



Level Switches

Level Gauge

Gauge Valve

Safety Relief Valves

Magnetic Level Gauge

Sight Flow Indicator

Chambers



BLISS ANAND



Our Mission Statement

To Develop, manufacturing & market, Field Instruments and Speciality Valves with innovative technology for the Global market, with extra care for customer comforts.

To Build a sustainable, profitable, human value and growth oriented socially responsible corporate through strong and effective systems, committed team and satisfied customer base.

With a modest beginning in 1975 as a trading company in Valves and Fittings, today BLISS ANAND is a leading Indian Field Instrument manufacturer and is striving to be world leader in high quality Process Instrument Products providing cost effective solutions to the customers.

The company has achieved a number of milestones in its history- thanks to the passion, dedication and team work of BLISS family.



Mr. Prem Anand
Chairman
Bliss Anand Group

A Blend of Modern technology and education with hard core human values based culture, creating a new mould of individuals forming an Organisation, entering into the Global Business arena, is a matter of pride for Bliss Anand.

We started our organisation with burning desire to cater to various needs of customer applications through innovative and cost-effective solutions. Bliss Anand has grown to global standards and is competing with developing and developed countries.

The company has achieved a number of milestones in its history- thanks to the passion, dedication and team work of our employees. Field Instrumentation in the global market is slowly shifting to developing countries, due to cost effectiveness and labour intensive processes. I perceive Bliss Anand to be a leading player in Field Instrument manufacturing.

Bliss Anand manufacturing / assembly offices worldwide
for high quality process instrumentation





Level Switch



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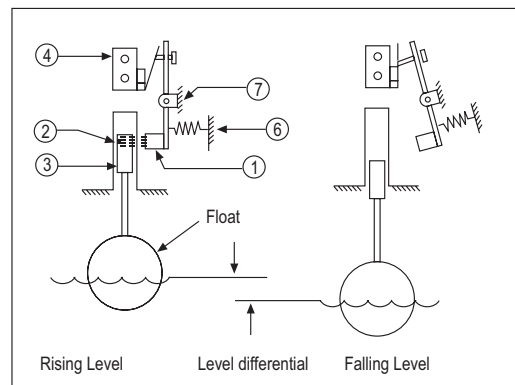
LEVEL SWITCHES

OPERATING PRINCIPLE

FLOAT OPERATED LEVEL SWITCH

The basic operating principle provides for a magnetic switch action resulting from a change in liquid level, which moves a magnetic attraction sleeve into the field of an externally located magnet. This principle eliminates problems associated with flexing diaphragm seals, bellows seals, as well as "fouling" problems encountered by probe type devices.

The illustration alongside demonstrates the operating principle using a float to provide the operating motion. A falling liquid level causes a downward movement of the magnetic attraction sleeve (3) moving it below the magnetic field (2) generated by the externally mounted magnet (1). The bias spring (6) then causes the magnet to pull away from the sealing tube (5). In turn, actuating the switch (4). The reverse action takes place on rising level, with the attraction sleeve being moved into the magnetic field, causing the magnet to pull in towards the sealing tube, in turn actuating the switch.

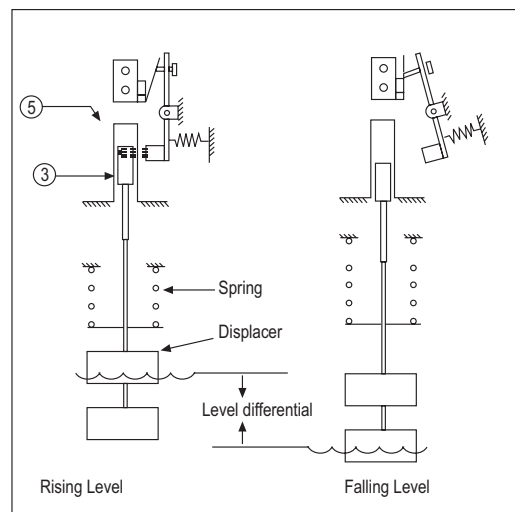


Float Operation

DISPLACER OPERATED LEVEL SWITCH

Displacer operated level switches offer control features not found in float operated level switches. The basic sensing element consists of a weight (displacer) heavier than the liquid, suspended from a spring. When the liquid contacts the displacer, a buoyancy force is produced, which causes the effective weight of the displacer to change, in turn, causing the spring to seek a new balance position which moves the attraction sleeve into the field of magnet.

This principle provides for wide switching differentials and allows the desired level switching point to be adjusted by moving the displacer up or down the suspension cable. A further advantage allows for adaptation to high pressure applications since displacers have substantially heavier wall thickness than floats and in some cases are made out of solid material.



Displacer Operation



LEVEL SWITCHES

ELECTRICAL SWITCH MECHANISM- TYPE 2 & 3 (MICROSWITCH)

DESCRIPTION

Bliss Anand Type 2 & 3 switch mechanism are fitted with magnetically operated snap-action contact switches.

FEATURES

The Bliss Anand switches operating mechanisms are constructed entirely in AISI 304 stainless steel and fitted with a terminal board of resin suitable for high temperature application.

These two switches mechanism differ in the type of snapaction switches fitted and cover a wide range of applications and operating conditions.

APPLICATIONS

Type 2-Standard Micro Switch

The Bliss Anand Type 2 dry contact switch mechanism is designed for general application with liquid temperature upto 120°C when standard switches are used and upto 230°C when high temperature switches are required.

Higher temperature requires special housing design. Process application may require switching at different levels a maximum of two switch mechanism SPDT to two switch mechanisms DPTP can be assembled in the same housing.

Type 3-Hermetically Sealed Microswitch

This Bliss Anand switch mechanism has the same feature as type 2 but is provided with hermetically sealed snap-action switches suitable for highly corrosive environment.

Microswitches suitable for process temperature upto 400°C are available on request.



Type 2 (SPDT) Mechanism



Type 3 Hermetically Sealed

Electrical Specification of Snap-action Switches

MECHANISM TYPE	LOAD	ALTERNATING CURRENT		DIRECT CURRENT		MAXIMUM TEMPRATURE OF PROCESS MEDIUM
		110 V	230 V	24 V	110 V	
TYPE 2 Standard	Resistive (A)	15	15	0.4	0.4	120°C
	Inductive (A)	3.8	2.9	0.05	0.05	
	Motor (W)	100	200	-	-	
TYPE 2 Direct Current	Resistive (A)	10	-	-	10	230°C
	Inductive (A)	3.8	-	-	2.2	
	Motor (W)	100	-	-	100	
TYPE 2 High Temperature	Resistive (A)	5	5	0.4	0.4	230°C
	Inductive (A)	-	-	0.05	0.05	
	Motor (W)	75	150	-	-	
TYPE 3 Standard	Resistive (A)	0.25	-	4	0.25	230°C
	Inductive (A)	0.25	-	2	0.25	



LEVEL SWITCHES

Switch mechanism selection guide and code system

The general characteristic of Bliss Anand switch mechanisms are described by a three digit code number, specifying mechanism type, electrical function and special features, each digit selected according to the following tables.

1st digit code	Switch mechanism	
2	Type 2	
3	Type 3	
2nd digit code	Sequence and elect function(3)	
	(1) Mech.	(2) Mech.
1	SPDT	-
2	SPDT	SPDT
3	DPDT	-
4	DPDT	DPDT
5	DPDT	DPDT
6	SPDT	DPDT
3rd Digit code	Switch feature	
0	Standard	
1	High Temperature	
2	Direct current	
9	Special	

EXAMPLE:

Code 252 = type 2 switch mechanism with 1 DPDT and 1 SPDT snap action switches for direct current operation.

Code 311 = type 3 switch mechanism with a high temperature hermetically sealed SPDT dry contact switch.

Switch Mechanism Housing

The housing of Bliss Anand switch mechanism are suitable for a wide range of environment and safety conditions.

Housing Selection guide and code

Code	Execution
2	TYPE 2. EXPLOSION PROOF HOUSING
3	TYPE 3. ATEX APPROVED HOUSING



Type 2



Type 3

ATEX SWITCH HOUSING EExd II C T 6

TYPE1- WEATHER PROOF

- Features** :
- * Die-cast aluminium alloy base and powder coated carbon steel cover.
 - * 3/4"NPT electrical conduit connection rotatable through 360°C.

Degree of Protection : * IP-66

TYPE 2- EXPLOSION PROOF CUM WEATHER PROOF

- Features** :
- * Cast in Aluminium alloy LM-6 Powder Coated. STD.
 - * 3/4"NPT OR 1/2"NPT electrical conduit connection rotatable through 360° standard.

CMRS Approval : * IIA, IIB & IIC As per IS:2148 (ATEX-Certification provided on request)
* Degree of protection IP-66

TYPE 3- ATEX APPROVED HOUSING

Explosion Proof Cum Weather Proof as per ATEX 94/9



SERIES 1100

Float Operated Level Switch with flanged external chamber

DESCRIPTION

Bliss Anand Series 1100 Level Switch is characterised by a flanged carbon steel chamber allowing periodic inspection and maintenance. The standard process connections are screwed 1" NPT or 1" SW, flanged connections up to 2" and ANSI 600 are also available, construction and dimensions are indicated below.

Standard constructions have AISI 316 stainless steel trim, AISI 316 SS float and series AISI 410 stainless steel attraction sleeve.

All the series 1100 models can be fitted with only one switch mechanism type 2 or 3.

All the models are factory calibrated at the minimum switching differential (i.e. 20mm±5mm with specific gravity 1.0), the differential value can be increased on instruments equipped with switch mechanism type 2 or 3. The maximum switching differential can be 50 mm.

SWITCH SELECTION

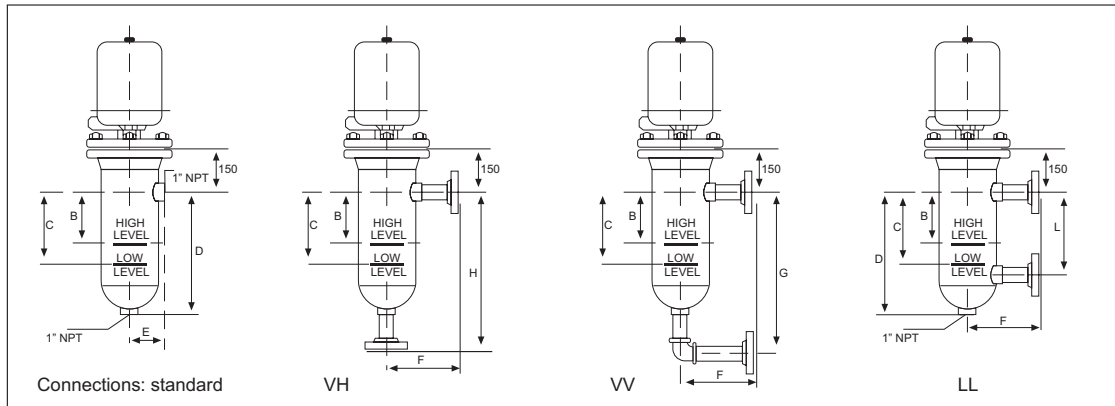
To select the correct model according to the operating conditions and the data of media whose level has to be controlled refer to table below.

Options and specific features:

- * AISI 316 stainless steel chamber.
- * Special corrosion resistant materials.
- * Interface control setting



Specifications



MODEL	MINIMUM SPECIFIC GRAVITY	MAXIMUM PRESSURE (BAR)				SWITCHING LEVEL(MM)		DIMENSIONS (mm)							
		Float		Chamber(1)		Mech. 2,3		A	D	E	F	G	H	L	
	40°C	400°C	40°C	400°C	B	C									
1104 A	0.85	21	12	50	47	35	56								
1104 B	0.75	24	13.5			50	70	178	305	81	152	356	356	178	
1105 A	0.65	35	21	69	59	70	90	178	305	94	165	356	356	178	
1106 A	0.55	15	10	62	54	101	125	178	305	110	180	356	356	178	

NOTE: (1) Given values apply to standard carbon steel construction and use with non-corrosive liquids. A special extension is required when process temperature exceeds 150°C (for each switch type in such cases the diameter "A" is increased by 100mm)
 (2) Dimensions B (switching point with rising level) and C (switching point with falling level) applies to the liquid specific gravity 1 and to instruments fitted with only one switching mechanism set at the minimum differential (not valid for interface service).



SERIES 2200

Float Operated Level Switch with sealed external chamber

DESCRIPTION

Bliss Anand Series 2200 Level Switch is designed for mounting external to the process vessel. The sensing unit is characterised by having a fully welded carbon steel chamber offering extreme simplicity and low cost. The standard process connection are screwed 1" NPT or 1" SW, flanged connections up to 2" and ANSI 600 are also available, constitutions and dimensions are indicated below. Standard constructions have AISI 316 stainless steel trim, AISI 316 stainless steel float and series AISI 410 stainless steel attraction sleeve. All the series 2200 models can be fitted with only one switch mechanism type 2 or 3.

All models are factory calibrated at the minimum switching differential (i.e 20mm±5 mm with specific gravity 1.0), the differential value can be increased on instrument equipped with switch mechanism type 2 or 3. The maximum switching differential can be 50 mm.

SWITCH SELECTION

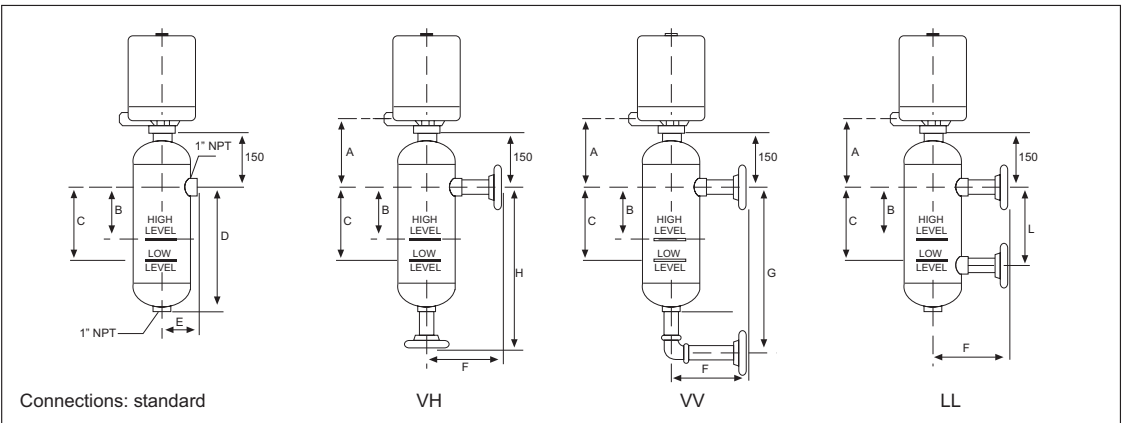
To select the correct model according to the operating conditions and the data of media whose level has to be controlled refer to table below.

Options and other special features:

- * AISI 316 stainless steel chamber.
- * Special corrosion resistance materials.
- * Interface control setting.



Specifications



MODEL	MINIMUM SPECIFIC GRAVITY	MAXIMUM PRESSURE (BAR)				SWITCHING LEVEL(MM)		DIMENSIONS (mm)						
	Mechanism type 2, 3	Float		Chamber(1)		Mech. 2,3		A	D	E	F	G	H	L
		40°C	400°C	40°C	400°C	B	C							
2204 A	0.85	21	12	78	67	35	56	178	305	81	152	356	356	178
2204 B	0.75	24	13.5			50	70							
2205 A	0.65	35	21	69	59	70	90	178	305	94	165	356	356	178
2206 A	0.55	15	10	62	54	101	125	178	305	110	180	356	356	178

NOTE: (1) Given values apply to standard carbon steel construction and use with non-corrosive liquids. A special extension is required when process temperature exceeds 150°C (for each switch type in such cases the diameter 'A' is increased by 100mm)
 (2) Dimensions B (switching point with rising level) and C (switching point with falling level) applies to the liquid specific gravity 1 and to instruments fitted with only one switching mechanism set at the minimum differential (not valid for interface service).

SERIES 3300



Float Operated Level Switch integral top mounting

DESCRIPTION

Bliss Anand Series 3300 level switch is designed without float chamber for Integral mounting through the top of the process vessel (atmospheric or pressurized).

The instrument of this series to the switch are characterised by being adjustable to specific application according to the switching level, as well as to specific gravity, pressure and temperature of media whose level is to be controlled. The process connection can be screwed 1" NPT where the float can be coupled through a vessel manhole opening or flanged where the flange dimensions allow the float to pass through the vessel flange.

Standard constructions have AISI 316 stainless steel trim, AISI 316 SS float series AISI 410 stainless steel attraction sleeve and carbon steel process connection.

All the series 3300 models are fitted with only one switch mechanism type 2 or 3. Special construction available with float upto ϕ 135x175mm and minimum liquid specific gravity of 0.6.

SWITCH SELECTION

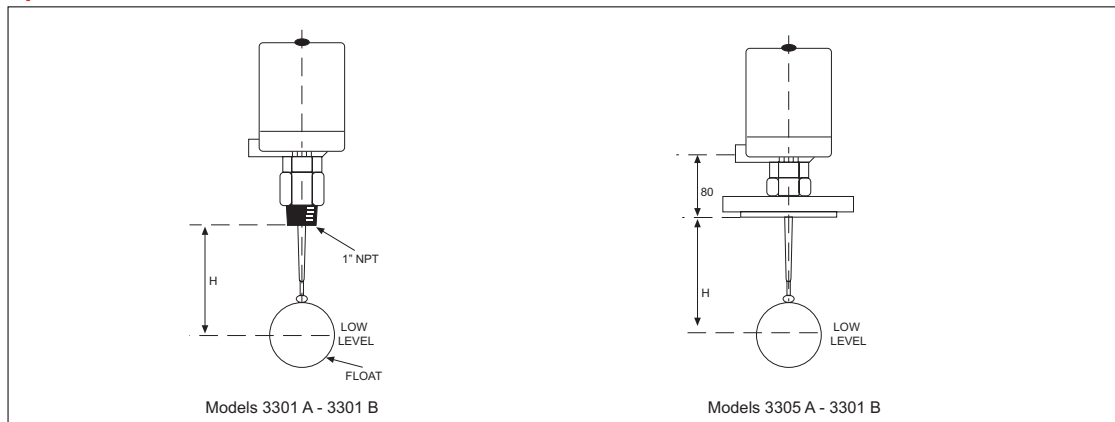
To select the correct model according to the operating conditions and the data of media whose level has to be controlled refer to table below.

Options and other special features:

- * AISI 316 stainless steel process chamber.
- * Special corrosion resistance materials.
- * Special insertion depth from 300 mm to 1200 mm
- * Interface control setting



Specifications



MODEL	FLOAT DIAMETER (mm)	MAXIMUM PRESSURE (BAR)		MINIMUM SPECIFIC GRAVITY related to insertion depth "H" (mm)				STANDARD CONNECTION
		40°C	400°C	Mechanism type 2, 3				
				300	600	900	1200	
3301A	76	21	12	0.70	0.75	0.82	0.90	1"NPT
3301B	90	24	13.5	0.63	0.66	0.70	0.74	1"NPT
3305A	76	21	12	0.70	0.75	0.82	0.90	3"ANSI 150
3305B	90	24	13.5	0.63	0.66	0.70	0.74	4"ANSI 300

NOTE: (1) Given values apply to standard carbon steel construction with 1" NPT.
 (2) A special extension is required when process temperature exceeds 150°C, in such cases the dimensions "A" must be increased by 100mm.



SERIES 4400

Float Operated Level Switch integral side mounting

DESCRIPTION

Bliss Anand Series 4400 level switch is designed without float chamber for Integral mounting through the top of the process vessel (atmospheric or pressurized). The attraction sleeve is operated by a float mounted on a hinged horizontal float arm. These models allow greater switching differential adjustment as compared to other float operated level switch and as a result are better suited for even turbulent applications.

They are also used when the insertion depths of top mounted models is exceeded or when overhead clearance prohibits the use of top mounted level switch.

Standard models have carbon steel body with screwed 3" NPT or flanged connection: AISI 316 stainless steel trim, AISI 316 stainless steel float and series AISI 410 stainless steel attraction sleeve. Series 4400 controls are normally fitted with only one switch mechanism.



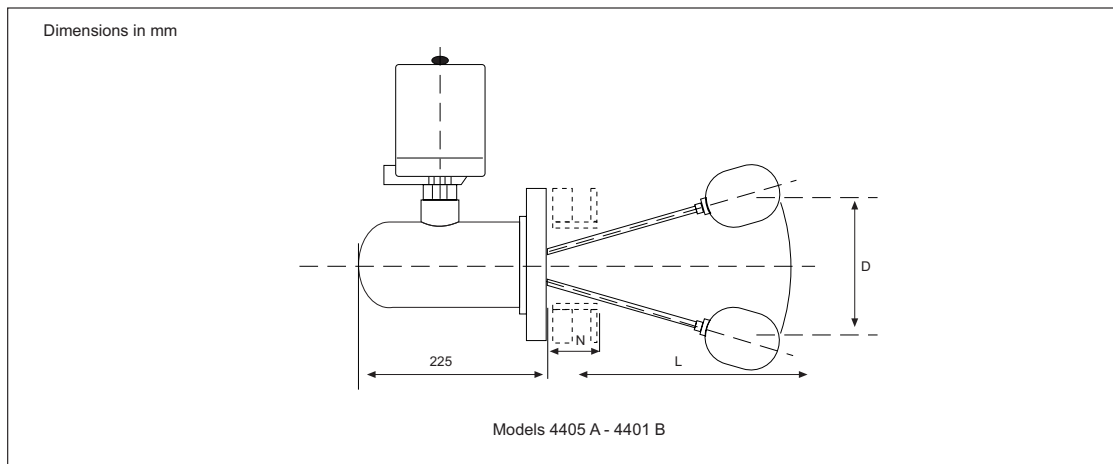
SWITCH SELECTION

To select the correct model according to the operating conditions and the data of media whose level has to be controlled refer to table below .

Options and other special features:

- * AISI 316 stainless steel process chamber.
- * Special corrosion resistance materials.
- * Interface control setting

Specifications



MODEL	CONNECTION	MINIMUM SPECIFIC GRAVITY	MAXIMUM PRESSURE (BAR)		FLOAT STEM LENGTH (mm)	SWITCH DIFFER (mm)		L (mm)
			40°C	400°C		D max	D min	
4405A	3"ANSI300	0.9	24	13.5	200	140	48	280
4405B	3"ANSI150	0.7	17	10	150	114	38	230

- NOTE:
- (1) Given values apply to standard carbon steel construction and used with non corrosive liquids.
 - (2) A special extension is required when process temperature exceeds 150°C, in such cases the dimensions "A" must be increased by 100mm.
 - (3) The Vessel connection must have a minimum opening diameter of 78mm to allow the float to be inserted.

SERIES 6600



Float Operated Level Switch High Pressure

DESCRIPTION

Bliss Anand Series 6600 level switch is designed for mounting external to the process vessel; they are equipped with a robust counter-balanced float and are suitable for controlling level of liquid with very low specific gravity at very high pressure.

The standard float chamber is made of carbon steel flanged type.

Process Connections are vertically inline screwed 1" NPT or 1" SW.

Standard construction have AISI 316 stainless steel trim, AISI 316 SS float and series AISI 410 stainless steel attraction sleeve.



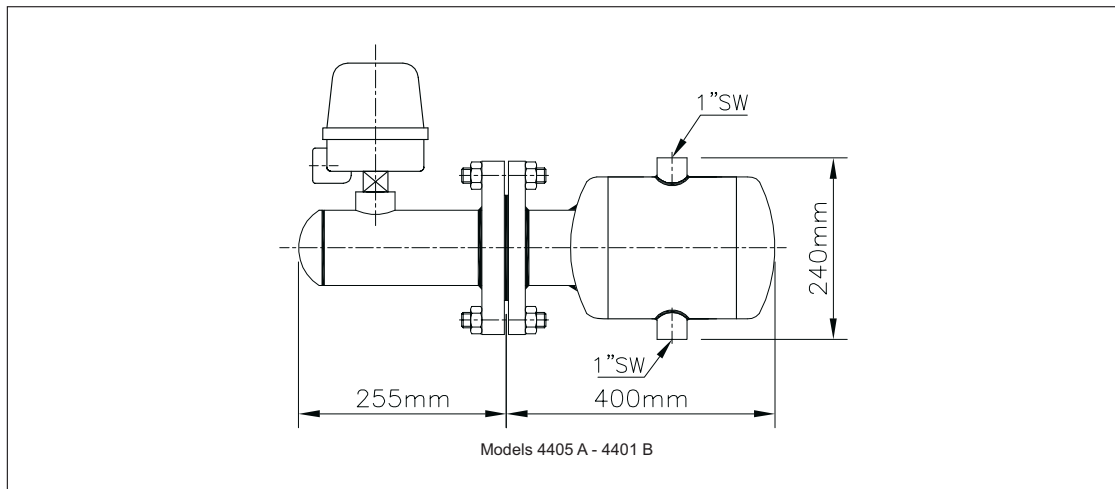
SWITCH SELECTION

To select the correct model according to the operating conditions and the data of media whose level has to be controlled refer to table below.

Options and other special features:

- * AISI 316 stainless steel chamber.
- * Special corrosion resistance materials.
- * Interface control setting.
- * Special process connection.

Specifications



MODEL	MINIMUM SPECIFIC GRAVITY	MAXIMUM PRESSURE (BAR)				SWITCHING LEVEL (MM)	
	Switch Mechanism type 2, 3	40°C	400°C	40°C	400°C	B	C
6605	0.65	50	50	47	42	25	25

NOTE: (1) Given values apply to standard carbon steel construction and use with non-corrosive liquids or to water and steam on boiler applications.
 (2) A special extension is required when process temperature exceeds 150°C, in such cases the dimensions "A" must be increased by 100mm.



SERIES 7700

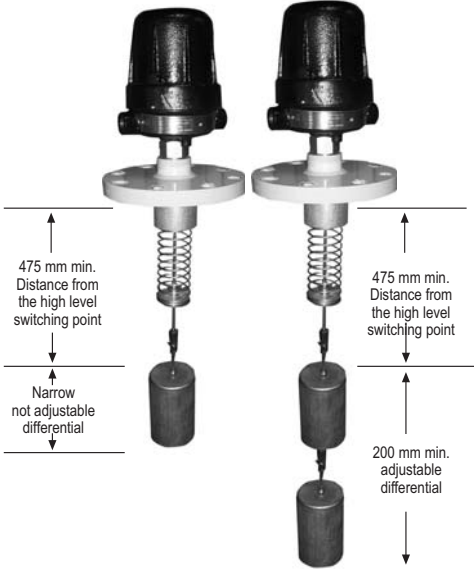
Displacer Operated Level Switch Integral top mounted - Single Stage

DESCRIPTION

Bliss Anand Series 7700 displacer operated level switch is suitable for a wide range of applications on open or pressurized vessels of all dimensions. The use of displacer allows for wide switching differential, field adjustable switching points and use on high pressure applications.

The single stage series are equipped with a single mechanism and are available with narrow or wide switching differential. The narrow range models are factory set to work with a fixed differential (60 mm average) slightly variable according to the liquid specific gravity; the switching level can be adjusted readily by changing the displacer position on the suspension cable. The wide switching differential models are fitted with two separate displacer for rising or falling level; by changing the relative position of the displacer on the cable the differential setting as well as the switching level can be adjusted.

The carbon steel connection to the vessel can be screwed 3' NPT or flanged 3' ANSI 150 as standard; the trim is in AISI 316 stainless steel, the attraction sleeve is in series 410 AISI stainless steel and the displacer spring is stainless steel or in porcelain with AISI 304 stainless steel suspension cable of 2 cm long.



SWITCH SELECTION

To select the correct model according to the operating conditions and the data of media whose level has to be controlled refer to table below.

Options and other special features:

- * AISI 316 stainless steel chamber.
- * Special corrosion resistance materials.
- * Interface control setting.
- * Extra length suspension cable (upto 15mm).

Specifications:

Maximum pressure:70 bar at 230°c								
On the flanged process connection models the maximum pressure can be limited by the flange rating and its material of construction								
MODEL	SWITCH FUNCTION	PROCESS CONNECTION	DISPLACER MATERIAL	MINIMUM SPECIFIC GRAVITY RELATED TO THE PROCESS TEMPERATURE				
				Switch Mechanism type 2,3				
				40°c	100°c	150°c	200°c	230°c
7701 S	NARROW DIFFERENTIAL (FIXED)	SCREWED	PORCELAIN	0.50	0.50	0.65	0.70	0.75
7702 S			SS - 316					
7703 S		FLANGED	PORCELAIN					
7704 S			SS - 316					
7705 S	LARGE DIFFERENTIAL (ADJUSTABLE)	SCREWED	PORCELAIN	0.50	0.60	0.70	0.90	1.00
7706 S			SS - 316					
7707 S		FLANGED	PORCELAIN					
7708 S			SS - 316					

NOTE: (1) The single stage narrow differential Model can operate with all values of specific gravity from the minimum in the table to the maximum of 2 and to maximum of 1.2 for the large differential types, the latter type can accept form the setting liquid specific gravity, alteration of ± 20% & temperature of deviation of ±25°c .
 (2) Porcelain displacer can be used up to a maximum temperature of 95°c in pressurized vessels confaing water of condenses.

SERIES 7700



Displacer Operated Level Switch Integral top mounted -Dual stage

DESCRIPTION

Bliss Anand Series 7700 dual stage level switch completes the displacer operated range of instruments. These types are fitted with two switch mechanism and are available with narrow or wide differential.

The narrow differential models are provided with two displacers and are factory set to work with a fixed differential (60 mm average) slightly variable with the liquid specific gravity; the switching level of each stage can be readily adjusted by changing the position of the displacer on the suspension cable.

The wide switching differential models are fitted with three displacer for rising and falling level switching. The various combinations of the displacer illustrated in the diagram alongside; for each stage, changing the relative position of the displacer on the cable changes the differential setting as well as the switching level setting.

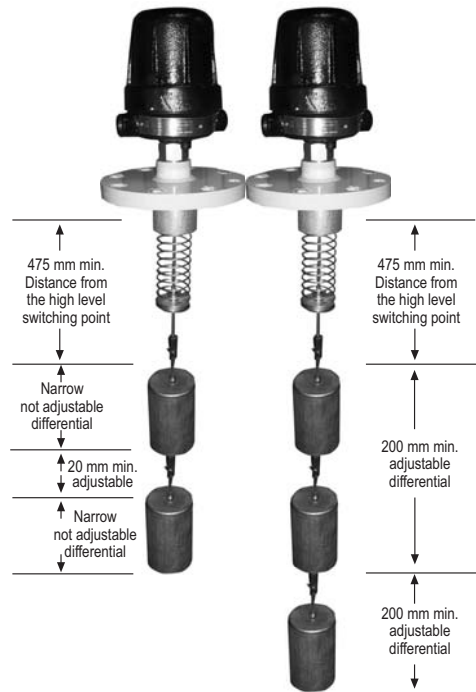
The carbon steel connection to the vessel can be screwed 3"NPT or flanged 3" ANSI 150 as standard; the trim is in AISI 316 stainless steel, the attraction sleeve is in series 410 AISI stainless steel and the displacer spring is stainless steel or in porcelain with AISI 304 stainless steel suspension cable of 2 cm long.

SWITCH SELECTION

To select the correct stage model according to the operating conditions and the data of media whose level has to be controlled refer to table below.

Options and other special features:

- * AISI 316 stainless steel chamber.
- * Special corrosion resistance materials.
- * Interface control setting.



Specifications:

Maximum pressure: 70 bar at 230°C
 On the flanged process connection models the maximum pressure can be limited by the flange rating and its material of construction

MODEL	SWITCH FUNCTION	PROCESS CONNECTION	DISPLACER MATERIAL	MINIMUM SPECIFIC GRAVITY RELATED TO THE PROCESS TEMPERATURE				
				Switch Mechanism type 2,3				
				40°C	100°C	150°C	200°C	230°C
7701 D	NARROW DIFFERENTIAL (FIXED)	SCREWED	PORCELAIN	0.72	0.80	1.00	1.10	1.20
7702 D			SS - 316					
7703 D		FLANGED	PORCELAIN					
7704 D			SS - 316					
7705 D	LARGE DIFFERENTIAL (ADJUSTABLE)	SCREWED	PORCELAIN	0.55	0.60	0.80	1.00	1.10
7706 D			SS - 316					
7707 D		FLANGED	PORCELAIN					
7708 D			SS - 316					

NOTE : (1) The dual stage model can operate a given liquid specific gravity between the above indicated minimum and the maximum value of 1.2 at given temperature. Liquid specific gravity variations of 10% from the set value of liquid temperature variations of 25°C can be accepted.
 (2) Porcelain displacer can be used up to a maximum temperature of 95°C in pressurized vessels containing water or condensates.



SERIES 8800

Displacer Operated Level Switch with flanged external chamber

DESCRIPTION

Bliss Anand Series 8800 displacer operated level switch is designed for external mounting on very high pressure plant process plant such as hydraulic accumulators and natural gas compressors and as level controllers on liquids of very low specific gravity.

The dismantlable carbon steel chamber is provided with flanges designed in accordance with ASME CODE SEC.VII. Div. 1 App. 2.

The standard Process connection are screwed 1"NPT or 1" NPT SW, flanged connections are also available according to ANSI B 16.5.

Standard models have AISI 316 stainless steel trim, AISI 316 stainless steel float and series AISI 410 stainless steel attraction sleeve. The displacer spring is in stainless steel.

All the series 8800 models can be fitted with only single switch mechanism, the factory built-in setting allows normal operation with liquid specific gravities within the limits shown in the data.



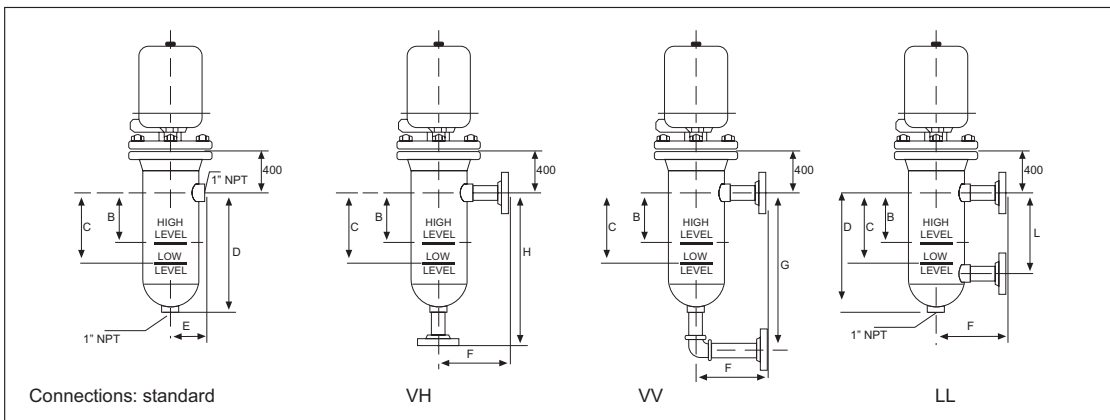
SWITCH SELECTION

To select the correct model according to the operating conditions and the data of media whose level has to be controlled refer to table below.

Options and other special features:

- * AISI 316 stainless steel chamber.
- * Special corrosion resistance materials.
- * Interface control setting
- * Design for low specific gravity

Specifications



MODEL	MINIMUM SPECIFIC GRAVITY	MAXIMUM PRESSURE (BAR) at 150°C (1)	DIMENSIONS (mm)							SPECIFIC GRAVITY (2)	SWITCHING LEVEL	
	Mechanism type 2, 3		A	D	E	F	G	H	L		B	C
8801	0.60	15	350	395	70	140	480	480	254	0.60	180	253
8802		30	360	395	70	140	480	480	254	0.80	205	260
8803		60	367	395	70	140	480	480	254	1.00	210	264

NOTE: (1) Above values apply to standard carbon steel construction and use with non-corrosive liquids.
 (2) Dimensions B (switching point on increasing level) and C (switching point on falling level) apply. To a liquid temperature of 40°C, these dimensions can decrease with temperature increase.



LEVEL SWITCHES

Standard and Special Options

BLISS ANAND Liquid Level Switches are available with the following optional features (add an “S” to the model number):

STANDARD OPTIONS

- * EXTERNAL CHAMBER with side-side (LL) screwed connections, vent and drain.
- * FLANGED CONNECTIONS ON EXTERNAL CHAMBER in size 1” 1½” and 2” upto ANSI 600 lbs rating with VH configuration (1 horizontal and 1 vertical connection) or VV configuration (2 horizontal connections) of which the lower is an elbow, or LL configuration (side-side).
- * FLANGED CONNECTIONS in size upto 8” and pressure rating upto ANSI 600 lbs on series 3300 and 7700 models.
- * CONSTRUCTION entirely of AISI 316 stainless steel for series 1100,2200,3300,4400,6600,7700 and 8800.
- * SETTING OF DIFFERENTIAL to meet customers requirements.
- * POSITIONING OF DISPLACERS along the suspensions cable to assure pre-set switching levels to meet the process requirement (normally displacer are field set).
- * INTERFACE CONTROL SETTING.

SPECIAL OPTIONS

- * SPECIAL COATING AND LININGS.
- * SPECIAL TESTING INSPECTION AND CERTIFICATION.
- * SPECIAL MATERIALS such as low temperature steel, AISI 316 L stainless steel, inconal, monel and PVC for chambers.
- * AISI 316 L, inconal, hastelloy, Monel, Teflon etc. for internal parts.
- * SPECIFIC CONNECTIONS.
- * SPECIAL MODELS for very high pressure.
- * EXTERNAL CHAMBER for series 7700 models.



LEVEL SWITCHES

NOMENCLATURE

To assure a correct and unequivocally interpretation the following nomenclature has to be used in the description of levels switches.

PROCESSES CONNECTIONS : Part of the level switch that is used for mounting to the process vessels.

BODY OR CHAMBER: Part of the level that contains the float or the displacer.

HOUSING: Part of the level that contains switch mechanism; it is made up of base and a cover.

FLOAT OR DISPLACER : Element that follows or perceives the process liquid level or specific gravity variation.

SWITCH MECHANISM : The mechanical device connected magnetically to the attraction sleeve and reproducing outside the process liquid the high or low level states.

SWITCH : Electrical device operated by the switch mechanism to give an on-off or change-over signal corresponding to the high or low level.

TRIM INTERNAL PARTS:

- Float or Displacer.
- Attraction sleeve.
- Float rod with nuts and washer.
- Float lever (series 4400 and 6600 only).

ATTRACTION SLEEVE : Connected mechanically to the float rod, lever or displacer suspension cable transmitting the level variations to the switch mechanism. Standard execution made of series AISI 410 stainless steel.

ENCLOSING UNIT : Sealed non-magnetic element that contains the attraction sleeve allowing its vertical movement, it supports the switch mechanism and its housing.

SENSING UNIT : Complete unit except housing and switch mechanism. In series 1100, 2200, 6600 and 8800 consists of chamber, float/ displacer with stem rod, attraction sleeve and enclosing tube and include the series 3300, 4400, and 7700 process connection.

COOLING EXTENSION : Extension provided to space the switch housing from the chamber thereby reducing heat transfer from the process to the housing.

NOTE : 1. The Dimensions shown this catalogue are only indicative & for correct dimensions get certified drawing from works.
2. In the interest of technical upgradation, specifications are subject to change without notice.



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