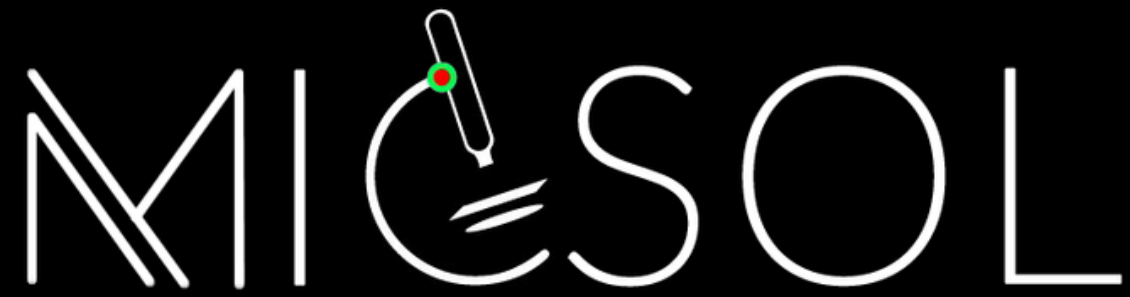




MICROSOL

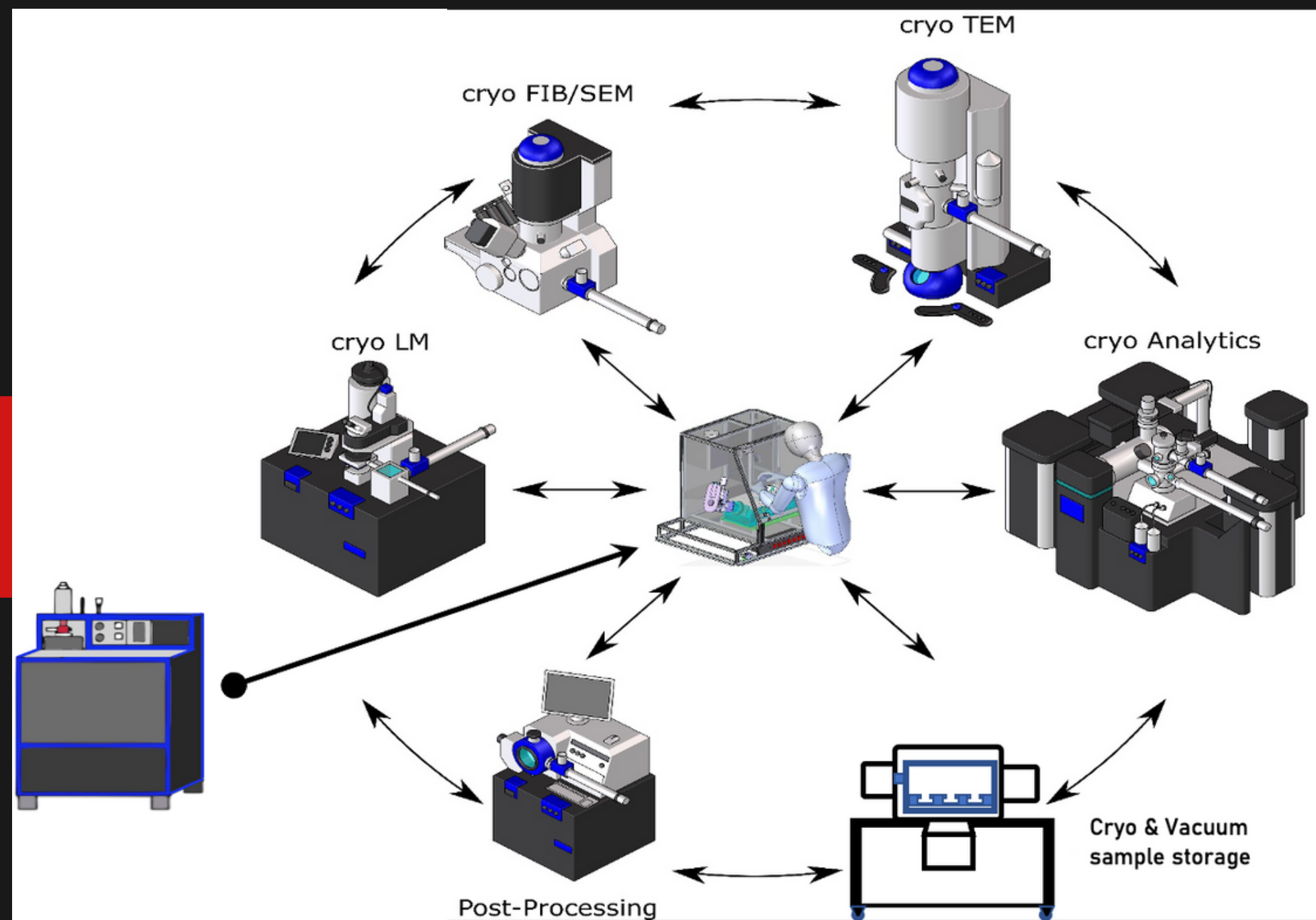
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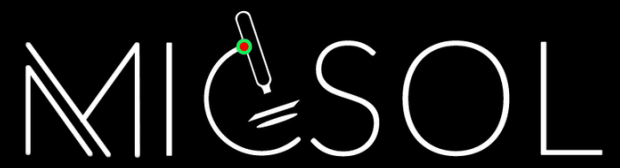


A Microscopy Solutions Company

**Customised and semi-serial products for
microscopy and analytics.
Designed and made in Australia.
Supporting local businesses.**

CRYO NETWORKING

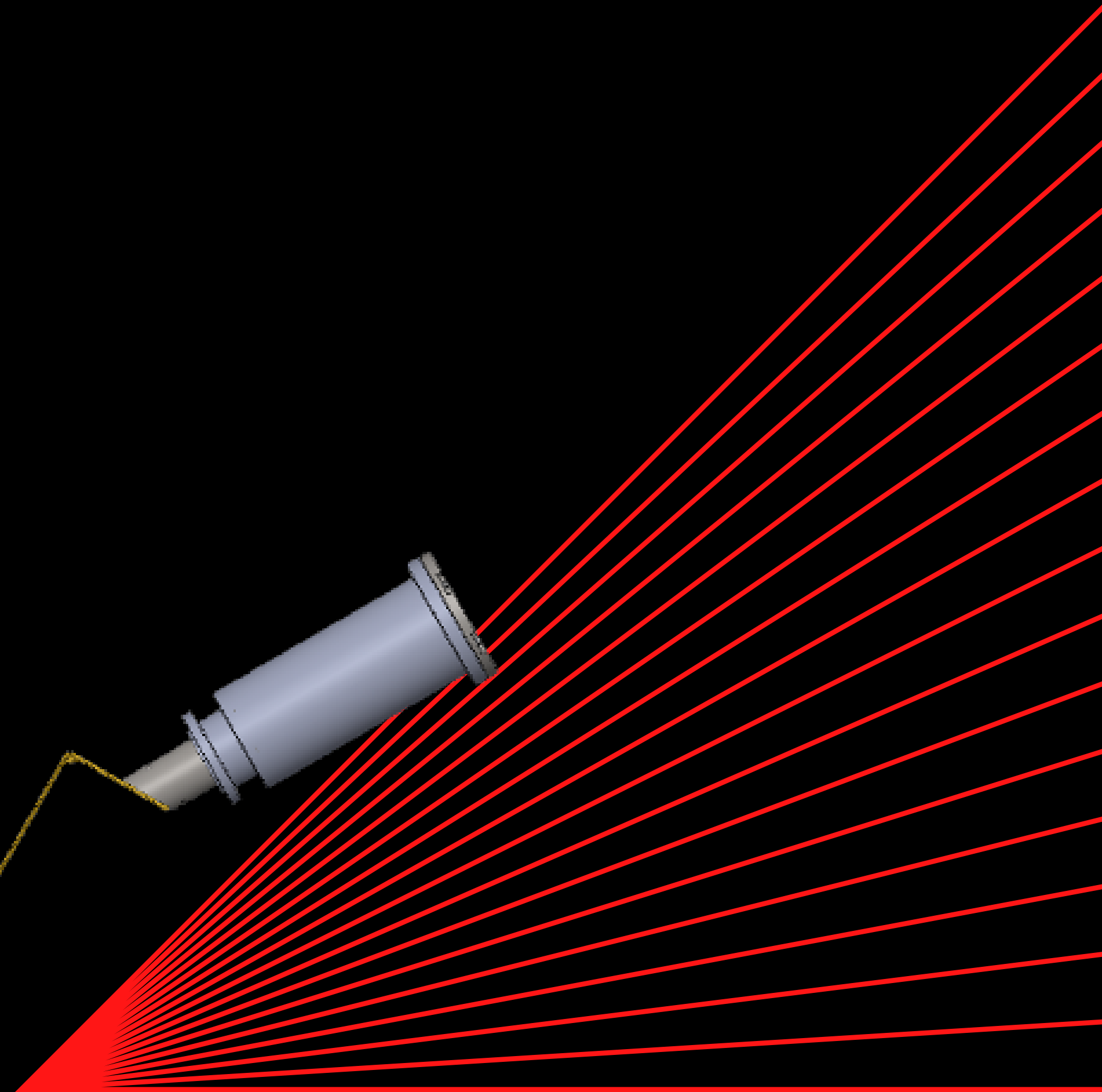
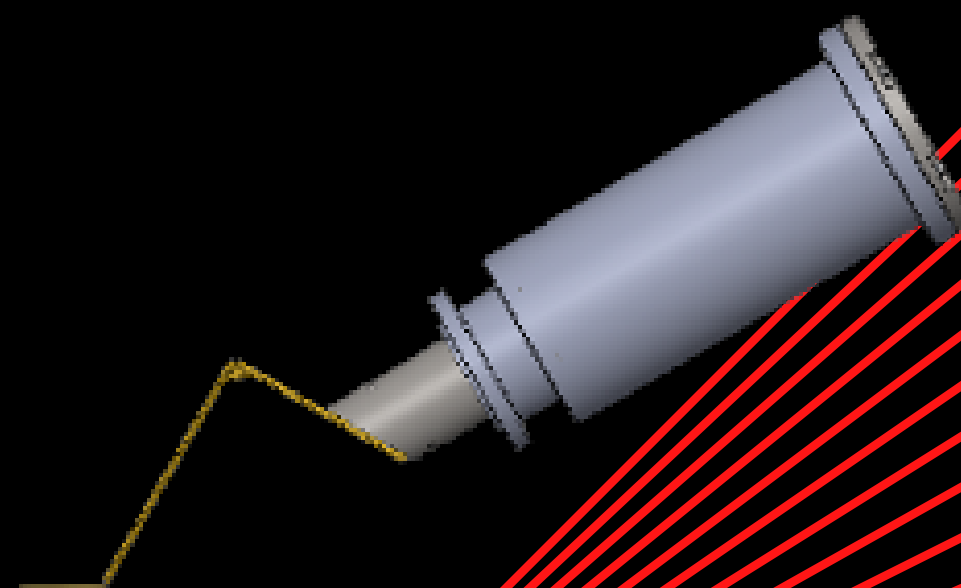
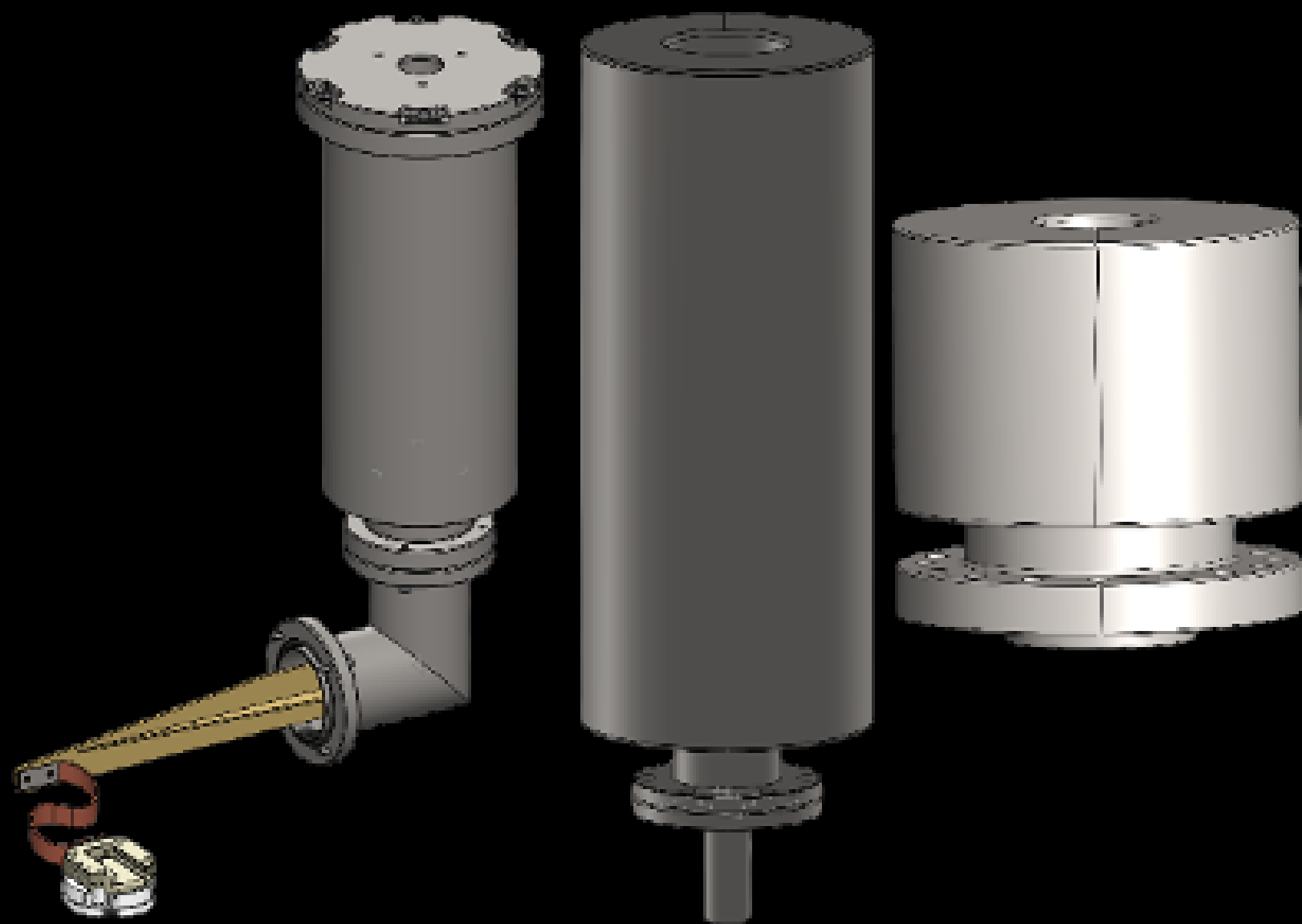




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LN2 DEWARs

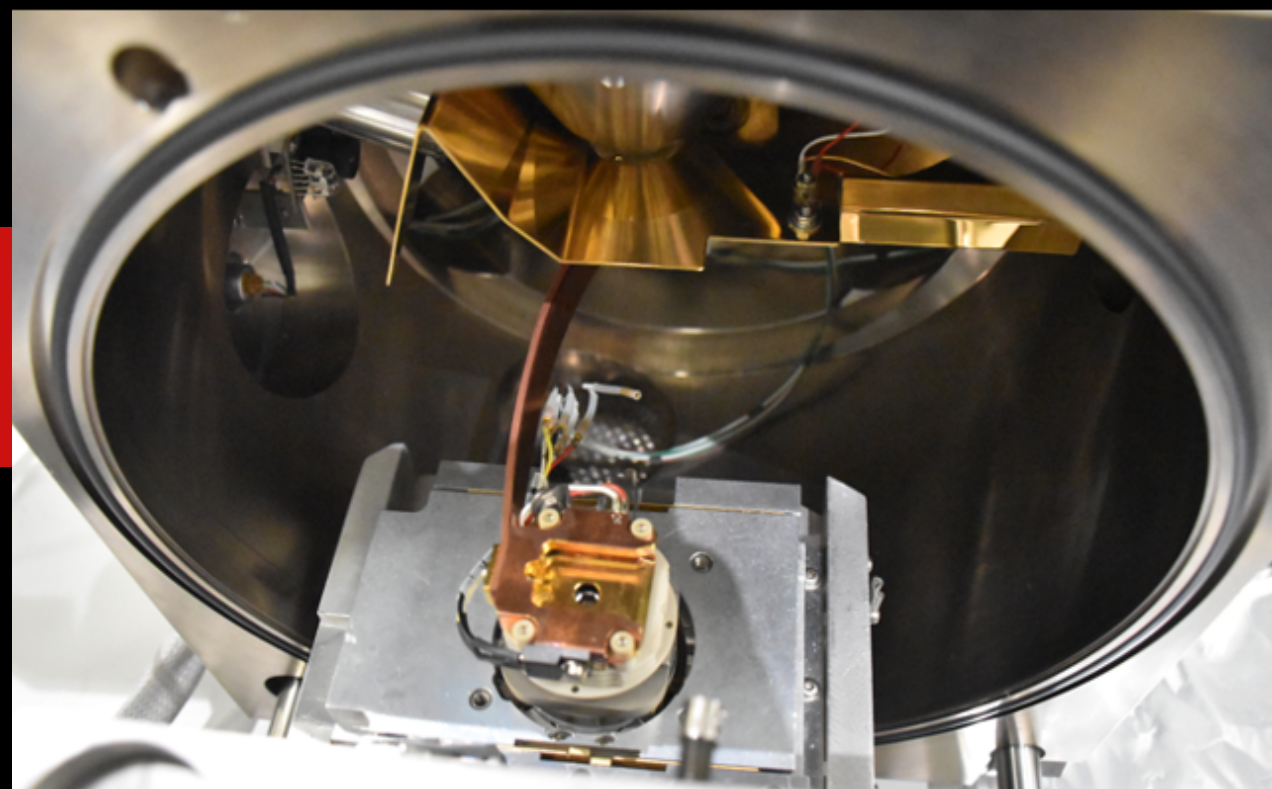
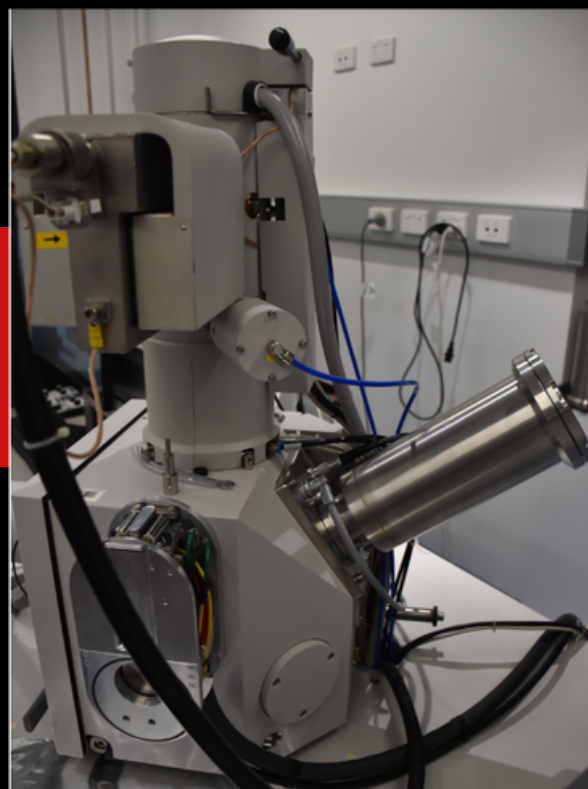
**For any HV and UHV chamber,
and any vacuum interface.**



SOLUTIONS FOR SEM/FIB SYSTEMS

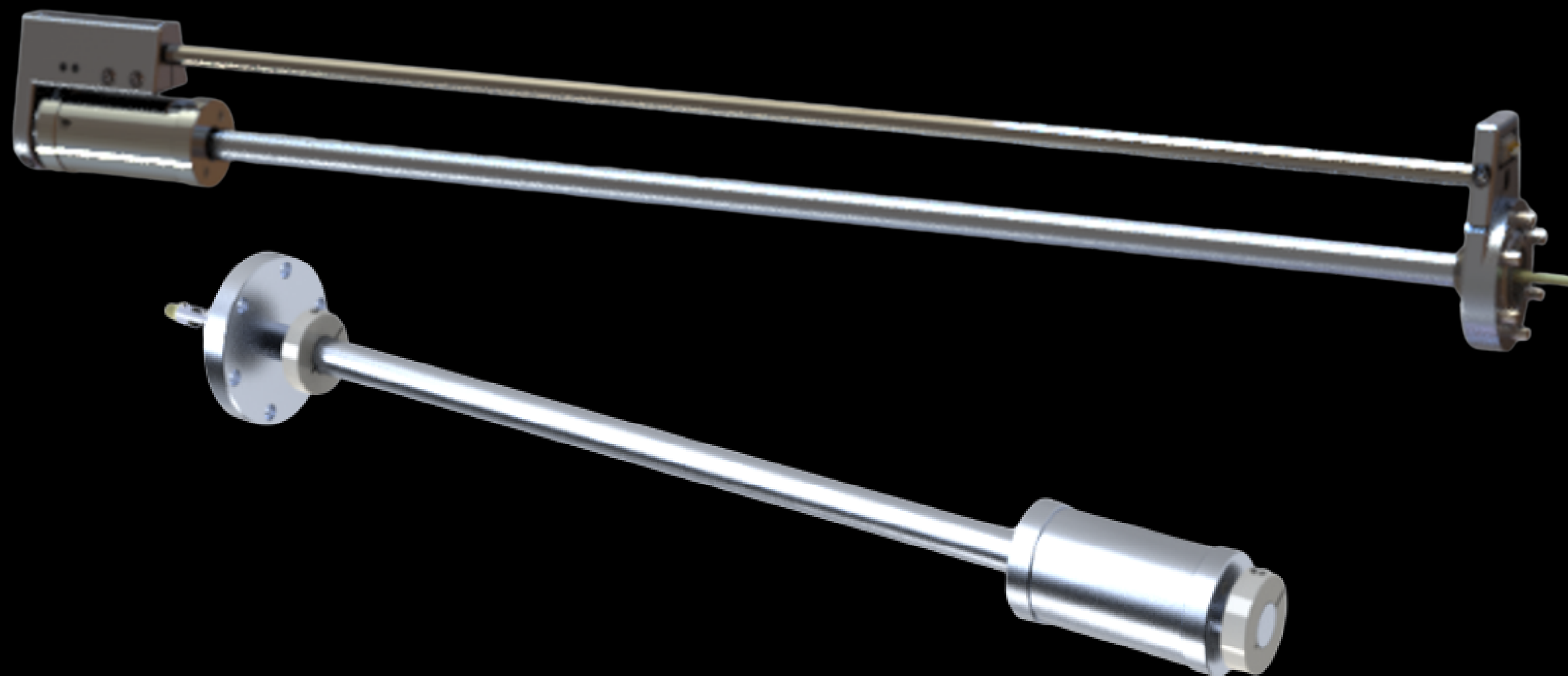
Modification of an old BalTec VCT100 adaptation:

- **Temperature below -150°C**
- **Dewar, cold shield and stage adapter replacement**
- **LN2 Dewar size 1000ml ($>2.5\text{h}$ between fillings)**
- **Temperature below -150°C**



MAGNETIC MANIPULATORS

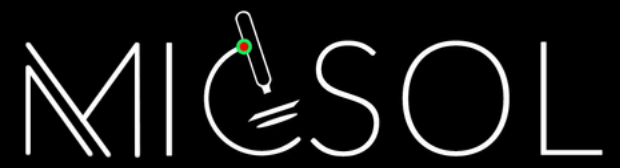
**For HV and UHV up to a stroke of 900mm,
and outer diameter of 30mm.**



LTU: LINEAR TRANSFER UNIT

For vacuum and cryo sample transfer, and quick coupling.

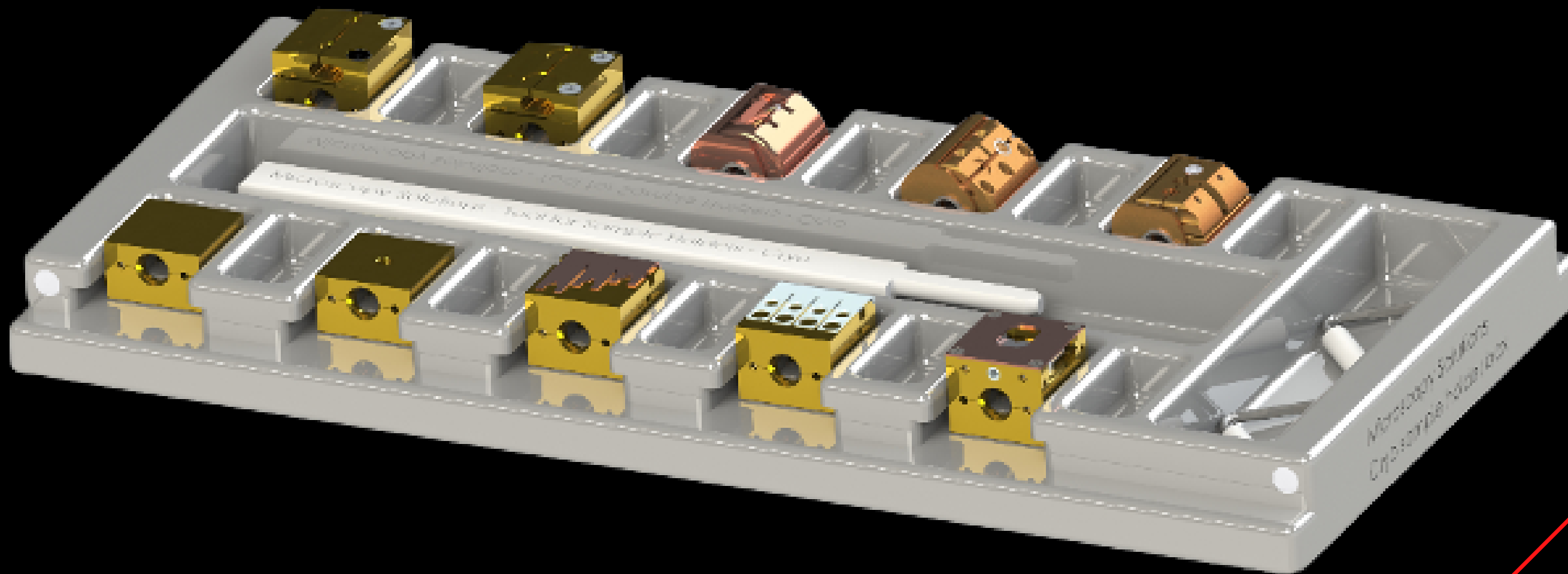




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MICSOL SAMPLE HOLDERS

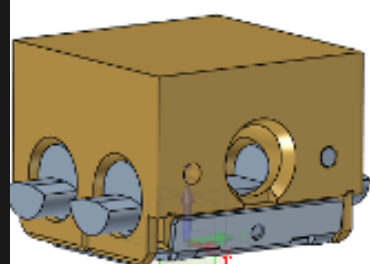
For BalTec/Leica/MicSol cryo stages



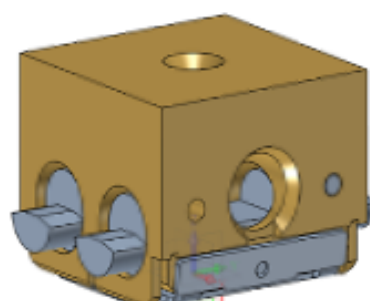
MICSOL SAMPLE HOLDERS

Improved thermal conductivity

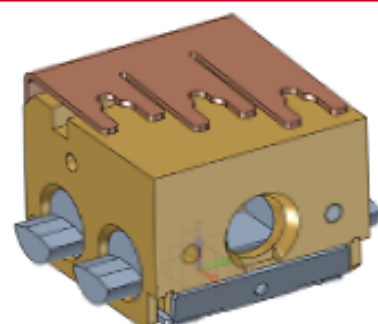
SAMPLE HOLDER #1
Blank



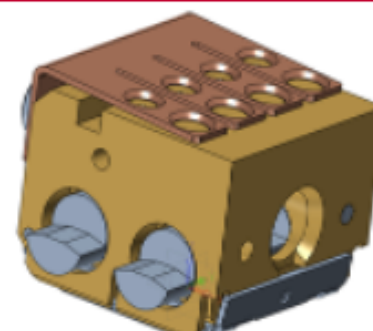
SAMPLE HOLDER #2
for screw in SEM
stubs



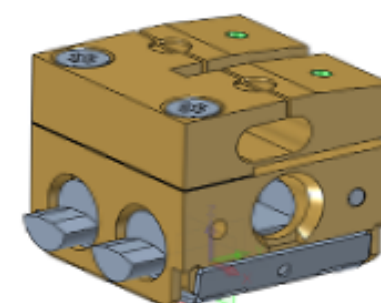
SAMPLE HOLDER #3
Freeze Fracturing
(3.0x0.8mm
carriers)



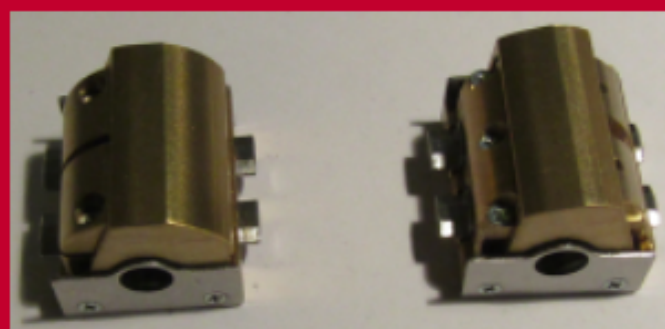
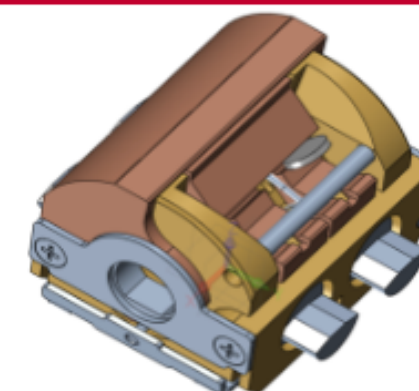
SAMPLE HOLDER #4
for 4 Dia. 3mm
grids



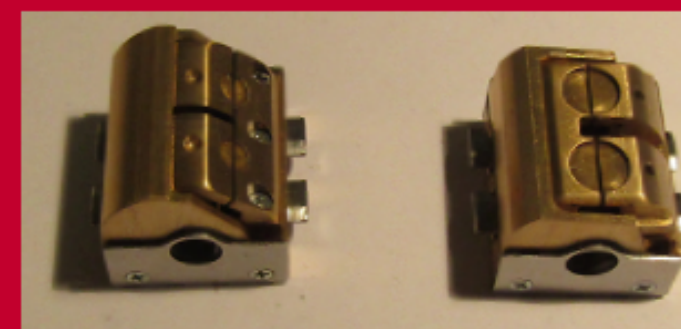
SAMPLE HOLDER
#5 & #6
Freeze Fracture
(3.0 or 6.0x0.8mm
carriers)



SAMPLE HOLDER #12
Pre-tilted TEM grid
holder with shutter
and cold trap



CUSTOM DEVELOPMENT
WITH CRYO TILTING LEAD

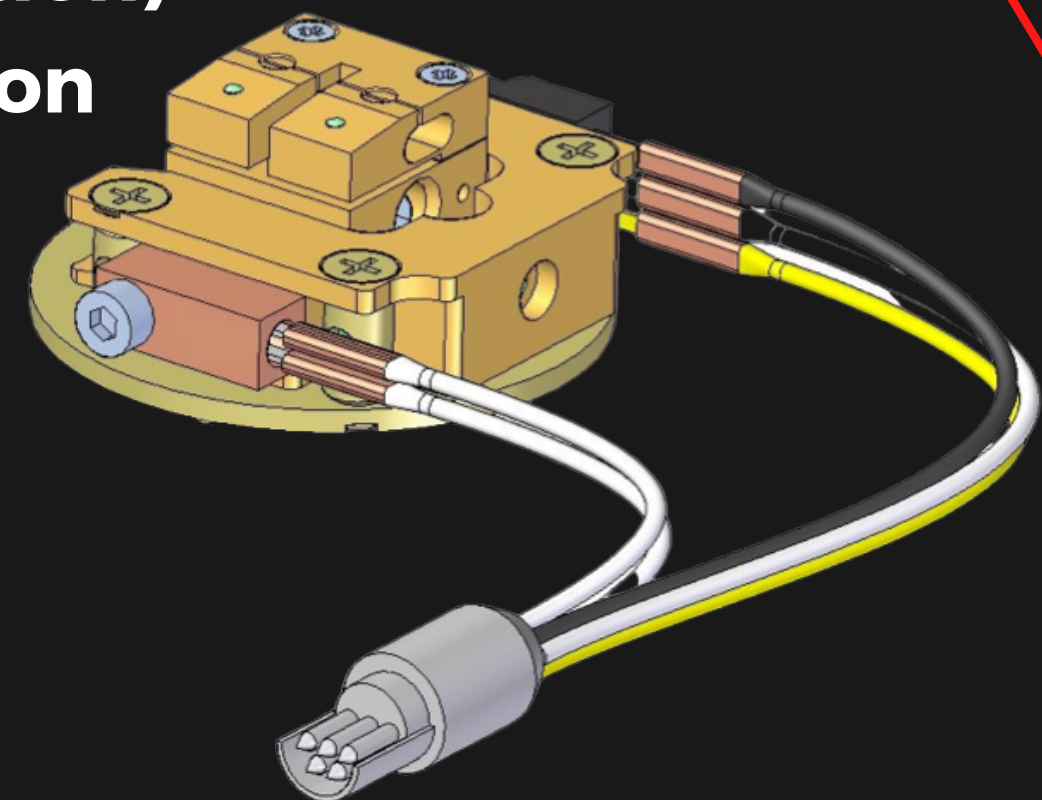
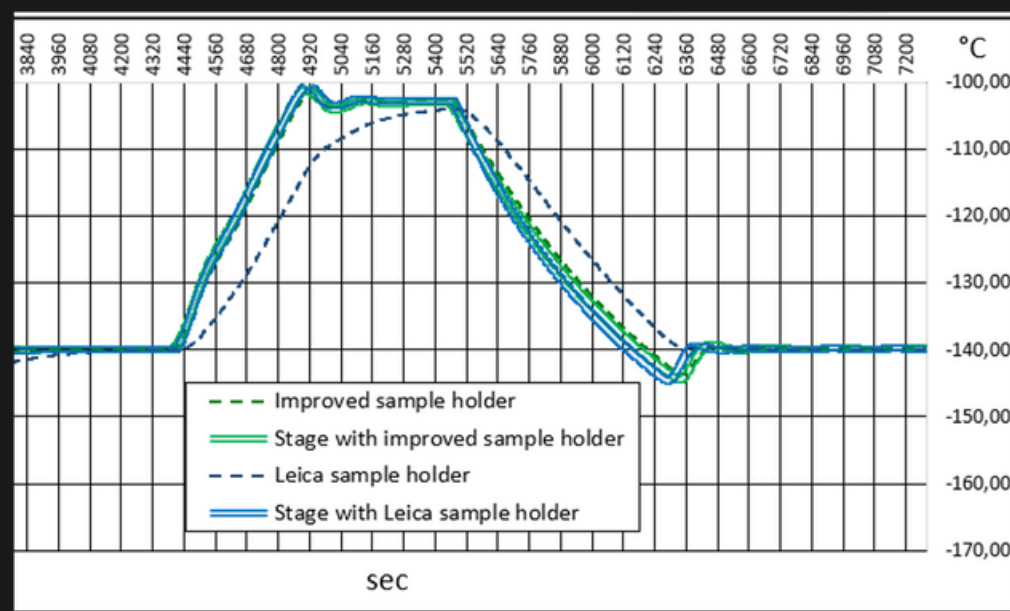


MICSOL SAMPLE HOLDERS

Improved thermal conductivity

Knowledge transfer: Improved version of the BAL-TEC/Leica design → improved thermal insulation & conductivity.

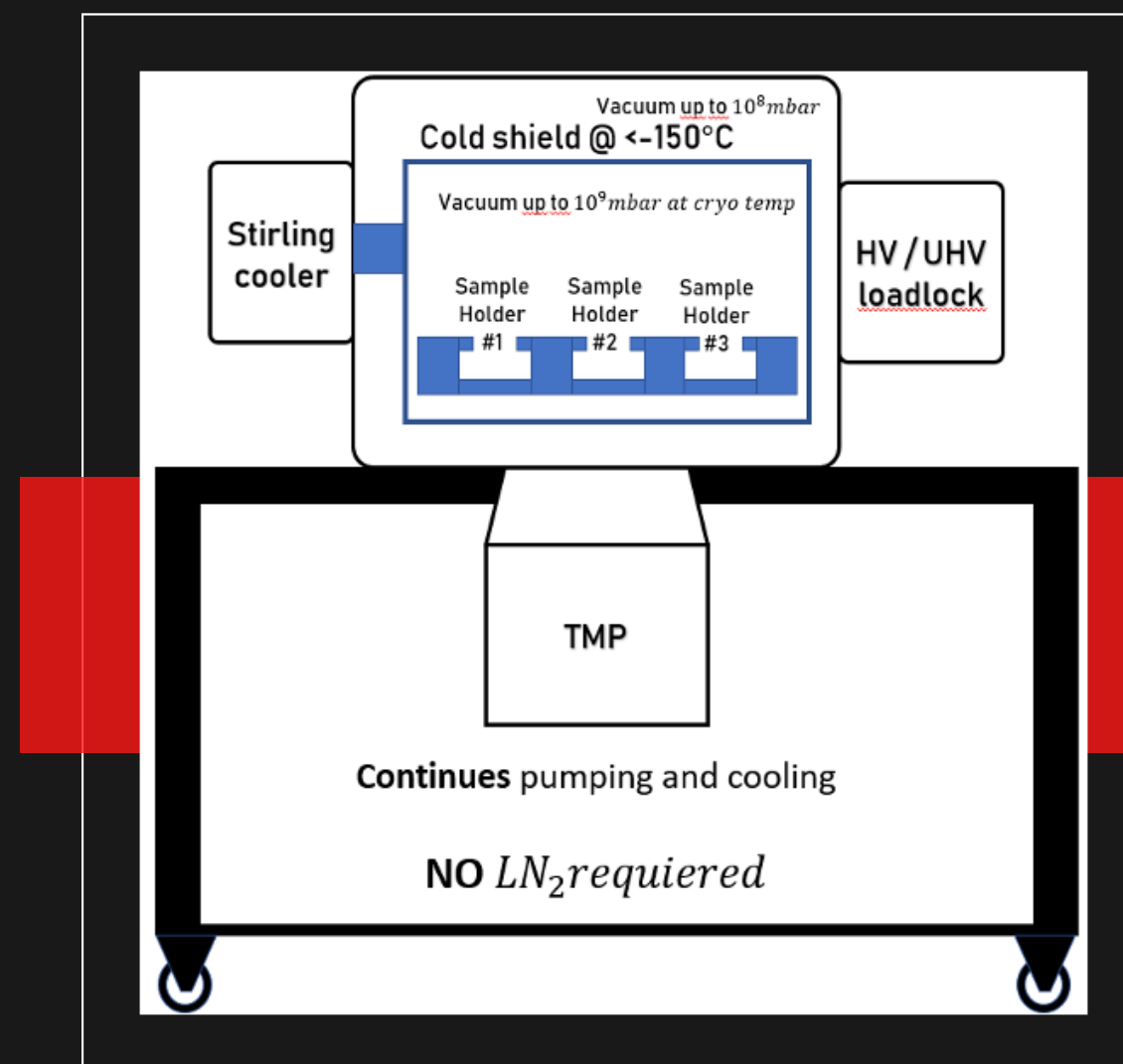
- Equilibrium of temperature between sample holder and stage adapter below 60 sec (e.g. during sublimation)
- Currently x20 faster then the BalTec/Leica solution



CHILLING STATION

FOR SAMPLE STORAGE UNDER CRYO & HV

- Enables indefinite multiple sample storage under cryo conditions and HV (<10⁻⁷mbar) (TMP)
- No need of LN₂
- Allows working in batches according to system availability in the lab
- Can be used for “Freeze Drying”
- Number of sample holders 4 or more
- Interface any CF40 transfer device
- Options for temperature sensor, heater, NEG pump and vacuum gauge
- Transfer over magnetic manipulators

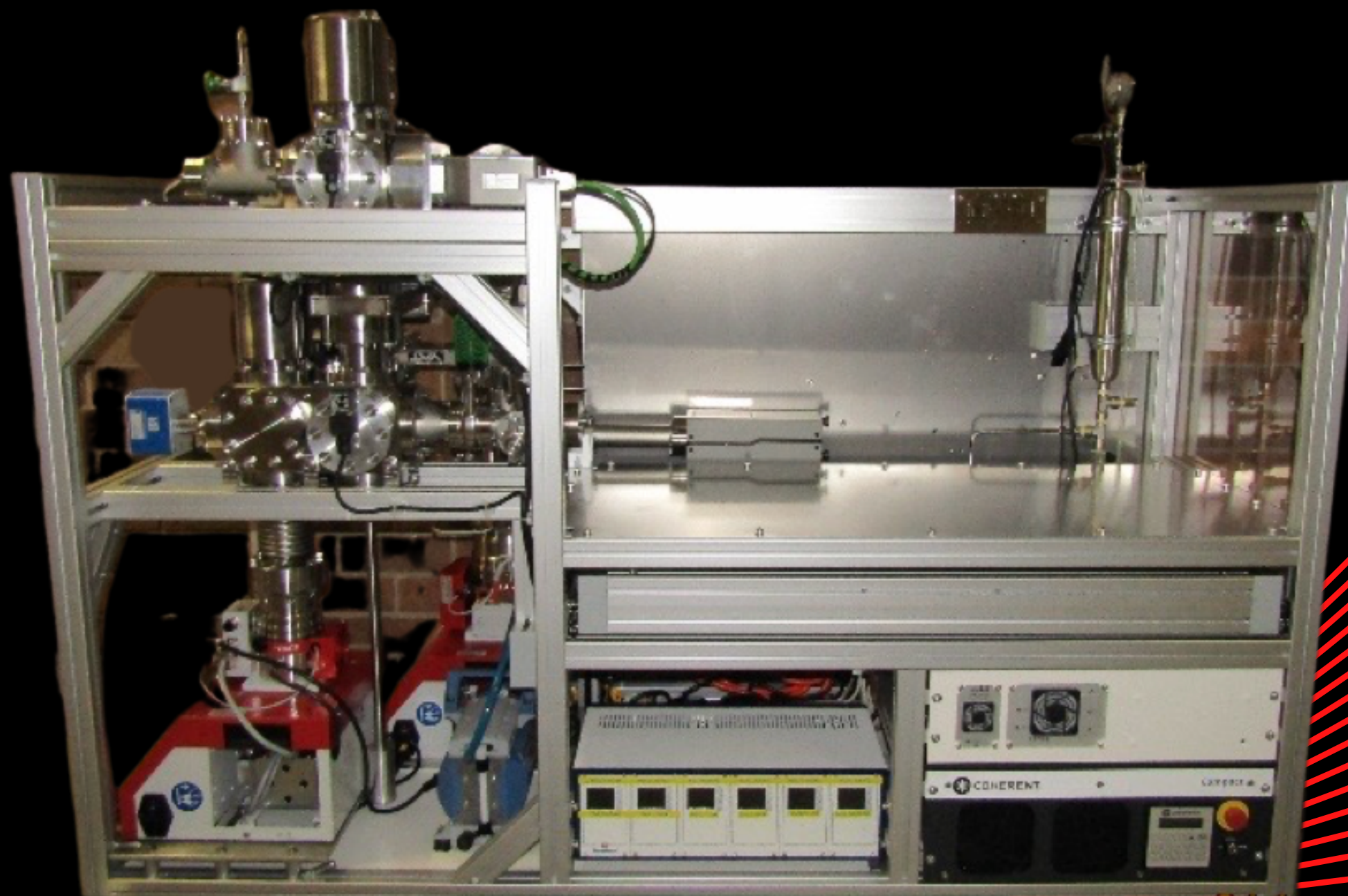




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REACT HUB

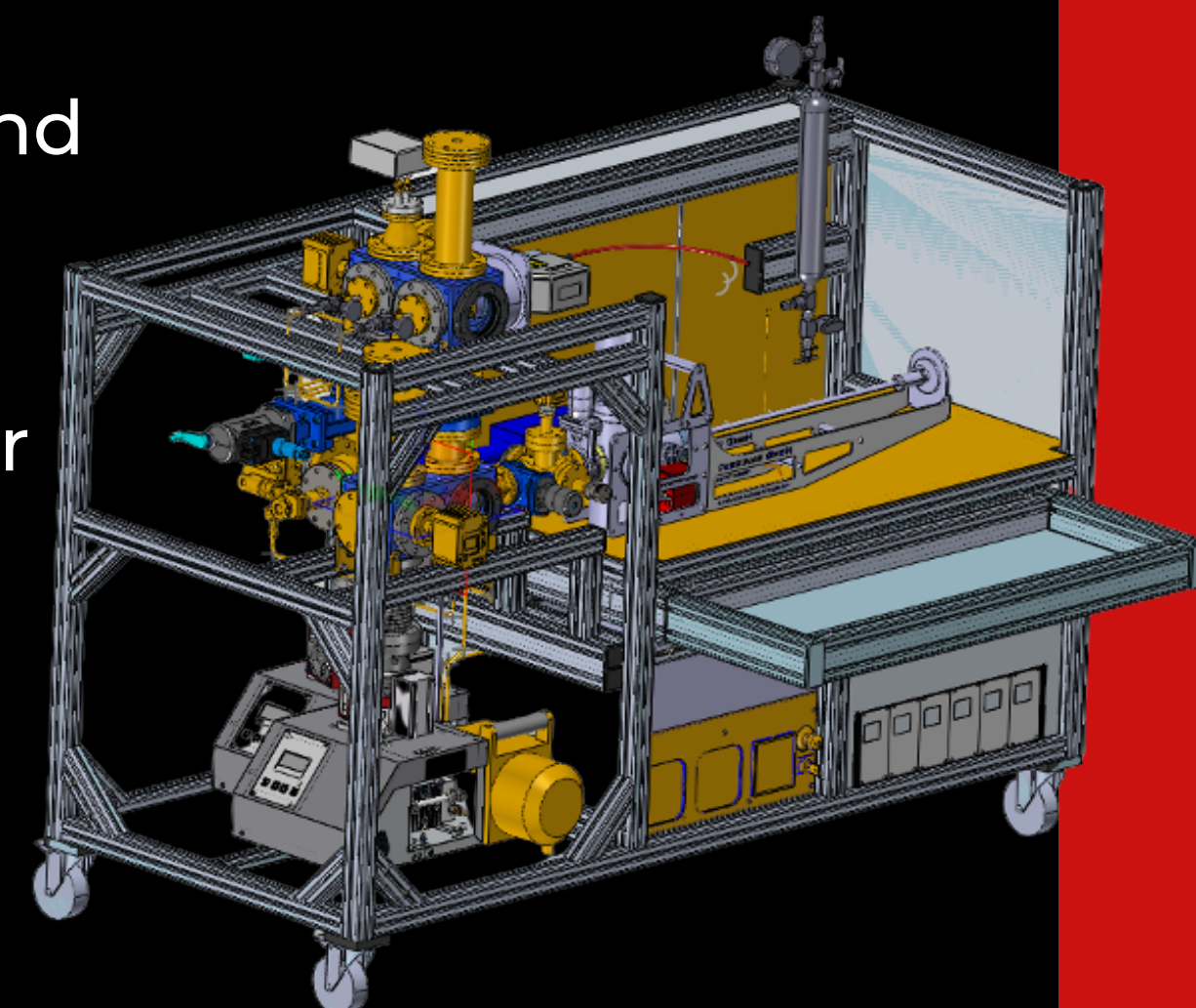
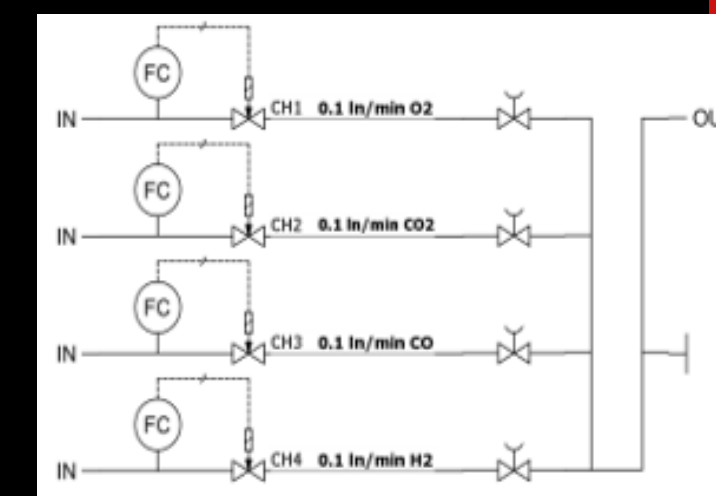
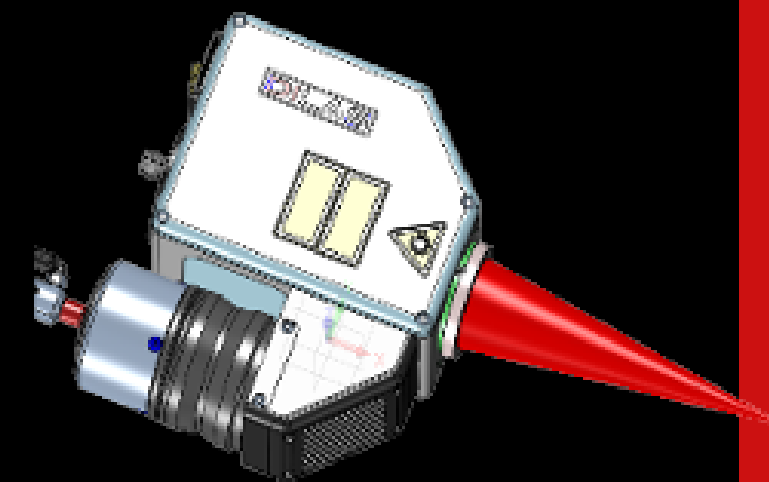
**For experimental thermodynamic processes
on samples in UHV or in specific gaseous ambient.**



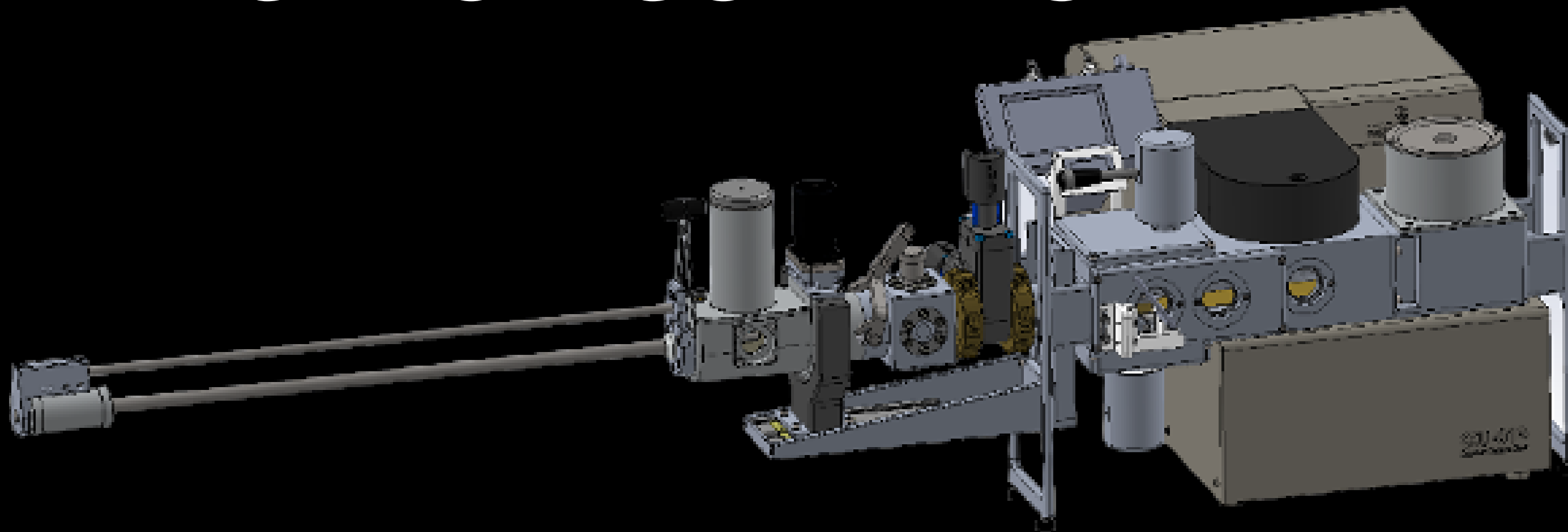
REACT HUB

UHV ENABLED GAS & TEMPERATURE REACTION CELL

- UHV docking interface for the “Shuttle” from Ferrovac or M-Sol
- Laser for controlled heating (190-700°C or 590-1100°C) including a pyrometer, CCD and alignment pilot laser
- Cooling using LN2 Dewar or alternatively Stirling
- Cryo stage adapter with integrated temperature sensor and counter heater
- Four separate Electronic Pressure Controllers (EPC) for different gasses with a mixing chamber – controllable over LabView and a dedicated UI from the supplier.
- RGA for controlling the gas mixture
- UVC lamp for water desorption
- Burst disk to prevent any chance of explosion
- Laser class 1 certification (AU version)

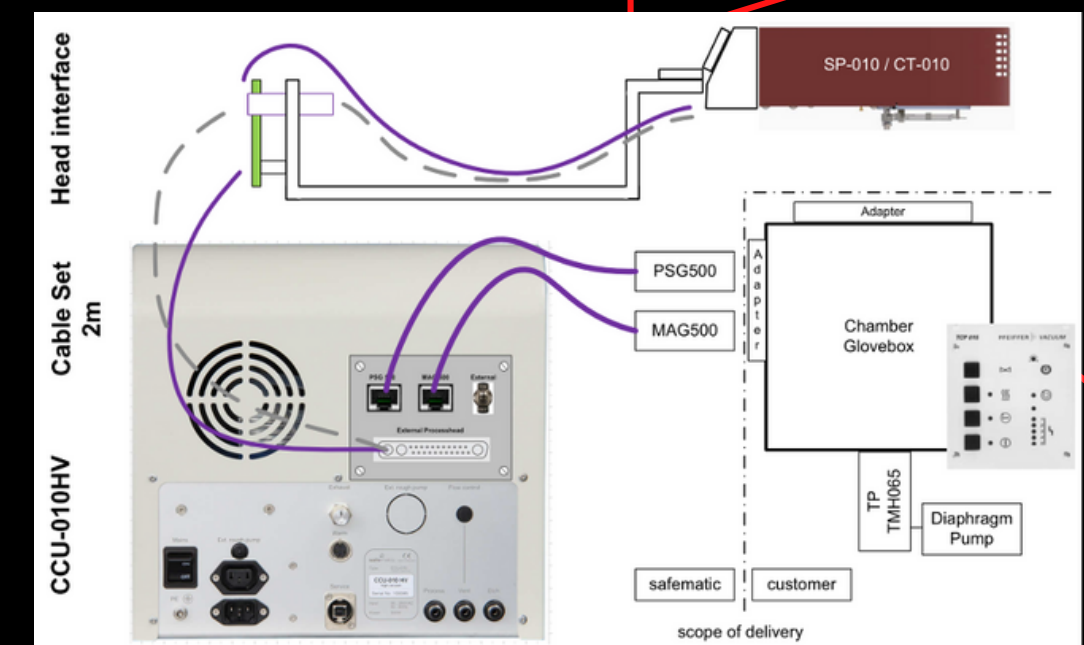
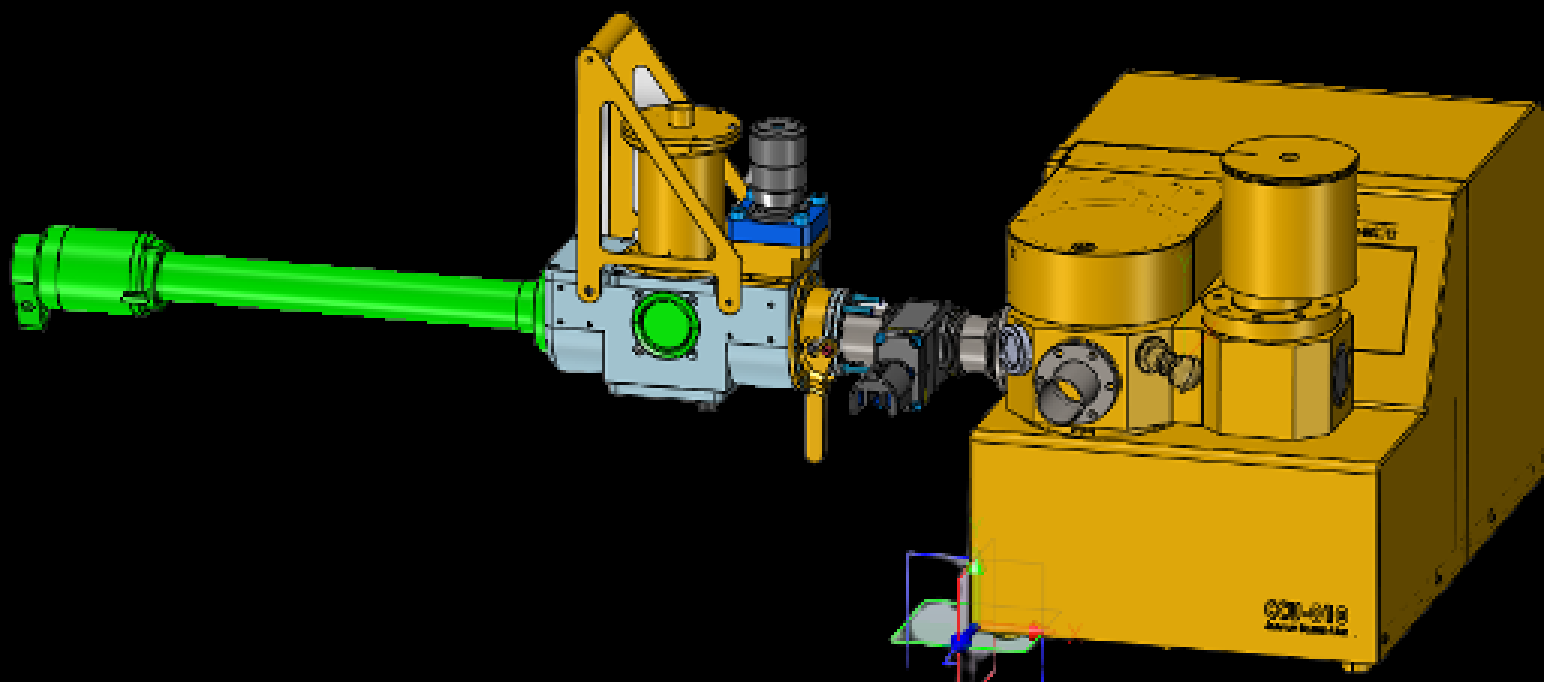


FREEZE-FRACTURE ADD ON TO HIGH-VACUUM BENCHTOP COATERS

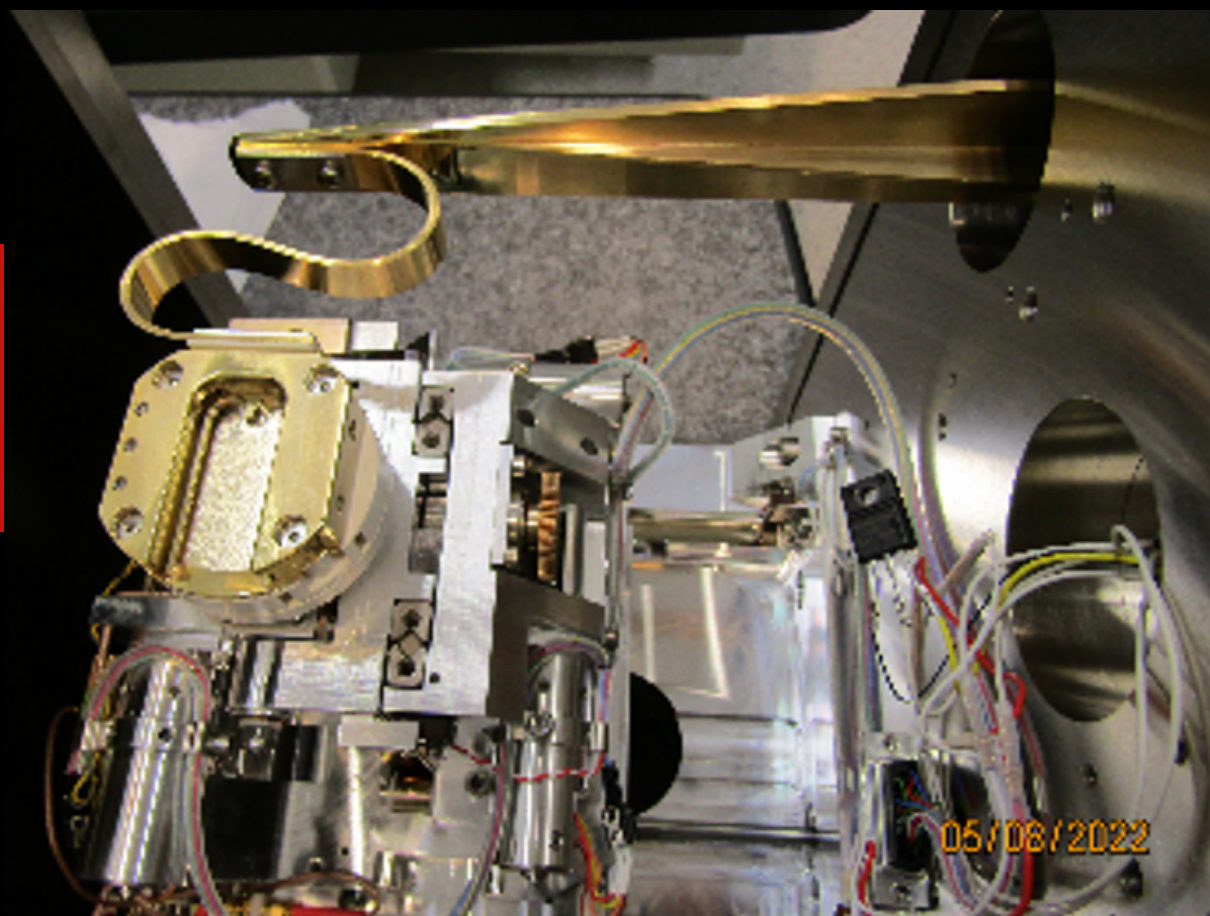
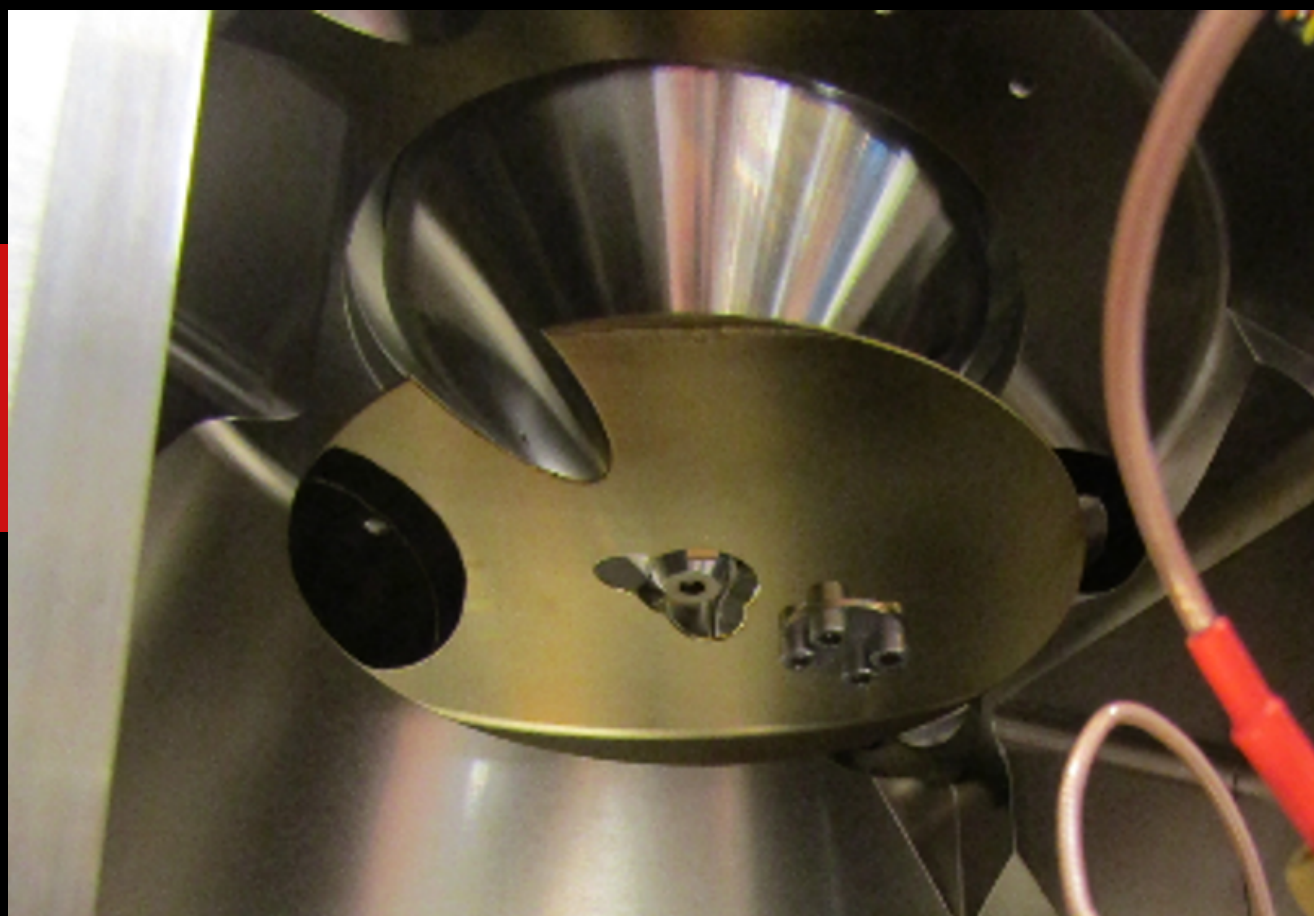


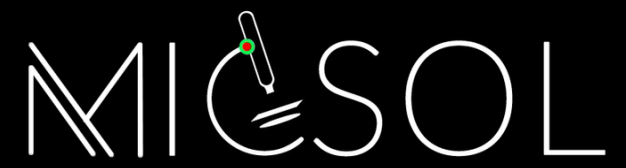
CRYO & FREEZE-FRACTURE MODULE FOR HV COATERS

- Enables HV cryo transfer, cryo freeze-fracture and cryo sputter or carbon coating
- In development for any high-vacuum coater with a glass Jar
- Can be integrated into a glove box



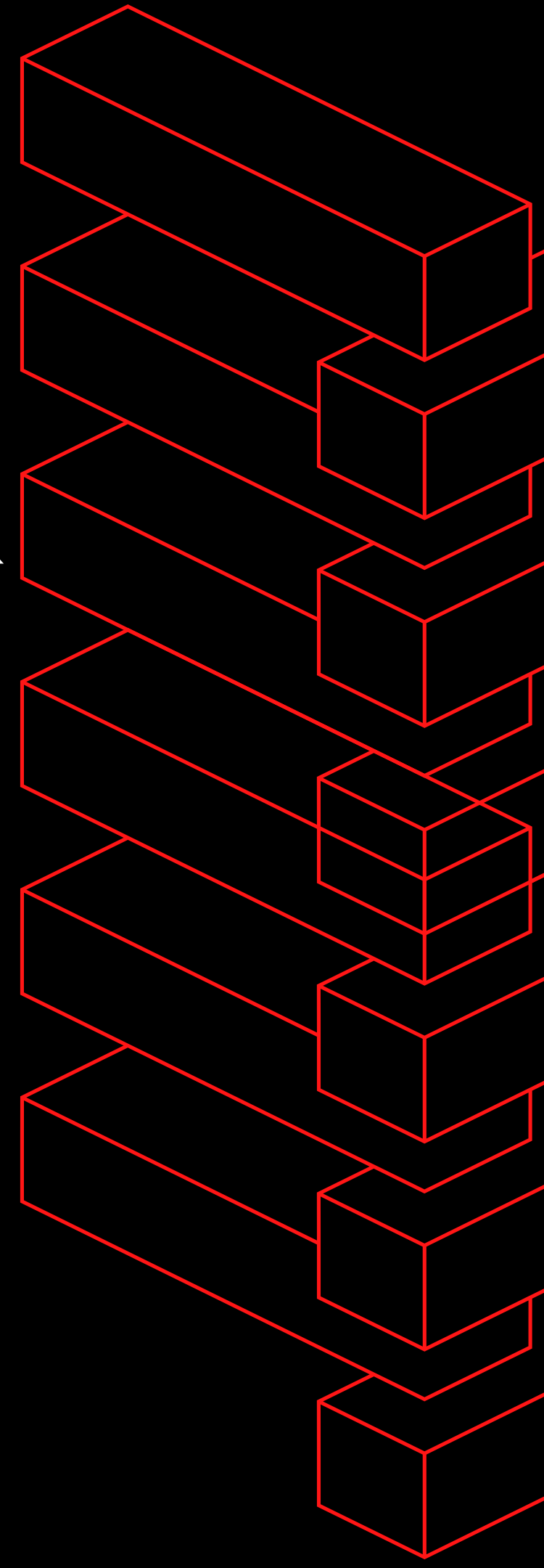
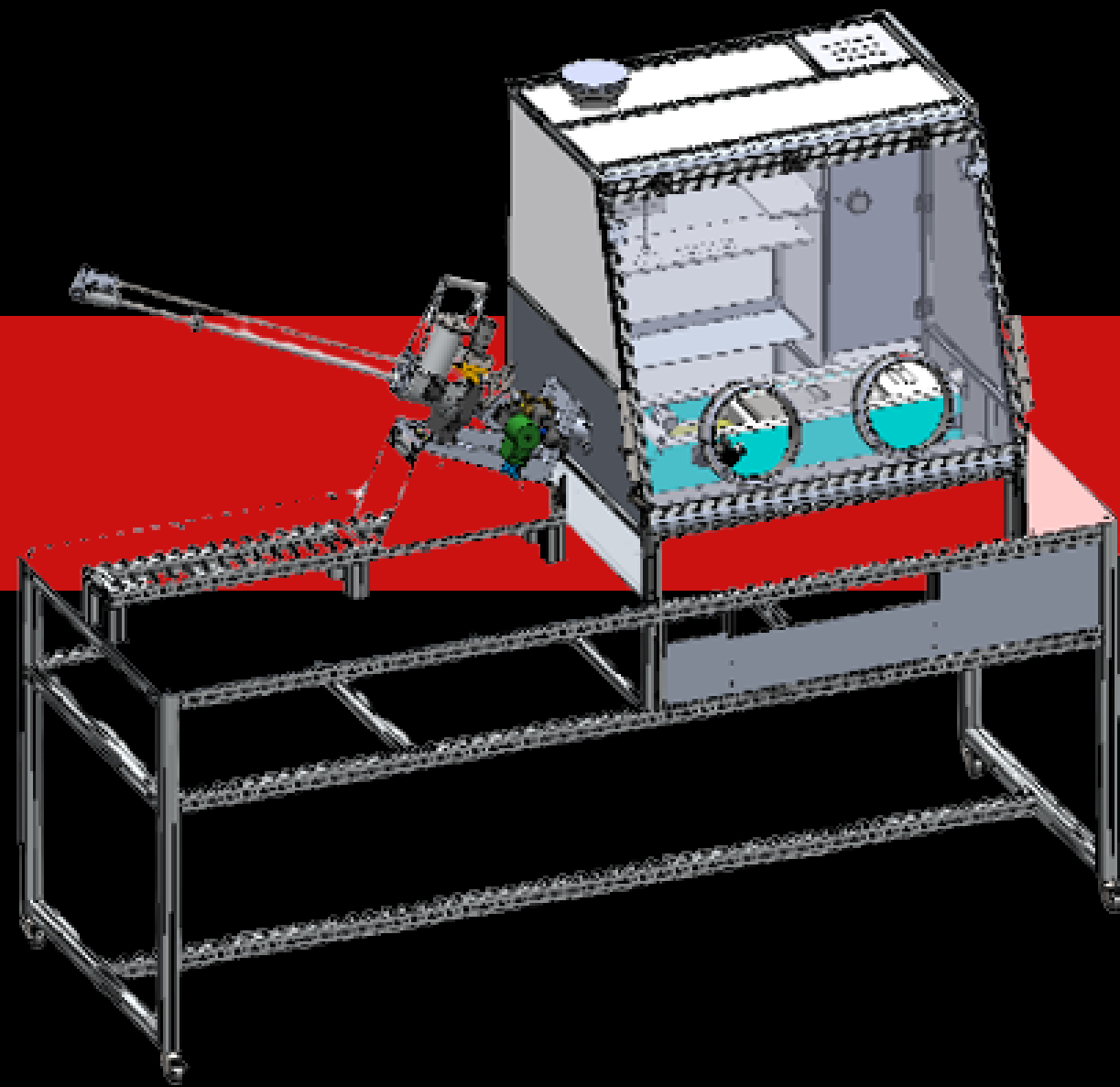
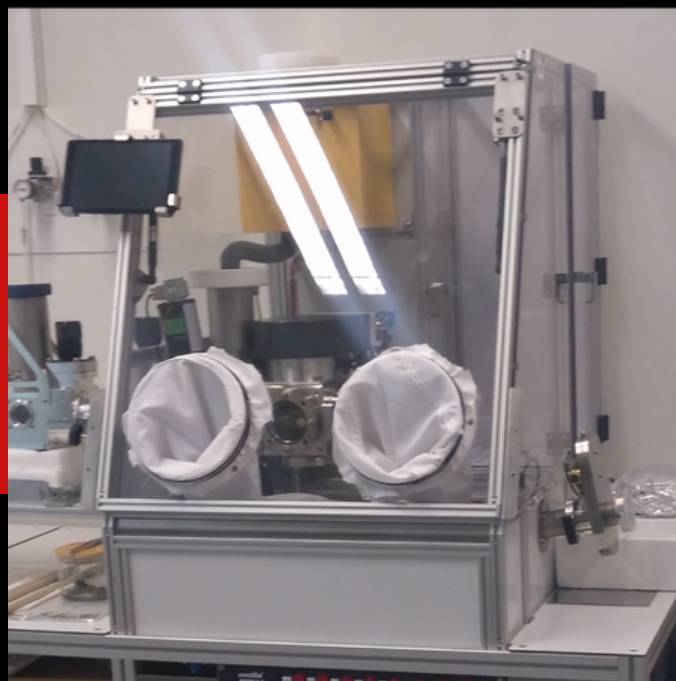
CRYO STAGES & SHIELDING





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GLOVEBOX FOR CRYO WORK



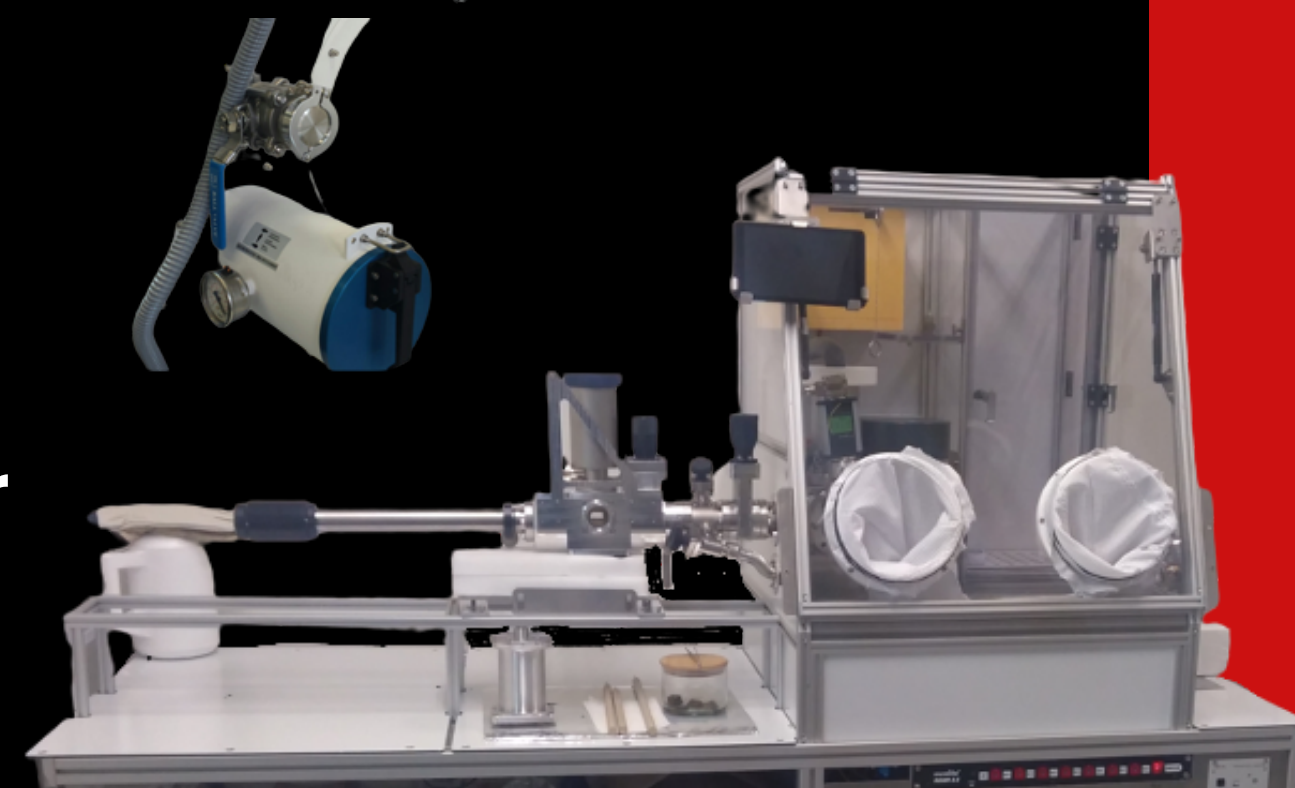
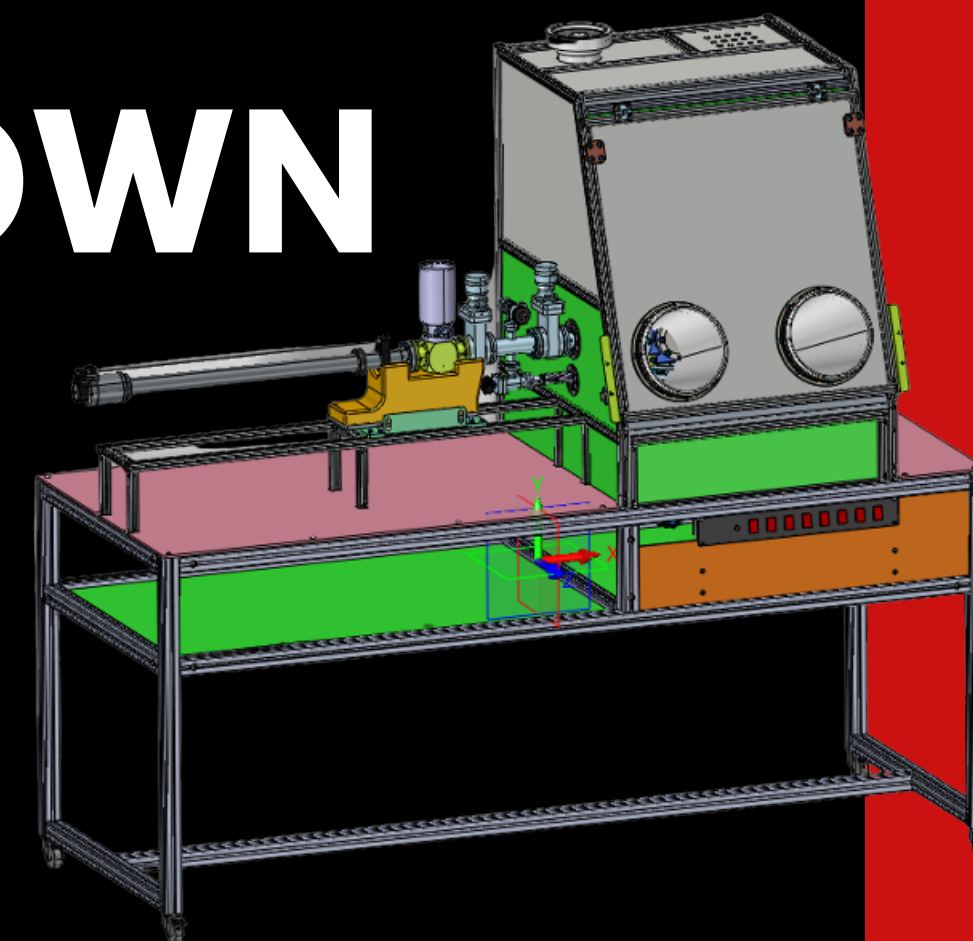
GLOVEBOX: CRYO OR BROWN

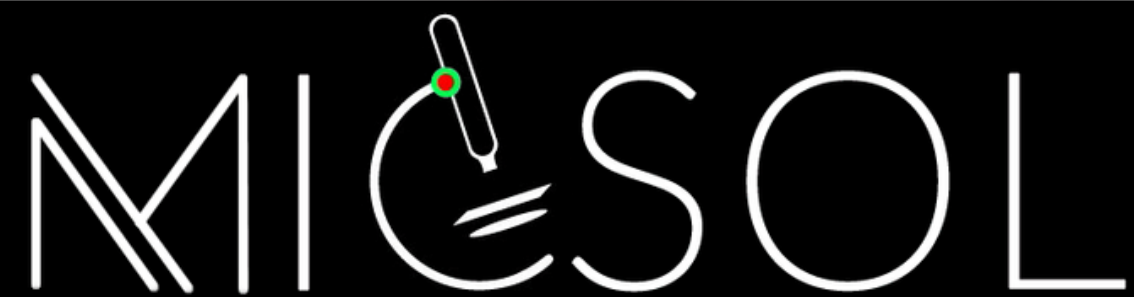
3 different transfer interfaces:

- UHV load-lock to Transfer shuttle
- Frost free to Cryo-TEM holder
- Air-to-N2 Load-lock with self flushing function

2 Controlled environments:

- RH% at 3% or below (sensor reading is 0%)
- Frost free LN2 sample manipulation and transfer
- Macro imaging support using CCD and tablet monitor
- Bake-out, Defogging and tools defrost options (65°C)
- No visible frost during in operation LN2 refill
- LN2 free Cryo option





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