



AFRISO

instalacje pod kontrolą

technical brochure

ZONE VALVES AZV



2018



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Position indicator

On the top of the actuator there is an indicator that shows the current position of the internal element. This tells us in which way flows the medium in 3-way valves or whether the valve is open or closed in 2-way valves.



Electric wires marked with colours

AZV actuator electric wires are marked with colours. Due to that mounting is easier and it also prevents mistakes.

Easy to dismount actuator

It is easier to install the valve with dismounted actuator. To do so you have to remove the metal buckle and lift the actuator. After mounting the valve, put the actuator back on it. To make it easier it only fits in one position.

Resistant to high differential pressure

Thanks to the innovative construction of the internal elements the valve is resistant to high differential pressure (up to 3 bar). The internal construction also prevents the valve from blocking when in one position for a longer period of time.

Adapter for 3-way valves

An optional adapter for 3-way switching valves AZV is available. It widens the possible medium temperature range to $-15 \div 120^{\circ}\text{C}$ (temporarily even 160°C).



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ZONE VALVES **AZV**




Under the article numbers showed in this brochure, the zone valves **AZV** are delivered in colourful boxes. The product name on the box is written in 4 languages (Polish, German, English, Russian). The technical data is written in Polish. Inside the box you will find the complete zone valve and a Polish instruction manual.

ADAPTER FOR 3-WAY **AZV** VALVES



The adapter to expand the use of 3-way **AZV** valves to other temperature ranges is packed in a plastic bag. The name on the label is written in Polish. Inside the bag you will find the two-piece adapter with clamp and a Polish instruction manual.

Other packaging options are possible. For larger quantities we can deliver according to your specific needs. Please inquire: zok@afiso.pl, +48 32 330 33 55. 

Zone valves **AZV**


 WATCH THE MOVIE ON WWW.YOUTUBE.COM/AFRISOPL



APPLICATION

Zone valves **AZV** are meant to cut-off (2-way) or switch (3-way) the flow in water heating systems, solar systems or ice water systems.

The valves are controlled by means of a 2-point SPST signal, so they can be operated via any simple thermostat, switch or relay.

Zone valves **AZV** are not equipped with a spring. They are 2-point controlled, fully electrically. When power shortage occurs,  one can operate them manually taking off the actuator first (without any tools). When the valve is not supplied with power, it stays in the last position.

DESCRIPTION

Zone valves **AZV** are made as 2-way and 3-way valves. They consist of a brass body and electrical actuator.

The 2-way valve (cut-off valve) can be normally closed (NC) or normally open (NO). The 3-way valve (switching valve) can direct the flow from the AB connection to connection A or B.

The zone valve actuators are supplied with 230 V ac. They are equipped with an 1 metre electrical cable 3x0,75 mm².

Thanks to an innovative approach to the construction and work of these 2-point valves, the actuators can turn the spindle by 360°.

When changing the position, the controller once more decides to switch position, the actuator does not stop to go the other way. It will turn in the same direction till it reaches the desired position. This allows to increase the lifespan of the actuator and shortens the time needed to reach the final position. The design of the internal elements of the brass valve assure that nothing will block the valve when in one position for a longer time, which makes them maintenance-free.

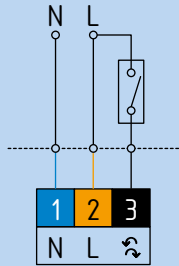
TECHNICAL DATA

Size	DN15, DN20
Connections	G¾", G1"
Differential pressure Working pressure	max 3 bar max 10 bar
Opening/closing time, 2-way	12 s
Opening/closing time, 3-way	8 s
Kvs	
• 2-way	11 m³/h
• 3-way	8 m³/h
Glycol concentration	max 50%
Body	brass CW617N and CW614N
Internal elements	PPS composite
Internal leakage	max 1% of Kvs
Medium temperature	5-80 °C, 3-way with adapter (Art.-No 16 100 00): -15-120 °C (temporarily 160 °C)
Ambient temperature	1-60 °C
Power supply	230 V ac
Power consumption	7 VA
Protection rating	IP40

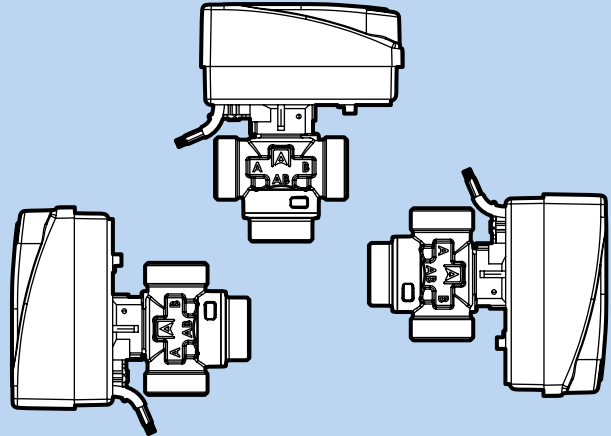
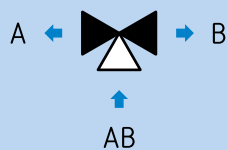
APPROVALS AND CERTIFICATES

The zone valves **AZV** comply with the electromagnetic directive EMC (2014/30/EU) and RoHS directive (2011/65/EU). A CE declaration for the zone valves **AZV** has been issued.

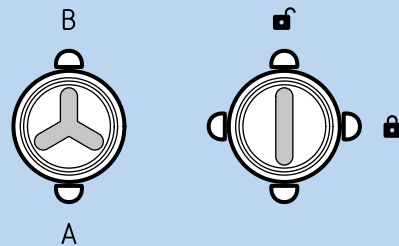


**ELECTRICAL SCHEME**

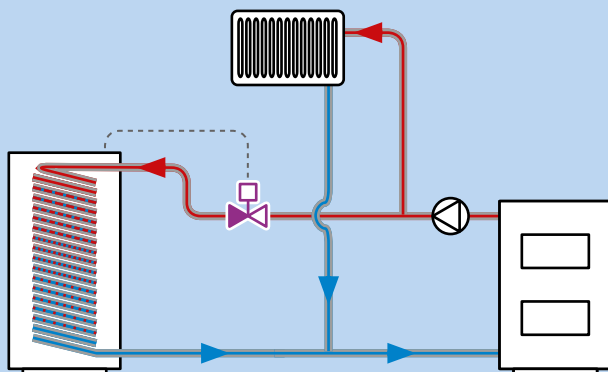
To control the valve, supply the brown wire with power directly and the black wire via a control device (thermostat, controller, switch etc.). When the power is present only on the brown wire, the actuator stays in its normal starting position. When the power is present on the brown and black wire simultaneously, the valve will switch to the opposite position. It will return to the normal starting position, when the control device will stop supplying the black wire with power, so power will be present once again only on the brown wire.

ACCEPTABLE POSITIONS**3-WAY VALVE FLOW SCHEME**

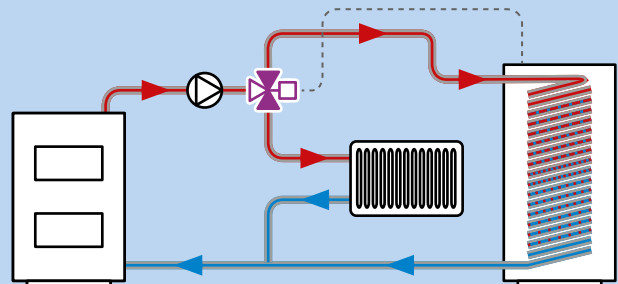
Switching the flow in 3-way valves takes place like shown on the scheme above. The medium is supplied via the AB connection and flows to the A or to the B connection, depending on the position of the valve.

POSITION INDICATOR

One can check the current position of the valve on the actuator. On the left the indicator of the 3-way valve (in position "B"). On the right the indicator on a 2-way valve (in position "open").

EXAMPLE APPLICATIONS**2-way AZV valve connected to a water tank thermostat**

Above a system with domestic water heating priority. If the temperature in the tank decreases, the thermostat opens the 2-way **AZV** valve, so the boiler heats the tank rapidly. When the temperature in the tank is reached, the thermostat will close the valve.

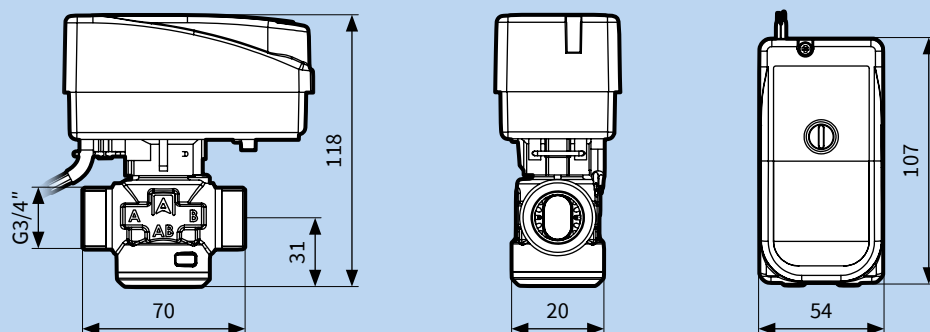
3-way AZV valve connected to a water tank thermostat or other controller

In the system above, when a thermostat is used, the **AZV** valve will switch flow depending on the temperature in the water tank. If a controller is used, the valve will switch depending on the chosen priority (c.h. or d.h.w.) in the controller menu.

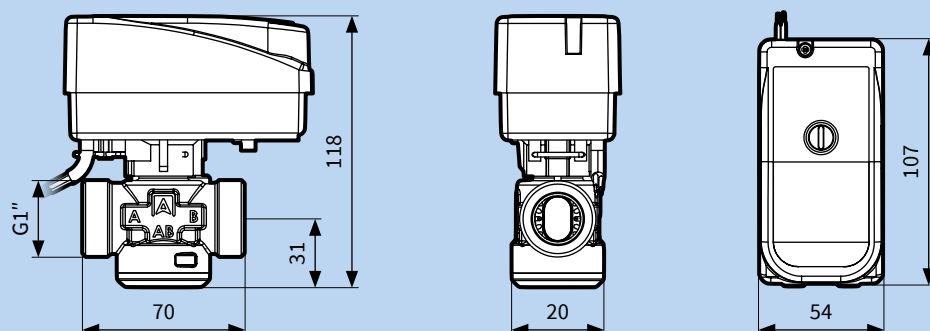
Zone valves **AZV**

DIMENSIONS [mm]

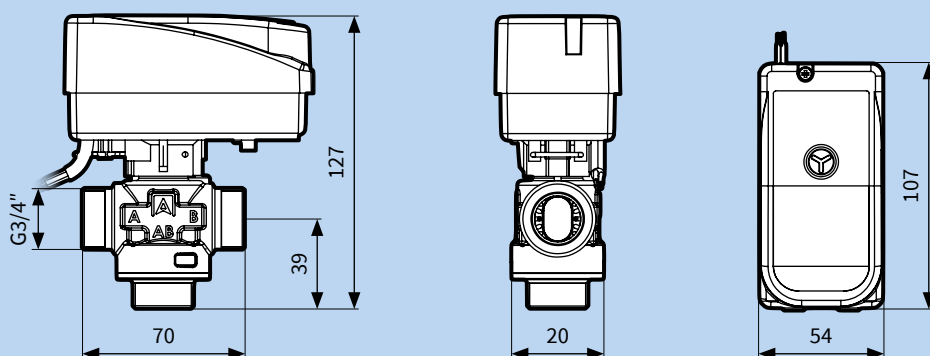
AZV 442, AZV 452



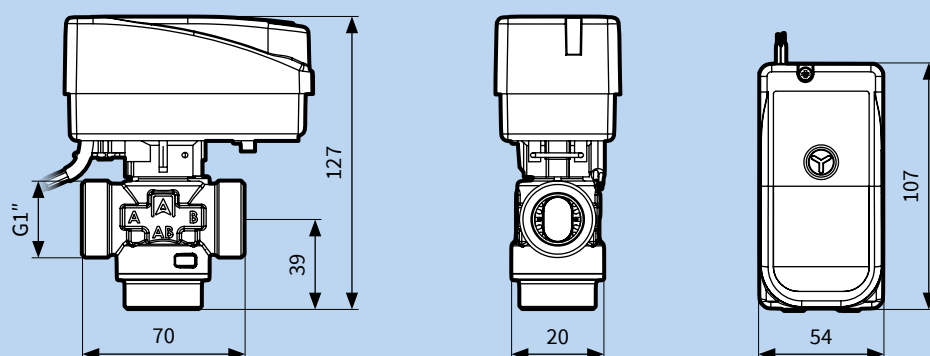
AZV 443, AZV 453



AZV 642

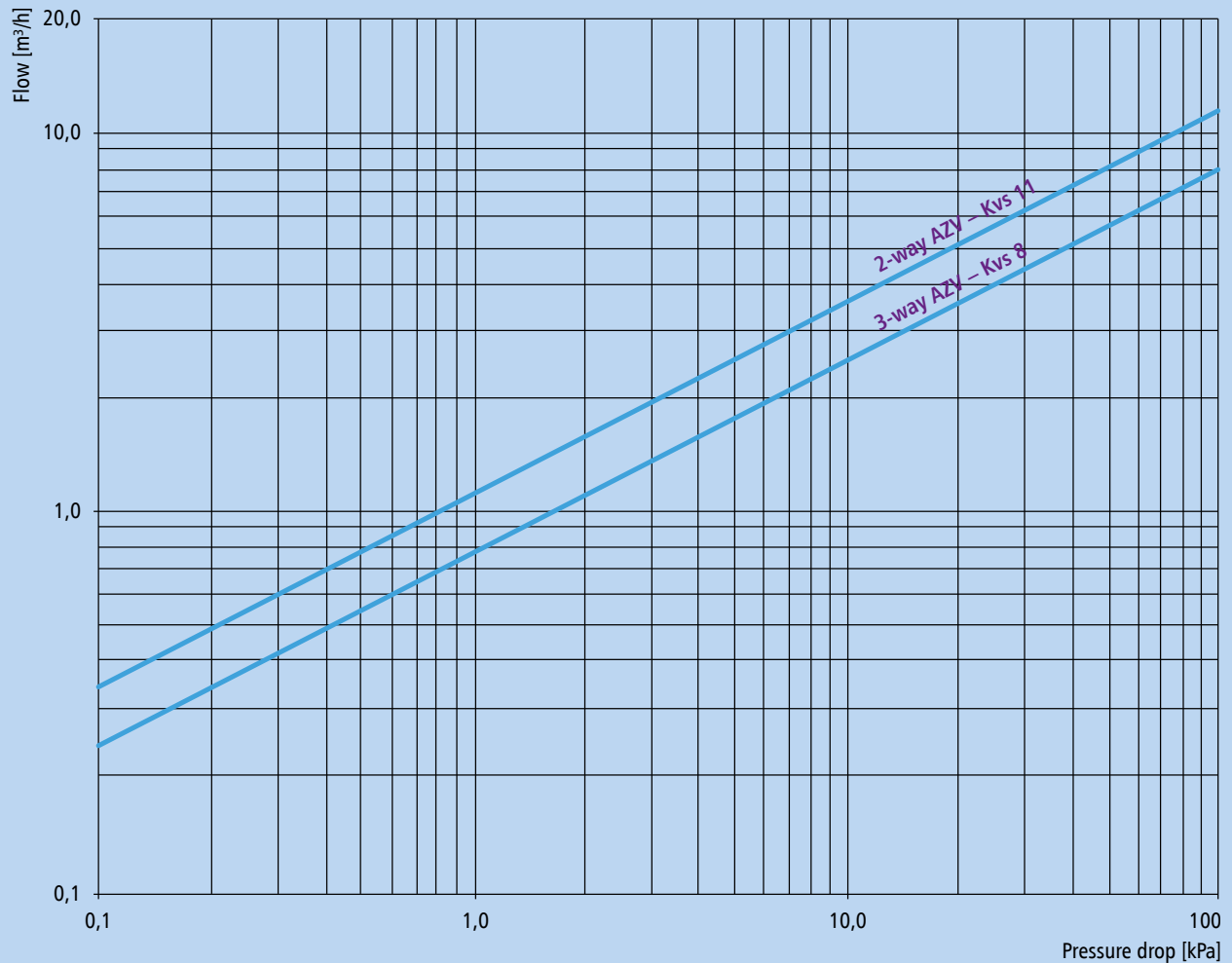


AZV 643





FLOW CHART



SELECTION TABLE

Art.-No	Name	Type	DN	Kvs	Connections	Starting position
16 442 00	AZV 442	2-way	15	11	G¾"	NC
16 452 00	AZV 452	2-way	15	11	G¾"	NO
16 443 00	AZV 443	2-way	20	11	G1"	NC
16 453 00	AZV 453	2-way	20	11	G1"	NO
16 642 00	AZV 642	3-way	15	8	G¾"	AB-B
16 643 00	AZV 643	3-way	20	8	G1"	AB-B

ACCESSORIES

Art.-No	Name/description
16 100 00	Adapter for 3-way AZV valves to expand the use to -15-120 °C (temporarily to 160 °C)
16 101 00	Union nut with internal thread G¾" x external thread R¾", with flat gasket
16 102 00	Union nut with internal thread G1" x external thread R1", with flat gasket



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Notes



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