

KILO-SCALE (PILOT PLANT)

GLASS REACTOR SAFETY

Assembly

- Ace Glass ships reactors pre-assembled. Some components, if assembled, would jeopardize the reactor's integrity during shipment and are therefore packaged separately.
- Placement within a hood is preferable.
- Tighten supports, clamps & motor mounts.

Preparation

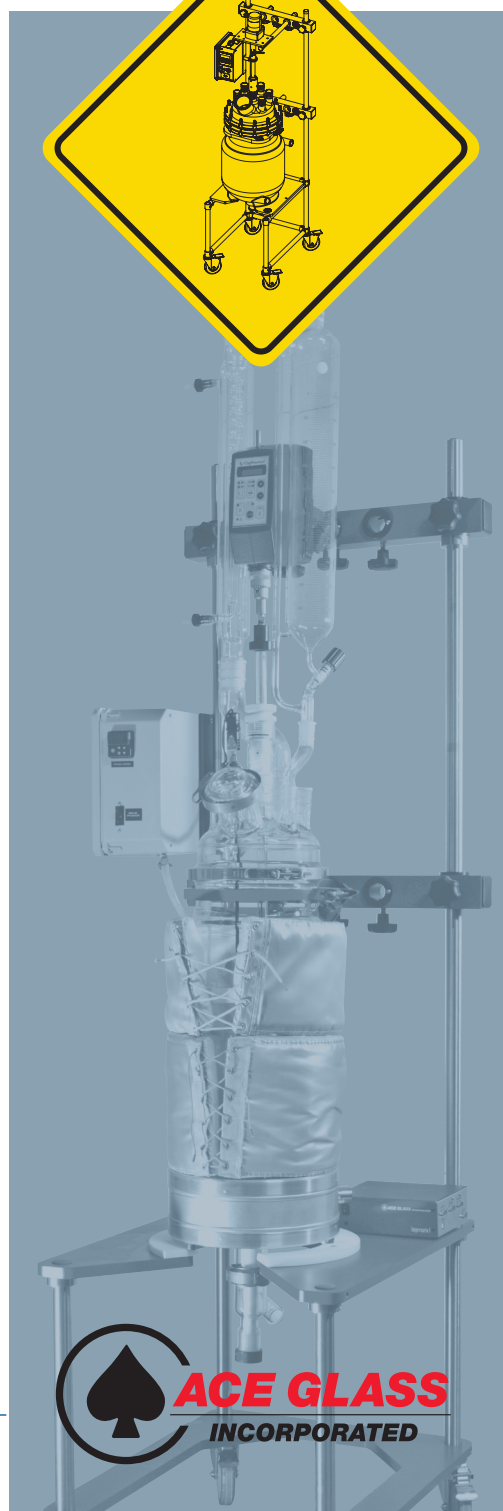
- Before running your reactor, always inspect the glass for scratches, abrasions, cracks or chips.
- If reactor features a 300mm or larger flange, always tighten with the supplied torque wrench.
- Ace-Threds, if present, are sealed as soon as the O-Ring is observed to compress. Do not over tighten.
- Ensure all safety shields & trays are in place.
- Consider the purchase of the appropriate pressure relief manifold to protect the vessel jacket.

Limitations

- Borosilicate glass, PTFE components and seals have operation temperature limitations of -60 to 200°C continuous duty. Slightly higher temperatures can be tolerated in the short term.
- Always use Ace Glass recommended heating methods.
- Heating/Cooling rates are limited to 1°C per minute.
- Most reactors are designed to achieve high degrees of vacuum. Consult with the Ace Glass Technical Engineers for pressure applications.

Clean Up

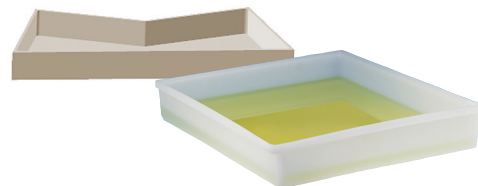
- Consider purchasing a Clean-In-Place sprayer for cleaning the interior wall of your reactor.
- Ace Glass recommends Alconox or similar glassware detergents, avoid HF, strong alkalis or abrasive cleaners for glass.



REACTOR SAFETY PRODUCTS

Spill/Containment Tray

Polyethylene trays are available for either bench-scale or kilo-scale reactor systems. Designed to place under a reactor system to contain a spill or leak (also available in stainless steel for kilo-scale reactors).



Universal Safety Shield (10L-150L Reactors Only)

Safety shield specially designed for Ace Glass kilo-scale reactor systems (10L-150L only). This shield is made of clear Lexan™ and aluminum. Clam shell design with available rear panel.

Clean-in-Place Sprayer

The Clean-in-Place Sprayer is a device used to easily clean the inside of a reactor flask with either pressurized or vacuum assisted function without having to tilt the flask or disassemble the reactor. This tool prevents breakage of glassware and creates a controlled cleaning process. The sprayer is available for both bench and kilo-scale reactors.



Pressure Relief Manifold

Pressure relief manifolds provide extra protection for a vessel's jacket from a malfunctioning or incorrectly configured circulator discharge pressure and from overpressure which can occur if a vessel is being moved and isolated from the circulator. Ace recommends a maximum circulator fluid pressure of 8psig as measured from the return outlet of the reactor.

Poly Safety Coated Glassware

Ace Glass safety coatings are nearly transparent and can withstand temperatures up to 120°C. Consider asking Ace to safety coat your glassware to reduce the likelihood of breakage due to mechanical shock and to help contain the glass shards and product in case the vessel becomes compromised.



PTFE Joint Sleeve

PTFE joint sleeves, with their reinforced gripping ring, make an ideal accessory to any jointed reactor head by enabling the safe removal of adapters, funnels, condensers, etc. by preventing sticking or 'freezing' of mated standard taper joints.