



Monitoring Helium compressor pressure to predict coldhead failure

By Bill Gorman

Custom Helium monitoring telemetry box

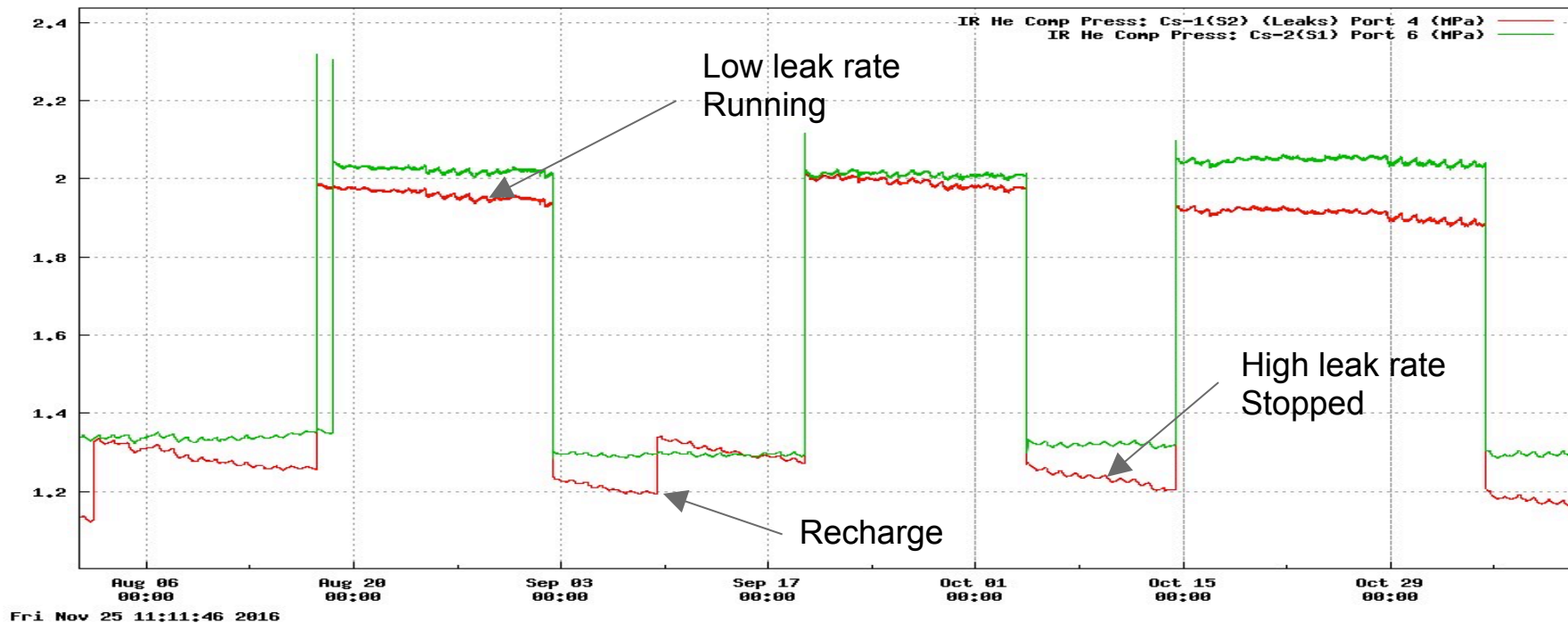
Custom made tee sends supply side Helium to a 4 - 20 mA pressure transducer which is converted to MPa by an Omega process controller with display and RS232 communication.

Monitoring box also allows easy recharge of Helium on the fly.



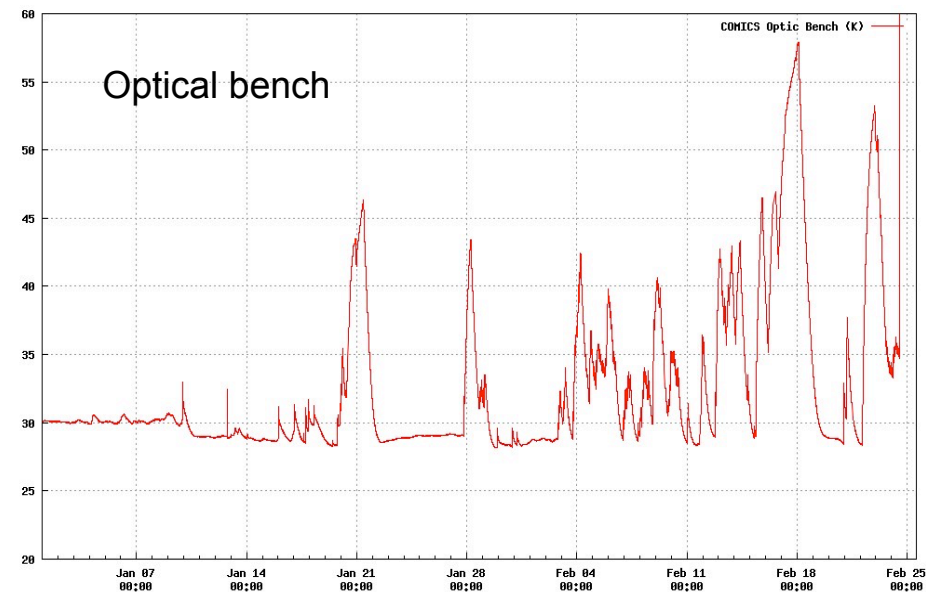
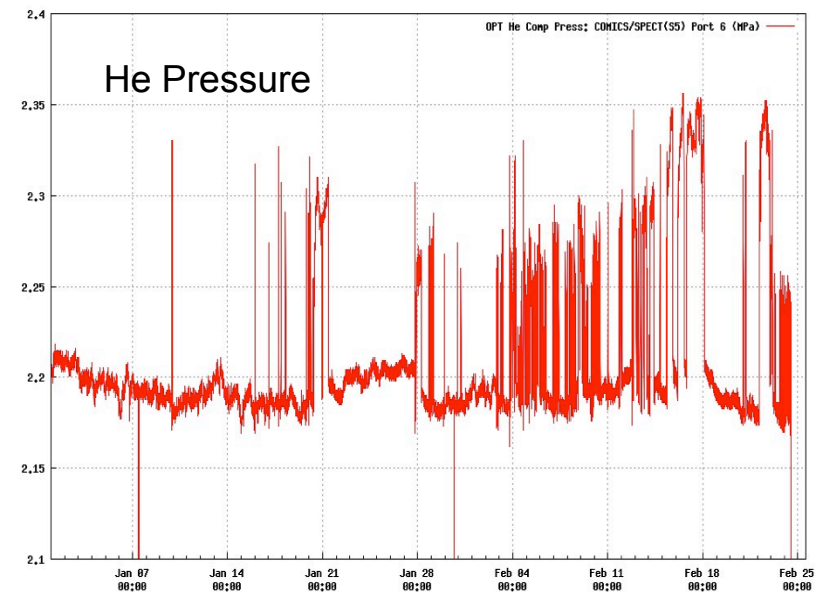
Helium monitoring gives notice of refill intervals

Cassegrain Helium lines have a slow leak which need periodic recharging.



Optical bench temperature degraded over time

Helium pressure spikes gave an early warning indication of coldhead failure



Regular 10,000 hour maintenance will prevent failure

Remove displacer

Clean cylinder

Reassemble and flush

