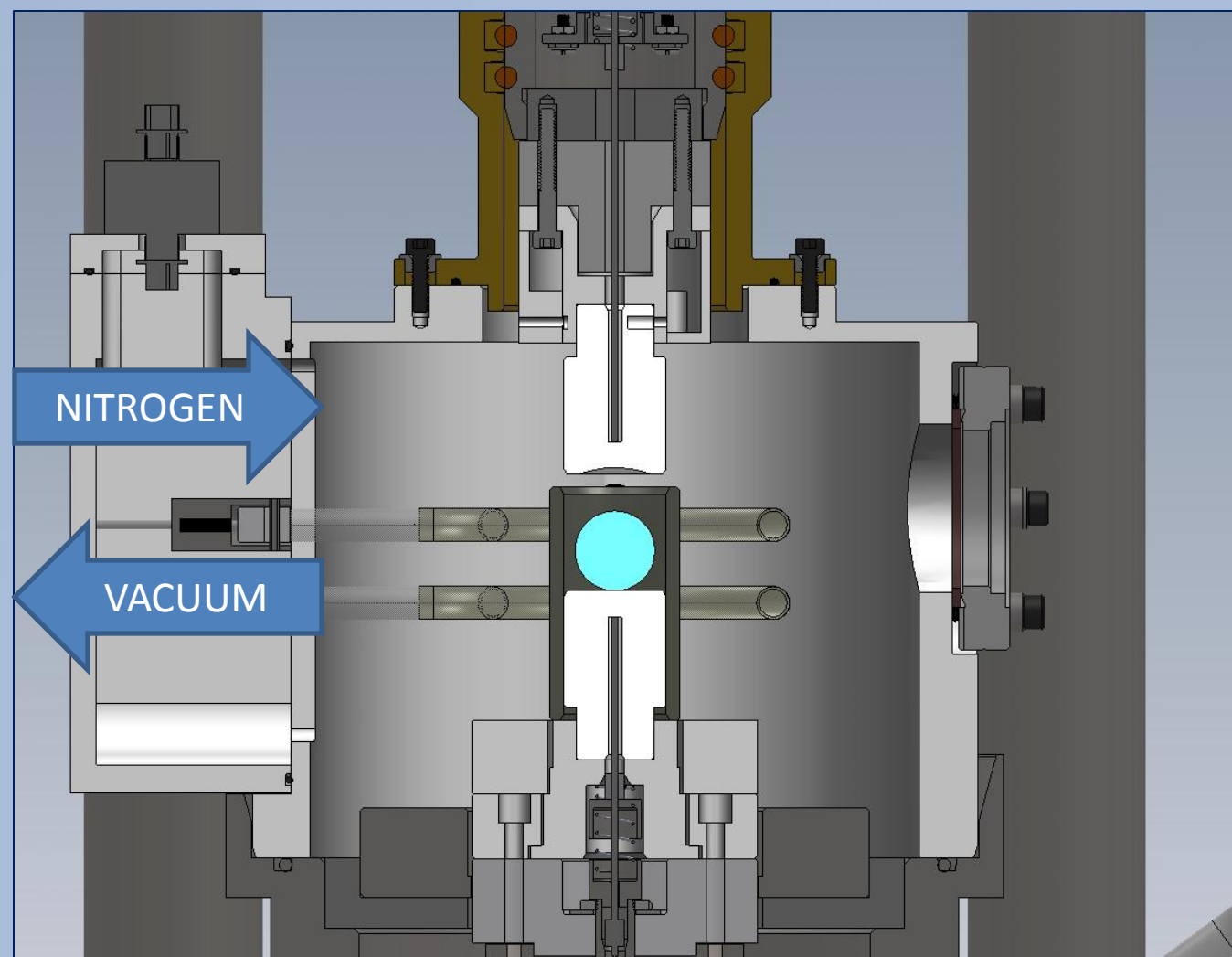


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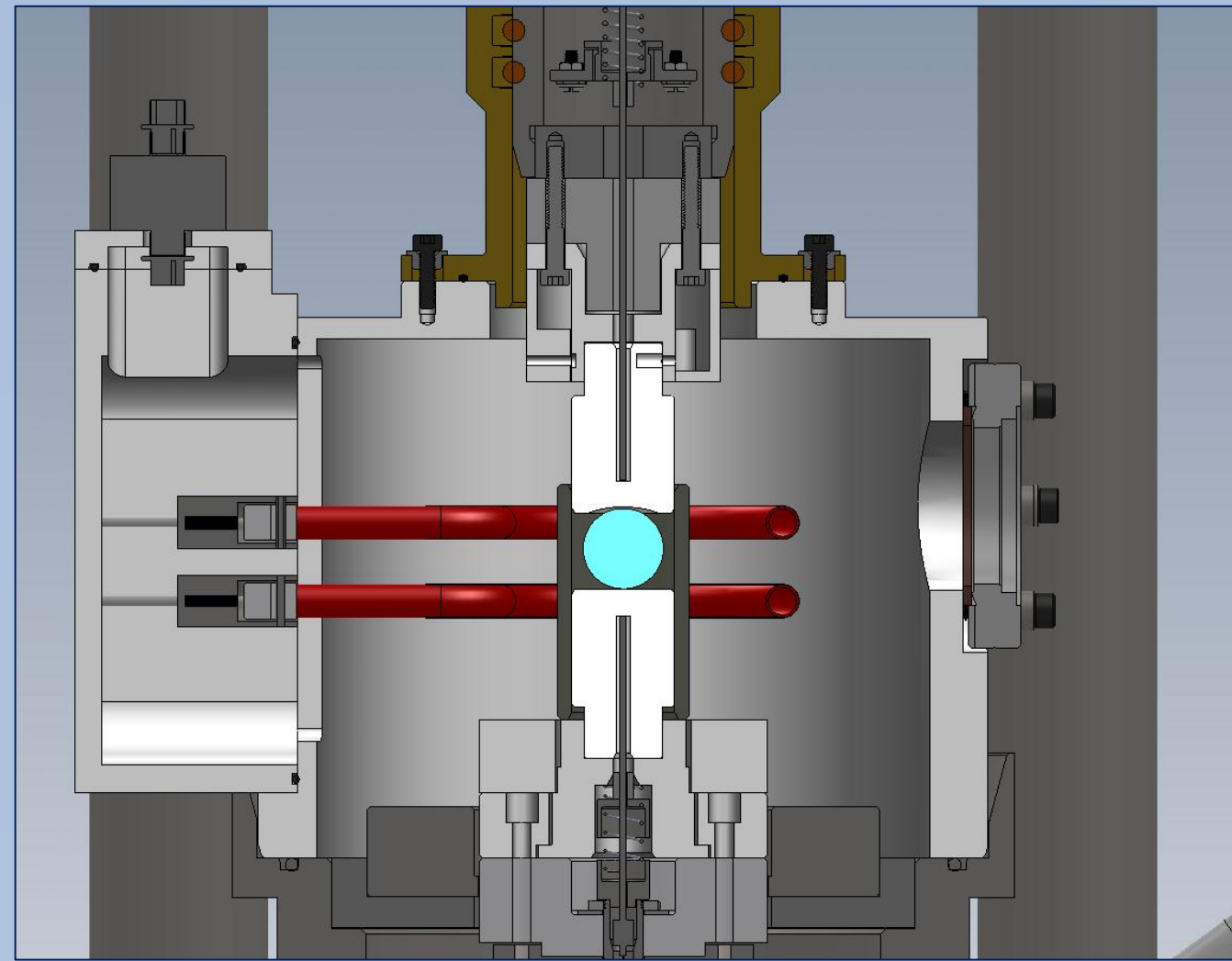
GP-10000HT Glass Molding Cycle

PURGING:



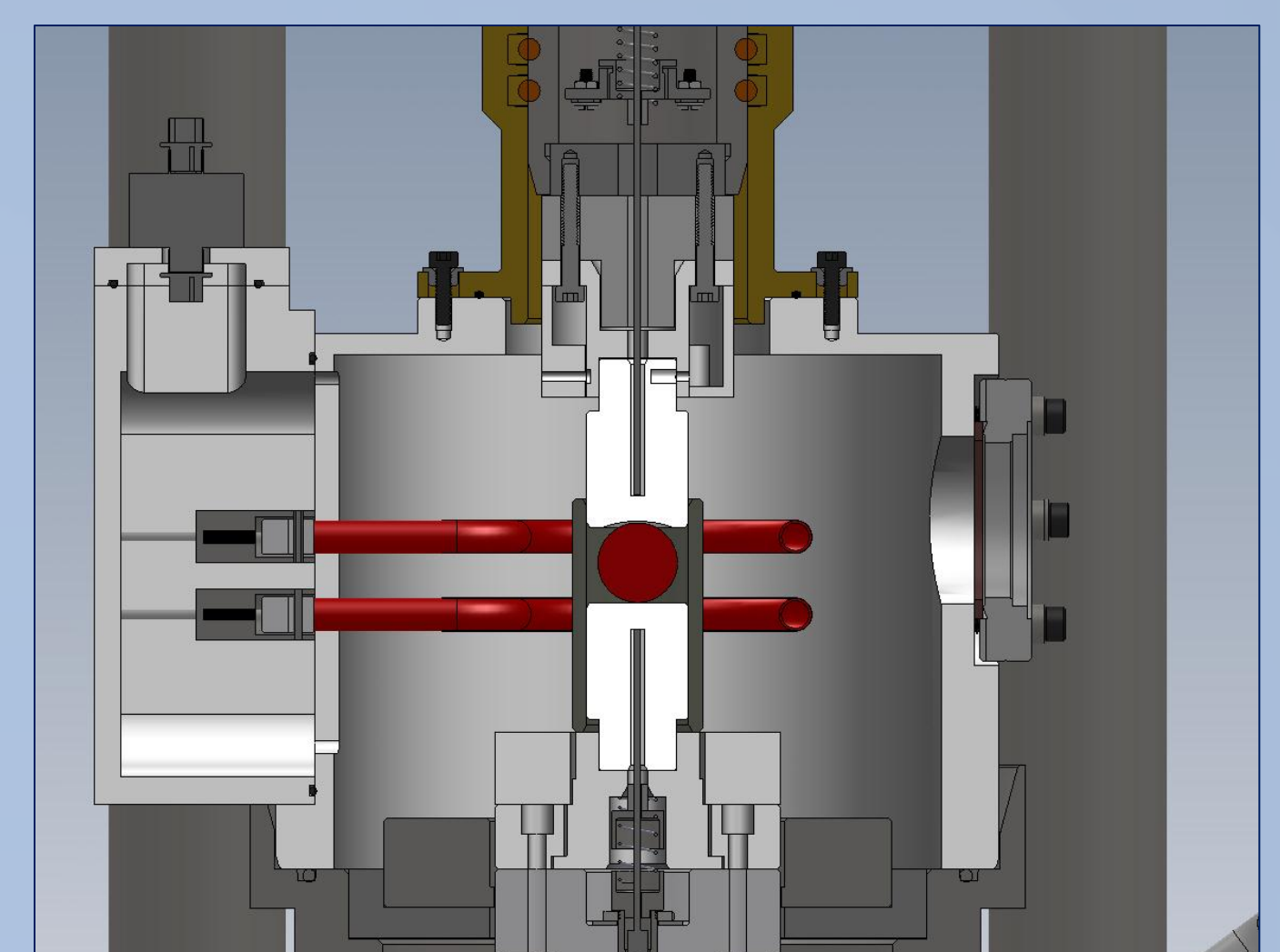
- Oxygen removed through vacuum and Nitrogen purge
- Inert Nitrogen environment
- Multi-cycle purge
- Setup for molding in vacuum

HEATING:



- Glass is heated
- Uses infrared heaters
- Heat ramp, 1°C to 200°C/min
- PID controlled heaters
- Adaptive tuning feature

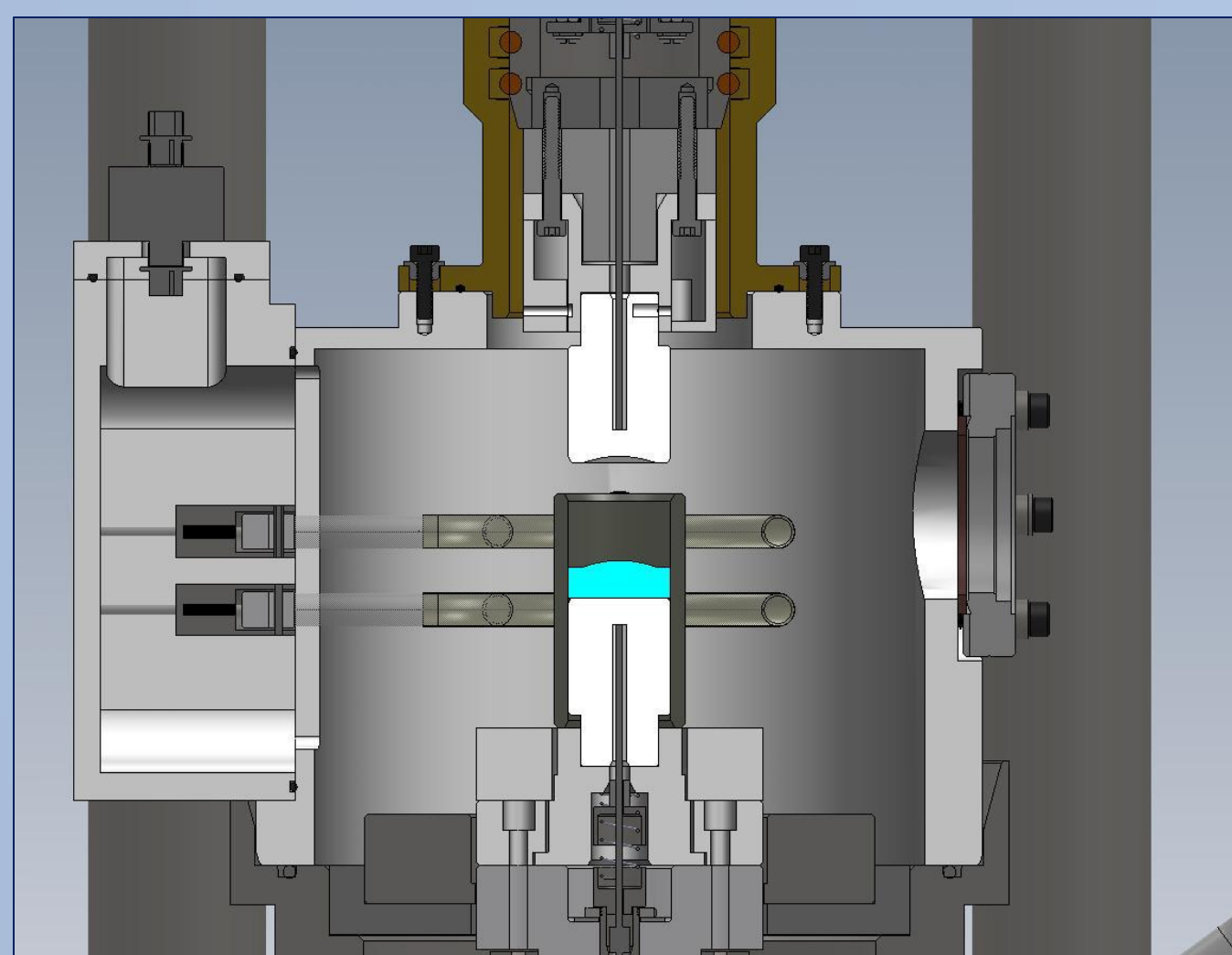
SOAK:



- Temperature is maintained to reach an isothermal state
- Maintain 800 °C (+0,-1)°C
- Force control
- Control over soak duration

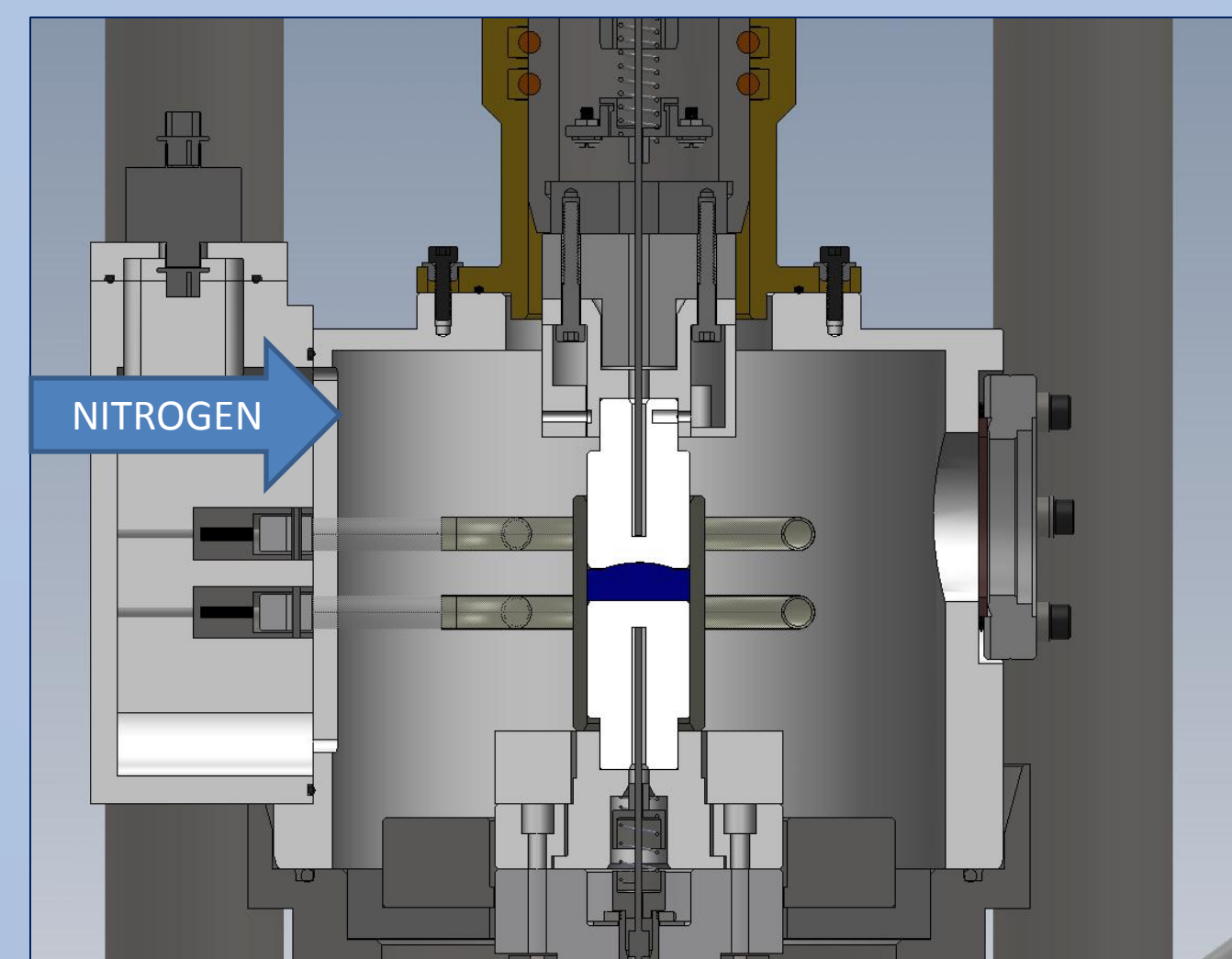
GP-10000HT Glass Molding Cycle

RELEASE & REPEAT:



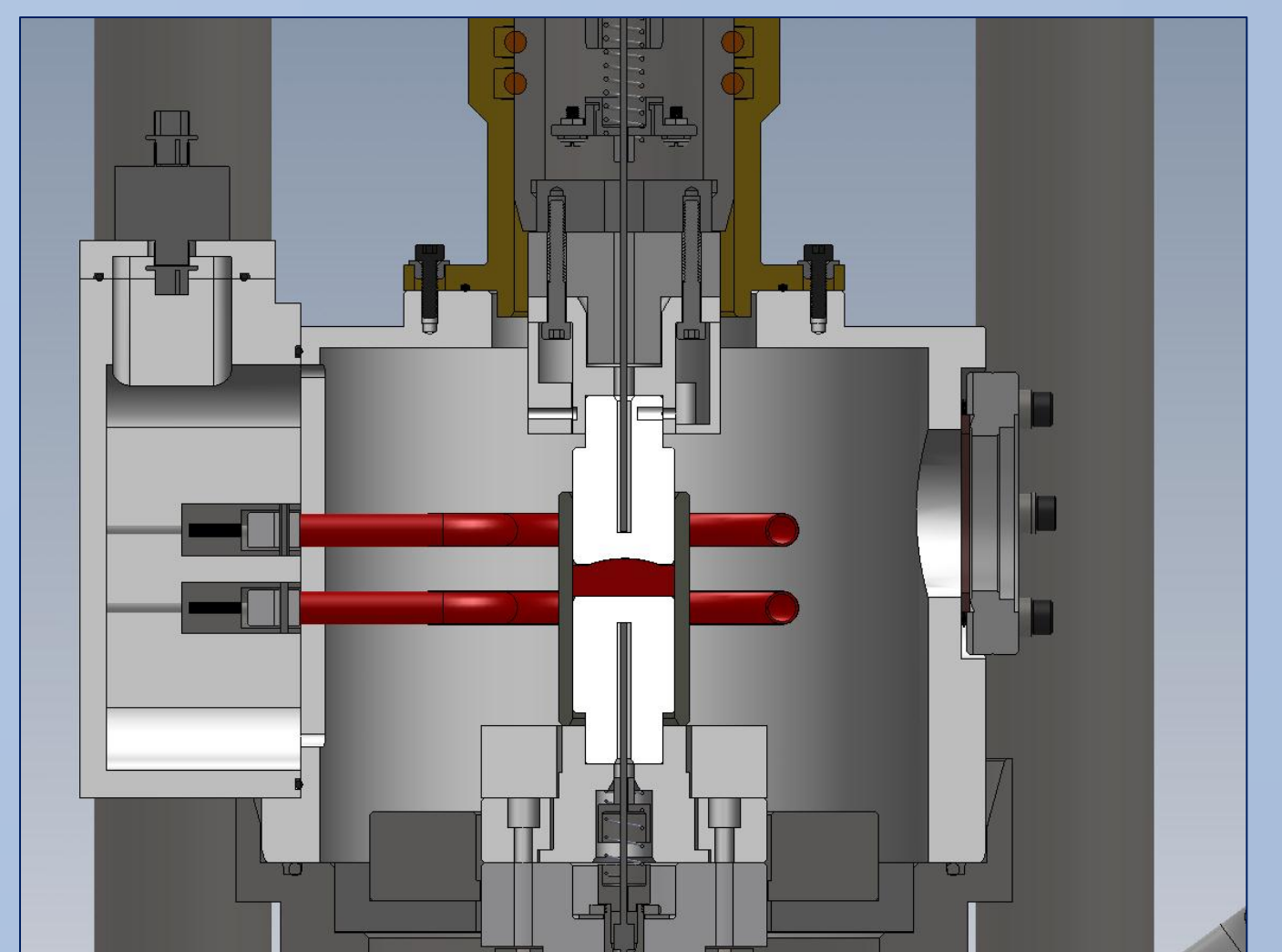
- Slide mechanism for moving housing
- Lens is extracted and new blank (preform) is inserted
- The process is then restarted in manual or auto-mode

COOLING:



- Nitrogen cooling begins
- Three stage cooling profiles
- Independent force control
- Nitrogen cooling
- Cooling rates up to -20°C/min

MOLDING:



- Force is applied to preform
- Apply up to 1,000lbs of thrust
- Position repeatability +/-9µm
- Pause implemented for relaxation effect
- Mold asphere and spherical optical elements

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