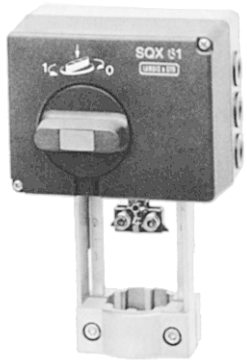
Valve Actuator SQX61



SQX61

24 V a.c. operating voltage, 0...10 V d.c. control, 20 mm nominal stroke, electric actuator, without spring return.

Application

In heating, ventilating and air conditioning plants to operate the two- and three-port seat valves of Landis & Gyr's VV... and VX... ranges with a nominal stroke of 20 mm.

Type of valve	Data Sheet
Two-port	4320...4379
Three-port	4420...4469

For fluid temperatures exceeding 140°C, actuator type SKB62... must be used (see Data Sheet 4566).

Summary of Types

Actuator, 24 V a.c. (0...10 V d.c. control)	**SQX61**
Accessory	
Spindle heating element, 24 V a.c., 20 W	**ASZ6.5**

Ordering

When ordering, please give designations and type references of units required, e.g.: **Actuator type SQX61** and **spindle heating element type ASZ6.5.**
Valve, actuator and spindle heating element, if required, are supplied separately.

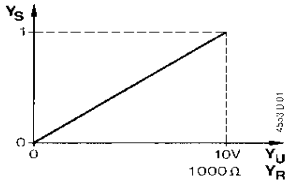
Technical Data

Operating voltage	24 V a.c. ±20%
Frequency	50 Hz, 60 Hz *)
Power consumption	6,5 VA
Running time	35 s
Mode of control	0...10 V d.c.
Nominal stroke	20 mm
Nominal force	500 N
Control signal (Y)	
Voltage	0...10 V d.c. (≙ 0...100% stroke)
Current	0,1 mA max.
Control signal (R)	
Resistance	0...1000 Ω (≙ 0...100% stroke)
Control output (U)	
Voltage	0...10 V d.c. (≙ 0...100% stroke)
Current	0,5 mA max.
Permissible ambient temperature	
Operation	−15...+50°C
Transport and storage	−30...+65°C
Permissible ambient humidity	class D to DIN 40040
Protection standard of housing	IP54 to DIN 40050 (IEC 529)
Max. fluid temperature	+140°C
Cable entry glands	Pg11 (3x)
Weight	1,6 kg

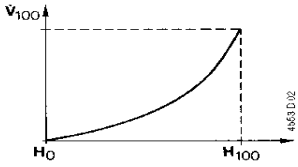
*) Voltage tolerance at 60 Hz: −20%...+15%

Function

The actuator is driven by a 0...10 V d.c. control signal received from the controller. It is provided with electronic stroke control which, in conjunction with Landis & Gyr valves, gives an equal percentage valve characteristic.



Correlation between control signal and correcting variable



Correlation between valve stroke and volumetric flow

Y_S	Correcting variable
Y_U	Control signal 0...10 V d.c.
Y_R	Positioning signal 0...1000 Ω
$\dot{V}_{100}$	Volumetric flow
$H_{...}$	Valve stroke

An additional control input R for a 0...1000 Ω potentiometer permits control by a
— continuous frost protection unit type QAF21... (see Data Sheet 3448) or QAF61 (see Data Sheet 3449)
— remote setting unit type FZA21.1% for setting a minimum position or for manual operation (see Data Sheet 3470)

Control output U with a 0...10 V d.c. control signal allows control of the following units:
— indicating unit type RZM61.7-% (see Data Sheet 3477)
— on/off switch type SEZ61.1 for auxiliary circuits (see Data Sheet 3484)

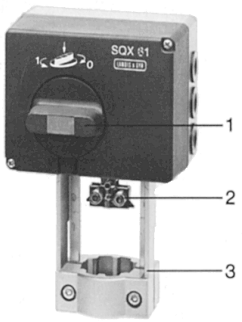
Spindle heating element

The spindle heating element prevents the spindle from jamming when using fluids with a temperature below 0°C. It provides heating by means of a heating coil which is placed on the sealing gland.
The supply voltage for the heating element is 24 V a.c.

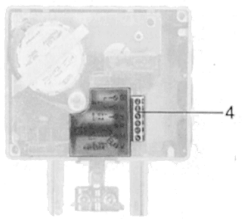
Design Features

Actuator and valve are supplied as separate units. Assembling them requires neither special tools nor adjustments.

- Maintenance-free electric actuator with reversible synchronous motor
- Blocking proof geartrain with self-lubricating sinter bearings
- Manual operation with automatic resetting to control operation
- Lower housing section and console made of die-cast aluminium, cover and manual setting knob made of plastic



1 Manual setting knob
2 Coupling piece
3 Console



4 Terminal strip

ASZ6.5 spindle heating element
The plate with the connecting terminals is fitted to the actuator. The heating element is placed over the valve spindle and pressed on the sealing gland by a coil spring.

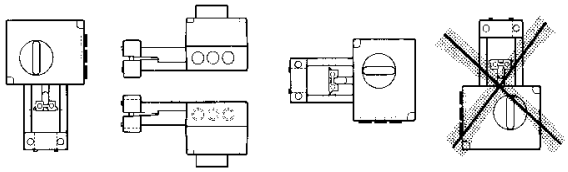
Application Advice

For further information on the complete regulating unit consisting of actuator and valve also refer to the Data Sheet of the various types of valves, 4300...4499.
Observe the permissible temperatures. For details refer to «Application» and «Technical Data».
Data Sheet 3401 contains basic system data on POLYGYR. All hints and explanations given in this sheet must be observed.

All units connected to terminals Y and U, together with the SQX61, must be connected to the same G0. The factory fitted link across terminals R and M may be removed only if a unit is connected between these terminals.

Mounting and Installation Advice

Mounting positions:



Permitted Not permitted

The actuator's mounting instructions are printed on the rear of the unit.

Commissioning Advice

When commissioning the installation, check the wiring and make a functional test.

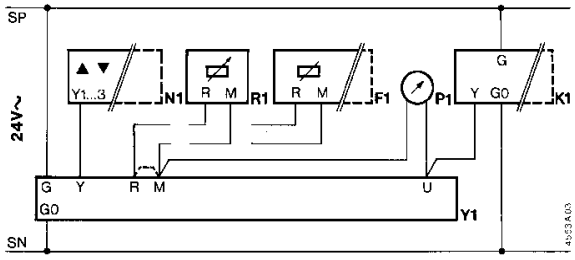
Wiring Diagram

Connecting terminals

G,G0	Operating voltage 24 V a.c. G System potential (SP) G0 System neutral (SN)
Y	Control input 0...10 V d.c.
R	Input from remote setting unit or frost protection unit 0...1000 Ω
M	Measuring neutral
U	Output for 0...10 V d.c. measuring voltage

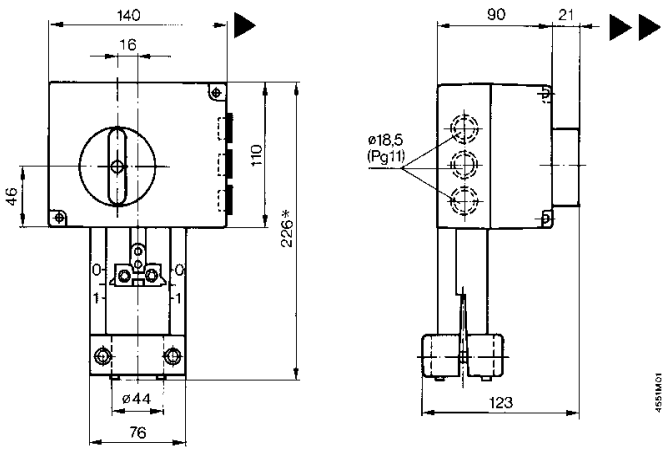
Wiring diagram

The wiring diagram shows all possible connections. How many and which of these are used depends on the system involved.



F1	Frost protection unit	P1	Indicating unit
K1	On/off switch	R1	Remote setting unit
N1	Controller	Y1	Actuator

Dimensions



◀ = minimum clearance 100 mm
◀◀ = minimum clearance 200 mm

*Connection dimension for valve

Dimensions in mm

Replaces CE1N4553E