



## Primary Process Equipment

GL-2000	2000-gallon Pfaudler glasteel jacketed reactor rated at 90psi/FV. Variable frequency drive agitator, 200 ft <sup>2</sup> Graphilor condenser
GL-1500 North	1500-gallon Pfaudler glasteel jacketed reactor rated at 100 psi/FV. Variable frequency drive agitator, 160 ft <sup>2</sup> Karbate Condenser. Also equipped with all glass overhead condensers
GL-1500 South	1500-gallon Pfaudler glasteel jacketed reactor rated at 100 psi/FV, configured as a receiver
GL-1000	1000-gallon Pfaudler glasteel jacketed receiver rated at 100 psi/FV
SS-1500	1500-gallon 316 SS jacketed reactor rated 100 psi/FV, variable frequency drive agitator, 134 ft <sup>2</sup> condenser
SS-1000	1000-gallon 316 SS jacketed reactor rated at 100 psi/FV, VFD agitator, 86 ft <sup>2</sup> condenser. Also equipped with 6" diameter, 10ft packed column ( L" DE-2 protruded packing), 34 ft <sup>2</sup> condenser and aftercooler, and 65-gallon product receiver
HAS-500	500-gallon Pfaudler Hastelloy C-22 reactor pressure rated at 150 psig/FV with variable frequency drive and 170 ft <sup>2</sup> shell and tube Hastelloy C-22 condenser.
GL-500	500-gallon glass lined steel processing vessel, 25 psi rated, agitated w/ VFD, jacketed with 45 ft <sup>2</sup> monolithic carbon block condenser
GL-50	50-gallon glass lined steel 25 psi rated agitated reactor with 15 ft <sup>2</sup> HE6 glass condenser. Also convertible for use as chlorinator
GL-30	4" diameter column with 8 ft. of ceramic packing on 30 gal reboiler with 5 ft <sup>2</sup> condenser with automatic reflux splitter
WFE	14.13 ft <sup>2</sup> A. F. Smith 316 SS Wiped Film Evaporator
LUWA	1.4 ft <sup>2</sup> LUWA 316 SS Pilot Thin Film Evaporator
Scrubbers (2)	Countercurrent packed column fume scrubber – FRP & Polypropylene. (Capacity: 4000 CFM, 4ft Diameter, 15ft packed section, 700-gallon reservoir)
Isolation Room	8' x 12' with direct vent to fume scrubber
Packaging Hood	Bench top fume hood for toxic materials packaging
Dryers	19.6 ft <sup>3</sup> Patterson 316 SS Double Cone dryer/blender. 52 ft <sup>3</sup> GEMCO Hastelloy C-276 double cone rotary dryer/blender.
R-4	50-gallon, glass lined, jacketed reactor rated for 150psig/FV. Mechanical variable speed agitator 100rpm max
R-12	30-gallon, stainless steel, jacketed reactor rated for 150psig/FV. Variable frequency drive agitator 70rpm max
R-24	20-gallon, glass lined, jacketed reactor rated for 30psig/FV. Variable frequency drive agitator 120 rpm max
R-28	300-liter, portable, stainless steel, jacketed reactor rated for 40psig/FV. Fixed speed agitator at 285 rpm
R-30	200-gallon, stainless steel, jacketed reactor rated for 100psig/FV. Variable frequency drive 239 rpm max. Equipped with a condenser
R-31	1000-gallon, stainless steel, jacketed reactor rated for 100psig/FV. Variable frequency drive 67 rpm max. Equipped with a condenser



## Portable Equipment

20-200 Gallon	Glasteel and 316 SS reactors and receivers.
Tray Dryer	15 Tray, Stainless Steel, Jacketed (50 psi), F/V
Tumble Dryer	0.5cuft, stainless steel, jacketed, double cone tumble dryer
Sparkler Filter	33-D-17 (jacketed)
Nutsche Filters	4 x 33" diameter 316 SS Nutsche (jacketed) Pressure Filters (14 ft <sup>3</sup> solids capacity).
Mill	D-6 Fitzmill
Homogenizer	25 hp Gaulin Homogenizer
Centrifuges	48" x 20", 750 rpm, Tolhurst, top load/top unload, 316 stainless steel, variable speed centrifuge
Scales	5,000 – 10,000 lb. 4'x4' & 6'x6' platform scales
Poly Tanks	100 – 500-gallon various polyethylene tanks

## Miscellaneous Process Equipment

Heat Exchangers	16 ft <sup>2</sup> ; Hastelloy C-276 Single Pass Shell & Tube Condenser
Heat Exchangers	Variety of 316 SS shell and tube single pass heat exchangers
Vacuum Pumps	Various Stokes Vacuum Pumps. (Capacity 150 CFM)
Pumps	Various 316 SS Centrifugal and Diaphragm Transfer Pumps

## Utilities

Nitrogen Storage	3000-gallon Cryogenic Nitrogen Storage Tank
Boilers	1 x 100 hp, 1 x 25 hp, Cleaver Brooks Steam Boilers; 150 psi rated.
Chiller	63 Ton Chiller system
Water	400 Ton Tower Water System
DI Water	Fixed Resin Beds
Hot Oil	240kW, electrically heated, water cooled, single temperature zone, oil system 70°F to 450°F
Cold Storage	12'x12', 0°F
XP Cold Storage	20'x11.5', Explosion Proof (Class 1, Div 1)
Backup Generator	Generac, 300kW, Automatic Power Transfer, Natural Gas