

Gas Engineering

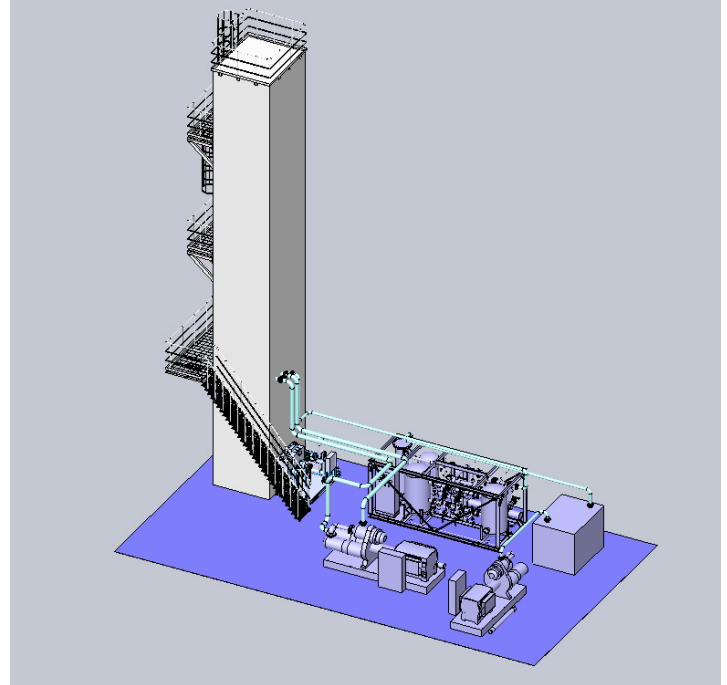
Cryogenic Process Systems

Model 3L500

Liquid O₂/N₂ Generating Plant
500 Nm³/hr



The 3L500 is a modular, “packaged” type plant furnished in six modules: feed air compressor, recycle air compressor, air chiller, pre-purifier, turboexpander and cold box.

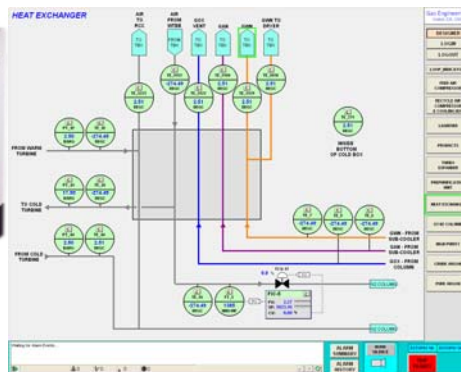


Features

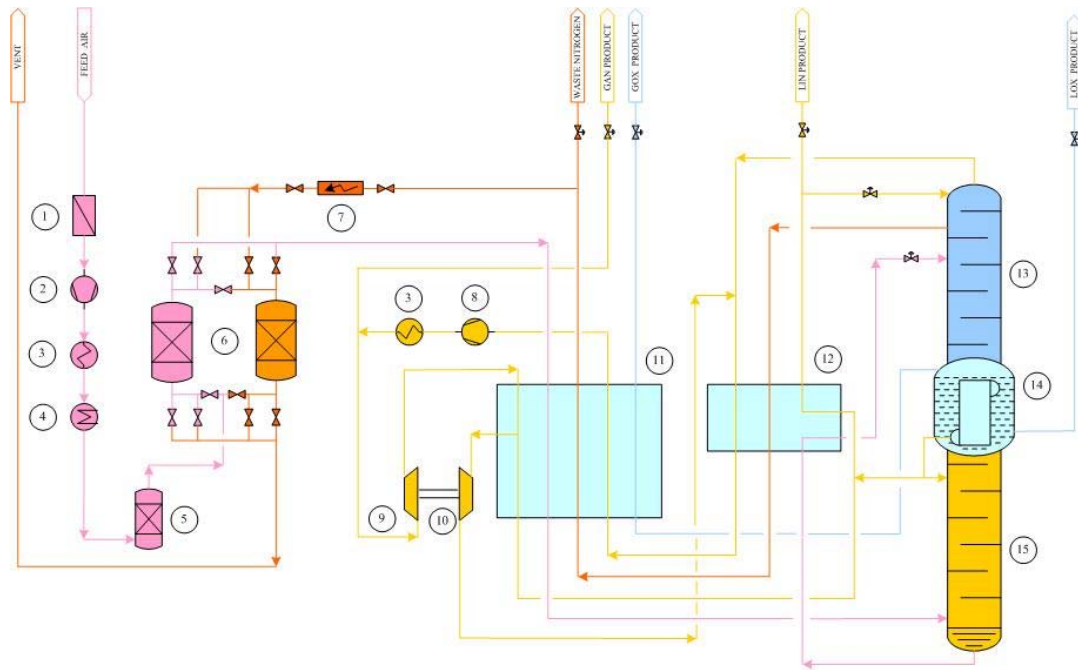
- State-of-the-art process with **ultra-low specific power**
- **Modular plant design** facilitates ease of installation and minimizes on-site construction cost
- State-of-the-art Gas Engineering **GEX Control System** provides fully automated operation, remote access capability and optional **100% redundant “hot” PLC backup**
- **Robust, low speed turboexpander system** provides maximum reliability with no compromise to efficiency
- High efficiency process compressors **optimize reliability and efficiency**

Plant Options

- Totally air cooled (no cooling water)
- LOX sub cooling
- Evaporative cooling system
- Total Hydrocarbon Analyzer
- LOX and LIN storage tanks
- High Pressure Gas Cylinder Filling System
- Prefabricated Interconnecting Piping
- ASME/CE certification
- On-site assistance – installation, start-up



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Legend	
Air	(1) Air Inlet Filter
Nitrogen	(2) Feed Air Compressor
Oxygen	(3) Compressor Aftercooler
Waste Nitrogen	(4) Air Chiller
	(5) Coalescer
	(6) Prepurifier
	(7) Heater
	(8) Recycle Compressor
	(9) Brake Compressor
	(10) Turboexpander
	(11) Main Heat Exchanger
	(12) Subcooler
	(13) Oxygen Column
	(14) Condenser
	(15) Nitrogen Column

Operating Mode		Maximum Oxygen	Maximum Nitrogen
Production			
Liquid Oxygen	Nm3/hr	443	20
Liquid Nitrogen	Nm3/hr	40	470
Total Liquid Production	Nm3/hr	483	490
Gaseous Nitrogen	Nm3/hr	600	
Purity			
Oxygen	% O2, Min	99.6	99.6
Nitrogen	PPM O2, Max	5	5
Product Temperature and Pressure			
Liquid Oxygen	K, bar(g)	90.5, 0.5	90.5, 0.5
Liquid Nitrogen	K, bar(g)	78, 5.0	78, 5.0
Utilities			
Power	kW		739
Cooling Water Flow	lpm		1430
Cooling Water Temp.	Deg C		20
Specific Power (based on liquid production)	kW-hr/Nm3	1.53	1.46

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