

Enhanced Type H™ Separation Vessels

Features

- *Handles high gas and liquid rates*
- *Reduce size and weight of pressure vessels*
- *Reduce foot print, support structure and ancillary equipment*
- *Lower installation and project cost (may be stacked to further minimize space)*
- *Protect downstream corrosion and erosion*
- *Ideal for both upstream and downstream applications*

Compact Reliable Separation

Enhanced Type H Separator vessels are *horizontal* vessels generally ideal for high gas-oil crudes, foaming crudes, for liquid-liquid separation, or for a diverse range of situations and flow rates. Experienced process engineers use proprietary software to simulate and optimize all six sections of a horizontal vessel (see Figure 1). Properly designed vessels are lower in cost, easier to ship/assemble and may require less piping for field connections. EIT engineers know that size and weight of separation equipment are key factors in the commercial value of a development project. Our compact separation vessels provide state-of-the-art separation technologies for onshore and offshore separation. The design minimizes space and weight while optimizing separation efficiencies. For existing installations, the equipment can provide separation solutions that lead to increased production and improved efficiencies.

EIT programs can interface with Aspen HYSYS®, UniSim®, Scim-Sci for accurate predictions on full life cycle performance and effect on downstream equipment. These horizontal separators are commonly used in oil and gas refinery/production and petrochemical plants, for applications that separate vapor liquid mixtures, three phase mixtures with immiscible liquids, as well as, four phase mixtures with solids whose turbulence causes foaming. Their performance and operating range is determined by the process data, characteristics of the fluids being separated, the size of the vessel, and the type of internals selected and installed. Experience has proven that improved gas and oil quality, reduced impact of solids or foaming, an increase in gas and oil production, and the optimization of produced water quality are clear benefits of selecting Enhanced Type H Separator vessels.

Produced Water

An important application is in the produced water handling system, which is a key part of most oil and gas production facilities. If the discharge specifications are not met, there may be a significant environmental and economic impact. Additionally, over-designed produced water vessels can take up valuable space, reducing the amount of oil that can be produced.

Enhanced Type H Separator vessels offer separation technologies to handle the produced water. Our equipment covers the whole range, from bulk separation of water at the well-stream, to the final polishing of the water to meet the most challenging regulations for discharge, including solids handling. EIT utilizes compact technologies for both new build production processes and retrofit into existing infrastructure.

Debottlenecking and Retrofitting

Decreasing reservoir pressure, increasing water production, along with space and weight restrictions at existing facilities are a few of the many challenges that occur during production. EIT provides the capabilities to troubleshoot and debottleneck existing separation vessels to maximize the throughput and efficiency of current production trains. Our solutions in separation and retrofitting processing facilities can enable higher production rates and increased field recovery with no welding to vessel walls.

EIT customers have overcome production loss due to lack of efficiency of existing equipment, enhanced oil recovery, handled changing gas/oil ratio for late-life operations, as well as met new regulations for improved water quality by upgrading existing internals with state-of-art equipment specially designed to meet desired performance.

EIT identifies the needs and options for production improvement and undertake troubleshooting through data analyses and CFD studies. The resulting design and report contains recommendations and a proposal for the technology and equipment needed, including costs and expected installation time.

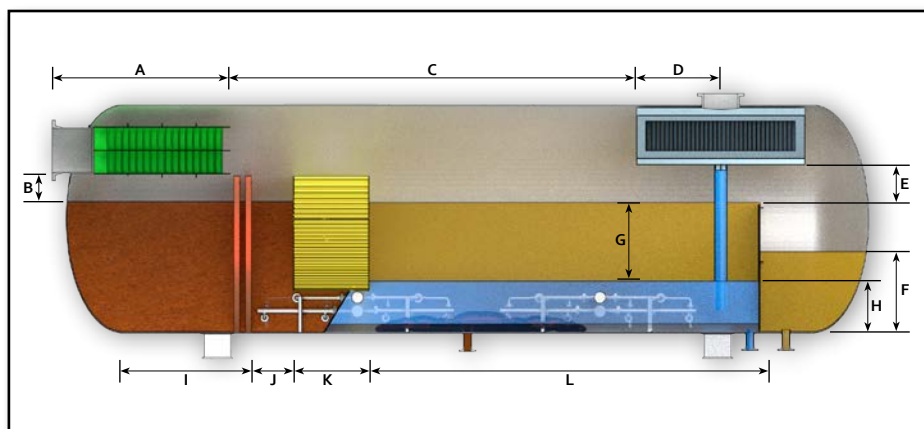
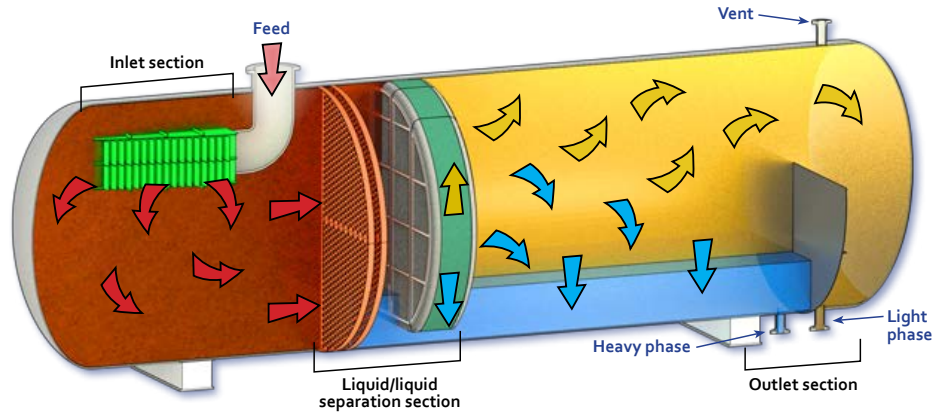
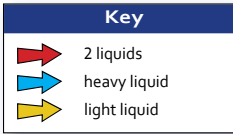
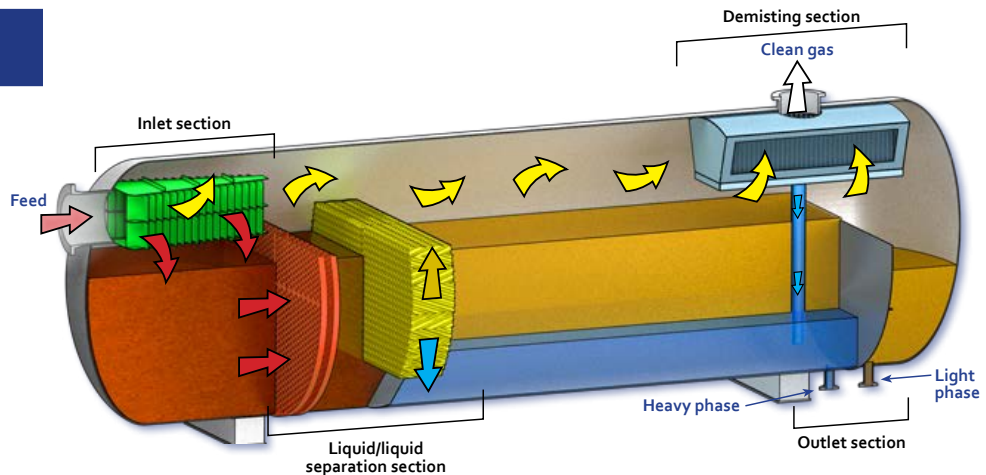
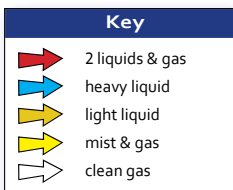


Figure 1 EIT designs all six sections of two, three, and four phase horizontal vessels.

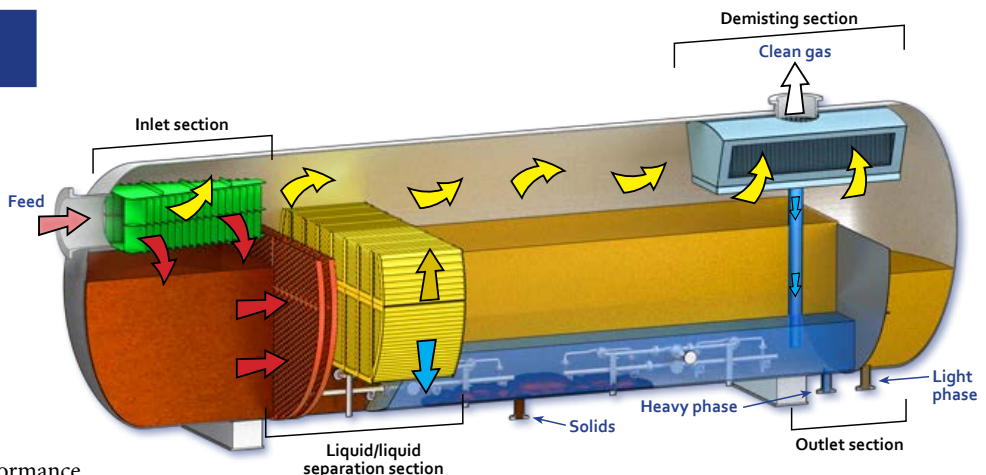
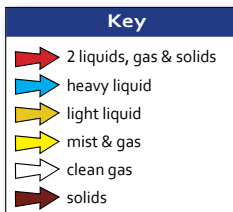
**Type H2
Two Phase (Typical)**



**Type H3
Three Phase (Typical)**



**Type H4
Four Phase (Typical)**



New Construction

New projects or evaluation of an existing separator starts with client's process data and clear required performance specifications. EIT provides process package and vessel design complete with state-of-art separation internals selected to guarantee stated performances at given operating conditions.

Included in the scope of supply:

- Process and mechanical calculations
- Vessel layout
- Material and quality certifications
- Installation procedures
- Operating manual
- Process guarantee

With our local partners, EIT offers supply of new Enhanced Type H Separation pressure vessels to ASME Code, CE marking, Chinese Pressure Vessel Code, or Korean Pressure Vessel Code in carbon steel or alloy, up to 14 feet in diameter, 150 feet long and up to 2-1/2" wall thickness.