

Engineering Specification

Job Name _____

Contractor _____

Job Location _____

Approval _____

Engineer _____

Contractor's P.O. No. _____

Approval _____

Representative _____

Series 850 Small Double Check Valve Assembly

1/2" – 2"

⚠ WARNING

It is illegal to use this product in any plumbing system providing water for human consumption, such as drinking or dishwashing, in the United States. Before installing standard material product, consult your local water authority, building and plumbing codes.

⚠ WARNING

Freeze sensor solely provides alerts about a possible freeze event and cannot prevent a freeze event from occurring. User action is required to prevent freeze conditions from causing product and/or property damage.

Series 850 Small Double Check Valve assemblies are designed for non-health hazard applications. This backflow preventer protects drinking water supplies from dangerous cross-connection in accordance with national plumbing codes and water authority requirements for non-potable service applications such as irrigation, fire line, or industrial processing.

The series includes a freeze sensor for use with SentryPlus Alert® technology to monitor temperature and alert facility personnel when freeze conditions can cause damage to equipment. (The sensor is installed on the assembly exterior and does not alter assembly functions or certifications.)

NOTICE

An add-on connection kit (sold separately) is required to activate the freeze sensor. Without the connection kit, the sensor is a passive component that does not communicate with any other device. (For more information download RP/IS-F-850S.)

NOTICE

Use of the freeze sensor does not replace the need to comply with all required instructions, codes, and regulations related to installation, operation, and maintenance of this product, including the need to provide protection against a freeze event.

Watts® is not responsible for the failure of alerts due to connectivity issues, power outages, or improper installation.



850 with Freeze Sensor

Features

- All bronze body for durability
- Standard assembly with ball valves
- Optional union ball valves
- Tee handles, sizes 1/2" to 1"; lever handles, sizes 1 1/4" to 2"
- End connection NPT ANSI/ASME B1.20.1
- Available freeze sensor connection kit to activate a temperature monitoring system that trigger alerts for low and freezing temperatures
 - Built-in Wi-Fi function to communicate freeze alerts directly to the user, eliminating the need for a third-party controller
 - Included standalone sensor to provide flexibility in locating a measuring tool at or near any water-carrying outdoor installation vulnerable to freezing conditions
 - Switched output relay to supplement BMS or irrigation management systems with reinforced control of sprinkler systems

NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

Inquire with governing authorities for local installation requirements.

Specification

Series 850 Small Double Check Valve assembly backflow preventer shall consist of two independently operating, spring-loaded check valves. The pressure drop across the first check valve shall be approximately 1.0 psig with no flow. The pressure drop across the second check valve shall also be 1.0 psig with no flow. A complete assembly shall include two shutoff valves and four test cocks. End connections shall be NPT ANSI/ASME B1.20.1. The assembly shall be a FEBCO Series 850 Small, and shall include a freeze sensor mounted to one of the test cocks.

Model/Option

FZ Freeze sensor
U Union ball valve

Materials

Valve Body: Bronze
Elastomers: Silicone
Springs: Stainless steel

Pressure – Temperature

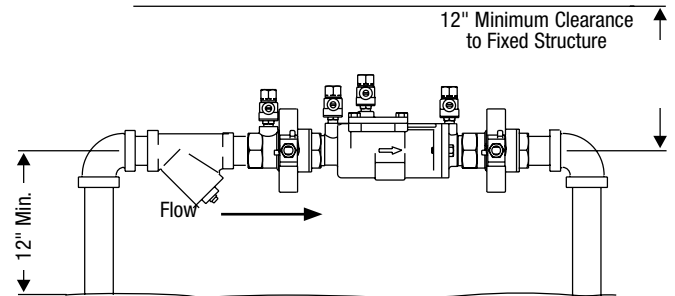
Max. Working Pressure: 175 psi (12.1 bar)
Hydrostatic Test Press: 350 psi (24.1 bar)
Temperature Range: 32°F to 140°F (0°C to 60°C)

Approvals – Standards

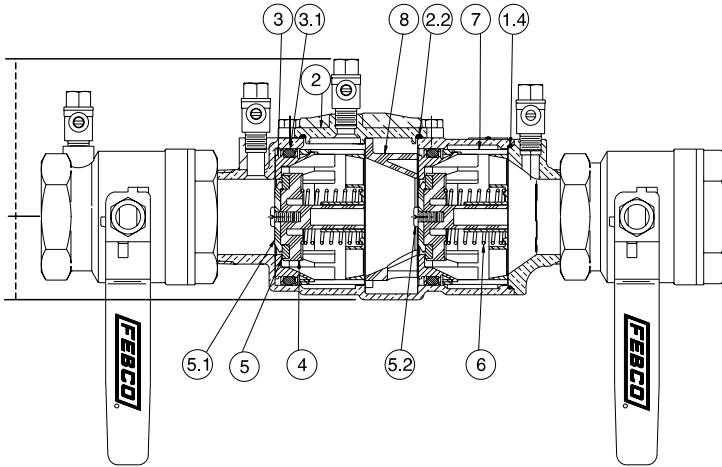


ANSI/AWWA Conformance (C510-92)
Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California
Option FZ not listed

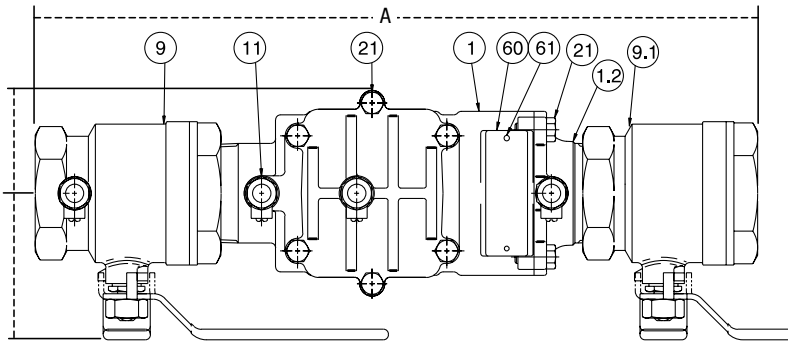
Typical Installation



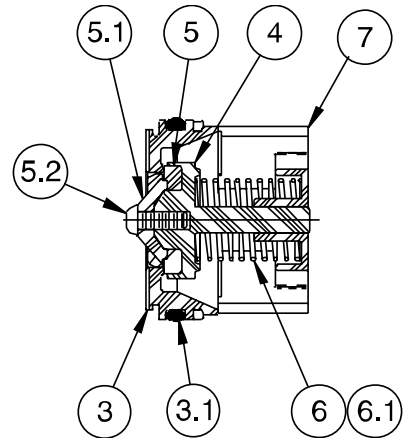
Valve Components



Item	Description	Material
1	Body	Bronze
1.2	Tailpiece	Bronze
1.4	O-ring	Silicone
2	Cover	Bronze
2.2	O-ring	Silicone
3	Seat	Noryl®
3.1	O-ring	Silicone
4	Poppet	Noryl
5	Seat Disc	Silicone
5.1	Disc Retainer	Noryl
5.2	Rnd HD Screw	Stainless steel
6	Spring	Stainless steel
7	Guide	Noryl
8	Retainer Spacer	Noryl
9	Ball Valve (w/tap)	Bronze
9.1	Ball Valve	Bronze
11	Test Cock	Bronze
21	Hex HD Capscrew	Stainless steel
60	Identification Plate	Brass
61	Drive Screw Stick	Stainless steel



Check Assembly

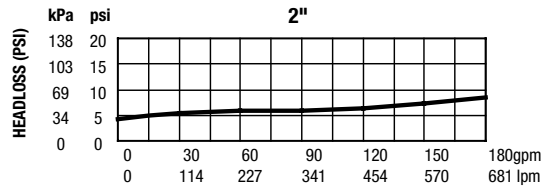
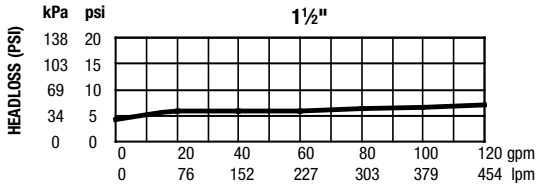
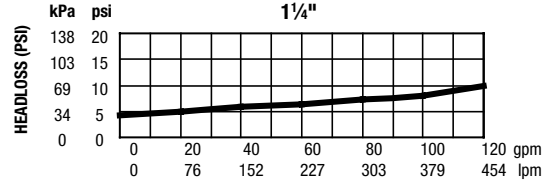
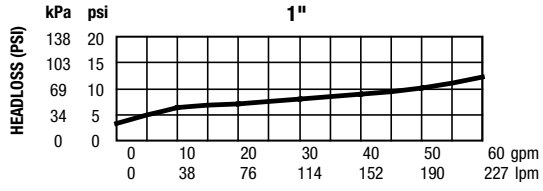
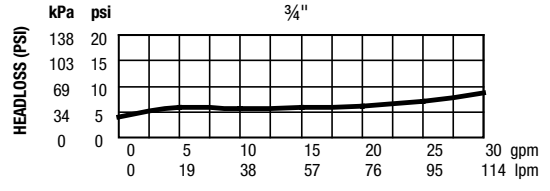
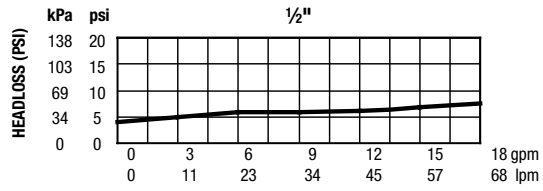


Dimensions and Weights

Call customer service if you need assistance with technical details.

SIZE	DIMENSIONS										WEIGHT	
	A		B		C		D		E		lb	kg
in.	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.		
½	10	254	1½	38	1½	38	3⅛	79	1¼	32	4.2	1.9
¾	10¾	273	1½	38	1½	38	3⅛	79	1¼	32	4.4	2.0
1	12½	318	1⅞	48	1⅝	41	3⅝	86	1½	38	6.8	3.1
1¼	15⅞	403	3	76	2½	64	4¼	108	2¼	57	15.8	7.2
1½	16⅜	416	3	76	2½	64	4¼	108	2¼	57	16.2	7.4
2	17⅝	450	3½	89	2½	64	4¼	108	2¼	57	21.1	9.6

Capacity



A **WATTS** Brand

