

Control valve actuators with safety functions

Electrofluidic automation components


HOERBIGER
because performance counts



What makes us unique ...

**... is piezo pneumatics successfully
applied by the millions –
used worldwide under extreme conditions**

The special know-how of the HOERBIGER piezo technology is the combination of precision engineering, electronics, and the consistent use of the piezo-electric advantages.

Despite minimized electric power consumption, solutions can be implemented which set standards in process and automation technology with respect to flow rate, temperature, and pressure range. High dynamics and precision as well as operation free of intrinsic heat and without the creation of a magnetic field make the HOERBIGER technology ideal for applications in pneumatic control processes.



- Dynamic control and regulation
- Extremely low electric power consumption
- Key technology for intrinsically safe applications in hazardous areas

**... compact, powerful, and reliable electro-hydraulics –
the solution to your future challenges**

The electro-hydraulic valve actuator from HOERBIGER stands out with its high energy density. High forces and torque levels can be implemented despite a small overall size. As a result, we succeeded in combining several technological advantages in one self-sufficient, flange-mountable compact unit. The installation complexity is limited to the electrical supply and the actuating signals. External tubing can be foregone. The compact unit combines the high power density and precision of the hydraulic system with the benefits of an electric actuator.



- High power density in compact overall size
- Safety due to Fail-Safe and Emergency Shutdown
- Pressure-encapsulated application in hazardous areas



... is the ability to get things moving with maximum efficiency



Optimal system modules for the automation of industrial valves

The electro-hydraulic drive module from HOERBIGER combines the motor, pump, and tank into a compact functional unit. The opening or closing of the valve is controlled by the direction of rotation of the electric motor. In the target position, the electric motor is switched off. This position is then maintained without any further energy requirement. The pressure-proof encapsulation enables the operation in extreme ambient conditions, to include in hazardous areas subject to explosions. Application-relevant additional functions for special performance features can be implemented through additional modules. Manual actuation, the reliable activation of safety functions, and the control of the actuating speed are possible at all times with this basic technology.

Technical data:

- Dimensions of base unit (L x W x H): approx. 500 x 210 x 200 mm
- Torque for rotational drive: up to 63,000 Nm
- Actuating force for linear drive: up to 200,000 N
- Minimum actuating time: 1 sec
- Ambient temperatures: -25 to +70°C
- Emergency Shutdown (ESD) with energy storage (optional)
- Configurable Fail-Safe behavior (open / close / maintain)
- Rapid actuation (rapid closure)
- Emergency manual actuation (hand pump optional)
- Torque-dependent speed control (optional)
- Protection class IP 65 (IP 68 optional)
- Functional safety SIL 3-compliant for safety-relevant functions
- ATEX - II 2G EEx d IIB T4 due to pressure-tight encapsulation

■ Operational safety

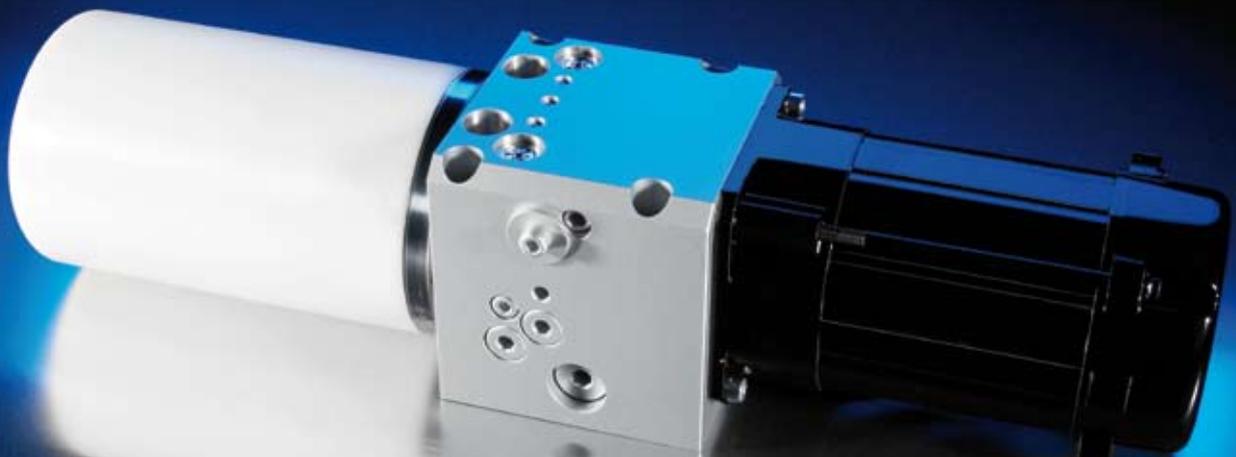
The compact drive produces the necessary hydraulic actuating energy directly on the spot. Because of the unique design, failures due to defective tubing are excluded. The overload-protected torque transmission without mechanical gearbox enables a robust operation and protects the valve.

■ Performance

The automatic speed adjustment guarantees gentle operation in the final positions when opening and closing the valve. Operationally relevant safety functions, such as Fail-Safe and Emergency Shutdown, are a given for the electro-hydraulic drive.

■ Efficiency

The torque-dependent speed control and optional energy storage ensure low operating costs.



... is the responsible use of resources without limiting performance

Intrinsically safe pressure regulators for the efficient automation of valves under extreme conditions

Pressure regulator modules from HOERBIGER convert electrical signals into efficient pneumatic operating power. The robust design, which has been tried and tested in continuous operation, enables on/off and proportional precision control. Through additional purely pneumatic power transmission, high actuating forces and torque are decoupled from the electric control power. As a result, the intrinsically safe control of the valve position is ensured across all performance classes of pneumatic actuators.

■ Operational safety

The HOERBIGER piezo technology with proven performance provides access to the intrinsically safe automation of valves in a very wide range of temperatures. All Fail-Safe functions are possible as an integral part of the system, without additional valves.

■ Performance

By optimally combining electronics with mechanics, the HOERBIGER piezo technology offers extremely high precision. The minimized need for electrical power ensures maximum dynamics, even if the energy is supplied from the field bus.

■ Efficiency

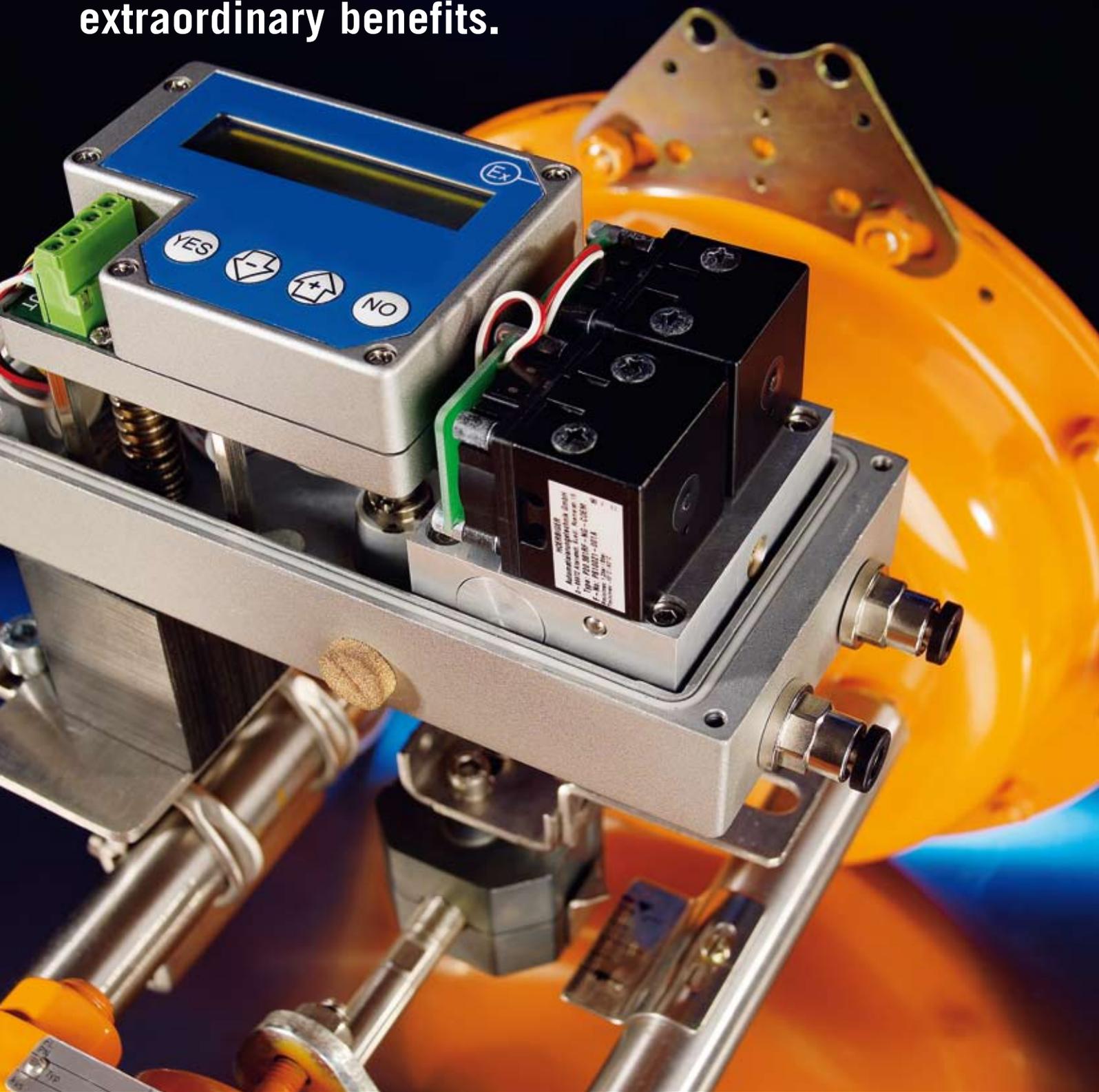
In the controlled state, the electro-pneumatic drive module from HOERBIGER requires neither compressed air nor electrical energy. As a result, it makes a significant contribution to the sustainable reduction of the operating costs.



- Function:
 - 3/3-way = single-acting
 - 5/3-way = double-acting
- Configurable Fail-Safe behavior (open / close / maintain)
- Measured exhaust air (optional)
- Approval requirements for:
 - ATEX - II 1G Ex ia IIC T4/T5/T6
 - ATEX - II 2D Ex iaD 21 T125
- Ambient temperatures: -40 to +80 °C
- Operating pressure: up to 10 bar (145 psi)
- Flow rate: up to 8 Nm³/h
- Internal air consumption: up to 0.05 Nm³/h
- Response time:
 - Activation time (10%) = 25 ms
 - Deactivation time (90%) = 25 ms



... is that we master basic technology with extraordinary benefits.



**Your automation partner for valve actuators
with torque from 2 to 63,000 Nm**

HOERBIGER - the technology group.

**With forward-looking ideas and innovative technologies as well as first-rate products and services,
we are always within reach for our customers.**

HOERBIGER Automation Technology is a business unit of HOERBIGER Holding AG, Zug / Switzerland. HOERBIGER is active throughout the world as a leading player in the fields of compression technology, automation technology and drive technology. In 2009, its 6,500 employees achieved sales of 772 million Euro. The focal points of its business activities include key components and services for compressors, gas engines and turbomachines, hydraulic systems and piezo

technology for vehicles and machine tools, as well as components and systems for shift and clutch operations in vehicle drive trains of all kinds. Through innovations in attractive technological niche markets, the HOERBIGER Group sets standards and delivers cutting-edge solutions for the benefit of its customers.



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