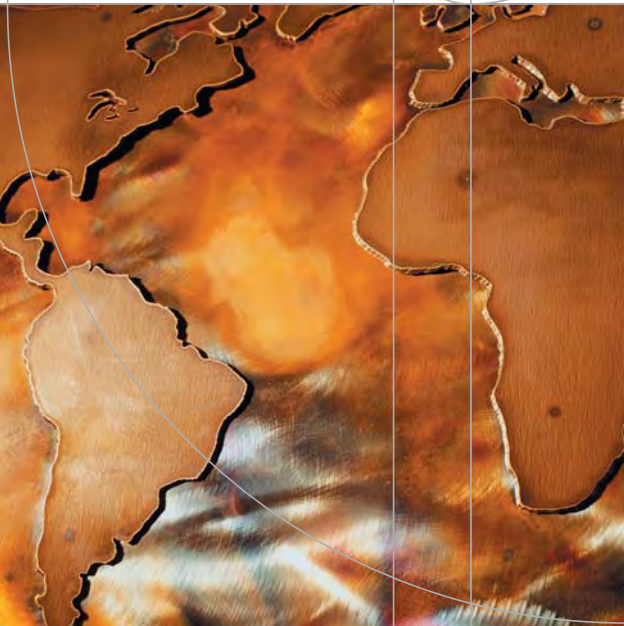




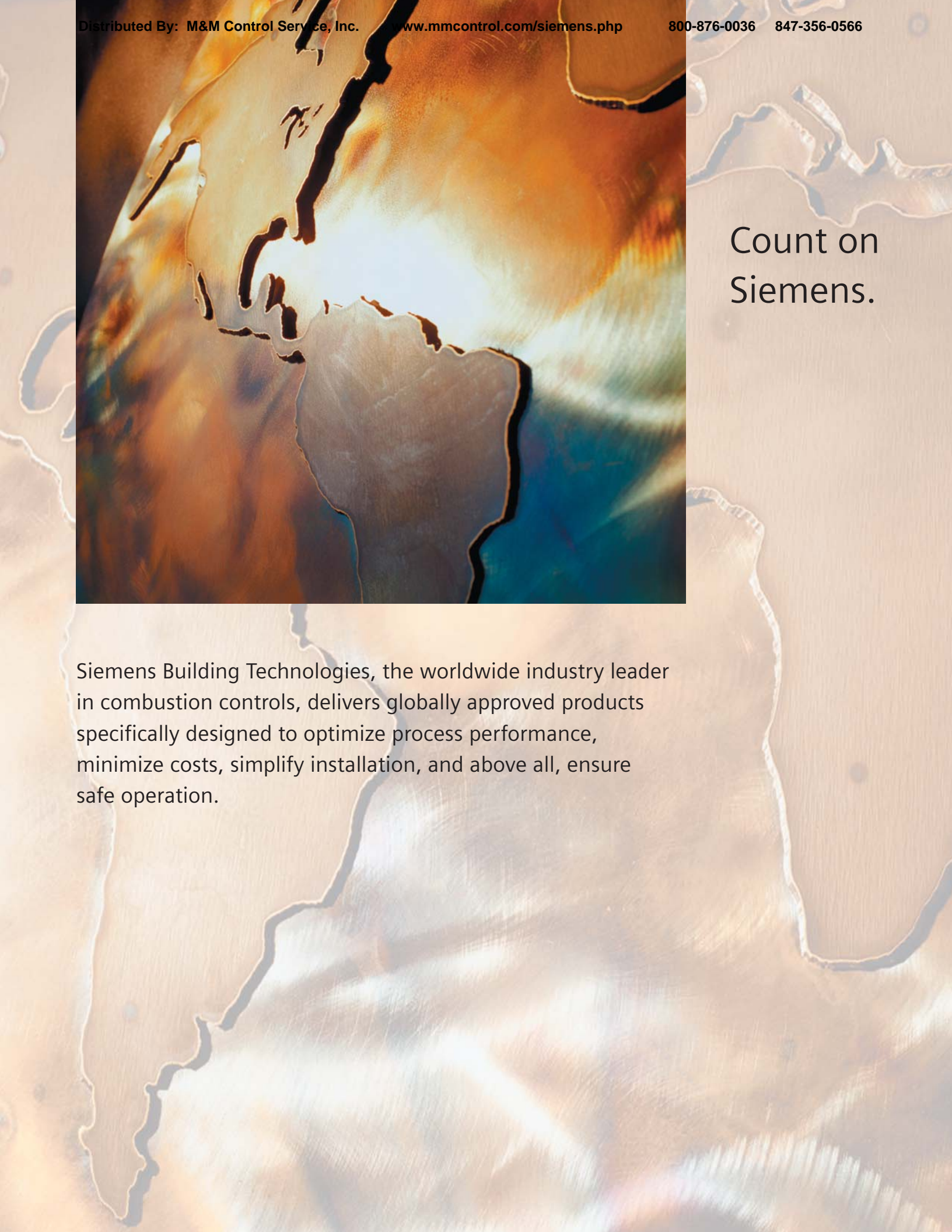
# SIEMENS

Building Technologies



## Combustion Control Systems





Count on  
Siemens.

Siemens Building Technologies, the worldwide industry leader in combustion controls, delivers globally approved products specifically designed to optimize process performance, minimize costs, simplify installation, and above all, ensure safe operation.

# Siemens, the global leader in combustion controls delivers – again.

From small commercial boilers to large industrial burners, count on Siemens combustion controls for unparalleled safety, outstanding performance and proven reliability.

## Why Siemens?

- Global product portfolio
- Worldwide safety approvals
- Applications expertise
- Inventory ready for immediate delivery
- World-class technical support

With over 40 years of experience in the combustion controls industry, Siemens has built a solid foundation of quality products based on industry-leading innovations and expertise in combustion control applications. Leverage the advantages of working with a world-class supplier – from a globally approved product portfolio that can deliver universal solutions to expert engineering and technical support. When you think combustion controls, think Siemens.



**We implement solutions across the country or around the world**

By partnering with Siemens, you will not only benefit from our expertise in combustion controls, but also our experience as a global supplier. We understand the issues and challenges that you face and can help you seamlessly implement a universal solution for your company across the country or around the world. As a member of multiple worldwide standards and application committees, Siemens engineers can assist with compliance, including UL, CSA, CE, NFPA and ISO 9001. With offices and approvals in over 100 countries, Siemens is best positioned to support your international business objectives.

**We are serious about your business**

We make it our business to understand your business – and deliver the best solution. Siemens application and design engineers are leaders in the industry and continue to develop products that reduce installation costs, improve performance, and ensure safe operation. We'll help you design a solution that meets your specific needs.

**We exceed your expectations to ensure your satisfaction**

Siemens Combustion Control products are inventoried in our North American factory. Most standard products are in stock for same day shipment.

For product or application questions, our dedicated technical support team is available to answer your questions quickly and completely. We understand that customer support extends beyond the sale, beyond installation and beyond commissioning – for the life of the project. Our goal is your satisfaction.



Whether you need to implement a solution locally, across the country or around the world, Siemens can help.

# LMV... Linkageless Burner Management System



The LMV... Linkageless Burner Management System sets the standard high – from easy installation, programming and commissioning to reliable, proven control. Quite frankly, it is all about the control. With the LMV, Siemens forges new ground delivering a fully integrated system that is not only easy to install and use, but also provides improved burner performance and efficiency, and ensures safe operation.

## Fully integrated user interface is easy to use and program

Programming and commissioning of the LMV takes minutes, not days – so you get up and running fast. Use the AZL Programming/Annunciator Display, an easy-to-use touch pad, for monitoring or programming your system. Simply log in, select the programming option from the menu, and define the specific parameters. It is that easy.

For fast, at-a-glance monitoring, the AZL displays and annunciates the current burner status at all times, including flame signal strength, firing rate and set point. For alarm conditions, view the lockout and fault history in plain text for fast response to critical situations. Because the AZL Display is fully integrated with the system for monitoring or troubleshooting – there is no need to interface with a PC.



The AZL interfaces with the system for fast, easy programming, at-a-glance monitoring, and alert and troubleshooting for alarm conditions.

**Key features and benefits include:**

- Completely integrated burner control with fully modulating flame safeguard from a single source
- Integrated fuel-air ratio control system with single or dual-fuel applications for greater flexibility
- Controls up to six independent actuators for optimal efficiency in low NOx burner applications
- Integrated gas valve proving system that checks for leaks on every burner cycle for maximum safety
- High accuracy and resolution with 900 highly repeatable actuator positions for efficient operation
- Digital positioning feedback from actuators ensure precise control, unmatched repeatability and proven reliability
- Up to 15 programmable points per fuel-air ratio curve for greater flexibility and tighter control
- Independent ignition position for greater flexibility
- Annunciation of over 500 standard faults allowing fast response to trouble conditions
- Integrated PID Temperature/Pressure Controller with autotune for extremely accurate control
- VFD control with actual motor RPM speed sensor provides reliable, efficient and safe control of the combustion air blower
- World-wide approvals and technical support

**Accuracy is the key to control**

SQM4 Linkageless Actuators provide extreme accuracy for your burner. Driven by a digital can-bus signal, the actuator's movement is highly accurate to 1/10 of one degree. A digital feedback signal ensures the correct position is maintained throughout the actuator's modulating range. If an actuator should fall out of position, the LMV Burner Management System automatically locks out. This tight control ensures that the burner will always perform with repeatability and accuracy as well as within the recommended safety parameters.



SQM actuators are available in 27, 180 and 360 in.-lbs. for highly accurate and reliable control.

**Reliable flame monitoring for safe operation**

The solid-state flame detector continuously monitors the flame and filters line voltage frequencies to prevent detection of the spark or its reflection. The detector is self-checking and approved for use on burners that operate on a continuous basis. The self-checking function has no moving parts to ensure reliable operation and long-life. UV self-checking flame detector is also available.

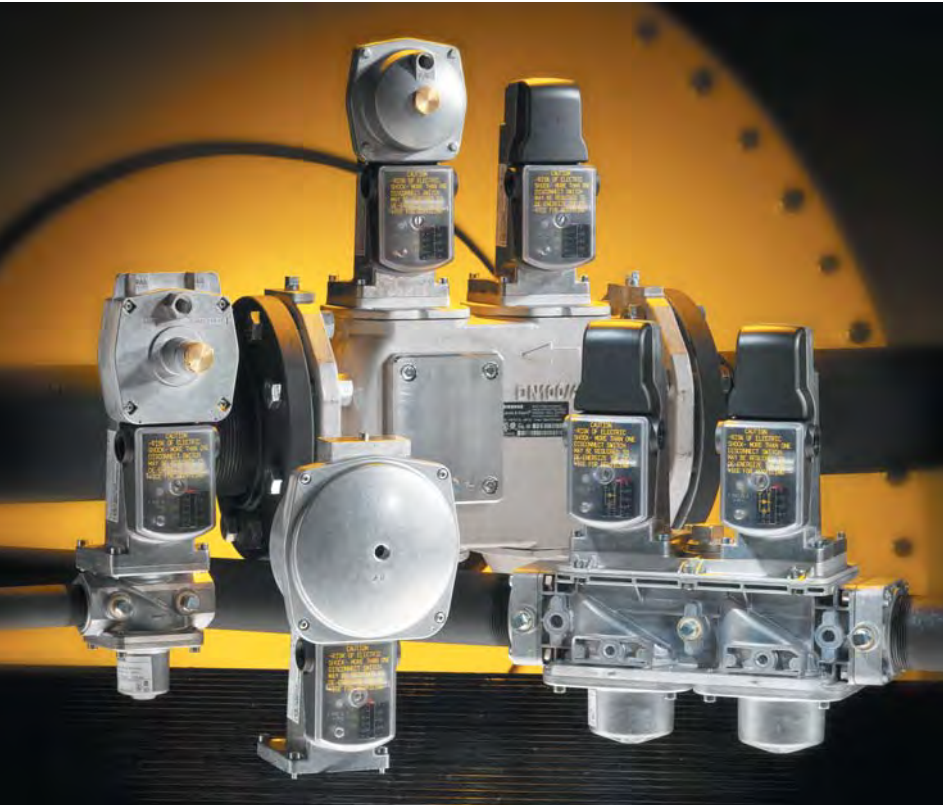


For continuous flame monitoring, the QRI Self-checking Flame Detector provides reliability and safe operation.

**More options for saving energy and expense**

High impact options deliver even tighter control to meet your specific needs to improve process control and reduce energy costs, including the O<sub>2</sub> Trim System, Variable Frequency Drive and VFD Sensor and Commissioning Tool.

# Multi-functional Gas Valves and Actuators close off the competition



Designed to install faster, operate safer, and deliver proven reliability, Siemens VG Series Single and Double Gas Valves, combine with SKP Series Electro-hydraulic Actuators, to provide gas safety shutoff, constant pressure regulation and air/gas ratio control.

## **VG Series Gas Valves and SKP Series Actuators are designed for *less train, more gain***

Designed as one compact assembly, the durable VGD Series Double Gas Valve Bodies, paired with SKP Series Actuators, reduce the number of gas train components. Modular, multi-functional SKP Actuators easily connect to the valve bodies to meet your specific application needs for safety shutoff, pressure regulation and air/gas ratio control. Fewer components in the train mean lower pressure drops, better control of gas pressure, and most importantly, *significant reductions in the diameter and weight of the gas train*. The result is a streamlined gas flow control system and an overall cost savings.

To meet all of your application needs, VG Series Gas Valves are available in the following sizes:

- 1-1/2 to 3" threaded double valves
- 4 to 6" flanged double valves
- 1/2 to 3" threaded single valves

Rigorously tested with zero leakage test procedures, VG Series Gas Valves meet all applicable ISO safety and quality standards. Double Valve Bodies provide the functionality of two safety shutoff valves in series. Additional space and cost saving are realized when utilizing the multi-functional SKP 25/55/75 actuators.



**SKP Actuators for gas safety shutoff control**

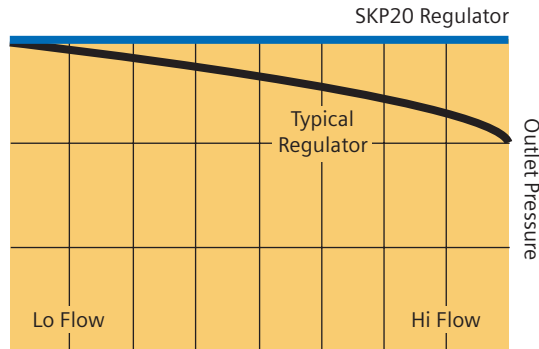
Providing gas safety shutoff control for industrial and commercial burner applications, all SKP Actuators deliver reliable and safe on-off control.

- Proof-of-Closure (POC) Over Travel to ensure safety
- Modular design and quick connect wire terminals for fast installations
- Extremely low 13.5 VA power consumption

**SKP25 Pressure Regulating/ Shutoff Actuators**

Performing both safety shutoff and gas pressure regulation, the SKP25 Electro-hydraulic Actuators eliminate the need for separately piped safety shutoff valves and pressure regulators.

- Accurate pressure control characteristics with zero offset or droop
- Pressure regulation to 20 PSI
- Applicable as a 1:1 air/gas proportionator or a zero governor
- High-bias ratio regulator



In conventional regulators, the compression of the set point spring significantly changes with flow, resulting in regulator droop, which impacts the performance of high turndown industrial burners. The design of the SKP25 Actuator provides superior control and performance by eliminating regulator droop and maintaining a constant pressure level, even in high turndown applications.

**SKP55 and SKP75 Multi-functional Actuators**

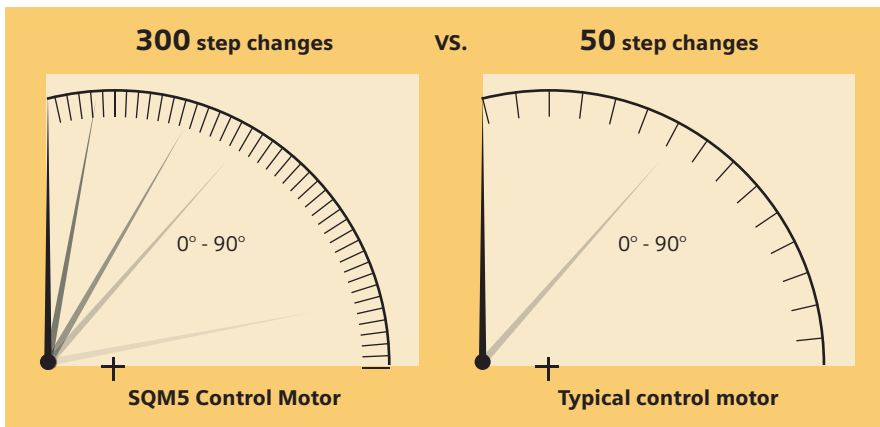
Eliminating the need for mechanical cams and linkages while optimizing performance, the SKP55 and SKP75 Electro-hydraulic Actuators perform three functions: safety shutoff, gas pressure regulation and air/gas ratio control for enhanced safety and control.

- Optimal solution for premix burner applications
- Compensates for variance in combustion chamber back pressure
- Ideal for applications with preheated combustion air
- Low fire excess air bias adjustment



# SQM Control Motors deliver extremely accurate control

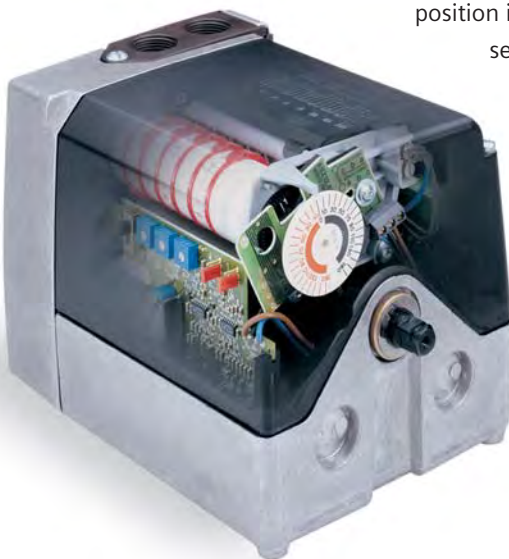
Siemens SQM5 Control Motor provides extremely accurate control and dramatically improves process control performance. Designed with 300 step changes, the Siemens SQM5 responds with a high degree of accuracy and resolution to meet your most demanding process control needs.



If precision is important in your process application, compare the SQM5's degree of accuracy to the competition. Each step translates into 3/10 of one degree for extremely accurate control.

## **SQM5 Control Motor**

No other control motor on the market offers more standard features to meet your need for accuracy and reliability with six adjustable switches, an easy-to-read visual position indicator dial and an auto/manual selector switch. Additionally, the SQM5 is the only control motor to feature an electronic linearization function, allowing the SQM5's circuit board to electronically convert the input signal to match a typical butterfly valve's flow characteristics.

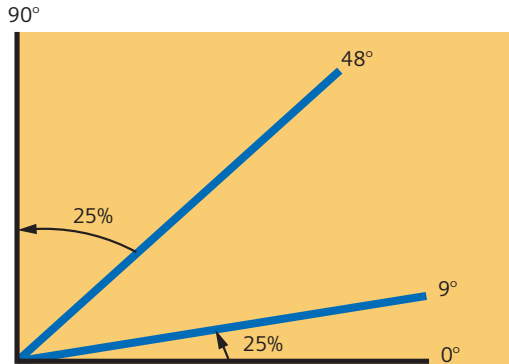


That means the motor makes smaller rotational movement when it receives lower input signals and larger movements with higher input signals. The result is equal step changes in flow throughout the entire range of rotation for superior process control performance.

The SQM5 provides up to four feed back signals and can be configured for split ranging. The encapsulated, internal potentiometer is protected from contamination when used in rugged industrial environments, eliminating costly replacement of control motors due to failed exposed potentiometers.

The SQM5 Control Motor features include:

- Shaft and switch cam disengagement clutches for quick manual alignment
- Low hysteresis actuator and potentiometer with double-offset gearing
- 90 to 400 in.-lbs. torque
- Field exchangeable components
- 24, 110 or 220 volt versions
- Mountable in any position
- Auto/Manual toggle switches



The electronic linearization function improves process performance by providing equal flow rate changes throughout the modulating range. In this example, an input signal change from 4 to 8 mA (25%) will cause a 9° rotational movement of the butterfly valve, resulting in an equal 25% change in flow.



**High value options protect your investment**

**RWF40 Temperature Controller**  
The RWF40 Temperature Controller is the only single loop temperature control on the market designed and engineered specifically for burner/ boiler applications.



**LFL Flame Safeguard**  
With an incomparable record for safety and reliability, the globally approved LFL Flame Safeguard continues to be one of the most widely used flame safeguards around the world.



**SQN7 Control Motor**  
Designed to drive gas and air dampers for burners with small to medium capacities, the SQN7 Control Motor provides line voltage, floating control and optional feedback for low torque applications.



**LDU11 Valve Leak Test System**  
Globally approved LDU11 Gas Valve Leak Test System checks for any leakage through the shutoff valves prior to burner start-up and/or immediately after burner shut down.



**QP Pressure Switch**  
The QP Pressure Switch is available in a variety of pressure ranges and can be easily automatically or manually reset.



High value options provide increased safety, reliability and cost savings to your combustion controls system.

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