

KZ Series

Two Position Spring Return Valve 2-Way & 3 Way



Thank you for purchasing the Kiway KZ Series Zone Valve which has been recognized globally by professionals and consumers alike for its reliability and durability.

This user manual covers all Kiway KZ series zone valves, individual model numbers are on the product label. Kiway zone valves are designed for fast and easy installation, trouble free operation and comply to today's highest industry standards. KZ Series valves are designed to fit virtually any system and are a perfect replacement option for applications using other brand name valves such as Caleffi, Belimo, Honeywell, etc.

- Compact design for easy installation.
- Quality tested for flawless operation.
- Removable powerhead with no need to drain system or break plumbing connections.

Valve Specifications

Valve type:

2-way on/off

3-way on/off / diverting

Connection:

Sweat: 1/2", 3/4", 1", and 1-1/4"

NPT: 1/2", 3/4", and 1"

Materials:

Body: forged brass

Stem: brass with nickel-plated

Seals: EPDM/NBR

Static pressure rating: 300 psi

Medium: water and glycol (up to 50%)

Media temperature range:

32 °F to 212 °F (0 °C to 100 °C)

Close off pressure: 20 - 50 psi

Cv rating: 2.5 – 7.5

Actuator Specifications

Voltage:

24 VAC \pm 10%, 50/60 Hz

120 VAC \pm 10%, 50/60 Hz

230 VAC \pm 10%, 50/60 Hz

Power consumption: 6.5 W, 7 VA.

Motor wire leads:

24V 18", black

120V/ 230V 6", black

End switch: 1 x SPST, red

Motor running time:

Power on: 10-18 seconds

Spring return: 4-5 seconds

Humidity: 5 to 95% non-condensing

Ambient temperature:

32 °F to 104 °F (0 °C to 40 °C)

Housing: stainless steel base with Al cover

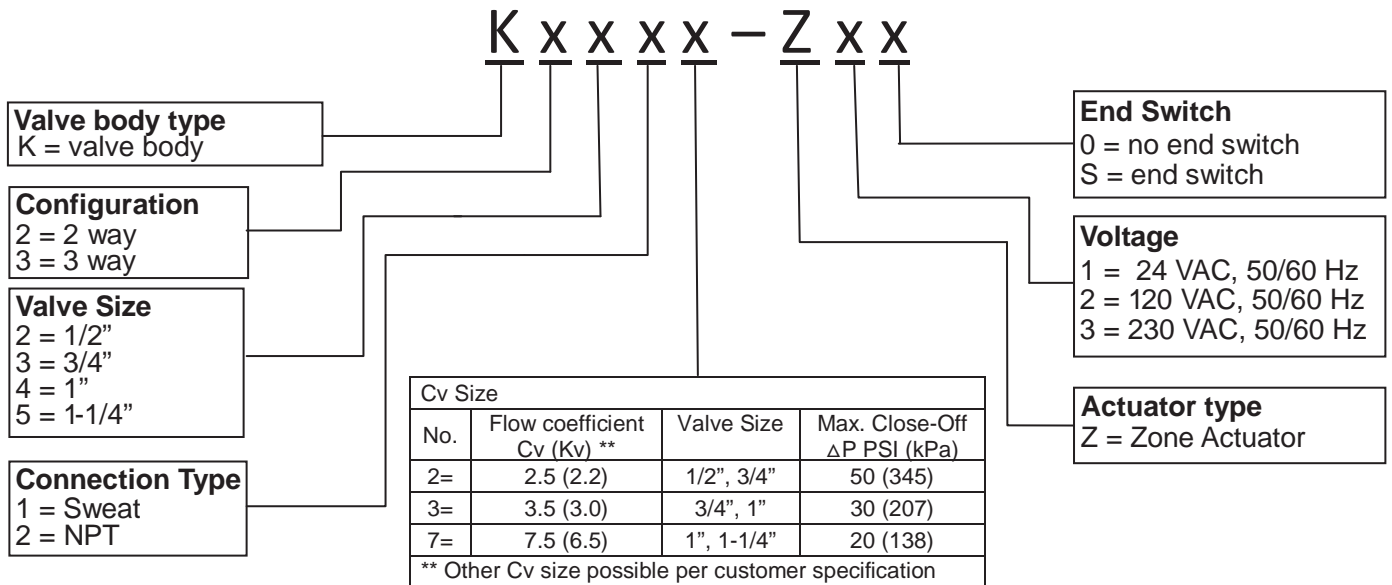
Basic Operation

Used in heating and air-conditioning systems for controlling the flow of hot and/or cold water. Consist of a spring-return actuator that is attached to a 2-way or 3-way valve assembly. When power is applied, the synchronous motor inside the actuator winds the spring and moves the valve paddle to the desired position. When power is off, the spring returns the paddle to its initial position.

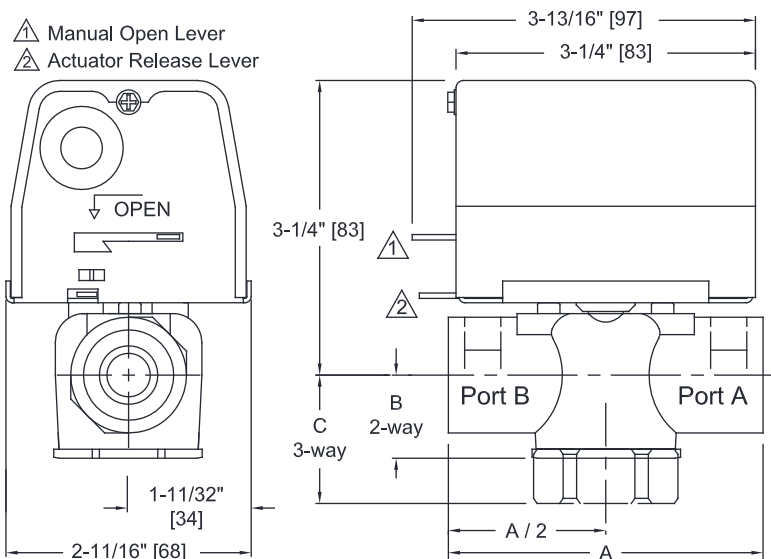
Application

Typically used on fan coil units, baseboards or other closed-loop hydronic systems, but are not suitable for use in open loop systems where there is exposure to fresh air resulting in dissolved oxygen that over the time, will cause damage to rubber seals inside the valve. Valve is designed for cycling (not constantly powered on) applications.

Model Numbering System for KZ series Zone Valves and Spring Return Actuators



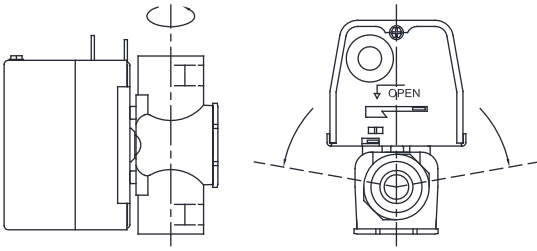
Dimensions – inches (mm)



Connection size	A	B	C
1/2" Sweat	2-5/8 (66)	15/16 (23)	1-7/16 (37)
3/4" Sweat	2-3/4 (70)	15/16 (23)	1-7/16 (37)
1" Sweat	3-3/8 (86)	15/16 (23)	1-7/16 (37)
1-1/4" Sweat	3-3/4 (94)	1 (25)	1-11/16 (43)
1/2" NPT	2-3/4 (70)	15/16 (23)	1-5/16 (33)
3/4" NPT	3-3/8 (86)	15/16 (23)	1-7/16 (37)
1" NPT	3-3/4 (94)	1 (25)	1-11/16 (43)

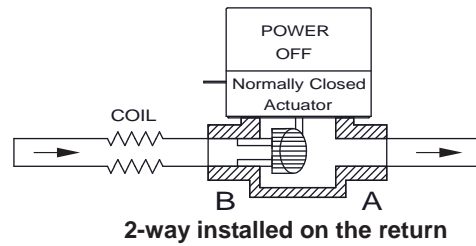
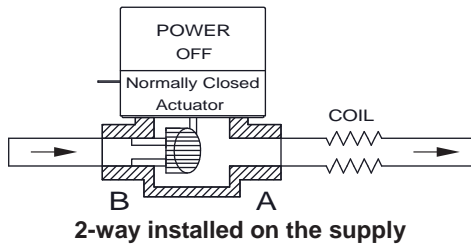
Installation and Operation

The valve can be installed vertically or horizontally (well above pipe center line), but never turned upside down.



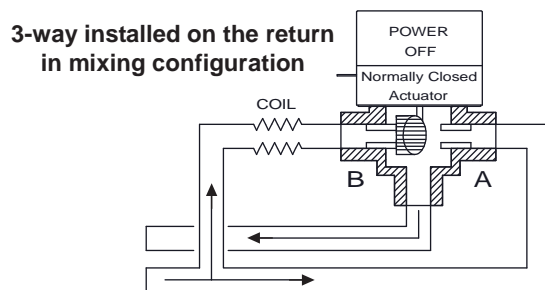
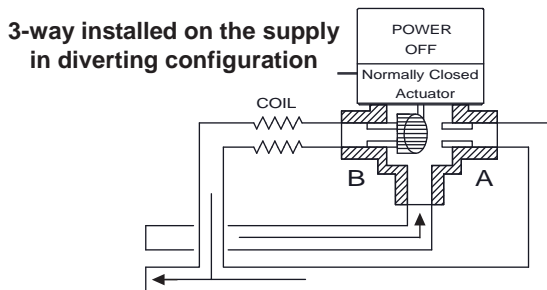
- Read these instructions carefully, make sure valve rating on product label is suitable for the application.
- Installer must be a trained, experienced service technician and comply with local codes and ordinances.

The 2-way valves can be installed on the supply or on the return (preferred). The flow direction through the valve must be from port B to port A (stamped on valve body), also indicated by the arrow in the product label, so the paddle closes against the direction of flow.



The 3-way normally closed (N.C.) valves can be installed on the supply or on the return.

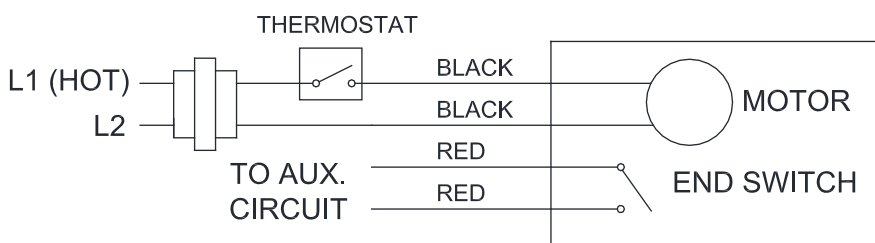
- 3-way uses only normally closed actuator.
- Rotate 180° the valve body for N.O. applications.



Operation of Normally Closed Valve

	2-way	3-way
N.C. power OFF	Port B closed	Port B closed, Port A opened, Port AB opened
N.C. power ON	Port B opened	Port B opened, Port A closed, Port AB opened
N.C. manual open	Port B opened	Port B opened, Port A opened, Port AB opened

Wiring



Sweat Copper Connection

1. Use new, properly sized and cleaned pipe. Place the valve onto the pipe.
2. Move the manual open lever to lock at OPEN position before applying heat. This protects the rubber seal on paddle inside by removing it from the brass seat during soldering.
3. Sweat joints. Keep the outer surface free from solder. ***DO NOT USE silver solder due to the high melting temperature required which will cause damage to internal parts*.**

Manual Open without Electric Power

The manual open can be achieved by pushing the manual open lever slowly and firmly to the locked position. When power is applied, the manual open lever unlocks automatically. End switch will not be triggered (closed) when valve is manually opened.

Disassembly of the Actuator from the Valve Body

1. Move the manual open lever to the lock open position.
2. Move the "Actuator Release Lever" to the left side and pull the actuator up.

Assembly of the Actuator to the Valve Body

1. Move the manual open lever to the lock open position.
2. Align valve stem to the mating actuator hole.
3. Move the "Actuator Release Lever" to the left side and slide the actuator onto the valve body, release the lever.



SAFETY & CAUTION

FAILURE TO FOLLOW THESE INSTRUCTIONS MAY CAUSE PERSONAL INJURY OR PROPERTY DAMAGE!

Please carefully read and strictly follow safety procedures and observances below along with all other installation instructions in this manual.

Kiway shall not be liable for injuries and damages resulting from misuse of its products.

CAUTION Disconnect power supply before connecting wiring to prevent electrical shock or equipment damage.

CAUTION Over-tightening with the use of Teflon pipe joint compound will result in potential breakage of joints. Teflon provides lubricity so care must be exercised not to over-tighten joints.

CAUTION Avoid installation in locations with excessive moisture, explosive vapors, corrosive fumes or vibration.

WARNING System fluids are under pressure or temperature can be hazardous. Be sure the pressure has been reduced to zero and the system temperature is below 100 °F (38 °C). Failure to follow these could result in property damage and /or personal injury.

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