

# PNEUMATIC FLOAT VALVE

## DESCRIPTION

The Magnetic Float Valve is an air sensor for detecting liquid level inside a vessel. The float mechanism mounted within the vessel operates a ceramic coated magnet. As the float moves it pivots the magnet. A magnetically actuated sensor on the outside of the solid metal housing reacts to the inner magnet movement. The movement shifts a 3-way air valve.

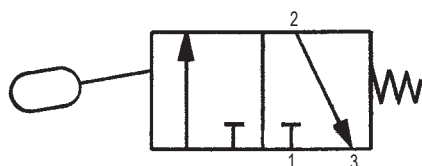
Both side mounted and top mounted valves are available either as normally closed or normally open.

## FEATURES

- Explosion Proof
- No electrical hazard
- For vented or non-vented vessels
- Stainless steel float mechanism
- Side mounting or top mounting selection
- 3-way pneumatic valve
- Actuation indicator on 3 way valve
- Magnetic coupling-float to valve
- Minimum air usage

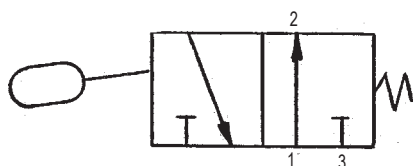
## SYMBOLS

### Float Valve Normally Closed



Normally closed float valves are "off" (no output) when float is low. Air signal is "on" when float is raised.

### Float Valve Normally Open



Normally open float valves are "on" when float is low. Air signal is "off" when float is raised.

## SPECIFICATIONS

### FLOAT AND BODY

**Temperature Limit** 220° F

**Pressure Limit** 200 psig

**Minimum Specific Gravity** 0.5 SG

### Wetted Materials

Brass Body; 301 SS, 304 SS, Ceramic

Stainless Steel Body; 303 SS, 301 SS, 304 SS, Ceramic

### Installation

**Horizontal Valve** – For side mounting to vessel,

Installation arrow must point downward ↓

**Vertical Valve** – For top mounting.

### PNEUMATIC SENSOR

**Fluid Media** – Clean compressed air or inert gases, filtration < 40 microns

**Operating Pressure** 30 to 100 psig

**Operating Temperature** 35° to 140°F

**Valve Connections** – For 3/32" ID tubing (2.5 mm)

Air Supply Port #1

Output Port #2

Vent Port #3

**Valve Operation** – The magnetically actuated valve is 3 way. The valve changes position in response to the float movement.

**Actuated Flow Path**

Port #1 - Port #2

(Blue Indicator Extended)

**De-Actuated Flow Path**

Port #3 - Port #2

(Blue Indicator Retracted)

**Actuation Indicator** – 1/16" diameter/Blue Indicator extends outward (approximately 1/16" stroke) when port #1 is passing to port #2.

**Air Flow** – No continuous air flow usage.

**Air Valve Orifice** – .080" diameter

### Materials of Construction

Brackets – Anodized Aluminum

Switch Body – Plastic

Connection Barbs – Brass

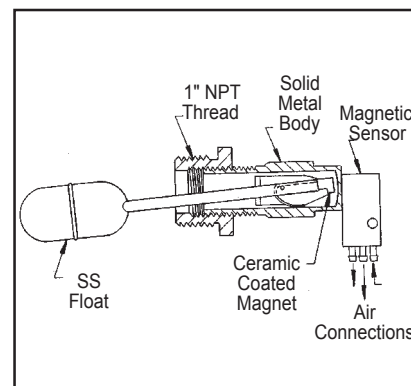
**Deadband** – Change in liquid level between valve actuation and deactuation.

Horizontal models – approximately 1/2"

Vertical models – approximately 1/4"



Horizontal float valve for side mounting to vessel. Float operates air valve on outside of vessel. Normally closed or normally open.



Float mechanism is contained inside a solid metal body. The air valve is located outside the metal body and is magnetically actuated.



Vertical float valve is mounted on top side of closed or vented vessels. Normally closed or normally open versions available.

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**O'Keefe Controls Co.**

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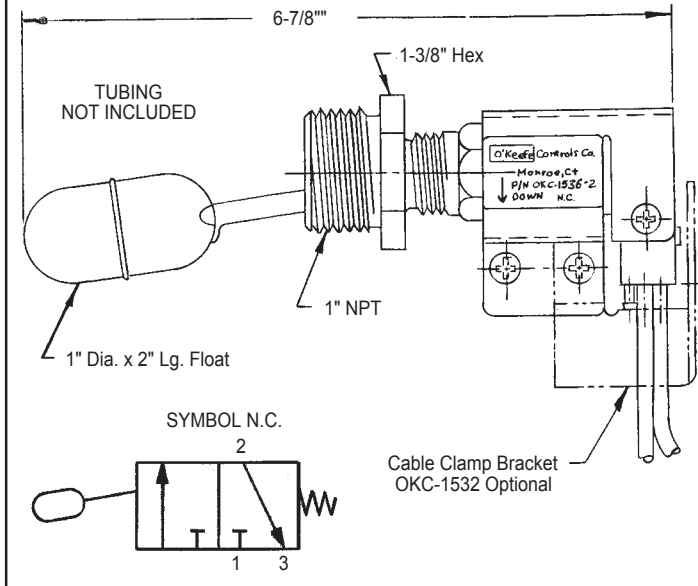
**CT Phone** (203) 261-6711  
**website** www.okcc.com

**Location**  
 4 Maple Drive  
 Monroe, CT 06468

# PNEUMATIC FLOAT VALVE

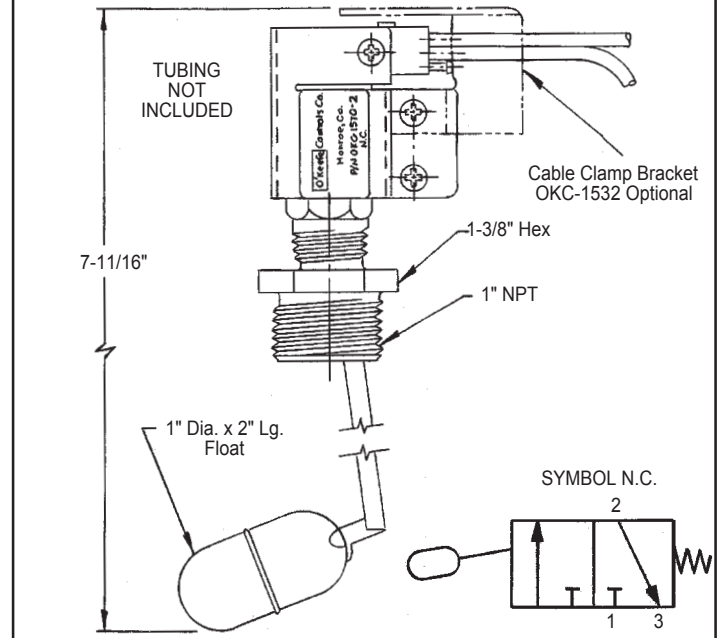
## HORIZONTAL FLOAT VALVE – SIDE MOUNTING

Normally Closed – Signal On Rising Level



## VERTICAL FLOAT VALVE – TOP MOUNTING

Normally Closed – Signal On Rising Level

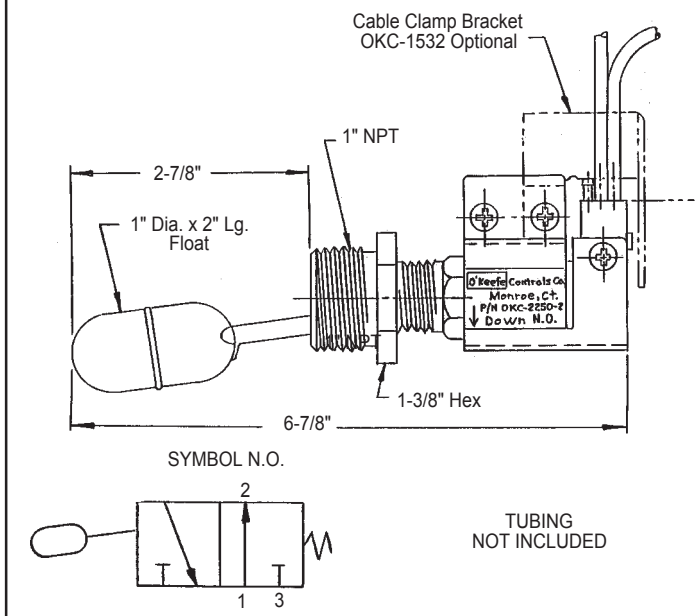


## PART NUMBERS

Catalog No.	Body	Installation	State	Float	Max. Float Pressure
OKC-1536-1	Brass	Side Mounting	N.C.	Stainless Steel	200 psig
OKC-1536-2	Stainless Steel	Side Mountin	N.C.	Stainless Steel	200 psig
OKC-1570-1	Brass	Top Mounting	N.C.	Stainless Steel	200 psig
OKC-1570-2	Stainless Steel	Top Mounting	N.C.	Stainless Steel	200 psig
OKC-2250-1	Brass	Side Mounting	N.O.	Stainless Steel	200 psig
OKC-2250-2	Stainless Steel	Side Mounting	N.O.	Stainless Steel	200 psig
OKC-2271-1	Brass	Top Mounting	N.O.	Stainless Steel	200 psig
OKC-2271-2	Stainless Steel	Top Mounting	N.O.	Stainless Steel	200 psig

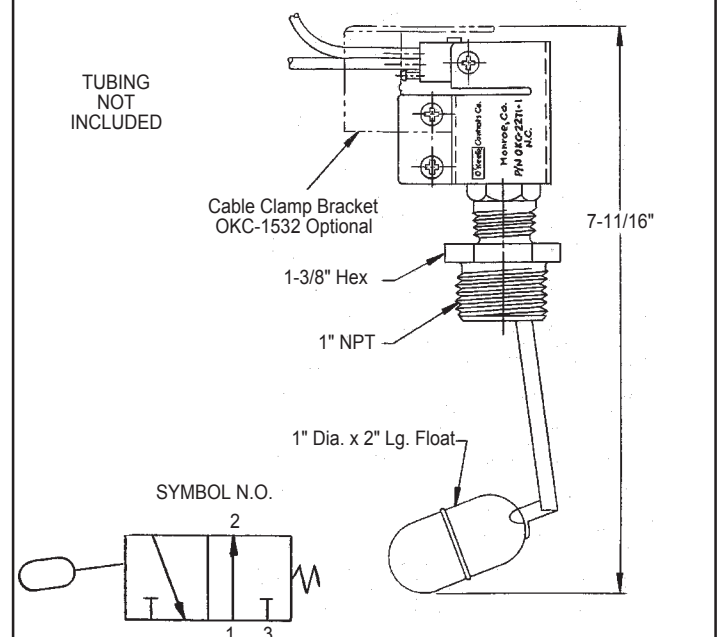
## HORIZONTAL FLOAT VALVE – SIDE MOUNTING

Normally Open – Signal On Falling Level



## VERTICAL FLOAT VALVE – TOP MOUNTING

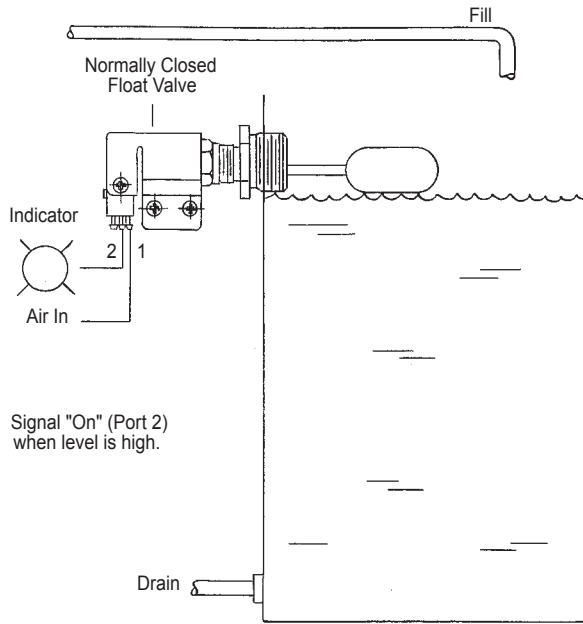
Normally Open – Signal On Falling Level



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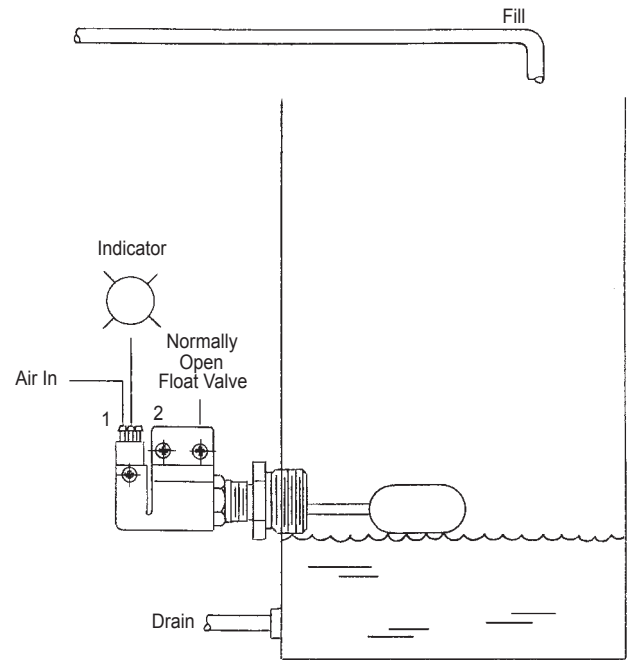
# LEVEL INDICATOR AND CONTROL APPLICATIONS

## HIGH LEVEL INDICATOR



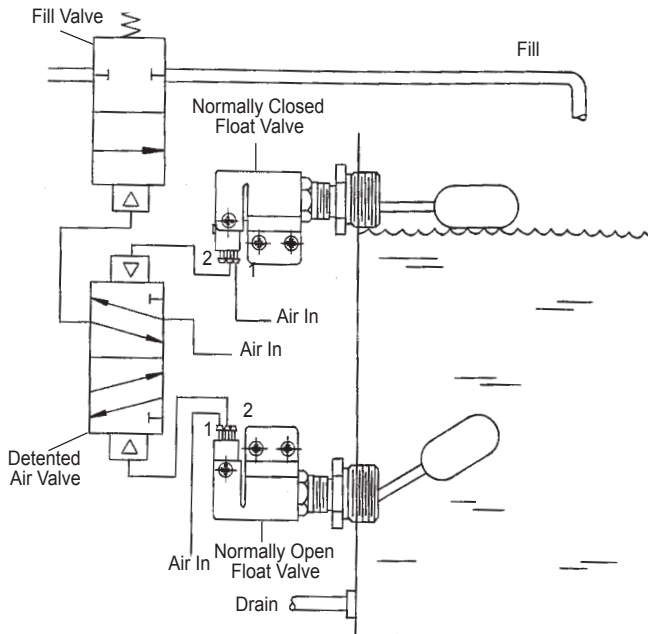
Normally closed float valve (side or top mounted). Output signal (port 2) of level sensor is "on" when level is high. Output can actuate an indicator, pressure switch, air pilot power valve, etc. Can be used with High Level Indicator panel shown on page 4.

## LOW LEVEL INDICATOR



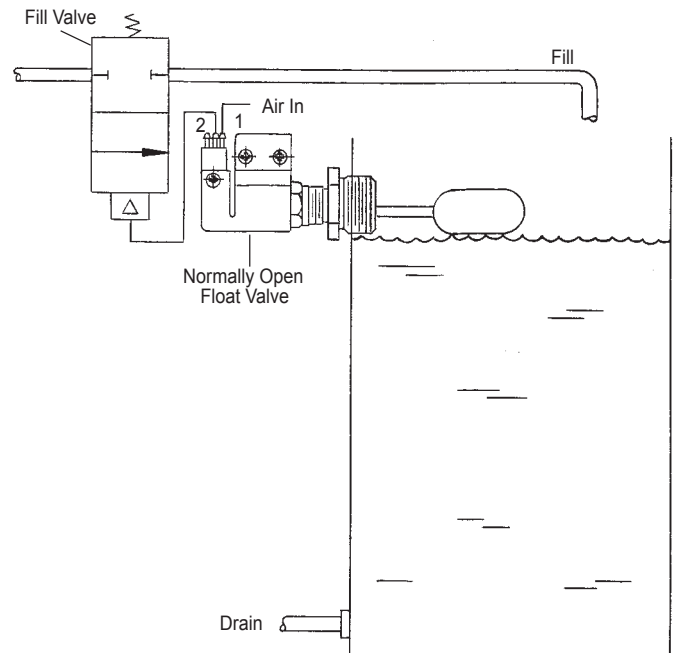
Normally open float valve (side or top mounted). Output signal (port 2) of level sensor is "on" when level is low. Output can actuate an indicator, pressure switch, air pilot power valve, etc. Can be used with Low Level Indicator panel shown on page 4.

## LEVEL CONTROL – WIDEBAND



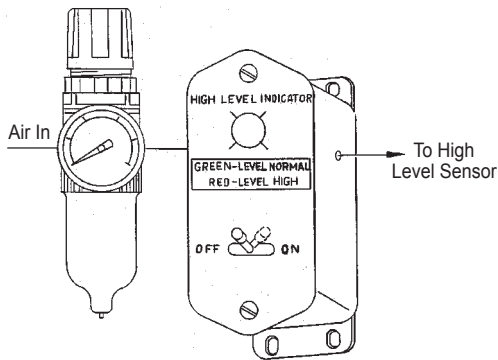
Two level sensors required; one normally closed for high level, one normally open for low level. The control automatically maintains the level between the location of the two sensors. Minimum "high/low" is approximately two inches. Maximum "high/low" is set by the location of the two sensors. Can be used with Wideband Level Control panel on page 4.

## LEVEL CONTROL – NARROWBAND

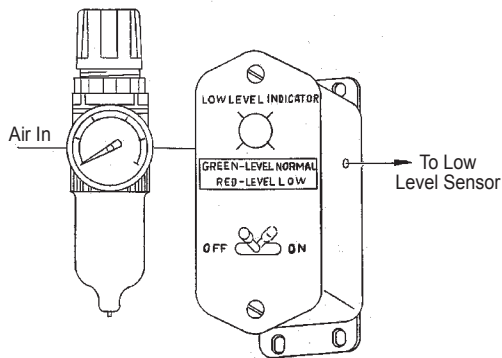


One normally open float valve provides the control for narrowband level control. Level is maintained within approximately 1/2". Output can actuate an air operated power valve for direct fill, or for control of an air operated pump through an air operated power valve. The output can be used with the Narrowband Level Control panel shown on page 4.

## HIGH LEVEL INDICATOR



## LOW LEVEL INDICATOR



## HIGH LEVEL INDICATOR

This panel is used for indication of level only. When a normally closed float valve is actuated by high liquid level the indicator shows "red". The indicator shows green when the float valve is not actuated.

**Part No. OKC-2289F** Includes inlet filter, regulator and gage assembly.

**Part No. OKC-2289** Filter, regulator and gage not included.

Use the high level indicator panel with a normally closed float valve.

OKC-1536-1 OKC-1570-1  
OKC-1536-2 OKC-1570-2

## LOW LEVEL INDICATOR

This panel is used for indication of level only. When a normally open float valve is deactivated by low liquid level the indicator shows "red". The indicator shows green when the float valve is actuated by the liquid level.

**Part No. OKC-2290F** Includes inlet filter, regulator and gage assembly.

**Part No. OKC-2290** Filter, regulator and gage not included.

Use the low level indicator panel with a normally open float valve.

OKC-2250-1 OKC-2271-1  
OKC-2250-2 OKC-2271-2

## SPECIFICATIONS

**Operation** – A pneumatic indicator panel

**Box Dimensions** –  
4-1/2" x 2-7/8" x 2-5/8"

**Inlet Air Pressure to Regulator** –  
50-125 psig

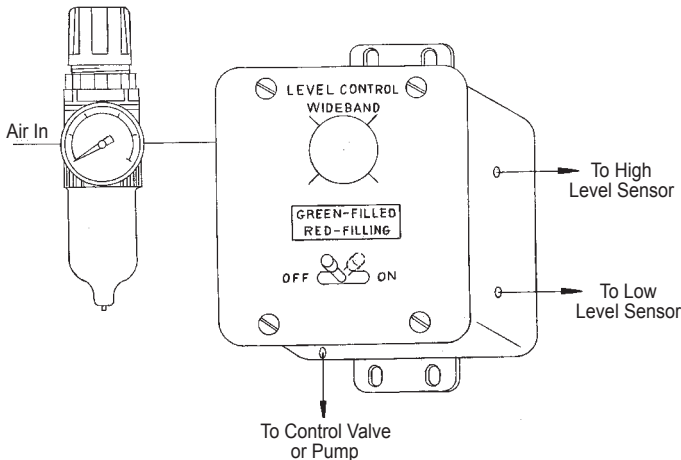
**Normal Pressure Setting** –  
50-100 psig

**Pneumatic Indicator** –  
1" diameter red/green

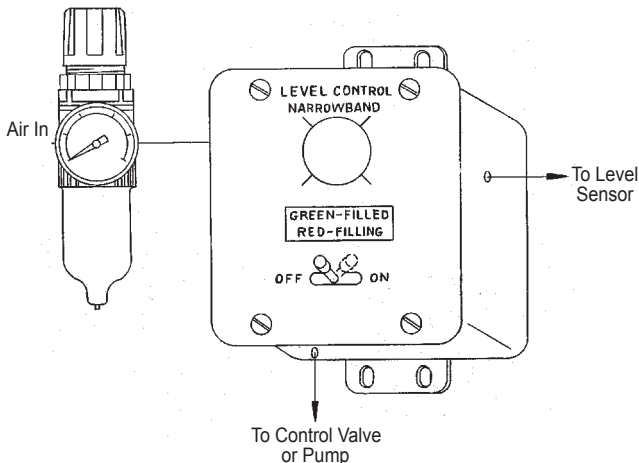
**Manual Control** –  
OFF/ON Toggle Valve

**Air Filtration** – Air should be dry and filtered to 5 microns

## WIDEBAND LEVEL CONTROL



## NARROWBAND LEVEL CONTROL



## WIDEBAND LEVEL CONTROL

This panel is used for control of liquid between two levels. The control panel pilots a fill or drain valve, or controls a power valve that operates a pump. A normally closed float valve is used to sense the high level. A normally open float valve is used to sense the low level.

**Part No. OKC-2291F** Includes inlet filter, regulator and gage assembly.

**Part No. OKC-3171F** (same as OKC-2291F but configured for "Pump Down" operations.)

OKC-2291F panel indicator shows green after the high level is reached and continues to indicate green until the low level is reached. After the low level sensor is deactivated the indicator shows "red" until the high level sensor is actuated. (OKC-3171F shows "red" during pump down.)

When the panel indicator shows "green" the output signal is "off". When the panel indicator shows "red" the output signal is "on."

## NARROWBAND LEVEL CONTROL

This panel is used for control of liquid level over the deadband of the pneumatic float valve (approximately 1/4" to 1/2"). The control panel pilots a fill or drain valve that operates a pump. A normally open float valve is used. The output control is "on" (indicator red) when the level is low and is "off" when the level is high (indicator green).

**Part No. OKC-2292F** Includes inlet filter, regulator and gage assembly.

**Part No. OKC-2292** Filter, regulator and gage not included.

The output signal can also be used as a remote indicator signal to operate a visual indicator or a sonic alarm. Use as follows:

Low Level Alarm – use a normally open float valve  
High Level Alarm – use a normally closed float valve

## SPECIFICATIONS

**Operation** – A pneumatic control panel

**Box Dimensions** –  
4" x 4" x 2-5/8"

**Inlet Air Pressure to Regulator** –  
50-125 psig

**Normal Pressure Setting** –  
50-100 psig

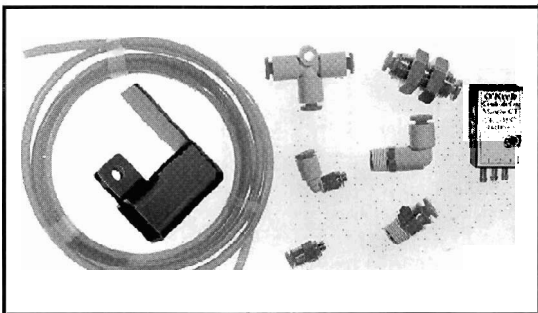
**Pneumatic Indicator** –  
1" diameter red/green

**Manual Control** –  
OFF/ON Toggle Valve

**Air Filtration** – Air should be dry and filtered to 5 microns

**Output Air Signal** – 50-100 psig (same as regulator pressure setting)

# FLOAT SWITCH – ACCESSORIES



## Description

## Part Number

Male Connector	10-32 x 5/32" OD	OKQ2H03-32
Male Connector	1/8" NPT x 5/32" OD	OKQ2H03-34S
Male Elbow	10-32 x 5/32" OD	OKQ2L03-32
Male Elbow	1/8"NPT x 5/32" OD	OKQ2L03-34S
Bulkhead Union	5/32" tubing	OKQ2E03-00
Union Tee	For 5/32" tubing	OKQ2T03-00
Tubing	5/32" OD (4mm) - green	OTU0425G-20
Cable Clamp Bracket	7/8" attachment hole	OKC-1532
Replacement Valve	3 way magnetic operation	OKC-1587