High Pressure & Temperature In-Operando System for XRD
(REV 0.1)

PDC TECHNOLOGY

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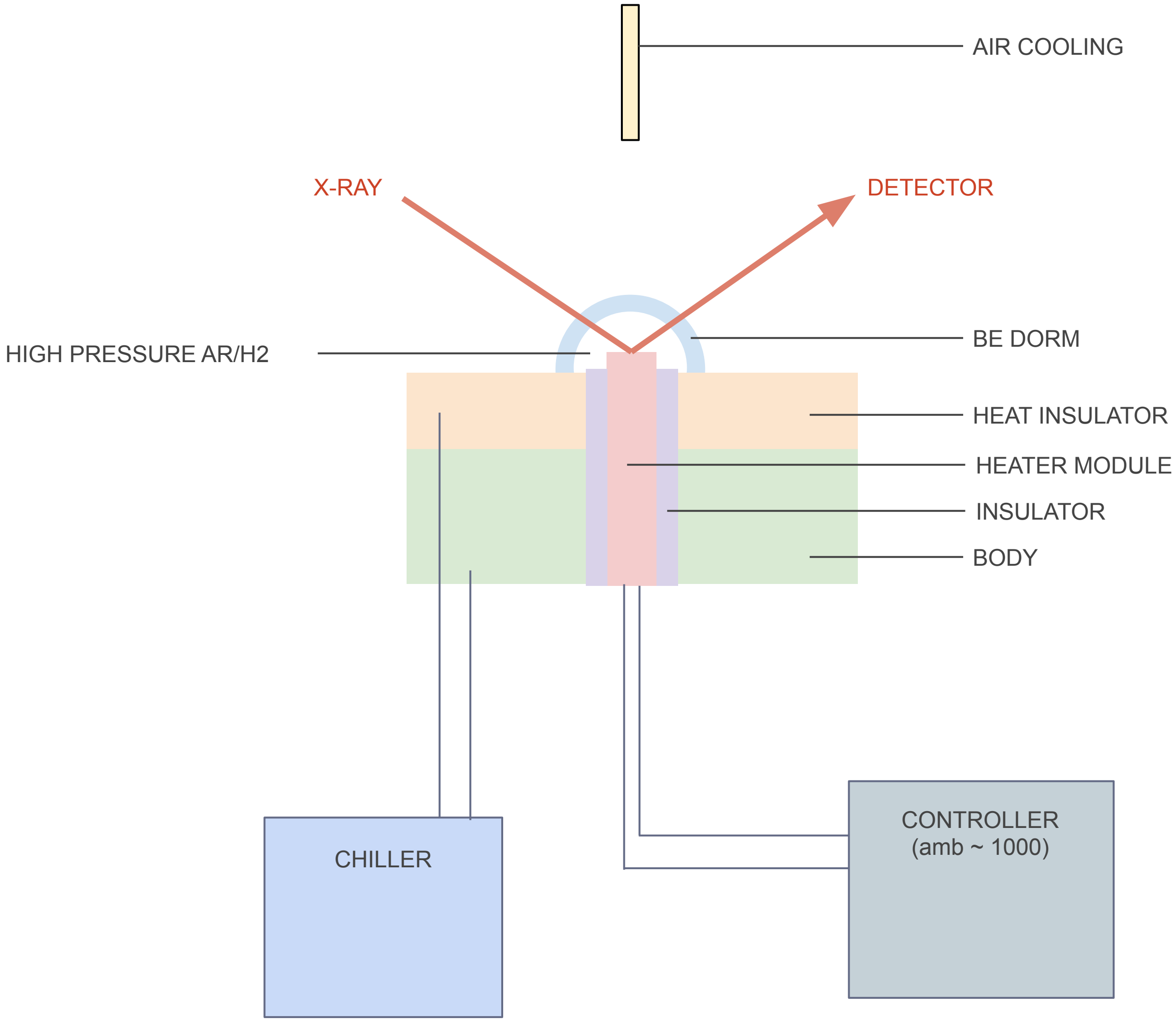
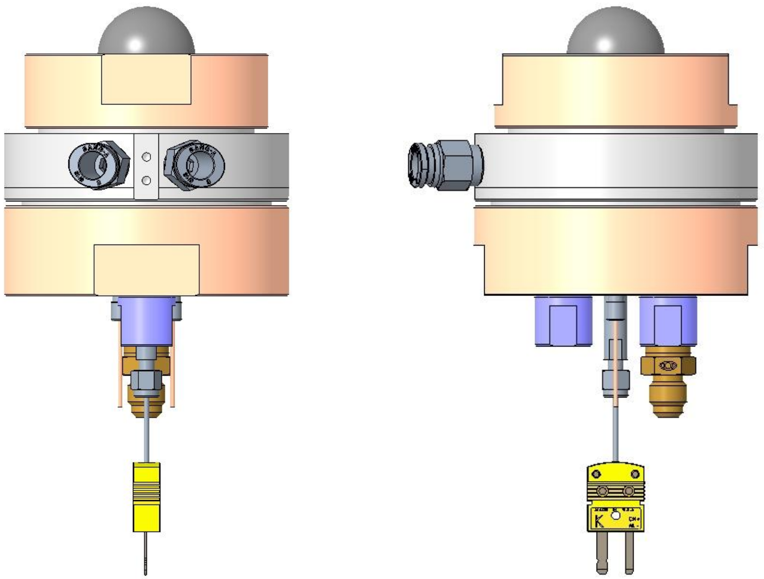
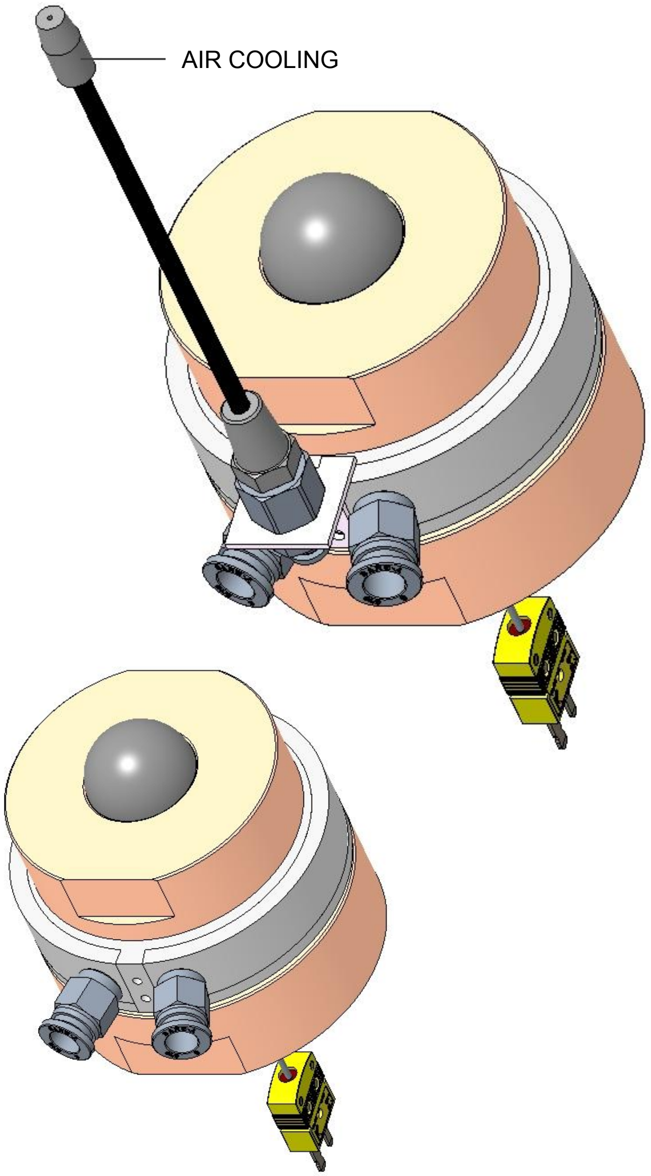
CONCEPT


AIR COOLING
X-RAY
DETECTOR
HIGH PRESSURE AR/H2
BE DORM
HEAT INSULATOR
HEATER MODULE
INSULATOR
BODY
CHILLER
CONTROLLER
(amb ~ 1000)

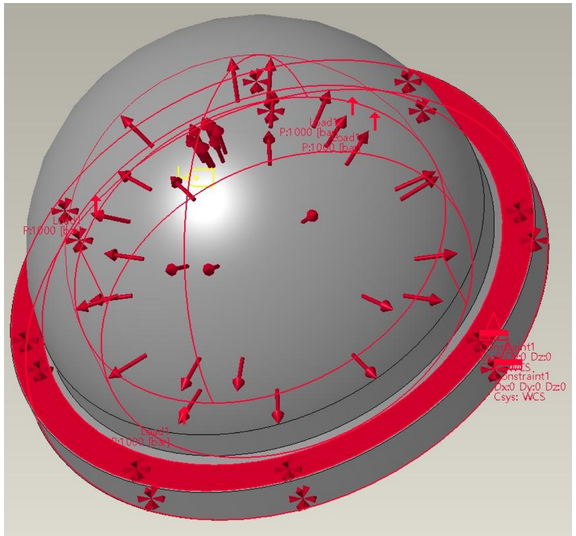
HPT-OS for XRD

- DIMENSION : D125mm×H170mm
- BE DORM DIMENSION : D41mm×H24mm
- INNER VOLUME : DORM 7.5 cc / TOTAL 44 cc
- WEIGHT : > 2.5 kg
- MATERIAL : BERYLLIUM & STAINLESS & CERAMIC
- SEALING TYPE : O-RING SEAL
- MAX PRESSURE : > 600 bar
- MAX TEMPERATURE : AMB ~ 1000°C
- XRD MEASUREMENT RANGE : Incident Angle(θ) from 3°



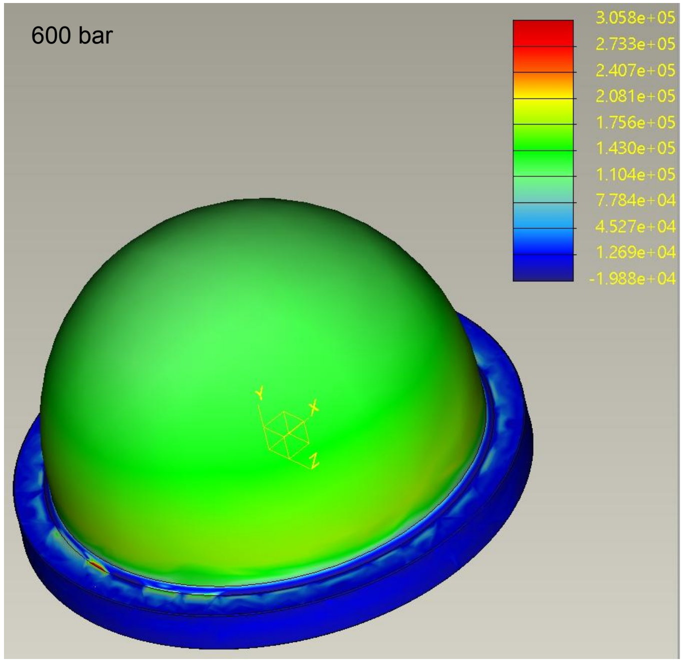


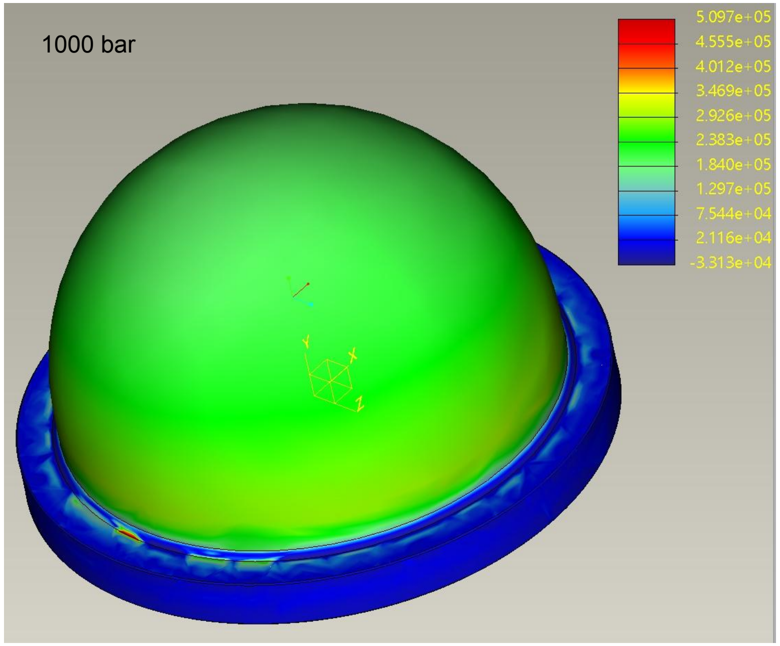
CONFIGURATION



해석 조건

- 내부 압력 : 600 bar / 1000 bar(순간 가능 압력)
- 고정조건은 왼쪽 그림의 붉은색 면과 그 아래면.
- 취성이 강한 베릴륨의 경우 파단응력을 인장응력으로 고려하여야 함. (파단응력 : 320 ~ 550 MPa)
- 하단의 해석자료는 주응력을 해석한 결과임. 주응력은 재료 면의 수직으로 작용하는 응력임. 취성이 높은 재료에 주로 적용.





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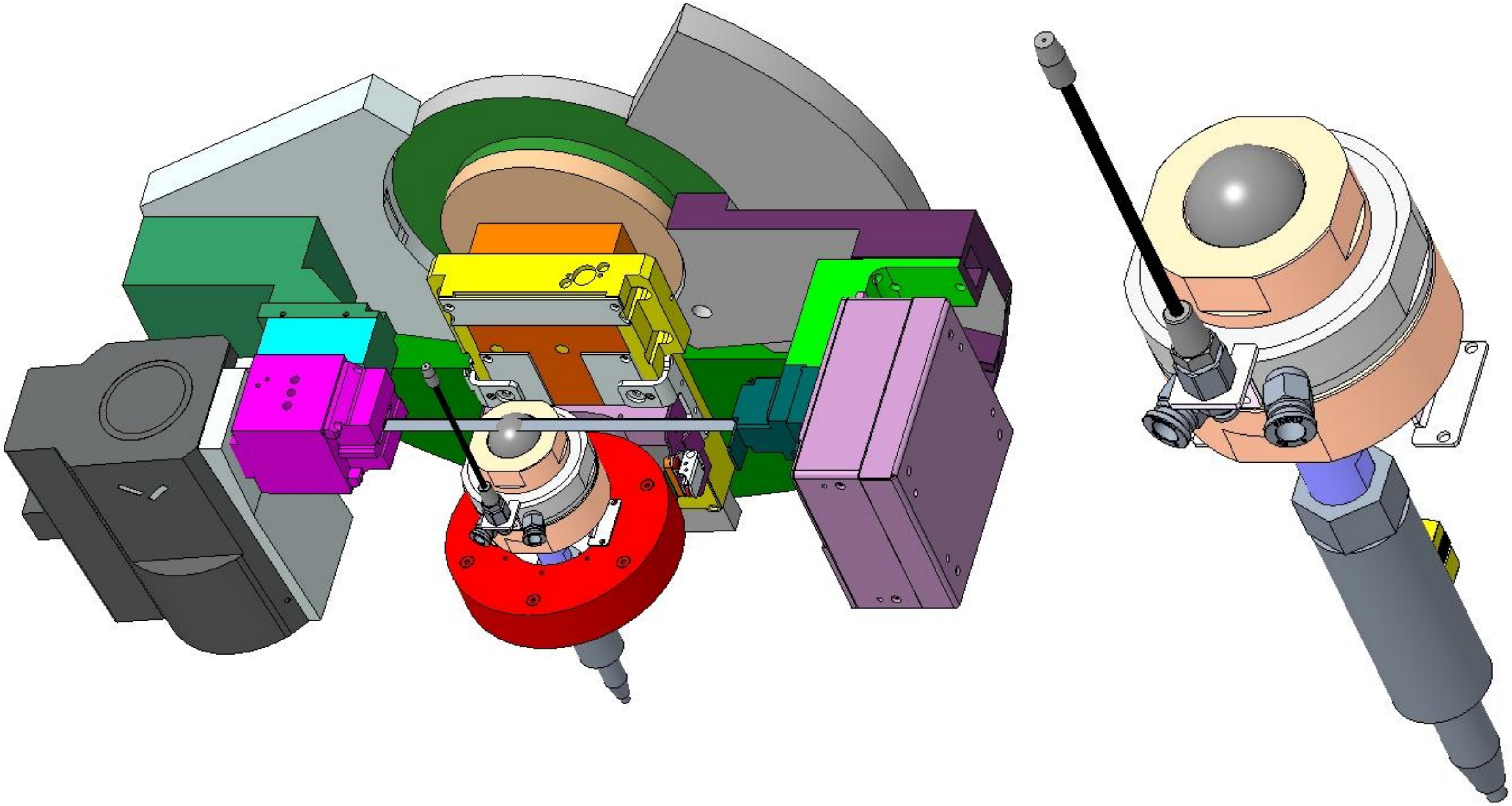

CONFIGURATION