



5-year warranty



Technical data

Electrical data	Nominal voltage	AC/DC 24 V
	Nominal voltage frequency	50/60 Hz
	Power consumption in operation	5 W
Functional data	Valve size [mm]	1.25" [32]
	Communicative control	BACnet IP BACnet MS/TP Modbus RTU Modbus TCP MP-Bus
	Operating range Y	2...10 V
	Operating range Y note	4...20 mA w/ ZG-R01 (500 Ω , 1/4 W resistor)
	Input Impedance	100 k Ω (0.1 mA), 500 Ω
	Options positioning signal	VDC variable
	Position feedback U	2...10 V
	Position feedback U variable	VDC variable
	Running Time (Motor)	90 s
	Sound power level Motor	45 dB(A)
	Control accuracy	$\pm 5\%$
	Min. controllable flow	1% of V'nom
	Fluid	chilled or hot water, up to 60% glycol max (open loop/steam not allowed)
	Fluid Temp Range (water)	14...250°F [-10...120°C]
	Close-off pressure Δp_s	200 psi
	Differential Pressure Range	5...50 psi or 1...50 psi see flow reductions chart in tech doc
	Flow characteristic	equal percentage or linear
	GPM	28.5
	Servicing	maintenance-free
	Manual override	external push button
Flow measurement	Measuring accuracy flow	$\pm 2\%^*$
	Measurement Repeatability	$\pm 0.5\%$ (Flow)
	Sensor Technology	Ultrasonic with glycol and temperature compensation
Temperature measurement	Remote Temperature Sensor Length	Standard: 2 ft. 7.5 in. [0.8m], 9.8 ft. [3m]
Safety data	Degree of protection IEC/EN	IP54
	Degree of protection NEMA/UL	NEMA 1
	Enclosure	UL Enclosure Type 1

Safety data	Agency Listing	cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2014/30/EU and 2014/35/EU; Listed to UL 2043 - suitable for use in air plenums per Section 300.22(c) of the NEC and Section 602.2 of the IMC
	Quality Standard	ISO 9001
	Ambient temperature	-22...122°F [-30...50°C]
	Storage temperature	-40...176°F [-40...80°C]
	Ambient humidity	Max. 95% RH, non-condensing
Materials	Valve body	Nickel-plated brass body
	Flow measuring pipe	brass body nickel-plated
	Spindle	stainless steel
	Spindle seal	EPDM (lubricated)
	Characterized disc	TEFZEL®
	Seat	PTFE
	Pipe connection	NPT female ends
	O-ring	EPDM
	Ball	stainless steel

Safety notes



- **WARNING:** This product can expose you to lead which is known to the State of California to cause cancer and reproductive harm. For more information go to www.p65warnings.ca.gov

Product features

Product features	The Energy Valve measures energy using its built-in electronic flow sensor and supply and return temperature sensors. Controls power with its power control logic providing linear heat transfer regardless of temperature and pressure variations. Manages low delta-T with its built in Delta-T manager. Measures glycol with advanced algorithms in its built in flow sensor. An IoT device utilising cloud-based technology to optimise performance.
Application	Water-side control of heating and cooling systems for AHUs and water coils.
Operation	The Energy Valve is an energy metering pressure independent control valve that measures, documents and optimises water coil performance.

Product features

Flow measurement	*All flow tolerances are at 68°F [20°C] & water.
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Accessories

Electrical accessories	Description	Type
	Belimo Clear Edge Device for Belimo Energy Valve™, 5 Valve Licenses included	EAP005
	Belimo Clear Edge Device for Belimo Energy Valve™, 20 Valve Licenses included	EAP020
	Belimo Clear Edge Device for Belimo Energy Valve™, 50 Valve Licenses included	EAP050
	Replacement flow sensor for Belimo Energy Valve™, Ultrasonic 1" 25	M2425-EV
	Replacement temperature sensors for Belimo Energy Valve™, 15...50 10 ft [3 m]	ZM-T15
	Replacement temperature sensors for Belimo Energy Valve™, 15...50 1.5 m	ZM-T30
	Service Tool, with ZIP-USB function, for programmable and communicative Belimo actuators, VAV controller and HVAC performance devices	ZTH US

Mechanical accessories

Description

Type

Weather shield for Belimo Energy Valve™, 25...50, Ultrasonic models only

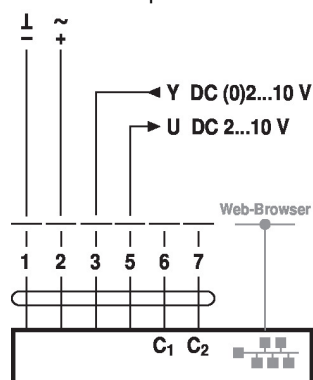
ZS-EPIV-EV-50-SCNF

Electrical installation

✂ INSTALLATION NOTES

- Ⓐ Actuators with appliance cables are numbered.
- Ⓐ Actuators may be connected in parallel. Power consumption and input impedance must be observed.
- Ⓐ Actuators may also be powered by DC 24 V.
- Ⓐ Actuators with plenum cable do not have numbers; use color codes instead.
- ◆ Meets cULus requirements without the need of an electrical ground connection.
- ⚠ **Warning! Live electrical components!**
During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.

Conventional operation

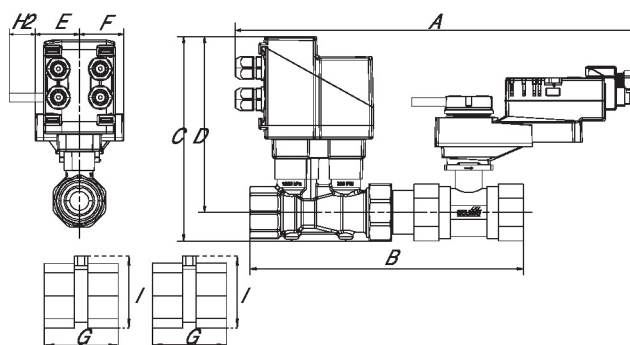


Cable colors:

- 1 = black
- 2 = red
- 3 = white
- 5 = orange
- 6 = pink
- 7 = grey

Dimensions

Dimensional drawings



A	B	C	D	E	F	G	H2	I
16.5" [420]	10.0" [254]	7.5" [191]	6.6" [168]	1.7" [44]	1.7" [44]	2.8" [70]	0.8" [20]	3.4" [86]