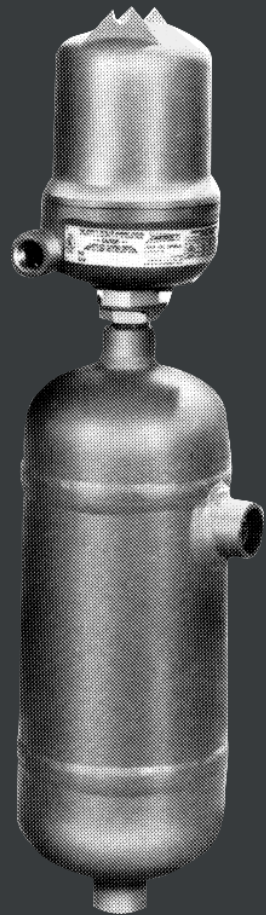


Omnitrol 663/664/666/668 (W)

Single Actuator Welded Chamber Mounted Switch

The Omnitrol 663/664/666/668(W) series provides dependable point level control for pressurized vessels requiring tight differentials, corrosion-resistant materials, and straightforward specification for engineers and EPC designers. These single actuator controls feature long welded chambers with nominal body diameters from 3" to 8", fully enclosing solid graphite displacers with stainless steel options available. Each unit comes factory-calibrated to your process-specific gravity and hydrostatically tested at 1.5× maximum design pressure. The "W" long-welded chamber design offers generous body length to precisely tailor switching differential based on media specific gravity and application requirements. Standard 1" NPT process connections with optional socket weld and flanged configurations ensure versatile installation. Pressure and temperature ratings from 150 to 1000 psig at 500°F cover most refinery, chemical, and industrial services. Chamber construction is available in carbon steel, 304SS, or 316SS, with optional stainless steel displacers for aggressive or clean-in-place services. UL and CSA approvals help satisfy plant safety standards and insurance requirements. Unlike shorter chamber designs, the "W" series excels in interface service applications and installations requiring special body lengths or enhanced differential control.



Key Features

Long Welded Chamber Design The extended body length allows precise sizing of switching differential to match your media specific gravity and application window, delivering reliable actuation points even where level changes are subtle.	Factory Specific Gravity Calibration Each unit is calibrated to your specified liquid specific gravity at the factory, providing predictable switch behavior without field trial-and-error or commissioning delays.	Pressure Temperature Rating Standard ratings up to 1000 psig at 500°F cover most refinery, chemical, and industrial services while preserving actuator integrity and long-term reliability.
Hydrostatic Testing Protocol Every chamber is pressure-tested to 1.5 times its maximum design pressure before shipment, increasing confidence at startup and ensuring vessel integrity throughout service life.	Material Construction Flexibility Chambers available in carbon steel, 304 stainless steel, or 316 stainless steel with optional stainless steel displacer to support corrosive, high-purity, or clean-in-place services.	Safety Certifications UL and CSA approvals help satisfy plant safety standards, insurance requirements, and regulatory compliance obligations without additional field testing or documentation.



Typical Applications



TIGHT DIFFERENTIAL CONTROL

For applications requiring precise trip points on moderate specific gravity liquids, the long chamber sized to your specifications stabilizes measurement and eliminates nuisance trips.



HIGH PRESSURE RECEIVERS

Operating reliably in vessels from 150 to 1000 psig at 500°F, these switches perform safely across typical plant pressure envelopes without actuator degradation.



KNOCK-OUT DRUMS

Handles high-pressure separation vessels where reliable level switching protects downstream equipment and prevents carryover, with materials rated for the pressure and temperature extremes.



CORROSIVE CHEMICAL SERVICE

Optional 304 or 316 stainless steel chamber with stainless displacer resists chemical attack, providing extended service life in aggressive media without material degradation.



INTERFACE LEVEL DETECTION

The long chamber design with appropriate displacer material enables reliable switching at liquid-liquid interfaces, critical for separator vessels and phase separation applications.



CLEAN-IN-PLACE SYSTEMS

Stainless steel construction meets hygienic standards for food, pharmaceutical, and biotechnology applications requiring frequent sanitization cycles and contamination-free operation.

Benefits



Predictable Switch Performance

Factory-set specific gravity calibration accounts for media density variations, ensuring consistent trip point behavior across batches so you can confidently maintain accurate switching levels.



Accelerated Commissioning Time

Hydrostatic testing and UL/CSA approvals completed before shipment enable quick installation during tight maintenance windows without additional validation steps or unexpected rework.



Application-Matched Geometry

Long-body configurations and multiple chamber diameters provide the right mechanical geometry upfront, eliminating custom engineering delays that slow down project schedules and increase costs.



Enhanced Safety Assurance

Pressure testing at 1.5× maximum design pressure combined with UL/CSA approvals provides documented safety margins and regulatory compliance without field testing requirements.



Extended Service Life

Stainless steel chamber and displacer options resist corrosion and chemical attack in aggressive services, reducing maintenance frequency and extending time between replacement cycles.



Reduced Installation Risk

Pre-calibrated, pre-tested units with standard 1" NPT connections install quickly with confidence, minimizing commissioning problems and eliminating field calibration errors during startup.



Why choose the “W” welded model vs. other Omnitrol chamber switches?

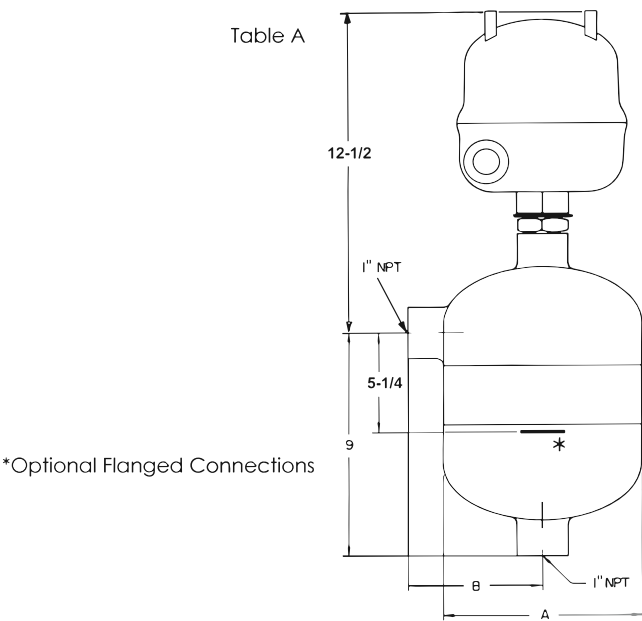
- Versus “C” (short welded): Choose W when you need longer body length to tailor differential or to support interface service/special body length; “C” is compact for tight spaces but with shorter chamber length.
- Versus “F” (flanged): Choose W when you prefer a long welded construction and standard 1” NPT process connections; “F” is flanged and ideal where flange codes or specific lower switching geometry.
- At-a-glance selection: L&J’s chamber-mount family includes “C / W / F” styles plus sizes 3–8” and multiple pressure classes—use “W” when application notes call out long chamber, interface, or special body length/SS displacer.

Technical Specifications & Key Features

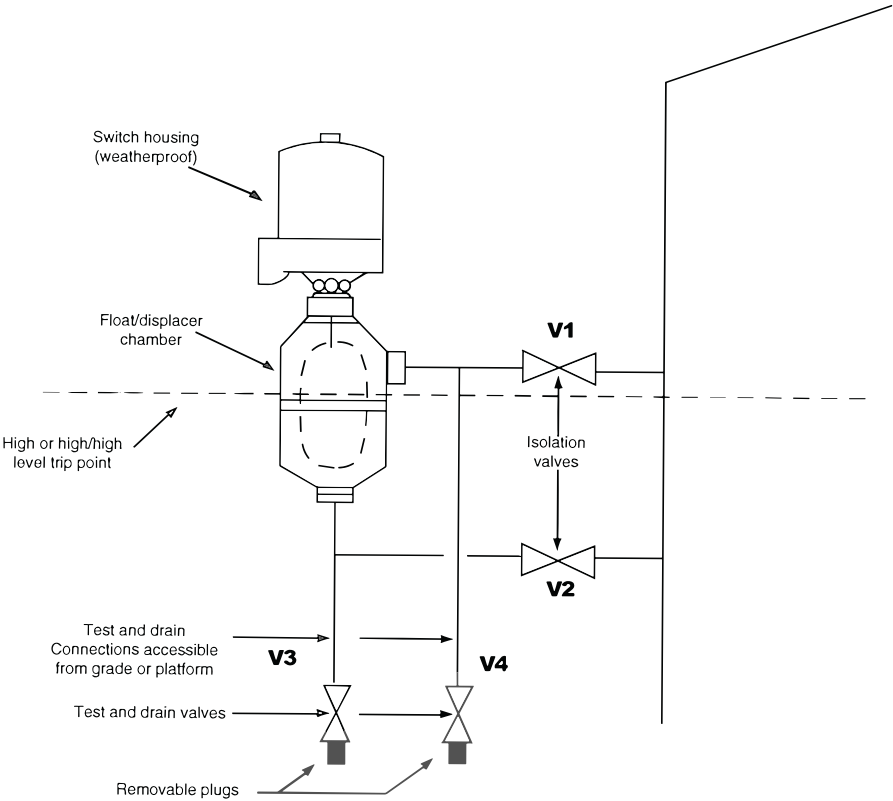
Models:	663W (3”), 664W (4”), 666W (6”), 668W (8”) chamber diameters.
Pressure/Temperature:	150–1000 psig at 500 °F.
Materials:	Chamber in CS/304SS/316SS; graphite displacer (standard); SS displacer optional.
Connections:	1” NPT top/bottom standard; other sizes/configurations available.
Calibration:	Factory-set to application SG.
Testing & Approvals:	Hydrostatically tested at 1.5× MDP; UL & CSA approved.
Switching Differential (typical @ standard SG):	• 663W: standard SG 0.80, differential ~2-5/8”; min SG 0.70. • 664W: standard SG 0.70, differential ~2-1/8”; min SG 0.50. • 666W: standard SG 0.45, differential ~7/8”; min SG 0.35. • 668W: standard SG 0.35, differential ~3/4”; min SG 0.25.



Dimensions



Typical System Layout





Model Number Selection

The model number will consist of a base number 663, 664, 666 & 668 (W) followed by 9 digits. These digits will represent 10 sets of option tables.

Part Number Structure

OMNITROL A-B-CD-E-F-G-HI-JK-L-MN

Part Prefix OMNITROL

Part Number	A- NUMBER OF ACTUATORS
6	Single
7	Dual
P	Pneumatic

Part Number	B- CONFIGURATION
2	Switch Head
6	Switch with Chamber

Part Number	E- DISPLACER MATERIAL & TYPE
G	Graphite
R	304 Stainless Steel
S	316 Stainless Steel

Part Number	F- SWITCH HOUSING
W	Weather Resistant
V	Explosion & Vapor Proof Group B, C & D
R	Explosion & Vapor Proof/Rain Tight Group C & D

Part Number	G- MAXIMUM WORKING PRESSURE
1	150 PSIG
2	300 PSIG
3	500 PSIG
4	600 PSIG
5	900 PSIG
6	1000 PSIG
7	1500 PSIG

Part Number	HI- CHAMBER PROCESS CONNECTION SIZE
11	1" NPT
12	1" Socket Weld
13	1.5" NPT
14	1.5" Socket Weld
15	2" NPT
16	2" Socket Weld
21	1" 150 Lb. RF

Part Number	CD- CHAMBER SIZE, TYPE & MATERIAL
3F	Ø3" Chamber - Flanged / Steel
3G	Ø3" Chamber - Flanged / 304SS
3H	Ø3" Chamber - Flanged / 316SS
3W	Ø3" Chamber - Long / Steel
3X	Ø3" Chamber - Long / 304SS
3Y	Ø3" Chamber - Long / 316SS
4C	Ø4" Chamber - Short / Steel
4D	Ø4" Chamber - Short / 304SS
4E	Ø4" Chamber - Short / 316SS
4F	Ø4" Chamber - Flanged / Steel
4G	Ø4" Chamber - Flanged / 304SS
4H	Ø4" Chamber - Flanged / 316SS
4W	Ø4" Chamber - Long / Steel
4X	Ø4" Chamber - Long / 304SS
4Y	Ø4" Chamber - Long / 316SS
6C	Ø6" Chamber - Short / Steel
6D	Ø6" Chamber - Short / 304SS
6E	Ø6" Chamber - Short / 316SS
6F	Ø6" Chamber - Flanged / Steel
6G	Ø6" Chamber - Flanged / 304SS
6H	Ø6" Chamber - Flanged / 316SS
6W	Ø6" Chamber - Long / Steel
6X	Ø6" Chamber - Long / 304SS
6Y	Ø6" Chamber - Long / 316SS
8C	Ø8" Chamber - Short / Steel
8D	Ø8" Chamber - Short / 304SS
8E	Ø8" Chamber - Short / 316SS
8F	Ø8" Chamber - Flanged / Steel
8G	Ø8" Chamber - Flanged / 304SS
8H	Ø8" Chamber - Flanged / 316SS
8W	Ø8" Chamber - Long / Steel
8X	Ø8" Chamber - Long / 304SS
8Y	Ø8" Chamber - Long / 316SS



Part Number	HI- CHAMBER PROCESS CONNECTION SIZE
22	1" 300 Lb. RF
23	1" 600 Lb. RF
24	1.5" 150 Lb. RF
25	1.5" 300 Lb. RF
26	1.5" 600 Lb. RF
27	2" 150 Lb. RF
28	2" 300 Lb. RF
29	2" 600 Lb. RF
31	1" 150 Lb. RF
32	1" 300 Lb. RF
33	1" 600 Lb. RF
34	1.5" 150 Lb. RF
35	1.5" 300 Lb. RF
36	1.5" 600 Lb. RF
37	2" 150 Lb. RF
38	2" 300 Lb. RF
39	2" 600 Lb. RF
41	1" 150 Lb. RF
42	1" 300 Lb. RF
43	1" 600 Lb. RF
44	1.5" 150 Lb. RF
45	1.5" 300 Lb. RF
46	1.5" 600 Lb. RF
47	2" 150 Lb. RF
48	2" 300 Lb. RF
49	2" 600 Lb. RF

Part Number	JK- SWITCH TYPE
E2	20 Amp SPDT Micro (E2)
E4	20 Amp DPDT Micro (E4)
G2	ECW Gold Contact
H2	10 Amp DC SPDT Micro (H2)
H4	10 Amp DC DPDT Micro (H4)
M2	5 Amp SPDT Micro-Hermetically Sealed (M2)
M4	5 Amp DPDT Micro-Hermetically Sealed (M4)
S2	5 Amp SPDT Micro Environment Proof (S2)
S4	5 Amp DPDT Micro Environment Proof (S4)

Part Number	L- SPECIFIC GRAVITY
A	< .53 (Special)
B	.53 to .57
C	.58 to .62
D	.63 to .67
E	.68 to .72
F	.73 to .77
G	.78 to .82
H	.83 to .87
I	.88 to .92
J	.93 to .97
K	.98 to 1.02
L	1.03 to 1.07
M	1.08 to 1.12
N	1.13 to 1.17
O	> 1.17 (Special)

Part Number	MN- CHAMBER CONNECTION DISTANCE
00	Standard Chamber Length
XX	Specify Chamber Length in Inches

Summary

The Omnitrol 663/664/666/668(W) is the go-to long welded chamber-mounted level switch when you need tailored differential, higher pressure/temperature capability, and materials flexibility—with the added confidence of factory SG calibration and UL/CSA approvals. It slots neatly alongside the “C” (short welded) and “F” (flanged) families so you can standardize on the exact chamber geometry the application demands while keeping a common switch platform across the plant.

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This document is for information purposes only. All designs subject to change. Certified dimensions, specifications, and performance data available upon request