

## Engineering Specification

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

Contractor \_\_\_\_\_

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

Approval \_\_\_\_\_

Engineer \_\_\_\_\_

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

Approval \_\_\_\_\_

Representative \_\_\_\_\_

# LEAD FREE\*

## Gate Valve OS&Y with Supervisory Switch

2½" – 12"

Gate Valve OS&Y with the Watts TS-OSY supervisory switch is recommended for fire main shutoff and distribution service. The gate valve includes an integrated supervisory switch that signals when water supply to the sprinkler system is tampered with or being shut off. Designed for indoor or outdoor application.

The ductile iron valve body, bonnet, and stuffing plate are coated with fusion bonded epoxy, applied in accordance with AWWA C550. The valve features Lead Free\* construction to comply with Lead Free installation requirements. Certified to ANSI/NSF61 and 372.

Operated by handwheel, the valve contains a wedge fully encapsulated with EPDM rubber permanently bonded to the metal and meets ASTM D249.

### Gate Features

- Meets or exceeds AWWA C509 and C515 standards
- Bubble tight at 250 psi
- High flow characteristics, anti-friction thrust bearing, 100% smooth passage without turbulent flow
- Solid, bronze stem nut and high-strength bronze stem
- Two O-ring seals above stem thrust collar
- High-strength iron wedge fully encapsulated with rubber permanently bonded to metal
- High-strength ductile iron body, bonnet, and stuffing box
- Corrosion-resistant coating on interior and exterior surfaces
- Available in flange by flange, flange by groove, and groove by groove end connections

### 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.

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

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.



Gate Valve OS&Y with supervisory switch

### Specification

Gate Valve OS&Y with the Watts TS-OSY supervisory switch shall be a resilient wedge gate valve manufactured to ASTM A536 ductile iron, rated for 250 psig working pressure, and hydrostatically proficient for shell leakage at pressures up to 500 psig. The gate valve shall comply with ANSI/AWWA C515 Standard for reduced-wall, resilient seated gate valves for water supply service. The valve shall have approvals from UL (UL262 – Gate Valves for Fire Protection Service) and FM (FM1120/1130 – Standard for Fire Service Water Control Valves). The bond of the rubber wedge closure member shall comply for adhesion per the ASTM D429 Standard. The end flanges of all flanged valves shall conform to the dimensions and drillings of the ANSI/ASME Standard B16.1, Class 125. Mechanical joint bell dimensions shall conform to ANSI/AWWA C111/A21.11. The end flange of tapping valves shall conform to MSS Standard Practice SP-60. All non-machined, interior, and exterior surfaces of the valve shall be coated with an inert, thermosetting epoxy resin to provide a corrosion-resistant coating that complies with the performance requirements of ANSI/AWWA C550 Standard. The valve shall have NSF International certification and comply with NSF61 and NSF372 standards. The valve shall be supplied with EPDM wedges. The temperature rating for valve shall be 33 to 125 degrees Fahrenheit, as required in the AWWA C509 standard.



## Standards

Water supply service	ANSI/AWWA C515
End flanges	ANSI/ASME Standard B16.I, Class 125
Mechanical joint bell dimensions	ANSI/AWWA C111/A21.11
Interior coating	ANSI/AWWA C550
Temperature	AWWA C509

## Approvals

Manufacturer's approvals include UL, UL Canada, NSF 61/372, FM Approved, CAL FIRE (California Department of Forestry & Fire Protection), and USC Foundation for Cross-Connection Control and Hydraulic Research.

## Parts

Call customer service if you need assistance with technical details.

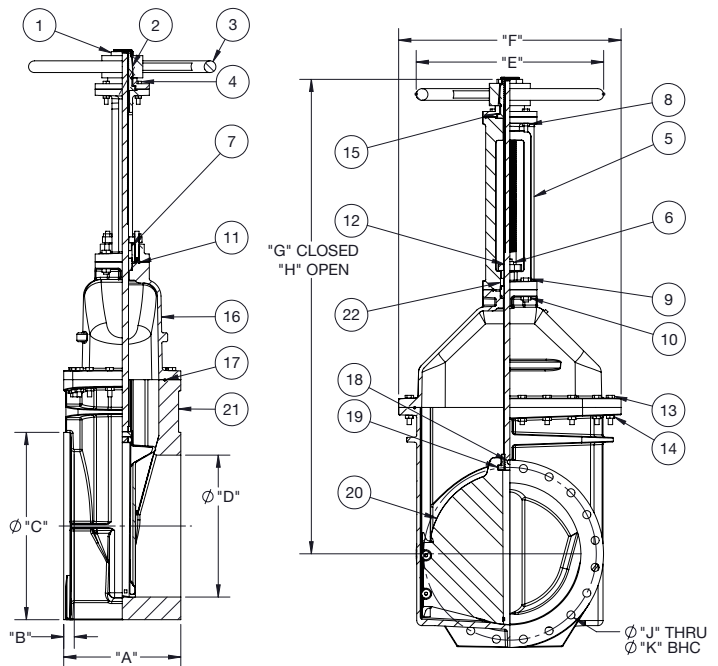
SIZE	DESCRIPTION	MATERIAL
1	Hold Down Nut	Bronze ASTM B584 C87850/C57610
2	Yoke Nut	Bronze ASTM B584 C86700
3	Handwheel	Ductile Iron ASTM A536 70-50-05
4	Hex Cap Screw	ZN A307 Grade B/ASTM F593 S30400/S31600
5	Yoke	Ductile Iron ASTM A536 70-50-05
6	Hex Nut	ZN A307 Grade B/ASTM F593 S30400/S31600
7	Packing Gland	Ductile Iron ASTM A536 70-50-05
8	Hex Nut	ZN A307 Grade B/ASTM F593 S30400/S31600
9	Hex Cap Screw	GR 2 ZN SAE J429/304SS ASTM 18-8SS
10	Hex Nut	ZN A307 Grade B/ASTM F593 S30400/S31600
11	Yoke O-ring	Buna-N ASTM D2000
12	Stem	304SS ASTM A276 S30400/316SS ASTM A276 S31600/ECO Brass ASTM B371 C69300/Silicon Bronnze "A" (Everdur) ASTM B98 C65500
13	Hex Cap Screw	ZN A307 Grade B/ASTM F593 S30400/S31600
14	Hex Nut	ZN A307 Grade B/ASTM F593 S30400/S31600
15	Flat Washer	ZN A307 Grade B/ASTM F593 S30400/S31600
16	Cover	Ductile Iron ASTM A536 70-50-05
17	Cover O-ring	Buna-N ASTM D2000
18	Stem O-ring	Buna-N ASTM D2000
19	Stem Nut	Bronze ASTM B584 CDA 844
20	Wedge	Ductile Iron ASTM A584 70-50-05 & EPDM
21	Body-flanged Type	Ductile Iron ASTM A584 70-50-05
22	Packing	Braided, Lubricated (Non-asbestos)

## Material

Coating Inert, thermosetting epoxy resin

## Pressure - Temperature

Working pressure 250 psig  
Temperature range 33°F to 125°F



## Dimensions - Weights

Size	DIMENSION										No. Turns to Open	Weight (lb)
	A	B	C	D	E	F	G	H	J	K		
2½	7½"	1½"	7"	2½"	7¼"	7"	13⅞"	16⅞"	⅝" x 4	5½"	8	52.00
3	8"	¾"	7½"	3"	10"	7½"	15⅝"	18⅞"	⅝" x 4	6"	10	67.14
4	9"	15/16"	9"	4¼"	10"	9"	18¼"	22¾"	⅝" x 4	7½"	13½	91.85
6	10½"	1"	11"	6¼"	12"	11⅜"	23¾"	30⅞"	¾" x 8	9½"	19½	140.67
8	11½"	1⅛"	13½"	8¼"	14"	13½"	29¼"	37¾"	¾" x 8	11¼"	25½	212.60
10	13"	1⅜"	16"	10¼"	18"	16"	35⅝"	45¼"	7/8" x 12	14¼"	31½	368.48
12	14"	1¼"	19"	12¼"	18"	19"	40⅝"	53⅞"	7/8" x 12	17"	37¾	479.41

## Switch Features

- Factory installed and tested to eliminate lengthy field instruction and opportunity for error
- Industry-standard switch to meet all traditional specifications and code requirements
- Operation calibrated at factory to eliminate field calibration
- Rigid mounting connection to gate valve without brackets that can bend, loosen, or deflect from position

## Method of Operation

The supervisory tamper switch consists of two SPDT switches. The switch sends an electrical signal to a local fire alarm control panel indicating a tampered condition of the attached OS&Y gate valve wheel when turned 20 percent toward the closed direction, or a maximum of four (4) revolutions.

The tamper switch assembly consists of two SPDT switches. The switch assembly is designed to send a signal when the valve is closed or when the cover is removed. When the valve is fully open, the switch is in the neutral position. Closing the valve causes the switch rod to come out of the valve stem groove, activating the signal. Removing the cover causes loss of contact with the switch rod, activating the signal.

### ⚠ CAUTION

Before wiring the supervisory switch in a fire protection system, refer to the following standards:

NFPA 13: Standard for the Installation of Sprinkler Systems

NFPA 25: Inspection, Testing, Maintenance of Water-based Fire Protection Systems

NFPA 70: National Electrical Code

NFPA 72: National Fire Alarm Code

CSA C22.1 NO.1 Canadian Electrical Code, Part 1, Safety Standard for Electrical Installations Section 32

CAN/ULC-S524, Standard for Installation of Fire Alarm Systems

### ⚠ WARNING

- Metallic conduit required by NEC for proper grounding conduit joint must be sealed with a conductive sealant.
- Install the switch in accordance with National Electrical Code and/or local ordinances.
- Wiring methods shall be in accordance with CSA C22.1, Canadian Electrical Code, Part 1, Safety Standard for Electrical Installations, Section 32 and CAN/ULC-S524, Standard for Installation of Fire Alarm Systems Assure All Devices Are Properly Grounded.



TS-OSY  
supervisory switch

## Specification

UL Certified, Safety Signaling (Control No. 3L38) supervisory switches shall be furnished and installed on OS&Y type valves that can be used to isolate the flow of water to any portion of the fire sprinkler system, where indicated on the drawings and plans and as required by applicable codes and standards. The supervisory switch shall be NEMA 4X and 6P rated and suitable for use indoors or outdoors. The supervisory switch shall be listed and labeled as defined in NFPA 70 by a qualified testing agency and marked for intended location and application. It shall comply with NFPA and NFPA 13R. The switch shall be factory-installed and calibrated to the valve by the valve manufacturer. The switch contacts shall be rated at 120 VAC, 28 VDC, .25A. The supervisory switch shall be Watts TS-OSY.

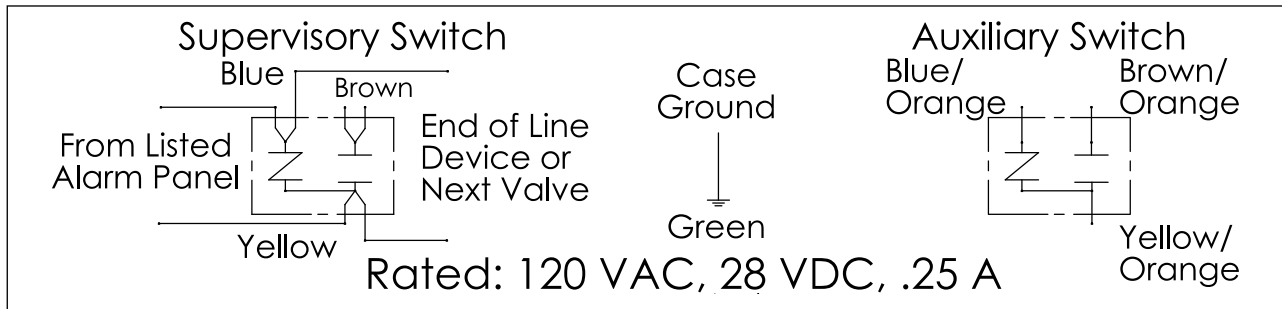
NOTE: Replacement supervisory switches are available from Watts. Refer to Replacement Tamper Switch (88009422).

## Materials

Gray and ductile iron castings

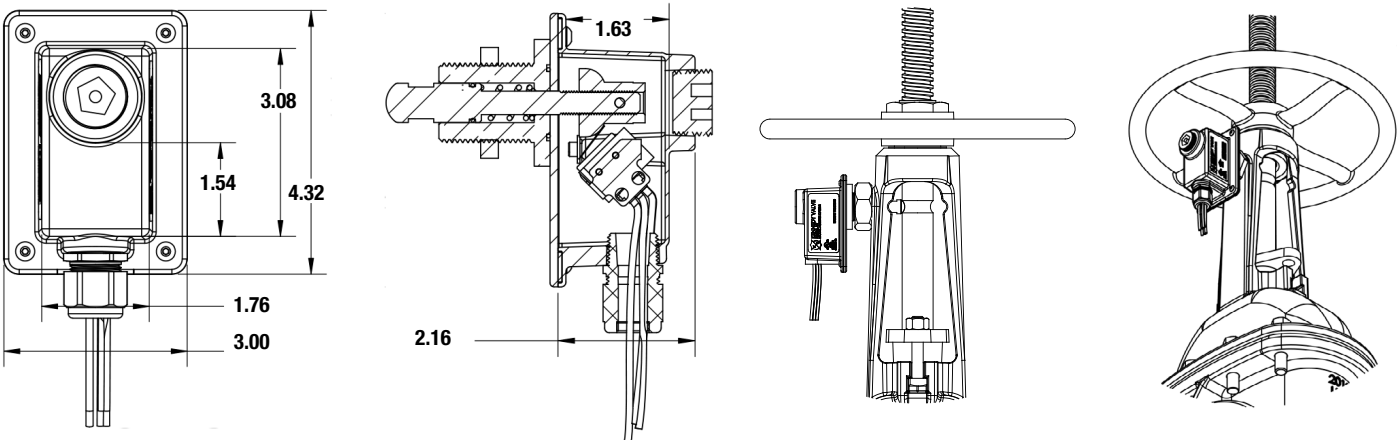
## Wiring Schematic

This diagram presents the proper wiring of the supervisory tamper switch to a fire alarm control panel.



## Dimensions

These illustrations show the dimensions of the tamper switch and the positioning of the switch on an OS&Y gate valve.



**A WATTS Brand**

## Weight

2.4 lb

## Approvals



## Wiring Notes

- Connection to power limited circuitry is required.
- The auxiliary switch is for supplemental use only and shall not be used for fire alarm signaling applications.
- Switch functions are checked at the factory. Checking the switch after field installation is strongly advised. Check continuity with the valve fully open. Switch functions activate within two (2) turns from open.

