

KILO LAB & PILOT PLANT



Kilo Lab units or Pilot are normally used to carry out process development or process simulation in the laboratory. They can also be used for low volume production of active ingredients.

See Chemistry™



With a combination of glasslined, borosilicate glass 3.3 and PTFE corrosion materials in contact with the process fluids, complete reaction & distillation systems can be tailor-made to suit a particular purpose or designed as a multi-purpose system.





KILO LAB (including solid handling systems) Universal Reaction / Distillation Units

Glasslined Reactor Vessel

- Light blue Pfaudler Pharma Glass PPG®
- Different agitator designs including Curve Blade Residual Turbine for low level mixing, gas dispersion impellers and other configurations for better mixing
- cGMP design
- CIP provision
- Double insulation with polished stainless steel jacket cladding

Reactor Top Cover

- Standard version _ Glass top cover
- Glass lined, SS, Hastalloy for pressure reactions (standard up to 6 bar, special design up to 20 bar)

Stirrer System

- Inverter duty ex-proof motor (ATEX optional), suitable gear reducer, optional Variable Frequency Drive

Bottom Outlet Valve

- Flush with zero dead volume: Glass/PTFE

Reactor Bottom Pan-Raising / Lowering Device

- Manual or motorized
- Also removable after lowering

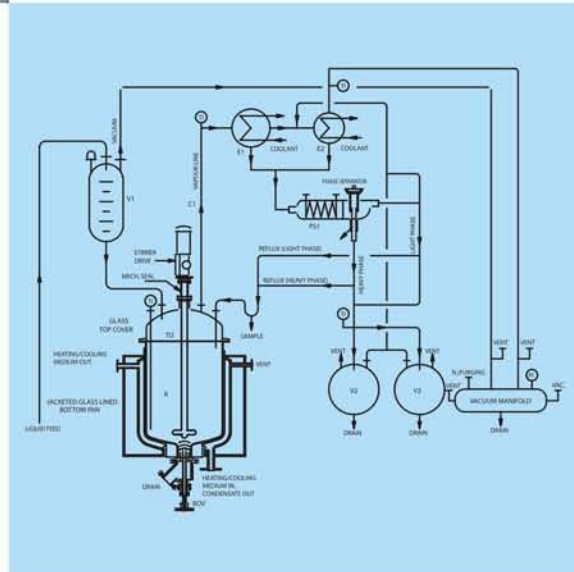
Safety Devices

- Glass/PTFE Pressure Relief Valve
- Rupture Disc
- Translucent coating of glass components

Glass Overhead Assembly

The standard overhead glass assembly is designed to conduct reactions under reflux, followed by distillation. The following process equipment are standard :

- Cylindrical graduated feed vessel for controlled addition of liquid reactants
- Vapour pipe
- Primary condenser
- Vent condenser
- Distillate Cooler
- Phase Separator for azeotropic distillation with re-cycle of any phase. The design of the phase separator permits the adjustment of interface layer height externally without disturbing any process pipeline.
- Twin distillate receivers
- Interconnecting glass process pipeline with high quality valves
- Comprehensive and rational pressure equalization process pipeline for hydraulic integrity of the complete system. Single point application of vacuum for the complete system.



Options

- Two liquid feed vessels
- Vacuum manifold
- System w/o phase separator
- Fractional distillation with infinitely variable reflux

Support Structure

- Complete SS construction
- Special designs for low headrooms
- Suitable for installation in walk-in fume hoods
- Skid mounted mobile units also possible.

Flanges

- Special design high strength re-enforced plastic as standard
- SS also available as option
- SS nut bolts with compression springs as standard. PTFE coated as option.

Online Sampling

- Continuous on-line liquid sampling from the reactor

Heating / Cooling Systems

- Single fluid with precise temperature control

Solid Handling Systems

- Jet Mill Micronizer, Double Cone Vacuum Dryer, Tray Dryer, Vibro-Sifters, Cream ointment & Planetary Mixer, Triple Roll Mill / Ball Mill, Colloid Mill, Multimill



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