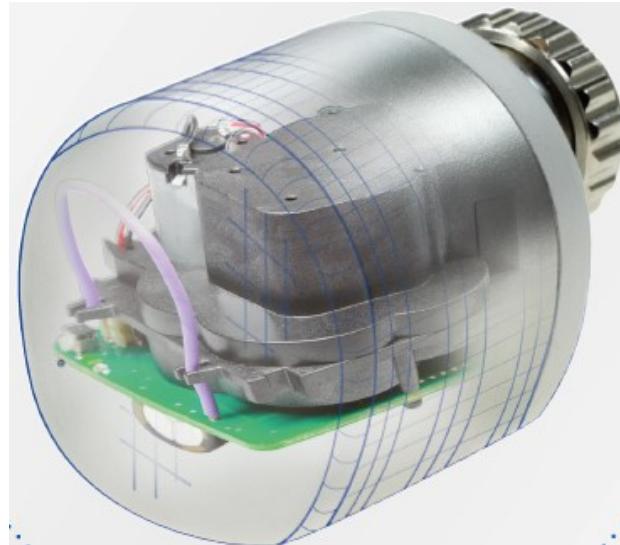
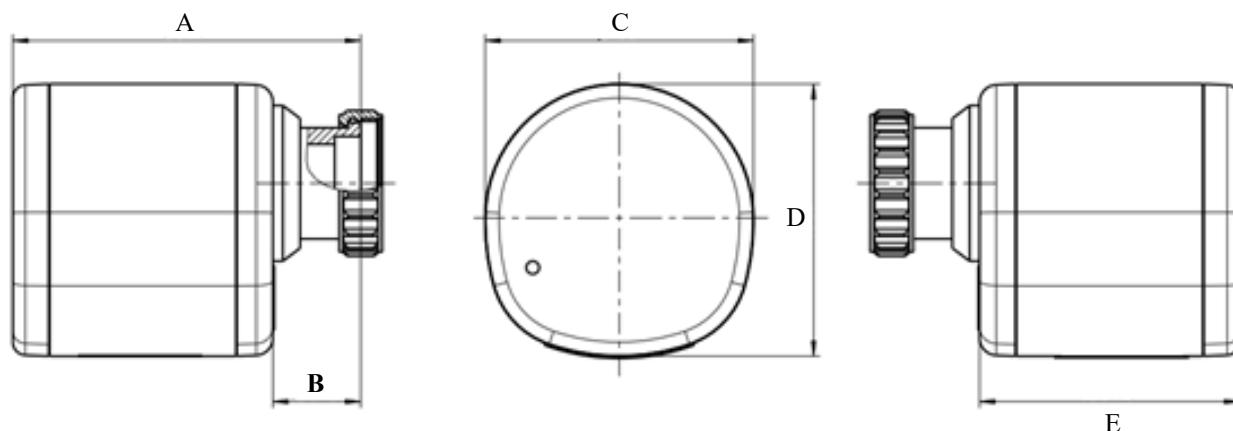


Description

EHSVA is a self-acting actuator that is self-sufficient through energy harvesting. Wirelessly integrate with building automation to allow for suitable heating control on a room-by-room basis. Reduce heating costs by heating exactly when needed. They can be mounted on all Macon NT series valves.



NON-ELECTRIC
OPERATORS



TECHNICAL DATA

Operating Temperature Range	32°F to 104°F, 70% rH	Material Weight Color (A) (B) (C) (D) (E)	Engineered heat resistant thermoplastic (PBT,POM)
Transport and Storage Temp. Range	-4°F to 149°F		8.50 oz.
Maximum Holding Force	> 100 N		White and Silver
Frequency	902 MHz		3.17"
Radiated Max. Transmitter Power	<10 mW		0.80"
Max. Movement	0.15"		2.44"
Nominal Actuating Speed	0.24 mm/s		2.48"
Noise Level	<35 dBA		2.37"

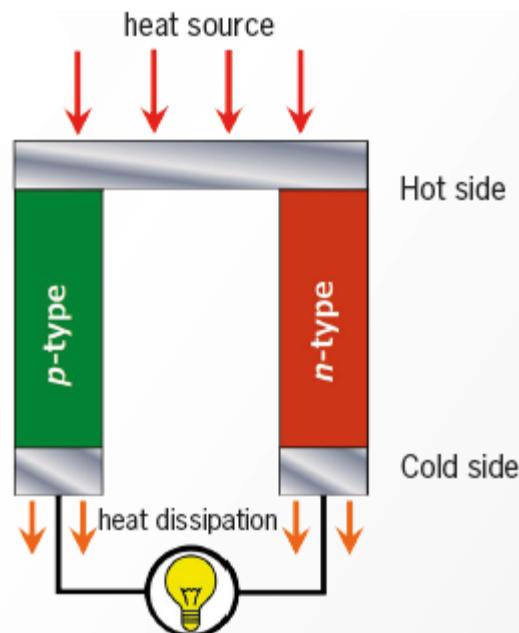
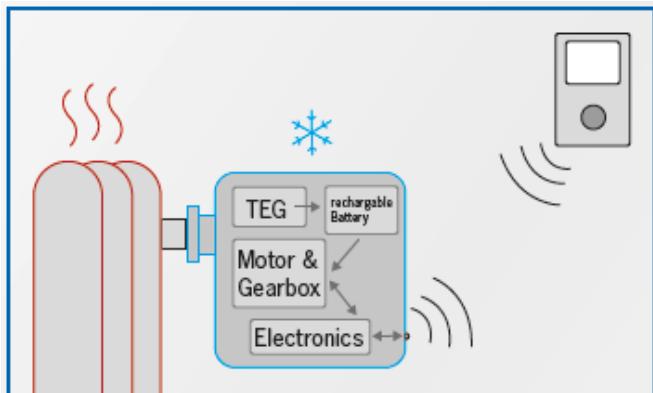
Operation

The EHSVA provides itself with electrical energy through energy harvesting. The electricity is made using a thermoelectric generator (TEG), which utilizes the temperature difference between the heater and room air.

The EHSVA is an electric actuator which produces its own energy and is operated over radio.

Integration

The EHSVA can be easily integrated into your system. The single room regulation is carried out through the room controller.



Energy generation through the Seebeck Effect

The Battery-Powered Alternative

You can also have our efficient actuators in a battery version of this product. This battery version is not energy self-sufficient, but has a longer working time per battery change than the electric thermostatic valves available.

Safety Instructions

	<ul style="list-style-type: none"> Operate the device only in dry indoor areas. Ensure that the device does not come into contact with liquids. Ensure that the device is not covered by objects, curtains, drapes or the like during operation, and that adequate ventilation is provided. Do not expose the device to heavy mechanical loads, extreme temperatures or strong vibrations. Only qualified personnel are allowed to open, repair or maintain the device. Ensure that the device is taken out of operation if safe operation is no longer possible.
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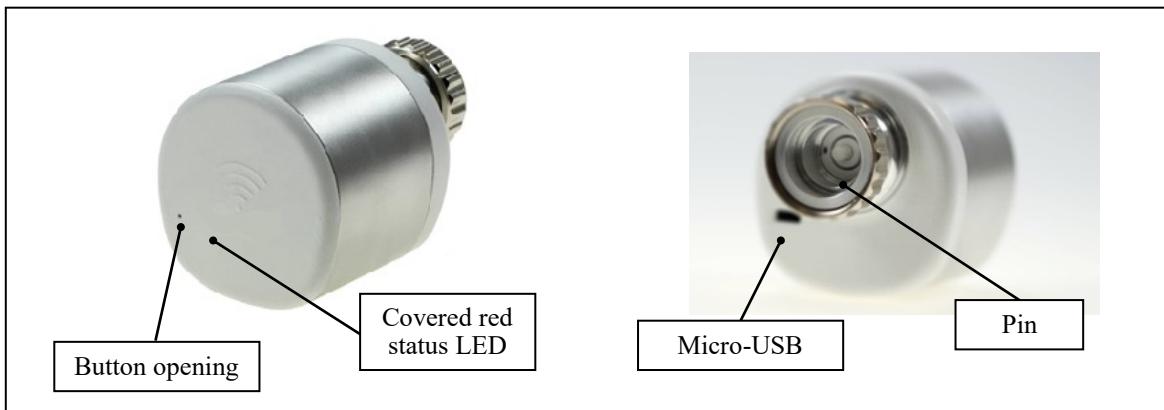
Operating Instructions, Energy Harvesting Actuator

Mode of operation: The actuator generates the electrical energy for its operation from the heat of the heating water or steam. The internal battery stores the energy for the operation of the actuator.

Field of application: The actuator is designed for use in private and in commercial environments. Charging during operation may be necessary in rarely heated rooms. The device reports this in good time via radio communication.

Assembly: The actuator can be installed directly on standard Macon valves.

Delivery state: The pin should be completely retracted when you receive the device. If this is not the case, please use a thin pin to press the button for 3-6 seconds (see button opening).



Normal operation

The actuator communicates about every 10 minutes via radio with the room controller, accepts the new setpoints and controls the heating with these values. Press the button once briefly if you require an additional interrogation of the setpoint between the normal transmission intervals (e.g. for quick transfer of the new setpoint after the temperature in the room has been changed).

Status LED

The covered, red status LED provides feedback for certain functions of the actuator:

- 1x blinking: Single push of the button with successful teach-in to the remote terminal; or upon successful communication with the remote terminal
- 3x blinking: Single push of the button with failed teach-in to the remote terminal; or upon failed communication with the remote terminal

Special functions

Interrupted radio connection to the room controller:

The actuator regulates to the last desired temperature transmitted.

Not enough energy:

When the energy accumulator is empty, the actuator opens the radiator valve to 50% and assumes idle state. As soon as sufficient hot water or steam flows, the actuator restarts automatically and controls the heating as before. The accumulator of the actuator can also be recharged via the micro-USB.

Calcification protection:

To prevent calcification, the actuator opens and closes the valve automatically after a few weeks.

Frost protection:

At too low a temperature, the actuator opens automatically and regulates the temperature to a value above the freezing point.

Reset:

Press and hold the button to initiate a reset. The red LED lights up after approximately 6s. A reset has been triggered as soon as the LED goes out. You can now release the button.

Disassembly

If you want to remove the actuator from the radiator, press and hold the button once for 3-6 seconds. The Smart Valve moves to the installation position. You have now 10 minutes to remove the actuator. After that time, it automatically exits the installation position if it has been correctly taught in at a room controller before.

Disposal Note:

As individual components of fixed installations, Tunstall products are not subject to the Electrical and Electronic Equipment Act (ElektroG). Most of our products contain valuable raw materials and should therefore not be disposed of as household waste. Ensure that they are recycled properly. The locally applicable disposal regulations must be observed.

FCC (United States) Certification

“Changes or modifications not expressly approved by the manufacturer could void the user’s authority to operate the equipment”. “This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.”

ISED (Canada) Certification

“This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not interfere, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.”

“Le présent appareil est conforme aux CNR d’Industrie Canada applicables aux appareils radio exempts de licence. L’exploitation est autorisée aux deux conditions suivantes : (1) l’appareil ne doit pas produire de brouillage, et (2) l’utilisateur de l’appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d’en compromettre le fonctionnement.”