

## Engineering Specification

Job Name \_\_\_\_\_

Contractor \_\_\_\_\_

Job Location \_\_\_\_\_

Approval \_\_\_\_\_

Engineer \_\_\_\_\_

Contractor's P.O. No. \_\_\_\_\_

Approval \_\_\_\_\_

Representative \_\_\_\_\_

# Series C500

## Reduced Pressure Detector Assembly

2½" – 10"

### ⚠ 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.

Series C500 Reduced Pressure Detector assembly provides protection to drinking water supplies from dangerous cross-connections in accordance with national plumbing codes and water authority requirements for health-hazard non-potable service applications such as irrigation, fire line, or industrial processing. The Colt series is used to monitor unauthorized use of water from the fire protection system.

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.

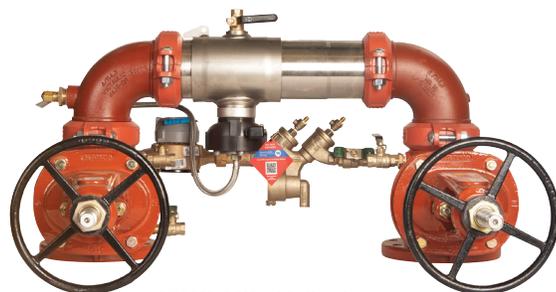
### NOTICE

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.)

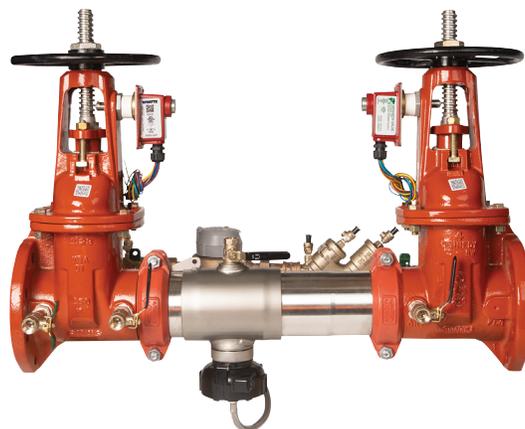
### Features

- Extremely compact design
- 70% lighter than traditional designs
- 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
- Replaceable check disc rubber
- Available with grooved butterfly valve shutoffs
- Bottom-mounted cast stainless steel relief valve
- Metered bypass to detect leakage or theft of water from the fire sprinkler system
- Sensor on the relief valve for flood detection
- Flood alert feature activated by add-on sensor connection kit
- Includes an integrated supervisory switch as an option on each gate valve of the OS&Y model

Ames Fire & Waterworks product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Ames Fire & Waterworks Technical Service. Ames Fire & Waterworks reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Ames Fire & Waterworks products previously or subsequently sold.



C500N-OSY with flood sensor



C500-OSY with supervisory switches 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.

## Specification

The Colt C500 Reduced Pressure Detector 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 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. The bypass assembly consists of a meter registering either gallon or cubic measurements, a reduced pressure zone assembly and required test cocks. 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 tamper switch also activates the switch. (For more information, refer to ES-A-GateValve-TS-OSY.) The assembly shall be C500 as manufactured by Ames Fire & Waterworks and shall include a sensor on the relief valve for flood detection.

## Materials

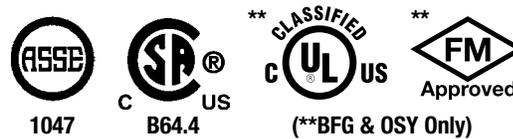
Housing & Sleeve	304 (Schedule 40) stainless steel
Elastomers	EPDM, silicone, and Buna 'N'
Link Checks	Noryl®, stainless steel
Check Discs	Reversible silicone or EPDM
Test Cocks	Lead Free* bronze body
Pins & Fasteners	300 Series stainless steel
Springs	Stainless steel

## Configurations

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

## Approvals

- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at The University of Southern California (FCCCCHR-USC)  
(Excluding 6" 'Z' and 10" 'N' and 'Z' configurations)
- AWWA C511-97



For additional approval information, contact the factory or visit our website at [www.amesfirewater.com](http://www.amesfirewater.com).

## Model/Option

FS	Sensor on the relief valve for flood detection
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)

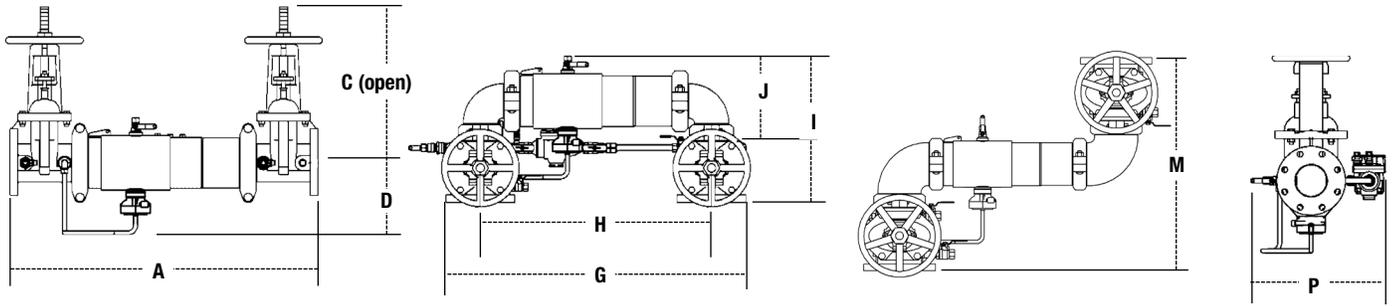
Noryl is a registered trademark of SHPP Global Technologies B.V.

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

\*\*Options for the gate valve:

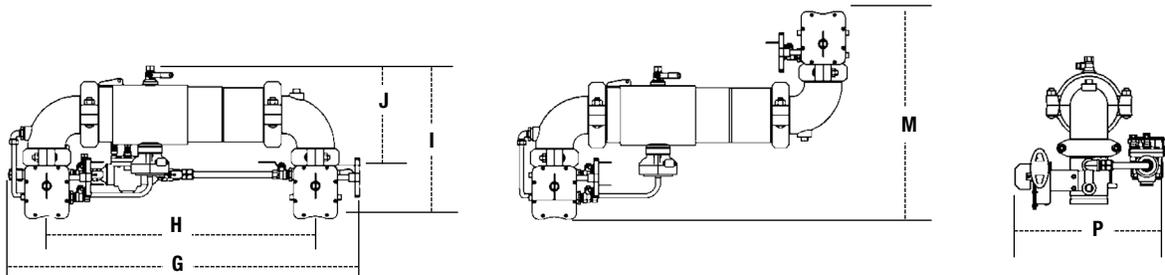
- Consult factory for dimensions.
- Available with grooved NRS gate valves; consult factory.
- Post indicator plate and operating nut available; consult factory.

## Dimensions – Weights



### C500, C500N, C500Z

SIZE	DIMENSIONS														WEIGHT							
	A		C (OSY)		D		G		H		I		J		M		P		C500		C500N	
in.	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lb	kg	lb	kg
2½	30¾	781	16⅝	416	6½	165	29¼	738	21½	546	15½	393	8⅜	223	21¼	540	13⅜	335	118	54	126	57
3	31¾	806	18⅝	479	6⅜	170	30¼	768	22¼	565	17⅝	435	9⅜	233	23	584	14½	368	134	61	147	67
4	33¾	857	22¼	578	7	178	35⅝	905	23½	597	18½	470	9⅝	252	26¼	667	15⅜	386	164	74	187	85
6	43½	1105	30⅝	765	8½	216	44¾	1137	33¼	845	23⅜	589	13⅜	332	34¼	870	19	483	276	125	317	144
8	49¾	1264	37¼	959	9⅜	246	54⅝	1375	40⅝	1019	27¼	697	15⅜	399	36⅝	937	21⅜	538	441	200	516	234
10	57¾	1467	45¾	1162	11⅜	285	66	1676	49½	1257	32½	826	17⅜	440	44½	1124	24	610	723	328	893	405



### C500NBFG, C500ZBFG

SIZE	DIMENSIONS										WEIGHT			
	G		H		I		J		M		P		C500BFG	
in.	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lb	kg
2½	32½	826	23	584	15½	394	9½	241	19¾	502	15⅜	402	81	37
3	34	864	24	610	16⅝	414	10⅜	256	21¼	540	16⅝	410	84	38
4	35⅝	905	25½	648	17⅜	437	10⅝	279	23½	597	16⅝	422	101	46
6	46½	1181	35¼	895	20½	521	13½	343	27¼	692	19	483	174	79

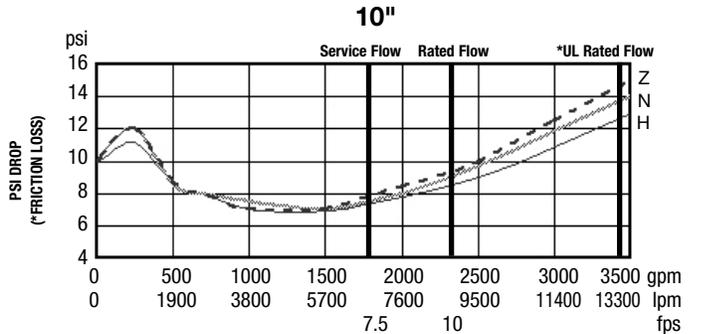
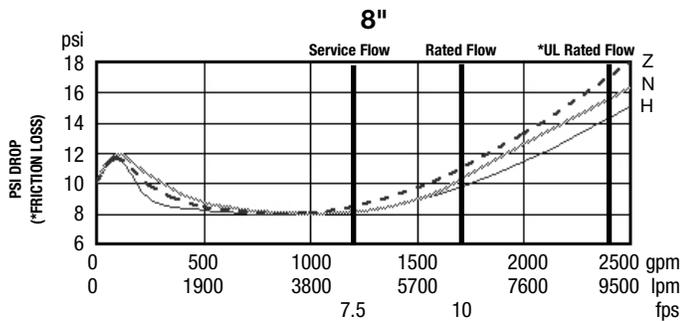
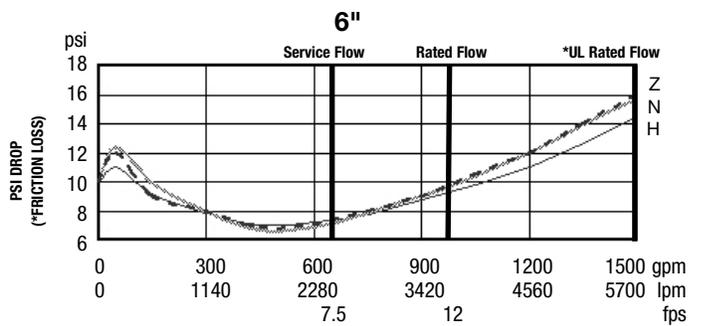
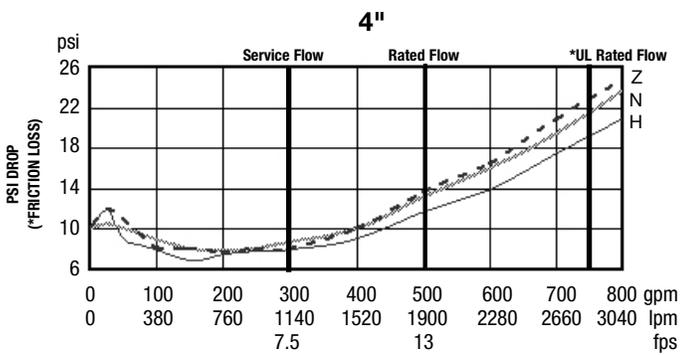
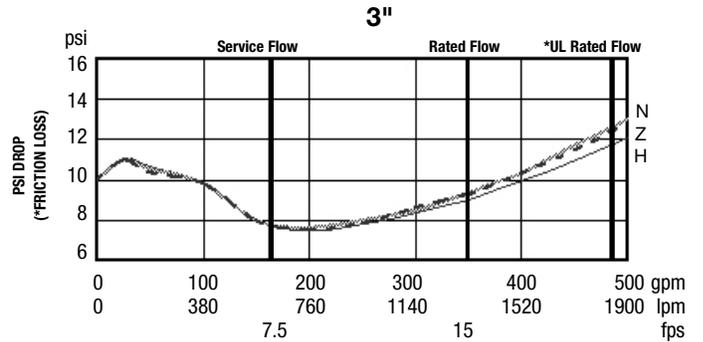
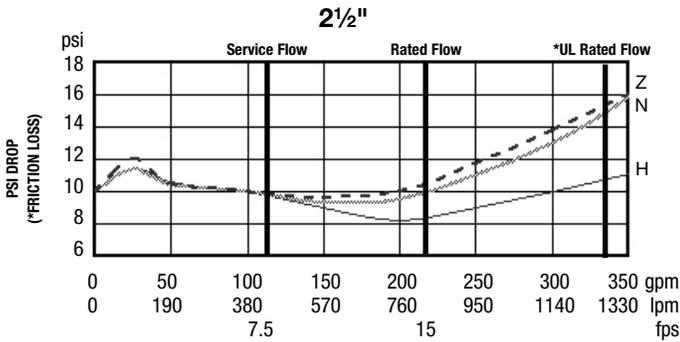
# Capacity

UL and FM Approved 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.



A WATTS Brand

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