ACTUATORS

- Easily fitted to any engine
- Proven reliability and long-life cycle
- Covering any field of application
- Actuators with gears
- Direct acting actuators with rotary or linear output
- Actuators with integrated positioning electronics

Conventional Fuel Injection Control Systems

Engine & Turbine Management
ACTUATORS
Based on HEINZMANN's more than 100 years' experience in developing and producing high-performance actuators, their proven reliability and long service life is well known in the market. They are driven electrically. Therefore, no mechanical drive is needed. This allows HEINZMANN actuators to be easily fitted to any engine. This is another reason why our units are also suitable for retrofit systems.

Our actuators feature high torque ratings packed into a lightweight, compact unit and have a high degree of protection. HEINZMANN provides a wide range of actuators including direct working actuators, actuators with gears and actuators with integrated positioning electronics and brushless motors.

We have a large range of actuator models covering practically any application and sector. This means that customers can find a product tailored to their exact requirements. Alongside the wide range of HEINZMANN control units we offer complete series of control systems covering a broad spectrum of applications. HEINZMANN systems provide complete solutions to match all customer needs.

ACTUATOR APPLICATIONS
✓ Power generation
✓ Pump drives
✓ Locomotives
✓ Marine applications
✓ Mechanical drives
✓ Industrial applications
✓ All turbine applications

DIRECT ACTING ACTUATORS WITH ROTARY OUTPUT
The actuators of this family are rotary and direct acting all electric actuators with 0.55 to 13 Nm output torque and 36°, 53° or 68° travel. Their main application is on industrial diesel, gas and dual-fuel engines from 100 to 1000 kW. These actuators provide a contactless position feedback. Their distinctive features are a compact design and a high-dynamic performance. They may be combined with various analogue or digital HEINZMANN control units.

SIG 3 / SIG 1.5
Small and medium-sized diesel and gas engines or turbines are the preferential application for these powerful types of actuators. The robust and enduring construction allows operation under roughest ambient conditions. The armature is optimised for lowest heat build-up and allows a wide working temperature range up to 150 °C and offers a very fast response time.

✓ 3 Nm / 1.5 Nm
✓ up to 72° rotation
✓ very precise analogue feedback
✓ IP6K9K
✓ 150 °C

SIG 2010 / SIG 2040 / SIG 2080
The most powerful versions of the 2000 series are installed in diesel and gas engines as well as in dual-fuel engines and can be driven by HEINZMANN analogue or digital control units and HEINZMANN positioner units. The integration with different throttle valve sizes for hot and cold gas engine applications is possible. Together with integrated driver electronics these actuator models turn into positioning units suitable for current/voltage and PWM input signals.

2, 7.4 and 11 Nm (at 36°)
✓ up to 68° rotation
✓ analogue feedback
✓ fast acting
✓ ATEX category 3
✓ CSA certified

SIG 1 / SIG 2
These actuators are utilised on industrially used diesel, gas and gasoline engines rated less than 180 kW. SIG 1 and SIG 2 actuators are driven by a dedicated analogue control unit.

0.9 Nm / 1.4 Nm
68° rotation

SIG 3005 / SIG 3010
The cost-effective actuators SIG 3005 and SIG 3010 are designed for direct mounting on small diesel and gas engines. Identical in size but equipped with different magnetic material they are driven by dedicated analogue HEINZMANN control unit ORION AC 3 or digital control unit ORION DC 9.

0.3 Nm / 0.6 Nm
50° / 53° rotation
digital feedback

SIG 2005 DP / SIG 2040 DP
DP versions of the SIG 2000 series are designed for direct mounting at diesel conventional block type fuel injection pumps and driven by digital control units. Main applications are industrial diesel engines from 100 to 1,000 kW. They combine a compact design and high-dynamic performance. Maximal fuel rack stroke is 24.5 mm. These actuators are mainly used to replace integrated mechanical governors on diesel and dual-fuel engines, thus enhancing the engines with the additional features of an electric governor.

0.8 / 5.6 Nm
32° / 36° rotation
digital feedback
directly mounted
**ROTARY ACTUATORS WITH INTEGRATED POSITIONERS**

This family of HEINZMANN actuators is based on similar standard versions, equipped with integrated positioning electronics. Output torque range is 4 up to 44 Nm at 68°, 75° or 90° rotary travel. Main applications are medium and large diesel, gas and dual-fuel engines. The actuators may be driven by any electronic speed control unit, supplying an analogue position demand signal or CAN. An analogue position feedback is available as a supplying an analogue position demand signal or CAN. May be driven by any electronic speed control unit, and large diesel, gas and dual-fuel engines. The actuators are medium-sized and large diesel and gas engines, as well as gas and steam turbines. The actuators can be combined with various analogue or digital HEINZMANN control units and provide a contactless position feedback.

**StG 3-PD**

StG 3-PD is a very fast directly working brushless actuator with an integrated positioner. It powerfully works in both directions of rotation equally in 4Q operation. The armature is optimised for lowest heat build-up, additionally the design enhances heat dissipation. Optionally it is available with liquid cooling. Its robust construction makes it fit for mobile applications even.

- 3 Nm
- 72° rotation
- very short actuating times
- with integrated positioner
- 150 °C

![StG 3-PD](image)

**StG 2040-PD / StG 2080-PD**

This system consists of an actuator StG 2040 or StG 2080 combined internally with a digital electronic position control that is parameterised by a powerful software package. The compact design allows any mounting position and provides interchangeability with other proprietary units. Precise and fast positioning in both working directions and very low consumption make this system best for applications such as gas engines.

- 6.6 Nm / 7.8 Nm
- 68° rotation
- with integrated positioner
- CSA certified

![StG 2040-PD / 2080-PD](image)

**StG 30.90-PD / 40.90-PD**

These two units are based on the HEINZMANN actuators StG 30 or StG 40 with gears. The integrated positioner is parameterised by a powerful software package. These actuators are driven by powerful DC disc motors. Output torque is multiplied by a twin-stage gear. Furthermore, these positioners are distinguished by fast response, high torque in either direction and moderate consumption.

- 28 Nm / 44 Nm
- 90° rotation
- with integrated positioner
- CSA certified

![StG 30.90-PD / 40.90-PD](image)

**StG 64 / StG 90**

These powerful actuators are proven on industrial diesel or gas engines, and on turbines, which require less than the undermentioned torque to move the fuel rack or fuel metering valves. They are for dedicated use with HEINZMANN digital controls.

- 64 Nm / 90 Nm
- 42° rotation
- analogue feedback

![StG 64 / 90](image)

**StG EC 40**

The SIG EC 40 is available with an optional return spring to ensure setting to zero position if power supply fails.

- 40 Nm
- brushless
- 90° rotation
- analogue or PWM setpoint
- marine certified

![StG EC 40](image)

**StG 180**

This powerful actuator is used on industrial diesel and gas engines and on turbines. The SIG 180 actuator is driven by HEINZMANN digital controls.

- 180 Nm
- 42° rotation
- analogue feedback

![StG 180](image)

**StG EC 250**

This powerful actuator delivers a maximum torque of 250 Nm. It needs one power supply to drive the electronics and a second power supply with higher voltage to drive the motor.

- 250 Nm
- brushless
- 90° rotation
- analogue or PWM setpoint
- marine certified

![StG EC 250](image)

**ACTUATORS WITH INTEGRATED GEARBOX AND POSITIONER**

This type of actuators provides high performance combined with rapid response, irrespective of direction of rotation or shaft position. Functional ranges are provided for marine applications and industrial purposes.

SIG EC 40 and SIG EC 250 come with a fully maintenance-free brushless disc motor which has a typical high torque multiplied by the use of a planetary gear. In case of power loss the self-locking gear is able to prevent undesired reactions of the linkage. Manual override is also possible.

The electronics are fully EMC protected and all customer interfaces are totally galvanically isolated from each other and from ground. The hi protection degree IP66 guarantees optimum resistance to adverse environments. They are used in marine applications, cooling water valves and industrial engine applications.

![SIG 250](image)

**ACTUATORS WITH GEARS**

This series of gear-type all-electric actuators is based on a DC disc motor and gear transmission, with 4 up to 180 Nm output torque and 36° or 42° travel. Applications are medium-sized and large diesel and gas engines, as well as gas and steam turbines. The actuators can be combined with various analogue or digital HEINZMANN control units and provide a contactless position feedback.

![SIG 180](image)
**DIRECT ACTING ACTUATORS WITH LINEAR OUTPUT**

This group of all-electric direct acting actuators is designed for direct mounting at diesel inline injection pumps. The linear actuators are driven by HEINZMANN’S ORION Control Units. The ORION family consists of either the dedicated analogue control unit AC 3 or a range of digital control units as DC 7, DC 9, DC 10 and DC 12. The LA actuators provide a special contactless position feedback.

### LA Series

Application of these direct acting linear actuators is on small diesel engines for power generation. They are designed particularly for small diesel and gas engines. Three different sizes are available:

- **LA 25 / 19.5 mm**
- **LA 30 / 15.5 mm**
- **LA 35 / 12.5 mm**

### Rotary output

- **force up to 35 N**
- **up to 19.5 mm operating range**
- **digital feedback**

**StG 6 / StG 10**

The main application of StG 6 and StG 10 actuators is on industrial diesel and gas engines, which require less than respectively 6 and 10 Nm torque to move the fuel rack or the fuel metering valves. They are driven by HEINZMANN analogue or digital controls or JANUS positioners.

- **6 Nm / 10 Nm**
- **56° rotation**
- **analogue feedback**

**StG 16 / StG 30 / StG 40**

These actuators are utilised on industrial diesel and gas engines and on turbines, which require less than the aforementioned torque to move the fuel rack or fuel metering valves. Application examples are marine, locomotive and power generation. They work with HEINZMANN analogue and digital controls or HEINZMANN’S JANUS positioners.

- **15 Nm / 31.5 Nm / 44 Nm**
- **42° or 90° rotation**
- **analogue feedback**

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**TECHNICAL INFORMATION**

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<tr>
<th>Actuator data</th>
<th>Applicable control units and direction of work</th>
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<td>Actuator type</td>
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<tr>
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<td>StG 200/100</td>
<td>20 Nm</td>
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**Position output**

- **directly connected position control**

**Linear output**

- **4Q = bidirectional; 2Q = unidirectional/spring return**
HEINZMANN Group

Quality & Precision since 1897

The Group started in 1897 with Heinzmann GmbH & Co. KG, and now includes HEINZMANN UK, HEINZMANN China, HEINZMANN Korea, HEINZMANN India, HEINZMANN Australia, HEINZMANN AUTOMATION, REGULATEURS EUROPA, and CPK Automotive as member companies.

The HEINZMANN Group operates numerous global subsidiaries, including eight production sites and an international distributor network.

Our product portfolio comprises engine management system solutions, as well as exhaust gas aftertreatment solutions, for industrial combustion engines and turbines. It also encompasses automation systems, primarily for the shipping industry.

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