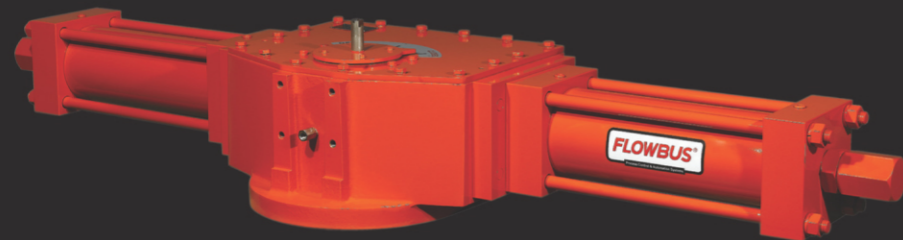
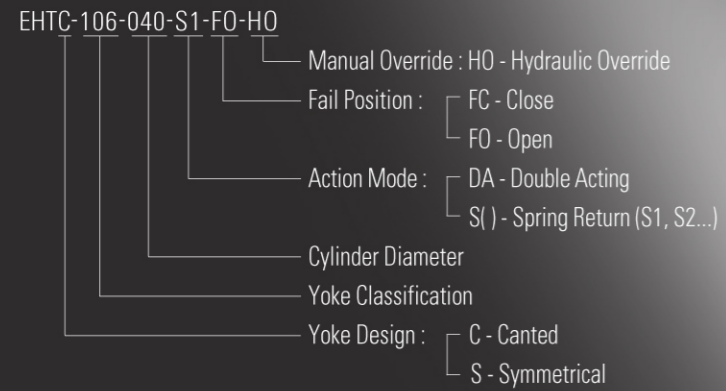


**Ordering Codes**



**EH-Series  
Hydraulic Actuators for  
Quarter-Turn Valves**

**FLOWBUS® Corporation**

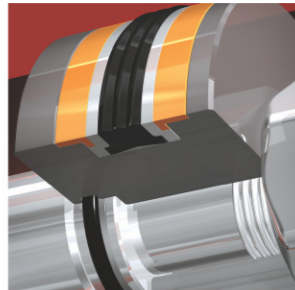
Literature#HA.008.01.Rev.0-02/13/09

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Tel. 82 2 400 1880 | Fax. 82 2 400 8240 | <http://www.flowbus.com> | email : [sales@flowbus.com](mailto:sales@flowbus.com)

■ Due to continuous development product data is subject to change without prior notice







### 1 Compact Piston Seals

The EHT actuator has compact piston seals which guide the piston in the power module and absorb side-loads. This unique design provides high levels of static and dynamic sealing, smooth operation and extended piston life. Optional seals for low and high temperatures are available on request.

### 3 Simple Actuator Mounting

Two full-length keyways simplify actuator/valve assembly and allow easier modification of the actuator orientation to accommodate last minute pipe work changes.

### 5 Travel Adjustment

The EHT actuator offers bi-directional travel stops, which allow +/-5 degrees of adjustment, giving a travel range of 80 to 100 degrees. Both the stops are externally accessible, for easy adjustment. For a greater range of adjustment, optional extended travel stops are available on request.

### 6 High Efficiency

EHT actuator piston rod is tied to a guide block and supported by a high strength alloy steel guide rod with self-lubricated bearings. This improves the transfer of energy from the actuator to the valve stem.

### 7 External Tie Rods

The external tie rods protect the cylinder tube from accidental damage during installation and prevent cylinder deformation.

### 8 Safe Spring Module

The spring module can only be removed from the drive module with the spring in the fully extended position. This design ensures the safety of personnel during installation and maintenance.

### 9 Wear Resistance

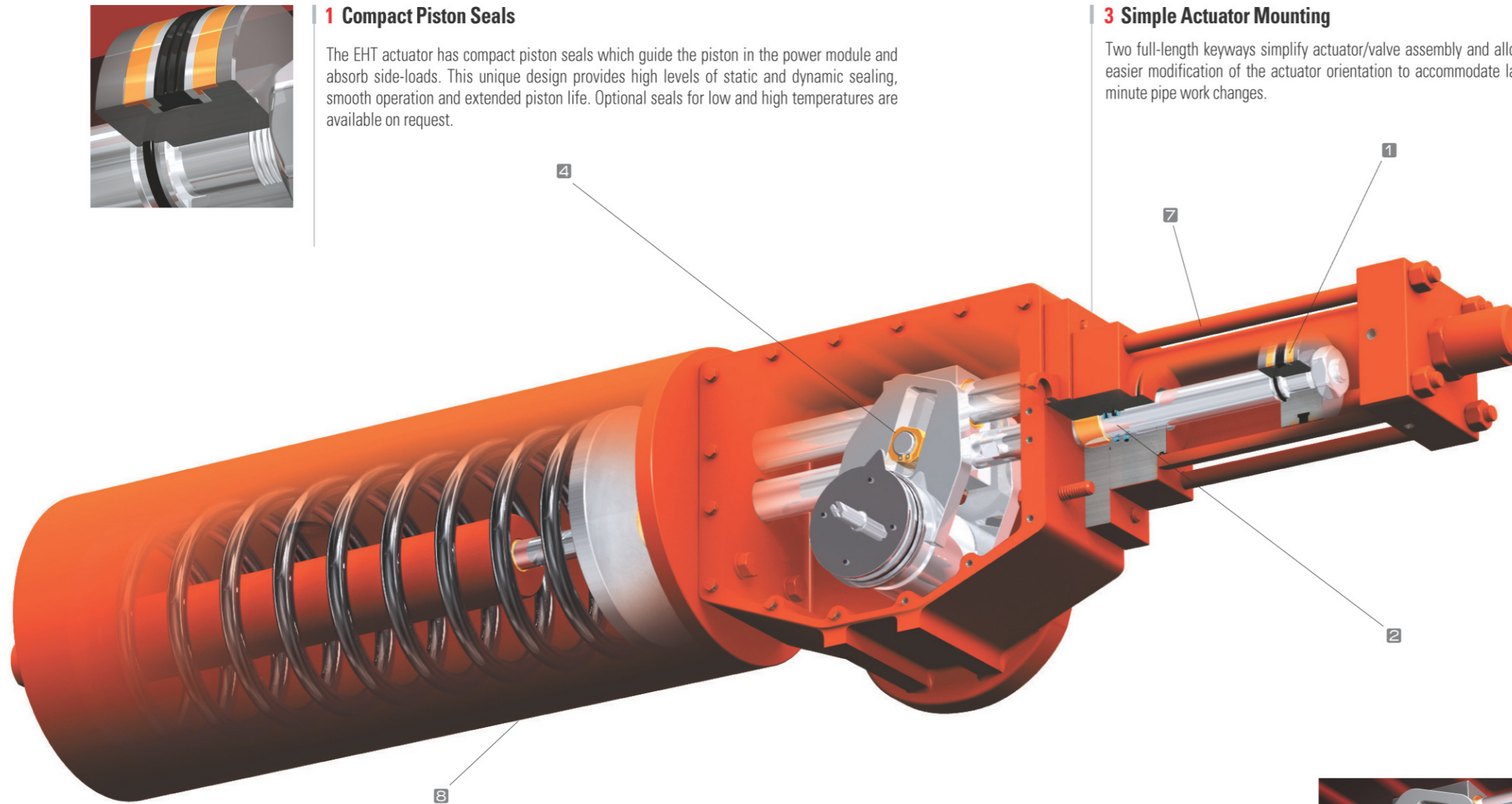
EHT actuator has a guide rod with an advanced surface treatment which, combined with self-lubricating bearings, assures superior wear resistance and extends operating life.

### 10 Corrosion Resistance

Four stages of internal and external anticorrosive coating protect each EHT actuator in severe applications such as corrosive salts, chemical and petroleum environments.

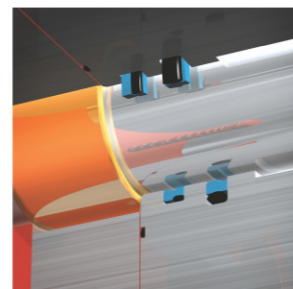
### 11 Scotch-Yoke Mechanism

The scotch yoke mechanism delivers optimum torque outputs from linear movement of the piston. This is ideal for quarter turn valve applications. EHT actuator scotch yokes are available in symmetrical and canted designs to suit specific valve characteristics.



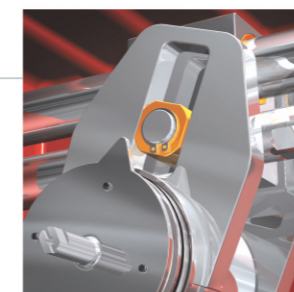
### 2 Advance Sealing Compounds

By incorporating advanced sealing compounds, the EHT actuator offers smooth anti-stick operation for precise control and excellent sealing performance in low or high pressure applications.



### 4 Replaceable Bearing

Permanently lubricated and low friction bearing provides extending actuator life by ensuring smooth operation. Bearing replacement is a simple process when carried out in line with the Operation & Maintenance Manual.



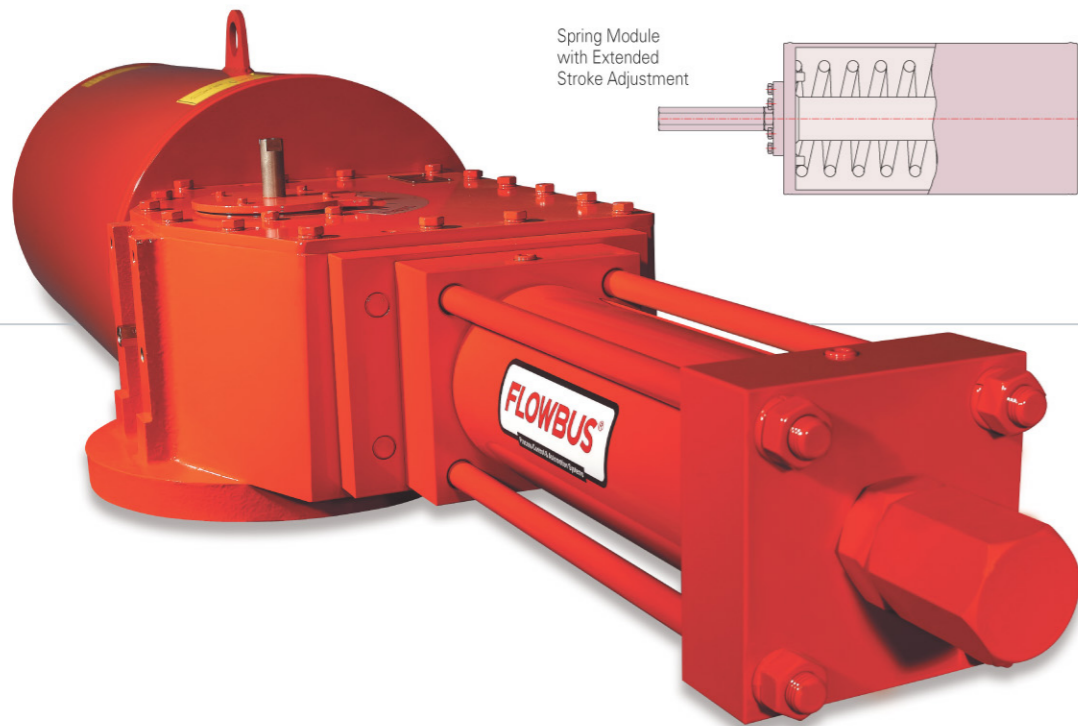
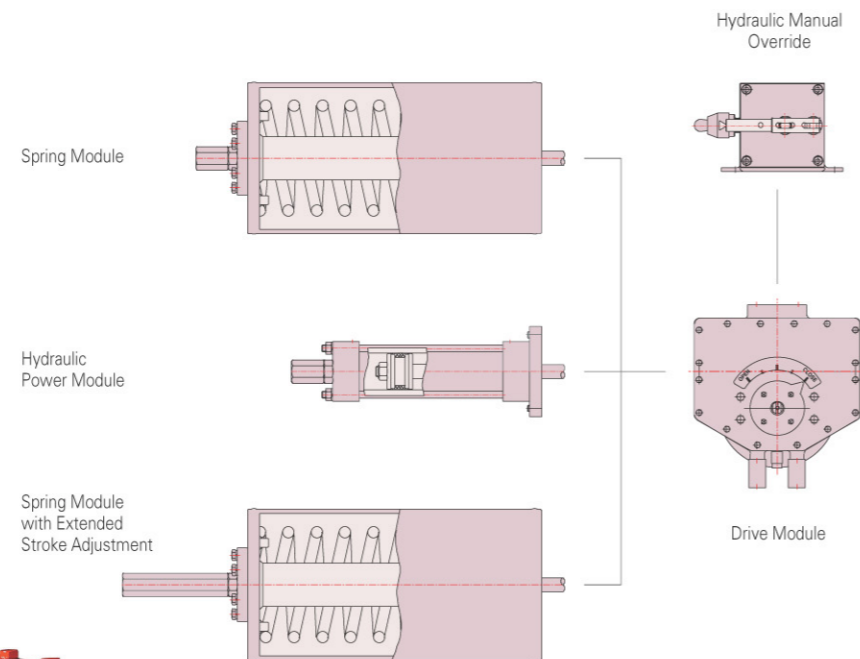


# Design and Construction

**FLOWBUS®**

## Versatile Modular Design

The EHT actuator is designed to be flexible and to meet the ever changing requirements of today's applications. The modular design is easily field converted from spring return to double acting, without the need for special tools or equipment. The spring module can be stocked to allow quick change over and has been designed so that the spring is not under tension until fitted to the actuator. This prevents loss of power due to spring "set". A Hydraulic manual override can be also retrofitted.

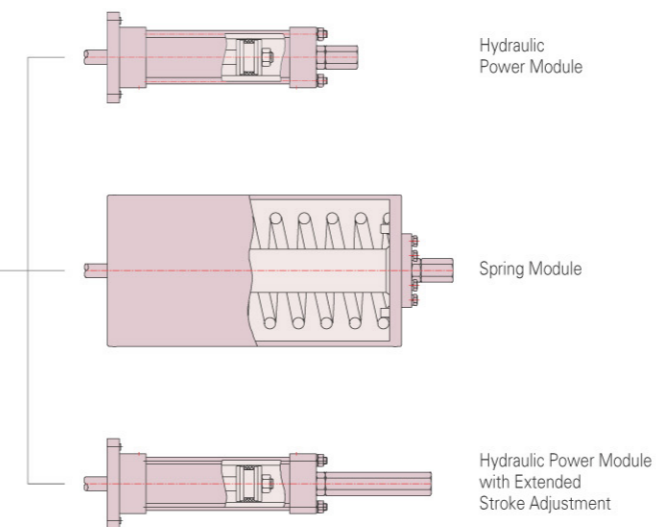


## High Torque and Compact Design

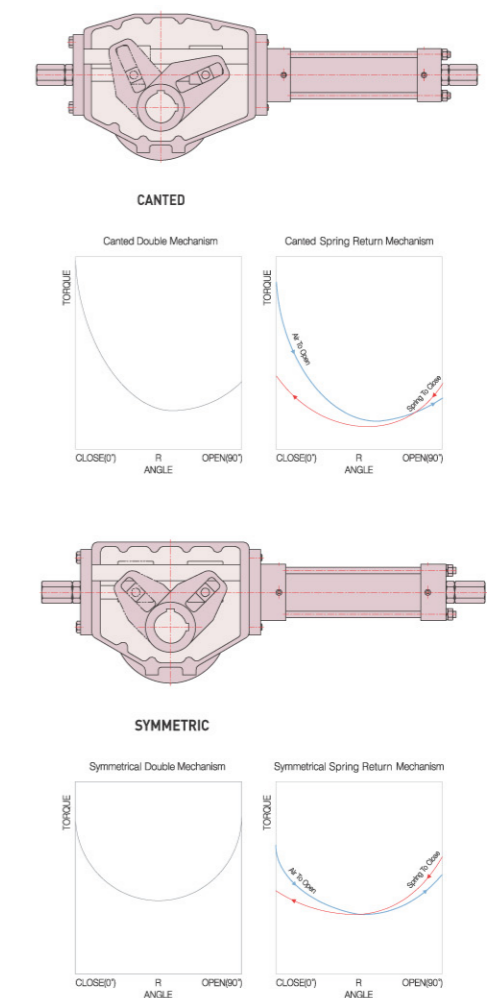
The EHT actuator is smaller in comparison with other actuators offering similar torque outputs. This reduces the overall valve package envelope providing a more compact design.

## Spring Unit

To avoid accidental release of spring force, the spring units are supplied as fully welded modules. The spring and spring retainer are self-centered and bearing guided within the spring module, ensuring accurate alignment and extending spring life.



## Symmetrical & Canted Torque Outputs



## Integral Housing Vent

EHT actuator drive module is fitted with a stainless steel vent valve in order to release overpressure while preventing ingress of foreign objects or water.

## Weather Proof

EHT actuators are IP66 / IP67M rated and suitable for high-pressure water deluge.



### ISO 5211 or MSS Valve Interface

The EHT actuator has valve mounting pads in accordance with ISO5211 or MSS SP-101.

### Torque Outputs

The EHT double acting actuators have torque outputs ranging from 522 N.m (4,620 inch-lbs) up to 268,486 N.m (2,376,302 inch-lbs), while the spring return actuators produce spring end torques from 468 N.m (4,142 inch-lbs) to 110,883 N.m (981,397 inch-lbs). The actuators are rated for continuous operating at hydraulic pressures up to 210 bar (3,045 psig).

### Temperature Range

Standard EHT actuators are designed for operating temperatures between -20°C and +80°C (-4°F to +176°F). Options are available for low -45°C (-49°F) and high +177°C (+350°F) temperatures, and special requirements can be supplied on request.

### Optional NAMUR Pad

For ancillary equipment, a NAMUR mounting pad is available as an optional feature on the EHT actuator.

### Standard Visual Indicator

A high visibility position indicator is provided as a standard.

### Lifting Eyes

Lifting eyes are factory installed making assembly, transportation and installation simple and safe.

### Optional Manual Overrides

An optional Hydraulic Manual Override is available with both double acting and spring return EHT actuators to deliver full rated torque outputs without a hydraulic power source.

### Name Plate

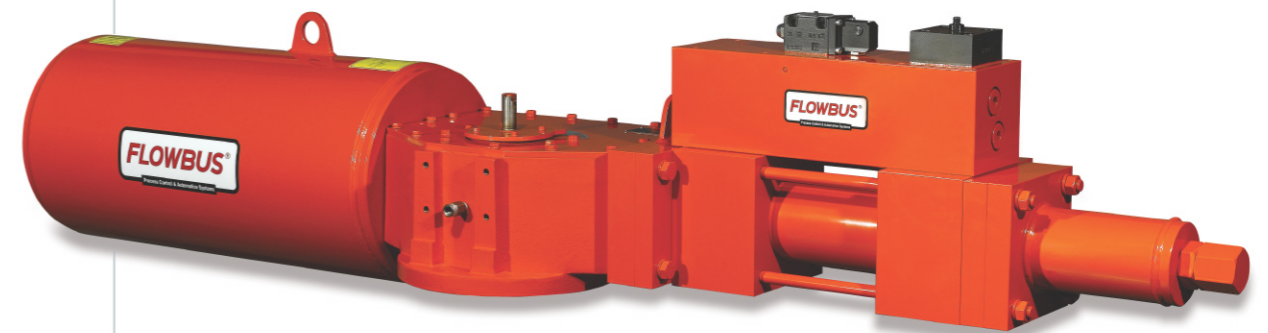
The stainless steel plate provides lifetime traceability and critical operating information.

### Approvals and Industry Standards

- Actuators manufactured in conformance with CE certification to PED 97/23/EC
- Actuators certified in accordance with ATEX 94/9/EC
- Actuators certified to IP66 / IP67M
- Actuators designed and manufactured under a third party accredited ISO 9001:2000 quality assurance program

### General

Incorporating Flowbus latest technology and extensive knowledge of the valve and actuator industry, EHQ spring return actuators provide reliability and high performance in severe service applications. For example, the EHQ can operate in less than one second to the valve fail safe position.



## Quick Operating EHQ Actuators

### Features

#### Manifold Control System

The EHQ actuator specially designed manifold control system produces a very short operating time typically required in emergency conditions, it is also very compact, saving piping space.

#### Rotary On-off or Modulating Duty

EHQ actuators are suitable for rotary on-off or modulating duty. They can be provided with either symmetrical or canted yoke, producing torque outputs suitable for the duty requirements of a wide variety of valve designs.

#### Accurate Selection of Control Valves

Depending on customer requirements and process conditions, various ancillaries such as limit switches, solenoid valves, servo valves, poppet solenoid valves etc. are optimally selected to ensure the perfect valve operation.

#### Partial Stroke Test Device

Partial stroke test devices are available on request to ensure the proper operation of final control elements such as valves, actuators, and controllers in Emergency Shut Down (ESD) applications.

