

## Model Details ;-

### **SD-2000 Series with Linear-to-Rotary Converter**

The **SD-2000 Series Linear-to-Rotary Electric Actuator** from **SDTORK Controls Pvt. Ltd.** is a robust and reliable solution for precise valve automation in a wide range of industrial applications. Engineered for **on-off quarter-turn operations**, this actuator efficiently converts linear motion into controlled rotary movement, ensuring accurate valve positioning and dependable performance.

Designed to operate in **harsh and demanding environments**, the SD-2000 Series features a **rugged aluminium alloy enclosure** with **IP65 weatherproof protection**, safeguarding internal components against dust, moisture, and adverse climatic conditions. This makes it suitable for both **indoor and outdoor installations**, including continuous-duty industrial settings.

The actuator is equipped with a **synchronous stall-duty motor** that delivers smooth, stable torque throughout the operating cycle. Integrated **micro travel limit switches** provide precise end-position control, protecting the valve and actuator from over-travel and mechanical stress. Its **stay-put mechanism** ensures the valve remains securely in position even during power interruptions, enhancing system safety and reliability.

With its **compact design, low maintenance requirements, and long operational life**, the SD-2000 Series is an ideal choice for industries seeking a cost-effective yet high-performance electric actuator solution. Backed by SDTORK's engineering expertise and quality manufacturing standards, this actuator delivers consistent performance, ease of installation, and dependable service over extended operating periods.

### **Technical Overview**

**Type:** Weatherproof Linear-to-Rotary Electric Actuator (Single Phase)

**Torque Output:** 40 Nm to 200 Nm

**Stroke Range:** 32 mm to 60 mm

**Construction:** Heavy-duty Aluminium Alloy Housing – Corrosion-resistant and durable

**Motor Type:** Single Phase Synchronous Stall Duty Motor (Stayput Type)

**Operation:** Converts Linear Motion into Rotary Output (0°–90°)

**Torque Limit Switch:** Not Applicable (Inherent Stall Duty Motor Protection)

**Actuator Duty:** On-Off Duty,

**Ingress Protection:** IP65,IP67 (Weatherproof & Dustproof)

**Manual Operation:** Linear Drive with Self-Locking Mechanism (Optional Handwheel)

**Ambient Temperature:** –20°C to +70°C

#### **Supply Voltage:**

- Single Phase: 230 VAC / 110 VAC ±10%, 50 Hz ±5%

**Operating Angle:** 0°–90°

**Mounting Type:** Base Mount / Bracket Type – Suitable for Linear-to-Rotary Conversion Applications

**Motor Speed:** 1400 RPM

**Operating Speed:** 71 to 231 Seconds / 90° (Model Dependent)

## Optional Features (On Request)

- **Linear-to-Rotary Convertor Assembly** for precision control of rising-stem valves.
  - **Space Heater** to prevent condensation in humid conditions.
  - **Torque & Position Feedback (4-20 mA)** for remote monitoring.
  - **Mechanical & Electrical Interlocks** for added safety.
  - **Local/Remote Selector Switch with Manual Controls.**
  - **Fieldbus Communication Compatibility:** MODBUS / PROFIBUS / HART / Bluetooth Interface.
  - **Flameproof or Explosion-Proof Enclosure (Ex-d IIB/IIC, T4).**
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## Applications

- Linear-rising stem valve automation (using Linear-to-Rotary convertor)
  - Butterfly, Ball, and Plug Valves
  - Dampers and Diverter Valves
  - HVAC and Power Plant Systems
  - Oil & Gas Pipelines
  - Water & Wastewater Treatment Plants
  - Process and Petrochemical Industries
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## Why Choose the SD-2000 Series

- **High Torque Output:** Capable of handling heavy-duty industrial applications.

- **Versatile Design:** Linear-to-Rotary convertor ensures compatibility with a wide range of valve types.
- **Rugged & Reliable:** Designed to operate under harsh industrial and outdoor conditions.
- **Ease of Maintenance:** Modular design enables quick inspection and service.
- **Smart Control Options:** Compatible with modern digital communication protocols for Industry 4.0 readiness.
- **Proven Performance:** Built to meet international standards for safety, durability, and precision.

### **SD-2001-04 – Linear Stayput Electric Actuator (40 Nm)**

The **SD-2001-04 Linear-to-Rotary Electric Actuator** is a compact and efficient solution designed for **small valve and damper automation applications** where precision and reliability are essential. With a **torque output of 40 Nm**, this model delivers smooth and consistent linear-to-rotary motion, ensuring accurate quarter-turn operation for light-duty industrial processes.

Engineered for dependable performance, the SD-2001-04 features a **robust aluminium alloy housing** that provides excellent mechanical strength while remaining lightweight and easy to install. Its **IP65 weatherproof enclosure** protects internal components from dust and moisture, making it suitable for both indoor and outdoor installations.

The actuator is powered by a **reliable synchronous stall-duty motor**, offering stable torque and controlled movement throughout its operating cycle. **Precision micro travel limit switches** ensure accurate OPEN and CLOSE positioning, protecting the valve or damper from over-travel and enhancing operational safety.

With its **compact footprint, low power consumption, and minimal maintenance requirements**, the SD-2001-04 model is an ideal choice for **water treatment systems, HVAC applications, and small industrial process automation**, delivering long service life and consistent performance backed by SDTORK's engineering quality.

#### **Technical Specifications:**

- **Rated Torque:** 40 Nm
- **Stroke:** 32 mm

- **Operating Speed:** 123 sec per 90° rotation
- **Motor Speed:** 5.2 RPM
- **Duty Cycle:** On-Off Duty
- **Ingress Protection:** IP65
- **Supply Voltage:** 230 VAC / 110 VAC ±10%, 50 Hz / 60 Hz ±5%
- **Weight:** Approx. 12 kg
- **Mounting Type:** Standard E-Type Coupling

#### Applications:

- Water & Wastewater valve automation
- HVAC systems and air dampers
- Compact process automation systems

#### Why Choose SD-2001-04?

- Compact and lightweight design
- Reliable on-off control
- Maintenance-free operation

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### **SD-2001-06 – Linear Stayput Electric Actuator (68 Nm)**

#### Overview

The **SD-2001-06 Linear Stayput Electric Actuator** is designed to deliver **reliable medium-range torque and precise motion control** for valve and damper automation in industrial and utility applications. With a **torque output of 68 Nm** and an **extended 60 mm stroke**, this model is ideally suited for **moderate valve sizes** requiring stable and accurate linear-to-rotary conversion.

Engineered for consistent performance, the SD-2001-06 features a **robust aluminium alloy housing** that ensures mechanical strength, durability, and resistance to harsh operating conditions. Its **IP65 weatherproof enclosure** protects internal components from dust and moisture, making it suitable for both indoor and outdoor installations.

The actuator is equipped with a **synchronous stall-duty motor** that provides smooth, controlled torque throughout the operating cycle. Integrated **precision micro travel limit switches** ensure accurate OPEN and CLOSE positioning, preventing over-travel and reducing mechanical stress on valves and linkages. The **stayput mechanism** securely holds the valve position during power loss, enhancing system safety and operational reliability.

With its **balanced torque output, extended stroke length, compact design, and low maintenance requirements**, the SD-2001-06 is an ideal solution for **process industries, utility pipelines, water treatment systems, and flow control applications**, delivering dependable performance backed by SDTORK's proven engineering expertise.

#### **Technical Specifications:**

- **Rated Torque:** 68 Nm
- **Stroke:** 60 mm
- **Operating Speed:** 231 sec per 90° rotation
- **Motor Speed:** 5.2 RPM
- **Duty Cycle:** On-Off Duty
- **Ingress Protection:** IP65
- **Supply Voltage:** 230 VAC / 110 VAC ±10%, 50 Hz / 60 Hz ±5%
- **Weight:** Approx. 14 kg
- **Mounting Type:** E-Type Coupling

#### **Applications:**

- Water treatment and flow control
- Process valves in chemical plants
- HVAC and industrial dampers

#### **Why Choose SD-2001-06?**

- Longer stroke for larger valve travel

- High reliability with stall duty design
  - Corrosion-resistant aluminium body
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## ⚙️ SD-2001-15 – Linear Stayput Electric Actuator (150 Nm)

The **SD-2001-15 Linear Stayput Electric Actuator** is a **high-torque solution** engineered for **demanding valve and damper operations** in heavy-duty industrial applications. Delivering a powerful **150 Nm torque output**, this model is ideal for larger valve sizes and systems requiring strong, reliable actuation with precise control.

Built with a **robust aluminium alloy housing**, the SD-2001-15 offers excellent mechanical strength and durability in challenging operating conditions. Its **IP65 weatherproof enclosure** provides effective protection against dust and moisture, enabling dependable performance in both indoor and outdoor installations.

The actuator features a **high-efficiency synchronous stall-duty motor**, ensuring smooth torque delivery and stable operation throughout the actuation cycle. With a **fast operating time of approximately 71 seconds**, the SD-2001-15 enables efficient valve movement without compromising accuracy. **Precision micro travel limit switches** ensure exact OPEN and CLOSE positioning, protecting the valve mechanism from over-travel and wear.

Equipped with a **stayput mechanism**, the actuator securely maintains valve position during power interruptions, enhancing operational safety and system reliability. Combining **high torque capacity, fast response, low maintenance, and long service life**, the SD-2001-15 is an ideal choice for **process industries, utility systems, water treatment plants, and other demanding industrial environments**, backed by SDTORK's proven engineering and quality standards.

### Technical Specifications:

- **Rated Torque:** 150 Nm
- **Stroke:** 32 mm
- **Operating Speed:** 71 sec per 90° rotation
- **Motor Speed:** 4.5 RPM
- **Duty Cycle:** On-Off Duty
- **Ingress Protection:** IP65

- **Supply Voltage:** 230 VAC / 110 VAC  $\pm 10\%$ , 50 Hz / 60 Hz  $\pm 5\%$
- **Weight:** Approx. 18 kg
- **Mounting Type:** E-Type Coupling

#### Applications:

- Power generation plants
- Oil & gas terminals
- Process industries and refineries

#### Why Choose SD-2001-15?

- High torque for heavy valve actuation
  - Rugged, industrial-grade performance
  - Smooth linear-to-rotary motion
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### **SD-2001-20 – Linear Stayput Electric Actuator (200 Nm)**

#### Overview

The **SD-2001-20 Linear Stayput Electric Actuator** is the **highest-torque and most powerful model** in the **SD-2000 Series**, engineered for **large valve automation and high-load industrial applications**. With an impressive **200 Nm torque output** and a **60 mm stroke**, this actuator is designed to handle demanding operating conditions where strength, precision, and reliability are critical.

Constructed with a **heavy-duty aluminium alloy housing**, the SD-2001-20 provides superior mechanical robustness and long-term durability in harsh industrial environments. Its **IP65 weatherproof enclosure** ensures effective protection against dust and moisture, making it suitable for both indoor and outdoor installations.

The actuator is powered by a **high-performance synchronous stall-duty motor**, delivering smooth, controlled torque throughout the actuation cycle. **Precision micro travel limit switches** provide accurate OPEN and CLOSE positioning, preventing over-travel and reducing mechanical stress on the valve assembly. The integrated **stayput mechanism**

securely holds the valve position during power loss, enhancing operational safety and system stability.

With its **high torque capacity, reliable linear-to-rotary conversion, low maintenance design, and long service life**, the SD-2001-20 is an ideal solution for **large valves, high-flow pipelines, utility systems, water treatment plants, and heavy industrial process automation**, supported by SDTORK's proven engineering expertise and quality manufacturing standards.

#### **Technical Specifications:**

- **Rated Torque:** 200 Nm
- **Stroke:** 60 mm
- **Operating Speed:** 133 sec per 90° rotation
- **Motor Speed:** 4.5 RPM
- **Duty Cycle:** On-Off Duty
- **Ingress Protection:** IP65
- **Supply Voltage:** 230 VAC / 110 VAC ±10%, 50 Hz / 60 Hz ±5%
- **Weight:** Approx. 20 kg
- **Mounting Type:** E-Type Coupling

#### **Applications:**

- Heavy-duty flow control systems
- Large industrial valves
- Oil & gas, chemical, and power sectors

#### **Why Choose SD-2001-20?**

- Maximum torque and stroke capacity
- Proven stability under harsh conditions
- Designed for long life and dependable performance



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## **Optional Accessories (On Request)**

- **Position Feedback Potentiometer:** 100–235  $\Omega$  / 0–500  $\Omega$  / 0–1000  $\Omega$
- **Position Transmitter:** 4–20 mA output (actuator-mounted)
- **Position Controller Unit (PCU):** Field or panel-mounted, 4–20 mA / 0–10 V DC input
- **Remote Position Indicator:** Digital 0–100% display
- **Local Control Station:** Local/remote selector with push buttons
- **Space Heater:** Prevents internal moisture and condensation

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## **Industries Served**

- Water & Wastewater Treatment
- Power Generation & Energy
- Oil & Gas Pipelines and Terminals
- HVAC & Building Automation
- Chemical & Process Industries

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## **Why Choose SDTORK SD-2000 Series**

- Engineered and tested for long service life
- Stayput design ensures position retention on power loss
- Fully weatherproof and corrosion-resistant
- Custom solutions available for speed, torque, and control
- Supported by SDTORK's trusted service and global expertise

# SD-2001 Series

## Linear to Rotary Weatherproof Electric Actuator with Supplementary Rotary Gear Box

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### 1) Product Overview

The **SDTORK SD-2001 Series** electric actuator is specifically designed for **linear, quarter-turn, and angular actuation applications**, offering precise remote control of industrial valves and dampers.

Equipped with a **Supplementary Rotary Gear Box**, the SD-2001 Series efficiently converts linear motion into rotary motion, making it ideal for butterfly and ball valve automation.

Primarily developed for **control and regulating duty applications**, this actuator ensures accurate positioning, smooth modulation, and reliable long-term performance. Its advanced mechanical design enhances operational stability and torque transmission while maintaining compact construction.

The SD-2001 Series adds value to customers through:

- Versatility
- Robustness
- Reliability
- Economy

Engineered for demanding industrial environments, this actuator delivers consistent performance with minimal maintenance requirements.

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### 2) Technical Overview

Parameter

Specification

Series	SD-2001 Series
Description	Linear to Rotary Weatherproof Electrical Actuator with Supplementary Rotary Gear Box
Applications	Butterfly Valve, Ball Valve
Torque Range	40 Nm, 70 Nm, 150 Nm, 200 Nm
Supply Voltage	230 VAC / 110 VAC / 24 VDC
Frequency	50 Hz / 60 Hz
Mounting	As per ISO 5211
Motor Type	Synchronous Stall Duty Motor
Protection Class	IP65, IP66 & IP67
Characteristic	On-Off / Inching / Regulating
Handwheel	Auto-Declutching System
Area of Application	Safe (Non-Hazardous)

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## 3) Applications

### Suitable Equipment

- Butterfly Valves
- Ball Valves
- Quarter-Turn Control Valves
- Rotary Dampers

### Industries Served

- Cement Industries
  - Power Generation
  - Paper Industries
  - Water & Wastewater Treatment Plants
  - HVAC Applications
  - Effluent Treatment Plants
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## 4) Key Features & Benefits

- **Excellent Positioning Accuracy** for control and regulating duties
- **Smooth Linear-to-Rotary Conversion** via supplementary gear box
- **Long Service Life & High Reliability**
- **Adjustable Valve Travel** for flexible configuration
- **High Mechanical Stiffness (Self-Locking)**
- **Consistent Closing Force** through internal disc-spring mechanism
- **Silent & Jerk-Free Operation**

- **Impact & Corrosion Resistant Aluminium Housing**
  - **Flexible Mounting Positions** (except downward orientation)
  - **Manual Handwheel** for startup and emergency operation
  - **Wide Range of Automation Accessories Available**
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## 5) **Why Choose SDTORK SD-2001 Series**

- Specifically engineered for rotary valve control applications
  - Compact yet powerful actuator with supplementary rotary gearbox
  - Ideal for modulating and regulating control duties
  - Multiple voltage options for flexible system integration
  - Designed for safe, reliable, and long-term industrial operation
  - Backed by SDTORK's engineering expertise and after-sales support
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## **Standard Accessories (By Default)**

- Travel Limit Switches
  - Local Position Indicator
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## **Special Accessories (On Demand)**

- Potentiometer
- Position Transmitter
- Controller

- Local Control Station
- Positioner (4–20 mA / 0–10 V DC)
- MODBUS Communication (RS485 Protocol)
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