

# PVC MEMBRANE HOUSINGS

®

## Mounting Tips & Instructions:

- Isolate the housing from any undo vibration
- Housings should never be mounted directly to any metal supports without a proper cushioning device ( *This will cause damage to the housing* )
- Mounting clamps for housings must not be over-tightened ( *This will place excessive stress on the housing, causing it to fail prematurely* )
- PVC housings expand slightly when pressurized and must be allowed to "breathe", so ridged & non-cushioned mountings must never be used
- Over-tightening of Uni-strut type clamps will cause damage to housings, usually causing the Uni-strut to dent thin wall housings

## Preventing Housing Failures:

- The most common cause of failure of PVC vessels is due to over-tightening of non-cushioned mounting clamps
- The second most common is exceeding their rated pressure
- PVC Pressure Vessels should not be placed in direct sunlight or near U.V. Sources
- Should not be used in situations where extreme temperature differentials may occur
- Always protect a PVC vessel against receiving any sharp blows or direct contact with metallic objects

## End Plug Installation:

- Clean & lubricate "O"-rings using only Glycerin before installation, and take care that they are not twisted
- Place the end plug in the housing aligning the U-Pin grooves with the retaining holes
- Firmly press the end plug into the housing using both hands
- Ensure that even pressure is applied so that the end plug goes in evenly and square. ( *Do not allow it to tilt* )
- Once the end plug is installed so that the U-Pin grooves are beyond the retaining holes, you may align the grooves to the holes by placing the U-Pin into the grooves and gently rotating the end plug
- The U-Pin may now be installed
- Follow the same process for the remaining end plug

## End Plug Removal:

- Remove the U-Pin & lubricate the housing by pouring or spraying Glycerin in between the housing and the end plug allowing the Glycerin to flow down to the end plug "O"-ring
- Place an end plug extractor tool into the center most port of the end plug and pull outward evenly ( *Sometimes a slight clockwise rotation of the extractor tool while pulling outward will help to dislodge the end plug. Additionally, observe caution so as not to damage the port thread while using this procedure* )

## Installation of Fittings into End Plugs:

- All end plugs contain Female National Pipe Thread ports. These ports are tapered and caution must be exercised so as not to over-tighten fittings. Caution must also be observed when installing fittings into end plugs so as not to cross-thread the fitting, especially when using metallic fittings
- NOTE: Use Teflon tape on threads of fittings for a tight seal
- Squarely place the fitting into the port chamber and rotate clockwise by hand ( *Resistance should not be felt until the fitting has rotated 3 to 5 turns* )
- Install fitting by hand until it firmly locks on the port thread ( *Do not over-tighten and do not use a wrench* )
- Hook up system and slowly pressurize it ( *Carefully tighten fittings wrench until any leakage has stopped* )
- NOTE: Never attempt to tighten a fitting down to its shoulder

## Vessel Assembly Instructions:

- Unwrap vessel carefully ( *Do not use blades to cut overwrap material* )
- Inspect components for damage and cleanliness
- Install fittings
- Install "O" rings
- Install one end plug aligning U-Pin ( *with U-Pin holes in housing if applicable* )
- Install U-Pin or Retaining Clamps
- Install membrane ( *using adapters if required* ) & ensure it is properly seated into end plug receptacle
- Install second end plug aligning grooves with U-Pin holes in housing
- Install second U-Pin ( *Do not use excessive force* )
- NOTE: When a system is being started up, leakage may occur through "O" ring seals until the excess lubricant is dissipated. Vessel should not leak after operating pressure is applied ( *200 PSI - 250 PSI* ). If leakage continues at this point for more than 5 minutes, discontinue its use immediately

## U-Pin Installation:

- Install U-Pins so that the legs point down toward the deck ( *Installing U-Pins should not require excessive force. Never use a hammer or strike a U-Pin during installation* )
- Place the U-Pin in the retaining hole insuring that the end plug is properly aligned
- Place your hand across the U-Pin back and gently "wiggle" it down to the bottom-retaining hole ( *The more pressure applied during this process the more difficult the installation will become* )
- Once the U-Pin is aligned in the bottom-retaining hole, firmly press it into place until the radius on the U-Pin legs lock into the radius of the housing
- At this point, gently tap across the U-Pin back to ensure proper seating

## U-Pin Removal:

- Insure that any locking kits have been removed & place a non-metallic flat object between the U-Pin back and the top of the housing
- Pry upward until the U-Pin has released ( *may be necessary to lightly tap the bottom of each leg to unlock the U-Pin, if so, use caution* )
- Once the U-Pin has unlocked, remove it by gripping the U-Pin back and pulling it out
- NOTE: Never use excessive force to install or remove a U-Pin, and never remove a U-Pin with even residual pressure in the vessel

## Installation Instructions for Retaining Clamp Vessels:

- Both halves of the clamp must be properly aligned on the housing groove with equal spacing with equal spacing between the V-Clamp halves
- Both 10-32 bolts must now be run down to the flat loosely
- Check for equal spacing and tighten both bolts equally ( *1/2 turn at time, maintaining equal spacing between V-Clamp halves* )
- NOTE: Do not over tighten bolts, as they do not affect clamping strength
- If bolts do not run down to the flat easily ( *finger only* ), the clamp is misaligned. Do not force bolts
- It is recommended that a single drop of "lock-tite" be applied to each bolt prior to installation
- Ensure that all components are properly aligned and installed ( *including end plug backing plates* ) prior to installing V-Clamps
- NOTE: Housing clamps must be set & tightened evenly but not over-tightened to prevent them from stripping threads
- NOTE: Do not use hammer to adjust clamps