extreme service

Quarter-turn Pneumatic, Hydraulic & Electro-Hydraulic Actuators

Camtorc is a specialist manufacturer/supplier of extreme service quarter-turn stainless steel pneumatic and hydraulic actuator control systems for the on/off and modulating control of valves and dampers.

Camtorc actuators are specified and operate in some of the World's most critical and demanding applications as found in the oil and gas, energy and marine industries.

Camtorc actuators are based on proven designs and are produced from top quality materials. Every part is meticulously selected and subjected to stringent ISO 9001 and ATEX quality inspection procedures ensuring excellent technical performance and long service life.

Actuator Design Criteria

- **Rotation** - 0° to 95° rotation with adjustable end stops.
- **Torque Range** - Double Acting: 10 to 30,000 Nm / Spring Return: 10 to 20,000 Nm (Spring End).
  (Optional – Larger torques available on request)
- **Supply Pressure Range** - Pneumatic Actuators: 2 to 8 barg*/ Hydraulic Actuators: Low - 3 to 10 barg*/High -10 to 210 barg*.
  *(*Routine overpressure test of 1.5 times the maximum operating pressure)*
- **Ambient Temperature Range** - Nitrile Seals: -20°C to +60°C (T6)/ Viton Seals: -20°C to +130°C (T3)/EPDM 70 Seals: -40°C to +130°C (T4).
  (Optional – High (+170°C)/low (-45°C) temperature versions available on request)
- **Ingress Protection** - Weatherproof to IP65/66.
- **Hazardous Certification** - ATEX II 2 G IIC c T*.
  *(*Dependent on seal materials)*

Features and Benefits

- **Cam Design** - The unique cam design offers simple, backlash free operation providing extended life of seals and components.
- **High Integrity Construction** - Full 316 stainless steel construction for all actuator components (except spring) and actuators are fully tested on assembly to provide superior operational life.
- **Finish** - Standard natural finish
  (Optional – Special paint finishes available on request).
- **Compact Dimensions** - The high torque output of the pneumatic spring return version allows for the use of smaller size actuators than is normally the case with conventional actuator designs.
- **Long Spring Life** - All springs are stress relieved after forming to ensure a long life.
- **Whole Life Cost** - Camtorc actuators are exceptionally low wearing providing low maintenance and the optimum Whole Life Cost solution for the customer.

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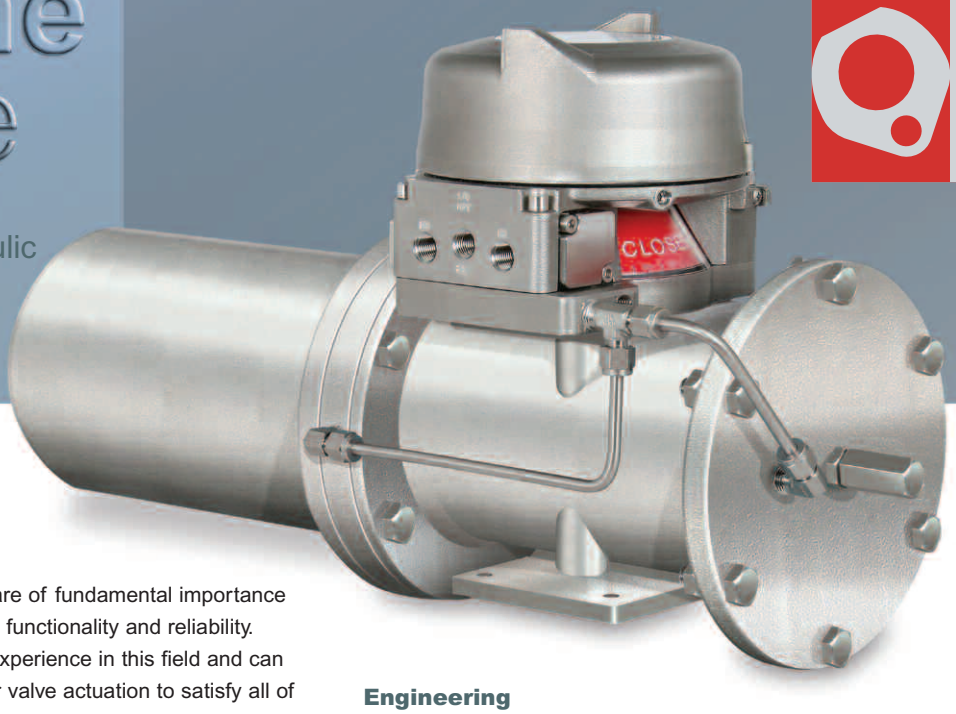

Control Systems

The control systems for actuators are of fundamental importance for providing actuator performance, functionality and reliability. Our engineers have considerable experience in this field and can supply bespoke control systems for valve actuation to satisfy all of the end client's operational requirements.

These include:

- BDV (Blow Down Valve) systems.
- ESD (Emergency Shut Down) systems.
- PST (Partial Stroke Test) systems.
- Modulating systems.
- Solenoid Control - 3/2-Way Single Coil, 5/2-Way Single or Dual Coil versions in both General Purpose and Hazardous Area Options (ATEX Certified Ex ia, Ex d & Ex m).
- Position Feedback Monitors - Mechanical or Proximity End of Travel Switch / Sensor, 4 to 20 mA Feedback or Bus Communication versions in both General Purpose and Hazardous Area Options (ATEX Certified Ex ia, Ex d, Ex me & Ex nA).
- Positioner Control - Pneumatic, Electro-Pneumatic or Digital versions in both General Purpose and Hazardous Area Options (ATEX Ex ia & Ex d).
- Miscellaneous Controls - Speed Control, Pilot Valves, Quick Exhaust Systems, Partial Closing Test Systems, Pressure Relief Valves and Others.

Engineering

The challenge for engineering today is to reduce the cost of products whilst improving their quality and reliability.

Camtorc engineers are trained on the latest control technology with the support of specific engineering software such as Solidworks 3D CAD and valve actuation analysis systems. The result of this continuous training process is the widely recognised ability of Camtorc engineers to design valve automation equipment/systems which meet all the functional requirements while still making such products as user friendly as possible.

In summary, Camtorc engineers are committed to:

- Design quality valve automation systems which are easy to install, use and maintain.
- Make designs reliable and efficient in functionality.
- Continuously seek new design solutions to meet current user demands.
- Revise existing designs in order to make them more efficient and simpler to produce.
- Ensure designs are simple in concept but are safe and environmentally friendly.
- Work with the latest control technology in accordance with international standards.

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