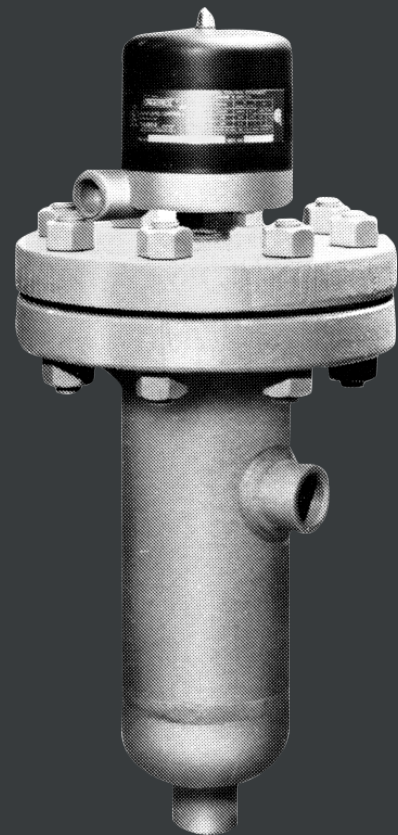


Omnitrol 664F/666F/668F

Flange-Mounted Level Switches

For terminal operators, refinery/chemical process engineers, utilities & water/wastewater operators, and EPC specifiers who need reliable point level control on pressurized vessels and side-mounted bypass chambers without intrusive wetted switches or complex calibration, the Omnitrol 664F/666F/668F offers a rugged flanged chamber design, factory calibration to process specific gravity, and high pressure/temperature ratings up to 1000 psig at 500°F. These single-actuator switches feature ANSI 150/300/600 flanged connections (up to 1000-lb class optional), graphite displacers for broad chemical compatibility, and are available in carbon steel, 304SS, or 316SS construction. Unlike generic float or paddle switches, Omnitrol 664F/666F/668F models provide hydrostatic proof testing at 1.5× design pressure, UL/CSA approvals for hazardous locations, and application-tuned switching differentials that reduce nuisance trips. With a maximum specific gravity capability of 1.7 and lower switching point precisely set below the horizontal connection centerline, these models simplify specification for new builds and brownfield upgrades.



Key Features

Flanged Chamber Construction

Integrates directly with ANSI 150/300/600 (and up to 1000-lb) flange classes, meeting plant piping standards and enabling simple maintenance isolation with standard spool pieces.

Factory Specific-Gravity Calibration

Each unit ships pre-set for your fluid SG up to 1.7, ensuring correct actuation points and minimizing field adjustment time during commissioning.

Hydrostatic Proof Testing

Every chamber undergoes hydrostatic testing at 1.5× maximum design pressure, providing integrity confidence and reducing HAZOP findings at startup.

Graphite Displacer Standard

Provides excellent chemical compatibility across petroleum, petrochemical, chemical, and industrial applications without requiring special material upgrades.

Multiple Switch Housing Options

Weather-resistant (NEMA 4), explosion-proof/vapor-proof (Class I Groups B/C/D, Class II Groups E/F/G), and explosion-proof/rain-tight configurations available.

UL and CSA Approvals

Certified for hazardous area classifications, ensuring compliance with plant safety standards and simplifying MOC (Management of Change) processes.



Typical Applications



HEATER TREATER ALARMS

Flanged chamber handles up to 1000 psig at 500°F for safe, code-friendly high-pressure cutoff without intrusive wetted switches.



LIGHT PRODUCT CONTROL

Models 666F/668F deliver tight switching differentials at low specific gravities, minimizing false trips and providing predictable control gaps.



PRESSURIZED TANK BYPASS

External chamber isolates the sensing element, allowing head service without opening the vessel and improving plant uptime.



SEPARATOR INTERFACE SERVICE

Can be configured for interface applications on special order by specifying gravities of both liquids for accurate phase separation.



CHEMICAL PROCESS VESSELS

Graphite displacer and multiple material options provide compatibility with aggressive chemicals, acids, and caustic services.



PETROLEUM STORAGE TERMINALS

Rugged construction and factory calibration ensure reliable inventory management and overfill protection in demanding tank farm environments.

Benefits



Reduced Specification Ambiguity

Factory specific-gravity calibration ensures right-first-time actuation points, accelerating commissioning schedules and eliminating field re-calibration delays.



Enhanced Mechanical Reliability

Hydrostatic proof testing at 1.5× design pressure plus robust flanged chamber construction provide startup integrity assurance and reduce installation rework.



Simplified Regulatory Compliance

UL/CSA approvals for hazardous locations and explosion-proof housings streamline plant safety standards alignment and MOC acceptance procedures.



Minimized Maintenance Exposure

External chamber with removable head eliminates vessel entry requirements for switch service, improving technician safety and reducing downtime.



Faster Project Commissioning

Pre-calibrated units with published switching differentials reduce startup time, eliminate field tuning iterations, and accelerate handover to operations.



Extended Equipment Service Life

Proven graphite displacer material and pressure-tested chamber construction deliver long-term reliability in harsh process conditions.

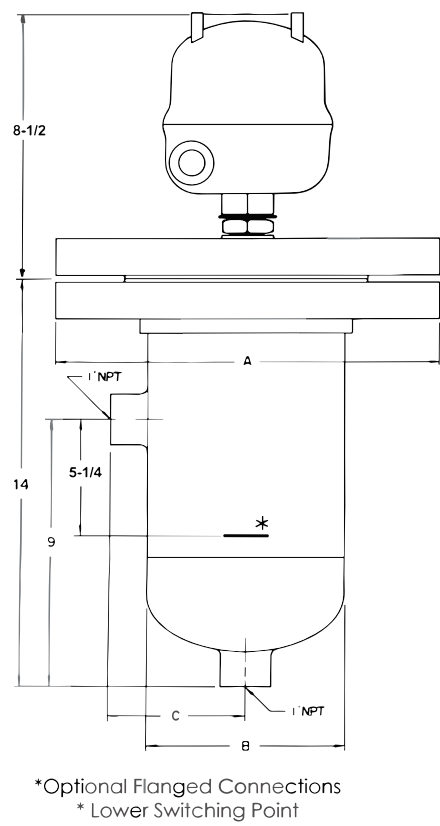
Technical Specifications & Key Features

Models:	664F (4" body), 666F (6" body), 668F (8" body) flanged chamber, single actuator.
Pressure/Temperature:	Up to 1000 psig @ 500 °F (materials/options per Table G).
Specific Gravity (max):	1.7. Factory SG set; SG affects switching differential per published table.
Materials:	Carbon steel, 304 SS, 316 SS chambers; graphite displacer standard.
Housings:	Weather-resistant, Explosion-proof/Vapor-proof (CI I, Gr B/C/D; CI II, Gr E/F/G), Explosion-proof/Rain-tight variants.
Switching elements:	Multiple SPDT/DPDT micro options with published resistive ratings (E, G, H, M, S families).
Connections:	ANSI 150/300/600 (higher classes optional). Dimensional tables published by model/pressure class.
Approvals:	UL & CSA (per model options).

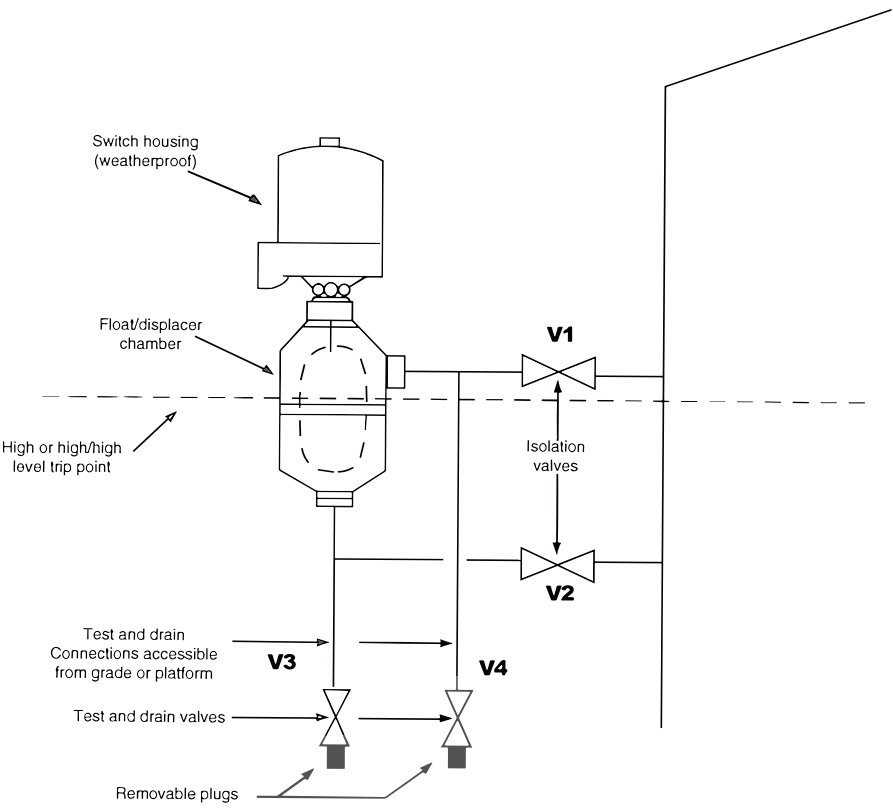
When to choose 664/666/668 F vs. other Omnitrol chamber-mounted switches

- Choose 66xF (flanged) when your piping spec mandates flanged nozzles, you need higher pressure classes up to 1000-lb, or you want standardized spool-piece maintenance isolation. If you need a compact, high-pressure body with 1" NPT connections and excellent performance on very low SGs in a short form factor, consider 66xC (short welded "C" chamber) instead.
- If you require long welded bodies for special lengths, more custom connection spacing, or stainless displacers, look at the 66xW (long welded "W" chamber) family.
- If you need two switch points (e.g., pump on/off or high-high trip), select the dual-actuator 76x series.

Dimensions



Typical System Layout





Model Number Selection

The model number will consist of a base number 664F/666F/668F 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 664F/666F/668F combines a process-piping-ready flanged chamber, factory SG calibration, tight and predictable switching differentials, and 1000 psig @ 500 °F ratings to deliver dependable level alarm and control on pressurized vessels and bypass chambers. With broad housing/switch options, UL/CSA approvals, and interface capability, it's a low-risk, spec-clean choice for EPCs and plant engineers who want reliable performance without intrusive wetted switches or tuning hassles.

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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