

# Z-one™ zone valves



01115/11 NA  
Replaces 01115/10 NA

## Z series



### Function

Z-one valves are used to automatically shut-off the flow or redirect hot and chilled water in hydronic heating and air conditioning systems, and is UL listed for plenum installations.

The motorized two position, on/off, spring return Z1 series actuator has an end mounted push button for quick installation to valve body. The actuator is equipped with or without auxiliary switch and configured Normally Closed or Normally Opened with wire or terminal connections.

The zero leakage high temperature zone valve body Z2 series is 2-way straight through and the valve body Z3 series is 3-way diverting. The Z1 series actuator is easily attached by a push button lock and without tools.

The high temperature and high close-off performance characteristics of these zone valves, combined with the compact size, makes them suitable to fit inside baseboard or directly in fan coils units.



- US Patent 7,048,251; others pending

### Quick Order Code Numbers: 24VAC Normally Closed Actuator and 2-way Valve Body Combinations

| Code    | Description   | Connection |
|---------|---|------------|
| Z32     | Z121000 without auxiliary switch, 18 inch wire connection + Z200053 flare body                      | 1/2" SAE   |
| Z32F    | Z121000 without auxiliary switch, 18 inch wire connection + Z200053 flare body + NA10124            | sweat 3/4" |
| Z40     | Z111000 with auxiliary switch, 18 inch wire connection + Z200043 flare body + NA61241               | Inverted   |
| Z40F    | Z111000 with auxiliary switch, 18 inch wire connection + Z200043 flare body + two NA10006           | sweat 3/4" |
| Z42     | Z111000 with auxiliary switch, 18 inch wire connection + Z200053 flare body                         | 1/2" SAE   |
| Z42F    | Z111000 with auxiliary switch, 18 inch wire connections + Z200053 flare body + NA10124              | sweat 3/4" |
| Z44     | Z111000 with auxiliary switch, 18 inch wire connection + Z200432 sweat body                         | 1/2"       |
| Z45     | Z111000 with auxiliary switch, 18 inch wire connection + Z200537 sweat body                         | 3/4"       |
| Z46     | Z111000 with auxiliary switch, 18 inch wire connection + Z200637 sweat body                         | 1"         |
| Z47     | Z111000 with auxiliary switch, 18 inch wire connection + Z200737 sweat body                         | 1 1/4"     |
| Z50     | Z151000 with auxiliary switch, screw terminal connection + Z200043 flare body + NA61241K            | Inverted   |
| Z50F    | Z151000 with auxiliary switch, screw terminal connection + Z200043 flare body + two NA10006 sweat   | 3/4"       |
| Z54     | Z151000 with auxiliary switch, screw terminal connection + Z200432 sweat body                       | 1/2"       |
| Z55     | Z151000 with auxiliary switch, screw terminal connection + Z200537 sweat body                       | 3/4"       |
| Z56     | Z151000 with auxiliary switch, screw terminal connection + Z200637 sweat body                       | 1"         |
| Z57     | Z151000 with auxiliary switch, screw terminal connection + Z200737 sweat body                       | 1 1/4"     |
| NA10005 | Inverted flare nut with attached copper sweat tail piece  | 1/2"       |
| NA10006 | Inverted flare nut with attached copper sweat tail piece  | 3/4"       |
| NA10007 | Inverted flare nut with attached copper sweat tail piece  | 1"         |
| NA61241 | Inverted flare extension adaptor to retrofit body into an old style asymmetrical zone valve opening | Inverted   |
| NA10124 | SAE flare nut with attached copper sweat tail piece   | 3/4"       |

### Technical specification

#### Valve body

Material: - body: forged brass (optional lead-free brass)  
 - seat: machined brass  
 - stem: stainless steel  
 - two o-ring seals and paddle: EPDM

Flow: 1 to 7.5 Cv (0.9 to 115°C)  
 Medium: water and glycol, low pressure steam  
 Maximum percent of glycol: 50%  
 Temperature range: 32 to 240°F (0 to 115°C)  
 Max. static pressure: 15 psi (1 bar) steam  
 300 psi (20 bar)

Max. closeoff Δ pressure: 20 to 75 psi (138 to 517 kPa)

Connection: - sweat: 1/2", 3/4" 1" & 1 1/4"  
 - NPT female: 1/2", 3/4" & 1"  
 - SAE flare: 1/2"  
 - inverted flare: 1/2", 3/4" & 1" sweat fittings separate

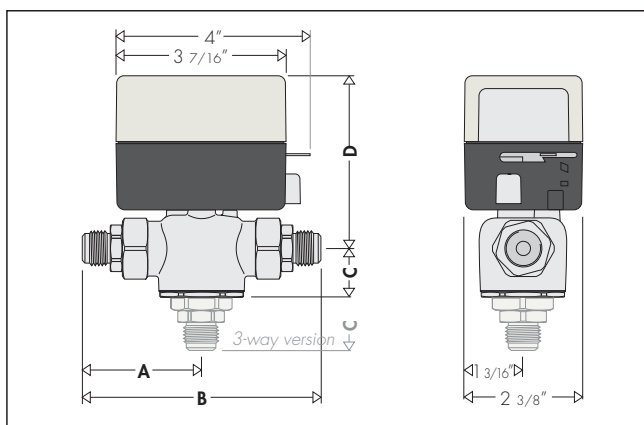
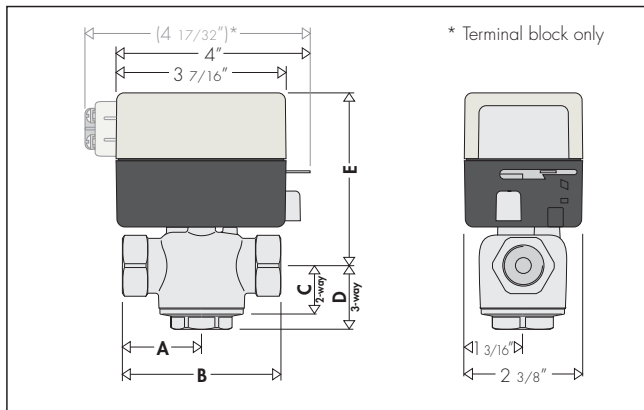
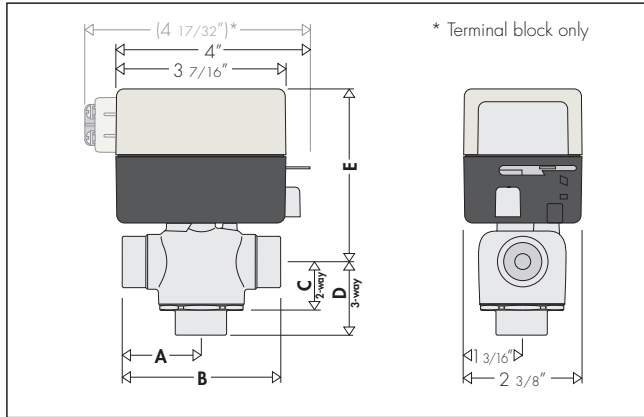
Approvals: for lead-free brass Lead plumbing law compliance (0.25% Max. weighted average lead content), Lead plumbing law certified by IAPMO R&T

#### Actuator

Material: - base and cover: polycarbonate  
 - base plate: aluminum  
 Motor: - AC voltage: 24 V - 120 V - 208 V - 230 V - 277 V; 50/60 Hz  
 Power requirements: 5.0 W, 7 VA  
 Power connections: - Terminal screws with auxiliary switch: 24 V only  
 - Wire lead length: 18" (45 cm), 24 V only  
 6" (15 cm), 120, 208, 230, 277 V  
 Auxiliary switch: 0.0 A min, 0.4 A max, 24 V (24V only)  
 0.25 A min, 5 A max, 250 V (Z111000 HCS)  
 0.25 A min, 5.0 A max, 250 V (120, 208, 230, 277 V actuators)  
 Ambient temperature range: 32 to 104°F (0 to 40°C) 24, 120 V  
 32 to 170°F (0 to 77°C) 208, 230, 277 V  
 Humidity: 95% non-condensing  
 Full Stroke Time: - On: <60 seconds  
 - Off: 6 seconds

Approvals: UL873, cUL Listed & CE  
 UL 1995 sec. 18 approved for air plenums and ducts,  
 Normally Open Actuators must be powered down during off-season

## Dimensions



| Connections          | A        | B        | C      | D      |
|----------------------|----------|----------|--------|--------|
| 2-way 1/2" SAE Flare | 2 11/32" | 4 11/16" | 15/16" | 3 1/2" |
| 3-way 1/2" SAE Flare | 2 11/32" | 4 11/16" | 2 1/8" | 3 1/2" |

## Operating principle

The Z-one actuator has a synchronous motor that winds the return spring and moves the valve paddle to the desired position. When power is removed the actuator spring returns the valve paddle. The Zone actuator is equipped with or without auxiliary switch.

## Operation of normally closed valve

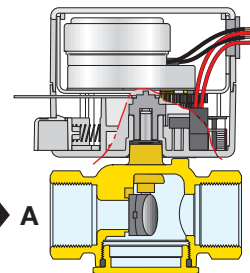
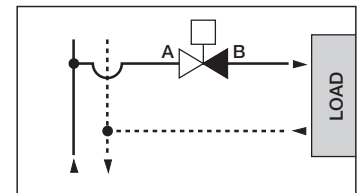
|                        | 2-way           | 3-way  |
|------------------------|-----------------|--|
| N.C. without power     | Port "A" closed | Port "A" closed<br>Port "B" open<br>Port "AB" open     |
| N.C. opened with power | Port "A" opened | Port "A" opened<br>Port "B" closed<br>Port "AB" open   |
| N.C. manually opened   | Port "A" open   | Port "A" opened<br>Port "B" opened<br>Port "AB" opened |

### 2-way

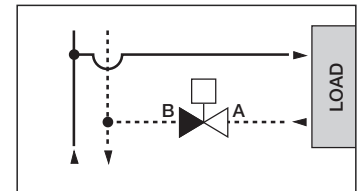
(with the power off, passage A is closed)



### 2-way installed on the flow side



### 2-way installed on the return side

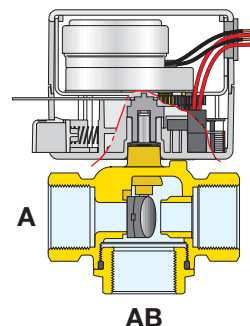
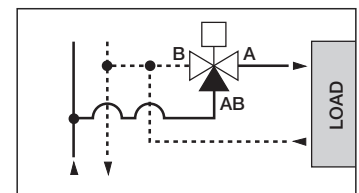


### 3-way

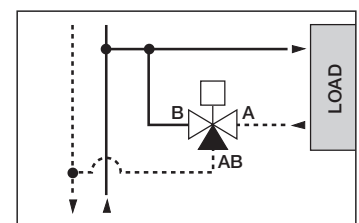
(with the power off, passage A is closed)



### 3-way installed on the flow side as a diverting valve configuration



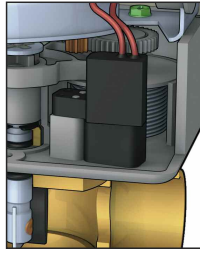
### 3-way installed on the return side as a mixing valve configuration



## Construction details

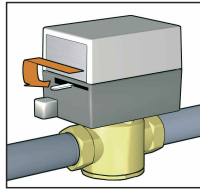
### • Auxiliary switch

The actuator contains an auxiliary microswitch to operate other devices. The 24 V actuators use a sealed reed switch, patent pending, which has been produced specifically for use with relays, boiler contacts (TT) and DDC systems. It requires no minimum current load. The 120 V - 277 V actuators, and actuator model number Z111000 HCS for applications requiring greater than 400 mA, use a conventional microswitch with silver contacts. The auxiliary switch is activated when the valve is 60% open or when the actuator is manually opened.



### • Manual opening (Normally closed actuator only)

The valve can be opened manually by moving the lever for opening it. When the power is restored the manual control is automatically overridden. The auxiliary switch in 24 V actuators is tripped when the unit is put into manual open position. This helps during start up to check if the wiring is correct without firing the valve electrically with the thermostat.



### • Easy push button

A simple push of the button makes it easy to remove it from the body of the valve for maintenance or replacement operations. Warning: the actuator can only be used with valve bodies Z2-Z3 series.

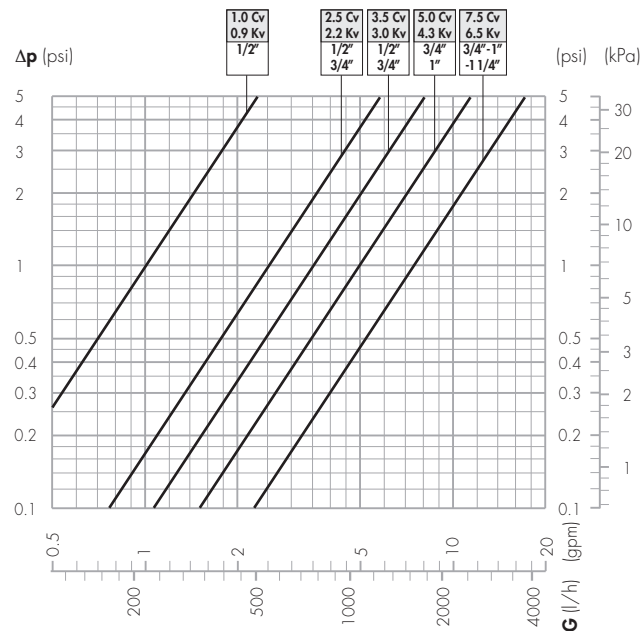
### • Operation

The actuator is fitted with a special mechanism for gradual movement of the valve paddle which provides smooth and quiet constant operation. Power-on full stroke run time is 60 seconds with 6 second power-off return time eliminating the effects of water hammer.

## Flow characteristics

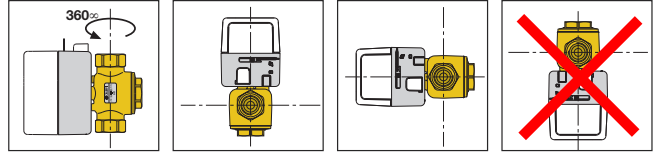
| Connection size    | Flow coefficient | Max. Close-off ΔP |
|--------------------|------------------|-------------------|
| 1/2"               | 1.0 Cv (0.9 Kv)  | 75 psi (517 kPa)  |
| 1/2" - 3/4"        | 2.5 Cv (2.2 Kv)  | 50 psi (345 kPa)  |
| 1/2" - 3/4"        | 3.5 Cv (3.0 Kv)  | 30 psi (207 kPa)  |
| 3/4" - 1"          | 5.0 Cv (4.3 Kv)  | 25 psi (172 kPa)  |
| 3/4" - 1" - 1 1/4" | 7.5 Cv (6.5 Kv)  | 20 psi (138 kPa)  |

## Hydraulic characteristics



## Installation

- The valve can be fitted either vertically or horizontally, with the actuator in any position, **except upside down**.



- If it is installed inside a enclosure it is important to ensure that there is adequate ventilation inside the enclosure itself.

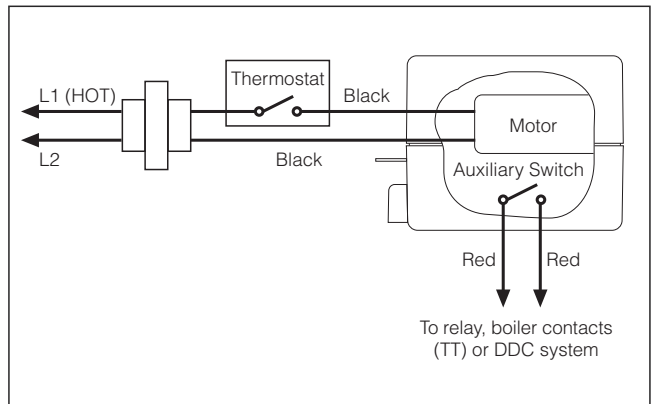
- The three-way valve cannot be transformed into a two-way valve and vice versa.

- When zone valves are installed, the direction of flow must be observed as shown in the diagrams below.

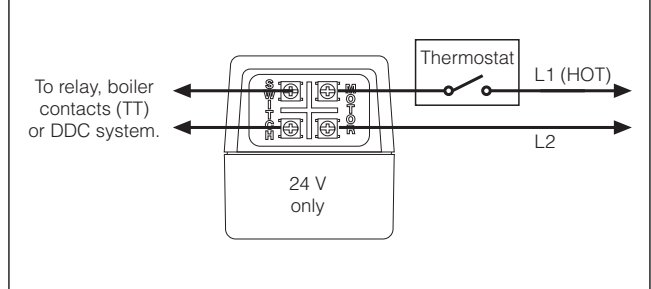
- Two-way zone valves can be installed on both the flow and return sides; the direction of flow indicated by the arrow on the body of the valve must be observed.

- Three way zone valve can be fitted with NC actuator only (rotate 180° the valve body for NO application).

## Wiring diagram

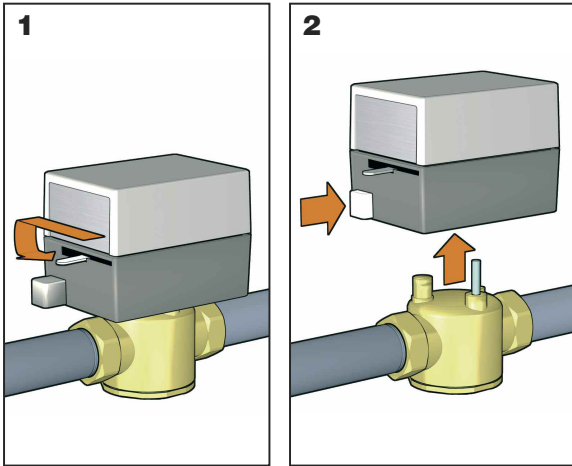


## Terminal block



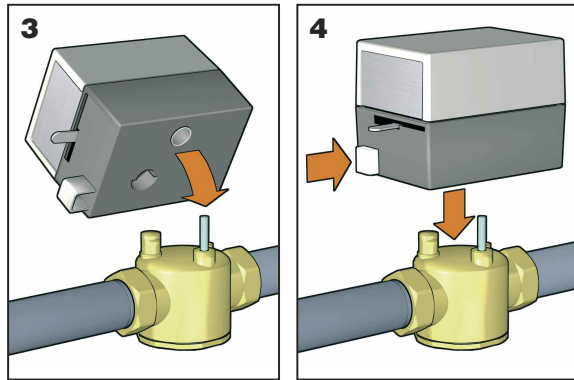
## Removal of the actuator

1. Move the manual open lever to the lock open position.
2. Press the push button in and pull the actuator up.



## Fitting of the actuator

1. Move the manual open lever to the lock open position.
3. Verify the correct position of the valve stem into the mating actuator hole. Move stem if required to align.
4. Press the push button in and slide the actuator onto the valve body, release the push button.



### Z-one Normally Closed Valve Actuators

| Code        | Description                                |
|-------------|--|
| Z111000     | 24V with auxiliary switch 18" wire         |
| Z111000 HCS | 24V with high current aux. switch 18" wire |
| Z116000     | 120V with auxiliary switch 6" wire         |
| Z113000     | 208V with auxiliary switch 6" wire         |
| Z114000     | 230V with auxiliary switch 6" wire         |
| Z115000     | 277V with auxiliary switch 6" wire         |
| Z151000     | 24V w/auxiliary switch terminal block      |
| Z121000     | 24V without auxiliary switch 18" wire      |
| Z126000     | 120V without auxiliary switch 6" wire      |
| Z123000     | 208V without auxiliary switch 6" wire      |
| Z124000     | 230V without auxiliary switch 6" wire      |
| Z125000     | 277V without auxiliary switch 6" wire      |

### Z-one Normally Open Valve Actuators

| Code    | Description                           |
|---------|---------------------------------------|
| Z131000 | 24V with auxiliary switch 18" wire    |
| Z136000 | 120V with auxiliary switch 6" wire    |
| Z133000 | 208V with auxiliary switch 6" wire    |
| Z134000 | 230V with auxiliary switch 6" wire    |
| Z135000 | 277V with auxiliary switch 6" wire    |
| Z141000 | 24V without auxiliary switch 18" wire |
| Z146000 | 120V without auxiliary switch 6" wire |
| Z143000 | 208V without auxiliary switch 6" wire |
| Z144000 | 230V without auxiliary switch 6" wire |
| Z145000 | 277V without auxiliary switch 6" wire |

### Z-one 2-way Straight Through Valve Bodies

| Code    | Description                | Cv  | ΔP     |
|---------|----------------------------|-----|--------|
| Z200041 | Inverted Flare             | 1.0 | 75 psi |
| Z200042 | Inverted Flare             | 2.5 | 50 psi |
| Z200043 | Inverted Flare             | 3.5 | 30 psi |
| Z200053 | 1/2" SAE Flare             | 3.5 | 30 psi |
| Z200411 | 1/2" NPT                   | 1.0 | 75 psi |
| Z200412 | 1/2" NPT                   | 2.5 | 50 psi |
| Z200413 | 1/2" NPT                   | 3.5 | 30 psi |
| Z200431 | 1/2" Sweat                 | 1.0 | 75 psi |
| Z200432 | 1/2" Sweat                 | 2.5 | 50 psi |
| Z207433 | 1/2" Sweat lead-free brass | 3.5 | 30 psi |
| Z200512 | 3/4" NPT                   | 2.5 | 50 psi |
| Z200513 | 3/4" NPT                   | 3.5 | 30 psi |
| Z200515 | 3/4" NPT                   | 5.0 | 25 psi |
| Z200517 | 3/4" NPT                   | 7.5 | 20 psi |
| Z200532 | 3/4" Sweat                 | 2.5 | 50 psi |
| Z200533 | 3/4" Sweat                 | 3.5 | 30 psi |
| Z200535 | 3/4" Sweat                 | 5.0 | 25 psi |
| Z200537 | 3/4" Sweat                 | 7.5 | 20 psi |
| Z207537 | 3/4" Sweat lead-free brass | 7.5 | 20 psi |
| Z200617 | 1" NPT                     | 7.5 | 20 psi |
| Z200635 | 1" Sweat                   | 5.0 | 25 psi |
| Z200637 | 1" Sweat                   | 7.5 | 20 psi |
| Z200737 | 1-1/4" Sweat               | 7.5 | 20 psi |

### Z-one 3-way Diverting Valve Bodies

| Code    | Description                | Cv  | ΔP     |
|---------|----------------------------|-----|--------|
| Z300041 | Inverted Flare             | 1.0 | 75 psi |
| Z300042 | Inverted Flare             | 2.5 | 50 psi |
| Z300043 | Inverted Flare             | 3.5 | 30 psi |
| Z300053 | 1/2" SAE Flare             | 3.5 | 30 psi |
| Z300411 | 1/2" NPT                   | 1.0 | 75 psi |
| Z300412 | 1/2" NPT                   | 2.5 | 50 psi |
| Z300413 | 1/2" NPT                   | 3.5 | 30 psi |
| Z300431 | 1/2" Sweat                 | 1.0 | 75 psi |
| Z300432 | 1/2" Sweat                 | 2.5 | 50 psi |
| Z307433 | 1/2" Sweat lead-free brass | 3.5 | 30 psi |
| Z300512 | 3/4" NPT                   | 2.5 | 50 psi |
| Z300513 | 3/4" NPT                   | 3.5 | 30 psi |
| Z300515 | 3/4" NPT                   | 5.0 | 25 psi |
| Z300517 | 3/4" NPT                   | 7.5 | 20 psi |
| Z300532 | 3/4" Sweat                 | 2.5 | 50 psi |
| Z300533 | 3/4" Sweat                 | 3.5 | 30 psi |
| Z300535 | 3/4" Sweat                 | 5.0 | 25 psi |
| Z300537 | 3/4" Sweat                 | 7.5 | 20 psi |
| Z307537 | 3/4" Sweat lead-free brass | 7.5 | 20 psi |
| Z300617 | 1" NPT                     | 7.5 | 20 psi |
| Z300635 | 1" Sweat                   | 5.0 | 25 psi |
| Z300637 | 1" Sweat                   | 7.5 | 20 psi |
| Z300737 | 1-1/4" Sweat               | 7.5 | 20 psi |

**Z-one Normally Closed Valve Actuators & 2-way Straight Through Valve Body Combinations Matrix**

| actuator<br>body | Z111000 | Z116000 | Z113000 | Z114000 | Z115000 | Z151000 | Z121000 | Z126000 | Z123000 | Z124000 | Z125000 |
|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Z200041          | Z411041 | Z416041 | Z413041 | Z414041 | Z415041 | Z451041 | Z421041 | Z426041 | Z423041 | Z424041 | Z425041 |
| Z200042          | Z411042 | Z416042 | Z413042 | Z414042 | Z415042 | Z451042 | Z421042 | Z426042 | Z423042 | Z424042 | Z425042 |
| Z200043          | Z411043 | Z416043 | Z413043 | Z414043 | Z415043 | Z451043 | Z421043 | Z426043 | Z423043 | Z424043 | Z425043 |
| Z200053          | Z42     | Z416053 | Z413053 | Z414053 | Z415053 | Z451053 | Z32     | Z426053 | Z423053 | Z424053 | Z425053 |
| Z200411          | Z411411 | Z416411 | Z413411 | Z414411 | Z415411 | Z451411 | Z421411 | Z426411 | Z423411 | Z424411 | Z425411 |
| Z200412          | Z411412 | Z416412 | Z413412 | Z414412 | Z415412 | Z451412 | Z421412 | Z426412 | Z423412 | Z424412 | Z425412 |
| Z200413          | Z411413 | Z416413 | Z413413 | Z414413 | Z415413 | Z451413 | Z421413 | Z426413 | Z423413 | Z424413 | Z425413 |
| Z200431          | Z411431 | Z416431 | Z413431 | Z414431 | Z415431 | Z451431 | Z421431 | Z426431 | Z423431 | Z424431 | Z425431 |
| Z200432          | Z44     | Z416432 | Z413432 | Z414432 | Z415432 | Z54     | Z421432 | Z426432 | Z423432 | Z424432 | Z425432 |
| Z207433          | Z411433 | Z416433 | Z413433 | Z414433 | Z415433 | Z451433 | Z421433 | Z426433 | Z423433 | Z424433 | Z425433 |
| Z200512          | Z411512 | Z416512 | Z413512 | Z414512 | Z415512 | Z451512 | Z421512 | Z426512 | Z423512 | Z424512 | Z425512 |
| Z200513          | Z411513 | Z416513 | Z413513 | Z414513 | Z415513 | Z451513 | Z421513 | Z426513 | Z423513 | Z424513 | Z425513 |
| Z200515          | Z411515 | Z416515 | Z413515 | Z414515 | Z415515 | Z451515 | Z421515 | Z426515 | Z423515 | Z424515 | Z425515 |
| Z200517          | Z411517 | Z416517 | Z413517 | Z414517 | Z415517 | Z451517 | Z421517 | Z426517 | Z423517 | Z424517 | Z425517 |
| Z200532          | Z411532 | Z416532 | Z413532 | Z414532 | Z415532 | Z451532 | Z421532 | Z426532 | Z423532 | Z424532 | Z425532 |
| Z200533          | Z411533 | Z416533 | Z413533 | Z414533 | Z415533 | Z451533 | Z421533 | Z426533 | Z423533 | Z424533 | Z425533 |
| Z200535          | Z411535 | Z416535 | Z413535 | Z414535 | Z415535 | Z451535 | Z421535 | Z426535 | Z423535 | Z424535 | Z425535 |
| Z200537          | Z45     | Z416537 | Z413537 | Z414537 | Z415537 | Z55     | Z421537 | Z426537 | Z423537 | Z424537 | Z425537 |
| Z200617          | Z411617 | Z416617 | Z413617 | Z414617 | Z415617 | Z451617 | Z421617 | Z426617 | Z423617 | Z424617 | Z425617 |
| Z200635          | Z411635 | Z416635 | Z413635 | Z414635 | Z415635 | Z451635 | Z421635 | Z426635 | Z423635 | Z424635 | Z425635 |
| Z200637          | Z46     | Z416637 | Z413637 | Z414637 | Z415637 | Z56     | Z421637 | Z426637 | Z423637 | Z424637 | Z425637 |
| Z200737          | Z47     | Z416737 | Z413737 | Z414737 | Z415737 | Z57     | Z421737 | Z426737 | Z423737 | Z424737 | Z425737 |

**Z-one Normally Closed Valve Actuators & 3-way Diverting Valve Body Combinations Matrix**

| actuator<br>body | Z111000 | Z116000 | Z113000 | Z114000 | Z115000 | Z151000 | Z121000 | Z126000 | Z123000 | Z124000 | Z125000 |
|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Z300041          | Z611041 | Z616041 | Z613041 | Z614041 | Z615041 | Z651041 | Z621041 | Z626041 | Z623041 | Z624041 | Z625041 |
| Z300042          | Z611042 | Z616042 | Z613042 | Z614042 | Z615042 | Z651042 | Z621042 | Z626042 | Z623042 | Z624042 | Z625042 |
| Z300043          | Z611043 | Z616043 | Z613043 | Z614043 | Z615043 | Z651043 | Z621043 | Z626043 | Z623043 | Z624043 | Z625043 |
| Z300053          | Z611053 | Z616053 | Z613053 | Z614053 | Z615053 | Z651053 | Z621053 | Z626053 | Z623053 | Z624053 | Z625053 |
| Z300411          | Z611411 | Z616411 | Z613411 | Z614411 | Z615411 | Z651411 | Z621411 | Z626411 | Z623411 | Z624411 | Z625411 |
| Z300412          | Z611412 | Z616412 | Z613412 | Z614412 | Z615412 | Z651412 | Z621412 | Z626412 | Z623412 | Z624412 | Z625412 |
| Z300413          | Z611413 | Z616413 | Z613413 | Z614413 | Z615413 | Z651413 | Z621413 | Z626413 | Z623413 | Z624413 | Z625413 |
| Z300431          | Z611431 | Z616431 | Z613431 | Z614431 | Z615431 | Z651431 | Z621431 | Z626431 | Z623431 | Z624431 | Z625431 |
| Z300432          | Z611432 | Z616432 | Z613432 | Z614432 | Z615432 | Z651432 | Z621432 | Z626432 | Z623432 | Z624432 | Z625432 |
| Z307433          | Z611433 | Z616433 | Z613433 | Z614433 | Z615433 | Z651433 | Z621433 | Z626433 | Z623433 | Z624433 | Z625433 |
| Z300512          | Z611512 | Z616512 | Z613512 | Z614512 | Z615512 | Z651512 | Z621512 | Z626512 | Z623512 | Z624512 | Z625512 |
| Z300513          | Z611513 | Z616513 | Z613513 | Z614513 | Z615513 | Z651513 | Z621513 | Z626513 | Z623513 | Z624513 | Z625513 |
| Z300515          | Z611515 | Z616515 | Z613515 | Z614515 | Z615515 | Z651515 | Z621515 | Z626515 | Z623515 | Z624515 | Z625515 |
| Z300517          | Z611517 | Z616517 | Z613517 | Z614517 | Z615517 | Z651517 | Z621517 | Z626517 | Z623517 | Z624517 | Z625517 |
| Z300532          | Z611532 | Z616532 | Z613532 | Z614532 | Z615532 | Z651532 | Z621532 | Z626532 | Z623532 | Z624532 | Z625532 |
| Z300533          | Z611533 | Z616533 | Z613533 | Z614533 | Z615533 | Z651533 | Z621533 | Z626533 | Z623533 | Z624533 | Z625533 |
| Z300535          | Z611535 | Z616535 | Z613535 | Z614535 | Z615535 | Z651535 | Z621535 | Z626535 | Z623535 | Z624535 | Z625535 |
| Z300537          | Z611537 | Z616537 | Z613537 | Z614537 | Z615537 | Z651537 | Z621537 | Z626537 | Z623537 | Z624537 | Z625537 |
| Z300617          | Z611617 | Z616617 | Z613617 | Z614617 | Z615617 | Z651617 | Z621617 | Z626617 | Z623617 | Z624617 | Z625617 |
| Z300635          | Z611635 | Z616635 | Z613635 | Z614635 | Z615635 | Z651635 | Z621635 | Z626635 | Z623635 | Z624635 | Z625635 |
| Z300637          | Z611637 | Z616637 | Z613637 | Z614637 | Z615637 | Z651637 | Z621637 | Z626637 | Z623637 | Z624637 | Z625637 |
| Z300737          | Z611737 | Z616737 | Z613737 | Z614737 | Z615737 | Z651737 | Z621737 | Z626737 | Z623737 | Z624737 | Z625737 |

## Z-one Normally Open Valve Actuators & 2-way Straight Thru Valve Body Combinations Matrix

| actuator<br>body | Z131000 | Z136000 | Z133000 | Z134000 | Z135000 | Z141000 | Z146000 | Z143000 | Z144000 | Z145000 |
|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| <b>Z200041</b>   | Z431041 | Z436041 | Z433041 | Z434041 | Z435041 | Z441041 | Z446041 | Z443041 | Z444041 | Z445041 |
| <b>Z200042</b>   | Z431042 | Z436042 | Z433042 | Z434042 | Z435042 | Z441042 | Z446042 | Z443042 | Z444042 | Z445042 |
| <b>Z200043</b>   | Z431043 | Z436043 | Z433043 | Z434043 | Z435043 | Z441043 | Z446043 | Z443043 | Z444043 | Z445043 |
| <b>Z200053</b>   | Z431053 | Z436053 | Z433053 | Z434053 | Z435043 | Z441053 | Z446053 | Z443053 | Z444053 | Z445053 |
| <b>Z200411</b>   | Z431411 | Z436411 | Z433411 | Z434411 | Z435411 | Z441411 | Z446411 | Z443411 | Z444411 | Z445411 |
| <b>Z200412</b>   | Z431412 | Z436412 | Z433412 | Z434412 | Z435412 | Z441412 | Z446412 | Z443412 | Z444412 | Z445412 |
| <b>Z200413</b>   | Z431413 | Z436413 | Z433413 | Z434413 | Z435413 | Z441413 | Z446413 | Z443413 | Z444413 | Z445413 |
| <b>Z200431</b>   | Z431431 | Z436431 | Z433431 | Z434431 | Z435431 | Z441431 | Z446431 | Z443431 | Z444431 | Z445431 |
| <b>Z200432</b>   | Z431432 | Z436432 | Z433432 | Z434432 | Z435432 | Z441432 | Z446432 | Z443432 | Z444432 | Z445432 |
| <b>Z207433</b>   | Z431433 | Z436433 | Z433433 | Z434433 | Z435433 | Z441433 | Z446433 | Z443433 | Z444433 | Z445433 |
| <b>Z200512</b>   | Z431512 | Z436512 | Z433512 | Z434512 | Z435512 | Z441512 | Z446512 | Z443512 | Z444512 | Z445512 |
| <b>Z200513</b>   | Z431513 | Z436513 | Z433513 | Z434513 | Z435513 | Z441513 | Z446513 | Z443513 | Z444513 | Z445513 |
| <b>Z200515</b>   | Z431515 | Z436515 | Z433515 | Z434515 | Z435515 | Z441515 | Z446515 | Z443515 | Z444515 | Z445515 |
| <b>Z200517</b>   | Z431517 | Z436517 | Z433517 | Z434517 | Z435517 | Z441517 | Z446517 | Z443517 | Z444517 | Z445517 |
| <b>Z200532</b>   | Z431532 | Z436532 | Z433532 | Z434532 | Z435532 | Z441532 | Z446532 | Z443532 | Z444532 | Z445532 |
| <b>Z200533</b>   | Z431533 | Z436533 | Z433533 | Z434533 | Z435533 | Z441533 | Z446533 | Z443533 | Z444533 | Z445533 |
| <b>Z200535</b>   | Z431535 | Z436535 | Z433535 | Z434535 | Z435535 | Z441535 | Z446535 | Z443535 | Z444535 | Z445535 |
| <b>Z200537</b>   | Z431537 | Z436537 | Z433537 | Z434537 | Z435537 | Z441537 | Z446537 | Z443537 | Z444537 | Z445537 |
| <b>Z200617</b>   | Z431617 | Z436617 | Z433617 | Z434617 | Z435617 | Z441617 | Z446617 | Z443617 | Z444617 | Z445617 |
| <b>Z200635</b>   | Z431635 | Z436635 | Z433635 | Z434635 | Z435635 | Z441635 | Z446635 | Z443635 | Z444635 | Z445635 |
| <b>Z200637</b>   | Z431637 | Z436637 | Z433637 | Z434637 | Z435637 | Z441637 | Z446637 | Z443637 | Z444637 | Z445637 |
| <b>Z200737</b>   | Z431737 | Z436737 | Z433737 | Z434737 | Z435737 | Z441737 | Z446737 | Z443737 | Z444737 | Z445737 |

To use the above tables follow this example: Select actuator Z131000 from the top row combined with body Z200041 from left column to create the combination Z431041.

## SPECIFICATION SUMMARIES

The Z-one series two-position spring return with removable actuator zone valve. Z1 series actuator is NC or NO 24 V to 277 V 50/60 Hz 6.5 W 7 VA, with or without auxiliary switch {(24 V: 0.4A max, 24 V) (120-277 V: 5.0A, 250 V)}, Auxiliary switch for 24 V actuator is a sealed reed switch requiring no minimum current load, includes leads or terminal block (24 V only); operating temperature from 32 ~ 104°F for 24 V and 120 V actuators; 32 ~ 170 deg F for 208 V, 230 V, 277 V actuators. Z2 (2-way) series and Z3 (3-way) series are forged brass (2-way and 3-way 1/2" and 3/4" sweat valve bodies pn Zn07433 and Zn07537 are lead-free certified by IAPMO R&T) valve body rated at 300 psi, temperature rated 32 ~ 240°F. Valve stem stainless steel, seals EPDM, flows from 1.0 ~ 7.5 Cv connections size from 1/2" to 1 1/4", sweat, NPT female threads, SAE flare and inverted flare. Actuator approved for UL873, including air plenums and ducts rating per UL 1995 section 18.

We reserve the right to change our products and their relevant technical data, contained in this publication, at any time and without prior notice.

