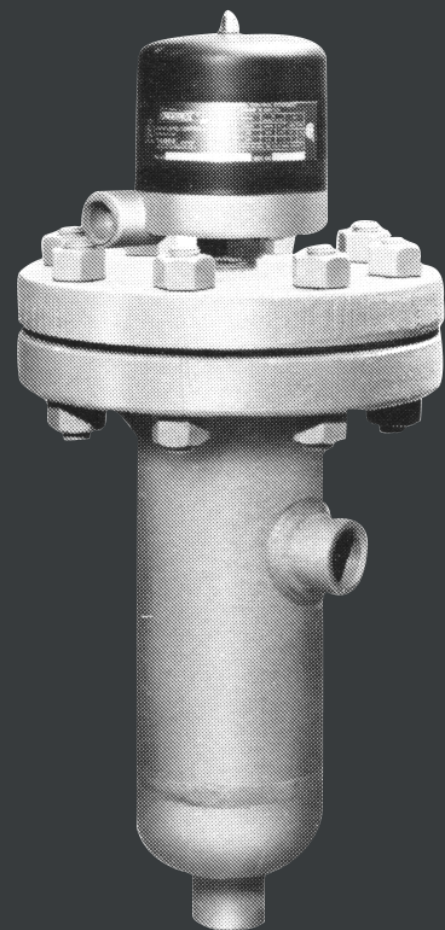


Omnitrol 764/766/768 (F)

Dual Actuator Flanged Chamber Mounted Switch

Refinery, chemical, and wastewater operations managers and engineers require reliable switching points for pump control, high/low level protection, and interlocks under varying pressures and specific gravity conditions. For them, the Omnitrol 764/766/768(F) series provides dual-point level control, dual-actuator, flanged chamber-mounted controls feature factory SG calibration to your process conditions, hydrostatic testing at 1.5× maximum design pressure, and UL/CSA approvals for hazardous locations. A standard switching gap of 4 inches is adjustable from 2 to 6 inches depending on model size, allowing precise tuning to process dynamics and eliminating nuisance trips from surge or slosh conditions. The lower switching point positions 8-1/4 inches below the horizontal chamber centerline. Available in 4", 6", and 8" flanged bodies with ANSI Class 150, 300, 600, and optional 900/1500/2500 flange ratings, chambers are constructed in carbon steel, 304SS, or 316SS with graphite displacer options. Maximum specific gravity rating of 1.4 with published switching differentials covers most industrial liquids. Standard 1" NPT process connections with alternative configurations available ensure flexible installation across diverse applications.



Key Features

Dual Independent Actuators

Two independent set points in one chamber enable high/low alarms or pump start/stop control, reducing vessel penetrations and simplifying wiring while improving control logic clarity.

Adjustable Switching Gap

Standard 4-inch gap adjustable from 2 to 6 inches allows tailoring differential to process dynamics like surge and slosh, preventing nuisance trips and pump short-cycling.

Multiple Pressure Classes

Available across ANSI Class 150, 300, 600, and optional higher ratings with 1.5× hydrostatic testing, providing confidence for ASME-rated pressure systems and stringent mechanical integrity standards.

Factory SG Calibration

Each unit calibrated to specified liquid specific gravity up to 1.4 maximum with published switching differentials, ensuring accurate trip points matched to actual media density.

Flanged Body Construction

Removable flanged design enables easier maintenance access, inspection, and reconfiguration compared to welded chambers, supporting evolving process requirements and scheduled turnarounds.

Material Flexibility Options

Chamber construction available in carbon steel, 304 stainless steel, or 316 stainless steel paired with graphite displacers, accommodating corrosive services and hygienic cleanliness requirements.



Typical Applications



PUMP CONTROL SYSTEMS

Dual set points with adjustable gap smooth rapid level changes in surge conditions, stabilizing pump start/stop bands and extending equipment life while eliminating nuisance trips.



HIGH/LOW LEVEL PROTECTION

Two independent actuators in one chamber body deliver both alarm functions while reducing vessel penetrations, lowering installation costs and simplifying vessel design requirements.



VARIABLE DENSITY PROCESSES

Factory SG calibration with table-based differentials compensates for blend variations and temperature drift, ensuring accurate switching where the process actually operates under real conditions.



PRESSURE VESSEL APPLICATIONS

Multiple flange class options and 1.5x hydrotest rating satisfy ASME code requirements and mechanical integrity standards, supporting inspection protocols and management of change reviews.



CORROSIVE CHEMICAL SERVICE

Stainless steel chamber options with graphite displacers provide corrosion resistance in aggressive media, maximizing uptime and reducing maintenance frequency in challenging chemical environments.



WASTEWATER TREATMENT FACILITIES

Dual-point control with robust flanged construction handles variable flow conditions and provides reliable level switching for lift station pumps and clarifier overflow protection systems.

Benefits



Reduced Nuisance Alarms

Adjustable switching gap fine-tunes differential to match actual process behavior, eliminating frequent false trips that disrupt operations and reduce operator confidence in instrumentation.



Simplified Installation Work

Two set points in single body reduce wiring complexity and I/O count, simplifying installation procedures and producing clearer, more efficient instrumentation layouts and documentation.



Faster Commissioning Time

Factory calibration to specified SG with published differentials eliminates field tuning requirements, enabling rapid startup and delivering dependable repeatability across batches without trial-and-error adjustments.



Enhanced Maintenance Access

Flanged body design allows chamber removal for inspection and service without cutting piping, reducing turnaround time and supporting scheduled maintenance programs more efficiently.



Regulatory Compliance Support

Built-in UL/CSA certifications and standardized hydrostatic testing satisfy qualification requirements upfront, reducing audit friction and accelerating approval workflows for hazardous location installations.



Extended Equipment Protection

Dual independent trip points provide redundant level protection for pumps and vessels, preventing dry-running damage and overflow incidents that result in costly downtime and environmental compliance issues.



Technical Specifications & Key Features

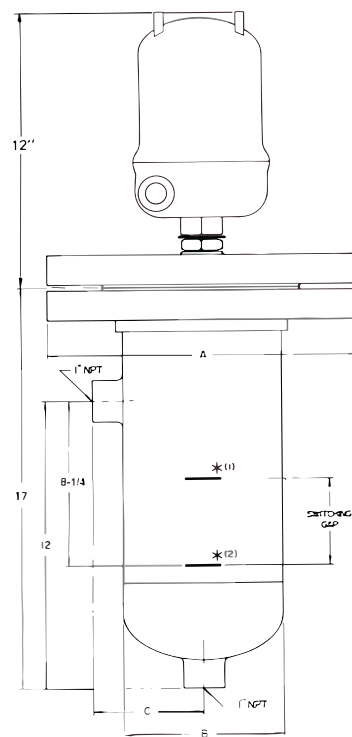
Models:	764F, 766F, 768F (dual-actuator, flanged chamber).
Specific gravity:	Max SG 1.4; Table A lists switching differentials for standard SG settings. Factory calibrated to application SG.
Connections:	Standard 1" NPT process connections; other sizes/configurations available. (Flanged chamber body; see ordering guide.)
Pressure classes:	Multiple pressure ranges (see Table B in data sheet); hydrostatically tested to 1.5× MDP.
Displacer Materials:	304SS, 316SS; graphite displacers available.
Certifications:	UL & CSA Approved.
Related:	764/766/768 also available in W (welded) single-actuator families available for simpler duties.

Why choose 764/766/768 (F) vs other Omnitrol chamber switches?

- Versus 664/666/668 (F) Single-Actuator: Choose 764/766/768 (F) when you need two set points (e.g., HI/LO, Pump Start/Stop) in one chamber. Single-actuator models suit single trip/alarm only.
- Versus 764/766/768 (W) Welded: Pick (F) flanged when you need removability (maintenance, inspection, or reconfiguration). (W) welded is ideal for permanent, leak-tight installations with fewer potential leak paths.
- Versus external point-level technologies: Mechanical displacer action is simple, visible, and SG-accurate with no electronics in the wetted path, ideal for harsh environments and when proof-testing is desired.

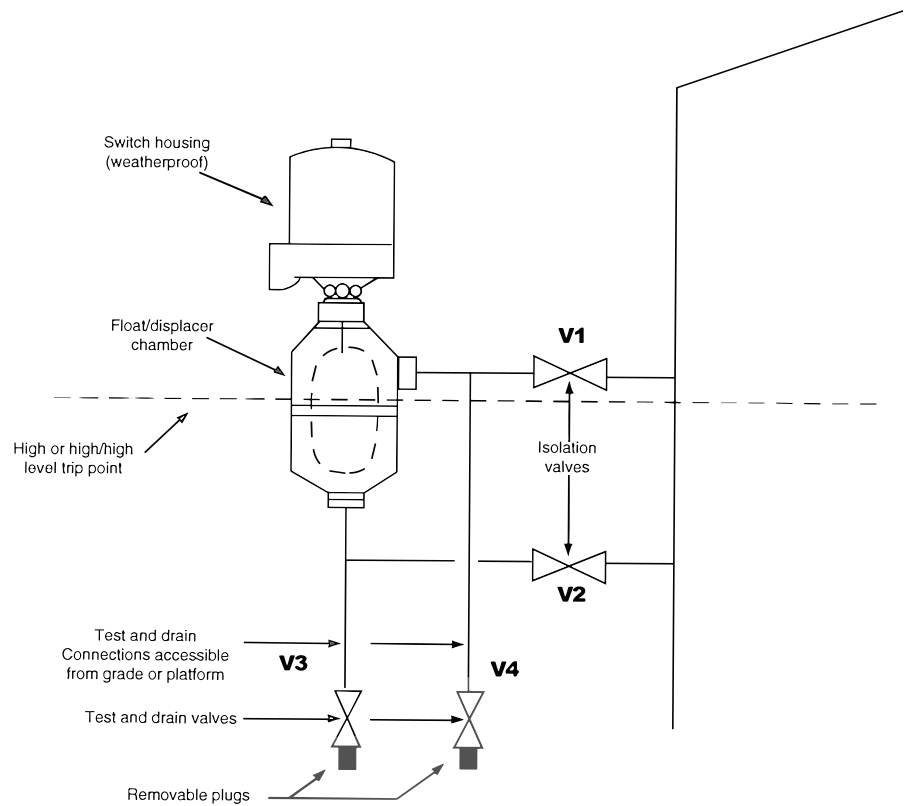


Dimensions



- * (1) Lower Switching Point of Upper Actuator
- * (2) Lower Switching Point of Lower Actuator

Typical System Layout





Model Number Selection

The model number will consist of a base number 764, 766, & 768 (F) 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
22	1" 300 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
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	MN- CHAMBER CONNECTION DISTANCE
00	Standard Chamber Length
XX	Specify Chamber Length in Inches

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)

Summary

The Omnitrol 764/766/768 (F) is the workhorse dual-point chamber switch for mission-critical pump control and level protection. With dual actuators, adjustable switching gaps, pressure-rated flanged construction, and UL/CSA approvals, it delivers the dependable, precisely spaced trips that operators trust—while giving engineers the material, pressure, and SG flexibility needed to standardize across plants.

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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