

# Engineered Concepts, LLC

Emission Free Technologies

**E&P and Midstream**



**Process Equipment and Capabilities**



Beginning as Olman Heath in the late 1950's and evolving into today's Engineered Concepts LLC, invention and innovation continue to be our standard operating procedure. With over 40 patents and patents pending, Engineered Concepts continues to provide unique solutions with proven technology for all phases of oil and gas production from the wellhead to the refinery.



## A NEW WORLD OF OIL AND GAS PRODUCTION

While oil and gas producers employ advanced drilling techniques that were non-existent twenty years ago, many use production technologies that have not changed in decades.

Engineered Concepts is taking a new approach. We provide production and operating solutions using the most advanced modeling programs and then applying new and more efficient technologies. Whether you wish to reduce or eliminate your emissions in an environmentally sensitive area or minimize your installation time due to complex logistics and a manpower shortage, Engineered Concepts develops solutions packaged to address your problem.

## SAFETY FIRST

There are plenty of ways that packager/fabricators can cut corners with thin walled vessels, substandard materials and welding procedures. For safety, accountability and ethical reasons Engineered Concepts manufactures to ASME standards at a minimum. The satisfaction of saving a few dollars never outweighs the guilt of unnecessarily harming a coworker or the environment.

## HAZARDOUS /LETHAL SERVICE EXPERIENCE

Dating back to Olman Heath times, Engineered Concepts brings decades of hazardous service experience to the table. Whether there are high concentrations of H<sub>2</sub>S or other dangerous constituents Engineered Concepts can design and fabricate all vessels, enclosures and systems to NACE and other hazardous service requirements. Our ASME coded facility – Heath Technologies – regularly fabricates specially designed hazardous service equipment.



*Engineered Concepts packaged this electric compressor as part of an emission free well pad.*



# COMPLETE E&P SOLUTIONS

For high, mid and low pressure production, Engineered Concepts provides turnkey packaged solutions from the wellhead to the pipeline. If required, the well pad can be entirely emissions free with EPA tested and approved systems.



*ASAC equipped dehydrators, heaters, treaters (any natural draft fired equipment) produce 50% less emissions and lower operating costs by 50%.*

## SEPARATORS AND TREATERS

Engineered Concepts provides vertical and horizontal separators and treaters to meet a wide range of operating requirements. Our horizontal high-pressure separators are more efficient and effective in breaking out gas and our Treater-Combo skid mounted designs can significantly speed and simplify installation in remote regions or in areas where equipment rental and manpower are in short supply.



*The Treater-Combo greatly simplifies installation and operation by combining all of the functions of a two-phase high-pressure horizontal separator, line heater and horizontal treater on a single skid.*



*Engineered Concepts manufactures all sizes of high efficiency or emission free dehydrators.*

## **DEHYDRATORS**

If dehydration is required, there is no size limitation on the dehydrators Engineered Concepts can manufacture. On average Engineered Concepts ASAC equipped dehydrators require half the fuel and produce half the emissions compared to standard dehydrator designs. Our ASAC (Automatic Secondary Air Control) technology can also be incorporated in any natural draft burning system piece of oilfield equipment including heaters, production units and treaters. As a rule of thumb, the larger the fire tube the greater the emission and fuel savings.



## **QLD EMISSION FREE DEHYDRATORS**

For stringent environmental requirements, Engineered Concepts can provide a unique and completely emission free dehydrator system. These systems are the only dehydration technology to be EPA field-proven and do not possess rich gas and other limitations of common BTEX elimination add-on units. The Engineered Concepts QLD is safe, effective and has few operating limitations. The QLD BTEX free dehydration technology can be retrofitted into existing dehydrators often times with minimal modification and expense.



*QLD Retrofit Wyoming-Emission free dehydration technologies can be retrofitted into existing systems regardless of the gas content.*



# NUMEROUS VAPOR RECOVERY OPTIONS

Regardless the price of natural gas, the case for vapor recovery is very simple. You can continuously pay to burn your vapors or you can be paid for the vapors you do not burn. Flares aren't free; they constantly require fuel and for extreme efficiencies, can be expensive and by no means are trouble free. Most vapor recovery problems are the result of underestimating or complete oversight of the effects of rich vapors on rotating mechanical equipment. Engineered Concepts exclusive PICT (Process Interstage Control Technology) addresses problems associated with air-cooled compressors operating in a VRU capacity during cold temperature operations. The PICT valves serve to control interstage temperatures so recycles can be kept in check.



*Engineered Concepts PICT technologies address air cooled compressor problems (out of control recycles) during cold weather operation.*

Engineered Concepts offers a variety of cost effective vapor recovery options. Which approach depends upon field conditions and production content.



**STABILIZATION** - Stable fluids have numerous advantages. Engineered Concepts patent pending HERO stabilizer technology can be designed to address a wide variety of field conditions and fluid contents. Our patented HERO technology ensures 365-day reliability regardless of weather conditions.



*A portable short profile 300 barrel per day VRT/VRU package employs an electric pump to reduce tower height.*





**VRT/VRU** - The Engineered Concepts VRT eliminates oxygen ingress problems by capturing most of the vapors prior to storage. After the flash and the retention time in the VRT the fluids that reach the storage tanks produce minimal amounts of vapor.

**VRSA**—Engineered Concepts VRSA operates by taking vapors directly off the tanks. To prevent oxygen ingress the system shuts in when thief hatch is opened or if pressure is lost on the system.



# MIDSTREAM SPECIALTIES

For Midstream and E&P applications, Engineered Concepts offers numerous solutions to address your particular field conditions.

## **PIG LAUNCHER/ RECEIVERS -**

Engineered Concepts can design and fabricate pig launch/receive systems to meet your specific performance requirements.



*High and low pressure slug handling systems are designed to meet specific field conditions and process requirements.*

**SLUG CONTROL-** The Engineered Concepts slug receivers are typically less expensive and more space efficient than other receiver designs. They can be designed to meet any capacity or performance requirement and fully instrumented to effectively manage the slugs.



## **SERVICE AND SUPPORT**

From the wellhead to the pipeline to midstream, Engineered Concepts can provide customers whatever is required to get the job done. We can provide a complete well pad design and provide whatever level of service our customers require. With our service alliances we can arrange periodic or full service and support at any level required.



[www.engineeredconcepts.com](http://www.engineeredconcepts.com)

