TAG: ALBANY FUEL OIL FILTRATION ASSEMBLY

CONDITIONS:
LIQUID       DIESEL FUEL OIL
CAPACITY     360 USGPH
PRESSURE     15 PSI APPROX.
VISCOSITY    50 SSU
SUCTION      17” HG. MAX.

UNIT ADHERES TO CSA0B1390N-06, CSAB139-15, CSA C282, NFPA 110,

APPROXIMATE WEIGHT – 300 LBS
Simplex Oil Filtration Unit

Dimensions and External Layout

Model: SF3

NEMA/CSA 1 ENCLOSURE ASA 61 GREY

DESIG. | LABEL TEXT
-------|------------------
AB1    | -                
DS     | MAIN DISCONNECT
HMI    | -                
PL1    | POWER ON

Enclosed Industrial Control Panel No. XX - XXXXXX

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Albany Pump AF Series Fuel Oil Filtration and Polishing Systems are self-contained, pre-packaged and pre-wired units specifically designed to purify and filter stored diesel fuel. Preserving the integrity of the diesel fuel helps ensure trouble-free generator starts and reduces annual maintenance, contaminated fuel disposal and annual reservoir cleaning costs.

Maintaining clean and dry diesel fuel also discourages the growth of algae and bacteria while helping to reduce the need for expensive chemicals and biocide additives. Albany Pump AF Series Fuel Oil Filtration and Polishing Systems are fully automated with tank monitoring capabilities and are capable of servicing multiple tanks.

At the heart of each system is a diesel fuel purifier that is a simple one step unit. It removes nearly 100% of the free water and up to 98% of Particulate (to 2 microns). Even today's "clean" diesel fuel becomes contaminated all too easily. Water enters fuels systems through vents, leaks, and sometimes with the delivered fuel. Micro organisms can grow in fuel, especially in the presence of moisture.

The Albany Fuel Oil Filtration Assembly is designed to circulate and clean stored diesel fuel at critical facilities. Fuel Oil Filtration and Polishing has become an important aspect of emergency power reliability: Many critical facilities store increasing amounts of fuel onsite to assure continuity of operation and this fuel has low turnover in operation.

Diesel fuel can easily become contaminated with microorganisms such as bacteria, fungi, yeast, mold, and to a lesser extent algae. Diesel fuel in the presence of water and nutrients makes conditions ripe for high bacterial growth. In classical microbiology, microbes will generally need water, Carbon source, nitrogen, phosphorus, sulfur, trace minerals, and some form of oxygen (free or bound to other atoms) to grow. Most of these conditions are met in fuel tanks and fuel lines. Water and microbes can be introduced from the outside air or other environments. Water can also form from changes in storage temperatures, which causes condensation to occur.

Special organisms are able to grow in fuel causing it to degrade over time. Water allowed to remain in fuel will culture a microorganism or bacteria that feeds on the hydrocarbons in the fuel, therefore degrading the fuel quality. Water is the worst and most common form of fuel contamination.

The Need for Fuel Polishing in Storage Tanks

The most common reason for diesel engines in general to fail to run is associated with "bad diesel fuel." The things that make the diesel fuel bad generally have nothing to do with the original quality of the fuel. The problems come about because of the condition of the fuel we buy and what happens to the fuel when it gets stored. Most of this contamination adheres to the wall of the tanks and you might not immediately notice a problem. Once operation is underway and the fuel begins moving around the contamination tends to start breaking away from the wall of the tank and entering the fuel. This contamination can clog your filters and shut down your engines.

Day Tanks

The object of a day tank is essentially to provide a "day's" quantity of fuel that is guaranteed to be clean and dry for the engine. It is important to remember that the clean and dry fuel in the day tank will be exposed to the same conditions that cause the fuel in the main storage tank to become bad. Given enough time, the fuel in the day tank will get to the same condition as the fuel in the main tank. A filter and a water separator are still required on the outlet of the day tank.
To provide the desired results, this tank must, in fact, be a "Day Tank." That is, the fuel in this tank must remain there for only a short time. All the problems of long-time fuel storage in the main tank will be present in the day tank if fuel remains in it for long periods of time. Once it ceases to be a "Day Tank" it must be treated just like any other tank.

The Albany Fuel Oil Filtration Assembly has an innovative compact design has a minimal footprint for Filtration / Polishing of tanks from 500 to 50,000 gallon capacity

Each System Includes:

- Albany ‘L’ or ‘G’ Series Positive Displacement Gear Pump with adjustable internal relief valve and totally enclosed fan cooled industrial motor. Shut-off valves and flanges are positioned so the pump may be removed for servicing without disturbing piping.
- Weather proof NEMA rated enclosure, with lockable door, or base mounted assembly, with rupture containment basin with leak detection sensor and 1/2" NPT plug drain port. Enclosure can be ordered for either wall mounting or with optional base for pad or tank top mounting.
- Common system suction port and common system discharge port with "lost" flow detection sensor.
- System inlet strainer with liquid filled compound vacuum pressure gauge and differential pressure gauge for "clean" strainer alarm indication.
- Check valve and liquid filled pressure gauges on each pump discharge.
- cUL/CSA listed control panel, containing programmable logic controller, adjustable system timer, manual-off-auto illuminated pump mode selector switch, indicating lights, alarms and motor starter with overload protection.

Filtration Stages:

**Stage One: Separation**

As fuel enters the filter assembly, it moves through the centrifuge and spins off large solids and water droplets which fall to the bottom of the collection bowl.

**Stage Two: Coalescing**

Small water droplets bead-up on the surface of the conical baffle and cartridge element. When heavy enough, they too fall to the bottom of the bowl.

**Stage Three: Filtration**

Proprietary Aquabloc® II cartridge elements repel water and remove contaminants from fuel down to 2 micron (nominal). They are waterproof and effective longer than water absorbing elements.
<table>
<thead>
<tr>
<th>Model #</th>
<th>G.P.H.</th>
<th>H.P.</th>
<th>Connection Size</th>
<th>Electrical</th>
</tr>
</thead>
<tbody>
<tr>
<td>AF-L93</td>
<td>120</td>
<td>1/3</td>
<td>3/8&quot;</td>
<td>120 VAC</td>
</tr>
<tr>
<td>AF-L86</td>
<td>210</td>
<td>1/2</td>
<td>3/8&quot;</td>
<td>120 VAC</td>
</tr>
<tr>
<td><strong>AF-L05</strong></td>
<td><strong>360</strong></td>
<td><strong>3/4</strong></td>
<td><strong>1/2&quot;</strong></td>
<td><strong>120 VAC</strong></td>
</tr>
<tr>
<td>AF-L94</td>
<td>600</td>
<td>1</td>
<td>1/2&quot;</td>
<td>120 VAC</td>
</tr>
</tbody>
</table>


### TANK TURNOVER IN HOURS

<table>
<thead>
<tr>
<th>Model #</th>
<th>1000</th>
<th>2000</th>
<th>4000</th>
<th>6000</th>
<th>8000</th>
<th>10,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>AF-L93</td>
<td>8.5</td>
<td>17</td>
<td>33.5</td>
<td>50</td>
<td>67</td>
<td>83.5</td>
</tr>
<tr>
<td>AF-L86</td>
<td>5</td>
<td>10</td>
<td>19</td>
<td>29</td>
<td>38</td>
<td>48</td>
</tr>
<tr>
<td><strong>AF-L05</strong></td>
<td><strong>3</strong></td>
<td><strong>6</strong></td>
<td><strong>11.5</strong></td>
<td><strong>17</strong></td>
<td><strong>22.5</strong></td>
<td><strong>28</strong></td>
</tr>
<tr>
<td>AF-L94</td>
<td>2</td>
<td>3.5</td>
<td>7</td>
<td>10</td>
<td>13.5</td>
<td>17</td>
</tr>
</tbody>
</table>

### TYPICAL PIPING ARRANGEMENT (MAIN TANK)
UTILITY DUTY GEAR PUMPS

The L05 series Utility Gear Pump is a close tolerance, low flow, high pressure positive displacement pump. It’s compact close coupled design, and quiet running helical gears, make this an economic, yet premium quality pump.

APPLICATIONS

- Hot Oil / Fryer Oil Pump
- Liquid Transfer / Circulation
- Small Booster Jockey Pump
- Spray Nozzles / Misting
- Hydraulic / Hydrostatic

FLOW: 5.75 GPM | 0-0.37 L/s | 0-1.3 m³/hr
PRESSURE: 0-150 PSI | 10.5 Bar | 0-346 Ft.

FEATURES

- Helical Gears for smooth, quiet running.
- Self Priming due to close manufacturing tolerances.
- Suction lift of up to 20 feet
- Pump housings are of close grain cast iron, or bronze.
- Shafts are of ground and polished steel.
- Mechanical seals of Buna or Viton.

SPECIFICATIONS

PORTS 1/2" NPT / 12.7 mm
CAPACITY 5.75 USGPM / 0.37 L/s (Max.)
PRESSURE 150 PSI / 10.5 Bar (Max.)
INLET PRESSURE 50 PSI / 3.5 Bar (Max.)
TEMPERATURE 225° F (100°C) (Buna Seal)

PERFORMANCE

Performance Curve - L05 Series

DIMENSIONS

To ensure a long life to this pump a strainer is always recommended in front of the pump inlet. Seals are easily replaced by removing the seal retaining ring, and pulling out the mechanical seal.
Legendary Diesel Fuel Filtration

When engines demand heavy-duty, high-capacity water separation and fuel filtration, the Turbine Series is the most complete, efficient, and reliable engine protection you can install. Symbolizing Racor’s continuing commitment to the science of filtration, the Turbine Series has established its position as the filter/separator often imitated, but never equaled. Models that include an aluminum bowl or stainless steel shield meet ASTM FS1201 certification, are UL-listed, American Bureau of Shipping, Veritas, Det Norske Veritas, ISO 10088, and USCG accepted. For severe service, all-metal bowls should be specified.

Paired with our famous and genuine Aquabloc® filters, the Racor Turbine Series is still the preferred brand for serious sailors globally.

Duplex units offer mariners the peace-of-mind of having a clean filter in reserve. Rough seas can stir up tank sediment which will quickly clog a single fuel filter. With Racor, a simple turn of a valve puts a clean filter back on-line. Servicing of the clogged filter can then be preformed even with the engine running.
Aquabloc Filters

Besides removing asphaltenes, water, gums, and varnishes, Aquabloc filters out tiny particles of dirt and algae from diesel fuel. Aquabloc filters have polymer end-caps that will not corrode, ever.

With an Aquabloc replacement filter, you get a complete kit with all the seals you need. And not just any seals, but specially-formulated, Racor-engineered seals.

Always carry extra Racor fuel filters as one tankful of dirty fuel can quickly clog a filter.

Many Racor filters include an emergency bypass.

Order only genuine Aquabloc replacement filters.

<table>
<thead>
<tr>
<th>2010</th>
<th>TM</th>
<th>-OR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select Filter 2010 (500 Series),</td>
<td>Select a Micron Rating</td>
<td>Must have “-OR” in part number (includes o-rings)</td>
</tr>
<tr>
<td>SM = 2, TM = 10, or PM = 30</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2020N</th>
<th>-</th>
<th>02</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select Filter, 2040N (900 Series), or 2020N (1000 Series)</td>
<td>Select a Micron Rating</td>
<td>02, 10, or 30</td>
</tr>
</tbody>
</table>

Make certain that you replace your Turbine Series assemblies only with Genuine Racor Aquabloc filters. While many others try to imitate the construction and performance of Aquabloc filters, only the genuine article delivers the fit and performance specified by engine manufacturers, and guarantees that your Racor filter/water separator will deliver the protection you count on.

For convenience, end-caps are color-coded for easy identification and application.

Red = 30 micron, primary filtration.
Blue = 10 micron, secondary filtration.
Brown = 2 micron, final filtration.

The top cap includes handles for easy servicing and a filter bypass button for emergencies.

Aquabloc media is a blend of high-grade cellulose compounded with engineered fibers, and a special chemical treatment. Water will not cling to the filter, Aquabloc repels it.
The Inside Story

1. As fuel enters, it moves past the internal check valve, then through the turbine centrifuge where it flows in a spiraling direction, spinning off large particulates and water droplets. Being heavier than fuel, the large particulates and water droplets fall to the bottom of the bowl.

2. Smaller water droplets bead-up along and on the sides of the internal components and on the surface of the Aquabloc® filter. When large enough, they too fall into the high-capacity bowl to be drained as needed.

3. Besides repelling water asphaltenes, algae, rust, and tiny solids from fuel, Aquabloc® filters are waterproof, so they remain effective longer, saving you money.
Racor takes pride in manufacturing a quality product that is fit for purpose and durable in all applications.

The manufacturing and design teams working at Racor are constantly striving to improve product performance to remain the leader in fuel filtration.

Some of the benefits a customer can expect to receive when buying a genuine Racor product are:

- OEM Quality and Validation
- Quality Certified Production Facilities to ISO TS 16949
- Qualified Products and Materials
- Correct Performance and Durability
- Up to 70% Increased Service Life
- Extensive QA and Development Facilities
- $10Bn Corporation: Continuity of Product/Service.

Extensive laboratory testing facilities at the Racor factory give assurance to all customers that the genuine Racor product will meet the demands of the engine system.

- ISO 13353 Filter Efficiency/DHC
- ISO 19438 Filter Efficiency/DHC
- SAE J 905 Filter Efficiency
- SAE J 1985 Filter Efficiency
- ISO 4020 6.1 Filter Integrity
- ISO 4020 6.3 Filter Differential Pressure
- ISO 4020 6.5 Water Separation
- ISO 4020 6.6 Filter Element Collapse
- ISO 4020 6.7 Hydrostatic Burst
- ISO 4020 6.8 Pressure Pulse Fatigue
- SAE J 1839 Course Droplet Removal
- SAE J 1488 Emulsified Water Removal
- ASTM B 117 Salt Fog Corrosion
- Numerous Internal Racor Test Standards and Customer Standards

Racor manufacturing locations are manufacturing to the highest possible standards. Some of the quality standards being maintained are listed below.

- ISO 13353 Filter Efficiency/DHC
- ISO TS 16949
- ISO 14001
- Ford Q1
- UL listed
- Bureau Veritas Listed
- American Bureau of Shipping Listed
- API 5th Edition

The Racor Spin On Series has standard primer pumps that tops the list of extensive options that allows bus fleets, truck fleets, RV owners and others to tailor a filter/seperator system specifically to their operating requirements.

These options include a choice of three micron ratings for the Aquabloc filter element, 300 watt in head PTC (positive temperature coefficient heater) water sensor and flow rates up to 600 l/hr (160 US gph).

Pump Diaphragm:
Racor use high quality support laminated high grade rubber fit for life diaphragms. Poor quality pump diaphragms will swell in the fuel, and leak in cold conditions, and eventually wear out under even mild Pressure pulsation/Vibration

Head casting:
Racor validate castings under extreme vibration and climatic conditions to meet chassis and engine specifications. Unlike unauthorised copies.

Filter Can Components:
Racor validate canisters under extreme vibration and climatic conditions to meet chassis and engine specifications. Unlike unauthorised copies.

Coatings and plating:
Racor validate canisters under extreme salt spray and climatic conditions to meet OEM specifications and environmental requirements and are free from banned substances. Unlike unauthorised copies.

Clear Bowl:
Racor use a unique and durable clear plastic bowl material with high clarity, excellent UV, Low temp/high temp resistance, impact resistant and impervious to all fuel types. Validated under extreme vibration and climatic conditions to meet strict OEM specifications. Copies often use more economical materials.

Accessories:
Racor have a wide range of heater and sensor accessories all validated for integrity, EMC Compatibility and safety. Unlike unauthorised copies.
Racor Turbine Series

Every engine runs better with a system that cleans fuel, removes water, heats fuel and senses when it’s time for service. The system is the Racor Turbine Series and it’s the most complete, most efficient, most reliable high-capacity engine protection you can install.

A system that protects your investment in engines and fuel is a system that contains genuine Racor Turbine Series.

Seal Materials:
Crucial in a modern fuel filter, Racor use high quality automotive grade materials in all seals and valves. Poor quality seals will swell In the fuel, and leak in cold conditions.

Filter housing casting and components:
Racor validate castings under extreme vibration and climatic conditions to meet chassis and engine specifications. Unlike unauthorised copies.

Filter media:
The true heart of the filter. Racor develop proprietary semi synthetic Aquabloc media to meet the exacting specifications of injection system OEMs. These meet critical water removal and particle efficiency requirements. Copy cats regularly save cost on low quality medias which do not perform, and block up to 70% sooner.

Accessories:
Racor have a wide range of heater, electric primer Pumps, heat shields, metal bowls and sensor accessories all validated for integrity, EMC compatibility and safety. Unlike unauthorised copies.

Common problems with copies that are not genuine Racor filters.

<table>
<thead>
<tr>
<th>Issue</th>
<th>Concerns with Competitor Copies</th>
<th>Racor Commitment to Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blocked Filter</td>
<td>Low quality media can block 70% sooner than Racor media.</td>
<td>Racor uses patented Aquabloc media that meets the exacting specifications of injection system OEM’s meeting critical water removal and particle efficiency requirements.</td>
</tr>
<tr>
<td>Bypassing</td>
<td>Poorly constructed filter elements may bypass internally allowing dirty fuel to reach the engine</td>
<td>Racor use high quality materials and production processes to ISOTS16949 to avoid bypass problems.</td>
</tr>
<tr>
<td>Split / Leaking Seal</td>
<td>Poor quality seals will swell excessively, leak and may deteriorate within the service period.</td>
<td>Racor use high quality automotive grade materials. (For example; NBR, HNBR, Viton and bio-diesel compatible.)</td>
</tr>
<tr>
<td>Dirty fuel reaching engine</td>
<td>Incorrect efficiency filters will not protect the engine</td>
<td>Replacement to OEM grades will perform as designed for the application.</td>
</tr>
<tr>
<td>Water in fuel reaching engine</td>
<td>Few, if any of the copy filter elements work to original equipment levels</td>
<td>Racor use the same media and materials in original equipment and replacement filter elements.</td>
</tr>
<tr>
<td>Cold Conditions</td>
<td>Poor quality pump diaphragms and seals will harden and cause leaking. Incorrectly selected media will block in cold conditions.</td>
<td>Racor use high quality material rated for ~40 deg C. Racor original applications are correctly selected for operating conditions.</td>
</tr>
<tr>
<td>Cracked head casting</td>
<td>Poor quality head castings cannot cope with extreme environmental conditions and vibrations.</td>
<td>Racor products are validated under extreme vibration and climatic conditions.</td>
</tr>
<tr>
<td>Contains banned substances</td>
<td>Some copy filters contain banned substances in the canister coating and plating.</td>
<td>Racor caristers contain no banned substances and are validated under extreme salt spray and climatic conditions.</td>
</tr>
<tr>
<td>Cracked Clear Bowl</td>
<td>Copy filter bowls are often made from poor quality material that will crack under extreme temperature or continuous vibrations.</td>
<td>Racor use a unique durable clear plastic bowl material with high clarity, excellent UV/ low temperature / high temperature resistance, impact resistance and impervious to all fuel types.</td>
</tr>
</tbody>
</table>

Can I buy accessories for my fuel filter?
Unauthorized Racor copies do not always offer accessories. If they do they are likely not to be tested. Racor have a wide range of heater and sensor accessories that are validated for integrity, EMC compatibility and safety.
The critical performance factor for any fuel filter is the water separation efficiency. The graph below shows the performance level of the Racor product versus some competitor copies. It is clear to see that the Racor water separators outperform that of the competitor copies.

Be aware that some of these competitor products fail to remove particulates from the fuel and put the engine system in danger.

Some of the known manufacturers of low cost Racor copies are listed below.
- Griffin
- Separ
- Venus
- Rauma
- VNY
- Sampiyon
- ASAS
- Chinese R90MER01
- Turbinas Chinas

The Parker Racor Cross Reference and Applications Database is the new stand alone system that enables you to cross reference Racor parts against OEM part numbers, within seconds. With a range of powerful application tools including data sheets, standard reports and fleet finder, it gives you instant access to all the information you need to identify new sales opportunities.

To register now, and obtain your password, email mday@parker.com

Together, we can find new opportunities at the click of a mouse.

Together, we can supply over 35,000 interchange elements

Offering immediate availability, competitive prices and quality to match or exceed any other product, Parfit is the one stop shop for all your replacement hydraulic filter elements. Developed with Parker engineering genius, Parfit Interchange elements will replace any filter element, whatever the original equipment specification, all from one single source.

For more information, visit www.parkerhfde.com/parfit or www.parker.com/parfit
Turbine Series

Turbine Series filter assemblies are designed to be installed on the vacuum side of the fuel transfer pump for best efficiency and protect precision engine components from dirt, rust, algae, asphaltines, varnishes, and especially water, which is prevalent in engine fuels. They remove contaminates from fuel using the following legendary three stage process:

Stage One: Separation
As fuel enters the filter assembly, it moves through the centrifuge and spins off large solids and water droplets which fall to the bottom of the collection bowl.

Stage Two: Coalescing
Small water droplets bead-up on the surface of the conical baffle and cartridge element. When heavy enough, they too fall to the bottom of the bowl.

Stage Three: Filtration
Proprietary Aquabloc®II cartridge elements repel water and remove contaminants from fuel down to two micron (nominal). They are waterproof and effective longer then water absorbing elements.

Features and Benefits
- Available in several sizes to fit any application.
- Heavy duty construction.
- Installs quickly.
- Available in 2, 10, and 30 micron.
- Easy to service.
- Clear collection bowl.
- Self-venting water drain.

Optional accessories may include: water detection kits, 12 or 24 volt dc heaters, heavy-duty fuel hose and fittings. see Accessories section.
MODEL DPP405 DIFFERENTIAL PRESSURE INDICATOR

Unique Dual-Faced Design for Universal Installation

Model DPP-405 offers a clean, simple new look which leads the industry in compact design and aesthetic style. All nylon construction means easy compatibility with many fluids. Unique design is interchangeable with other models using 1.75" center distance.

200°F SERVICE
300 PSI MAX

The DPP975 or DPP405 answers all of the requirements of the filter OEM and user at modest cost and is the simplest of installations.

- Magnetic actuation
- Safe - no pressure behind lens
- Dual face - means no directionality and universal installation
- 2" dial face
- 3 color dial (green-yellow-red) meets international standards
- 2 bolt installation (includes signal transmission)
- Available with remote indicating reed switch
- Line mount option - for remote installation or mounting on large filter heads
- Inert glass filled Nylon construction

DPP-405 SPECIFICATIONS
REED SWITCH SPECIFICATIONS

<table>
<thead>
<tr>
<th>MODELL</th>
<th>MAX. VOLTAGE SWITC</th>
<th>MAX. SWITCH CURRENT</th>
<th>CONTACT RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS 10W3A</td>
<td>100 AC/DC</td>
<td>.30 AMPS</td>
<td>10 VA</td>
</tr>
<tr>
<td>RS 10W5A</td>
<td>100 AC/DC</td>
<td>.50 AMPS</td>
<td>10 VA</td>
</tr>
</tbody>
</table>

DPP-405 FUNCTION

Allows exact determination of pressure drop cross element. Divided into three sections, each marked for easy understanding. The differential pressure gauge is the best tool available for determining element maintenance requirements.

<table>
<thead>
<tr>
<th>COLOR</th>
<th>INDICATES</th>
<th>PRESSURE DROP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CLEAN</td>
<td>0 - 6 PSI</td>
</tr>
<tr>
<td></td>
<td>CHANGE</td>
<td>6 - 9 PSI</td>
</tr>
<tr>
<td></td>
<td>DIRTY</td>
<td>9 - 12 PSI</td>
</tr>
</tbody>
</table>
Model 446 Emergency Shut-Off Valve

Application
The 446 normally open valve is designed to shut off liquid flow in the event of a fire or excessive temperatures. This emergency shut-off valve is installed in the fuel line from a storage tank to fuel burning equipment; such as back-up generators, boilers and other flammable liquid burning appliances.

Features and Details
- cULus listed to ULC/ORD-C842 – Valves for Flammable and Combustible Liquids
- 165°F fusible link activates spring closure
- ¾” or 1” female NPT threaded connects
- Compact size reduces operational footprint requirement
- Easy to install and maintain

Operational Criteria
- Operating pressure rated at 50 psi
- Operating temperature range rated at -20° F to 125° F

Materials of Construction
- Body... 316 stainless steel
- Cap, shaft, tail fitting, poppet, and nut... 303 stainless steel
- Lever arm... 304 stainless steel
- Handle... 356-T6 aluminum
- Spring... 17-7 stainless
- Fuse link... 165°F
- O-ring and disc... Viton®

Code Compliance
- cULus listed

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Size</th>
<th>Weight (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>446---0075 AV</td>
<td>¾”</td>
<td>3.20</td>
</tr>
<tr>
<td>446---0100 AV</td>
<td>1”</td>
<td>3.40</td>
</tr>
</tbody>
</table>
**DESCRIPTION**

The FS-LEAK Compact Level Switches feature a stainless steel float for higher heat and pressure capabilities. Designed for low-cost, high-volume use, the FS-LEAK vertical switches are best suited for shallow and restricted tank spaces. Their durable stainless steel construction also allow for installations in several harsh and corrosive environments. The all stainless steel FS-LEAK models are FDA compliant with food contact regulations and provide an ideal choice for use in food and beverage equipment.

**PRINCIPLE OF OPERATION**

A hermetically-sealed reed switch is actuated by an internal magnet within the float. As the float rises and falls with the liquid level, the magnetic field passes the switch encapsulated within the stem and results in a switch state change.

**KEY FEATURES**

- Ideal For Shallow Tanks
- Single-Stage Vertically-Mounted
- Broad Media Capability
- Interchangeable NO or NC Operation
  By Float Inversion
- SPST 50 VA Switch (Standard)
- Lead Wires 36” 22 AWG Type E

Switch Operation: Units are shipped N.O. unless otherwise specified. Selectable, N.O. or N.C., by inverting float on unit stem

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>MOUNT</th>
<th>STEM/FLOAT</th>
<th>SG*</th>
<th>TEMPERATURE</th>
<th>PRESSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8&quot; NPT</td>
<td>316 Stainless Steel</td>
<td>0.69</td>
<td>-40º to +257º F (-40º to +125º C)</td>
<td>100 PSIG (6.9 bar)</td>
</tr>
</tbody>
</table>

**Electrical Specifications**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Switching Voltage VOLTS DC/AC</td>
<td>240</td>
</tr>
<tr>
<td>Maximum Switching Current AMPS DC/AC</td>
<td>1.0</td>
</tr>
<tr>
<td>Maximum Switching Power WATTS DC/AC</td>
<td>50</td>
</tr>
<tr>
<td>Max. Operating Temperature</td>
<td>125ºC, 257ºF</td>
</tr>
</tbody>
</table>

Class I Division 1 and 2, Groups A,B,C,D,T5