

Madison™

BESTOBELL
AQUATRONIX
SINCE / DEPUIS 1953
BEP-Bestobell
www.bestobell.com



ISO 9001
CERTIFIED

Liquid Level Switches

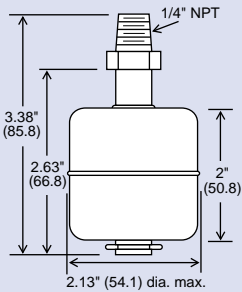
Condensed Catalog

Vertical Switches



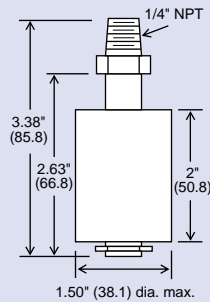
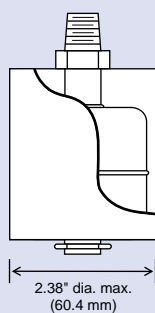
Full Size Floats

Miniature Size Floats



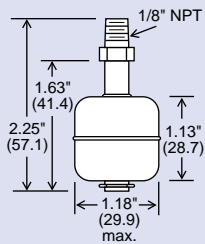
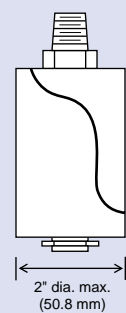
No. 1

Cutaway Showing Slosh Shield Operation



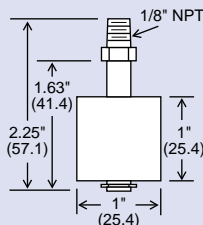
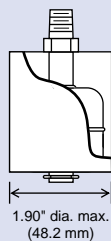
No. 2

Cutaway Showing Slosh Shield Operation



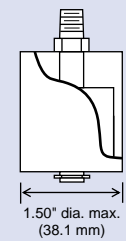
No. 3

Cutaway Showing Slosh Shield Operation



No. 4

Cutaway Showing Slosh Shield Operation



Vertical Switches

Full Size Floats

Model Number	With Slosh Shield	Float Material	Stem Material	Slosh Shield	Watt Rating	Max. Temp.	Max. PSIG	Application	Line Drawing No.
M5600 M5400	MS5600 MS5400	316SS 316SS	316SS Brass	316SS Brass	60 60	200°C 200°C	200 200	High Temperature, High Pressure, Corrosive Conditions	No. 1 No. 1
M5600-PR	MS5600-PR	316SS	316SS	316SS	360	200°C	500	For High Current Applications	No. 1
M5917	MS5917	316SS	316SS	316SS	60	250°C	200	Very High Temperature	No. 1
M8800	MS8800	Polypropylene	Polypropylene	Polypro.	60	105°C	100	General Purpose, for Acidic Conditions	No. 2
M8800-PR	MS8800-PR	Polypropylene	Polypropylene	Polypro.	360	105°C	100	For High Current Applications	No. 2
M7800	MS7800	Buna-N	PBT	PBT	60	105°C	150	Gasoline and Oil	No. 2
M4300 M4600	MS4300 MS4600	Buna-N Buna-N	Brass 316SS	Brass 316SS	60 60	105°C 105°C	150 150	General Purpose, Low Specific Gravity, for Gasoline and Oil	No. 2 No. 2
M8600 M8400	MS8600 MS8400	Polypropylene Polypropylene	316SS Brass	316SS 316SS	60 60	105°C 105°C	100 100	General Purpose, with Metal Stem	No. 2 No. 2
M8060-PR	MS8060-PR	Polypropylene	CPVC	Polypro.	360	105°C	100	For High Current Applications	No. 2
M9800	MS9800	Kynar	Kynar	Kynar	60	100°C	15	Outstanding Chemical Resistance	No. 2

Miniature Size Floats

Model Number	With Slosh Shield	Float Material	Stem Material	Slosh Shield	Watt Rating	Max. Temp.	Max. PSIG	Application	Line Drawing No.
M5000 M5040	MS5000 MS5040	316SS 316SS	316SS Brass	316SS Brass	30 30	200°C 200°C	300 300	High Temperature, High Pressure, Corrosive Conditions	No. 3 No. 3
M8000	MS8000	Polypropylene	Polypropylene	Polypro.	30	105°C	100	General Purpose, Low Cost	No. 4
M9000	MS9000	Kynar	Kynar	Kynar	30	100°C	15	Outstanding Chemical Resistance	No. 4
M7000	MS7000	Buna-N	PBT	PBT	30	105°C	150	Gasoline and Oil, Low Cost	No. 4
M4500 M4400 M4008	MS4500 MS4400 MS4008	Buna-N Buna-N Buna-N	Brass 316SS Polypropylene	Brass 316SS Polypro.	30 30 30	105°C 105°C 105°C	150 150 150	General Purpose, Gasoline and Oil, Low Specific Gravity	No. 4 No. 4 No. 4
M8020 M8040	MS8020 MS8040	Polypropylene Polypropylene	316SS Brass	316SS 316SS	30 30	105°C 105°C	100 100	General Purpose, with Durable Stem	No. 4 No. 4

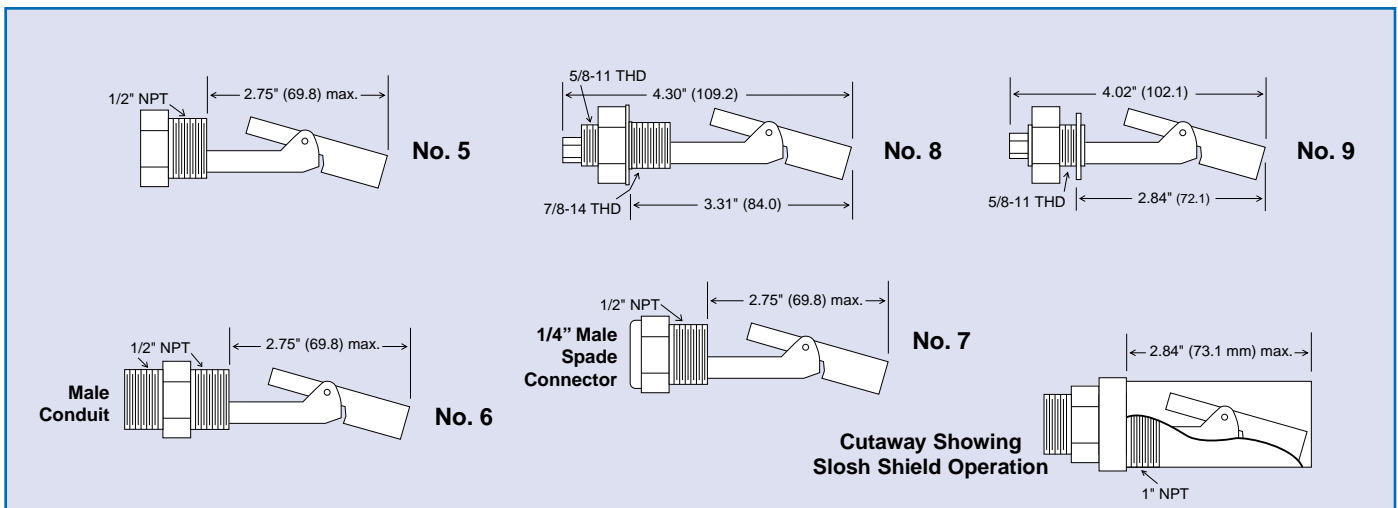
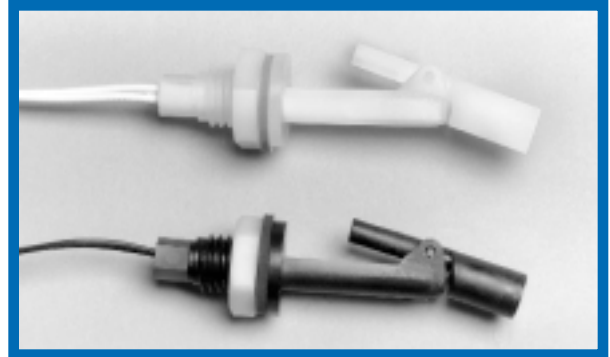
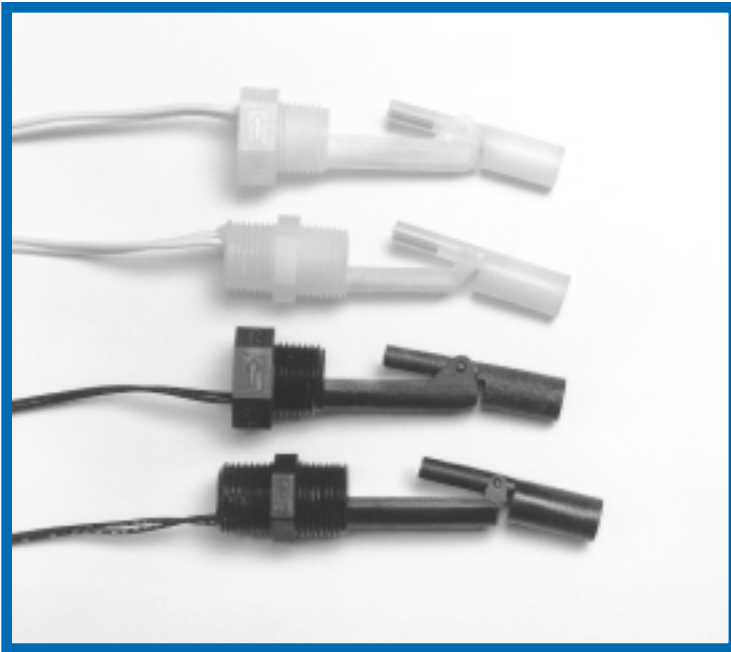
Subminiature Size Float

Model Number	With Slosh Shield	Float Material	Stem Material	Watt Rating	Max. Temp.	Max. PSIG	Application
M3326*	NA	Polypropylene	Polypropylene	15	105°C	50	Economic, for Severe Space Constraints

* Please specify normally open or normally closed.



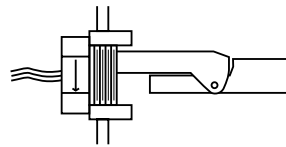
Side Mounted Switches



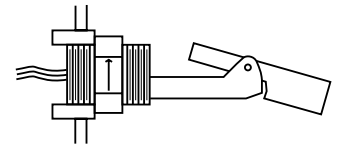
Model Number	With Sash Shield	Float Material	Stem Material	Sash Shield	Watt Rating	Max. Temp.	Max. PSIG	Application	Line Drawing No.
M7700	M7705	PBT	PBT	PBT	30	150°C	100	Miniature, for Lubricating Oil, Diesel Fuel, Gasoline	No. 6
M7740	NA	PBT	PBT	-	30	150°C	100		No. 8
M7750	M7755	PBT	PBT	PBT	30	150°C	100		No. 5
M7790	NA	PBT	PBT	-	30	150°C	100		No. 9
M8700	M8705	Polypropylene	Polypropylene	Polypro.	30	105°C	100	Miniature, for General Purpose or Acidic Conditions	No. 6
M8740	NA	Polypropylene	Polypropylene	-	30	105°C	100		No. 8
M8750	M8755	Polypropylene	Polypropylene	Polypro.	30	105°C	100		No. 5
M8790	NA	Polypropylene	Polypropylene	-	30	105°C	100		No. 9
M9700	M9705	Kynar	Kynar	Kynar	30	100°C	100	Miniature, Outstanding Chemical Resistance	No. 6
M7725	MS7725	PBT	PBT	PBT	30	150°C	100	Miniature, for Lubricating Oil, Diesel Fuel, Gasoline	No. 7
M8725	MS8725	Polypropylene	Polypropylene	Polypro.	30	105°C	100	Miniature, for General Purpose or Acidic Conditions	No. 7

Side Mounted Switches

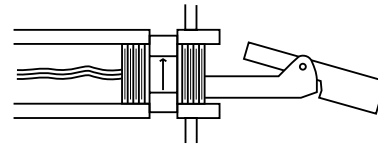
Typical Installations



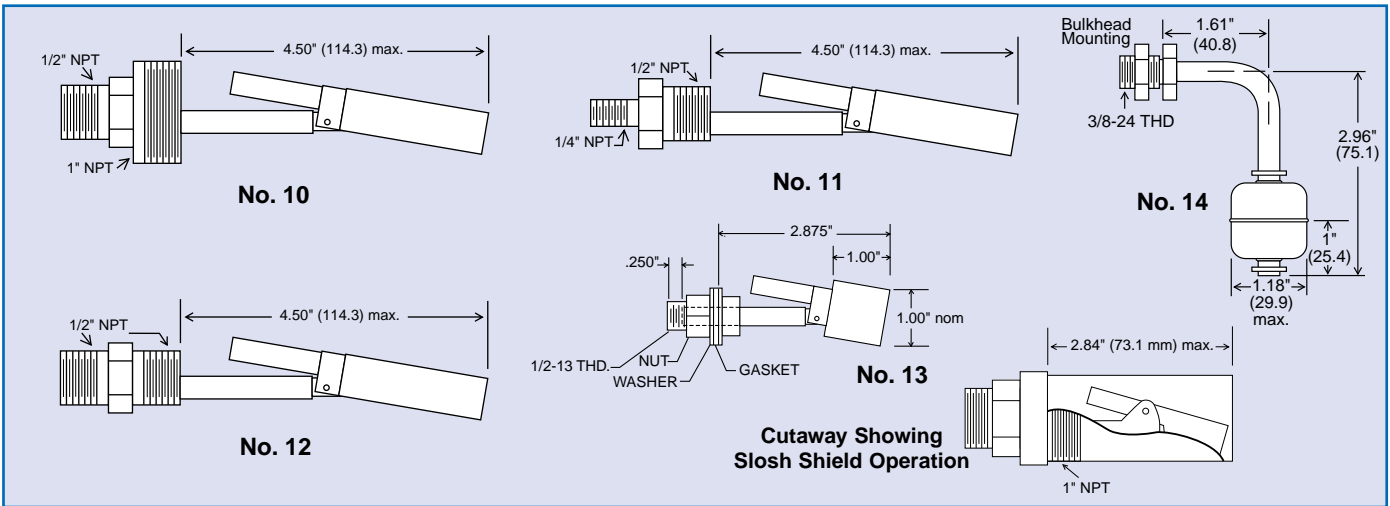
Outside Mounting
(shown normally closed)
(Arrow Down)



Inside Mounting
(shown normally open)
(Arrow Up)



Outside Mounting
with Conduit Connector
(shown normally open)
(Arrow Up)



Model Number	With Slosh Shield	Float Material	Stem Material	Slosh Shield	Watt Rating	Max. Temp.	Max. PSIG	Application	Line Drawing No.
M5900*	NA	316SS	316SS	-	30	200°C	300	High Temperature, High Pressure, Corrosive Conditions	No. 10
M5910*	NA	316SS	316SS	-	30	200°C	300	High Temperature, High Pressure, Corrosive Conditions	No. 11
M5920*	NA	316SS	316SS	-	30	200°C	300	High Temperature, High Pressure, Corrosive Conditions	No. 12
M5970	NA	316SS	316SS	-	30	200°C	100	Limited-space Applications, High Temperature, Corrosive Conditions	No. 13
M5010	MS5010	316SS	316SS	316SS	30	200°C	300**	Small Diameter, General Purpose, Gasoline and Oil	No. 14
M4010	MS4010	Buna-N	Brass	Brass	30	105°C	100	Small Diameter, General Purpose, Gasoline and Oil	No. 14

* Rated explosion proof.

** Exclusive of bulkhead fitting.

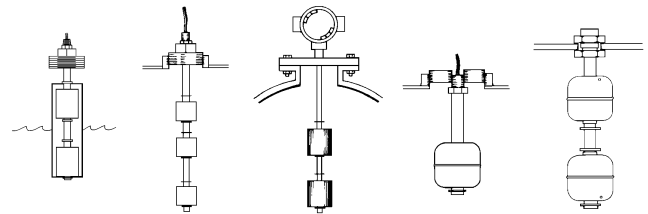
Multi-Level Switches

Custom Designed for Unique Applications

The many combinations of float and stem materials available in full size and miniature standard switches can also be used in multi-level designs. Utilize the Madison Multi-Level Specification Sheet at right to specify the correct overall stem length, type and number of floats, distance between floats, lead wire length and mounting configuration to meet your requirements. The factory should be consulted concerning the maximum number of floats which can be used. Multi-level switches are available with Slosh Shields.

Multi-Level Switch Kits are also available. Please see the back page of this catalog.

Typical Installations



Typical Slosh Shield

Pipe Plug

Flange

Male Thread

Bulkhead

SWITCH SET-UP CRITERIA

For M5602, M5402, M8602, M8402, M4602, M4302

L (Total) = L5 + 1-1/2" (38.1 mm) Min.

Distance from mounting fitting to first switch = 1-1/4" (31.7 mm) Min.

Minimum distance between floats: 2-1/2" (63.5 mm)

Minimum LH = 2-1/2" (63.5 mm)

For M5002, M5042, M8080, M8002, M8042, M4402, M4502, M9090

L (Total) = L5 + 1" (25.4 mm) Min.

Distance from mounting fitting to first switch = 5/8" (15.8 mm) Min.

Minimum distance between floats: 1-1/2" (38.1 mm)

Minimum LH = 1-1/2" (38.1 mm)

For M8802, M9802

L (Total) = L5 + 2" (50.8 mm) Min.

Distance from mounting fitting to first switch = 1-3/4" (44.4 mm) Min.

Minimum distance between floats: 3" (76.2 mm)

CURRENT & VOLTAGE RATINGS

CURRENT AMPERES (Resistive)

WATTS	at 220VAC	at 110VAC	at 120VDC	at 24VDC
360	1.50	3.00	0.75	3.00
100	0.4	1.0	0.4	1.0
60	0.4	0.5	0.2	0.5
30	0.14	0.28	0.07	0.28
25	-	0.28	-	0.28
15	0.07	0.15	0.03	0.14

SPECIAL OPTIONS

Please consult factory concerning available options such as the following:

TERMINATIONS

OFFSET SWITCHES

TEMPERATURE SWITCHES

JUNCTION BOXES

OTHER FITTINGS

EXTRA LEAD LENGTHS

ADJUSTABLE FITTINGS

CABLE

Current and Voltage ratings are for resistive loads only. For inductive loads, maximum life will be achieved if appropriate arc suppression is used.

Maximum voltage ratings: SPST Switches – 220VAC
SPDT Switches – 120VAC

INSTRUCTIONS

Complete Process Conditions (Table 1). Select float design, stem material and watt rating (Table 2). Select mounting configuration (Table 3). Provide required dimensions and switch operation (Table 4). Mail or fax with purchase order to Madison Company.

All measurements in parentheses are in millimeters.

TABLE 1 PROCESS CONDITIONS

MAX. TEMP. _____ MIN. TEMP. _____

MAX. PRESSURE _____ SPECIFIC GRAVITY _____

FLUID _____

SPECIAL COND. _____

QUANTITY _____ WIRE LENGTH _____
24" (609.6 mm) standard

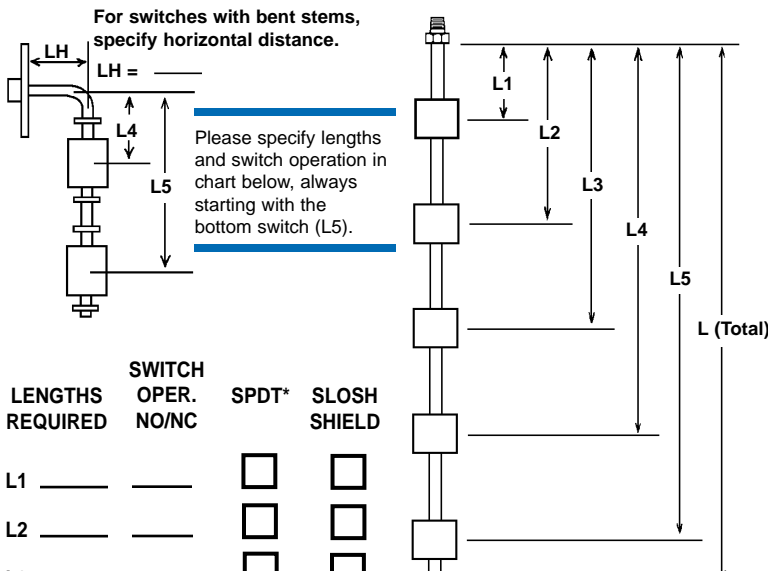
TABLE 3 MOUNTING CONFIGURATIONS*

MALE THREAD	MALE PIPE PLUG	FLANGE
<input type="checkbox"/> 1/8" NPT	<input type="checkbox"/> 2"	<input type="checkbox"/> SPECIFY SIZE: _____
<input type="checkbox"/> 1/4" NPT	<input type="checkbox"/> 1-1/2"	
<input type="checkbox"/> 3/8" NPT	<input type="checkbox"/> 1-1/4"	
<input type="checkbox"/> 1/2" NPT		BULKHEAD FITTING
<input type="checkbox"/> 3/4" NPT		<input type="checkbox"/> BULKHEAD

*See Typical Installations on previous page.

TABLE 4 LENGTH & OPERATING POINT

For switches with bent stems, specify horizontal distance.



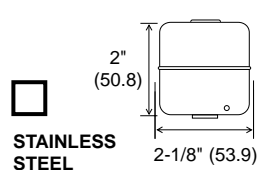
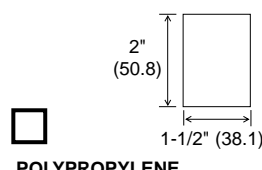
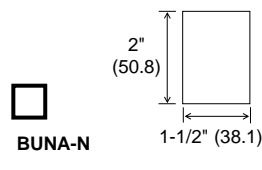
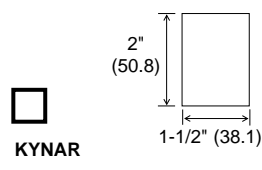
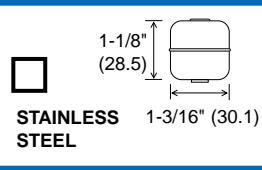
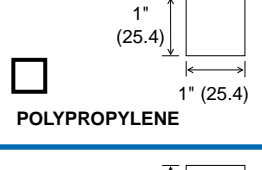
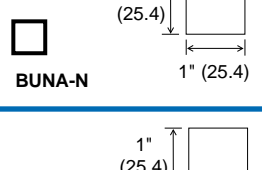

Please specify lengths and switch operation in chart below, always starting with the bottom switch (L5).

LENGTHS REQUIRED	SWITCH OPER. NO/NC	SPDT*	SLOSH SHIELD
L1 _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
L2 _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
L3 _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
L4 _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
L5 _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
L (Total) = _____			

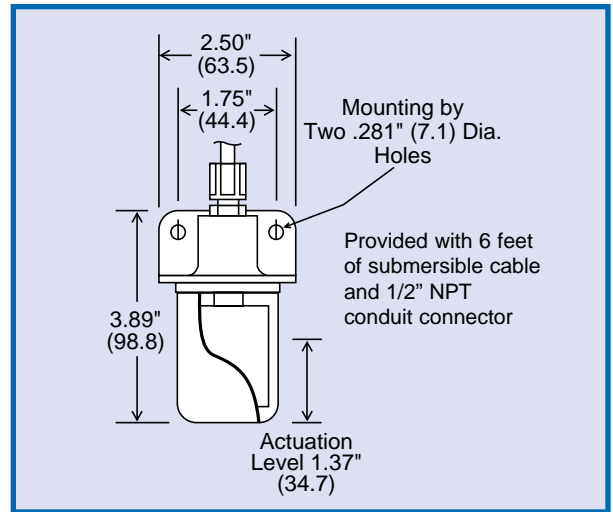
* Full size floats only.

Refer to Switch Set-up Criteria on page 5 in order to determine lengths required.

TABLE 2

FLOAT DESIGN	AVAILABLE STEM MATERIALS	MODEL NO.
Full Size Floats		
SPST 60 WATTS SPST 100 WATTS		SPDT 25 WATTS <i>*Rated for hazardous locations.</i>
<input type="checkbox"/> STAINLESS STEEL 	<input type="checkbox"/> STAINLESS STEEL <input type="checkbox"/> BRASS	*M5602 M5402
<input type="checkbox"/> POLYPROPYLENE 	<input type="checkbox"/> POLYPROPYLENE <input type="checkbox"/> STAINLESS STEEL <input type="checkbox"/> BRASS	M8802 M8602 M8402
<input type="checkbox"/> BUNA-N 	<input type="checkbox"/> STAINLESS STEEL <input type="checkbox"/> BRASS	M4602 M4302
<input type="checkbox"/> KYNAR 	<input type="checkbox"/> KYNAR	M9802
Miniature Size Floats SPST 30 WATTS		
<input type="checkbox"/> STAINLESS STEEL 	<input type="checkbox"/> STAINLESS STEEL <input type="checkbox"/> BRASS	M5002 M5042
<input type="checkbox"/> POLYPROPYLENE 	<input type="checkbox"/> POLYPROPYLENE <input type="checkbox"/> STAINLESS STEEL <input type="checkbox"/> BRASS	M8080 M8002 M8042
<input type="checkbox"/> BUNA-N 	<input type="checkbox"/> STAINLESS STEEL <input type="checkbox"/> BRASS	M4402 M4502
<input type="checkbox"/> KYNAR 	<input type="checkbox"/> KYNAR	M9090

Submersible Switches



Model Number	Float Material	Bracket and Stem Material	Watt Rating	Max. Temp.	Max. PSIG	Application
MSB5600	316SS	316SS	60	110°C	85	High Temperature, High Pressure, Corrosive Conditions
MSB7800	Buna-N	PBT	60	105°C	150	Fuel and Lubricating Oil Applications
MSB8800	Polypropylene	Polypropylene	60	105°C	100	General Purpose, Highly Acidic Conditions

Multi-Level Switch Kits

Multi-Level Switch Kits contain all components necessary for the design and fabrication of a multi-level switch by the user. Maximum stem length is 36".



Model Number	Float Material	Fitting Material	Watt Rating	Max. Temp.	Max. PSIG	Application
ML-5555	316SS	316SS	60	200°C	200	High Temperature, High Pressure, Corrosive Conditions
ML-4444	Buna-N	Brass	60	105°C	150	General Purpose, Low Specific Gravity, for Gasoline and Oil
ML-8888	Polypropylene	Polypropylene	60	105°C	100	General Purpose, Acidic Conditions



BEP-Bestobell / Bestobell-Aquatronix
2880 Argentia Road, Unit 3
Mississauga, ON, L5N 7X8
Tel. 905-826-1953 / Fax 905-826-1778
www.bestobell.com