

Certifications

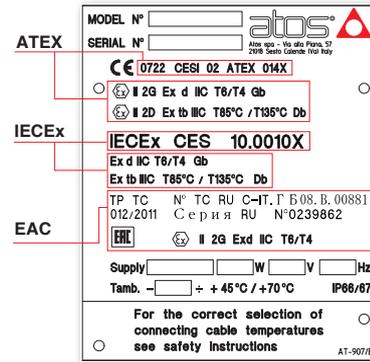
Atos components are certified according to main International Directives and regulations:

Ex-proof

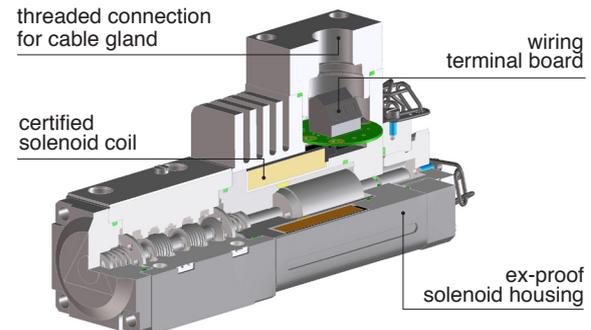
- **Multicertification ATEX, IECEx, EAC**
group I gas - mining
group II gas and dust
- **US & Canadian Standard**
UL429, UL1203 and CSA 22.2
- **PESO** certification by Government of India
Petroleum and Explosives Safety Organization
- **MA** Chinese Mining Certification
- **SIL2 / SIL3** compliance to IEC61508

Intrinsically safe valves

- **ATEX or IECEx**
group I gas - mining
group II gas - surface



Multicertified nameplate

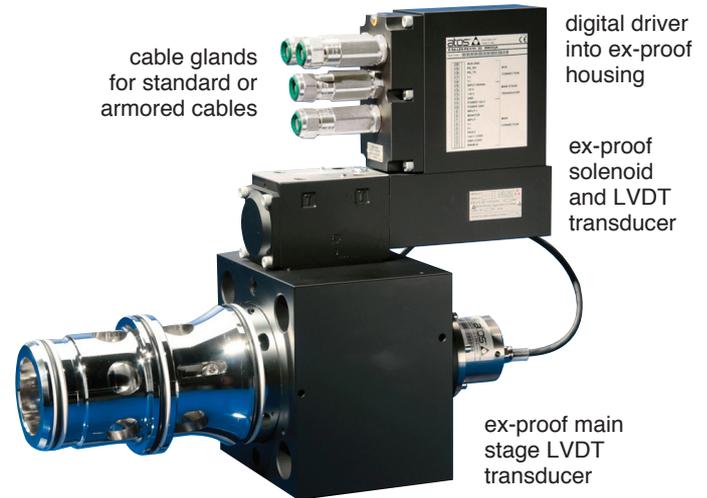


Components for hazardous environments

A complete range derived from highly engineered standard electrohydraulics to provide the highest levels of performance, quality & reliability:

- ex-proof proportional valves, open or closed loop
- ex-proof on-off solenoid valves
- ex-proof pumps, cylinders and power units
- stainless steel valves and cylinders
- intrinsically safe valves

A leading line of electrohydraulic components for hazardous and corrosive environments, successfully applied in thousands of systems worldwide



- 1 On-off directional and pressure controls
- 2 Proportional directionals, open & closed loop
- 3 Proportionals with integral digital driver

Ex-proof proportionals - ZA line

Proportional electrohydraulics equipped with **Ex-d** certified solenoids - max power **35W**
temperature class **T6/T5/T4/T3** - classified zone **1, 2** (gas) and **21, 22** (dust)



- **Open loop** directional, flow & pressure controls - direct or pilot operated with or without on board digital driver
- **Closed loop** directional, flow & pressure controls - direct or pilot operated with one or two LVDT transducers, with or without on board digital driver
- **Servoproportionals** closed loop control with zero overlap direct or pilot operated with on board digital driver
- **Servocartridges** closed loop control - 2 or 3 way pilot operated with on board digital driver
- **Servoactuators** for closed loop axis control



CANopen or **PROFIBUS DP** communications available for the whole range



- 4 Servoproportional with on board digital driver
- 5-6 Pilot operated directionals, open (5) and closed (6) loop
- 7 Pressure relief valves with on board digital driver
- 8 2 and 3 way servocartridges



Ex-proof components - A line

Valves equipped with **Ex-d** certified solenoids - max power **8W**
temperature class **T6/T4** - classified zone **1, 2** (gas) and **21, 22** (dust)



- **Solenoid valves** - 4 way, spool type direct operated, size 06 - **SIL2 / SIL3** - pilot operated, size 10 to 32
- **Leak free** - 2 or 3 way, poppet type - direct operated, size 06 - **SIL2 / SIL3**
- **Pressure relief & reducing valves** with ex-proof venting solenoid valve
- **2-way directional cartridges** with ex-proof pilot solenoid valve
- **Fixed vane and variable piston pumps** - max displacement 150 cm³/rev
- **Cylinders & servocylinders** with integral position transducer bore size from 25 to 200 mm
- **Power units** equipped with components, motor and electric cabinet in ex-proof execution



- 9 Solenoid valves, size 06
- 10 Pilot operated valves, size 10, 20 and 32
- 11 Solenoid valve with emergency lever
- 12 ATEX fixed vane and variable piston pumps
- 13 ATEX cylinders

Ex-proof stainless steel - *X line*

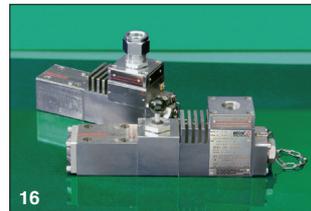
X = AISI 316L full stainless steel to provide high resistance to corrosive environments and fluids

XS = stainless steel external parts only, to withstand extreme environmental conditions using standard fluids

Ex-d certified solenoids in AISI 630 - max power **8W** or **25W**

temperature class **T6/T4/T3** - classified zone **1, 2** (gas) and **21, 22** (dust)

- **Solenoid valves** - 4 way, spool type - direct operated, size 06 - **SIL2 / SIL3**
- **Leak free** - 3 way, poppet type - direct or pilot operated, size 06 or 10 - **SIL2 / SIL3**
- **Pressure relief** screw-in or ISO cartridges size 25
- **Hydraulic cylinders** with corrosion resistance over 1200h in neutral salt spray
- **Power units** and **manifolds** fully in stainless steel
- **BBT** option for ambient & fluid temperature up to **-60°C**

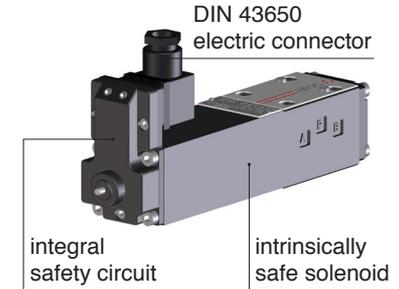


- 14** Stainless steel valves and cartridges
- 15** Leak free, 3 way, size 10
- 16** BBT low temperature valves
- 17** Stainless steel power unit
- 18** Stainless steel servocylinder

Intrinsically safe - W line

Valves equipped with **Ex-ie** intrinsically safe solenoids to be powered through **safety barriers**, limiting the energy supplied to the solenoid temperature class **T6/T5** - classified zone **0, 1 and 2** (gas)

- **Solenoid valves** - 4 way, spool type - direct operated, size 06 pilot operated, size 10, 16 and 25
- **Leak free** - 2 or 3 way, poppet type - direct operated, size 06
- **Pressure relief & reducing valves** with intrinsically safe venting solenoid valve
- **2-way directional cartridges** with intrinsically safe pilot solenoid valve



DHW solenoid valve

Water based electrohydraulics - XW line

Valves & cylinders with stainless steel internal parts only - designed for applications requiring fire-resistant or environmentally friendly hydraulic fluids, such as HFA, water based fluids, or pure water



19 Solenoid & proportional water based valves



20 Stainless steel cylinder

21 Intrinsically safe barrier

22 Intrinsically safe directional and pressure valves



21

Seminars on digital electrohydraulics are regularly held at Atos headquarters
Our engineers are available for on-site technical support at customer locations



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