The Type 150 Natural Gas Filter-Separator removes liquid and solid particles from a gas stream for the protection of compressors, turbines, and other downstream equipment. Applications can be found in gas gathering systems, gas storage facilities, gas transmission lines, metering stations, and at plant entrances for refining, petrochemical, and other industries. Type 150 filter-separators are available in horizontal or vertical configurations.

**How it works:** The filter-separator has three stages of liquid and solids removal. In the first stage, moisture-laden gas enters the filter-separator and makes initial contact with the filter pedestals, or pipe risers, where heavier liquids impinge and fall out of the gas flow aided by a loss in velocity and gravitational effects. This liquid then drains out of the vessel housing and into the sump below. In the second stage, the gas stream enters the filter cartridges where solid particulates are captured. Here, aerosol and larger entrained liquid particles, without enough mass to be pushed through by the gas flow, attach to the media fibers. As additional liquid particles enter the media, they merge, or coalesce, with other droplets until they are large enough to be pushed through. These larger liquid droplets are then removed from the gas stream in the third stage by the separator internal and drain to the sump below. The captured solid particulate matter is removed from the vessel when the disposable cartridges are changed out. Gas exiting the filter-separator is 99.9% free of liquids 1 micron and larger and solid particles as small as 0.3 microns depending on filter selection.

**Separator Designs:** In addition to the filter section, these filter-separators are available with either the Directional Blade™ centrifugal separator internal or the Vane separator internal. Both designs are highly efficient for removal of liquids and each has its own benefits.

**Directional Blade™ Centrifugal Separator Internal:** The Directional Blade™ filter-separator efficiently removes liquid and solid particles from gas and takes up less space with a smaller diameter vessel. The Directional Blade™ with fixed, non-moving blades imparts a spin to the flow, directing entrained liquids and solids to the vessel wall through the process of centrifugal force. Liquids coalesce on the interior surface of the vessel and continue to move along the wall with the spinning flow toward the end of the vessel and the drain. This compact design has cost-saving benefits as well as applications where space may be limited.

**Vane Separator Internal:** The filter-separator with the Vane internal is equally efficient. As the gas passes through the tortuous path of the corrugated vane plates, entrained liquid particles are initially separated from the gas due to changes in flow direction. Inertial impaction causes the liquid to separate as it cannot change direction with the gas. Impinging upon the vane surfaces, liquid particles become enlarged through coalescence as they travel along these surfaces toward the pockets in the vane assembly and finally fall toward the drain. Due to its typically larger vessel diameter, this design may contain more filter cartridges with the benefit of longer operational periods between filter change-outs.

**Filter cartridges** typically provided in the Type 150 Filter Separator are:
- WCL536 (0.3) glass fiber depth type media in combination with polypropylene coalescing media with a rating of 0.3 micron at 99.9% efficiency (beta 1000), or
- WMGL536 depth type microglass with ratings of 0.3 or 1 micron at 99.9% efficiency (beta 1000).

**Options:** Some of the options include horizontal or vertical design, various vessel support styles, lifting eyes, filter cartridge selections, various coatings or alloy construction, and many others. In addition, many customer requirements can be accommodated.
Type 150 Filter-Separator

Type 150V Vertical Design

Type 150H Horizontal Design

Specifications are subject to change without notice. 1-21-2020 (supersedes 4-11-2019)

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