



UL and Explosion Proof Compliance

Type (status): C1D1 Group "D"

Applies to: Reactors lifting and non-lifting (non-intrinsically safe versions).

Definition: of C1D1

Class I, Division 1: There are three different situations that could exist to classify an area as a Class I, Division 1 location:

1. Ignitable concentrations of flammable gases or vapors may exist under normal operating conditions.
2. Ignitable concentrations of such gases or vapors may exist frequently because of repair or maintenance operations or because of leakage.
3. Breakdown or faulty operation of equipment or processes might release ignitable concentrations of flammable gases or vapors, and might also cause simultaneous failure of electric equipment.

All parts are visibly marked with UL compliance codes unless otherwise noted.

Electrical specifications:

- Lifting motor (115/208-230V AC, rated C1D1, 1/4 HP)
- Stirring motor (115/208-230V AC, ¼ to 1Hp, Rated C1D1)
- Motor Control Panels (2x) (115/208-230V AC, NEMA 4x rated aluminum enclosure) *
- Current carrying wires in rigid metal conduit or flexible metal conduit only. All conduit parts are rated for C1D1 use

Non-Electrical Specifications:

List of all parts which can potentially accumulate or discharge static:

- None known

List of all parts which can potentially accumulate heat above auto ignition temperatures:

- Bearings (stirring)-wear and damage can cause breakage and frictional heat accumulation. Recommended to inspect bearings regularly, replace bearings annually. Do not operate if shaft cannot be turned by hand. An audible noise will clearly indicate malfunction. Motor has overload protection which may become engaged and prevent additional rotation.

Required Materials:

A low-pressure supply of instrument air must be provided to the pressure and purge panel. Compressed air (free of solid or liquid contaminants, flammable gases, water, etc.) or inert gas is recommended.

Air powered stirrers require a large compressor. Make sure to size accordingly.

*Nema 4x enclosures can be used in C1D1 environments with pressure and purge system included.

Goldleaf Scientific

Disclaimer:

Goldleaf Scientific has made an effort to meet both Class 1 Group D, and UL electrical compliance, however Goldleaf Scientific does not guarantee certification of compliance, and only assists the end user to comply with their local jurisdiction requirements. All documentation should be considered unverified and all equipment should be considered compliant at the component level at best. For system level certification it is recommended to contact an approved testing agency and schedule a field labeling certification. Make sure assembly is complete before scheduling the labeling appointment. Contact your local inspector and confirm if necessary. Please note the cost for this service is approximately \$2,000 USD per unit.