



2x2 Submersible Pump Installation

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2x2 Installation Meeting

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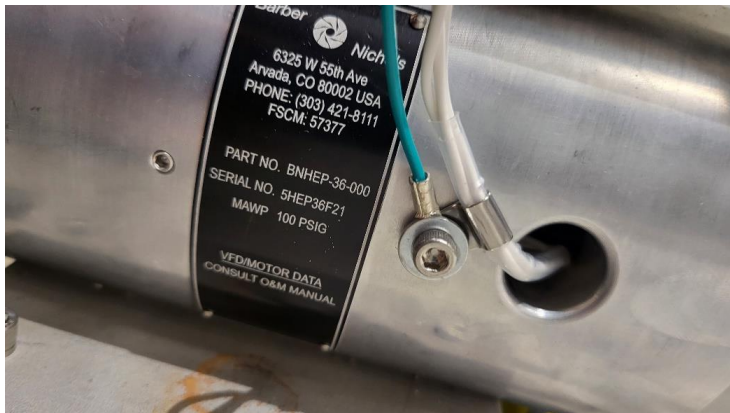
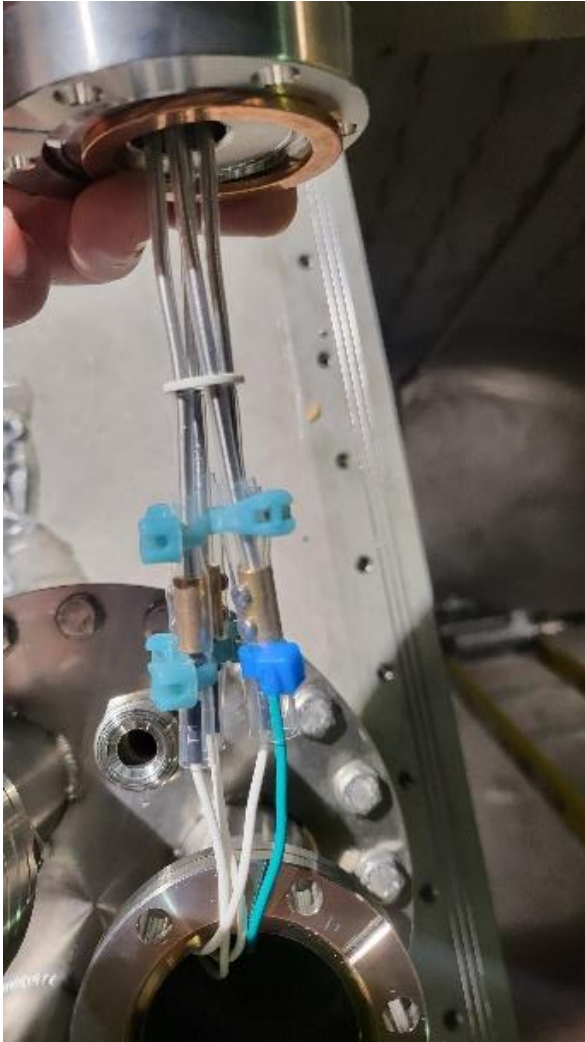
Submersible pump work

- An 'As Built' review was conducted to compare the documentation with the installation and to confirm safety considerations and 'best engineering practices' were followed.
- Some issues were identified, requiring mitigations, so the opportunity was taken to perform the requested 'bump' test.
- The purpose of a 'bump' test is twofold:
 - Does the pump work?
 - Is the rotation correct per the phase wiring schematic?
- To conduct the requested 'bump' test, the pump was removed from the 2x2 cryostat and tested at PAB with the AC power supply planned for use in the experiment.

Mitigations—short story

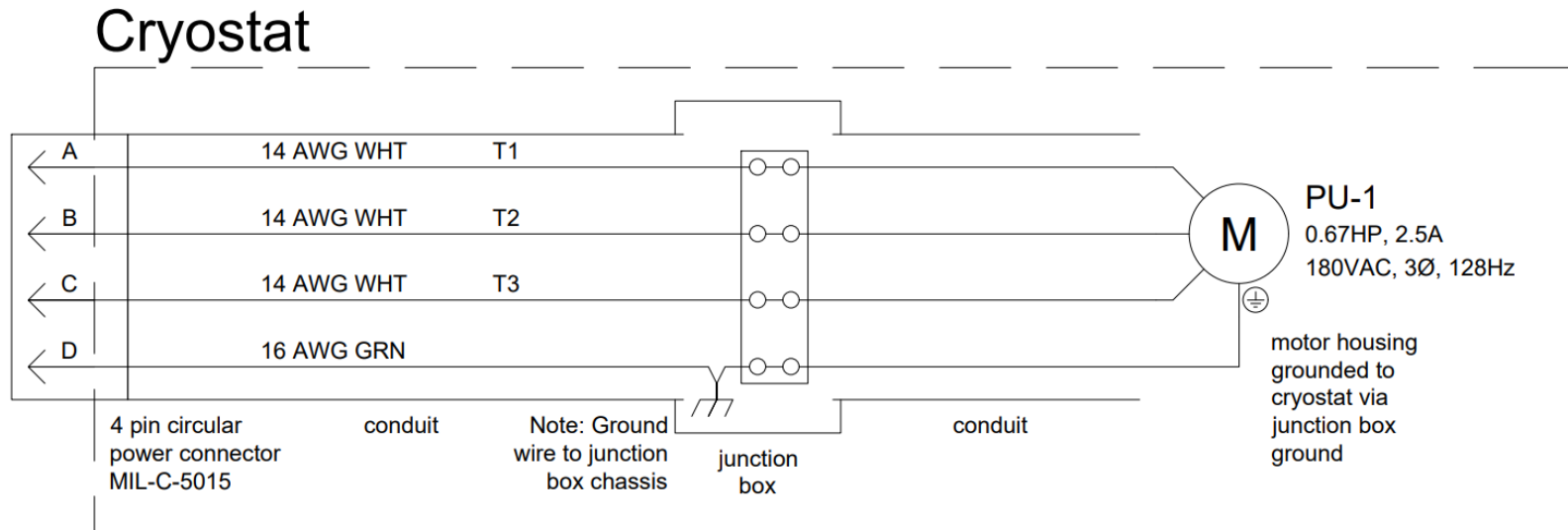
- All piping, used as wire conduit, cleaned per standard procedures for use in a LAr cryostat.
- Flange connector, cold side connections, augmented with Teflon heat shrink to prevent phase → phase and phase → ground shorts.
- Organized wiring in junction box for ease of disconnection for maintenance.
- Stabilized ‘cantilever’ pipe.

Photo Gallery



'Bump' test

- Pump works!
- Rotation was wrong direction.
- Will swap T1 (L1) and T2 (L2) at connection to power supply.
- Updating schematic to include wire labeling and barrier strip.



Summary

- Tested pump for operations and rotation.
 - Phase wiring at PS needs updated on schematic (DocDB#27319).
- Completed all mitigations per ‘As Built’ inspection findings.
- Verified connectorization matches schematic for cold wiring w/DVM.
 - Schematic updated to reflect barrier strip and wire labeling.
 - Marked warm side flange with letter designations of connector pins.
- Received approval of mitigation implementation from safety.
- Next steps
 - Warm side connector flange ready to be bolted down.