# Fuel Inerting System

**Generation and Storage**

After the air stream comes out of the CSAS, it goes into the IGGS Pallet. The IGGS Pallet contains an Isolation Valve (also referred to as a Gate Valve); a Double-Ultra Low Particle Air Filter; Temperature, Pressure and Oxygen sensors; an Air Separation Module (ASM), a Dual Flow Shut-Off Valve (DFSOV), a drain plug, ducts, clamps, brackets, and bonding straps.

The air stream goes through the Isolation Valve into the Double-Ultra Low Particle Air (D-ULPA) Filter. The D-ULPA Filter cleans the air stream, to make sure that only clean air goes into the Air Separation Module.

The Air Separation Module has thousands of very small diameters hollow fiber tubes, which divide the air into OEA and NEA streams. The OEA goes out of the Air Separation Module to the atmosphere, and the NEA goes through the Dual Flow Shut-Off

Valve out of the IGGS Pallet into the fuel tank.

The duct that goes into the Isolation Valve, the D-ULPA Filter, and the duct between the D-ULPA Filter and the Air Separation Module inlet have a thermal insulation, to help make sure that the temperature of the air stream that goes into the Air Separation Module is more than 54 deg. C (129.20deg. F).

**Distribution**

The Distribution System supplies the NEA from the IGGS to the fuel tank through piping and the discharge nozzle, and prevents fuel ingress from the fuel tank back to the IGGS.

The air stream that comes out of the CSAS goes into the IGGS Pallet, and then it goes through an Isolation Valve

The Isolation Valve closes if the air stream has a pressure of less than 15 psi (1.0342 bar), and/or its temperature is hotter than 85 deg. C (185.00 deg. F).

When the NEA goes out of the Air Separation Module it goes through the Dual Flow Shut-Off. The Dual Flow Shut- Off Valve controls the NEA flow to the fuel tank, sets NEA flow between low/mid/high and isolates the IGGS from the fuel tank.

The fuel tank upper skin has a Check Valve assembly, with zero leakage, that prevents fuel ingress from the fuel tank back to the IGGS.

The Check Valve assembly has an In-Tank Housing and a Dual-Flapper Check Valve.

**Fuel Tank Priority**

A320 family Fuel system priority of usage fuel tank is below:

Center Fuel tank empty first, than outer fuel tank and last tanked to be emptied is inner fuel tank.