LONG TERM STORAGE

The following procedure applies to **Boosters and HVAC Packages**.

1. Customer furnished equipment and accessories that are not offered as standard or optional by the factory must be handled in accordance with the respective manufacturer’s recommendations.

2. Storage longer than one month is considered long term storage.

3. Pumps should be prepared for storage using the following procedure.

1. **LONG TERM STORAGE**
   
   **A. SAFETY**
   
   a. Select a storage location that will prevent potential hazards to persons allowed access to the storage area.
   
   b. Appropriate precautions should be taken to ensure safe on-site receipt and transit.
   
   c. Potential energy risk should be minimized. Keep product at ground level and prevent stacking or other unsafe positioning that could result in falling, dropping, and/or tipping.

   **B. LOCATION AND TREATMENT**
   
   a. Indoor Storage
   
      i. Little extra preparation is needed if indoor storage area is dry and clean.
   
      ii. Care should be taken to prevent extremes in temperature (below 32°F and above 110°F). Also, keep the pump out of direct sunlight and covered to protect it from dust and dirt.
   
      iii. Care should be taken to prevent moisture build-up around the pump, either by allowing proper ventilation or tightly sealing the pump in the cover with a suitable amount of desiccant to ensure dryness.
   
      iv. If indoor storage area is humid or dirty, such as an unfinished building, treat the pump as if it were to be stored outdoors.
   
      v. If exposure to condensation is expected, un-painted external steel or cast-iron surfaces should be coated with rust-inhibiting oil such as Cortec’s VCI-329.
   
      vi. Storage location should also provide minimal exposure to vibration and other damage potentially transmitted from adjacent operating equipment.
   
      vii. Product supplied in factory cartons, pallets or similar Xylem packaging should be kept in ‘as-shipped’ condition where possible.
   
   b. Outdoor Storage
   
      i. Pump should be covered to protect it from weather and direct sunlight.
   
      ii. All coverings should be properly secured to withstand high wind.
   
      iii. Care must be exercised in covering pumps to prevent moisture build-up under the cover. This can be done either by allowing proper ventilation or tight sealing cover with suitable amount of desiccant to ensure dryness.
   
      iv. Extreme heat and cold are to be avoided, as rubber parts and seals could age prematurely (below 32°F and above 110°F).
v. Storage area should be inspected weekly, and after storms for damage to protective covers.
vi. Inspect suction and discharge manifold flange covers.

c. Installed But Not in Service
   i. Preparation for storage under these conditions is the same as for indoor and outdoor, except the suction and
discharge piping will serve as flange covers.
   ii. The suction and discharge valves must be tightly closed and all water removed from the pump and attached
piping. The interior of the pump and piping must be thoroughly dried.
   iii. Inspect un-painted external steel or cast-iron surfaces once a month for moisture and replace volatile
corrosion inhibitor at that time (see section 1.B.a.v)

C. EQUIPMENT PROTECTION

a. Pumps
   i. Every 30 days, the pump and motor shaft should be rotated by hand (10-15 turns) to prevent bearing
damage and potential for binding. Be sure shaft comes to rest in different positions.
   ii. Close-coupled pumps may have minimal access to exposed shaft areas. In those cases, care must be taken to
avoid damage to the shaft though use of channel-lock pliers or similar tools.
   iii. If removal of the coupling guard is required for hand-rotation of the pump and motor shafts, this guarding
must be reinstalled prior to removal of lock-out tag-out and start-up.

b. Control Panels, VFDs, and Electronics
   i. For storing electrical control panels, drives and other electrical items for more than 3 months, insertion of
moisture absorbing packets within the enclosure by be necessary. Periodically replace as required. Remove
packets prior to equipment start-up.

c. Package Enclosures
   i. Housing vents and/or openings will be sealed with plastic wrap and waterproof tape.
   ii. Condensation protection shall be provided in accordance to instructions previously noted.

D. PREPARATION FOR OPERATION

a. Remove all rust inhibitor from exposed machined surfaces using the method described by the supplier.

b. Remove all corrosion protection devices or material from package.

c. Remove flange covers, tape, and all unnecessary pipe plugs.