

xylem

Ultra Setter™

A pressure independent control valve that maintains 100% authority at all times. A real energy saver.



Ultra Setter

Pressure independent control valves

The Bell & Gossett Ultra Setter line of pressure independent control valves (PICV) combine innovative design with the latest technology and features to provide the highest level of energy efficient control for HVAC systems.

The Ultra Setter combines your branch balance valve, control valve, and differential pressure regulator into one easy-to-use valve. Additionally, the valve is the only PICV on the market that includes a GPM dial allowing the user to set the valve's maximum flow rate without the need for charts or calculations. The valve's integrated pressure/temperature ports make it easy to measure the differential pressure across the valve.

In a typical system without PICVs, pressure fluctuations can lead to wild variations in flow rate. These variations require the traditional control valves to constantly adjust as they find the right set point for their flow requirements. The Ultra Setter's integrated differential pressure regulator compensates for these pressure fluctuations, keeping the flow rate constant. This reduces valve hunting, improves efficiency and saves money.

The Ultra Setter maintains its full control stroke irrespective of the maximum flow rate setting. This enables the valve to make much more accurate flow rate adjustments, further reducing valve hunting and improving control.

Because the valve always maintains 100% authority over the branch flow rate it is simple to size and select. No longer do you need to undersize the valve to ensure proper control. The wide range of flow rate capabilities from 0.13 GPM to 880 GPM, along with the GPM dial, makes the Ultra Setter the easiest PICV available to select, install and commission.



Ultra Setter model
PVC

Features and benefits

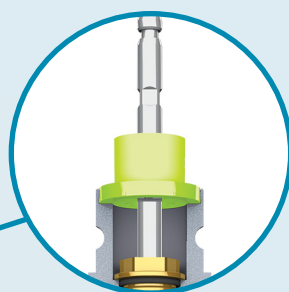
- Field adjustable lockable GPM dial
- Full control stroke at all times
- No need to make Cv calculations when selecting control valves
- Always maintains 100% authority, ensuring excellent control
- Combination valve reduces cost and more accurate flow control lowers life cycle costs
- Globe valve design ensures complete shut-off and clog free operation
- Reduces system energy consumption and improves system efficiency
- Sizes from ½" to 6"
- Flow rates from 0.13 GPM to 880 GPM
- Choice of Siemens and Honeywell actuators



Ultra Setter is the ultimate solution for hydronic system balance

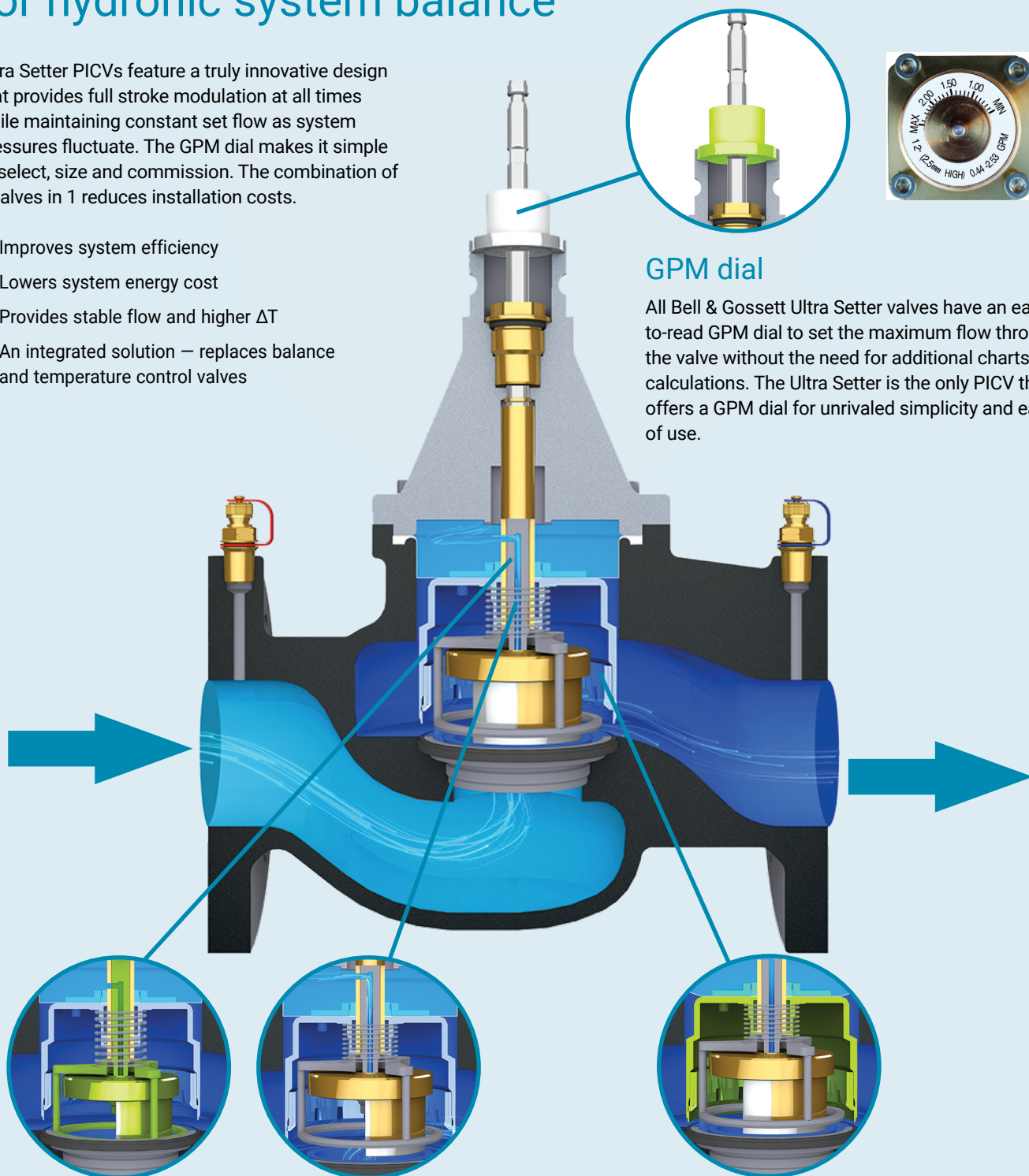
Ultra Setter PICVs feature a truly innovative design that provides full stroke modulation at all times while maintaining constant set flow as system pressures fluctuate. The GPM dial makes it simple to select, size and commission. The combination of 2 valves in 1 reduces installation costs.

- Improves system efficiency
- Lowers system energy cost
- Provides stable flow and higher ΔT
- An integrated solution — replaces balance and temperature control valves



GPM dial

All Bell & Gossett Ultra Setter valves have an easy-to-read GPM dial to set the maximum flow through the valve without the need for additional charts or calculations. The Ultra Setter is the only PICV that offers a GPM dial for unrivaled simplicity and ease of use.



Full stroke modulation

The Ultra Setter always maintains its full control stroke length regardless of the pre-set maximum flow rate. This gives the valve absolute authority over the branch flow rate, thus reducing valve hunting, improving efficiency, and lowering energy costs.

Differential pressure regulator

The integral differential pressure regulator constantly adjusts and compensates for fluctuations in system pressure, ensuring a constant flow rate and reducing energy use due to overflows and underflows. The result is more consistent energy transfer and improved occupant comfort.

Ultra Setter

Pressure independent control valves

Construction:

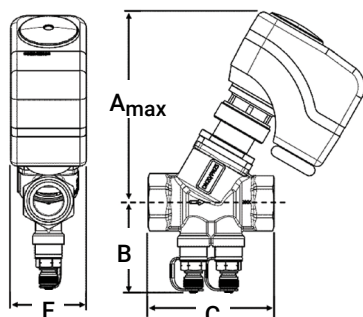
- Valve housing: Brass
- Flow setting: Brass
- ΔP controller: PPS 40% glass
- Stem: Stainless steel
- Spring: Stainless steel
- Diaphragm: HNBR

Maximum working pressure:

- 360 psi (2,500 kPa)

Temperature range:

32°F (0°C) to 248°F (120°C)



Model PVC 1/2" – 1-1/4"

Control range:

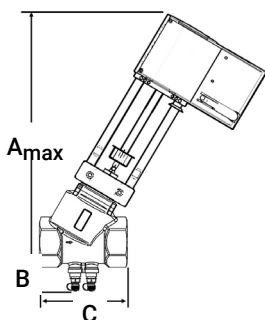
- Min: See submittal A-609.21
- Max: 60 psid

Accuracy:

- +/-5%

Construction:

- Valve body: 1-1/2" – 2": Ductile Iron
- Valve body: 2-1/2" – 6": Cast Iron
- ΔP Controller: Stainless steel
- Spring: Stainless steel
- Diaphragm: Reinforced EPDM
- O-rings: EPDM



Model PVC 1-1/2" – 2"

Pressure rating:

- 175 psi (1,207 kPa)/ 360 psi (5,221 kPa)

Flange connections:

- ANSI class 100#/250#

Control range:

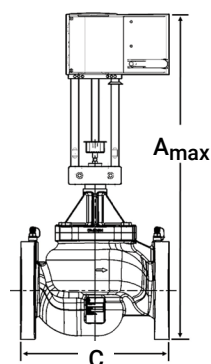
- Min: See submittal A-609.22
- Max: 85 psi

Temperature range:

- 32°F (0°C) to 248°F (120°C)

Accuracy:

- +/- 5%



Model PVL 2-1/2" – 6"

Ultra Setter Model PVC dimensions, weights and flow rates

Model number	Size	Connection type	Dimensions inches (mm)				Flow capacity in GPM (L/hr)		Approx. weight lbs. (kg)
			A _{max}	B	C	F	Min.	Max.	
PVC-1/2UL	1/2"	NPT Female	5.08 (129)	0.92 (23)	2.95 (75)	1.97 (50)	0.13 (30)	0.88 (200)	1.15 (0.52)
PVC-1/2L	1/2"	NPT Female	5.08 (129)	0.92 (23)	2.95 (75)	1.97 (50)	0.29 (66)	1.59 (360)	1.15 (0.52)
PVC-1/2H	1/2"	NPT Female	5.08 (129)	0.92 (23)	2.95 (75)	1.97 (50)	0.44 (100)	2.53 (575)	1.15 (0.52)
PVC-1/2UH	1/2"	NPT Female	5.08 (129)	0.92 (23)	2.95 (75)	1.97 (50)	0.97 (220)	5.85 (1,330)	1.15 (0.52)
PVC-3/4L	3/4"	NPT Female	5.08 (129)	2.12 (54)	3.11 (79)	1.97 (50)	0.44 (100)	2.53 (575)	1.19 (0.54)
PVC-3/4H	3/4"	NPT Female	5.08 (129)	2.12 (54)	3.11 (79)	1.97 (50)	0.97 (220)	5.85 (1,330)	1.19 (0.54)
PVC-1	1"	NPT Female	5.67 (144)	2.48 (63)	3.94 (100)	2.52 (64)	3.85 (875)	15.41 (3,500)	2.5 (1.14)
PVC-1-1/4	1-1/4"	NPT Female	5.67 (144)	2.68 (68)	4.09 (104)	2.52 (64)	4.40 (1,000)	17.61 (4,000)	2.8 (1.27)

All dimensions +/- 0.125" (3.2 mm) tolerance. Dimensions are subject to change. Not to be used for construction purposes unless certified.

Ultra Setter Model PVC/PVL dimensions, weights, and flow rates

Model number	Size	Connection type	Dimensions inches (mm)		Flow capacity in GPM (L/hr)		Approx. weight lbs. (kg)
			A _{max}	C	Min.	Max.	
PVC-1-1/2	1-1/2"	NPT female	14.50 (368)	5.43 (138)	6.03 (1,370)	41.83 (9,500)	15.0 (6.80)
PVC-2	2"	NPT female	15.00 (381)	5.43 (138)	6.16 (1,400)	50.63 (11,500)	16.0 (7.30)
PVL-2-1/2L	2-1/2"	Flange	23.50 (597)	11.40 (290)	19.27 (4,376)	110.06 (24,995)	41 (19)
PVL-2-1/2H	2-1/2"	Flange	23.50 (597)	11.40 (290)	26.21 (5,952)	154.11 (34,998)	41 (19)
PVL-3L	3"	Flange	24.50 (622)	12.20 (310)	25.53 (5,798)	149.78 (34,015)	57 (26)
PVL-3H	3"	Flange	24.50 (622)	12.20 (310)	30.92 (7,022)	189.47 (43,029)	57 (26)
PVL-4L	4"	Flange	29.50 (750)	13.80 (350)	46.23 (10,499)	308.20 (69,992)	107 (49)
PVL-4H	4"	Flange	29.50 (750)	13.80 (350)	59.44 (13,499)	396.26 (89,991)	107 (49)
PVL-5L	5"	Flange	31.50 (800)	15.80 (400)	81.45 (18,497)	484.31 (109,987)	154 (70)
PVL-5H	5"	Flange	31.50 (800)	15.80 (400)	101.26 (22,996)	594.38 (134,984)	154 (70)
PVL-6L	6"	Flange	32.50 (825)	19.90 (505)	112.71 (25,597)	651.59 (147,977)	212 (96)
PVL-6H	6"	Flange	32.50 (825)	19.90 (505)	140.89 (31,996)	858.56 (194,980)	212 (96)

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Learn more about
Ultra Setter valves



Xylem
8200 N. Austin Avenue
Morton Grove, Illinois 60053

Tel +1 847.966.3700
Fax +1 847.965.8379
xylem.com/bellgossett

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