Quality HVAC Controls

Erie

Valves, actuators, thermostats and controllers

Make the most of your energy

Schneider Electric

PopTop™

Erie's motorized hydronic valves, the PopTop™, provide convenient, reliable and easy installation for a variety of heating and cooling applications. Installation is a snap with easy, one-handed removal or engagement of the actuator to the valve body. Push the button and lift. It's that simple.

Features

- One-handed engagement or removal of the motorized actuator to the valve body.
- Valve actuator can be easily attached after the valve body has been installed into the system.
- Mounts quickly and easily without the need of linkages or calibration.
- Available in 2-way and 3-way port configurations, 1/2" (15mm) through 1-1/4" (32mm) sweat or 1/2" (15mm) to 1" (25mm) threaded connections, 1.0 to 8.0 Cv range.
- Available factory coupled, or as individual bodies and actuators.
- Direct replacement for all existing PopTop™ applications.
- Rugged 300 PSIG rated brass forged body design for long life.
- UL listed actuator.

Erie Family of Products

Poptop™ Zone Valves

- 1/2", 3/4", 1" and 1-1/4" Sweat, NPT and Inverted Flare Union.
- Two-position (on/off), 2-way and 3-way.
- General close-off or High close-off.
- Low voltage or line voltage.

Poptop™ Modulating Valves

- 1/2", 3/4", and 1-1/4" Sweat, NPT.
- Three-wire (on/off), 2-way and 3-way.
- 0-10, 0-5, 5-10 Vdc or 4-20 mA proportional inputs.
- Spring return or non-spring return.
- Time out feature available.

Damper Actuators

- Direct and linkage drive.
- Spring return or motor driven open and closed.
- 2-wire or 3-wire control with end switch.
- Clockwise or counter-clockwise rotation.

Boiler Boss

- Single and multiple zone circular, zone valve and hydronic heating/cooling air handlers.
- LED readouts and status indicators.
- Priority Plus® and low-limit protection.

Thermostats and Controllers

- Heating and cooling, low and line voltage outputs.
- Digital display or dial control.
- Three-wire floating, modulating output.
- 0-10 Vdc or 4-20 mA proportional outputs.

PopTop™ 2-Position Zone Valves

Erie's line of motorized hydronic valves, the PopTop, provides convenient, reliable, and easy installation for a variety of heating and cooling applications. The PopTop makes installation a snap with easy, one-handed removal or engagement of the actuator to the valve body.

Features

- Brass forged 300 psig rated body
- Meets or exceeds ANSI IV standard for close off
- Wide variety of Cv's for better control
- 2-way and 3-way

PopTop Valve Bodies

PopTop valves are designed for two position (on/off) control of fluid flow in a wide variety of heating and cooling applications.

PopTop Valves

2-way

Model	Connection	Cv
VT2211	1/2" Sweat	1.0
VT2212		2.5
VT2213		3.5
VT2221	1/2" NPT	1.0
VT2222		2.5
VT2223		3.5
VT2312	3/4" Sweat	2.5
VT2313		3.5
VT2315		5.0
VT2317		7.5
VT2322	3/4" NPT	2.5
VT2323		3.5
VT2325		5.0
VT2327		7.5
VT2413	1" Sweat	3.5
VT2415		5.0
VT2417		7.5
VT2427	1" NPT	8.0
VT2517	1-1/4" Sweat	8.0
VT2341	3/4" Inverted flare	1.0
VT2342		2.5
VT2343		3.5

PopTop Valves

3-way

Model	Connection	Cv
VT3211	1/2" Sweat	1.0
VT3212		3.0
VT3213		4.0
VT3221	1/2" NPT	1.5
VT3222		3.0
VT3223		4.0
VT3312	3/4" Sweat	3.0
VT3313		4.0
VT3315		5.0
VT3317		7.5
VT3322	3/4" NPT	3.0
VT3323		4.0
VT3325		5.0
VT3327		7.5
VT3413	1" Sweat	4.0
VT3415		5.0
VT3417		7.5
VT3427	1" NPT	8.0
VT3517	1-1/4" Sweat	8.0
VT3341	3/4" Inverted flare	1.5
VT3342		3.0
VT3343		4.0

Options	
VSxxxx	Steam - High Temperature Must be used with High Temperature Actuator

PopTop™ 2-Position Actuators

The following tables contain a complete listing of Erie 2-Position actuator combinations for 24 and 120 Vac. The same combinations are available for 208 Vac (D designator) and 230 Vac (U designator). The end switch option, (designated by the A at the end of the part #) is not available in the combination of 277 Vac with high temperature.

Features

- Sized to fit most baseboard applications.
- Terminal block option.
- UL Listed

Features

- Offers same great features of the General Close-off actuator plus up to 25% more close-off pressure rating.
- Close-off up to 75 psi.
- UL Listed

General Close-Off (GCO) Actuators

2-way			
Model	**Action**	**Voltage**	**Options**
AG13A020	On/Off	24 Vac	18” leads
AG13A01A	On/Off	24 Vac	Terminal block, end switch
AG13A02A	On/Off	24 Vac	18” leads, end switch
AG14A020	On/Off	24 Vac	Steam, 18” leads
AG14A00A	On/Off	24 Vac	Steam, end switch
AG14A02A	On/Off	24 Vac	Steam, 18” leads, end switch
AG13B020	On/Off	120 Vac	18” leads
AG13B02A	On/Off	120 Vac	18” leads, end switch
AG14B020	On/Off	120 Vac	Steam, end switch
AG14B02A	On/Off	120 Vac	Steam, 18” leads, end switch
Normally Open Actuators 2-way only			
Model	**Action**	**Voltage**	**Options**
AG23A020	On/Off	24 Vac	18” leads
AG23A01A	On/Off	24 Vac	Terminal block, end switch
AG23A02A	On/Off	24 Vac	18” leads, end switch
AG24A020	On/Off	24 Vac	Steam, 18” leads
AG24A02A	On/Off	24 Vac	Steam, 18” leads, end switch
AG23B020	On/Off	120 Vac	18” leads
AG23B02A	On/Off	120 Vac	18” leads, end switch
AG24B020	On/Off	120 Vac	Steam, end switch
AG24B00A	On/Off	120 Vac	Steam, terminal block, end switch
AG24B02A	On/Off	120 Vac	Steam, 18” leads, end switch

High Close-Off (HCO) Actuators

2-way			
Model	**Action**	**Voltage**	**Options**
AH13A020	On/Off	24 Vac	18” leads
AH13A01A	On/Off	24 Vac	Terminal block, end switch
AH13A02A	On/Off	24 Vac	18” leads, end switch
AH14A020	On/Off	24 Vac	Steam, 18” leads
AH14A00A	On/Off	24 Vac	Steam, end switch
AH14A02A	On/Off	24 Vac	Steam, 18” leads, end switch
AH13B020	On/Off	120 Vac	18” leads
AH13B02A	On/Off	120 Vac	18” leads, end switch
AH14B020	On/Off	120 Vac	Steam, end switch
AH14B02A	On/Off	120 Vac	Steam, 18” leads, end switch
Normally Open Actuators 2-way only			
Model	**Action**	**Voltage**	**Options**
AH23A020	On/Off	24 Vac	18” leads
AH23A01A	On/Off	24 Vac	Terminal block, end switch
AH23A02A	On/Off	24 Vac	18” leads, end switch
AH24A020	On/Off	24 Vac	Steam, 18” leads
AH24A02A	On/Off	24 Vac	Steam, 18” leads, end switch
AH23B020	On/Off	120 Vac	18” leads
AH23B02A	On/Off	120 Vac	18” leads, end switch
AH24B020	On/Off	120 Vac	Steam, end switch
AH24B00A	On/Off	120 Vac	Steam, terminal block, end switch
AH24B02A	On/Off	120 Vac	Steam, 18” leads, end switch

PopTop™ 2-Position Zone Valve Assemblies

2-way normally open and additional combinations are also available, see bulletin F-26496.

Features

- Factory assembled valve and actuator combinations.
- Quicker installation time and easier maintenance
- UL Listed

Features

- Offers the same great features as the General Close-Off assemblies, plus up to 25% more close-off psi.
- UL Listed

General Close-Off (GCO) Assemblies

2-way Normally Closed GCO			
Model	**Action**	**Cv**	**Close-off psig Δp**
VT2211G13_020	1/2" Sweat	1.0	60
VT2212G13_020		2.5	40
VT2213G13_020		3.5	25
VT2221G13_020	1/2" NPT	1.0	60
VT2222G13_020		2.5	40
VT2223G13_020		3.5	25
VT2312G13_020	3/4" Sweat	2.5	40
VT2313G13_020		3.5	25
VT2315G13_020		5.0	20
VT2317G13_020		7.5	17
VT2322G13_020	3/4" NPT	2.5	40
VT2323G13_020		3.5	25
VT2325G13_020		5.0	20
VT2327G13_020		7.5	17
VT2415G13_020	1" Sweat	5.0	20
VT2417G13_020		7.5	17
VT2427G13_020	1" NPT	8.0	17
VT2517G13_020	1-1/4" Sweat	8.0	17
VT2343G13_020	3/4" Inverted Flare	3.5	25
3-way Valve Assemblies[a] GCO			
Model	**Action**	**Cv**	**Close-off psig Δp**
VT3211G13_020	1/2" Sweat	1.5	60
VT3212G13_020		3.0	40
VT3213G13_020		4.0	25
VT3221G13_020	1/2" NPT	1.5	60
VT3222G13_020		3.0	40
VT3223G13_020		4.0	25
VT3312G13_020	3/4" Sweat	3.0	40
VT3313G13_020		4.0	25
VT3315G13_020		5.0	20
VT3317G13_020		7.5	17
VT3322G13_020	3/4" NPT	3.0	40
VT3323G13_020		4.0	25
VT3325G13_020		5.0	20
VT3327G13_020		7.5	17
VT3415G13_020	1" Sweat	5.0	20
VT3417G13_020		7.5	17
VT3427G13_020	1" NPT	8.0	17
VT3517G13_020	1-1/4" Sweat	8.0	17
VT3343G13_020	3/4" Inverted Flare	4.0	25

Options

VTxxxxxx3_020 — 200°F Max Hot Water Application. Select AC Voltage. A-24, B-120, D-208, U-230, T-277.

VSxxxxxx4_020 — 250°F Max Hot Water Application or 15 PSI Max Steam Application. A High Temperature Actuator Must Be Used with VSXXXX.

High Close-Off (HCO) Assemblies

2-way Normally Closed HCO			
Model	**Action**	**Cv**	**Close-off psig Δp**
VT2211H13_020	1/2" Sweat	1.0	75
VT2212H13_020		2.5	50
VT2213H13_020		3.5	30
VT2221H13_020	1/2" NPT	1.0	75
VT2222H13_020		2.5	50
VT2223H13_020		3.5	30
VT2312H13_020	3/4" Sweat	2.5	50
VT2313H13_020		3.5	30
VT2315H13_020		5.0	25
VT2317H13_020		7.5	20
VT2322H13_020	3/4" NPT	2.5	50
VT2323H13_020		3.5	30
VT2325H13_020		5.0	25
VT2327H13_020		7.5	20
VT2415H13_020	1" Sweat	5.0	25
VT2417H13_020		7.5	20
VT2427H13_020	1" NPT	8.0	20
VT2517H13_020	1-1/4" Sweat	8.0	20
VT2343H13_020	3/4" Inverted Flare	3.5	30
3-way Valve Assemblies[a] HCO			
Model	**Action**	**Cv**	**Close-off psig Δp**
VT3211H13_020	1/2" Sweat	1.5	75
VT3212H13_020		3.0	50
VT3213H13_020		4.0	30
VT3221H13_020	1/2" NPT	1.5	75
VT3222H13_020		3.0	50
VT3223H13_020		4.0	30
VT3312H13_020	3/4" Sweat	3.0	50
VT3313H13_020		4.0	30
VT3315H13_020		5.0	25
VT3317H13_020		7.5	20
VT3322H13_020	3/4" NPT	3.0	50
VT3323H13_020		4.0	30
VT3325H13_020		5.0	25
VT3327H13_020		7.5	20
VT3415H13_020	1" Sweat	5.0	25
VT3417H13_020		7.5	20
VT3427H13_020	1" NPT	8.0	20
VT3517H13_020	1-1/4" Sweat	8.0	20
VT3343H13_020	3/4" Inverted Flare	4.0	30

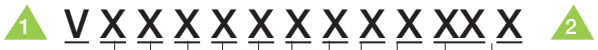
a — Normally closed to B-port

Options

- Normally Closed Option is available with 2- or 3-way assemblies
- Normally Open option is available with 2-way assemblies only

Part Numbering System

Two Position Zone Valves, Spring Return Actuators



Body Type
T = On/Off General
S = On/Off Steam*
* High temperature actuator must be used.

Configuration
2 = 2-way
3 = 3-way

Valve Size
2 = 1/2”
3 = 3/4”
4 = 1”
5 = 1-1/4”

Connection Type (Availability)
1 = Sweat (1/2”, 3/4”, 1”, 1-1/4”)
2 = Threaded NPT (1/2”, 3/4”, 1”)
3 = Threaded Rp, Metric (1/2”, 3/4”, 1”)
4 = Inverted flare (1/2”)
5 = SAE flare (1/2”) 3

Cv Size

	2-way	3-way	Size	Connection
1 =	1.0	1.5	1/2”	(1, 2, 3)
			3/4”	(4)
2 =	2.5	3.0	1/2”	(1, 2, 3, 5)
			3/4”	(1, 2, 3, 4)
3 =	3.5	4.0	1/2”	(1, 2, 3, 5)
			3/4”	(1, 2, 3, 4)
			1”	(1)
5 =	5.0	5.0	3/4”	(1, 2, 3)
			1”	(1)
7 =	7.5	7.5	3/4”	(1, 2, 3)
			1”	(1)
	8.0	8.0	1”	(2, 3)
			1-1/4”	(1)

Actuator Type
G = On/off, General Close-off (GCO)
H = On/off, High Close-off (HCO)

Options
0 = No options
A = End switch 4 5 6

Electrical Leads 5
00 = 6” Motor wires
01 = Terminal block with End switch (24 Vac only)
02 = 18” (Standard) Wire leads

Voltage
A = 24 Vac, 50/60 Hz
B = 110 Vac, 50 Hz and 120 Vac, 60 Hz
D = 208 Vac, 50/60 Hz
T = 277 Vac, 50/60 Hz
U = 230 Vac, 50 Hz and 240 Vac, 60 Hz

Temperature Ratings
3 = General temperature
4 = High temperature

Action
1 = Spring Return Normally Closed (2- or 3-way)
2 = Spring Return Normally Opened (2-way only)

Cautions

1. When ordering valve body only: Use the first six positions to configure the valve.
2. When ordering actuator only: Use the last seven positions to configure the actuator. Prefix with the letter A.
3. Inverted flare fittings must be ordered separately. See actuator accessories, bulletin F-26496, for fitting part numbers.
4. End switch is not available for 277 Vac models if actuator temperature rating is high temperature.
5. Actuators with Terminal blocks require end switch and the end switch is 24 Vac at 101 mA min. to 5A max.
6. End switch is 24 - 240 Vac at 101 mA min to 5A max. and 9 to 30- Vdc at 100 mA max. for actuators rated 240 V or less. End switch is 277 Vac at 101 mA min. to 5A max. for actuators rated 277V.

Body and Actuator Combination: Temperature Configurations 4

Body Configuration
VTXXXX
T = General
S = Steam
If body configuration is T, actuator temp rating can be 3 or 4.
If body configuration is S, actuator temp rating must be 4.

Actuator Spring Return Mode
AXX3XXXX
3 = General temperature
4 = High temperature
If actuator temp rating is 3, body style must be T.
If actuator temp rating is 4, body style can be S or T.

PopTop™ Modulating Valves and Actuators

Erie offers a modern, cost effective range of electrically operated, modulating, temperature control valves and actuators available from any supplier. These highly reliable valves are designed specifically for use in fan coil, VAV reheat, unit ventilator, AHU, baseboard, and radiant applications. The compact design installs in small end compartments and still allows service access. Designed for use in closed hydronic heating and cooling applications.

PopTop modulating valves are available in the following configurations.

- 1/2", 3/4", 1", 1-1/4"
- 2-way and 3-way
- Sweat or threaded connection
- Cv 1.0 to 8.0

Features

- Brass forged 300 pisg rated bodies
- Patented equal percentage flow plug up to 4.0 Cv while 7.5 and 8.0 Cv are linear
- Meets or exceeds ANSI IV standard for close off
- Wide variety of ports and Cv's for better control

Features

- 3-wire floating and 1 to 10 Vdc or 4 to 20 mA proportional control
- Magnetic clutch to maximize motor life and gear train
- Manual override
- Position indicator
- Thermoplastic enclosure
- UL Listed

PopTop Modulating Valve Bodies

2-way		
Model	**Connection**	**Cv**
VM2211	1/2" Sweat	1.0
VM2212		2.0
VM2213		4.0
VM2221	1/2" NPT	1.0
VM2222		2.0
VM2223		4.0
VM2312	3/4" Sweat	2.0
VM2313		4.0
VM2317		7.5
VM2322	3/4" NPT	2.0
VM2323		4.0
VM2327		7.5
VM2413	1" Sweat	4.0
VM2417		7.5
VM2427	1" NPT	8.0
VM2517	1-1/4" Sweat	8.0
3-way		
Model	**Connection**	**Cv**
VM3211	1/2" Sweat	1.0
VM3212		2.0
VM3213		4.0
VM3221	1/2" NPT	1.0
VM3222		2.0
VM3223		4.0
VM3312	3/4" Sweat	2.0
VM3313		4.0
VM3317		7.5
VM3322	3/4" NPT	2.0
VM3323		4.0
VM3327		7.5
VM3413	1" Sweat	4.0
VM3417		7.5
VM3427	1" NPT	8.0
VM3517	1-1/4" Sweat	8.0

PopTop Modulating Actuators

PopTop Non-Spring Return Actuator		
Model	**Control Signal**	**Time-Out**
AT33A000a	3-wire floating	N/A
AT33A00T		•
AP33A000	proportional	N/A

a—Non-spring return, 3-wire floating actuators without the time-out option should be used only with controllers that provide time-out

PopTop Spring Return Actuator			
Model	**Control Signal**	**Position**	**Time-Out**
AT13A00T	3-wire floating	N.C.	•
AT23A00T		N.O.	•
AP13A000	proportional	N.C.	N/A
AP23A000		N.O.	N/A

PopTop™ Modulating Non-Spring Return Valve Assemblies

Features

- Quicker installation time
- Easier maintenance
- Compatible with most DDC systems
- UL listed

Features

- Offers the same great features as the three-wire floating assemblies
- Operating range of 0 to 10 Vdc or 4 to 20 mA proportional control
- Jumper selectable operating ranges
- UL Listed

Three-wire Floating, 24 VAC Modulating, non-spring return

2-way Three-wire Floating			
Model [a/b]	**Connection**	**Cv**	**Close-off psig Δp**
VM2211T33A00x	1/2” Sweat	1.0	50
VM2212T33A00x		2.0	50
VM2213T33A00x		4.0	35
VM2221T33A00x	1/2” NPT	1.0	50
VM2222T33A00x		2.0	50
VM2223T33A00x		4.0	35
VM2312T33A00x	3/4” Sweat	2.0	50
VM2313T33A00x		4.0	35
VM2317T33A00x		7.5	35
VM2322T33A00x	3/4” NPT	2.0	50
VM2323T33A00x		4.0	35
VM2327T33A00x		7.5	35
VM2413T33A00x	1” Sweat	4.0	35
VM2417T33A00x		7.5	35
VM2427T33A00x	1” NPT	8.0	35
VM2517T33A00x	1-1/4” Sweat	8.0	35
3-way Assemblies - Three-wire Floating			
Model	**Connection**	**Cv**	**Close-off psig Δp**
VM3211T33A000	1/2” Sweat	1.0	50
VM3212T33A000		2.0	50
VM3213T33A000		4.0	35
VM3221T33A000	1/2” NPT	1.0	50
VM3222T33A000		2.0	50
VM3223T33A000		4.0	35
VM3312T33A000	3/4” Sweat	2.0	50
VM3313T33A000		4.0	35
VM3317T33A000		7.5	35
VM3322T33A000	3/4” NPT	2.0	50
VM3323T33A000		4.0	35
VM3327T33A000		7.5	35
VM3413T33A000	1” Sweat	4.0	35
VM3417T33A000		7.5	35
VM3427T33A000	1” NPT	8.0	35
VM3517T33A000	1-1/4” Sweat	8.0	35

Options

a. x = Option designation: T= Time-out, 0=No option

b. Non-spring return, 3-wire floating actuator without the time-out option should be used only with controllers that provide time-out

Proportional, 24 VAC 0 to 10 VDC, or 4 to 20 mA, non-spring return

2-way Proportional			
Model	**Connection**	**Cv**	**Close-off psig Δp**
VM2211P33A000	1/2” Sweat	1.0	50
VM2212P33A000		2.0	50
VM2213P33A000		4.0	35
VM2221P33A000	1/2” NPT	1.0	50
VM2222P33A000		2.0	50
VM2223P33A000		4.0	35
VM2312P33A000	3/4” Sweat	2.0	50
VM2313P33A000		4.0	35
VM2317P33A000		7.5	35
VM2322P33A000	3/4” NPT	2.0	50
VM2323P33A000		4.0	35
VM2327P33A000		7.5	35
VM2413P33A000	1” Sweat	4.0	35
VM2417P33A000		7.5	35
VM2427P33A000	1” NPT	8.0	35
VM2517P33A000	1-1/4” Sweat	8.0	35
3-way Assemblies - Proportional			
Model	**Connection**	**Cv**	**Close-off psig Δp**
VM3211P33A000	1/2” Sweat	1.0	50
VM3212P33A000		2.0	50
VM3213P33A000		4.0	35
VM3221P33A000	1/2” NPT	1.0	50
VM3222P33A000		2.0	50
VM3223P33A000		4.0	35
VM3312P33A000	3/4” Sweat	2.0	50
VM3313P33A000		4.0	35
VM3317P33A000		7.5	35
VM3322P33A000	3/4” NPT	2.0	50
VM3323P33A000		4.0	35
VM3327P33A000		7.5	35
VM3413P33A000	1” Sweat	4.0	35
VM3417P33A000		7.5	35
VM3427P33A000	1” NPT	8.0	35
VM3517P33A000	1-1/4” Sweat	8.0	35

PopTop™ Modulating Spring Return Valve Assemblies

Spring return actuators return to the normal position when the power is lost for more than two seconds.

Features

- Quicker installation time
- Easier maintenance
- Compatible with most DDC systems
- UL listed

Features

- Offers the same great features as the three-wire floating assemblies
- Operating range of 0 to 10 Vdc or 4 to 20 mA proportional control
- Jumper selectable operating ranges
- UL Listed

Three-wire Floating, 24 VAC Modulating, spring return

2-way Three-wire Floating			
Model [a]	**Connection**	**Cv**	**Close-off psig Δp**
VM2211Tx3A00T	1/2” Sweat	1.0	50
VM2212Tx3A00T		2.0	20
VM2213Tx3A00T		4.0	20
VM2221Tx3A00T	1/2” NPT	1.0	50
VM2222Tx3A00T		2.0	20
VM2223Tx3A00T		4.0	20
VM2312Tx3A00T	3/4” Sweat	2.0	20
VM2313Tx3A00T		4.0	20
VM2317Tx3A00T		7.5	15
VM2322Tx3A00T	3/4” NPT	2.0	20
VM2323Tx3A00T		4.0	20
VM2327Tx3A00T		7.5	15
VM2413Tx3A00T	1” Sweat	4.0	20
VM2417Tx3A00T		7.5	15
VM2427Tx3A00T	1” NPT	8.0	15
VM2517Tx3A00T	1-1/4” Sweat	8.0	15
3-way Three-wire Floating			
Model [b]	**Connection**	**Cv**	**Close-off psig Δp**
VM3211T13A00T	1/2” Sweat	1.0	50
VM3212T13A00T		2.0	20
VM3213T13A00T		4.0	20
VM3221T13A00T	1/2” NPT	1.0	50
VM3222T13A00T		2.0	20
VM3223T13A00T		4.0	20
VM3312T13A00T	3/4” Sweat	2.0	20
VM3313T13A00T		4.0	20
VM3317T13A00T		7.5	15
VM3322T13A00T	3/4” NPT	2.0	20
VM3323T13A00T		4.0	20
VM3327T13A00T		7.5	15
VM3413T13A00T	1” Sweat	4.0	20
VM3417T13A00T		7.5	15
VM3427T13A00T	1” NPT	8.0	15
VM3517T13A00T	1-1/4” Sweat	8.0	15

Options

a. Spring action designation: N.C.=1, N.O.=2

b. Normally closed to B-port

Proportional, 24 VAC 0 to 10 VDC, or 4 to 20 mA, spring return

2-way Proportional			
Model [a]	**Connection**	**Cv**	**Close-off psig Δp**
VM2211Px3A000	1/2” Sweat	1.0	50
VM2212Px3A000		2.0	20
VM2213Px3A000		4.0	20
VM2221Px3A000	1/2” NPT	1.0	50
VM2222Px3A000		2.0	20
VM2223Px3A000		4.0	20
VM2312Px3A000	3/4” Sweat	2.0	20
VM2313Px3A000		4.0	20
VM2317Px3A000		7.5	15
VM2322Px3A000	3/4” NPT	2.0	20
VM2323Px3A000		4.0	20
VM2327Px3A000		7.5	15
VM2413Px3A000	1” Sweat	4.0	20
VM2417Px3A000		7.5	15
VM2427Px3A000	1” NPT	8.0	15
VM2517Px3A000	1-1/4” Sweat	8.0	15
3-way Assemblies - Proportional			
Model [b]	**Connection**	**Cv**	**Close-off psig Δp**
VM3211P13A000	1/2” Sweat	1.0	50
VM3212P13A000		2.0	20
VM3213P13A000		4.0	20
VM3221P13A000	1/2” NPT	1.0	50
VM3222P13A000		2.0	20
VM3223P13A000		4.0	20
VM3312P13A000	3/4” Sweat	2.0	20
VM3313P13A000		4.0	20
VM3317P13A000		7.5	15
VM3322P13A000	3/4” NPT	2.0	20
VM3323P13A000		4.0	20
VM3327P13A000		7.5	15
VM3413P13A000	1” Sweat	4.0	20
VM3417P13A000		7.5	15
VM3427P13A000	1” NPT	8.0	15
VM3517P13A000	1-1/4” Sweat	8.0	15

Part Numbering System

Two Position Zone Valves, Spring Return Actuators

1 V M X X X X X X 3 A 00 X 2

Body Type
M = Modulating

Configuration
2 = 2-way
3 = 3-way

Valve Size
2 = 1/2”
3 = 3/4”
4 = 1”
5 = 1-1/4”

Connection Type (Availability)
1= Sweat (1/2”, 3/4”, 1”, 1-1/4”)
2= Threaded NPT (1/2”, 3/4”, 1”)
3= Threaded Rp, Metric (1/2”, 3/4”, 1”)
5= SAE flare (1/2”)

Cv Size

	Cv	Size	Connection
1 =	1.0	1/2”	(1, 2, 3)
2 =	2.0	1/2”	(1, 2, 3, 5)
		3/4”	(1, 2, 3)
3 =	4.0	1/2”	(1, 2, 3, 5)
		3/4”	(1, 2, 3)
		1”	(1)
7 =	7.5	3/4”	(1, 2, 3)
		1”	(1)
	8.0	1”	(2, 3)
		1-1/4”	(1)

Actuator Type
T= 3-wire floating
P=Proportional, 1-10 Vdc, 5-10 Vdc, or 4-20 mA, Jumper Selectable , 1-5 Vdc

Options
Non-Spring Return Actuators
0 = No options
T = 3-wire signal time-out
Spring Return Actuators
T = Time-out 3

Electrical Leads
00 = No leads

Voltage
A=24 Vac, 50/60 Hz

Temperature Ratings
3 = General temperature

Action
1 = Spring Return Normally Closed (2- or 3-way)
2 = Spring Return Normally Opened (2-way only)
3 = Non-Spring Return

Cautions

1 When ordering valve body only: Use the first six positions to configure the valve.

2 When ordering actuator only: Use the last seven positions to configure the actuator. Prefix with the letter A.

3 This feature is standard for spring return 3-way actuators, and it must be included in the part number.

4 Should not be used with thermostats/controllers unless they have a time-out feature.

Available Actuators

Model	Action	Position	Actuator Type	Option
AT13A00T	Spring Return	N.C.	3-wire Floating	With Time-out
AT23A00T	Spring Return	N.O.	3-wire Floating	With Time-out
AT33A000	Non-Spring Return		3-wire Floating	None 4
AT33A00T	Non-Spring Return		3-wire Floating	With Time-out
AP13A000	Spring Return	N.C.	Proportional	None
AP23A000	Spring Return	N.O.	Proportional	None
AP33A000	Non-Spring Return		Proportional	None

Erie Damper Actuators

Damper Actuators provide control for forced air zoning and draft control of solid fuel boilers and furnaces. The exclusive lost-motion drive protects the gear train from damage.

L Series, Two-Position, Motor Open, Spring Return

Features

- Direct or linkage drive
- Simple 2-wire thermostat control
- Optional end switch
- Quick mounting
- CW or CCW models
- Quiet operation
- UL Recognized

Light Duty - 45 in. oz. Motor Driven

Model	Drive/Rotation	Voltage
0453L0077GA00	Direct CW	24 Vac
0453L0077GB00		120 Vac
0453L0077GA01		24 Vac, end switch
0453L0077GB01		120 Vac, end switch
0453L0038GA00	Linkage CW	24 Vac
0453L0038GB00		120 Vac
0453L0038GA01		24 Vac, end switch
0453L0038GB01		120 Vac, end switch
0453L0074GA00	Direct CCW	24 Vac
0453L0074GB00		120 Vac
0453L0034GA00	Linkage CCW	24 Vac
0453L0034GB00		120 Vac

H Series, Two-Position, Motor Open, Spring Return

Features

- Direct or linkage drive
- Simple 2-wire thermostat control
- Optional end switch
- CW or CCW models
- Quiet operation
- UL Recognized
- Quick mounting

Medium Duty - 55 in. oz. Motor Driven

Model	Drive/Rotation	Voltage
0453H0077GA00	Direct CW	24 Vac
0453H0077GB00		120 Vac
0453H0077GA01		24 Vac, end switch
0453H0077GB01		120 Vac, end switch
0453H0038GA00	Linkage CW	24 Vac
0453H0038GB00		120 Vac
0453H0038GA01		24 Vac, end switch
0453H0038GB01		120 Vac, end switch
0453H0074GA00	Direct CCW	24 Vac
0453H0074GB00		120 Vac
0453H0034GA00	Linkage CCW	24 Vac
0453H0034GB00		120 Vac

Part Numbering System

Two Position, Spring Return Damper Actuators

0 4 5 3 X XX XX X X XX

Damper Operator

Duty Rating
Light Duty = L
Medium Duty = H
Heavy Duty = R

Temperature Rating
Standard = 00

Configuration
Direct Drive, CW Rotation = 77 (L, H, R)
Direct Drive, CCW Rotation = 74 (L, H)
Linkage Drive, CW Rotation = 38 (L, H)
Linkage Drive, CCW Rotation = 34 (L, H)

Leads
40” cord = A
60” cord = B
none = E
18”standard = G

Voltage
A=24 Vac, 50/60 Hz
B=110/120 Vac, 50/60 Hz
U=220/230 Vac, 50/60 Hz

Options
00 = No options
01 = End switch

R Series, Motor Open, Motor Closed

Features

- Direct drive
- Quick mounting
- Two-position motor driven open and motor driven close

Heavy Duty - 150 in. oz. Motor Driven

Model	Drive	Voltage	Control
0453R0077GA00	Direct	24 Vac	3-wire
0453R0077GB00	Direct	120 Vac	3-wire
0453R0077GU00	Direct	230 Vac	3-wire

Shaft Kits for L, H, and R Series

Model	Description	Diameter
453-52	6” to 12” shaft hardware	5/16”
453-69	12” to 120” shaft hardware	5/16”

Boiler Boss

Featuring the ZoneTrak™ Window and Priority Plus

Boiler Boss Relays

Boiler Boss relays are the most advanced and reliable single and multiple zone switching relays on the market today. Simplified wiring and universal compatibility makes installation clear.

Single and multi-zone control relays for circulators

The SR Single and Multiple-zone series control relays incorporate up to six double pole/single throw zone relays to provide control to a multi-zone hydronic system. Most models include Priority Plus.

Features

- Domestic hot water priority zone
- 10 amp replaceable sealed cont relays
- Auto Test relay testing
- Priority Plus
- ZoneTrak for status indication

Single and Multi-Zone Control for Circulators	
Model	**Description**
SR100	1 Zone, DPDT, Universal relay
SR100AT	1 Zone, DPDT, Universal relay with Auto Test
SR201	2 Zone relay with Priority Plus[a]
SR201AT	2 Zone relay with Priority Plus[a] and Auto Test
SR201B	2 Zone relay Priority[b]
SR301	3 Zone relay with Priority Plus[a]
SR301AT	3 Zone relay with Priority Plus[a] and Auto Test
SR301B	3 Zone relay Priority[b]
SR601	4 to 6 Zone expandable relay with Priority Plus[a]
SR601AT	4 to 6 Zone expandable relay with Priority Plus[a] and Auto Test
SR601B	4 to 6 Zone expandable relay Priority[b]
EXP-10	1 Zone expansion for SR Relay replacement

a— In addition to priority only logic, Priority Plus allows non-priority heating zones to be locked out for up to one hour on a call for priority domestic hot water heating.

b— Priority only logic locks out non-priority heating zones indefinitely.

Hydronic Air Handler Package

The WA300 controls up to two heat/cool air handlers or one heat/cool air handlers plus a radiant floor zone with DHW priority input/output and burner conts.

eatures

Domestic hot water priority zone

Replaceable sealed cont relays

Selectable 90 or 180 second fan delay

Hydronic Air Handler Package	
Model	**Description**
WA300	2 Zone Ht/Cl logic with DHW priority

Zone Control System for Zone Valves, Circular, and Boiler

The VL500 controls up to five zone valves, an indirect system, a circulator, and boiler control—all in one controller. The ZoneLink™ feature allows an unlimited amount of controllers to be linked together.

eatures

Domestic hot water priority zone

10 amp replaceable sealed cont relays

Priority Plus

- ZoneTrak for status indication
- ZoneLink for priority extension
- 75 VA high capacity transformer

Zone Control System	
Model	**Description**
VL500	5 Zone or 4/1 priority zone with ZoneLink

Injection Pump and Valve Mixing Controls

Injection pump mixing control

The system 3000 injection Pump Mixing Control with reset provides control of the water temperature in the secondary (radiant) loop of a heating system, based on outdoor air temperature and design temperature settings using an injection pump. It also provides protection against boiler condensation by monitoring and controlling the return water temperature.

Features

- Boiler low temperature return protection
- Built in transformer and relays
- Exclusive “Sure Start” pump control
- Pump “Exercise” cycle
- Large, bright LED display
- Exclusive boiler short cycle protection
- Priority inputs

Injection Pump Mixing Control	
Model	**Description**
BB3000	Indoor/Outdoor reset injection pump mixing control

Valve mixing control

The System 3600 3-way Mixing Valve Control with reset provides control of the water temperature in the secondary (radiant) loop of a heating system. The system applies accurate proportional control to 3-way or 4-way mixing valves based on indoor/outdoor reset temperatures. It also provides protection against boiler condensation by monitoring and controlling the return water temperature.

Features

- Boiler low temperature return protection
- Built in transformer and relays
- Accurate proportional control of mixing valve
- Large, bright LED display
- Exclusive boiler short cycle protection

Injection Pump Mixing Control	
Model	**Description**
BB3600	Indoor/Outdoor reset 3- or 4-way valve mixing control

Thermostats, Non-Digital

Erie offers advanced design in electronic microprocessor based thermostats and controllers. Erie combines the simplicity of a thermostat with the versatility and power of a controller. Ease of installation is combined with the flexibility of applications and maximum compatibility. Proportional plus integral (PI) control algorithms with advanced adaptive logic guides the microprocessor based units. This provides precise and stable control under varying system capacity and load conditions, without the need for tuning or calibrating the control algorithm.

0-10 Vdc Controller Thermostats

The T167 thermostats provide proportional control of cooling fan coil damper and fan system.

Features

- 0-10 Vdc heat and/or cool outputs
- Operates at 50 or 60 Hz
- Fan continuous operation

T167	
Model	**Description**
TA167-1[a]	Heating and cooling
TA167-3	Heating or cooling, On/off only
TB167-1	Heating and cooling

* Model has no deadband between heating and cooling. If using as a heat/cool control, an optional changeover thermostat (680-243-x) is required.

On/Off Thermostats for 24 to 240 Vac

The T500 thermostats are designed for low and line voltage on/off control of valves, relays, and fan motors in various applications.

Features

- 2-pipe pr 4-pipe configurations
- Line voltage 3-speed fan control
- 24 to 240 Vac
- Bellows sensor

T500	
Model	**Description**
T511	Heating or cooling, 2-pipe with 3-speed fan control and Celsius dial
T511-F	Heating or cooling, 2-pipe with 3-speed fan control and Fahrenheit dial
T513	Heating or cooling, 4-pipe with 3-speed fan control and Celsius dial
T513F	Heating or cooling, 2-pipe with 3-speed fan control and Fahrenheit dial

On/Off Electronic Thermostats for 24 to 277 Vac

The T155 thermostats are designed for low and line voltage on/off control of valves, relays, and fan motors in various applications.

Features

- Manual or automatic changeover
- Line voltage 3-speed fan control
- 24 to 277 Vac

T155	
Model	**Description**
TA155-10	Heating and cooling, with 3-speed fan control manual changeover, Heat/Off/Cool switch
TA155-17	Heating or cooling, with 3-speed fan control, On/Off switch
TA155-18	Heating or cooling
TB155-10	Heating and cooling, with 3-speed fan control, auto changeover, On/Off switch
TB155-15	Heating and cooling, with auto changeover

On/Off Thermostats

The 31-100 series thermostats are designed for applications which require a single pole/double throw switch, adjustable heat anticipator and fixed cooling and anticipator.

Features

- Adjustable heat anticipator
- Fahrenheit and Celsius capability
- Mercury free

31-100 Series	
Model	**Description**
31-100	Heating or cooling, No switches, Celsius
31-101	Heating and cooling, 1-speed fan, Celsius
31-102	Heating or cooling, No switches, Fahrenheit
31-103	Heating and cooling, 1-speed fan, Fahrenheit

Thermostats, Digital

Microprocessor Thermostats, Digital Display, Controller, 3-wire Floating, and On/Off

The T158 thermostats provide microprocessor control of fan coil units, air handling units, and terminal units and feature an LCD.

Features

- LCD display
- On/off temperature control output
- Three-wire floating control output
- Multiple speed fan switching
- 2-pipe/4-pipe configuration
- Summer/Winter changover option
- Setback capability
- Staged heat option
- Operates at 50 or 60 Hz
- Fahrenheit or Celsius display

T158	
Model	**Description**
TA158-1	Heating and cooling, On/off only
TA158-2	Heating or cooling, On/off only, with 3-speed fan control
TB158-1	Heating and cooling
TB158-2	Heating and cooling with 3-speed fan control
TB158-3	Heating or cooling with 3-speed fan control
TB158-7*	Heating or cooling*
TB158-15	Heating or cooling
TB158-17	Heating and cooling with 1-speed fan control
TB158-18	Heating or cooling with 1-speed fan control

* Mode control feature not included on this model

Microprocessor Stand Alone Thermostats

The T170 thermostats provide microprocessor control of fan coil units, air handling units and terminal units.

Features

- Fahrenheit or Celsius display
- Setback from occupancy, clock or BMS
- LCD display with backlight
- Keypad lockout
- Remote sensor option
- Changeover sensor option

T200	
Model	**Description**
TA170-16	Heating and cooling. Auxilliary heat feature
TA170-18	Heating or cooling, 3-speed fan control, fan cycling, Auxilliary heat feature
TB170-9	Heating and cooling, 3-speed fan control, fan cycling

Microprocessor Thermostats, Digital Display, Controller, 0-10 Vdc or 4-20 mA

The T168 thermostats provide digital control of fan coil units, air handling units, and terminal units and feature an LCD.

Features

- LCD display
- 0-10 Vdc or 4-20 mA outputs
- Low voltage fan cycling operation
- Multiple speed fan switching
- 2-pipe/4-pipe configuration
- Summer/Winter changover option
- Setback capability
- Staged heat option
- Operates at 50 or 60 Hz
- Fahrenheit or Celsius display

T158	
Model	**Description**
TA168-1	Heating and cooling, Auxiliary heat feature
TA168-2	Heating or cooling, 3-speed fan control, fan cycling, Auxiliary heat feature
TA168-3	Heating or cooling, 3-speed fan control, fan cycling
TA168-4	Heating or cooling
TA168-5	Heating or cooling, fan cycling
TA168-6	Heating or cooling, fan cycling, 1-speed fan control, Auxiliary heat feature
TA168-7	Heating or cooling, fan cycling, 1-speed fan control
TA168-8	Heating or cooling, fan cycling, 1-speed fan control
TA168-9	Heating or cooling

Low Voltage with Digital Display

The T200 thermostats are designed for low voltage heating, cooling, and single stage heat pump applications and feature an LCD.

Features

- Large, easy to read LCD
- 1°F OR 2°F selectable heating operating differential
- Short cycle protection
- Mechanical low limit protection (FP model)
- Non-programmable
- Fahrenheit and Celsius display capability

T200	
Model	**Description**
T201	Heating only, No fan control
T201-FP	Heating only, No fan control with low limit protection
T204	Cooling only, Fan control
T205	Heating/cooling, Fan control
T205-FP	Heating/cooling, Fan control with low limit protection
T207	Heating/cooling, Fan control, B&O terminals
T207-FP	Heating/cooling, Fan control, B&O terminals with low limit protection

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