



COMBUSTION

Responsibility starts now – **burner components from Siemens**

www.siemens.com/buildingtechnologies-oem

SIEMENS

Responsibility starts now ...

Experience, expertise and dedication to all aspects of efficient combustion – Siemens offers quality components that are tailored precisely to an array of different applications while not forgetting that all-important functionality. And by offering a broad mix of mechanical, electronic and sensor products, we are unmatched in today's marketplace.

What's more, we have the industry's widest product range for this segment. Here you will find safety, reliability and innovation underpinning not just our products but also our success – allowing us to devise forward-thinking solutions that keep pace with the ever-changing demands placed on burner technology, such as high efficiency, low emissions and the use of alternative fuels. In addition to this, Siemens works tirelessly in cooperation with its partners and research institutes to investigate and develop solutions for the future.

We are fully committed – to your burner operations and a sustainable future for generations to come!



Innovation you can rely on.

Burner systems for now and the years ahead.

The right solution every time – with products and systems from Siemens for the heating market

We are specialists in reliable and innovative systems and products for use in oil, hydrogen and gas burners, heating boilers, and alternative heating systems. From development and production, right through to global marketing. Our wide and varied product portfolio includes complete system solutions as well as burner controls, actuators, flame detectors, sensors, control systems, valves, and related test equipment.

Benefitting from the combination of our specialization with decades of experience in these fields, our products and systems deliver ideal solutions for all market segments – from single-family homes and residential buildings through commercial buildings and beyond to all manner of industrial applications.



Everything from a single source – teamwork, process optimization, and quality

Working in a team is not only an efficient way to think and do business, it also helps encourage innovation. In our OEM team, too, the opportunity for close collaboration and constant sharing of ideas and experience between our qualified and highly motivated staff members is crucial to our success in the global market.

	Residential Buildings	Commercial Buildings	Industry
Wall-hung boilers			
Floor-standing boilers			
Alternative heating systems			
Forced draft burners (small)			
Forced draft burners (med./large)			
Industrial burners			

Efficient components for small burners



Burner controls



Diagnosis units



Plug-in bases



Damper actuators



Operating units



Flame detectors

Standard range – made by Siemens

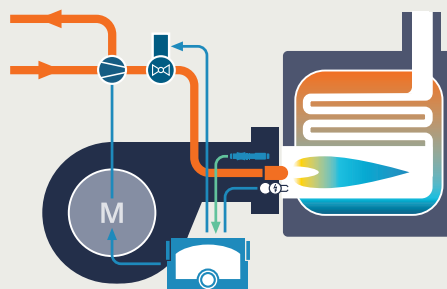
The successful LME (gas) and LMO (oil) burner controls reliably control burner operation. These units have proved their worth millions of times over and have set the standard for the market.

Each burner control has a 3-color LED as a status indicator: green for operation, yellow for burner start, and red for faults. This means that an error code can be issued via the LED to enable easy diagnosis.

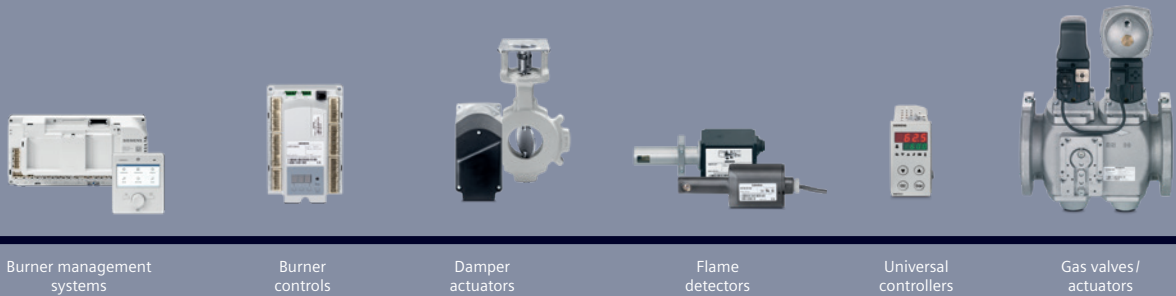
Models with a plug-in base or a fully assembled wiring unit are available, so customers can choose which version is right for them. Actuators in various different designs control the air dampers of the burners in multistage or modulating operation. Furthermore, flame detectors for yellow-flame and blue-flame burners can be used for intermittent operation. And methods such as kanban or just-in-time production make it possible to respond quickly to new customer requirements.

Highlights

- Program versions for forced draft burners and atmospheric burners
- Programmable times
- 3-color LED with traffic light function for indicating operation and faults
- Fault history can be read out on the burner control via software tool



High-performance solutions for large facilities



Compact systems for standard and high-end applications

From small burners to large 30 MW models – our components cover all load ranges. Every burner application – whether it is for water boilers, steam boilers, thermo oil, or industrial process plants – can be equipped with one of our products.

We offer simple sequence control with a fixed time program as well as complex ratio control with up to six connectable actuators. Furthermore, our safe and reliable burner controls and flame detectors for intermittent or continuous operation are complemented by our coordinated components, from actuators and valves to controllers – for optimized interaction.

The perfect partnership

Burner controls such as LME7 can be combined with numerous different synchronous motor actuators.

In the case of the LMV5/LMV6 ratio control, precise damper actuators combined with combustion optimization via O₂ control ensure low emissions and high efficiency.

The ease with which the compact LMV2/LMV3 ratio control can be integrated into the burner is impressive. Guided commissioning takes the user through the settings for the key parameters, making it even easier to activate the plant.

Highlights

- Integrated functions, such as variable speed drive control, valve proving system, load controller
- Display of operating states, program phases, and fault codes
- Combustion optimization via O₂ control
- Gas valves up to DN 150
- Damper actuators up to 60 Nm



Perfectly coordinated components for all tasks

			Fuel	Burner load (typical)	Control outputs for fuel valves	Intermittent operation (detector)	Oil preheater connection	Pilot burner connection	Fan connection	Air pressure supervision	Air damper control	Parameterizable times	Display connection
FIELD OF USE													
BURNER CONTROLS		LME11	Gas (Oil)	< 120 kW		QRA2+ AGQ3, ION			■	■			
		LME21 LME22	Gas (Oil)	> 120 kW	 x2	QRA2+ AGQ3, ION			■	■	■		
		LME23	Gas (Oil)	> 120 kW	 x2	QRC			■	■	■		
		LME39	Gas (Oil)	> 120 kW	 x2	QRA2+ AGQ3, ION			■ ¹⁾	■	■	■	BCI
		LME41 LME44	Gas	> 120 kW	 x2	QRA2+ AGQ3, ION			Atmo				
		LMO14	Oil	< 30 kg/h		QRB QRC	■		■				
		LMO24	Oil	< 30 kg/h	 x2	QRB QRC	■		■				
		LMO39	Oil	> 30 kg/h	 x2	QRB QRC	■		■ ¹⁾			■	BCI
		LMO44	Oil	> 30 kg/h	 x2	QRB QRC	■		■				
		LMO64	Oil	< 30 kg/h		QRB QRC	■		■ ¹⁾				

Legend:

 Fuel valve control outputs

ION Ionization probe

BCI Burner communication interface

CAN CAN-Bus

 Pilot burner connection

1) Postpurge function

2) Industrial applications

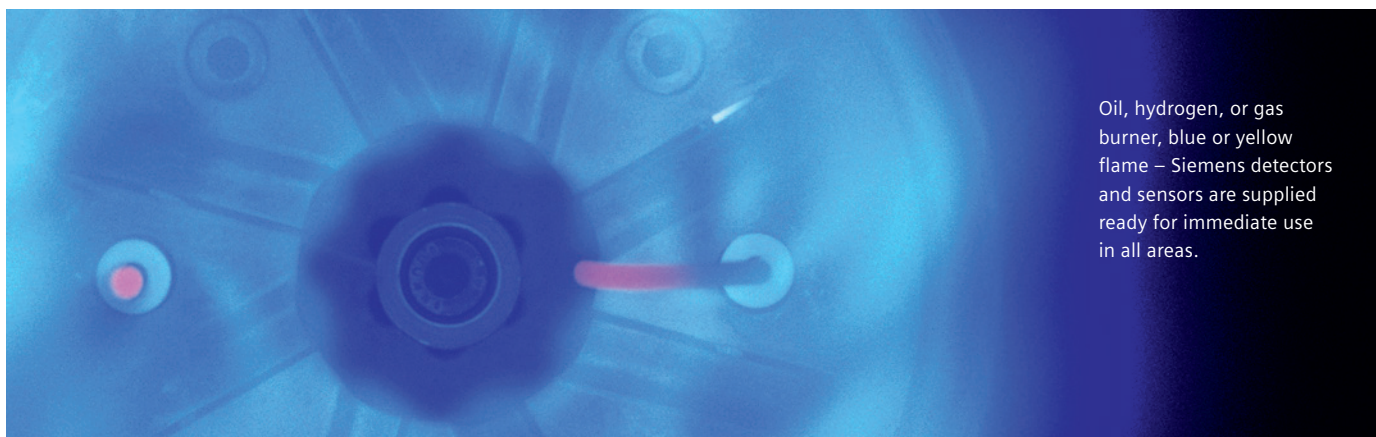
3) Flue gas recirculation

4) For LMV36 without AGM60

			Fuel	Burner load (typical)	H ₂ ready	Control outputs for fuel valves	Intermittent operation (detector)	Continuous operation (detector)	Pilot burner connection	Dual-fuel operation	Modbus interface	Valve proving	Display connection
FIELD OF USE													
BURNER MANAGEMENT SYSTEMS	BURNER CONTROLS		LME7	Gas Oil	> 350 kW (30 kg/h)		 x2	QRA2 QRA4 QRA10/ ION	QRA7 QRI ION				BCI
			LMV26 LMV36	Gas Oil	> 350 kW (30 kg/h)		 x3	QRA2/4 QRA10 QRB QRC	ION ⁴⁾				BCI
			LMV27	Gas Oil	> 350 kW (30 kg/h)		 x3	QRA2/4 QRA10 QRB QRC					BCI
			LMV37	Gas Oil	> 350 kW (30 kg/h)		 x3	QRA2/4 QRA10 QRB QRC	ION				BCI
			LMV50 ²⁾	Gas Oil	> 350 kW (30 kg/h)		 x9	QRA2/4 QRA10	QRA7 QRI ION				CAN
			LMV51	Gas Oil	> 350 kW (30 kg/h)		 x9	QRA2/4 QRA10	QRA7 QRI ION				CAN
			LMV52 ³⁾	Gas Oil	> 350 kW (30 kg/h)		 x9	QRA2/4 QRA10	QRA7 QRI ION				CAN
			LMV6	Gas Oil	> 350 kW (30 kg/h)		 x3 x12*	QRA2/4 QRA10 QRB,QRC*	QRA7 QRI ION		as of 2024		CAN
FLAME SAFEGUARD			LFS1.1	Oil	> 30 kg/h				RAR				BCI
			LFS1.2	Gas Oil	> 350 kW			QRA2 QRA4 QRA10	ION				BCI

* available as of 2024

Sensor technology for perfect combustion



Oil, hydrogen, or gas burner, blue or yellow flame – Siemens detectors and sensors are supplied ready for immediate use in all areas.

Highly specialized detectors for every process

For many years, we have been developing highly sensitive flame detectors with the aim of optimizing process control.

Yellow-burning oil flames can be supervised using silicon photocell detectors from the RAR series and photodiode detectors from the QRB series. And for oil and gas burners with a blue flame in the small to medium load range, we offer the QRC UV diode detector. Our detector range also encompasses the QRA UV cell flame detector series and the QRI infrared flame detectors as well as the use of the ionization current principle for intermittent or continuous operation.

The sensor range is rounded off with the QGO oxygen sensor for determining the residual oxygen content in flue gases.

Specially developed by Siemens for use in the heating industry, the light-sensitive element of the QRC1 UV flame detector is a silicon-based UV diode. In laboratory tests, it achieved outstanding signal strengths, even with 100% hydrogen – in part due to the high spectral sensitivity of the UV diode.

Given that the combustion of hydrogen generally produces condensate, the UV detector is hermetically connected in the field of view of the UV diode.

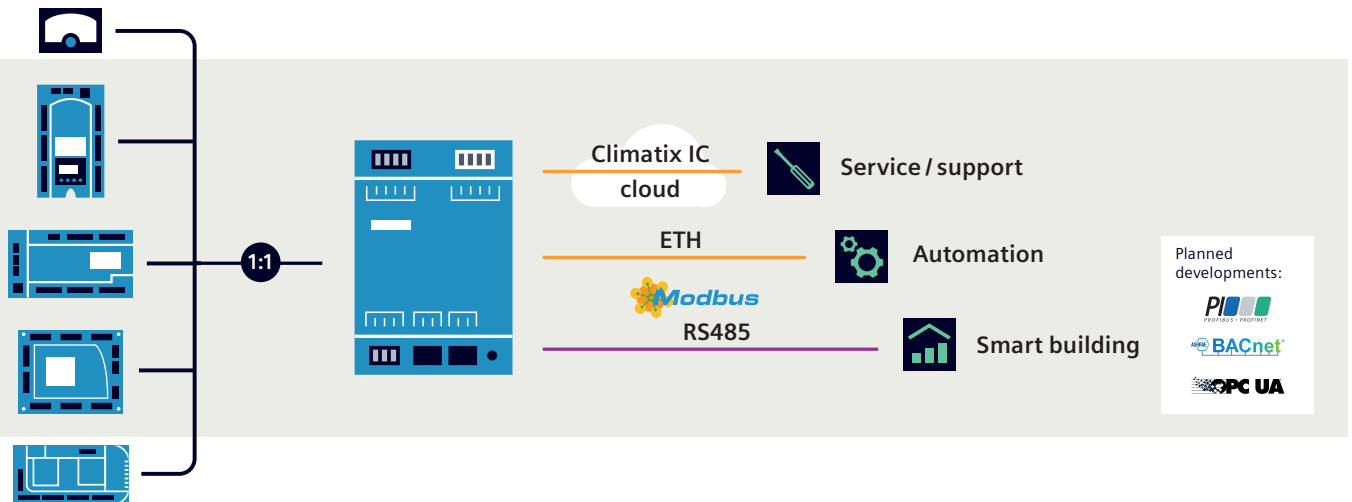


Highlights

- Universal flame detectors for continuous operation based on UV or IR sensitivity
- Combustion optimization with O₂ sensor
- Universal flame detectors for intermittent operation based on semiconductor and UV
- QRC1 with UV diode for use with hydrogen

		FIELD OF USE								COMPATIBLE WITH
FLAME DETECTOR (INTERMITTENT)	QRB4	■			■		Plastic	IP54	Photo-diode	LMO, LME7 LMV2/3
	QRC1	■	■		■	■	Plastic	IP40	UV diode	LMO, LME23, LMV2/3, LME7
	QRA10	■	■		■	■	Metal	IP54 IP65 (Kit)	UV cell	LFL, LMV2/3, LME7, LFS1.2
	QRA2	■	■		■	■	Plastic	IP40	UV cell	LFL, LMV2/3, LME7, LFS1.2
	QRA2+ AGQ	■	■		■	■	Plastic	IP40	UV cell	LMV5, LME21/22/39/4
	QRA4	■	■		■	■	Metal	IP54	UV cell	LFL, LMV2/3, LME7, LFS1.2
FLAME DETECTORS (CONT. OPER.)	QRA53/55 QRA73/75	■	■		■	■	Plastic	IP54 IP65	UV cell	LGK (QRA53/55) LMV5, LME75 (QRA73/75)
	QRI	■	■		■	■	Plastic	IP54	IR flare	LMV5, LME75
	RAR	■			■		Plastic	IP40	Photo-cell	LOK, LFS1.1
O ₂ SENSOR	QGO20	■	■				Metal	IP40	ZrO ₂	LMV52 + PLL52

Perfect communication via the Climatix IC cloud

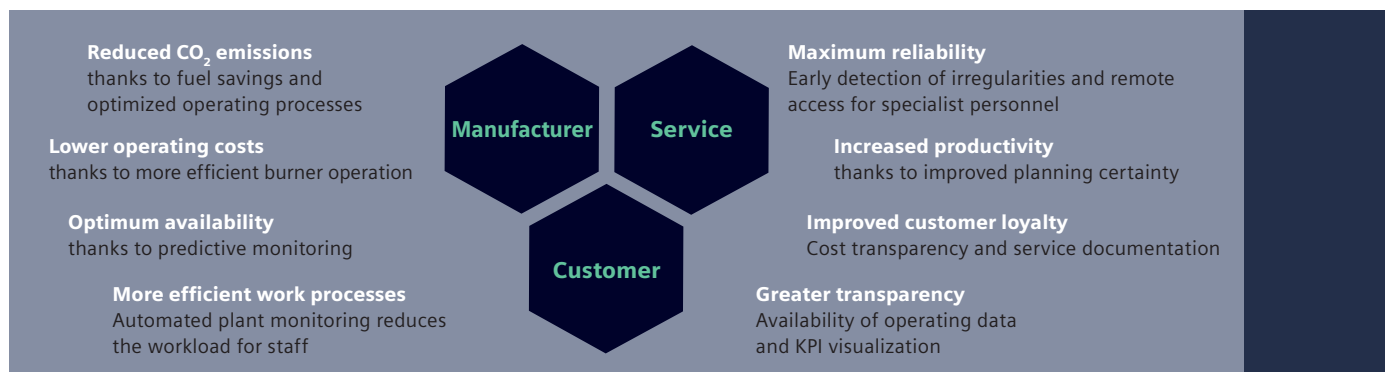


Full communication from process control to building management systems

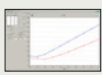
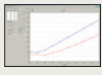
Automating and monitoring machines and plants in a flexible and cost-effective manner requires optimized solutions for every application. Whether you're looking for control solutions alone or want to perform other automation tasks besides this – such as visualization, analysis, or alerting – we have the perfect solution for you in our product range.

Existing interfaces for our burner controls and burner management systems, together with the optional OCI460 interface module, open up additional communication possibilities in

the world of process controls and building management systems via Modbus RTU and Modbus IP. Furthermore, operational data can be transferred to the Siemens Climatix IC cloud with its extensive analysis facilities. This means that system integrators can easily integrate relevant data from our burner controls and burner management systems into process control or building management systems.



Interaction and control at the highest level

				Read out error history/ meter readings	Change parameters	Display current status	Set ratio control curves	Record status and trend data	Backup / restore complete data sets	Suitable interfaces/ Converter	Compatible burner controls and burner management systems
FIELD OF USE										COMPATIBLE WITH	
SOFTWARE		ACS410	■	■	■	■	■	■	■	OCI400 OCI410	LME1-6, LMO1-6, LME39/LMO39, LME7, LMV2/3
		ACS411	■	■	■				■		RWF5
		ACS450	■	■	■	■	■	■	■		LMV5
		ACS460	■	■	■	■	■	■	■		LMV6
INTERFACES		OCI400	■		■			■			LME1-6 LMO1-6
		OCI410	■	■	■	■	■	■	■		LME39/LMO39, LME7, LMV2/3
		OCI460	■		■			■			LME39/LMO39, LME7, LMV2/3, LMV5, LMV6
		OCI412.10	■		■			■			LMV2/3

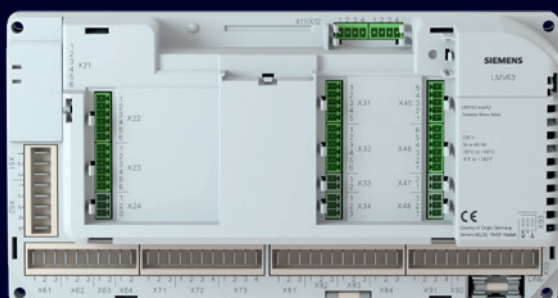
With our range of interfaces and software, you are sure to find what you need. Using the appropriate software, current operating states, faults, etc. can be visualized on a PC, safety-related data, settings, and parameters can be set and saved, and previously saved data sets can be transferred back to units. The Modbus interface of the LMV burner management systems makes it possible to forward current operating states, faults,

etc. to building management or process control systems and provides an easy way of controlling the units. The OCI460 gateway can also be used to transfer the current operating states, faults, etc. from the LMV burner management systems and the LME39/LMO39 and LME7 burner controls to Modbus and Climatix IC for further processing and visualization.

LMV – innovative electronic ratio control

When it comes to supplying large building complexes and generating process heat in industrial applications, cost-effectiveness and environmental protection are key priorities. When you are dealing with large boiler capacities, efficiency can have a major impact on costs. Furthermore, these applications can involve high levels of pollutant emissions. Burners which are equipped with mechanical ratio control (cam disk with a rod between air and gas damper or oil controller) have the disadvantages of a complicated setup, low repeatability, and difficult and time-consuming configuration – resulting in suboptimal efficiency, higher levels of environmental pollution, and a reduced modulation range.

This is where the electronic ratio control really comes into its own. A simpler burner design and better precision ensure higher efficiency coupled with lower pollutant emissions – resulting in a more cost-effective and more environmentally friendly solution.



Complete solution from a single source

Forward-looking burner management from Siemens

Our compact LMV burner management system is suitable for controlling and monitoring single- or dual-fuel forced draft burners in the medium to large load range.

All system components are tailored to the LMV microprocessor-based burner controls, ensuring perfect interaction between all units and eliminating the need for complicated adjustments.

The comprehensive range of standard components – including temperature and pressure sensors, boiler controllers, process control systems, or gas valves – rounds off the portfolio perfectly and caters to virtually every requirement.



Dual protection

Siemens is setting standards in the field of safety too: In the case of the LMV, all signals are processed redundantly by two powerful processors using two channels and are constantly compared to each other. This demonstrates our commitment to responsibility.

Highlights

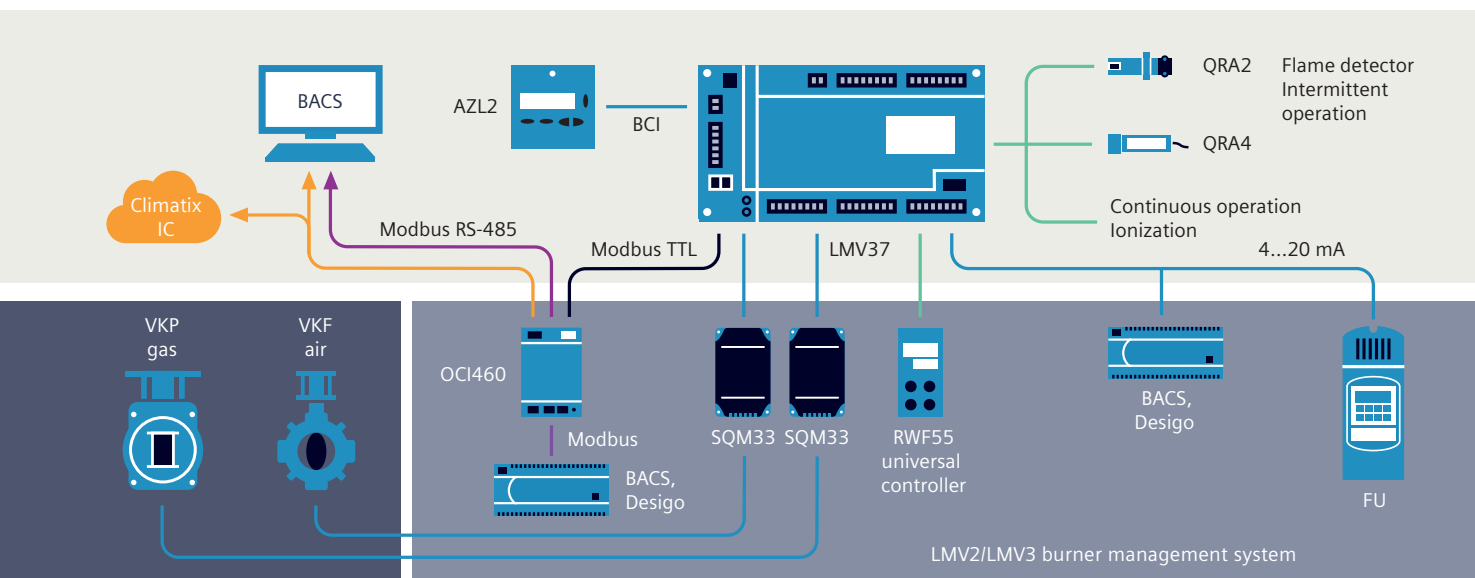
- Wide product range
- Optimum systems for solutions tailored to market needs
- Can be used worldwide thanks to global approvals (CE, UL, CSA, FM, AGA)
- Ship approvals (Lloyds, DNV-GL)



Distinction of features

	LMV2	LMV3	LMV5	LMV52	LMV6
Actuator torque					
Dual-fuel operation					
Integrated load controller					
Control of variable speed drive					
O ₂ combustion optimization					

LMV2/LMV3 – easy to use and highly functional



First-class performance in the medium load range

Our LMV2/LMV3 ratio controls are designed to control modulating or multistage oil, hydrogen, and gas burners in the medium load range. The advantages of electronic ratio controls include independent setting of the ratio control curves as well as flexible burner design.

Furthermore, in the case of the LMV2/LMV3, the burner control, electronic ratio control, and valve proving function are integrated in the compact basic unit as standard.

Optimal conditions

The SQM3 and SQN1 actuators play a key role in the LMV2/LMV3 burner management system. By precisely positioning the air and fuel dampers, they ensure optimized, low-pollutant combustion.

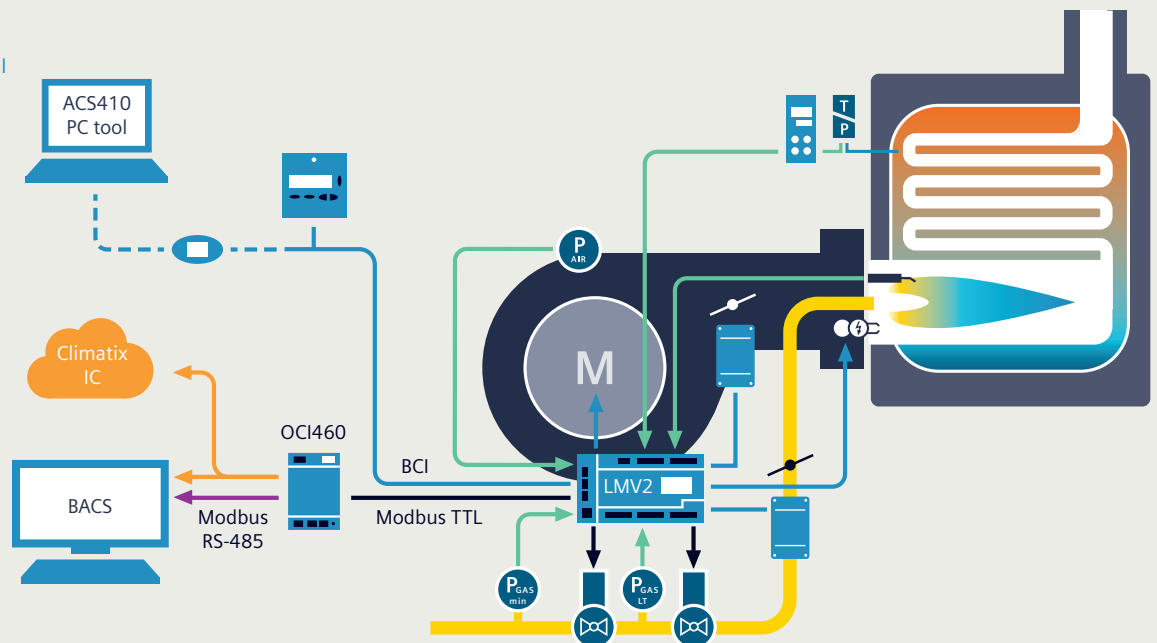
Furthermore, the LMV3 has approval for continuous operation with an ionization probe, meaning that it can also be used on steam boilers or in process heat plants.



Highlights

- Simple commissioning
- Forced draft burner or compact boiler
- Integrated ratio control
- Modbus communication
- Integrated valve proving function

LMV2/LMV3, gas, modulating with universal controller and Modbus connection



Perfectly tailored to your burner

The LMV2/LMV3 is the ideal basic unit for all kinds of different medium-load burners. Oil, hydrogen, or gas burners or even dual-fuel burners, modulating or multistage operation – any variant is possible. When you choose the fuel train, the necessary parameters are automatically preselected, making configuration easier and saving you time during burner commissioning.

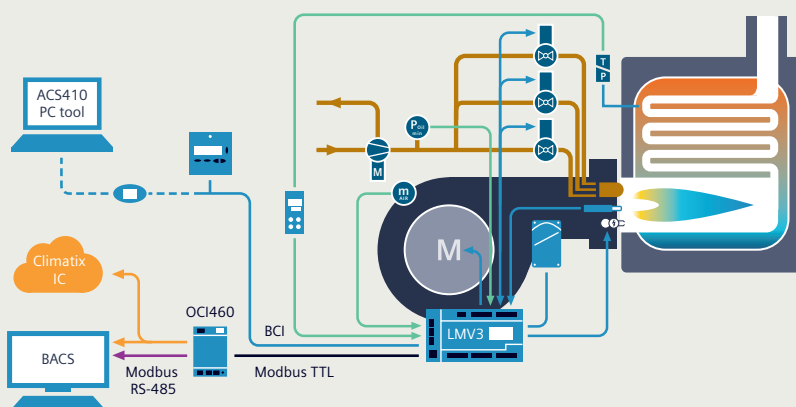
In addition, the LMV2/LMV3 can be operated solely as a burner control for pneumatic or electronic ratio control.

Easy servicing and clear diagnostics

The ACS410 PC software allows ratio control curves and parameters that have been determined to be saved easily and transferred to new units, making it easy to create documentation for the delivered burners.

All parameters saved in the LMV2/LMV3 are also saved in the AZL2 display as a backup. This means that, in the case of servicing, these parameters can be transferred straight to a new unit without any effort.

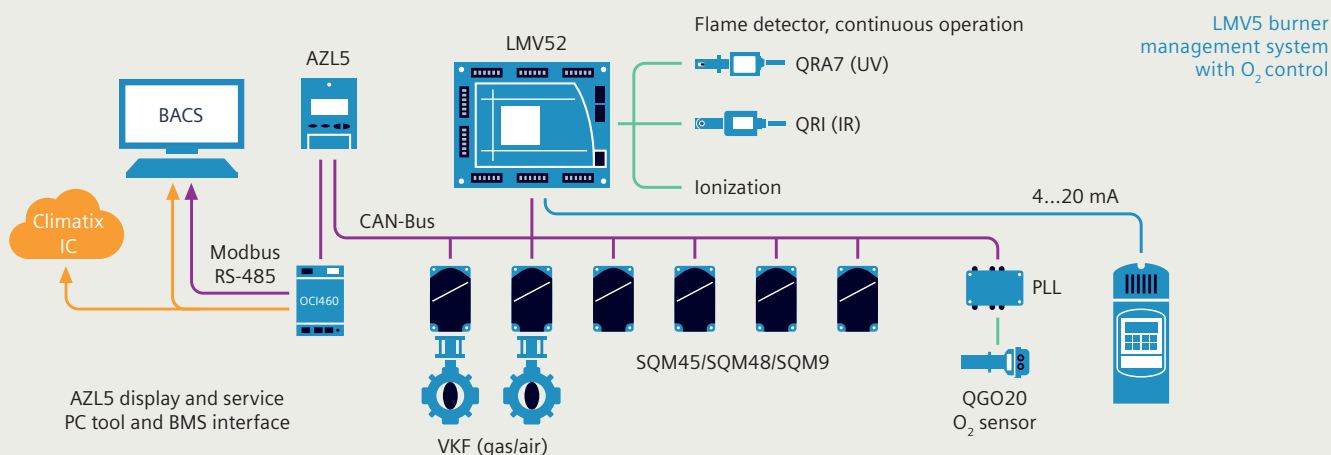
LMV2/LMV3, oil stages with universal controller and Modbus connection



Highlights

- Predefined fuel trains
- Integrated electronic ratio control
- Pneumatic ratio control with only one actuator
- Service-friendly thanks to backup/restore facility with AZL2 display

LMV5 – the perfect partner for difficult tasks



Equipped for demanding services

The burner control, electronic ratio control, and valve proving function are integrated into the compact LMV5 basic unit as standard. The LMV5 system can optionally be expanded with a load controller, variable speed drive control, and O₂ combustion optimization.

Type LMV52.4 also offers a temperature-compensated flue gas recirculation function for "super" low NO_x applications, including specific O₂ control functions for fiber mesh burners.

Continuous use

With the optionally integrated load control in the form of a PID temperature/pressure controller, the LMV5 features an algorithm for the low-wear cold start of a hot water or steam boiler. This means that the LMV5 can always be used in continuous operation together with a universal infrared flame detector, UV flame detector, or an ionization probe.

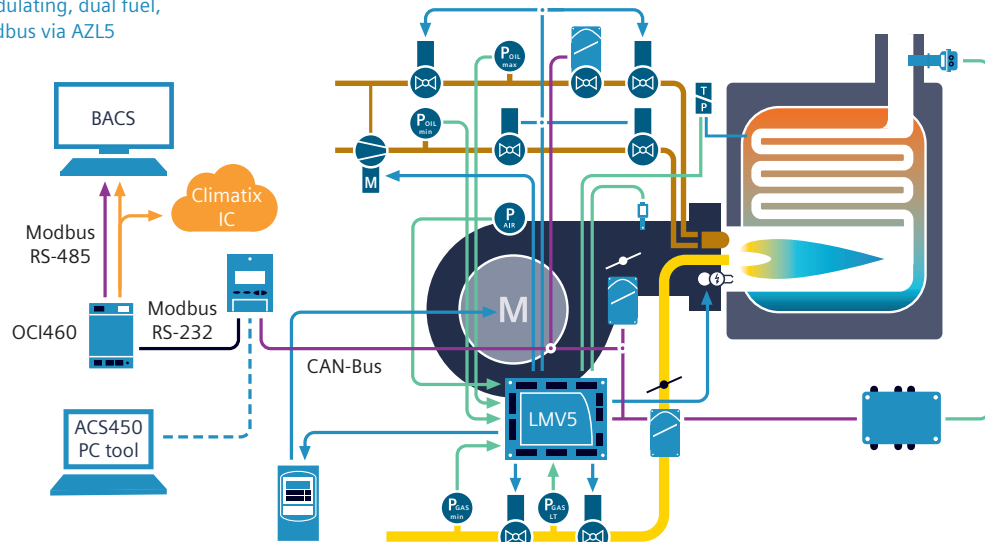
Highlights

- Optional load controller
- Modbus communication
- Super low NO_x application
- Combustion optimization via O₂ control
- 20 languages enable international use
- Service-friendly thanks to backup/restore facility with AZL5



LMV50 – an optional extra for when the stakes are high

LMV5, oil modulating, dual fuel, CAN bus, Modbus via AZL5



LMV5 load control

Integrating the LMV5 burner management system into an existing PLC automation system is an important aspect to consider. After replacing the old plant, the LMV5 system can take over the direct control of the existing PLC automation. The diverse range of configuration options means that the LMV5's load control can be integrated into existing plants with ease. Even in the event of a process control or communication failure, it is still possible to automatically revert back to the internal load control if required.

Industrial and process applications

The LMV50 variant is ideal for use in industrial process plants. It was developed specifically to meet the needs of users at industrial thermal processing plants.

With the LMV50, it is also possible to integrate external flame safeguards in order to ensure that the burner operates correctly in the event of unfavorable flame ratios.



Highlights

- Adjustable safety times according to EN 746
- Extremely versatile for a wide range of industrial applications
- Connection of external flame safeguards
- Suitable for plants with SIL3

LMV6 – the next generation of burner management systems



Ready for the future ...

As the world's most successful burner management system, the LMV5 has set a standard on the market. Now, the improved successor LMV6 is taking the control of medium- and high-load burners to the next level.

It translates decades of knowledge and the latest technical developments into a powerful burner management system that enables our customers to face future challenges – a powerful, scalable, and sustainable solution.

AZL6 – redefining HMIs for burners

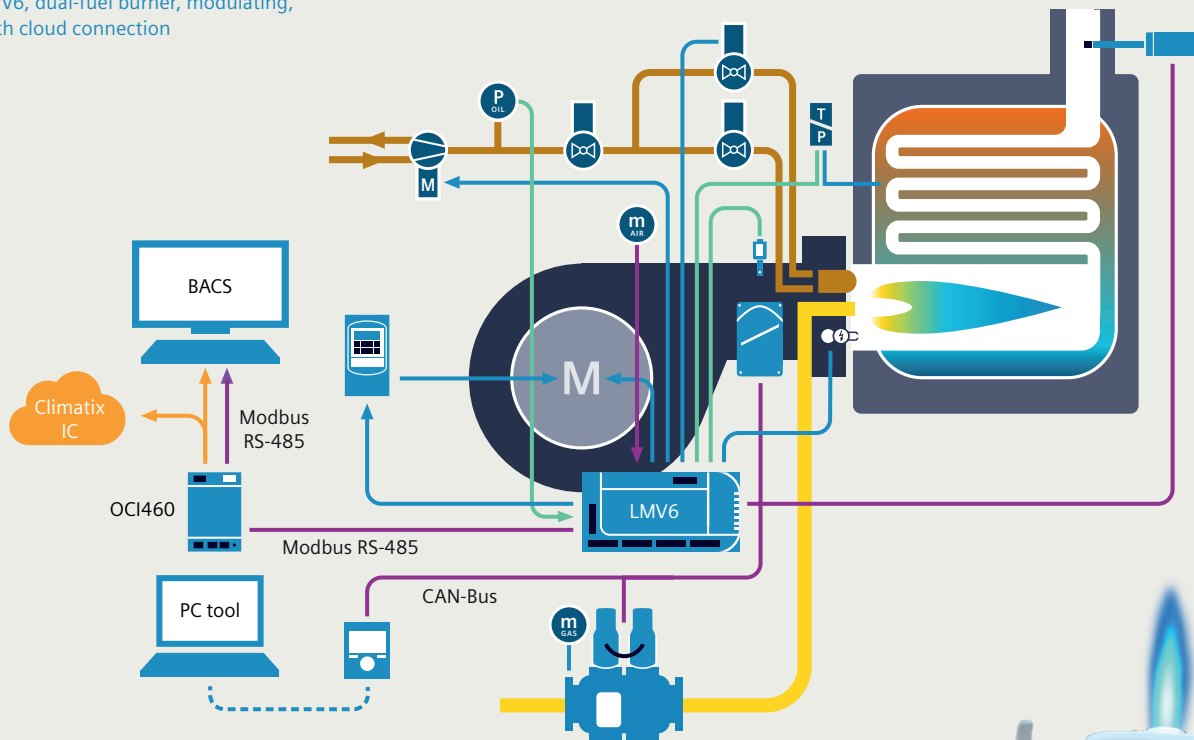
The AZL6 redefines the benchmark for HMIs in the burner business. A large display makes the interaction between burner and user faster and easier than ever before. Up to 14 languages, including English, Chinese, Italian, and German, along with intuitive graphics and icons simplify system handling and reduce the amount of training required.

Highlights

- Global approvals
- Up to 14 languages with intuitive graphics and icons
- Simple guided commissioning
- Suitable for sustainable fuels

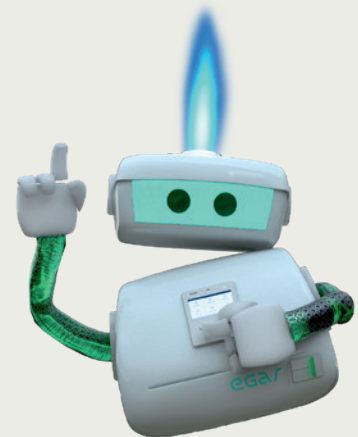


LMV6, dual-fuel burner, modulating, with cloud connection



The LMV6 system – unique in so many ways

Replacing the current LMV5 or LMV2/LMV3 (with an external load controller) with the new LMV6 only requires a few modifications. You can keep using proven peripheral components and the system can be expanded with innovative sensors to optimize the speed and efficiency of the combustion.



Embrace our vision and take the opportunity to try out the many benefits of our new burner management system. Let's take the next steps together – we look forward to creating a better and cleaner future with you.

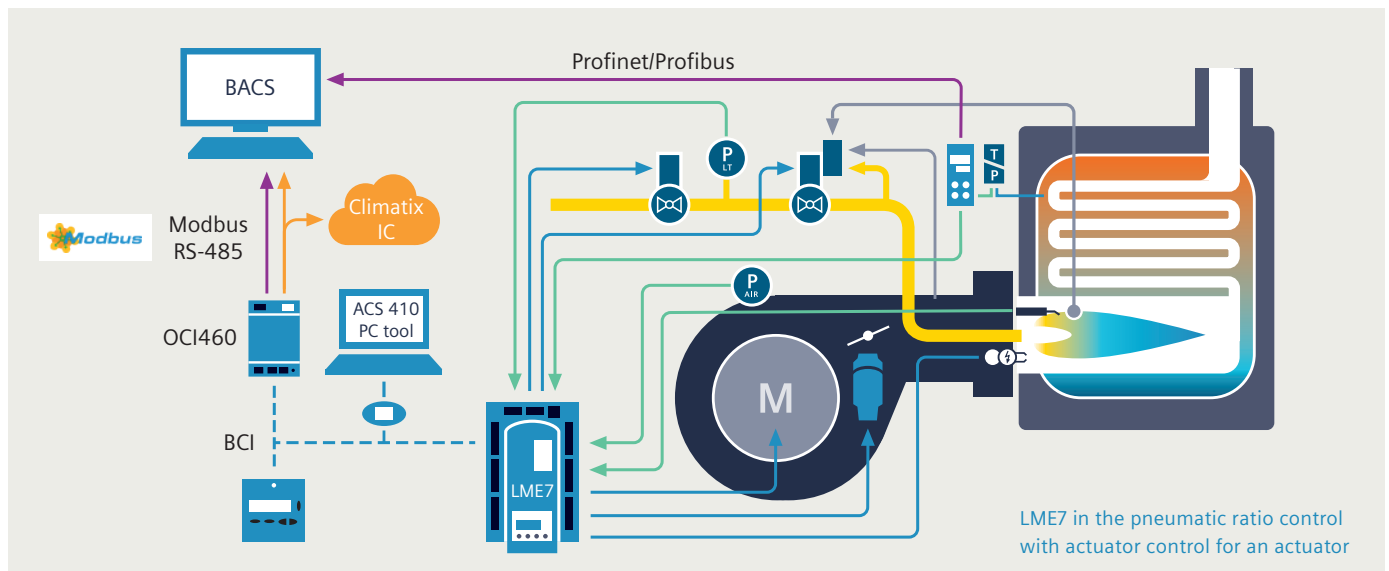
- Top platform for the next 20 years
- HMI with country-specific text characters for adapting to specific markets
- High-quality sensors ensure the best emission and efficiency values
- Simple commissioning thanks to innovative HMI
- Unique combination of continuity and innovation
- Time and cost savings for commissioning and annual maintenance
- Space savings thanks to compact system size
- Long-term, worldwide compliance with standards and directives

LME7 – modular, communications-capable, and extremely compact

With the LME7, Siemens is able to offer a standardized burner control platform for all kinds of applications. This innovative solution standardizes burner design and production and simplifies installation and service work. It also makes it easier to adapt the solution to the customer's needs or to integrate various functions. LME7 – the cost-effective solution for the burner industry.



Handy tools for effective work



Diverse application areas

The LME7 burner control platform is specifically designed for controlling modulating or multistage burners in the medium to large load range. In addition, we naturally also offer product versions for gas burners with a PWM fan for modulation.

Parameterization at the touch of a button

In case of servicing, the parameters stored in the PME program module can be transferred to a new basic unit simply by touching a button. In addition to the information output on the display, diagnostics can also be performed using the ACS410 PC software.

Easy and convenient operation

You can use the AZL2 operating unit (in conjunction with the LME7 burner control platform) directly on the burner or in control cabinets within the burner's immediate vicinity. The AZL2 is used for the display, operation, and parameterization of specific safety- and non-safety-related burner functions.

Direct troubleshooting

To provide you with quick and targeted diagnostics in the event of a fault, the entire diagnostic data is made available to the service engineer along with a history of recent faults.



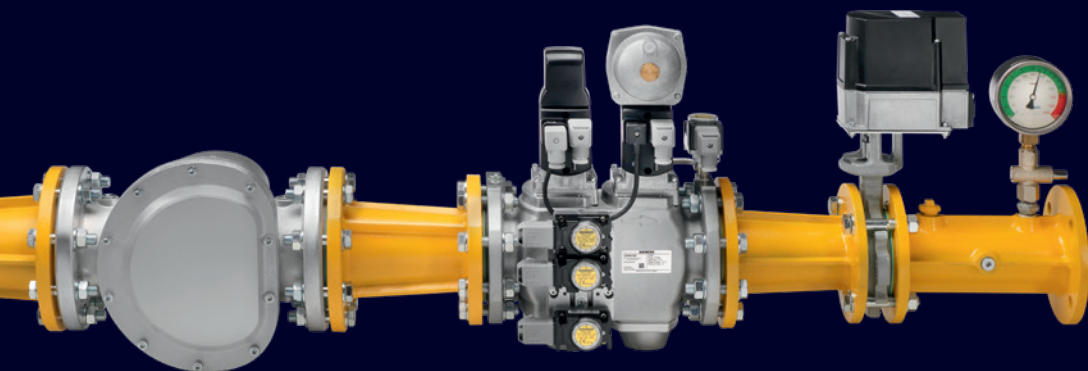
Highlights

- Parameters stored in program module
- Display of operating states, fault codes, fault history, and program phases
- Intermittent or continuous operation
- ACS410 PC software for making settings, data management and featuring backup/restore function

Solutions for **gas shutoff and gas control functions**

Requirements and fuels may change, but gaseous fuels will always be an area where the focus is on know-how, responsibility, and safety. When it comes to our technical solutions, we combine decades of expertise with vision – to be ready for the future and the challenges of sustainability.

To us, the valve and the actuator are two separate components. Due to their outstanding performance, any of our actuators can be combined with any of our valves. The range of double gas valves includes class A valves in nominal sizes from 1½" to DN 150, covering typical burner loads from around 300 kW to 30 MW.



SKPx5 valve actuators – simply exemplary



Extensive range of functions

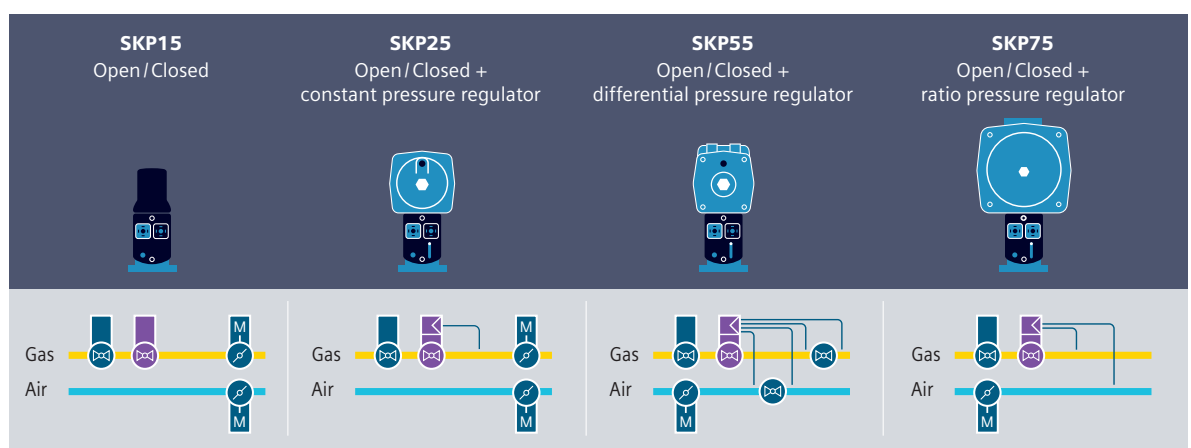
In terms of functions, our valve actuators are available in four different versions: as basic OPEN/ CLOSED actuators, or with constant pressure regulator, differential pressure regulator, or ratio pressure regulator. Each actuator is compatible with all nominal valve sizes and can be fitted to the valve in various positions. All settings are made independently of the nominal size of the valve in question.

The operating and display elements are all located on the same side, simplifying operation and improving ease of servicing. Furthermore, all valve actuators with a regulator function feature stroke indication (= valve stroke).

Straightforward operation and mounting

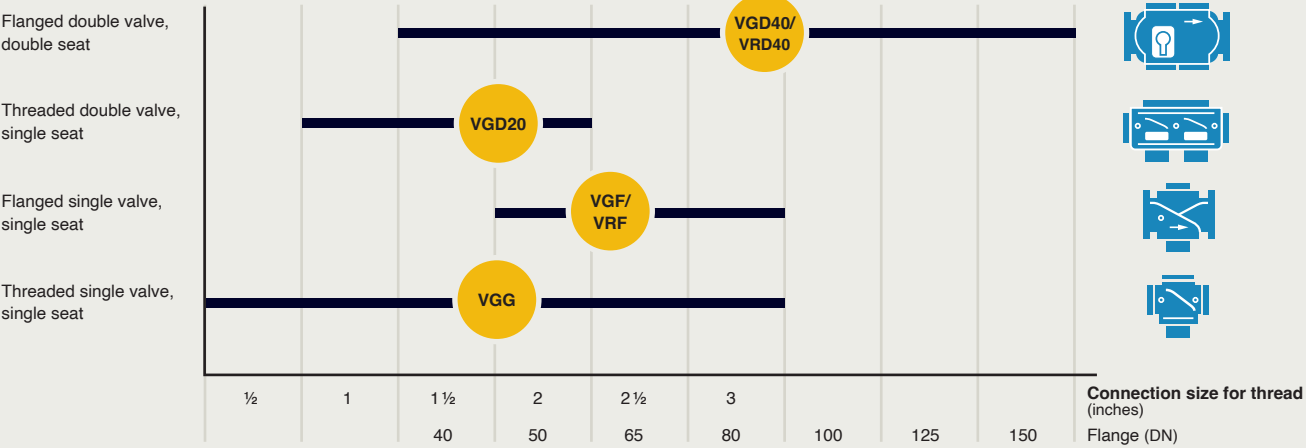
The actuator's current position and control behavior can be viewed at a glance. As a practical option, the actuators can also be equipped with an integrated end switch.

The plug-and-play solution, which is easy to mount and service, deserves special attention. With this time-saving solution, the actuators can be connected via simple DIN connectors – the end switches (CPI) are factory-set for this purpose. Together with the captive screws, this reduces the mounting time to a minimum: Simply screw into place, plug in, and switch on.



VGx gas valves – robust in all applications

Valve design



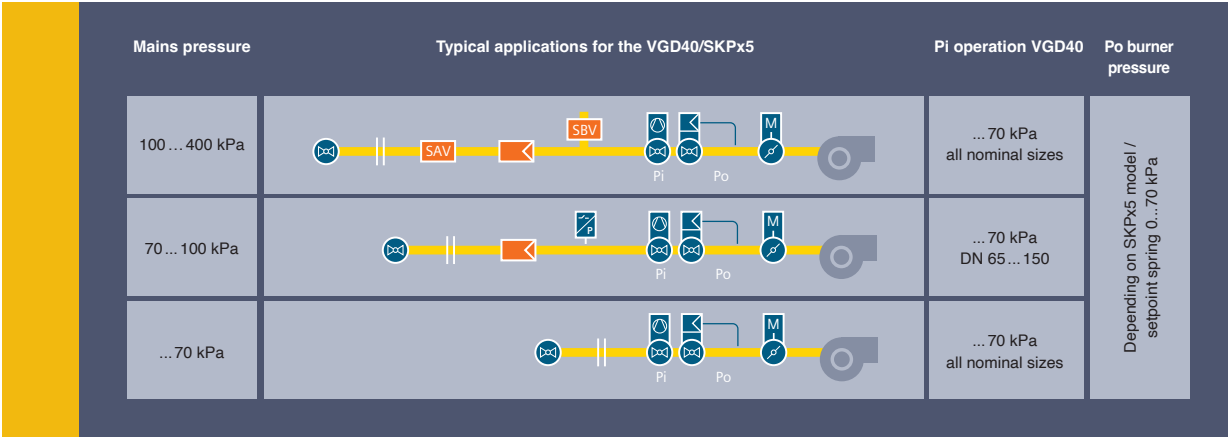
At home in all gas trains

Separating the gas valves from the SKPx5 actuator and controlling device makes it possible to build robust and flexible gas trains with only a small number of product versions. Powerful closing springs ensure extremely tight valve seats, making the valves less susceptible to small particles in the gas flow. Adjustment of the SKPx5 is easy and always the same, regardless of the nominal size of the valve in question. Many years of experience in the field confirm that these products can be integrated into industrial combustion plants up to SIL3.

Precision and other benefits

Safety is of prime importance when it comes to gas applications. While VGD20 has a single-seat design, double valves from the VGD40 series have a unique, patented double-seat design.

Any valve from the VGD series can be combined with any of our actuators. In addition, the VRD40 variant was specifically designed and developed for use with alternative types of gas, such as recycling gas.



								
		Suitable for biogas/ recycling gas	H ₂ ready	Connection	Nominal sizes	Permissible inlet pressure	Design /seats	
VALVES	CONNECTION							
		VGD20				1" ...2"	150 kPa	
		VGD40				DN 40... DN 150	70...100 kPa	
		VRD40	 ¹⁾			DN 40... DN 150	70...100 kPa	
		VGG				½" ...3"	...120 kPa	
		VGF				DN 50... DN 80	60 kPa	
		VRF	 ¹⁾			DN 50/ DN 80	60 kPa	

Legend:


Flange



Thread



Seat



Double seat

1)

No nonferrous metals: VRD40 and VRF suitable up to 1% H₂S, 1% NH₃ combined with SKP15

GASP software for project sizing

To simplify planning and engineering, Siemens has developed a special gas valve sizing program (GASP). GASP is used to size gas valves and to determine the presetting of the gas/air ratio with the SKP75.

Pressure switches

Siemens gas and air pressure switches from the QPL series monitor mains pressure or maximum burner pressure or can be used in connection with

a valve proving system. Thanks to their sophisticated design, they can be fitted to Siemens valves in a number of ways.

Increased IP degree of protection

Our AGA66 gasket set can easily be fitted between the SKPx5 valve actuators and our VGx valves in order to increase the degree of protection from IP56 to IP65.

Volumetric flow control solutions



1. VKP proportional controlling element with threaded connection



2. VKF butterfly valve for intermediate flange mounting (SQM3/SQM4)



3. VKF butterfly valve for intermediate flange mounting (SQM5)



4. VKG butterfly valve with threaded connection

The right actuator for every system

Our product range offers actuator solutions for burner sizes up to 35 MW – with the SQN1, SQM33, SQM45 to 48 and SQM91 actuators specifically tailored to our LMV burner management solution. As a particularly important feature, all actuators include the appropriate safety-related communication connections.

Universal synchronous actuators

The Siemens SQN3, SQN7, and SQN9 universal actuators with up to 3 Nm, as well as the more powerful SQM1/SQM2, SQM40/SQM41, and SQM5 versions with up to 40 Nm, are particularly versatile in operation. Analog inputs (e.g., 4...20 mA) and 3-point controllers are used for control.

Position feedback is provided by cam switches and single or double potentiometers.

The powerful VKP40 proportional volume controlling elements are available up to a connection size of 2".

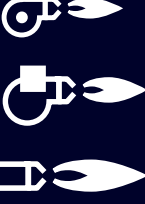
The flange design of the VKF10/VKF11 gas/air dampers covers the nominal size range from DN32 to DN200 and operating pressures up to 270 kPa. With overlapping sizes in some cases, our VKG butterfly valves (DN32 to DN80) with threaded connections cater to all requirements and offer numerous possibilities.



Highlights

- Ten series with torques from 1.2 to 60 Nm
- Clockwise and counterclockwise rotation (4.5 to 120 s)
- High accuracy, small hysteresis
- Electronic versions with analog inputs
- Degree of protection IP54 to IP66



			H ₂ ready	Torque (Nm)	Analog input	Potentiometer	Shaft variations	Shaft ends	Angular rotation	Degree of protection	Approvals	Compatible burner controls, actuators, and burner management systems, mechanical mounting kits
FIELD OF USE												COMPATIBLE WITH
DAMPER ACTUATORS	SYNCHRONOUS MOTOR		SQN9	2.4		 Option	1		0...90°	IP40	CE	LAL, LOK, LFL, LGK, LME, LME7, LMO
			SQN7	2.5		 Option	5		0...130°	IP40	CE	LAL, LOK, LFL, LGK, LME, LME7, LMO
			SQN72	2.5		 Option	2		0...130°	IP54	CE	LAL, LOK, LFL, LGK, LME, LME7, LMO
			SQN3 SQN4	3.0 - 6.0		 Option	4		0...160°	IP40	CE	LAL, LOK, LFL, LGK, LME, LME7, LMO
			SQM40 SQM41	2.5 - 18.0		 Built-in	4		0...135°	IP66	CE, UL, CSA, GL	LAL, LOK, LFL, LGK, LME, LME7, LMO
			SQM5	10.0 - 40.0		 Option	6		0...130°	IP54	CE, UL, CSA, BV	LAL, LOK, LFL, LGK, LME7
	STEPPER MOTOR		SQN1	1.0			1		0...90°	IP40	CE	LMV2, LMV3
			SQM33	1.2 - 10.0			1		0...90°	IP54	CE, UL, CSA	LMV2, LMV3
			SQM45 SQM48	3.0 - 35.0			3		0...90°	IP54	CE, UL	LMV5
			SQM45/ 46/47/48	3.0 - 35.0			3		0...90°	IP54	CE, UL, CSA	LMV6
			SQM9	60.0			1		0...90°	IP66	CE, UL	LMV5
DAMPERS			VKP 1/2" ... 2"	 ≥1			2		0...90°		CE	SQN13 (with ASK33.2), SQN70, SQN72, SQM3, SQM40, SQM45/46 (with ASK33.1), SQM5 (AGA58.5 with ASK33.3)
			VKG10/20* DN32... DN80	 ≥1			2		0...90°		CE	SQN13, SQN70, SQN72 SQM3, SQM40, SQM45/46, SQM5 (AGA58.5 with ASK33.3)
			VKF10/11** with mounting plate	 ≥2.5			2		5...90°		CE, UKCA	SQN7 (with ASK33.5) SQM3, SQM40, SQM45, SQM46, SQM5 (AGA58.5 with ASK33.3)

* VKG20: single reduced ** VKF10: does not close against an end stop; VKF11: closes against an end stop (~5°)

All controlling elements require left-rotating actuators (counterclockwise), exception: VKG (both directions)

All dampers make it possible to fit motors with D-shafts: - D-shaft ø 10/8,5 - D-shaft ø 8/7 via adapter sleeve

Legend:  Shaft end, 1 side  Shaft ends, 2 sides  Potentiometer



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