

New Safety Electrohydraulics

Atos is a **unique worldwide manufacturer** offering a **full range of safety valves certified** by a notified body, in compliance to Machine Directives 2006/42/EC.

TÜV independent laboratory guarantees Atos valve compliance to safety norms, providing clear information for safe implementation in machines or other applications. This is a great plus, considering that competing valves on the market are typically 'self declared' as compliant, with unclear or partial data!

The Atos safety valve range includes:

- Atos on-off valves are certified in compliance to **ISO norms for hydraulics safety**, as well as specific ISO norms for rubber, plastic, bending and press machines:
 - **directional valves with spool position monitoring**, provide a complete range of direct and pilot operated valves in sub-plate or modular design
 - **cartridge valves with poppet position monitoring**, provide for a wide range of screw-in, ISO cartridges, and ISO modular elements
 - Digital proportional directional valves are certified in compliance according to **ISO 13849 up to category 4, PL e** and **IEC 61508 up to SIL 2 / SIL 3**, which is available in 2 executions:
 - **Double power supply** - an exclusive of the Atos range, with a separate power supply for electronics and coils, respectively. The safe condition is ensured by simply cutting the electrical supply to the coils, while the electronics remain active for monitoring functions. This will soon be available, contact us for samplings!
 - **PLS** - is a new execution of the digital proportional directional valves, by which the safety function is performed through on-off signals. Upon a single solenoid valve's disable command, the drivers internal circuit checks the spool position, which subsequently provides an acknowledgment signal to the machines control unit *only* when the valve is set in the safe position. PLS for double solenoids valves also follow suit in that they are equipped with two independent enabling circuits, which permit safe disabling of the single regulation side, while the opposite regulation side remain enabled. Availability in Q2/2018.
- Take a look at the entire safety valves range in the [TS17](#) leaflet



SIL/PL certified proportionals

New Digital Drivers & Controllers in DIN Rail Format

A new range of DIN rail digital drivers & axis controllers for **closed loop proportional valves** has been developed with the same architecture as on-board versions:

E-BM-TEB & E-BM-LEB basic drivers - provide for full functionality of directional and flow proportional valves without fieldbus and alternating pressure/force controls

E-BM-TES & E-BM-LES full drivers - provide for full functionality of directional and flow proportional valves with fieldbus and/or alternating pressure/force control

Z-BM-TEZ & LEZ axis card plus driver - allows for the positioning of the controllers that are configured with optional alternated pressure/force control for directional proportional valves without an on-board driver

Z-BM-KZ axis card - positions the controllers equipped with optional alternated pressure/force control, for directional proportional valves with an on board driver

For information on these versions under development, see [MS363](#) product preview



E-BM-TEB digital driver

These DIN rail drivers and controllers will gradually replace the Eurocard versions, this is in accordance with the Atos digital proportionals [roadmap](#)

New Industrial Ethernet for Atos Digital Proportionals

A **PROFINET IRT** protocol is going to be finalized and will be available in **Q4/2017**, for the entire range of Atos closed loop proportional valves, pumps, and axis controllers. This will extend their potential applications to systems powered by **SIEMENS** controllers.

The Atos Technical Office is available for any additional information you may require



Extended Compatibility with Special Fluids

Several sectors and applications require specific fluids that have different chemical characteristics than standard mineral oils and water-glycol fluids. Compatibility of special fluids with rubber seals and surface treatments need to be verified in advance by the Atos R&D department through specific testing.

Recently, the following fluids were tested and approved:

- Pressure relief valves **ARE-15/**/PED** have been approved with the use of **POLYOL** and **ISOCYANATE** (fluids Group I, classified as potentially dangerous), which are normally used in the polyurethane industry. An extension to PED certifications for ARE-15 will also include these type of fluids.
- **The entire range of Atos valves** have been approved for use with water-based fluids such as; **MACDERMID ERIFON CLS 40** and **QUAKER QUINTOLUBRIC 888**. These are commonly required in North American offshore oil & gas platforms due to their environmentally compatible characteristics.

Contact the Atos Technical Office for information about special fluid compatibility



Polyurethane dosing unit

Servocylinders with External Positioning Transducers

CKM with magnetostrictive external transducers **allow for significant length reduction of servo cylinders**, particularly for double-rod versions. With the external transducer being fixed on the two heads, the rod positions are detected through a permanent magnet mounted inside of the piston.

They are available with several output signals and are suitable for speeds up to 1 m/sec



CKM with external transducer

New HVOF Cylinder Coating for Aggressive Environments

Atos has successfully applied **HVOF coatings to the rods of hydraulic cylinders**, this is specifically intended for areas that are considered splash zones in marine environments, where chrome plating is regularly exposed to degradation by chlorides. This HVOF coating also improves surface resistance against sand abrasion, thus providing excellent wear resistance and extension of life in harsh environments that have a large presence of hard powders.

HVOF, high velocity oxygen fuel, is a **thermal spray coating** process in which **super-alloy heated materials are sprayed** over a surface, creating a layer of between 20-2000 microns in order to significantly improve corrosion resistance. It showed a resistance of >2500 hours in neutral salt spray (ISO 9227) as well as in saline droplet test (ISO 4536).

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Offshore platform