This differential pressure shut down safety system is designed to comply with JIG bulletin No. 58 of January 2013. This states that a differential pressure switch must now be fitted to all filter monitors and is also recommended for all filter water separators in order to automatically cut off fuelling once the differential pressure reaches a critical level, preventing any possibility of contaminated fuel passing onto an aircraft. The critical differential pressure can be adjusted from manufacture to suit either filter water separator (15 psi) or filter water monitor (22 psi) installations, or indeed any chosen differential pressure between 3 and 58 psi. The Fluid Transfer differential pressure shut down system has been designed to be easily and safely retrofitted to all vehicles. The all pneumatic design is “fail safe”, and with no electrical components avoids ATEX compliance issues. Installation is simply achieved on refuelling vehicles (of any manufacturer) by tapping into the Ø6mm high and low pressure supply lines to the existing differential pressure gauge. The control box containing the visual detectors, test system and key switches, together with the differential pressure switch, can be mounted to the existing instrument panel or an alternative suitable location.

A pneumatic output is produced by the pressure switch when the critical differential pressure of 22 psi is reached. This pneumatic output disables the deadman system via a pneumatic pilot valve in order to cut off the fuel supply at the pit coupler on a hydrant dispenser or at the in-line pressure control valve on a refueller.

Pneumatic indicators display on the control unit which of the 3 states the system is currently in:
- High differential pressure system activated
- High differential pressure system reset
- High differential pressure system override

Full scale deflection testing on the differential pressure gauge is possible by utilising the switch’s override option.

Reset and override functions are only accessible with a safety key in order to comply with the JIG bulletin which states that the fuelling operator must not be able to override the system.

The controls and indicators are housed in a 200x160x100mm polycarbonate enclosure. Pneumatic connections into and out of the control box are via Ø6mm push fit couplings.
Filter High Differential Pressure Shut Down System

FT-009399

Advantages of pneumatic system

Contents

pressure Ø6mm gauge lines to the existing differential pressure gauge. Fits easily to Ø6mm stainless steel gauge lines. Universal fitting kit can be supplied if required – FT-009576.

The vehicle’s existing differential pressure gauge is retained. No complicated electrical or PLC based installation required, allowing straightforward installation by workshop personnel familiar with simple pneumatics.

No additional electrical pressure transducers required. No requirements for additional electrical parts and no impact on existing ATEX approvals.

Control box module
Differential pressure switch
Pilot valve
Regulator
Gauge 0-10 Bar
Control box mounting bracket

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