

# GFED Options

## TANK FARM

### PRODUCT HANDLING AND STORAGE SOLUTION

Cosmodyne Packaged Plants offers a liquid storage, pumping and cylinder filling solutions. The innovative, skid-mounted system is engineered for the safe and efficient storage of liquid Oxygen and liquid Nitrogen in low pressure horizontal tanks. The package facilitates remote process monitoring, automatic pump cool-down and loss of prime protection, inventory control, liquid pump transfer to road tankers, high pressure pumping and vaporization for cylinder filling, as well as off specification liquid disposal.

**Efficient, versatile, moveable, safe, cost- effective**

- Safe shipping and rapid deployment / relocation
- Ships in standard 45 foot high-cube containers
- Eliminates expensive on-site engineering and labor
- Interface skid provides product piping insulation with flexible product connections
- Single point electrical connection
- Single point control connection
- Lighting included
- Remote dial in for: problem solving quality control and production trending
- IP55 dual door waterproof enclosures
- PLC automatic cool down and loss of prime detection for all pumps
- VFD control for the transfer pumps
- Rigorous testing at the point of manufacture
- Flawless and rapid commissioning in challenging or remote locations
- Independent control from main ASU plant PLC HMI
- Each Tank has a touch-screen HMI
- Safety as a priority, the system includes all safety systems
- Easy access for equipment maintenance
- The Oxygen pumps are fitted with Stainless Steel 6mm blast shields
- The tanks utilize gravity filling with vapor return lines to minimize transfer and flash losses

### Customizable Scope:

- An interface skid to tie all components together, for one or two tanks , transfer pumping skid, highpressure pump, HP vaporizer for cylinder filling and a dump vaporizer
- 25 /50 /75/100 m<sup>3</sup> vacuum + perlite insulated horizontal type storage tank designed to ASME sec. VIII div. I Ed.2010 with “U” stamp certification. PED as a option
- ACD transfer pumps with VFD controls for road tanker or VIE filling. ACD P2K cylinder-filling pump for cylinder filling features a vertical pump with a dual wrist-pin bearing design, allowing higher rod loading and greater drive-end life. Vacuum jacket at cold end minimizes the losses
- Customizable Vaporisers for Customer pipeline backup or HP Cylinder filling requirements
- A state-of-the-art Siemens PLC Control System with HMI touch-screen Electrical and PLC panels
- Tank has a pressure build-up coil to allow for pressure decants from the tank if necessary
- A Variable Frequency Drives for transport pumps
- Insulated Pump suction lines with aluminum weather-proof jacketing
- Independent liquid feed lines are provided to all pumps, facilitating separate operation of the Transfer pump and Cylinder Filling pump
- Interface between the plant PLC and the tank PLC system so that both systems can be viewed from either location
- The PLC includes the automatic cool down protection, loss of prime on both pumps as well as the tank level and pressure indication
- HMI screen incorporates a sun shield for easy viewing in bright environments
- The design includes safe disposal of liquid from safety and vent valves
- Easy access for equipment maintenance

