

## **APPENDIX C**

### **CYLINDER REPLACEMENT INSTRUCTIONS**

Once the cartridges have been saturated with moisture they need to be replaced with new or regenerated cartridges. The following procedure must be followed:

1. Isolate the electrical supply to the pump.
2. Close inlet valve (V1) at the bottom of the DRYKEEP™ system
3. Close the active outlet valve (V2 or V4) at the top of the DRYKEEP™ system.
4. Starting from the left hand cylinder and working towards the right hand cylinder unscrew (by hand) the top and bottom quick couplers on each cylinder.
5. Disengage the quick couplers by unscrewing and pulling apart in the sequence below:
  - 1<sup>st</sup> - bottom of left-hand cylinder.
  - 2<sup>nd</sup> - top of left-hand cylinder.
  - 3<sup>rd</sup> - bottom of the center cylinder.  
Remove connecting pipe
  - 4<sup>th</sup> - top of center cylinder.
  - 5<sup>th</sup> - bottom of right hand cylinder.  
Remove connecting pipe
  - 6<sup>th</sup> - top of the right hand cylinder.
6. The quick couplers contain annular ball valves that are self-sealing on removal. Any cylinder can be removed by removing the clamps. Note that each cylinder weighs approximately 110 lbs (50kgs), so two persons are recommended for cylinder removal. Use the two lifting handles on each cylinder.
7. Position the fresh cylinders onto the frame by using the lifting handles and clamps.
8. Replace the pipes by engaging the quick couplers and manually tighten the couplers.
9. The system is now ready to be re-commissioned. The following procedure must be followed to prevent air from entering the transformer:
  - a. Open the inlet valve (V1) of the DRYKEEP™ system and start the pump by switching on the electrical supply.
  - b. Slowly open the bleed valve (V5) on the de-aerator tank. It is recommended that the installer has a vessel on-hand at this step to capture any oil that may come out of the bleed valve while it is open.
  - c. Ensure that all the trapped air in the system escapes through the bleed valve.
  - d. Close the bleed valve on the de-aerator tank (V5).
  - e. Slowly open the active outlet valve (V2 or V4) of the DRYKEEP™ system.
  - f. Open the bleed valve (V5) intermittently to remove air from the system that collects in the top of the de-aerator. Again, it is recommended that the installer has a vessel on-hand at this step to capture any oil that may come out of the bleed valve while it is open.
  - g. Monitor the system closely for 20 minutes and check for oil leaks and oil flow through the flow indicator and for any abnormalities.