

EST™ Type DSH 400

150-Pound Dry Emergency Chlorine Gas Scrubber System

The EST™ Type DSH 400 is a 150-pound low-profile dry scrubber engineered to treat accidental gas releases of chlorine at a leak rate in accordance with Uniform Fire Code requirements while constantly maintaining a negative pressure on the cylinder storage room. Dry scrubbers are safe, user-friendly, low maintenance systems tested and proven for use in municipal and industrial applications where the potential exists for the accidental release of heavier-than-air hazardous gases.

The EST Type DSH 400 is designed to treat a chlorine release at a room exhaust rate of 400 cubic feet per minute. A gaseous fusible plug leak from a 150-pound chlorine cylinder could reach an initial 115 CFM peak rate. The 400 CFM scrubber exhaust rate assures a negative pressure on the room and fugitive gas containment.

Dry pellet media is contained within the vertical FRP cylindrical vessel and is separated by an internal gas-side partial baffle, thus creating two media zones. The contaminated air is drawn in the top inlet of the first zone, down through the dry media, under the baffle, and then up through the second zone of media and out the bottom connection through the blower.

A typical 1000 cubic foot room or shelter will be reduced to an acceptable entrance level concentration in about 30 minutes after the leak has ended. The Type “STS” media is used when chlorine is the lone contaminant gas present.

Available upon request:

- CAD Drawings
- Sample specifications
- Media MSDS sheets
- Performance test code certifications
- On-site room audits
- Custom designs



Features and Benefits:

- No chemical maintenance
- New and used media is non-hazardous
- One moving part - blower
- No chemical pumps
- Chemical leak containment is not required
- No heaters required in cold climates
- Safe
- User-friendly
- Dependable operation
- Tested and certified
- Low cost of ownership



EST™ Model DSH400-1F-STS-150 Dry ScrubHouse Emergency Chlorine Gas Scrubber Scope Specification

Media Reaction Tank Assembly, Dry-Type

- One (1) 48-inch diameter x 88-inch high tank, FRP construction (Hetrion 922, DION 9200, or Derakane 411-45 premium vinyl ester resin corrosion barrier including Nexus Veil and an exterior layer with an MEKP cure, white opaque top coat with UV inhibitor)
- differential pressure gauge
- (4) four, side-mounted, 1-1/2-inch media sample ports
- side-mounted drain, 1-1/2-inch
- (4) four, hold-down lugs
- 18-8 stainless steel flange hardware
- 6-inch circular flange gas inlet connection
- 6-inch circular flange gas outlet connection
- 2500 lbs, Type “STS” dry media, chemically impregnated activated alumina
- FRP base plate; 120” L x 60” W x 4” H, w/lifting eyes
- control panel, relay control, remote mounted:
 - FRP, NEMA 4X
 - main power disconnect
 - blower motor starter
 - operator selector switches/indicating lights
 - transformer, 480/120 Vac, 300 VA
 - alarm/status contacts:
 - scrubber running
 - blower fault/system alarm
- 480 Vac, 3 phase, 60 Hz power supply, 20 amps

Exhaust Blower

- One (1) Blower, FRP construction, CWUB orientation
- 400 CFM @ 7.0 inches W.G. static pressure operating capability
- 12-inch circular flange gas inlet/outlet connections w/FRP reducer
- constant dual V-belt drive
- shaft and bearing guard
- 480 Vac, 3 phase, 60 Hz, 2HP, 1800 RPM, TEFC severe-duty motor
- Two (2) Spare V-belts

Performance Characteristics

The EST™ Model DSH400-1F-STS-150 Dry ScrubHouse Emergency Chlorine Gas Scrubber System is designed to handle an accidental gaseous leak of 21 pounds per minute of chlorine or a 115 scfm chlorine release from a 150-pound chlorine cylinder. The chlorine-laden gas will be drawn to the top of the tank, pass through the Type “STS” dry media where the chlorine will be scrubbed by the media bed. The system will provide a 1” W.C. draft which will be available for duct losses. Removal of chlorine will be better than that required by the Uniform Fire Code or 5 ppm maximum at the point of discharge. The scrubber will be able to scrub the entire contents of an over-filled 150-pound chlorine cylinder while meeting the requirements of the Uniform Fire Code.

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