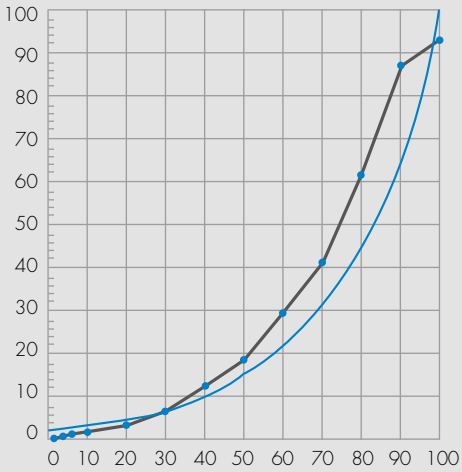
Ball valve and actuator.

Maximum control precision for a wide variety of applications.

SAUTER

Creating Sustainable Environments.

VKR two-way and BKR three-way ball valves from SAUTER. **Perfect technology** for a wide range of applications.



Maximum flow with a constantly accurate equal-percentage characteristic, guaranteed for every 2-way and 3-way ball valve from SAUTER. Integrated in the ball, with no flushing out and no additional parts.

Simple and ingenious, flexible and accurate.

SAUTER's patented ball technology is unique and provides the main benefit to the customer in control systems. The control precision of SAUTER's 2-way and 3-way ball valves outperforms all previous standards. This is because the physical and mechanical properties of the ball (made of dezincification-resistant brass), together with the chrome-plated and polished surface, ensure absolute tightness with a high control ratio and a precise equal-percentage characteristic with minimal torque.

Some applications where SAUTER ball valves excel:

- HVAC installations
- VAV, heating coils
- Steam boilers, hot water storage tanks
- Central air handling units
- Cooling and heating technology
- District heating
- … and many more

Perfect teamwork means **maximum energy efficiency** – SAUTER SUT actuator with SAUTER two- or three-way ball valve.

Actuator functionality:

- 2-point and 3-point control, 24 V and 230 V, continuous, 0…10 V or 10…0 V
- Independent adaptation and adjustment of running time
- Choice of characteristic: linear/ quadratic
- Adjustable running time: 35 s/60 s/120 s
- Automatic motor cut-off with gear relief
- Standby mode
- Lever for manual adjustment

Highlights:

- Anti-jamming function
- Actuators with or without spring return
- Simple 'plug & play' installation

Actuator with spring return:

- 2-point and 3-point control
- Continuous control, 0…10 V
- Running time 90 s
- Return travel time 15 s

Innovative ball:

- Ball made of DZR brass with polished surface
- High control ratio: 500:1
- Precise equal-percentage characteristic integrated in the ball
- Large range of K_{VS} values, high flow rate with small nominal diameter
- Suitable for temperatures of -10 °C to +130 °C
- Up to 50% glycol
- Material suitable for drinking water

Key values for ball valve:

- Nominal pressure PN40
- Maximum pressure difference: 3.5 bar
- 2- and 3-way control
- Equal-percentage characteristic
- Bypass characteristic: linear

Modular structure, easily combinable:

- Simple combination of ball valve and actuator (with or without spring return); no tools required
- Low torque
- Low costs and maximum range of applications thanks to the modular design (nominal diameters from DN15 to DN50, standard female thread, or male thread and NPT)

Compact intelligence for every valve: **accurate control quality** with maximum operating reliability thanks to SUT actuators from SAUTER.

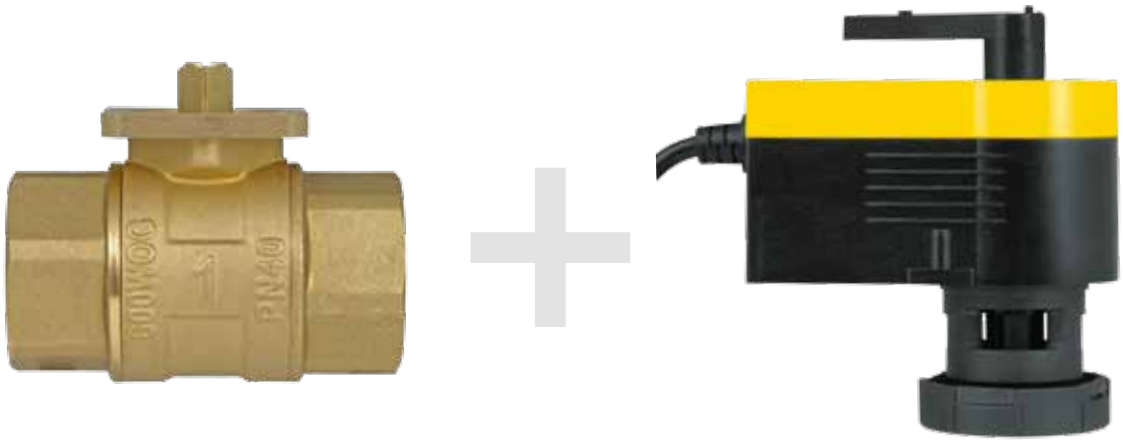


Control intelligence is included – SAUTER Universal Technology (SUT).
The actuator for all ball valves that includes everything: variable control, automatic adjustment to control operation and so on. The product features of our SUT actuator technology meet every possible requirement for energy-efficient, intelligent and accurate actuators. Numerous applications can be implemented inexpensively because installation and commissioning take up relatively little time. Furthermore, your stock levels of actuators will automatically fall, because you need just one SUT actuator type to cover all kinds of control.

Simply integrated – as required.
As you would expect, the SUT actuators can also be incorporated into integrated automation systems. Using SAUTER's *CASE Drives* software, all actuator parameters can be controlled individually at any time, and can be changed according to requirements.

One actuator, plenty of power and even more energy efficiency.
A high degree of in-built ecological intelligence is one of the special benefits of all SAUTER actuators. Two- and three-point actuators switch off automatically if the control signal remains in a continuous position for three minutes. The same is true of the SUT actuators as soon as the limit stop is reached. By using energy efficiently, this ensures functionality in line with requirements, while keeping energy consumption to the minimum. If the ball valve is not operated for over three days, the SUT actuator detects this and moves the ball automatically to prevent it from jamming.

The **modular design** means unlimited flexibility: individual ball valves from SAUTER.



Modularity for almost any application.

A different valve for every application? Are the parts piling up in your warehouse? Is your company suffering from high inventory costs and capital tie-up? If so, you can start clearing some space. The wide range of nominal diameters (from DN15 to DN50) and the huge selection of available K_{VS} values, together with the maximum pressure difference of up to 3.5 bar, are features that indicate just how wide the range of applications is – in HVAC installations, air heaters and steam boilers alike. Our two- and three-way ball valves know virtually no limits. It is so simple to install these two devices that they can be fitted on site. Instead of 336 combinations, you need a mere 50 devices.

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2-way ball valve

	Type	K_{vs} m³/h	Type	K_{vs} m³/h	Type	K_{vs} m³/h	Type	K_{vs} m³/h	Type	K_{vs} m³/h	Type	K_{vs} m³/h
VKR015	F300:	10	F310:	6.3	F320:	4.0	F330:	2.5	F340	1.6	F350	1.0
VKR020	F300:	10	F310:	6.3	F320:	4.0						
VKR025	F300:	16	F310:	10	F320:	6.3						
VKR032	F300:	25	F310:	16	F320:	10						
VKR040	F300:	40	F310:	25	F320:	16						
VKR050	F300:	63	F310:	40	F320:	25						

3-way ball valve

	Type	K_{vs} m³/h	Type	K_{vs} m³/h	Type	K_{vs} m³/h	Type	K_{vs} m³/h
BKR015	F310:	6.3	F320:	4.0	F330:	2.5	F340	1.6
BKR020	F310:	6.3	F320:	4.0				
BKR025	F310:	10						
BKR032	F310:	16						
BKR040	F310:	25						
BKR050	F310:	40						

Nominal pressure	PN40	Control ratio of ball valve	500:1
Operating temperature	-10...130 °C	Leakage rate	0.001 % of K_{vs} value
Characteristic	equal-percentage (bypass: linear)	Angle of rotation	90°

Actuator without spring return

Type	AKM105F100	AKM115F120	AKM115F122	AKM115SF132
Power supply	230 V ~	230 V ~	24 V ~	24 V ~
Actuation	2- & 3-point	2- & 3-point	2- & 3-point	0...10 V / 10...0 V
Characteristic (change-over)	-	-	-	=% - lin. - x^2
Running time	30 s	120 s	120 s	35 s / 60 s / 120 s
Power consumption	4.5 VA	4 VA	1.7 VA	8.7 VA
Type of protection	IP 54	IP 54	IP 54	IP 54
Ambient temperature	-10...55 °C	-10...55 °C	-10...55 °C	-10...55 °C

Actuator with spring return, NC or NO

Type	AKF112F120	AKF112F122	AKF113F122	AKF113SF122
Power supply	230 V ~	24 V ~/–	24 V ~/–	24 V ~/–
Actuation	2-point	2-point	3-point	0...10 V / 10...0 V
Running time	90 s	90 s	90 s	90 s
Return travel time	15 s	15 s	15 s	15 s
Power consumption	4.6 VA	3.5 VA	3.5 VA	3.5 VA
Type of protection	IP 54	IP 54	IP 54	IP 54
Ambient temperature	-30...55 °C	-30...55 °C	-30...55 °C	-30...55 °C

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