

SD-HQ Series

Flameproof Linear Stayput Electrical Actuator

ATEX Certified – Ex d Protection

1) Product Overview

The **SDTORK SD-HQ Series Flameproof Electrical Actuator** is a high-performance, single linear turn stayput actuator engineered for operation in hazardous and explosive atmospheres.

Designed in compliance with ATEX requirements, this Ex d actuator provides safe, reliable, and precise remote control of control valves, dampers, and process automation equipment in Zone 1 and Zone 2 environments.

The SD-HQ Series is specifically developed for **regulating and ON-OFF control applications**, ensuring accurate positioning, consistent thrust force, and long-term durability even under extreme environmental conditions.

Its advanced floating nut mechanism with spring-loaded force control guarantees zero leakage seating and protects valve internals from over-stressing.

Built with flameproof enclosure technology, corrosion-resistant aluminium housing, and self-locking mechanical design, the SD-HQ actuator delivers superior safety, performance, and reliability in critical industries.

Core Advantages:

- Versatility
 - Robustness
 - Reliability
 - Economy
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2) Technical Overview

General Specifications

Parameter	Specification
Series	HQ008 / FSD-2001-04 / FLP HQ015 / FSD-2001-15 / FLP
Type	Single Linear Turn Flameproof Stayput Actuator
Actuation	Linear / Quarter Turn / Angular (with attachments)
Rated Thrust	200 Kgs / 600 Kgs
Stroke Range	40 mm to 75 mm
Supply Voltage	230 VAC / 110 VAC / 24 VDC
Frequency	50 Hz / 60 Hz
Zone	1 & 2
Gas Group	IIA, IIB, IIC
Temperature Class	T6
Protection	IP65 / IP66 / IP67
Certification	ATEX & CIMFR Dhanbad
Motor Type	Synchronous Stall Duty Motor
Mounting	As per ISO 5211
Area of Application	Hazardous

3) Applications

Suitable Equipment:

- Globe Valves
- Diaphragm Valves
- Dosing Pumps
- Ball Valves
- Butterfly Valves

- Single & Multi-Louver Dampers
- VIV Dampers

Industries Served:

- Oil & Gas
 - Petrochemical
 - Chemical & Fine Chemical
 - Pharmaceutical
 - Power Generation
 - Cement Industry
 - Water & Wastewater Treatment
 - HVAC & Industrial Utilities
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4) Key Features & Benefits

Flameproof Safety Design

- ATEX Ex d certified enclosure
- Suitable for Zone 1 & Zone 2 hazardous areas
- Gas Group IIA, IIB & IIC compliance
- Temperature Class T6

Mechanical Excellence

- Floating nut design for controlled thrust buildup
- Consistent closing force with internal disc-spring system
- Zero-leakage valve seating

- High mechanical stiffness (self-locking)
- Adjustable stroke and force settings

Operational Reliability

- Excellent positioning accuracy
- Long service life under harsh environments
- Silent and jerk-free operation
- Flexible mounting position
- Built-in handwheel for emergency manual operation

Electrical & Control Advantages

- Integrated positioner (4–20 mA / 0–10 V DC)
- Adjustable limit switches
- 4–20 mA stroke transmitter
- Potentiometer feedback option
- Self-diagnostic LED indication
- MODBUS communication (optional)
- Fail-safe device option (Energy Pack – under development)

Environmental Resistance

- High-grade aluminium housing
 - O-ring sealed enclosure
 - Resistant to dust, water, and corrosion
 - Designed for extreme climates: cold, warm, humid, industrial
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5) Why Choose SDTORK SD-HQ Flameproof Actuator

- ATEX certified for hazardous industrial zones
 - Designed specifically for explosive atmospheres
 - Proven performance in oil & gas and chemical sectors
 - High reliability under fluctuating voltage conditions
 - Superior quality assurance and rigorous testing
 - Wide range of control and automation accessories
 - Easy installation and simple maintenance
 - Backed by SDTORK engineering and technical support
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Standard Accessories (By Default)

- Travel Limit Switches
 - Local Position Indicator
 - Manual Handwheel
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Special Accessories (On Demand)

- Electronic Positioner (4–20 mA / 0–10 V DC)
- Potentiometer
- Stroke Transmitter (4–20 mA)
- Space Heater
- Fail-Safe Control Device

- MODBUS (RS485) Communication
- Additional Limit Switches
- Local Control Station

SD-HQ Flameproof Electrical Actuator Series

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◆ Model 1

HQ008 / FSD-2001-04 / FLP

Product Overview

The **HQ008 / FSD-2001-04 / FLP** is a compact, flameproof linear stayput electrical actuator designed for hazardous area installations requiring reliable thrust control and precise positioning.

Engineered for Zone 1 & Zone 2 environments, this actuator delivers consistent 200 Kg thrust with high positioning accuracy, making it ideal for small to medium-sized control valves and dampers.

Its floating nut and disc-spring mechanism ensures controlled closing force buildup, preventing valve damage while guaranteeing zero-leakage seating.

This model is widely used in chemical plants, oil & gas installations, and industrial process control systems.

⚙️ Technical Overview

- Rated Thrust: 200 Kgs
- Stroke Options: 40 mm / 60 mm
- Supply Voltage: 230 VAC / 110 VAC / 24 VDC
- Frequency: 50 / 60 Hz
- Zone Classification: Zone 1 & Zone 2
- Gas Group: IIA, IIB, IIC

- Temperature Class: T6
 - Protection Class: IP65 / IP66 / IP67
 - Motor Type: Synchronous Stall Duty Motor
 - Mounting: As per ISO 5211
 - Area of Application: Hazardous
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Applications

- Globe Valves
 - Diaphragm Valves
 - Dosing Pumps
 - Butterfly Valves (with converter)
 - Ball Valves (with converter)
 - Industrial Dampers
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Key Benefits

- ATEX Ex d certified safety
 - Excellent positioning accuracy
 - Adjustable stroke control
 - Self-locking mechanical design
 - Manual override handwheel
 - Compatible with 4–20 mA positioner
 - Reliable performance in extreme climates
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◆ Model 2

HQ015 / FSD-2001-15 / FLP

Product Overview

The **HQ015 / FSD-2001-15 / FLP** is a high-thrust flameproof linear electrical actuator designed for demanding hazardous applications where higher closing force is required.

Delivering 600 Kg rated thrust, this model is suitable for medium to heavy-duty valves in oil & gas, petrochemical, and power industries.

Built with a robust aluminium flameproof enclosure and precision spring-loaded force control system, the HQ015 ensures reliable seating force, enhanced operational safety, and long-term durability.

⚙️ Technical Overview

- Rated Thrust: 600 Kgs
 - Stroke Options: 60 mm / 75 mm
 - Supply Voltage: 230 VAC / 110 VAC / 24 VDC
 - Frequency: 50 / 60 Hz
 - Zone Classification: Zone 1 & Zone 2
 - Gas Group: IIA, IIB, IIC
 - Temperature Class: T6
 - Protection Class: IP65 / IP66 / IP67
 - Motor Type: Synchronous Stall Duty Motor
 - Mounting: As per ISO 5211
 - Area of Application: Hazardous
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Applications

- Globe Valves
 - Diaphragm Valves
 - Dosing Pumps
 - Ball Valves
 - Butterfly Valves
 - Louver & VIV Dampers
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Key Benefits

- Higher thrust capacity (600 Kg)
 - Superior seating force control
 - Zero-leakage valve performance
 - Robust flameproof aluminium housing
 - Adjustable limit switches
 - MODBUS communication option
 - Long service life with minimal maintenance
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◆ Optional Configurations (For Both Models)

Linear to Rotary Converter (R Series)

For quarter-turn applications like ball and butterfly valves.

Linkage Mechanism (D Series)

For angular dampers and VIV damper systems.

Standard Accessories (By Default)

- Travel Limit Switches
- Local Position Indicator
- Manual Handwheel

Special Accessories (On Demand)

- Electronic Positioner (4–20 mA / 0–10 V DC)
- Stroke Transmitter (4–20 mA)
- Potentiometer Feedback
- Space Heater
- Fail-Safe Device
- MODBUS (RS485) Communication
- Additional Auxiliary Limit Switches