

# The World's Most Reliable Level Switch



**JERGUSON<sup>®</sup>**

# Typical Level Switch Concerns



Typical Level Switch

SWITCH FEATURE COMPARISON CHART		
Switch Features	Typical	JERGUSON®
Anti-Vibration Switch	ADDITIONAL COST	STANDARD
316-SST Trim	ADDITIONAL COST	STANDARD
Set-Point Adjustments	MUST ISOLATE ENTIRE UNIT FROM PROCESS	QUICK & EASY WITHOUT ISOLATION
Ansi B16.5 Body Flanges	ADDITIONAL COST	STANDARD
Welding per ASME Sect. IX	ADDITIONAL COST	STANDARD
B31.1 Power Piping Code	ADDITIONAL COST	STANDARD
B31.3 Process Piping Code	ADDITIONAL COST	STANDARD
Refinery Piping Code	ADDITIONAL COST	STANDARD
CMTRs (material test reports)	ADDITIONAL COST EXTENDED DELIVERY	ADDITIONAL COST STANDARD DELIVERY

# Tri-Magnet Switch Advantages



Jerguson Tri-Magnet Level Switch

Float Chamber

Jerguson designs and fabricates *all* chambers to meet ASME B31.3/B31.3 standards. *All* welding is performed in accordance with ASME Section IX. *All* flanges conform to ASME B16.5.

## Vibration

Typical switches utilize either mercury or micro switches to make or break the circuit. These alone are not considered "snap-action" devices. A mechanism utilizing a spring or cam must be used to simulate a "snap-action" switch. These more complicated designs may be prone to component failure and inferior reliability.

## Exposed Pivot

The pivot points of the mechanism are exposed within the main switch enclosure. When the main housing is removed for installation or maintenance, foreign substance may find its way to the pivot points. In climates where condensate in the conduit is a problem, the pivots may be directly exposed to this condensate.

## Hazardous Material

Some brands use mercury switches as their standard SPDT switch. In steam service applications, mercury switches are the standard and recommended devices. Many plants prohibit the use of mercury.

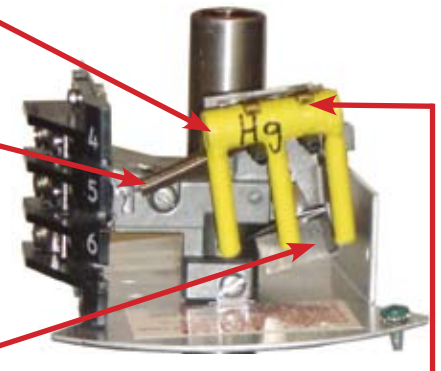
## Temperature Sensitive Springs

The return force of the spring is dependent upon the spring constant "k". As temperature increases, the spring constant decreases, which causes the return force of the spring to decrease. This may lead to unreliable operation in high temperature service. The spring may also fall off which will result in the switch not resetting. Additionally, if the spring is lost the entire switch mechanism must be replaced.

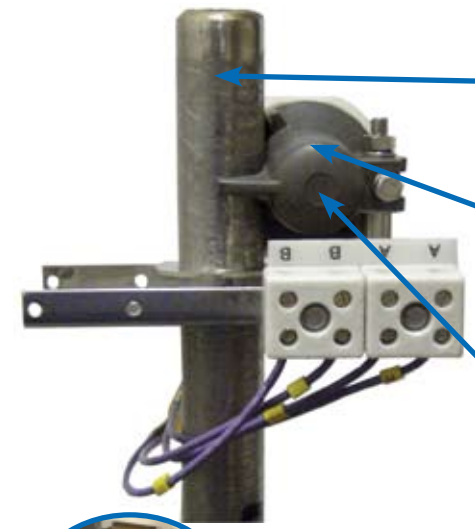
## Color-Coded "dots"

### Three Choices NOT Interchangeable

Most brands utilize a ferrous attraction sleeve inside of the pressure tube. The only magnet is a horseshoe shaped magnet that is located on the outside of the pressure tube. In a configuration which 316-SST trim is not required a ferrous attraction sleeve is provided which requires configuration "A" of the magnet. When 316-SST trim is required the ferrous attraction sleeve is encapsulated in 316-SST which requires configuration "B" of the magnet. 316-SST trim in conjunction with higher pressures requires the use of a different size pressure tube and a stronger magnet requiring configuration "C". However, after several months in service, the different colors on the magnets may all appear to be the same color, or simply fade away.



Fragile Mercury Encapsulated Glass



## Pressure Tube

All configurations of the Jerguson Switch use the same pressure tube with a permanent magnet on the actuation rod to drive the switch mechanism. This provides for a common part no matter which switch configuration is specified. Simple. Reliable.

## Protected Pivots

The Jerguson switch mechanism is protected inside of a secondary enclosure inside of the main switch housing. This prevents foreign debris from contacting the mechanism during installation, maintenance or through conduit entries.

## No Mercury No Springs

## Vibration Resistance

The Jerguson switch mechanism utilizes a unique tri-magnet design that provides a snap-action switch with no cams or springs.

The magnet on the float rod inside the pressure tube drives the secondary magnet. The secondary magnet drives the tertiary magnet, which drives the switch contacts. Each magnet repels the other. The use of repelling magnetic fields provides a *positive snap action interlocking switch*. This design is extremely resistant to vibration and will compensate for extreme misalignment tolerances on installation.

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The World's Most Reliable Level Switch

# JERGUSON<sup>®</sup> *Tri-Magnet*

## Easy & Economical Filed Upgrades For Most "Typical" Level Switches



Replace switch and enclosure without removing existing chamber.



Replacement kits available for a wide variety of upgrades.



NO Piping Changes



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