Microreactor AGile Nonnuclear Experiment Testbed(MAGNET)

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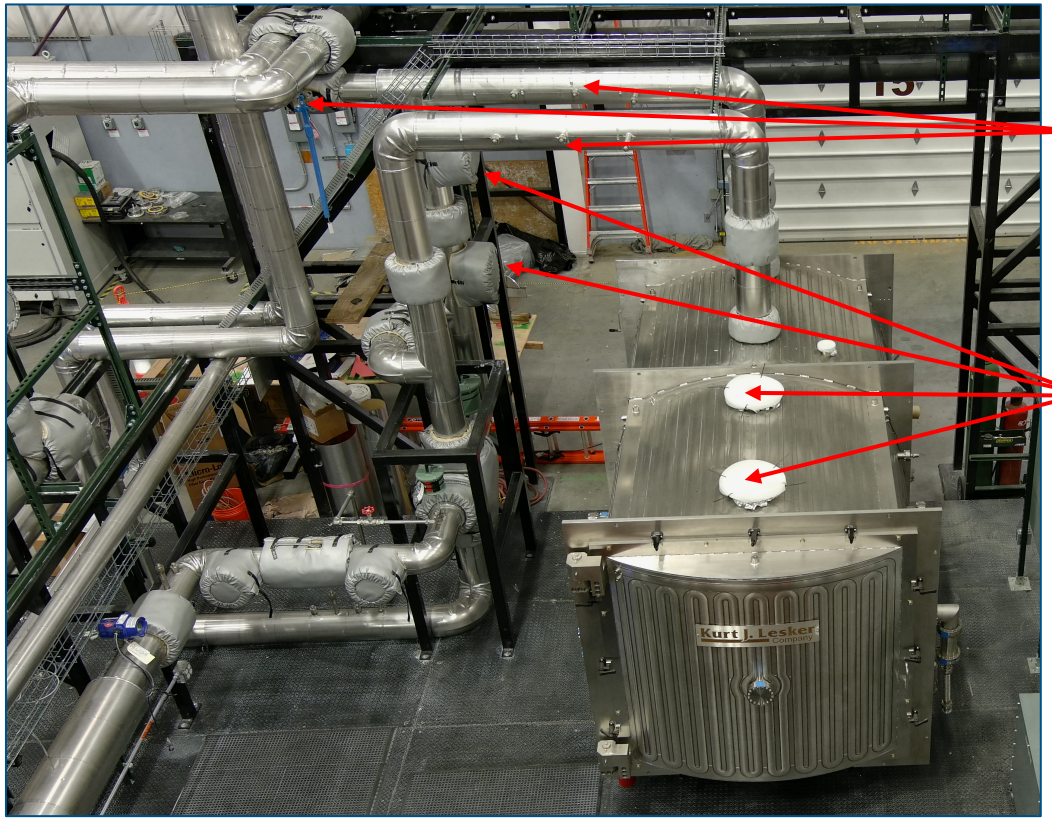
MAGNET Status

- Finishing preparations to run single heat pipe testing in March
- Construction in progress for helium component testing facility (He-CTF) addition to MAGNET



Installing scaffolding for safe staff access to I&C and vent valve

Connection points for He-CTF

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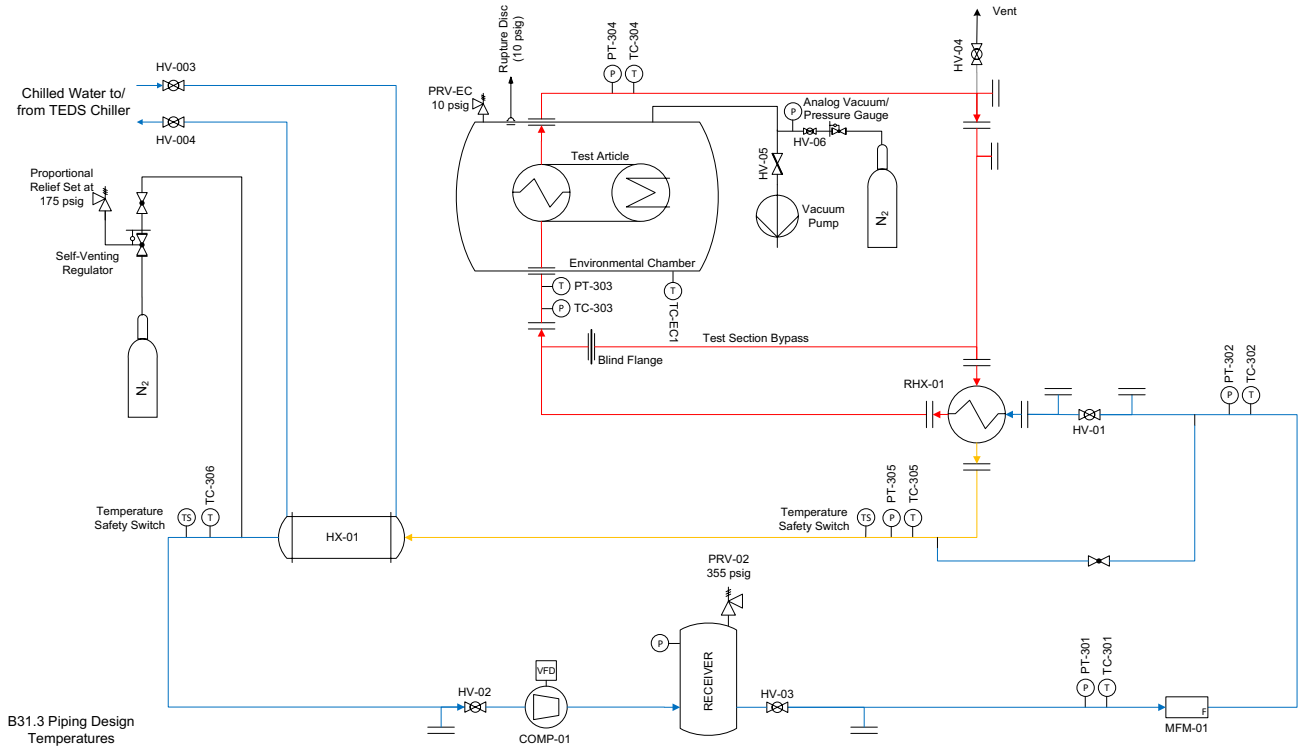
MAGNET Single Heat Pipe Testing

- Awaiting final review and acceptance of Laboratory Instruction (work control for experiments at INL)
- Incorporating review comments for test plan
- Completed process hazard analysis with relevant SMEs
- Technicians finishing installation of instrumentation
- Finishing LabView Virtual Instrument programming



Single Heat Pipe Test Process and Instrumentation Diagram (P&ID)

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MAGNET Plans

- Complete single heat pipe testing – March 18
- Complete phase I construction for He-CTF – mid-April
- External manufacturer testing in support of SCO microreactor program (two test articles) – April to May
- Complete phase II construction for He-CTF – July 30
- External manufacturer testing in support of SCO microreactor program (one test article) – August to September
- Potential testing for Radiant Nuclear – September to November
- Installation and testing of 75 kW, 37 heat pipe test article from LANL – December to March 2023

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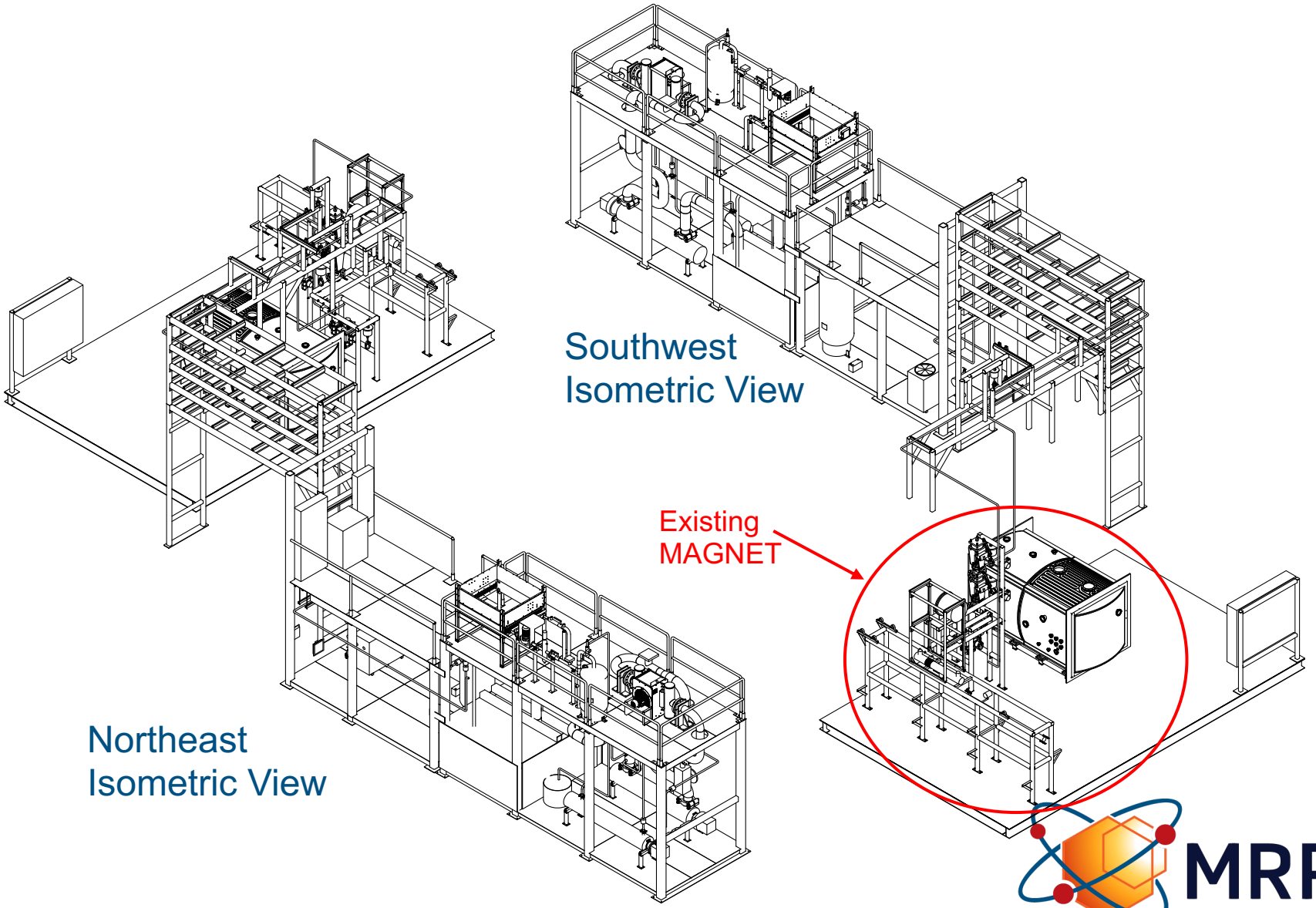
Helium Component Test Facility (He-CTF)



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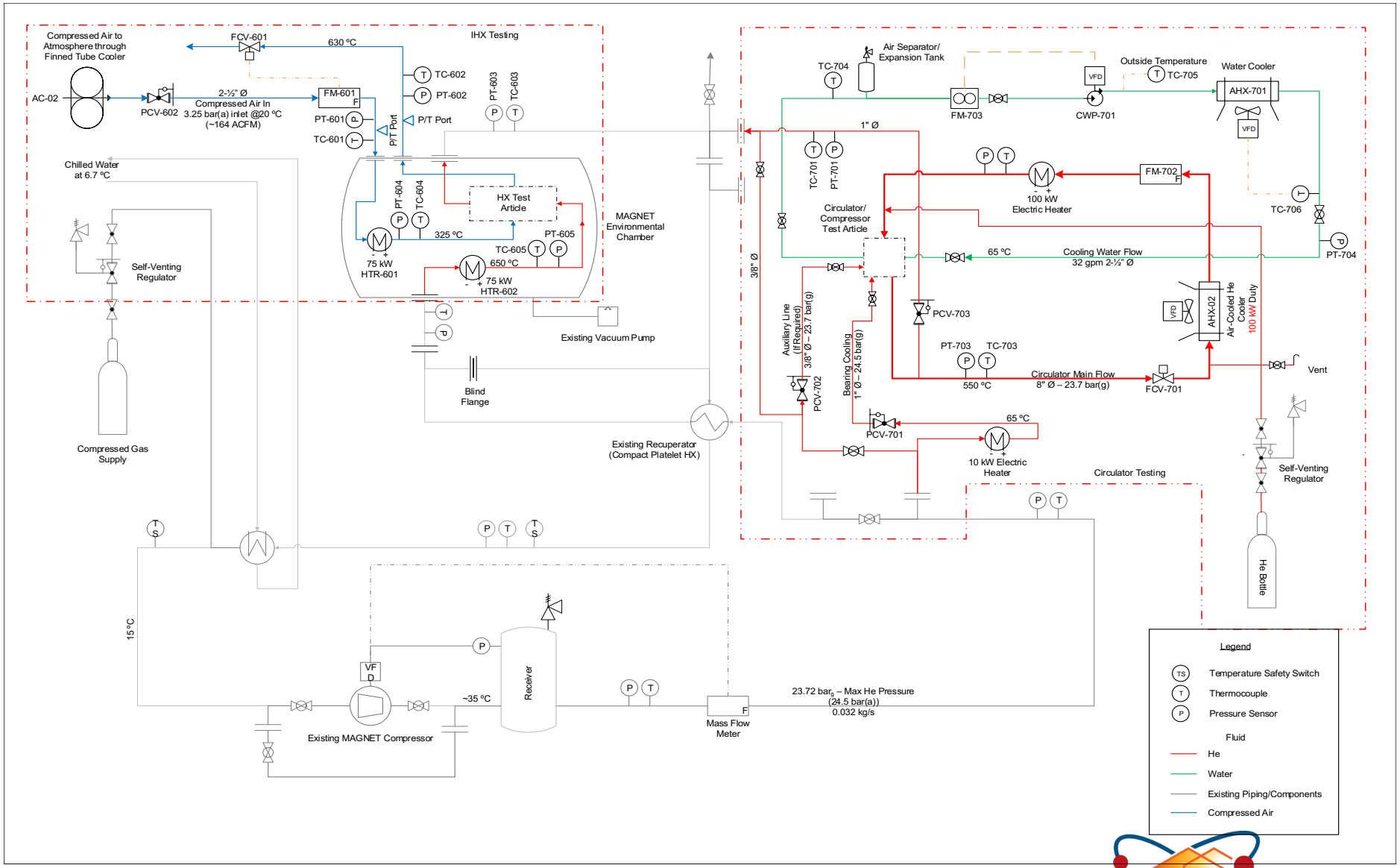
He-CTF Flow Diagram



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He-CTF Overview

HX Testing

- Helium design conditions
  - 325°C in
  - 650°C hot supply
  - 20 bar_g
  - 0.07 kg/s
- Preheated compressed air design conditions
  - 350°C in
  - 630°C out
  - 150 psig
  - 0.212 kg/s

Circulator Testing

- Helium design conditions
  - 550°C
  - 24 barg
  - 1.5 kg/s
- Circulator cooling water(50% BV ethylene glycol) design conditions
  - 200°F
  - 100 psig
  - 32 gpm
  - Air cooled

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He-CTF Status

- He-CTF construction funded by National Reactor Innovation Center (NRIC)
- Construction in progress for HX testing portion with expected completion mid- to late April
- Testing for SCO microreactor program HX late April to May
- Construction drawings complete, addendum to phase I contract issued with expected completion mid-July
- Testing for SCO microreactor program circulator August to September

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