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

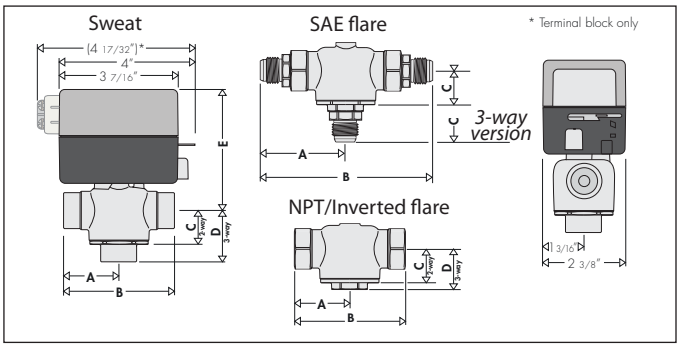
Typical Specification

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.)

Technical Data

Valve body material:	
- Body:	forged brass
- seat:	machined brass
- stem:	stainless steel
- two o-ring seals and paddle:	peroxide-cured EPDM
Flow:	from 1 to 7.5 Cv
Medium:	water and glycol, low pressure steam
Maximum percent of glycol:	50%
Temperature range:	32 to 240°F (0 -115°C)
Max. static pressure:	15 psi (1 bar) steam
300 psi (20 bar)	
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 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

Dimensions

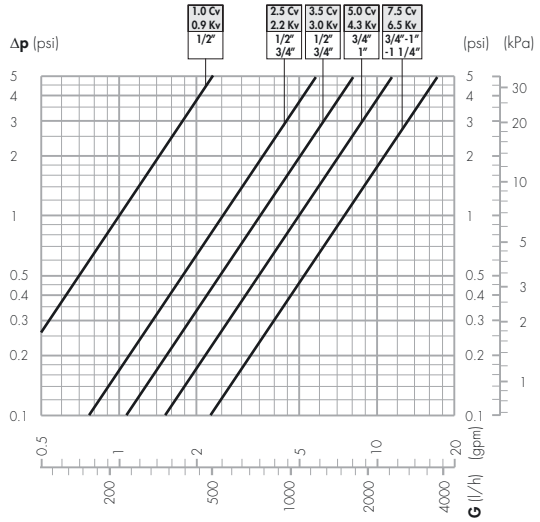


Connections	A	B	C	D	E
1/2" sweat	1 5/16"	2 5/8"	15/16"	1 5/16"	3 1/2"
3/4" sweat	1 3/8"	2 3/4"	15/16"	1 1/2"	3 1/2"
1" sweat	1 11/16"	3 3/8"	15/16"	1 9/16"	3 11/16"
1 1/4" sweat	1 13/16"	3 5/8"	15/16"	1 11/16"	3 11/16"
1/2" N P T	1 7/16"	2 7/8"	15/16"	1 1/4"	3 1/2"
3/4" N P T	1 9/16"	3 1/16"	15/16"	1 1/4"	3 11/16"
1" N P T	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
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"

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



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

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