

Z-One™ Zone Valves



Z series

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Application

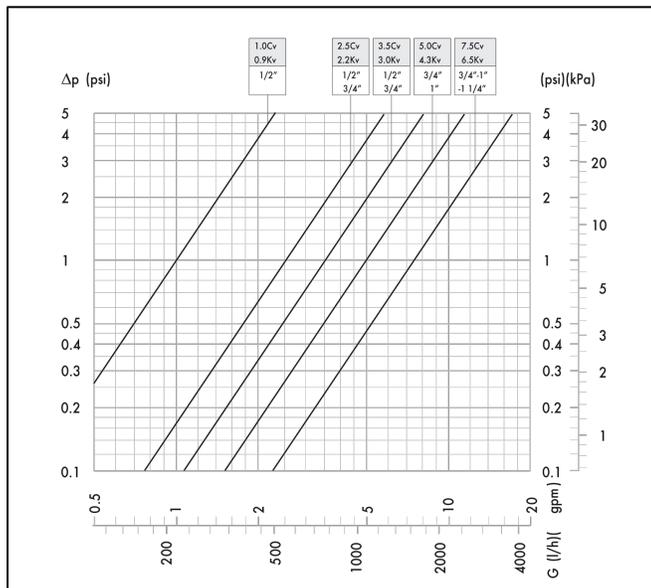
The Z-one, a two-position spring return zone valve, is used in heating and air-conditioning systems. The Z-one series consist of a Z1 actuator which is easily attached to a Z2 (2-way) or Z3 (3-way) valve body. Z1 actuator is equipped with or without auxiliary switch and is UL Listed for plenum installations.

US Patent 7,048,251; others pending

Typical Specification

Furnish and install on the plans and describing herein, a Caleffi Z-one zone valve as manufactured by Caleffi. Each zone valve must be designed with forged brass valve body rated at 300 psi, stainless steel valve stem, and seals in EPDM. When an auxiliary switch is specified in the 24V actuator, the zone valve design must include a sealed reed switch. Approved for air plenum and ducts per UL 1995 section 18. Each zone valve shall be Caleffi model Z-one series or approval equal. (See product instructions for specific installation information.)

Hydraulic characteristics



Technical specifications

Materials

Valve body material: forged brass
 - Body: machined brass
 - Seat: stainless steel
 - Stem: peroxide-cured EPDM
 - Two o-ring seals and paddle:

Flow: 1.0 to 7.5 Cv
 Medium: water and glycol, low pressure steam
 Maximum percentage of glycol: 50%
 Temperature range: 32 to 240°F (0 - 115°C)
 Maximum static pressure: 15 psi (1 bar) steam
 300 psi (20 bar)

Connections

- sweat: 1/2", 3/4", 1" & 1 1/4"
 - NPT female: 1/2", 3/4", & 1 1/4"
 - SAE flare: 1/2"
 - invented flare: 1/2", 3/4", and 1" sweat fittings purchased separately

Actuator material:

- base and cover: polycarbonate
 - base plate: Aluminum

Motor:

AC voltage: 24V - 120V ; 50/60 Hz
 - Current draw: 24 VAC - 300 mA; 120 VAC; 55 mA;
 - Terminal block with auxiliary switch: 24 V - class 2 - 5-/60 Hz

Wire lead length:

6" (15 cm), 24 V only 18" (45 cm)

Power requirements:

5 W, 7 VA

Ambient temperature range:

24 V, 120 V: 32 to 104°F

Auxiliary switch

0.0 A min. - 0.4 max., 24 V (24 V actuators)
 5.0 A, 250 V (120 V actuator)

Humidity:

95% non-condensing

Full stroke time:

- On: <60 seconds

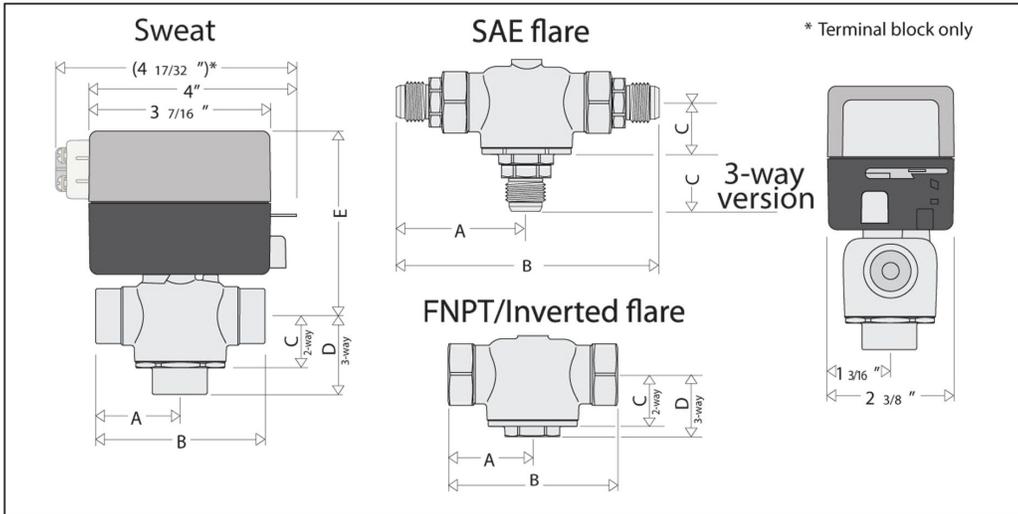
Approvals:

UL873, cUL listed & CE
 UL 1995 sec. 18: Air plenums & duct

Certification



Dimensions



Connection Size	A	B	C	D	E
1/2" Sweat	1 5/16"	2 5/8"	15/16"	1 5/16"	3 1/2"
3/4" Sweat	1 3/8"	2 3/4"	15/16"	1 1/2"	3 1/2"
1" Sweat	1 11/16"	3 3/8"	15/16"	1 9/16"	3 11/16"
1 1/4" Sweat	1 13/16"	3 5/8"	15/16"	1 11/16"	3 11/16"
1/2" FNPT	1 7/16"	2 7/8"	15/16"	1 1/4"	3 1/2"
3/4" FNPT	1 9/16"	3 1/16"	15/16"	1 1/4"	3 11/16"
1" FNPT	1 13/16"	3 5/8"	15/16"	1 11/16"	3 11/16"
Inverted Flare	1 3/8"	2 3/4"	15/16"	1 1/4"	3 1/2"
With Adapter (NA61241)	1 3/8"	3 1/2"	15/16"	1 1/4"	3 1/2"
	A	B	C	D	
1/2" SAE Flare (2-way)	2 11/32"	4 11/16"	15/16"	3 1/2"	
3/4" SAE Flare (3-way)	2 11/32"	4 11/16"	2 1/8"	3 1/2"	

Connection Size	Flow Coefficient	Max. Close-off ΔP	
		Standard Actuators	Soft Close Actuators
			Z111500 & Z151500
1/2"	1.0 Cv (0.9 Kv)	75 psi (517 kPa)	45 psi (310 kPa)
1/2" - 3/4"	2.5 Cv (2.2 Kv)	50 psi (345 kPa)	30 psi (207 kPa)
1/2" - 3/4"	3.5 Cv (3.0 Kv)	30 psi (207 kPa)	18 psi (124 kPa)
3/4" - 1"	5.0 Cv (4.3 Kv)	25 psi (172 kPa)	15 psi (103 kPa)
3/4" - 1" - 1 1/4"	7.5 Cv (6.5 Kv)	20 psi (138 kPa)	12 psi (83 kPa)

We reserve the right to change our products and their relevant technical data, contained in this publication, at any time and without prior notice. Contractors should request production drawings if prefabricating the system

Job name _____	Size _____
Job location _____	Quantity _____
Engineer _____	Approval _____
Mechanical contractor _____	Service _____
Contractor's P.O. No. _____	Tag No. _____
Representative _____	Notes _____