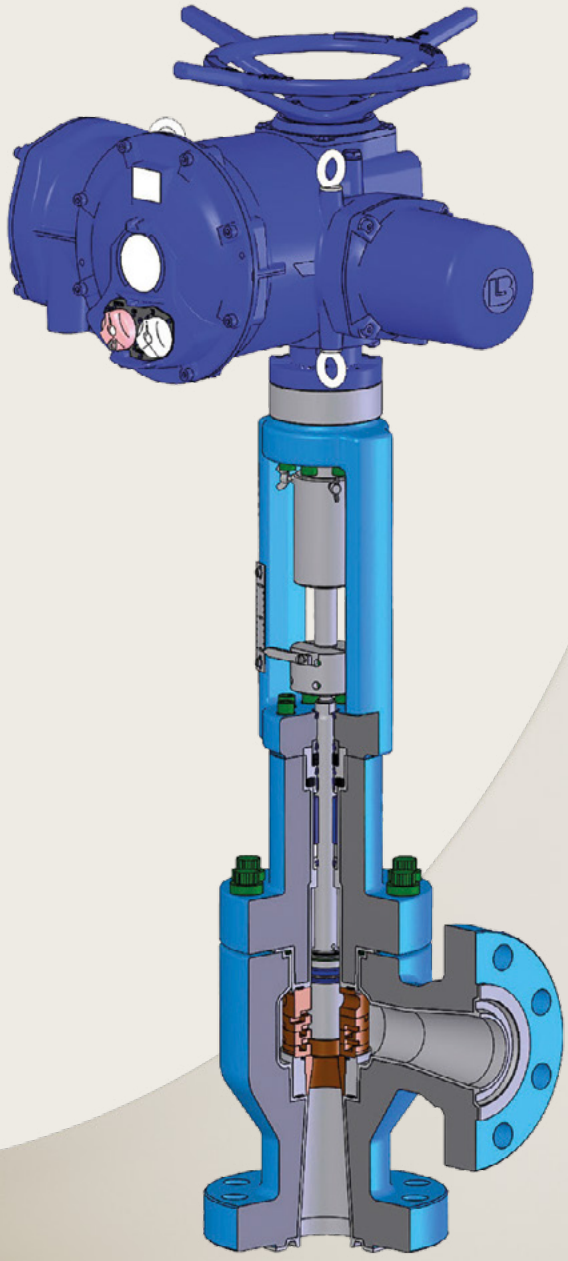
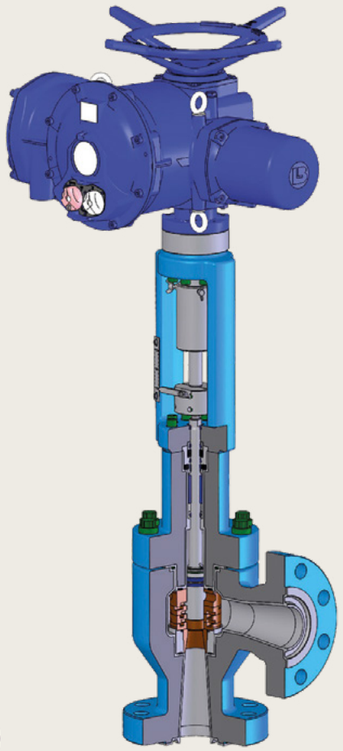
Process Automation

IMI CCI

100DPC
Multi-trim DRAG® production choke valve



Breakthrough engineering for a better world



100DPC Multi-trim DRAG® production choke valve

Optimised for on-shore and off-shore applications

Located at the wellhead, where the well-fluid is first extracted from the field, the production choke valve is arguably the most severe service application in the oil and gas industry. It is essential for providing controlled pressure for downstream processes and needs to handle some of the most difficult fluids and conditions in the entire oil and gas process chain.

With the 100DPC production choke valve, IMI CCI have standardised a product range to maximise valve service life and minimse total valve life cycle costs by addressing the specific severe service concerns which apply to this arduous application, including the following:

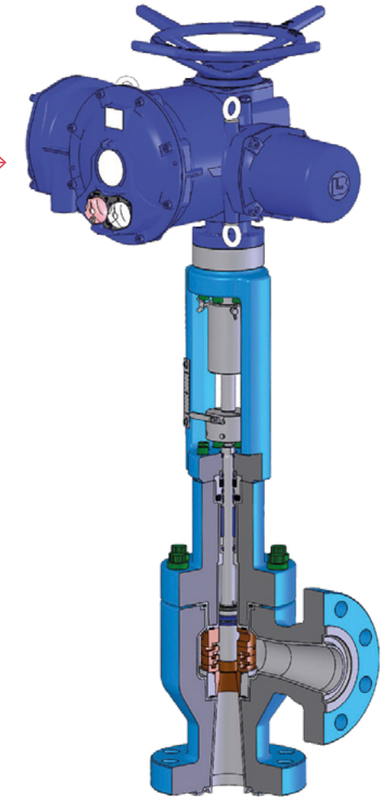
- Multi-phase fluid which can make accurate sizing difficult
- High pressure drop which leads to high kinetic energy levels, which causes erosion, vibration and noise
- Potential for high solid content which leads to further erosion issues and potentially clogging
- High concentrations of acids (H_2S, CO_2), chlorides and chemicals which can cause corrosion issues
- Long field life with large variation of inlet pressures which subsequently require a wide range of CV's to maintain flow rates

Key features

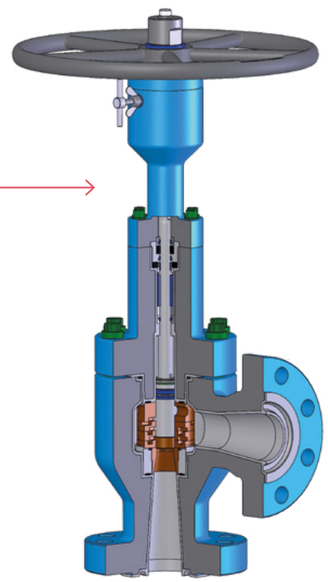
The 100DPC production choke valve, addresses the application-specific concerns above by incorporating the following aspects into the product design:

- Erosion, vibration and noise are symptoms of high kinetic energy levels. Guarantees optimum wear resistance in erosive conditions due to energy & velocity control with multi-stage & multi path DRAG® trim technology
- Key trim components are produced from solid tungsten carbide for additional erosion resistance
- To address corrosion, all wetted surfaces on pressure boundary parts are weld overlayed with Inconel 625. In addition, all internal wetted metallic parts are made out of Inconel 718 as standard. No elastomeric seals used apart from the stem packing
- Large, expanding flow passages are used to allow the valve to handle solids and dirty fluids while minimising the potential for clogging
- Characterised trim possible to maximise CV range. Also, trims are available in single and multi-stage configuration. Interchangeability of parts guaranteed
- The design of internals and packing arrangements are optimised for easy maintenance and no components are screwed or welded to the pressure boundary parts

Actuated version with guaranteed self-locking function



Handwheel version with stem lock



Performance data

Materials
Body / bonnet
- AISI 4130 60K/ASTM A182 F22 60K with 3.0 mm inconel 625 weld overlay

Trim
- 718 nickel alloy with solid tungsten carbide

Material Classes
API material class HH as standard.
Other classes available on request

Pressure Drop
Up to 600 bar pressure drop"

Pressure rating and sizes
ANSI 1500 - 2500:
- 1-1/2", 2", 3", 4", 5", 6" 8", 10"

API 5000 - 10000:
- 1-13/16", 2-1/16", 2-9/16, 3-1/8", 3-1/16", 4-1/16", 5-1/8", 7-1/16", 9"

Temperature rating
Design temperature: -46°C to 150°C

Quality level
Standard
- ASME B16.34; API PSL2; API PSL3 & API PSL3(G); NACE MR0175

Optional
- PSL4 on reque

Shut-off class
Standard
- ANSI/FCI Class IV & Class V

Actuator types
Standard
- Manual handwheel & electric motor operated

Optional
- Pneumatic; hydraulic

Special configurations on request

Actuated or manual operation

Manual Handwheel
- External grease port lubricates threads and bearings.
- Stem lock maintains set position.
- Anti-rotation keys convert rotation from the drive bushing into linear movement.
- Mechanical stroke indication as standard with excellent accessibility with high resolution.

Electric Actuation
- Standardisation of electric actuation completed.
- Actuator gear unit designed to guarantee self-locking function.
- Available compliant with end-user specifications.

Other Options
- Low power electric, hydraulic, electro-hydraulic actuation methods are available on request.
- Full range adjustable mechanical travel stop available on request.
- Low power electric actuation options are available on request

Handwheel

Electric actuator

Certification

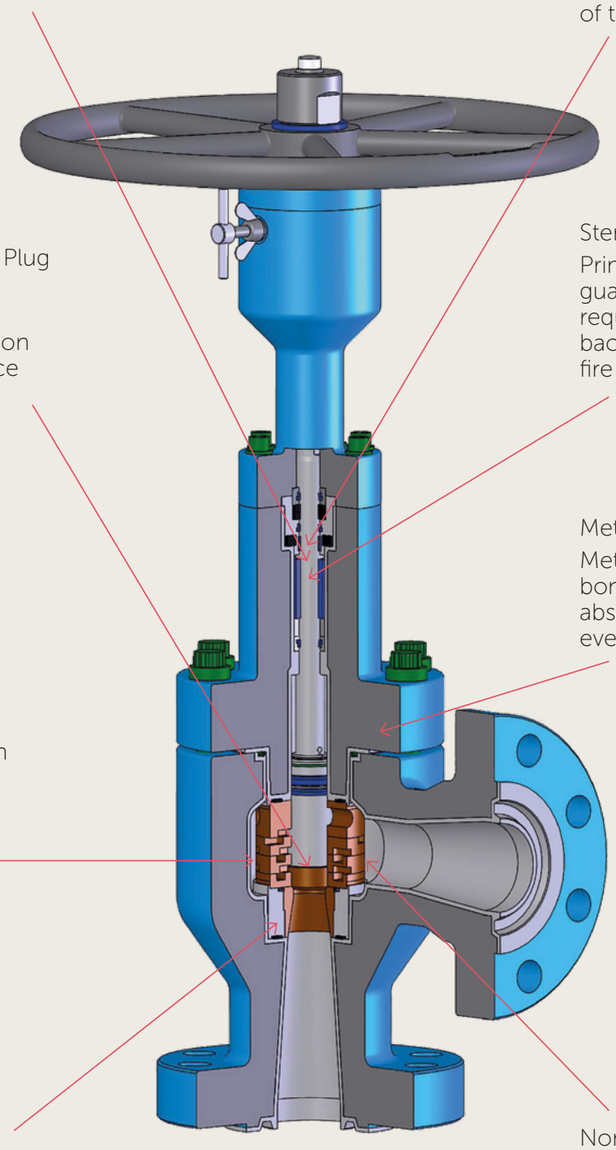
- Quality – ISO 9001
- Metallurgy – NACE MR0175
- Function – API PR-2
- Fugitive Emission – ISO 15848-1/2
- Fire-Safe – API 6FA
- Hazardous Area – IEC Ex/ATEX/FM/C SA

Blow-out proof stem design

Ensures highest safety standards for plant personnel

Stem coating

Special stem coating reduces friction and increases lifetime of the FET packing



Solid Tungsten Carbide Plug

Solid tungsten carbide eliminates galling and provides excellent erosion resistance. Large balance holes will not clog.

Stem Packing Arrangement

Primary sealing used to guarantee fugitive emission requirements. Secondary back-up sealing used for fire safe compliance

Metal Main Seal

Metal spring energised body-bonnet seals guarantee absolute pressure containment even in case of fire

Solid Tungsten Carbide DRAG® Disk Stack

Solid tungsten carbide for erosion resistance. Multi-step let-down to control velocity, erosion and noise. Large flow passages, easily handle solids and dirty fluids

Solid Tungsten Carbide Venturi Seat

Solid tungsten carbide venturi seat in high turbulence zones. Venturi seat transition flows smoothly into valve outlet and piping

Non-metallic seals

All installed seals that are exposed to process media are fully in compliance to API Appendix F 1.13

Process Automation

IMI CCI

CCI Valve Technology GmbH
Lemböckgasse 63/1
1230 Vienna
Austria

www.imiplc.com/process-automation

01058.02/25en