

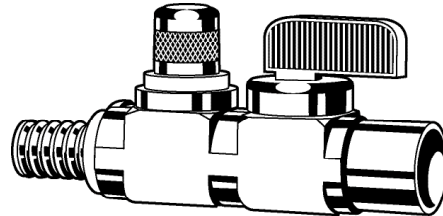
# Product Instructions

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## Shut-Off / Balancing Valves

### Applications

Shut-Off / Balancing Valves are available in Copper (female) x Viega PEX Press only. These Shut-Off / Balancing Valves are commonly used to connect radiant heating, cooling, and snow-ice melting tubing to Viega Valveless Copper Manifolds or other copper to PEX Press Connections.



### Features

- Viega PEX Press Connections
- Compact size
- 1/4 Turn, Self-Lubricating Ball Valve
- Balance Using 1/8" Allen Wrench
- Available Individually or Pre-Assembled on Viega's 1-1/2" and 2" Copper Manifolds

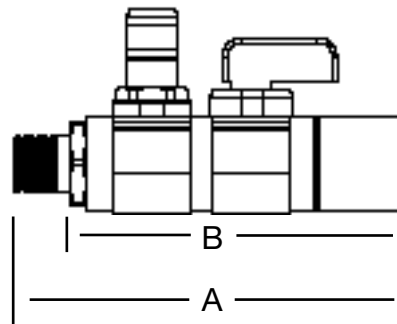
### Materials

- Brass Body
- Plated or coated zinc handles
- Teflon, Viton, EPDM seals

### Specifications

Min Temp:	36°F
Max Temp:	250°F
Max pressure:	200 psi
Maximum Glycol Mix:	50%

Valve Size	Cv Value
1/2"	3.0
5/8"	6.0
3/4"	6.0



Stock Code	Valve	Description	A	B
17163	Shut-Off / Balancing	1/2" PEX Press x 1/2" Copper (female)	3.62"	3.03"
17164	Shut-Off / Balancing	5/8" PEX Press x 3/4" Copper (female)	4.07"	3.47"
17165	Shut-Off / Balancing	3/4" PEX Press x 3/4" Copper (female)	4.07"	3.47"

### Installation

1. Prepare valve for soldering (always solder valves prior to connecting PEX tubing)
2. Remove threaded cap counter clockwise
3. Using allen key or hex wrench, open memory spindle all the way (counter clockwise)
4. Open Ball Valve handle (parallel to flow)
5. Solder (Do not dismantle if soldering, aim flame towards pipe)
6. Cool valve prior to connecting PEX tubing

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## Balancing Circuits

It is important to balance the circuits on the manifolds to ensure even distribution of the radiant heating. The fluid (water and glycol mix) flows in the path of least resistance. Longer circuit lengths causes higher pressure drops (resistance). The Shut-Off / Balancing Valves can equalize the pressure drop (resistance) in every circuit. For proper balancing see calculations and diagrams below.

### Example: 4 Circuit Manifold

Circuit	Circuit Length	Number of Turns Open to Set Memory Spindle
1	250'	250/250 x 10 = 10 turns (fully open)
2	200'	200/250 x 10 = 8 turns
3	150'	150/250 x 10 = 5 turns
4	100'	100/250 x 10 = 4 turns

$$\frac{\text{Circuit Length (ft)}}{\text{Longest Circuit (ft)}} \times 10 = \# \text{ of Turns for Balancing}^*$$

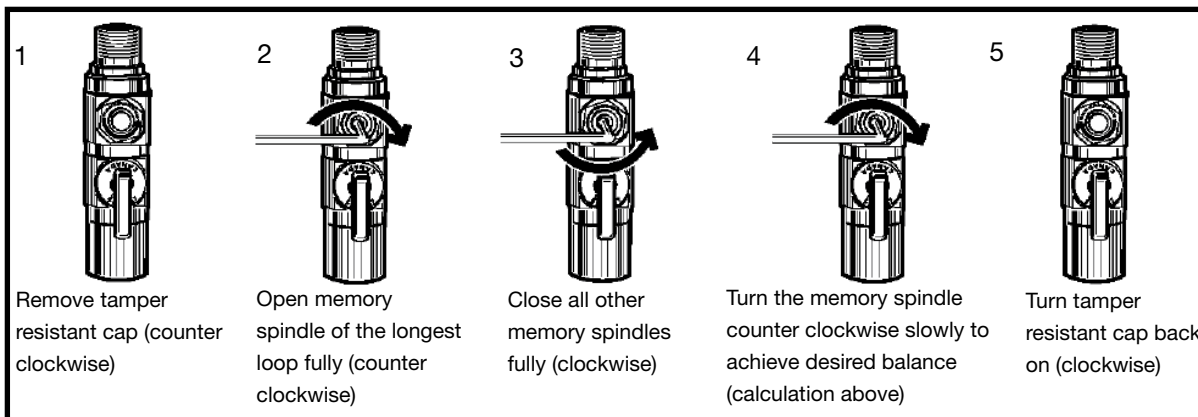
\* The number of full 360° turns open from a fully closed position

Circuit 1 is the longest at 250', so it is fully open (counter clockwise). Circuit 2 is 200', so divide 200' by 250', which equals 0.8. Then multiply 0.8 by 10, and the answer is 8. This represents the number of 360° turns open needed for proper balancing (counter clockwise).

Note: Each 360° turn of the memory spindle restricts approximately 10% of flow.

## Balancing

For balancing of manifolds follow steps and diagrams below:



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