

# Balance Zone Kit

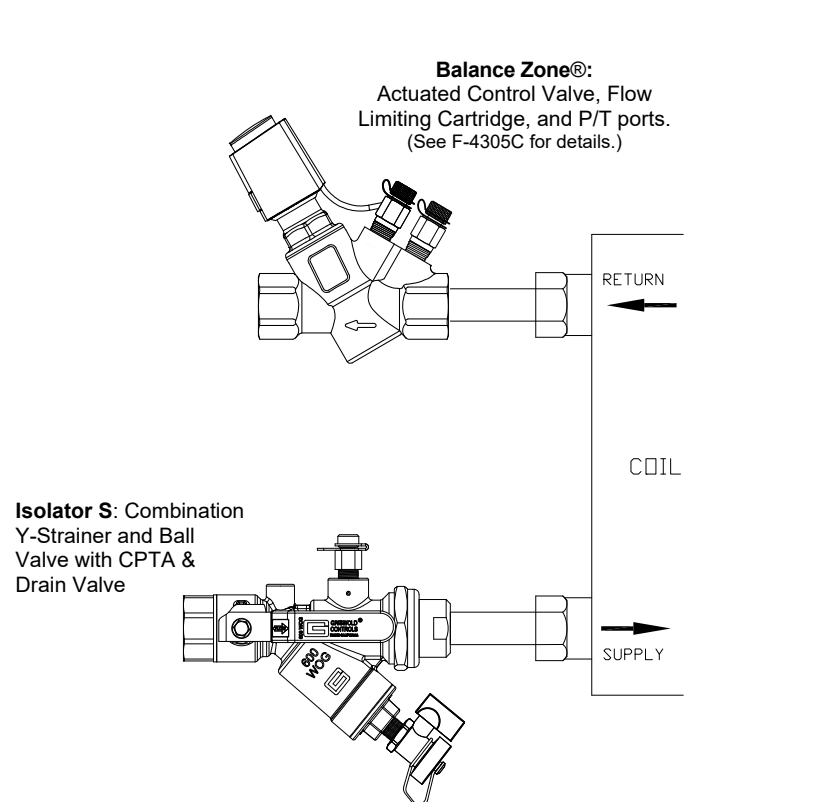
THE FIRST ZONE VALVE TO INCLUDE BALANCING



## Recommended Applications:

- Where actuated valves and balancing valves are used to control the flow
- For VAV boxes, fan coil units and terminal boxes
- Where space is tight

Absolute Control. **Optimized Efficiency.**

 <p style="text-align: center;"><b>Balance Zone®:</b> Actuated Control Valve, Flow Limiting Cartridge, and P/T ports. (See F-4305C for details.)</p> <p><b>Isolator S:</b> Combination Y-Strainer and Ball Valve with CPTA &amp; Drain Valve</p>	<p><b>END CONNECTIONS:</b> <input type="checkbox"/> FNPT</p> <hr/> <p><b>LINE SIZE:</b> <input type="checkbox"/> 1/2" <input type="checkbox"/> 3/4" <input type="checkbox"/> 1"</p> <hr/> <p><b>COMPONENT OPTIONS:</b> <input type="checkbox"/> Extension Kit <input type="checkbox"/> Flushing Bypass</p> <hr/> <p><b>HOSE OPTIONS</b> <b>Type:</b> <input type="checkbox"/> F.R. SS Hose   <input type="checkbox"/> Insulated</p> <p><b>Length</b> <input type="checkbox"/> 12"   <input type="checkbox"/> 18"   <input type="checkbox"/> 24"   <input type="checkbox"/> 36"</p>
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### Specifications

**Balance Zone®:** Forged brass automatic flow control valve. The Balance Zone valve is designed to give the optimal indoor comfort. The valves will provide ON/OFF or modulating temperature control and self balancing flow control for use with fan coil units, in-cabinet baseboard heating or chilled beam systems. The Balance Zone valve combines an electrically actuated control valve in series with a stainless steel automatic flow limiting cartridge. PSI/Temperature Rating: 360 PSI / 248°F.

**Note:** Actuator is sold separately, either through Griswold Controls or others.

**Isolator S:** Ball valve and integrated strainer. Valve housing is forged brass with field repairable dual Teflon and EPDM o-ring seal stem, with Nickel plated ball. Strainer is 20 mesh stainless steel and can be removed from housing without disturbing pipe connections for inspection or replacement. Valve includes one fixed (FNPT or SWT) connection and one union (FNPT or SWT) connection. Union end includes union nut and EPDM o-ring. Body has one port with combination Pressure/Temperature Test Valves and manual air vent (CPTA). Assembly includes drain valve with 3/4" hose connection with cap. Valve is fully assembled. PSI/Temperature Rating: 400 PSI / 250°F.

**Drain Valve:** Rated 275 PSI / 250°F. Brass housing, Nickel plated ball. 3/4" NPSH hose connection.

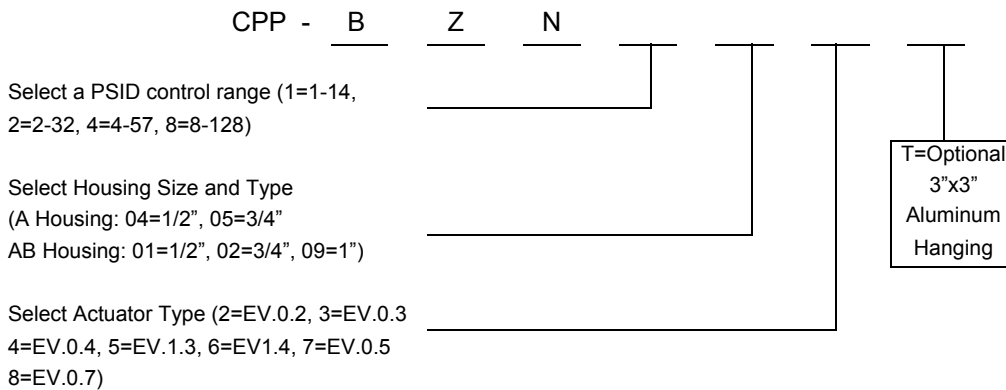
**FLOW RATES (+/-5%)**

SIZE	MODEL NO.	HEAD LOSS IN FEET <sup>4</sup>	PSID RANGE	GPM
1/2"L, 3/4"L,1"	3801	3.5	1-14	0.33, 0.50, 0.67, 1.00, 1.33, 1.67, 2.00, 2.33, 2.67, 3.33, 4.00, 4.67, 5.00
	3802	7.4	2-32	0.55, 0.75, 1.00, 1.50, 2.00, 2.50, 3.00, 3.50, 4.00, 5.00, 6.00, 7.00, 8.00
	3804	13.4	4-57	0.75, 1.00, 1.33, 2.00, 2.67, 3.33, 4.00, 4.67, 5.33, 6.67, 8.00, 9.33, 10.00
	3808	30.0	8-128	1.10, 1.50, 2.00, 3.00, 4.00, 5.00, 6.00, 7.00, 8.00, 10.0, 12.0, 14.0, 16.0

**ACTUATORS**

ACTUATOR	EV.0.2	EV.0.3	EV.0.4	EV.0.5	EV.0.7	EV.1.3	EV.1.4
Supply Voltage	24Vac -10%/+20% 50/60 Hz	230Vac +/-10% 50/60 Hz	24Vac/dc- 10%/+20% 50/60 Hz	120Vac +/-10% 50/60 Hz	24Vac/dc- 10%/+20% 50/60 Hz	230Vac +/-10% 50/60 Hz	24Vac - 10%/+20% 50/60 Hz
Power Consumption	1 watt	1 watt	1 watt	1 watt	1 watt	1 watt	1 watt
Control Signal	Modulating: 0-10 Vdc	On/Off	On/Off	On/Off	On/Off	On/Off	On/Off
Failsafe <sup>5</sup>	Normally Closed	Normally Closed	Normally Closed	Normally Closed	Normally Open	Normally Closed	Normally Closed
Operation Time	Approx. 2 ½ min	Approx. 4 min	Approx. 4 min	Approx. 4 min	Approx. 4 min	Approx. 4 min	Approx. 4 min
Protection	IP54, Class III	IP54, Class II	IP54, Class III	IP54, Class II	IP54	IP54, Class II	IP54
Cable	Plug-in, 36"	Fixed, 36"	Fixed, 36"	Fixed, 36"	Fixed, 36"	Fixed, 36"	Fixed, 36"
End Switch	No	No	No	No	No	Yes	Yes
Switch Point	N/A	N/A	N/A	N/A	N/A	Approx. 0.08"	Approx. 0.08"
Switch Capacity	N/A	N/A	N/A	N/A	N/A	230Vac, 5A ohm resistive load	24Vac, 3A ohm resistive load
Weight (LBS) <sup>6</sup>	0.28	0.26	0.26	0.26	0.26	0.37	0.37

**MODEL NUMBER SELECTION<sup>7</sup>**



**NOTES**

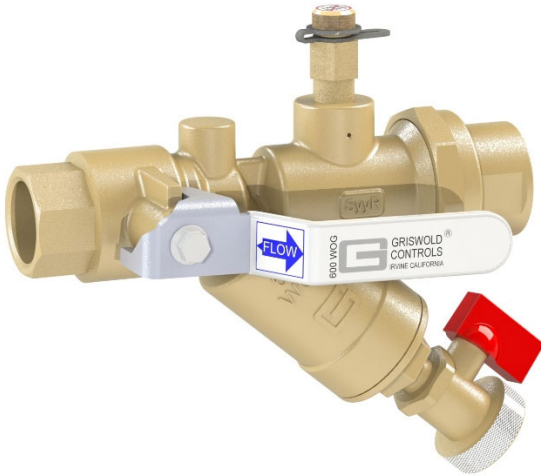
<sup>4</sup> Head Loss in Feet is provided for pump head calculations. (1 PSI = 2.307 Feet of Water)  
<sup>5</sup> To ensure the valve is in open position during system commissioning, the actuator will be delivered in normally open position and remain in that position until it is electrically operated the first time.  
<sup>6</sup> Weight includes actuator, adapter ring and cable. Add this weight to valve weight for total weight.  
<sup>7</sup> Model no. and flow rate are indicated on label affixed to body.

Replaces form F-4305

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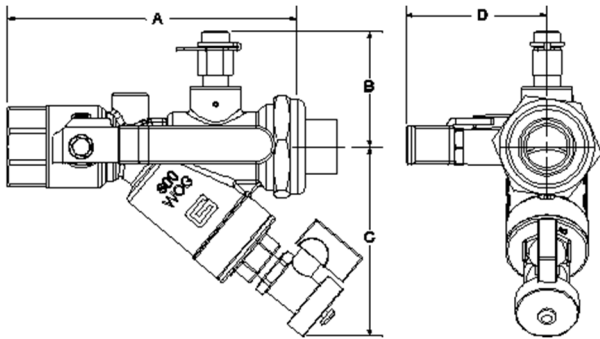




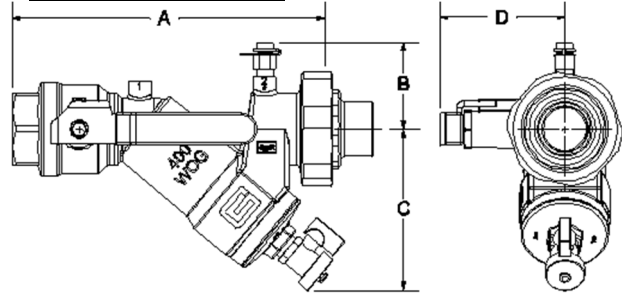
**SPECIFICATIONS**

- PSI/Temperature Rating:** 1/2"-1-1/2": 600 WOG 400 PSI / 250° F  
1-1/2"L-3": 400 WOG 275 PSI / 250° F
- Body Material:** 1/2"-1-1/2": Forged Brass ASTM B283-06  
1-1/2"L-3": Cast brass
- End Connections:** Brass – NPT, Sweat, QuickPress<sup>1</sup>, Grooved, Carbon Steel Raised Face Flange, Class 150, ANSI B16-5<sup>2</sup>
- Ball Valve Seals:** Teflon
- Union Seal:** EPDM O-Ring
- Body Tappings<sup>3</sup>:** (3) Bosses for CPTAs and Drain Valve
- Ball Valve:** Nickel-plated brass ball  
Optional: Stainless Steel ball
- Field Repairable Stem:** Dual Teflon seals and EPDM O-ring
- Strainer:** 20 mesh stainless steel (optional 50 mesh)
- Options:** Combination P/T Test Valve and Manual Air Vent (CPTA), Drain Valve, or 1/2" Bypass<sup>4</sup>, Extension Option

**1/2" - 1-1/2" Housing**



**1-1/2"L - 3" Housing**



**DIMENSIONS & WEIGHTS (NOMINAL)**

All dimensions are for planning purposes only and may change without notice.

SIZE	A - FIXED END CONNECTION		UNION END CONNECTION <sup>5</sup>						B	C	D <sup>6</sup>	Cv <sup>7</sup>	WEIGHT (LBS.)		
	FNPT	SWT	FNPT		MNPT		SWT								
1/2"	3.9	3.8	1/2":1.0	3/4":N/A <sup>8</sup>	1/2":1.0	3/4":1.2	3/8",1/2":0.8		3/4":1.1		1.9	2.9	0.5,1.5 2.2	4.7	0.9
3/4"	3.9	4.0					3/8",3/4":1.0		1/2":0.7						
3/4"L	5.4	5.4	1/2",3/4":1.0	1":N/A <sup>8</sup>	1/2"-3/4":1.0	1":1.4	3/8",3/4":1.0		1":1.3		2.2	3.6	2.6, 3.2	9.1	2.3
1"	5.4	5.6					1",1-1/4",1-1/2":1.7		1",1-1/4",1-1/2":1.7 <sup>9</sup>						
1-1/4"	7.6	7.7	1",1-1/4",1-1/2":1.7		1",1-1/4",1-1/2":1.7 <sup>9</sup>		1",1-1/4":1.7		1-1/2":1.4		2.5	3.1	3.1, 3.7	24.6	5.0
1-1/2"	7.5	7.9													
1-1/2"L, 2"	9.3	9.8	1-1/4", 1-1/2":1.6	2": N/A <sup>8</sup>	1",1-1/4":1.8	1-1/2", 2":1.6	1-1/4",2":1.6		1-1/2":1.7		2.6	3.7	3.7, 4.3	35	8.8
2"L	10.9	11.2	2": 2.5		2": 1.6		2": 1.6								
2-1/2"	11.1	N/A	N/A <sup>10</sup>						2.9	4.0	4.0, 4.6	60	12.4		
3"	11.3	N/A													

For QuickPress connections add 3.1" (1/2") 3.6" (3/4", 3/4"L), 4.1" (1"), to the FNPT length (A) listed for a valve.

**NOTES**

- <sup>1</sup> QuickPress is available on 1/2" to 1" valves only. Connections are compatible with popular press tools and are rated for maximum 200 PSI.
- <sup>2</sup> Grooved End and Flanged End connections are available on 2-1/2" and 3" valves only.
- <sup>3</sup> Body Tappings for accessories are a leak proof metal to metal seal and do not require pipe dope or tape. Tape or dope should not be used.
- <sup>4</sup> Bypass is only available on 1/2" to 1-1/2" valves.
- <sup>5</sup> For overall length, add union end connection length to body length.
- <sup>6</sup> Space Saver handle standard on 1/2"-3/4" valves. Standard handle on 1" to 3" valves and 1-1/2" extended handle in 1/2" to 3" is compatible with 1-1/2" insulation. Largest extended handle is compatible with 2" insulation.
- <sup>7</sup> Cv's are based on a clean 20 mesh stainless steel strainer. When a 50 mesh screen is used, multiply PSID by 1.3.
- <sup>8</sup> Tailpiece is not available for this size. Male tailpiece used with coupling.
- <sup>9</sup> 1-1/4"-1-1/2" valves can also take 1/2"-3/4" MNPT tailpieces.
- <sup>10</sup> 2-1/2" and 3" Valves are fixed end by fixed end connection. Union connection is not available.

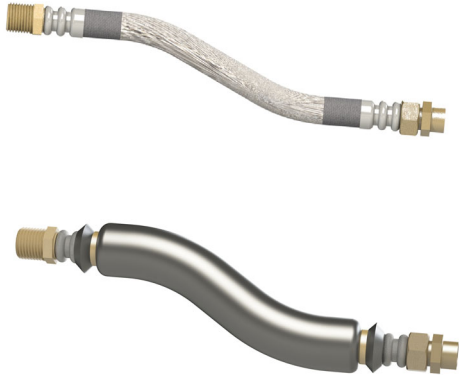
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**FIRE RATED HOSE**

**SPECIFICATIONS**



**PSI / Temperature Rating:** -40°F to 260°F: 1/2" 261 PSI, 3/4": 232 PSI, 1": 203 PSI, 1-1/4": 160; 1-1/2"-2": 145 PSI;  
 -40°F to 77°F: 1/2" 500 PSI, 3/4": 450 PSI, 1": 400 PSI, 1-1/4"-2": 300 PSI;  
 Burst Pressure: 1/2": 1740 PSI, 3/4": 1600 PSI, 1", 1400 PSI, 1-1/4"- 2": 900 PSI

**Hose Material:** EPDM polymer vulcanized by peroxide, wrapped with 304 stainless steel braid. EPDM polymer is fire retardant and meets requirements of UL-94 V0 testing.

**Ferrule (Crimp) Material:** Double Crimped Stainless steel  
**Bend Radius:** 1/2": 2", 3/4": 4", 1": 5", 1-1/4": 6.5", 1-1/2": 9", 2": 12"

**End Connection:** Brass  
**Swivel Nut Connection:** 1/2" – 1": Cone Seat Gasketless Dry Seal  
 1-1/4"- 2": Flat Seat with EPDM Gasket Dry Seal

**ACCESSORY OPTIONS:**

**Insulation R Value:** 1/2":2.1, 3/4":2.0, 1":1.8, 1-1/4":1.7, 1-1/2":1.6, 2":1.5

**MNPT x MNPT (SWIVEL)**

Part#	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	1/2"Ins	3/4"Ins	1"Ins	1-1/4"Ins	1-1/2"Ins	2"Ins
12"	7486-22	7486-16	7486-23	-	-	-	8517-18	8517-19	8517-20	-	-	-
18"	7486-01	7486-02	7486-03	7486-04	7486-05	-	8517-01	8517-02	8517-03	8517-04	8517-05	-
24"	7486-06	7486-07	7486-08	7486-09	7486-10	7486-17	8517-06	8517-07	8517-08	8517-09	8517-10	8517-21
36"	7486-11	7486-12	7486-13	7486-14	7486-15	7486-18	8517-11	8517-12	8517-13	8517-14	8517-15	8517-22

**MNPT x SWT (SWIVEL)**

Part#	1/2"	3/4"
12"	7490-22	7490-16
18"	7490-01	7490-02
24"	7490-06	7490-07
36"	7490-11	7490-12

**SWT or MNPT (SWIVEL) x Union Nut (NPSM)**

Part#	1/2" (SWT)	3/4" (SWT)	1/2" (MNPT)	3/4" (MNPT)
12"	7487-44	7487-45	7487-42	7487-43

OPTIONAL  
Fushing Bypass Kit

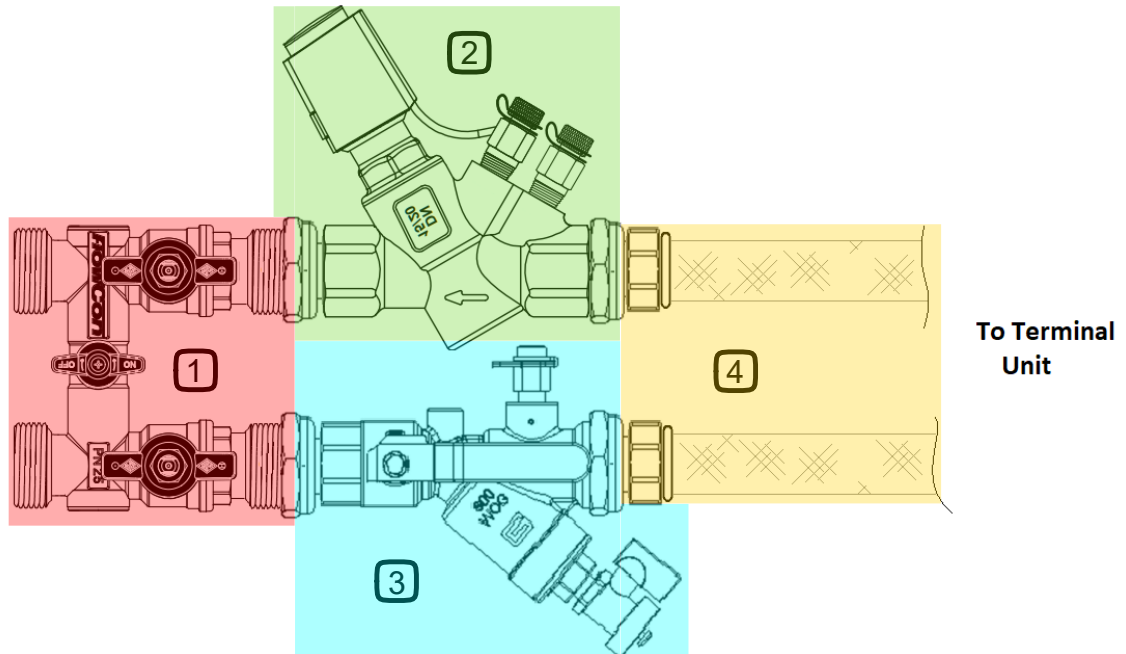
## By-Pass Unit

3 Way By-Pass Unit



### SPECIFICATIONS

Pressure rating:	2500 kPa / 360 psi
Temperature rating, media:	-20°C to +120°C / -4°F to +248°F
Material:	
- Body:	Forged brass ASTM CuZn40Pb2
- Ball valves:	Chemically nickel plated brass balls
- Union end connections:	Brass alloy ISO or NPT
- O-rings:	EPDM (70 shore)



**Components List:**

1. 3-Way By-Pass Unit
2. Griswold Balance Zone Actuated Control Valve w/ Actuator
3. Isolator-S
4. Pair of 12" Hoses

Please see individual spec sheets for details.