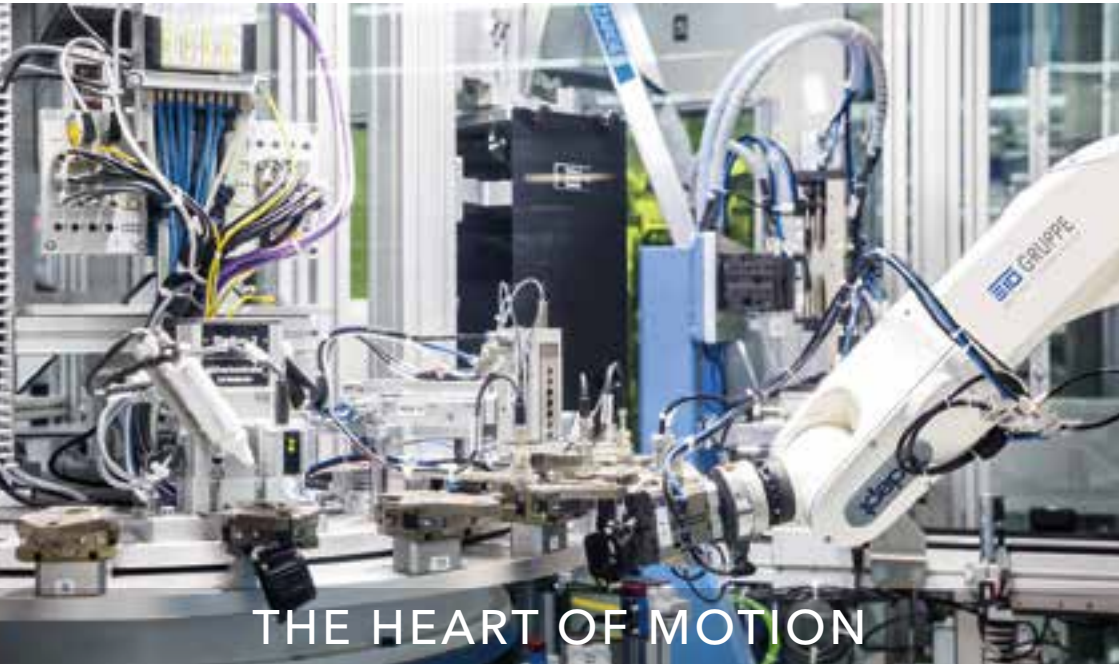




GRUPPE

MOTION TECHNOLOGIES



Product Overview Industry

About ETO GRUPPE

Motion is at the heart of every machine. With the power of innovation and passion we develop and produce electromagnetic actuation components, sensors, electronics and software for the regulation and control of highly dynamic processes in vehicles, medical technology equipment or machinery for food production.

Around the world, 2,500 employees are dedicated to the success of our customers and play a vital part in our fast-growing company group. Founded by Lake Constance/Germany in 1948, ETO GRUPPE has been part of the foundation "Christa und Hermann Laur-Stiftung" since 1968 which has ensured ETO GRUPPE's continuance to date.

Our Vision

As a company, we have specialized in making mobility, vehicles, equipment, devices, medical technology and food production more secure, efficient and environmentally friendly, in connecting the above and in processing data in an intelligent way.

Groundbreaking Projects

Connected, intelligent and secure sensors and actuators are trailblazers for autonomous driving, smart factories and intelligent services. For instance, ETO GRUPPE is part of a groundbreaking project called ALFRIED funded by the German Federal Ministry of Transport and Digital Infrastructure, which is focused on making connected and automated driving a reality. We are aiming to make road traffic more secure by developing sensors for intelligent road marker posts so that non-connected vehicles may also be provided with traffic information.



Product Overview



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Round Solenoids



APPLICATION

- Stationary and mobile hydraulics

CUSTOMER BENEFITS

- High variety of existing variants
- Global footprint
- Customer specific solutions possible

TECHNICAL DATA

- Sizes: NG4 (37 mm), NG6 (45 mm), NG10 (63 mm)
- Voltage: 12 & 24 V, others on request
- Nominal solenoid force: 30 - 170 N
- Mode of operation: switching/proportional
- Operating direction: Push/Pull/Push & Pull
- Dynamic pressure resistance: up to 350 bar (5,000 psi)

FEATURES

- Exchange of coil without opening the hydraulic circuit
- Low hysteresis
- Quick response time
- Available with different versions of manual override
- Available with sensor unit

Square Solenoids



APPLICATION

- Stationary and mobile hydraulics
- Common rail systems in heavy duty engines

CUSTOMER BENEFITS

- High power density
- Customer specific solutions possible

TECHNICAL DATA

- Sizes: NG3 (25 mm), NG4 (35 mm), NG6 (45 mm), NG10 (60 mm)
- Voltage: 12 & 24 V, others on request
- Nominal solenoid force: 45 - 185 N
- Mode of operation: switching/proportional
- Dynamic pressure resistance: up to 250 bar (3,600 psi)

FEATURES

- Low hysteresis
- Quick response time
- Available with different versions of manual override
- Available with sensor unit

C-Frame Solenoids



APPLICATION

- Industrial applications
- Safety and locking equipment
- Medical technology

CUSTOMER BENEFITS

- Compact design
- Customer specific solutions possible

TECHNICAL DATA

- Sizes: 14, 16, 18 mm width
- Working stroke: 5 - 6 mm

FEATURES

- Light and cost-effective design
- With and without return spring

D-Frame Solenoids



APPLICATION

- Industrial applications
- Safety and locking equipment
- Medical technology

CUSTOMER BENEFITS

- Compact design
- Customer specific solutions possible

TECHNICAL DATA

- Sizes: 24, 26, 30, 36, 49 mm width
- Working stroke: 10 - 30 mm

FEATURES

- Light and cost-effective design
- With and without return spring

Push/Pull Solenoids



APPLICATION

- Industrial applications
- Safety and locking equipment
- Medical technology

CUSTOMER BENEFITS

- High power density
- High reliability

TECHNICAL DATA

- Sizes: Ø 38 – 90 mm
- Working stroke: 8 – 25 mm
- Operating direction: Push / Pull / Push & Pull

FEATURES

- High magnetic power
- Long lifetime
- Maintenance-free bearings

Cartridge Valves



APPLICATION

- Stationary and mobile hydraulics
- Flow and pressure control valves
- On/off valves

CUSTOMER BENEFITS

- High reliability
- Low hysteresis
- Customer specific solutions possible

TECHNICAL DATA

- Sizes:
 - Ø 28 - 45 mm (oil control valves)
 - Ø 32 mm (pressure reducing valves)
- Function mode: normally open or normally closed

FEATURES

- Oil control valves
- Pressure reducing valves
- Filtration possible
- Compact design

Positions Sensors LVDTs



APPLICATION

- Stationary and mobile hydraulics

CUSTOMER BENEFITS

- High precision
- High pressure resistance

TECHNICAL DATA

- Voltage: 24 VDC \pm 20%
- Stroke measured displacement: < 40 mm (< 16 mm for LVDT)
- Mode of operation: switching/proportional (LVDT)
- Pressure resistance dynamic: 420 bar (6,000 psi)
- Protection class: IP 65 (with mating connector)
- Linearity: \pm 1,5% (LVDT)

FEATURES

- Long lifetime
- Wide range of operating temperature

Pressure Sensors



APPLICATION

- Pneumatics
- Stationary and mobile hydraulics
- Medical technology

CUSTOMER BENEFITS

- High reliability
- Customer specific solutions possible

TECHNICAL DATA

- Voltage: 5 VDC, 24 VDC
- Mode of operation: proportional
- Pressure resistance dynamic:
 - pneumatics: 0.1 - 40 bar
 - hydraulics: 50 - 200 bar

FEATURES

- For relative and absolute pressure applications
- Customized pressure and electrical interfaces

Pneumatic Valves



APPLICATION

- Commercial vehicles
- Railway technology
- H2, CNG on request

CUSTOMER BENEFITS

- High reliability
- Customer specific solutions possible

TECHNICAL DATA

- Voltage: 12 VDC, 24 VDC
- Mode of operation: switching
- Function mode: normally open or normally closed

FEATURES

- Different electric and pneumatic interfaces
- Optional with manual override

Stoppers



APPLICATION

- Automation (transfer systems)

CUSTOMER BENEFITS

- No pneumatic supply needed
- Easy to retrofit
- Low energy consumption

TECHNICAL DATA

- Voltage: 24 VDC
- Permissible accumulation load:
 - undamped: < 400 N
 - damped: 30 - 150 N
- Belt speed: 15 m/min

FEATURES

- Damped and undamped
- Compatible with Bosch TS1 and TS2+ interfaces
- Available with position sensor unit

Motor Actuators



APPLICATION

- Urban and off-highway vehicles
- Customer specific applications

CUSTOMER BENEFITS

- Common development with customers
- Customized interfaces
- Wireless connectivity available
- Adapted transmission available

TECHNICAL DATA

- In accordance with customer specification
- Torque: up to 5 Nm
- Switching time: e.g. 0.2 sec / 20°

FEATURES

- BLDC and DC motors
- Optimized design
- Integrated power electronics
- Customized interfaces
- Customized software
- APP on request

Thermal Management



APPLICATION

- Stationary and mobile cooling and heating systems
- Heat pumps
- Customer specific applications

CUSTOMER BENEFITS

- Common development with customers
- Customized interfaces

TECHNICAL DATA

- In accordance with customer specification
- Motor controlled

FEATURES

- Motor valves
- Customized interfaces
- Customized hardware and software

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