Engineering Specification

Job Name _____ Contractor _____

Job Location _____ Approval _____

Engineer _____ Contractor's P.O. No. _____

Approval _____ Representative _____

LEAD FREE*

Series C400

Reduced Pressure Zone Assembly

2½" – 10"

Series C400 Reduced Pressure Zone assembly provides protection to the potable water system from contamination in accordance with national plumbing codes. The series is normally used in health hazard applications for protection against backsiphonage, backpressure and the fouling of either check valve. Series C400 features Lead Free* construction to comply with Lead Free* installation requirements.

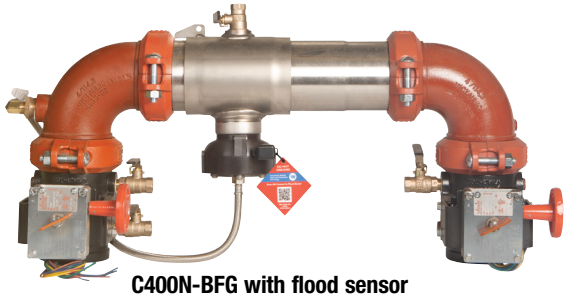
The series include a flood sensor to detect excessive water discharges from the relief valve. The flood sensor relays a signal that triggers a multichannel alert (call, email, text) to notify personnel about potential flooding. The OS&Y model includes an option for an integrated supervisory switch on each gate valve.

NOTICE

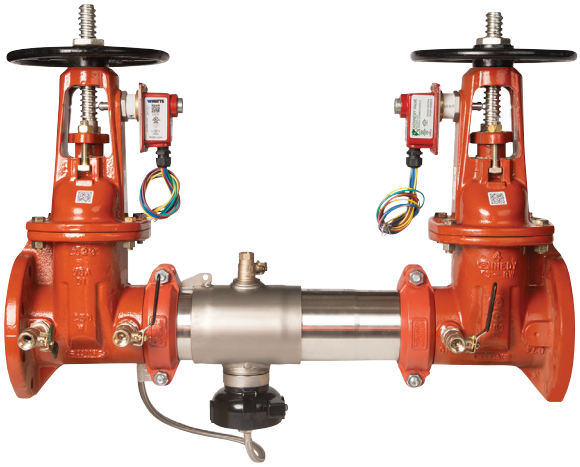
An add-on connection kit is required to activate the flood sensor. Without the connection kit, the flood sensor is a passive component and will not communicate with any other device. (A retrofit sensor connection kit is also available for existing installations. For more information, download RP/IS-A-C400/C500.)

Features

- Extremely compact design
- 70% lighter than traditional designs
- Type 304 (Schedule 40) stainless steel housing and sleeve
- Groove fittings for integral pipeline adjustment
- Patented link check for lowest pressure loss
- Unmatched ease of serviceability
- Available with grooved butterfly valve shutoffs
- Configurable for horizontal or N-pattern installation
- Replaceable check disc rubber
- Sensor on relief valve for flood detection
- Flood alert feature activated with add-on sensor connection kit
- Includes an integrated supervisory switch as an option on each gate valve of the OS&Y model



C400N-BFG with flood sensor



C400-OSY with supervisory switch and flood sensor

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.

NOTICE

Use of the flood 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 proper drainage in the event of a discharge.

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

*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

AMES FIRE & WATERWORKS

A WATTS Brand

Specification

The Colt C400 Reduced Pressure Zone assembly shall consist of two independent Link Check modules, a differential pressure relief valve located between and below the two modules, two drip tight shutoff valves, and required test cocks. Link Check modules and relief valve shall be contained within a sleeve accessible single housing constructed from Type 304 (Schedule 40) stainless steel pipe with groove end connections. Link Checks shall have reversible elastomer discs and in operation produce drip tight closure against the reverse flow of liquid caused by backpressure or backsiphonage. Lead Free* Reduced Pressure Zone assembly shall be constructed using Lead Free* materials. It shall comply with state codes and standards, where applicable, requiring reduced lead content.

The integrated supervisory switch, an option on the OS&Y model, shall have continuity with the valve fully open and activate within two (2) turns from open. The device consists of two SPDT switches and is designed to send a tamper signal when the valve is closed and when the switch is removed from the valve. In the neutral position, the switch indicates the valve is fully open. Closing the valve causes the switch rod to come out of the valve stem groove, activating the switch. Removing the switch also triggers activation. (For more information, refer to ES-A-GateValve-TS-OSY.) The assembly shall be C400 as manufactured by Ames Fire & Waterworks and shall include a sensor on the relief valve for flood detection.

Materials

Housing & Sleeve	Type 304 (Schedule 40) stainless steel
Elastomers	EPDM, silicone, and Buna 'N'
Link Checks	Noryl®, stainless steel
Check Discs	Reversible silicone or EPDM
Test Cocks	Lead Free* bronze body
Pins & Fasteners	300 Series stainless steel
Springs	Stainless steel

Configurations

- Horizontal
- "Z" pattern horizontal
- "N" pattern horizontal

Approvals

- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at The Unversity of Southern California (FCCCHR-USC)
  (Excluding 6" Z-pattern configuration)
- AWWA C511-97

1013 B64.4 (**BFG & OSY Only)

For additional approval information, contact the factory or visit our website at www.amesfirewater.com.

Model/Option

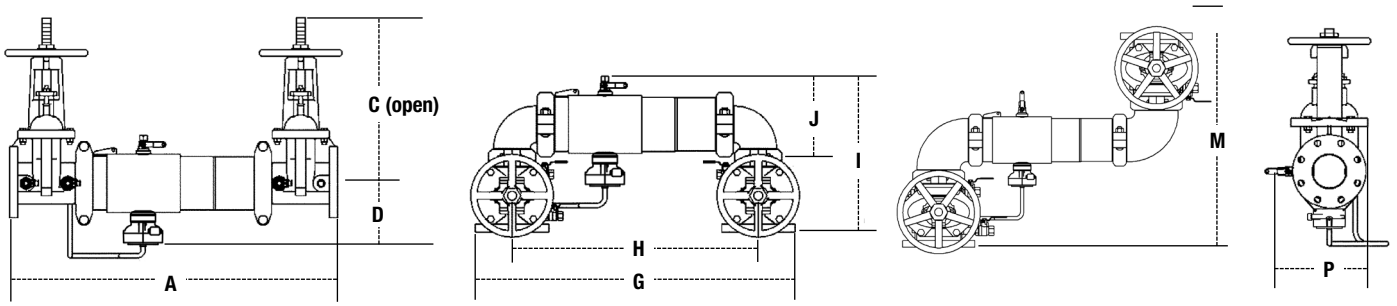
FS	Sensor on relief valve for flood detection
NRS	Non-rising stem resilient seated gate valves
OSY	UL Classified and FM Approved outside stem and yoke resilient seated gate valves
BFG	UL Classified and FM Approved grooved gear operated butterfly valves with tamper switch
TS-OSY	Integrated supervisory switch (UL Certified, Safety Signaling, Control No. 3L38) on outside stem and yoke resilient seated gate valve
OSY FxG**	Flanged inlet gate connection and grooved outlet gate connection
OSY GxF**	Grooved inlet gate connection and flanged outlet gate connection
OSY GxG**	Grooved inlet gate connection and grooved outlet gate connection

Pressure – Temperature

Temperature Range: 33°F – 140°F (0.5°C – 60°C)
Maximum Working Pressure: 175 psi (12.1 bar)

NOTE: When installing a drain line on the Series C400 backflow preventer, use 400/500 air gap. Download ES-A-AG/EL/TC for additional information.

Dimensions – Weights



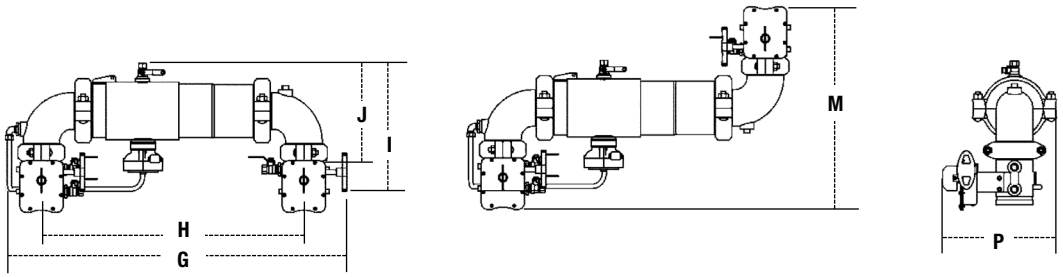
C400, C400N, C400Z

SIZE	DIMENSIONS																		WEIGHT							
	A		C (OSY)		C (NRS)		D		G		H		I		J		M		P		C400				C400N			
																					NRS		OSY		NRS		OSY	
in.	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*lb*	*kg*	*lb*	*kg*	*lb*	*kg*	*lb*	*kg*
2½	30¾	781	16⅜	416	9⅜	238	6½	165	29 1/16	738	21½	546	15½	393	8 13/16	223	21¼	540	9 3/16	234	118	54	128	58	126	57	136	62
3	31¾	806	18⅞	479	10¼	260	6 1/16	170	30¼	768	22¼	565	17⅛	435	9 3/16	233	23	584	10½	267	134	61	148	67	147	67	161	73
4	33¾	857	22¾	578	12 3/16	310	7	178	35⅝	905	23½	597	18½	470	9 15/16	252	26¼	667	11 3/16	284	164	74	164	74	187	85	187	85
6	43½	1105	30⅛	765	16	406	8½	216	44¾	1137	35¼	895	23 3/16	589	13 1/16	332	34¼	870	15	381	276	125	298	135	317	144	339	154
8	49¾	1264	37¾	959	19 15/16	506	9 1/16	246	54⅛	1375	40⅛	1019	27 7/16	697	15 1/16	399	36⅞	937	17 3/16	437	441	200	483	219	516	234	558	253
10	57¾	1467	45¾	1162	23 13/16	605	11 3/16	285	66	1676	49½	1257	32½	826	17 5/16	440	44½	1124	20	508	723	328	783	355	893	405	950	431

Noryl is a registered trademark of SHPP Global Technologies B.V.

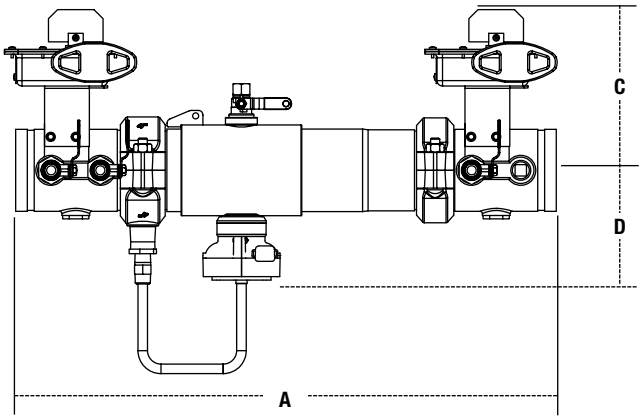
* The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

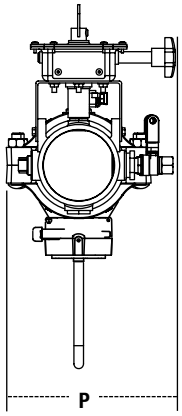
**Options for the gate valve:
– Consult factory for dimensions.
– Available with grooved NRS gate valves; consult factory.
– Post indicator plate and operating nut available; consult factory.



C400NBFG, C400ZBFG

SIZE	DIMENSIONS												WEIGHT	
	G		H		I		J		M		P		C400N, C400Z	
in.	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*lb*	*kg*
2½	23	584	23	584	15½	394	9½	241	19¾	502	11 13/16	300	67	30
3	24	610	24	610	16 5/16	414	10 1/16	256	21¼	540	12⅛	308	70	32
4	35⅝	905	35⅝	905	17 3/16	437	10 15/16	279	23½	597	12⅝	321	87	39
6	35¼	895	35¼	895	20½	521	13½	343	27¼	692	15	382	160	73



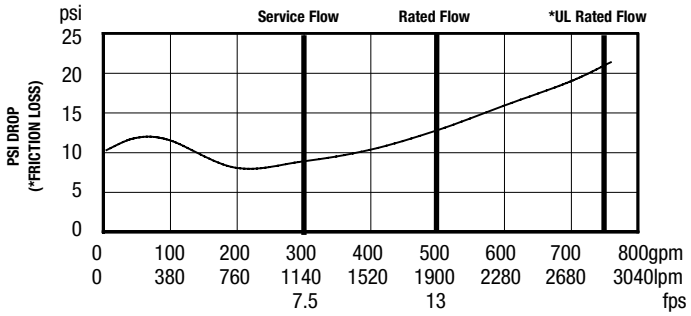


C400 BFG

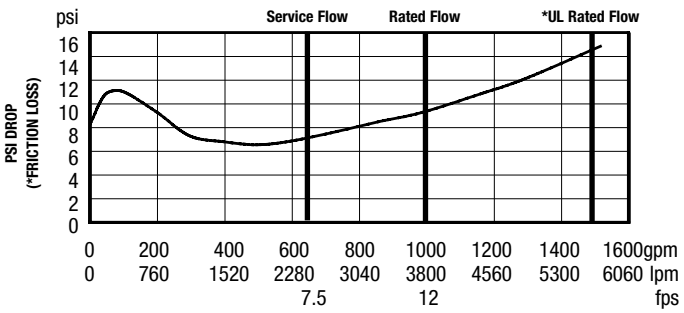
SIZE	DIMENSIONS								WEIGHT	
	A		C		D		P			
in.	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*lb*	*kg*
4	29	737	7¾	197	6⅜	162	9½	241	66	30
6	36½	927	9 1⁄16	246	7 7⁄16	189	14¼	362	122	55

NOTE: Capacity for C400 BFG only.

4"



6"



Capacity

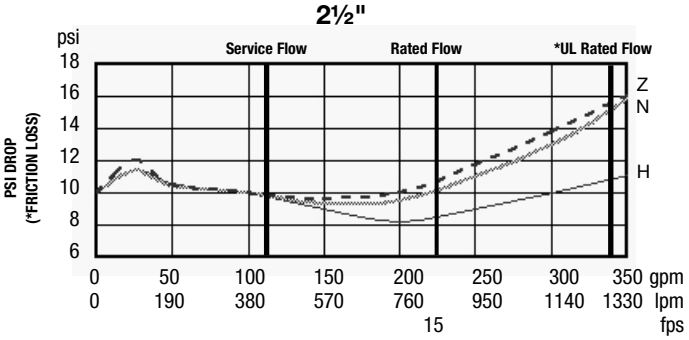
UL and FM certified flow characteristics.
N and Z flow characteristics collected using butterfly shutoff valves.

—— Horizontal —— N - Pattern - - - - - Z - Pattern

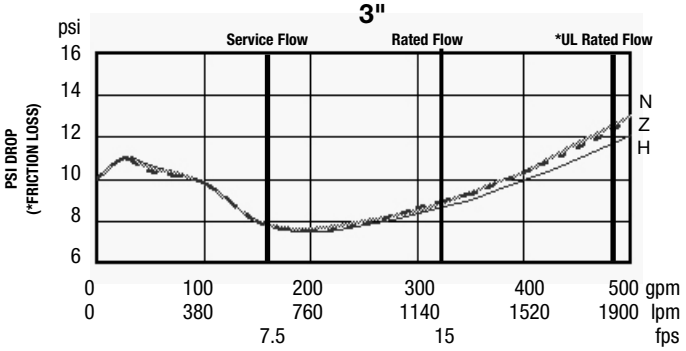
Flow capacity chart identifies valve performance based upon rated water velocity up to 25 fps.

- Service Flow is typically determined by a rated velocity of 7.5 fps based upon Schedule 40 pipe.
- Rated Flow identifies maximum continuous duty performance determined by AWWA.
- UL Flow Rate is 150% of Rated Flow and is not recommended for continuous duty.
- AWWA Manual M22 (Appendix C) recommends that the maximum water velocity in services be not more than 10 fps.

2½"



3"



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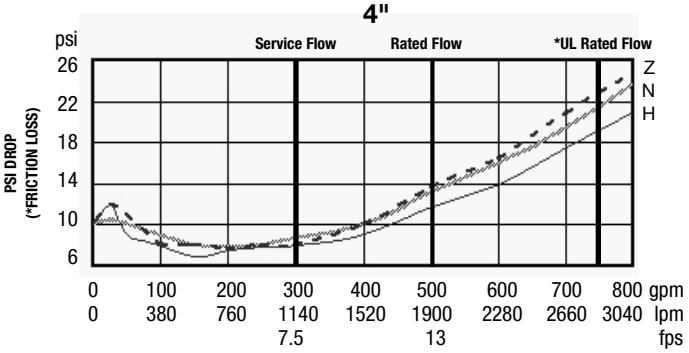

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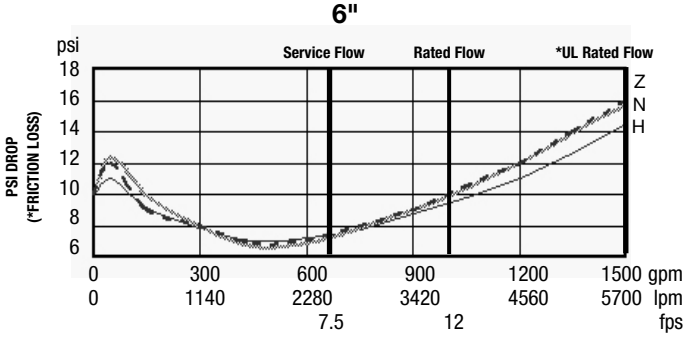
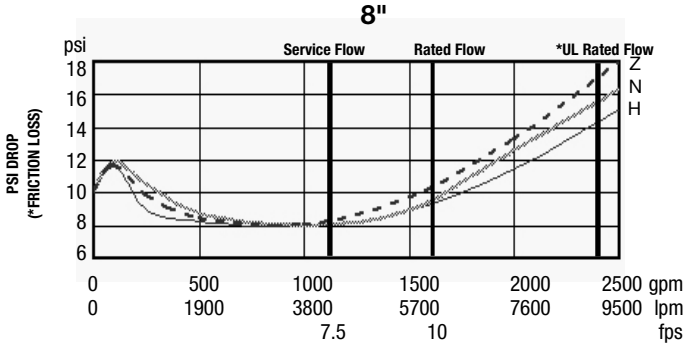
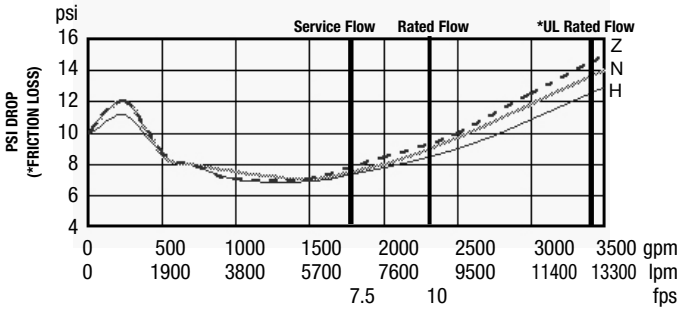


8"



10"



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