

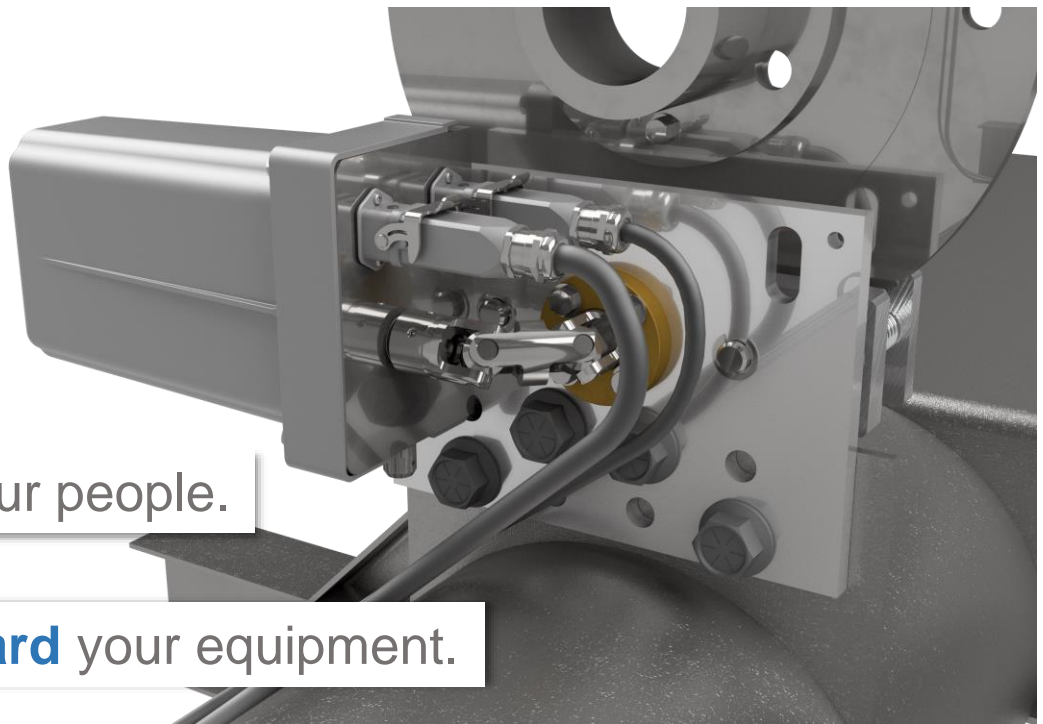


Fan Brake Automation

Cooling Towers

Air Cooled Condensers

A Solution from Tex Tenn Innovations



Protect your people.

Safeguard your equipment.

Product Overview



What is Smart Stop?

Smart Stop is a fan brake automation technology designed to retrofit on to Rexnord® manual disc brakes (“Brake”). When installed, the system allows for discrete, intelligent electrical actuation of the Brake. The brake actuation is governed by proprietary control logic, allowing facilities to isolate fans safely and efficiently. The standard Smart Stop System (“System”) includes an electronic brake actuator (“Electric Actuator”), a local control panel (“Control Panel”) and cabling between the electric brake actuator and control panel (“Cabling”).

What are the Benefits?

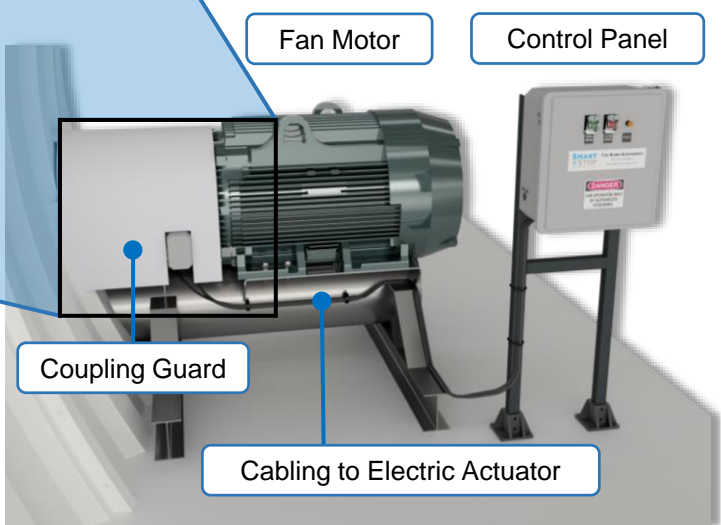
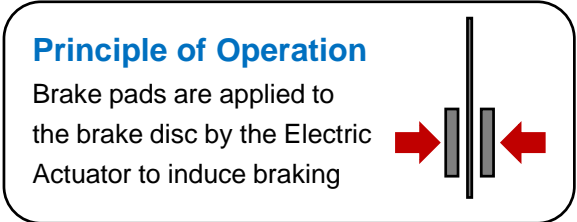
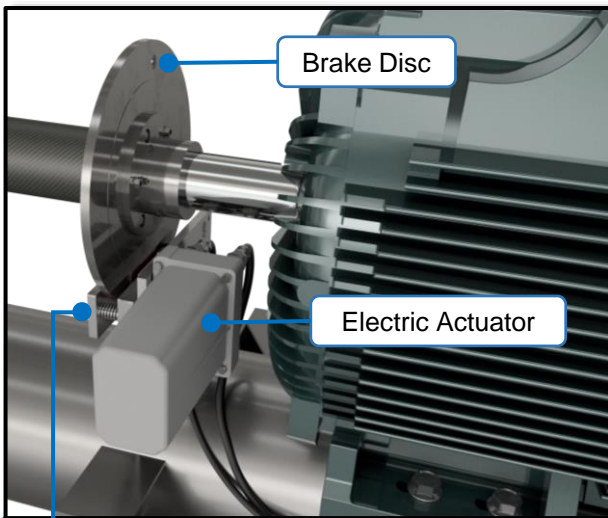
Personnel Safety

Smart Stop provides personnel with the means to dynamically brake and isolate fans in order to reliably control hazardous potential energy before making entry into the fan stack area.

Equipment Protection

During high wind events, fans can free-wheel at unsafe speeds, potentially damaging equipment. With Smart Stop, the fans can be isolated rapidly from the safety of a remote location.

Smart Stop Installation

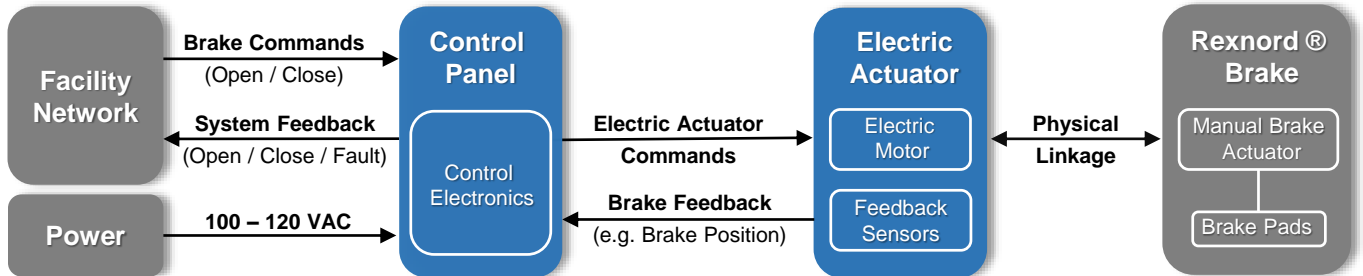


Intelligent & Discrete Control of Brake Actuation

Features & Functionality



Smart Stop System Diagram



Primary Automation Features



Remote Operation & Networking

Operate the System remotely through Digital I / O or Modbus TCP



Active Fault Monitoring

The System continuously monitors for fault conditions that could impede operation



Safe Braking Technology

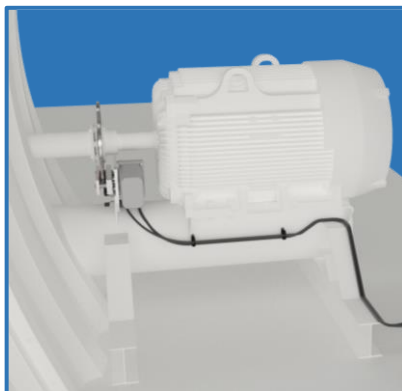
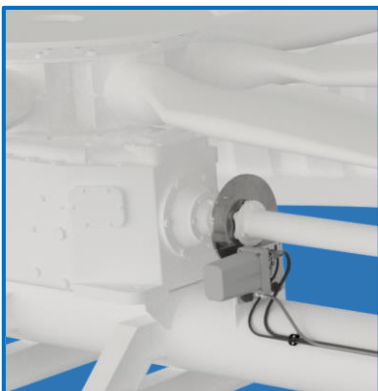
Proprietary, patent pending control logic regulates braking torque in real time



Fan Motor Protection

The System can be installed to prohibit brake closure during fan motor operation

Installation Flexibility: Mount Inside or Outside of Fan Stack



Smart Stop has been designed and tested for use in harsh cooling tower environments.

Facilities can mount the Electric Actuator inside or outside of the fan stack.

Designed for Harsh Conditions

Smart Stop Components



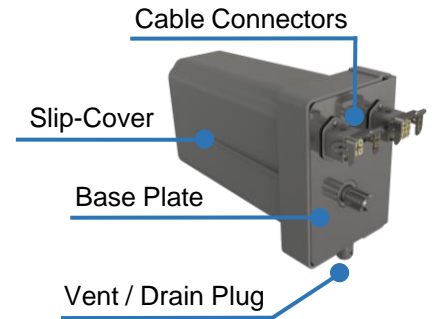
What is Included?

The System is comprised of three components: the Electric Actuator, the Control Panel, and the Cabling between the Electric Actuator and Control Panel. It does **not** include a Rexnord ® Brake. If necessary, Tex Tenn Innovations can furnish a Rexnord ® Brake as a separate line item.

Electric Actuator

Overall Dimensions (H x W x D)	7.0" x 4.4" x 11.3"
Slip-Cover Material	Epoxy Coated, Thermoplastic
Base Plate Material	Stainless Steel
External Hardware	Stainless Steel
Operating Temperature Range	14°F – 158°F*

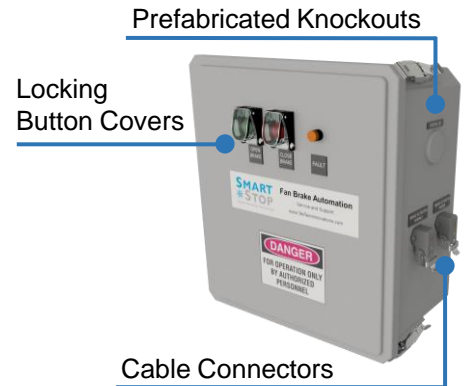
**Extreme Climate Packages Available Upon Request*



Control Panel

Overall Dimensions (H x W x D)	17.5" x 16.0" x 9.0"
Enclosure Rating	NEMA 4X, IP66
Certifications	UL508A
Enclosure Material	Polyurethane
External Hardware	Stainless Steel
Power Supply	100 to 120 VAC, 50 or 60 Hz
Buttons w/ Indicator Light	Close Button, Open Button
Indicator Light	Fault Light
Operating Temperature Range	14°F – 104°F*

**Extreme Climate Packages Available Upon Request*



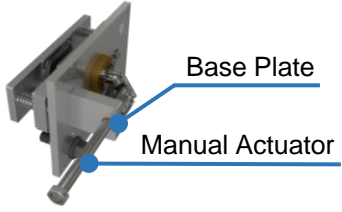
Power & Signal Cables

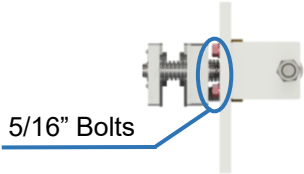
Length Options Available	5', 10', 20', 30'
Connector Rating	IP67
Electric Actuator Connector Material	Stainless Steel
Control Panel Connector Material	Powder Coated Zinc
Outer Cable Material	UV Resistant PVC Jacket

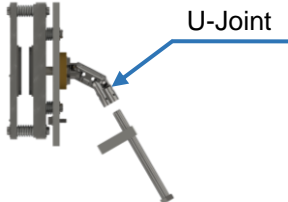


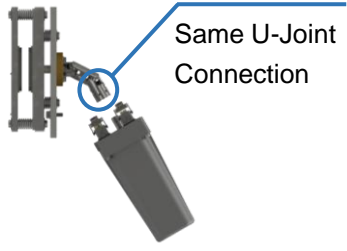
Electric Actuator Installation Detail

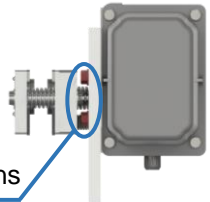
Retrofit of Brake with Electric Actuator

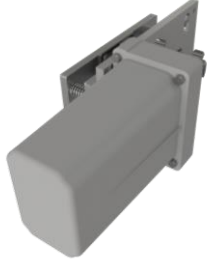
- 1 Rexnord® Brake**


The Electric Actuator can be retrofit onto an existing Brake or a new Brake.
- 2 Loosen 5/16" Bolts**


Without disassembling the Brake, loosen the 5/16" bolts that secure the current base plate.
- 3 Remove Manual Actuator**


With the bolts loosened, the Manual Actuator can be detached from the U-Joint.
- 4 Align Electric Actuator**


Align the Electric Actuator with the original U-Joint and 5/16" bolt connections.
- 5 Secure Electric Actuator**


Using the same 5/16" bolts that have remained in place, secure the Electric Actuator.
- 6 Retrofit of Brake Complete**


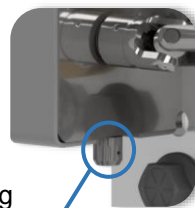
Ensure the Electric Actuator is aligned properly so that it turns freely. Retrofit is now complete.

Vent / Drain Requirements

The Electric Actuator is fitted with a vent / drain port on the bottom of its base plate. This port must be vented outside of the fan stack for proper operation. For installations inside of the fan stack, a dedicated vent / drain line is required.

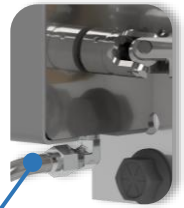
Outside of Fan Stack

Standard Vent / Drain Plug



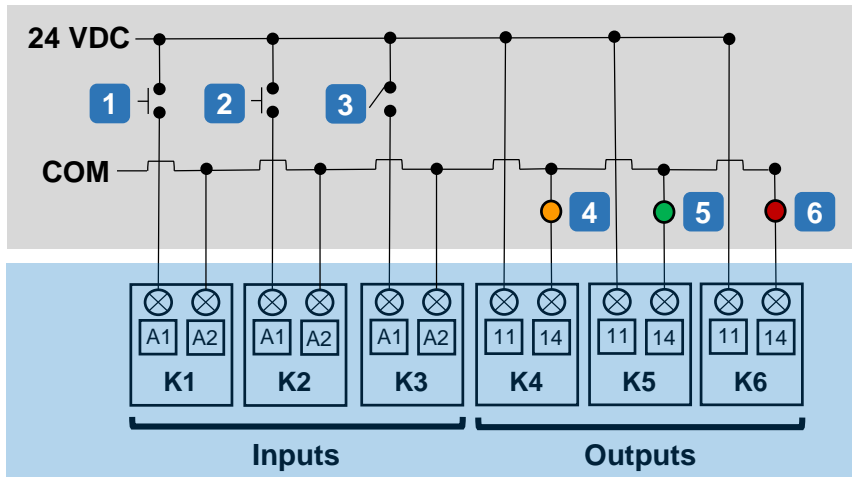
Inside of Fan Stack

1/4" Dedicated Vent / Drain Line



Control Panel Wiring & Electrical Detail

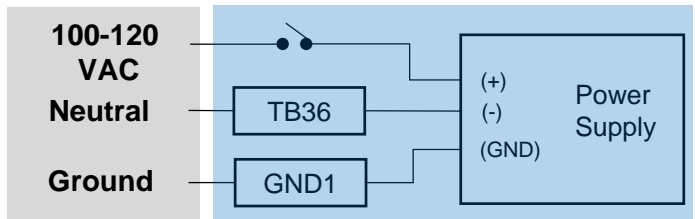
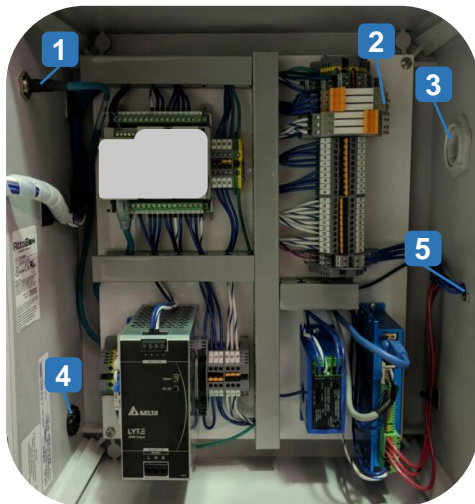
24 VDC Digital Input / Output Wiring



- Facility
- Control Panel
- 1** Brake Close Button
- 2** Brake Open Button
- 3** Fan Motor Switch
- 4** Fault Status Indicator
- 5** Open Status Indicator
- 6** Close Status Indicator

Control Panel Interior

Power Supply Wiring



- 1** Ethernet Connection for Modbus TCP
- 2** 24 VDC Digital I / O Connections
- 3** Prefabricated Knockout – Digital I / O
- 4** Prefabricated Knockout – Power Input
- 5** Cable Connectors

Current Draw Information

- Inrush Current**.....8.2 A
Occurring for approximately four (4) microseconds when voltage is first supplied to control panel.
- Standby**.....0.3 A
Amp consumption during standby operation. This is the current draw even when the Brake is being held closed.
- Active Braking**.....1.3 A
Amp consumption during active braking events which will typically last less than one (1) minute.

Take a Modern Approach to Fan Safety

How Does Your Team Isolate Fans Prior to Entering the Fan Stack Area?



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