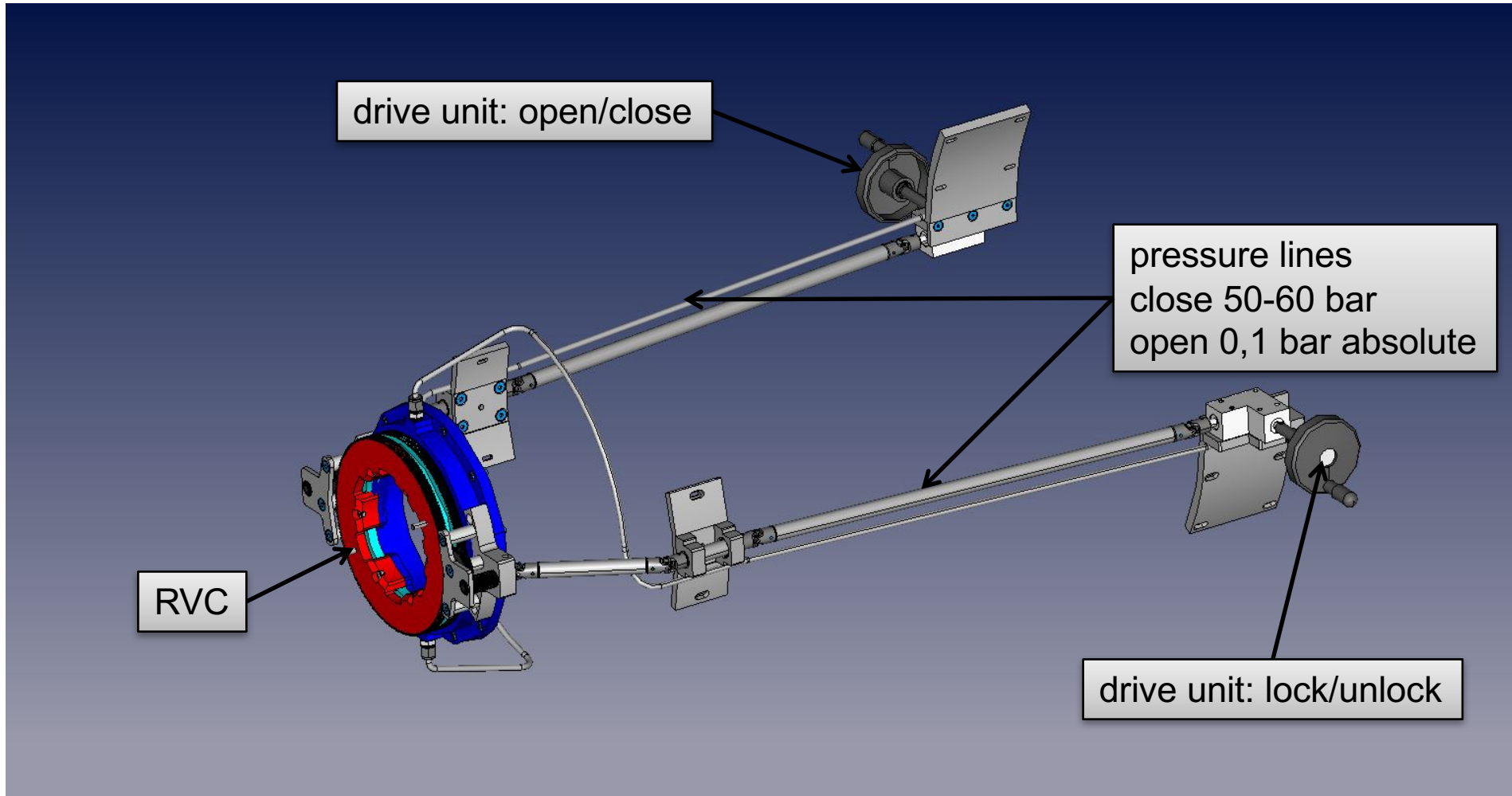
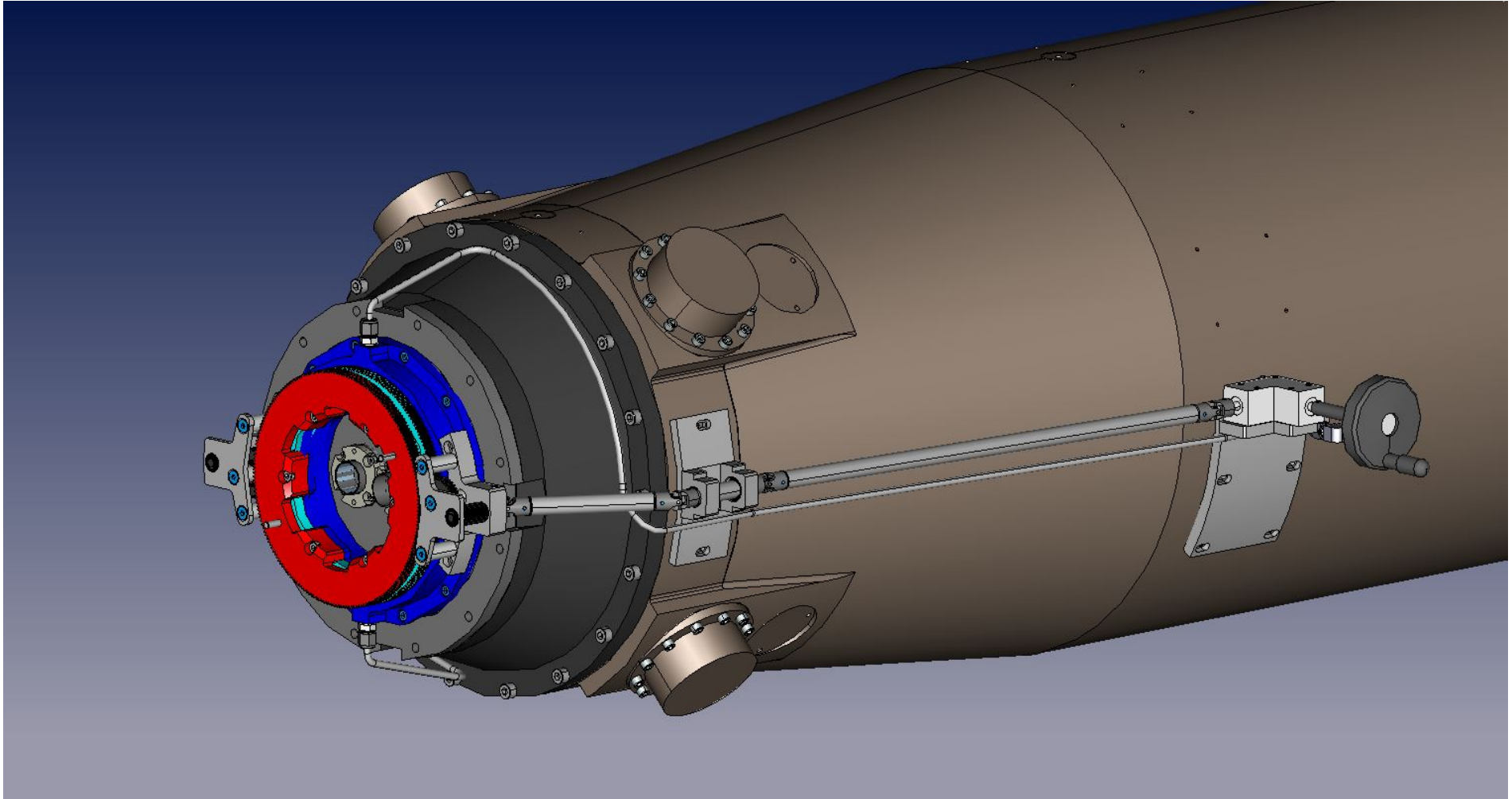


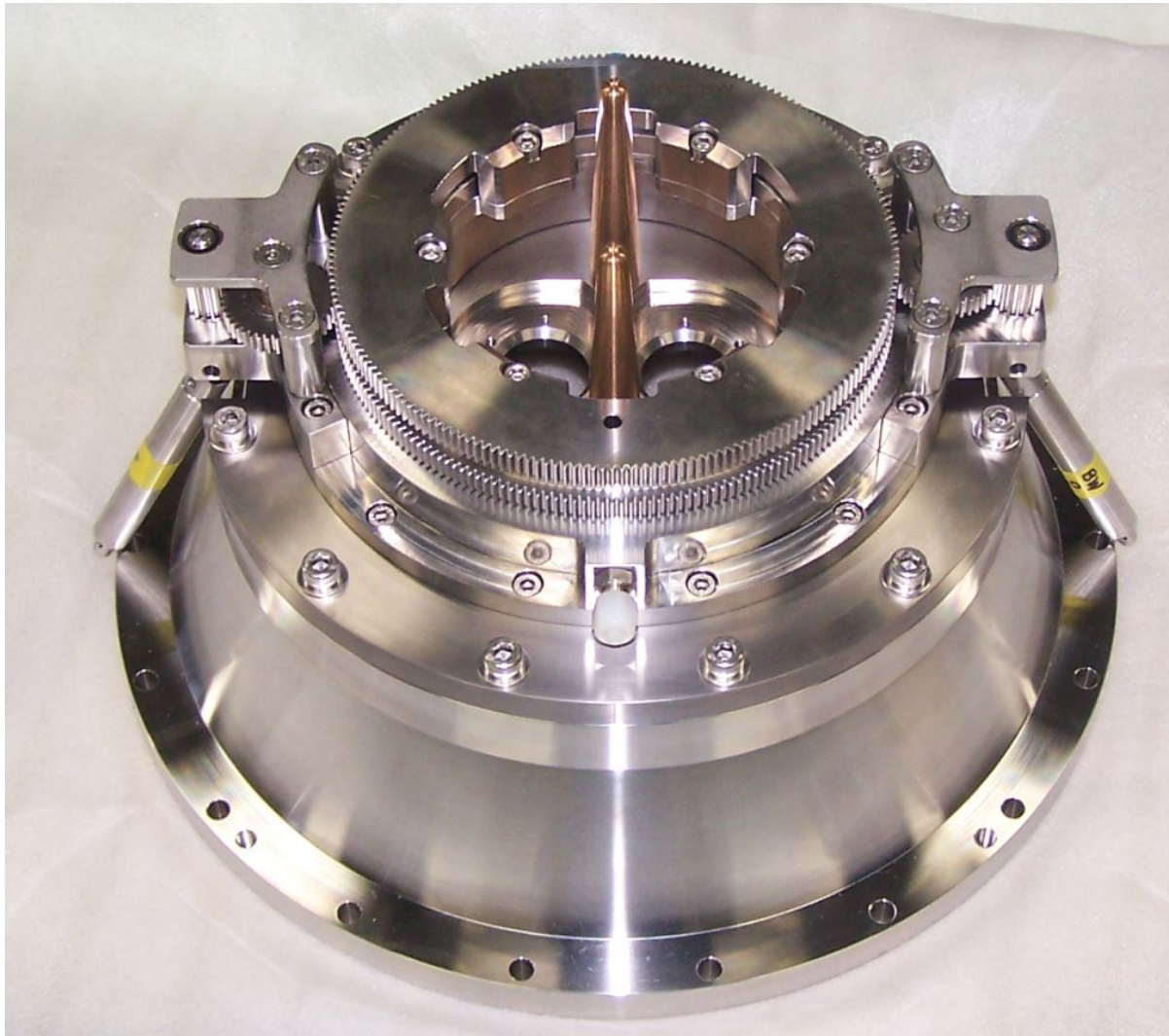
RVC backward system



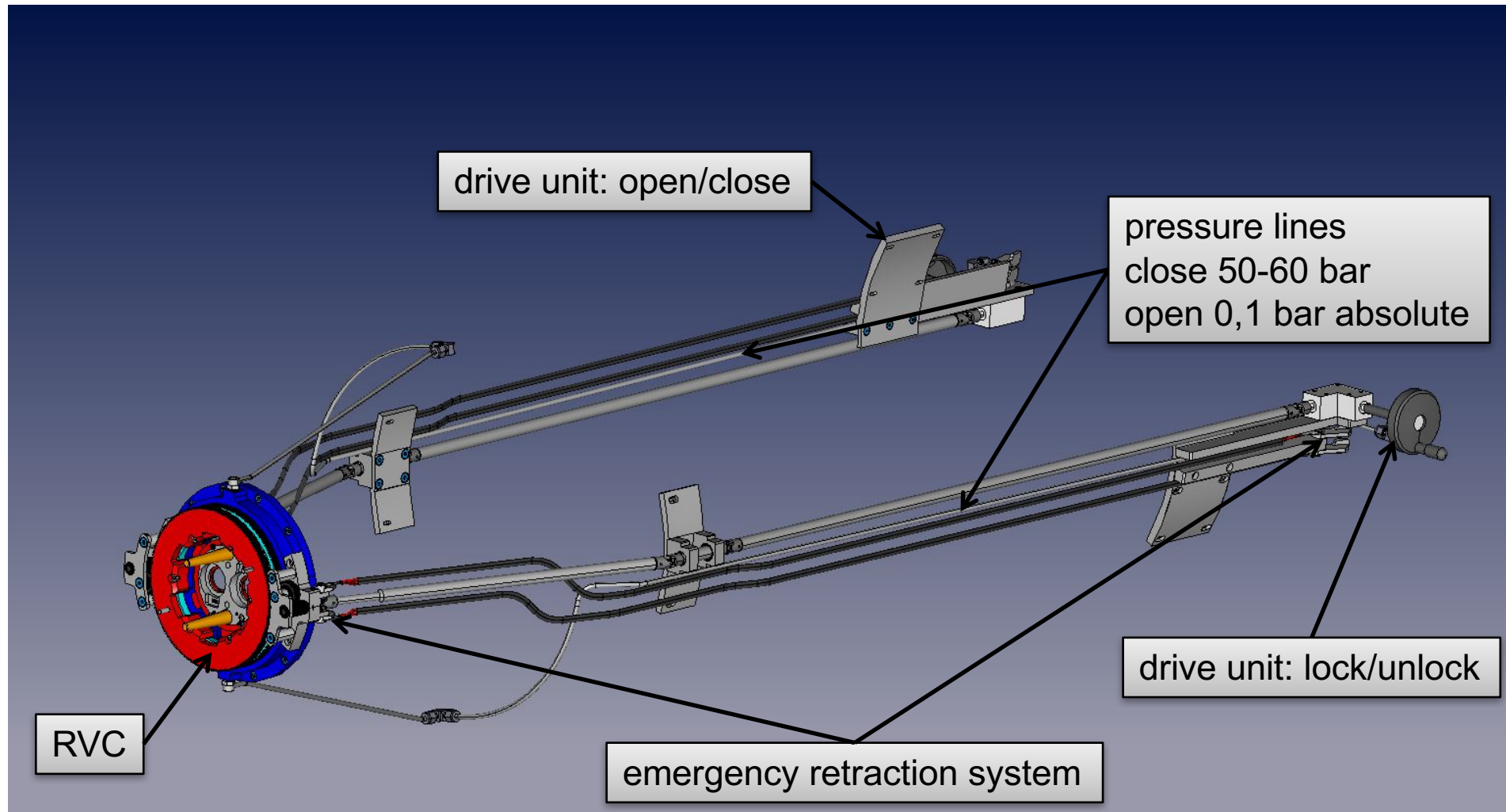
RVC backward mounted on to the QCSL



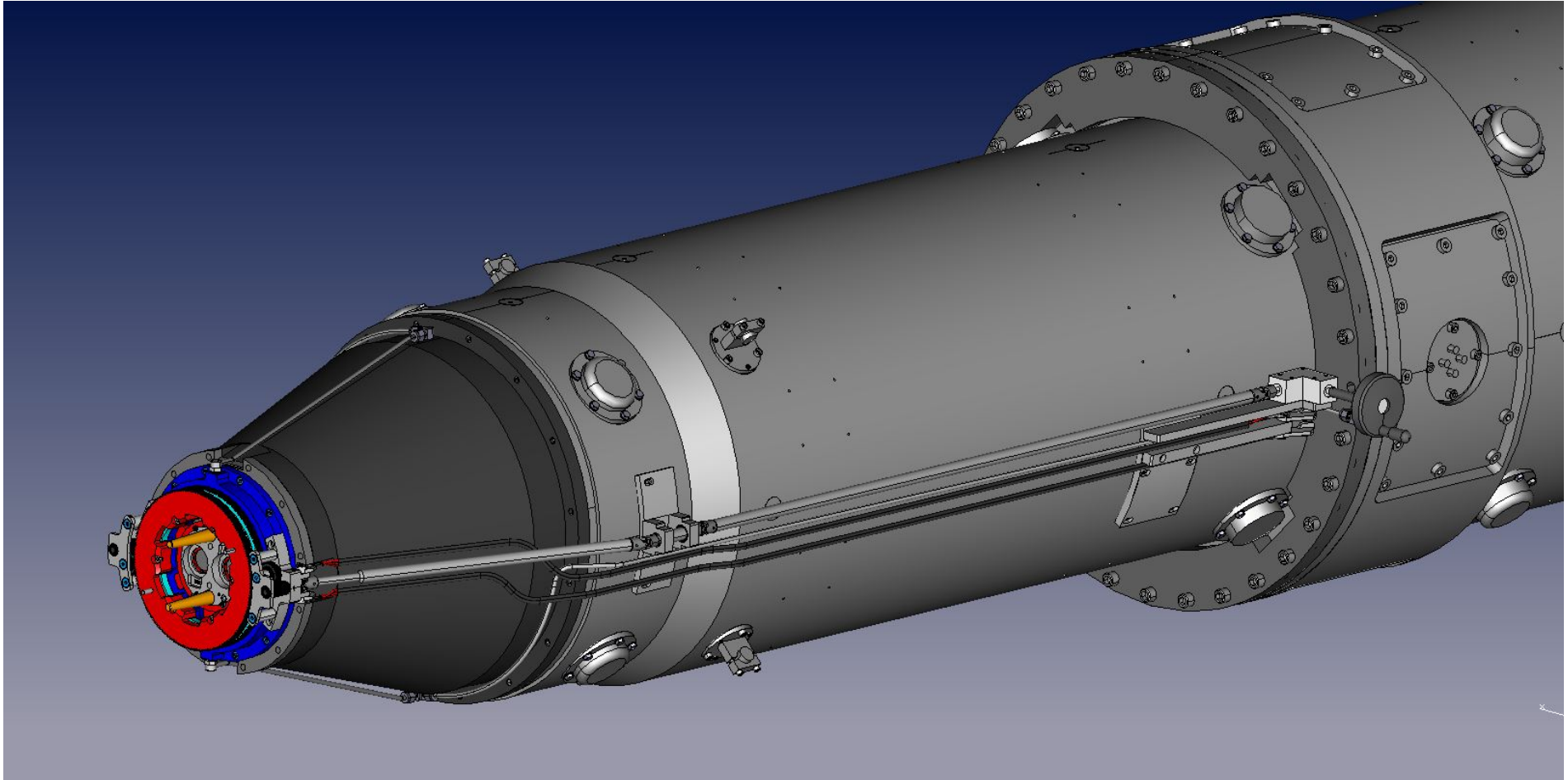
RVC fitting on to the final QCSL cap



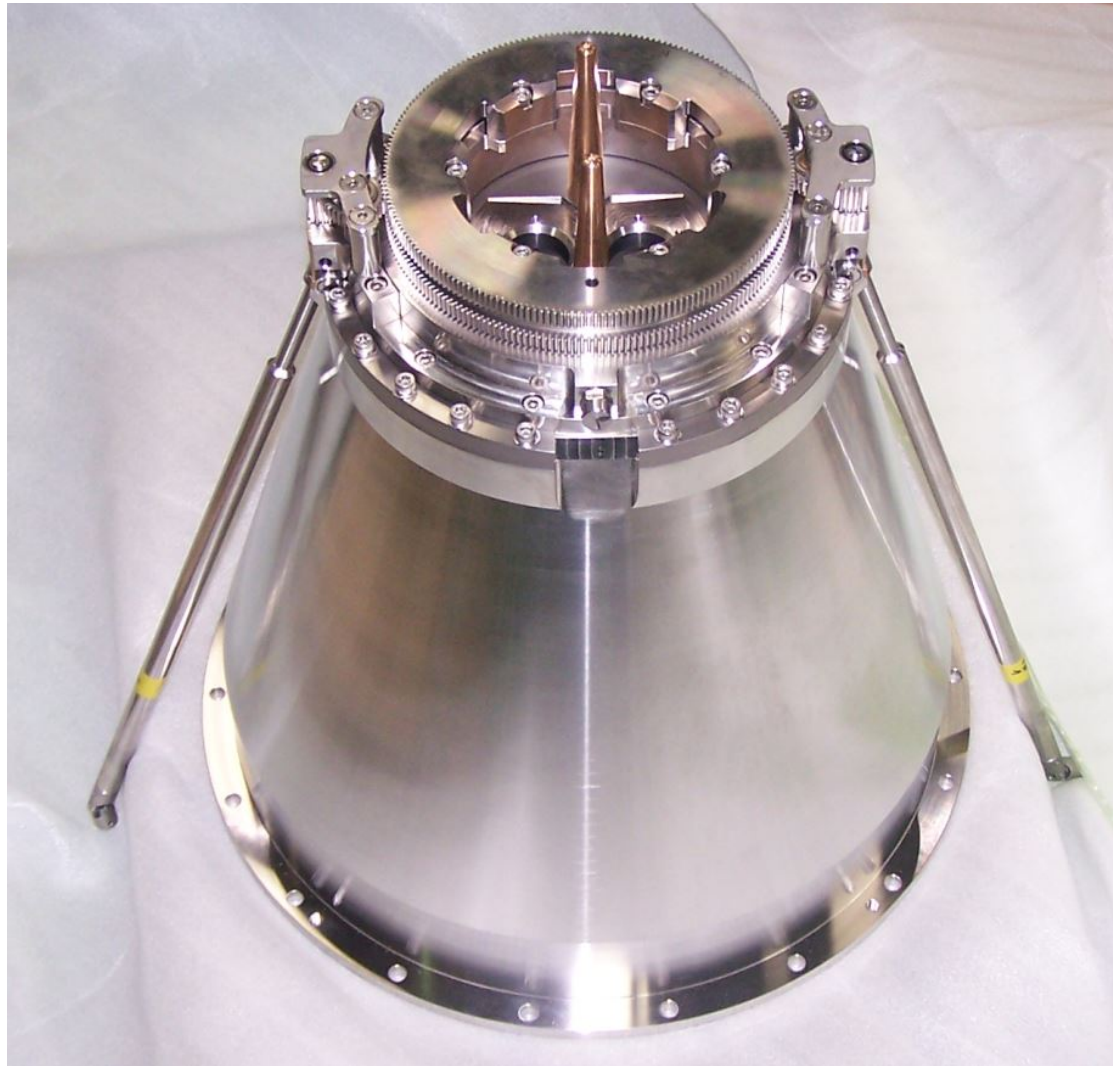
RVC forward system



RVC forward mounted on to the QCSR



RVC fitting on to the final QCSR cap



RVC drive unit fitting

emergency retraction system



BWD: RVC rod



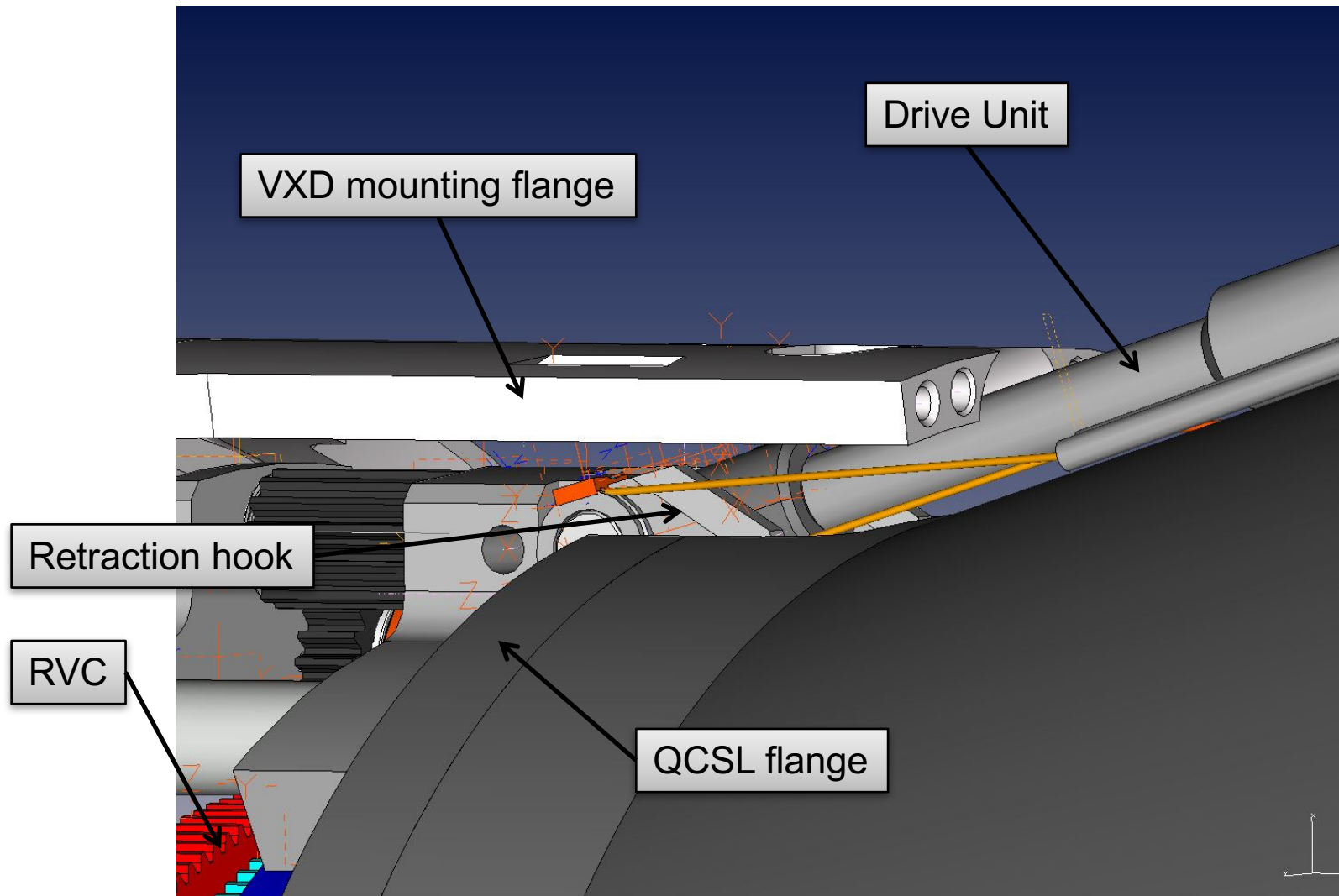
FWD: RVC rod

Space conflict with survey point (but not issue)
Gap sensor cable can be re-arranged

Inner Detector Integration

2017/10/12
S. Tanaka

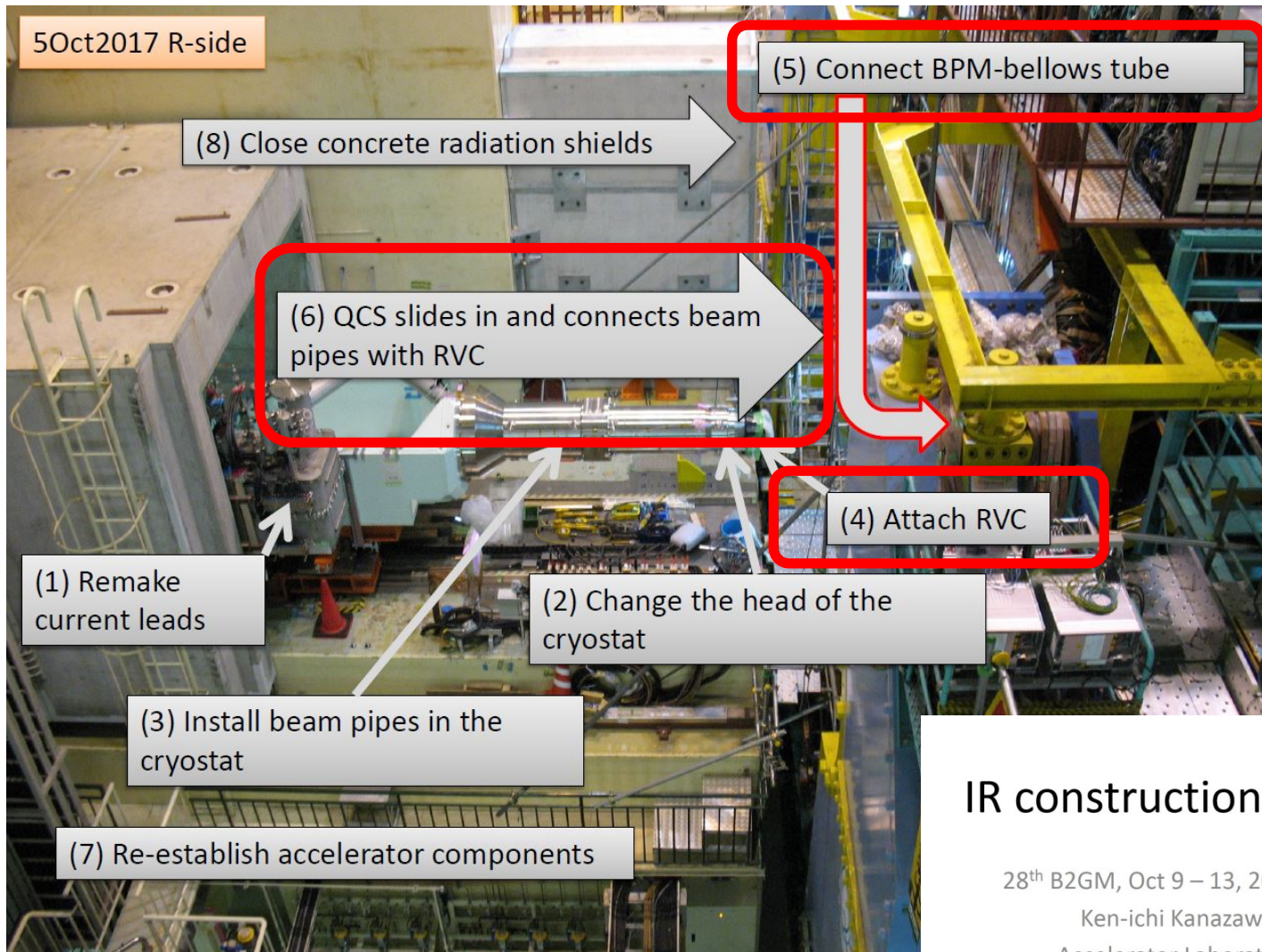
Emergency Retraction System



- RVC housings ready and tested at DESY
- RVC housing fitting done at Oho Hall at new QCS front caps
- RVC drive units ready and tested at DESY
- RVC drive unit fitting done at Tsukuba Hall at QCS
- Emergency retraction system ready and tested DESY
- Emergency retraction system test with QCSR after phase 2 ?
- upgraded RVC beam pipe flanges with leak search lines ready and tested at DESY
- corresponding lines are missing at QCS beam pipe flanges



RVC Installation



IR construction status

28th B2GM, Oct 9 – 13, 2017, KEK
Ken-ichi Kanazawa
Accelerator Laboratory



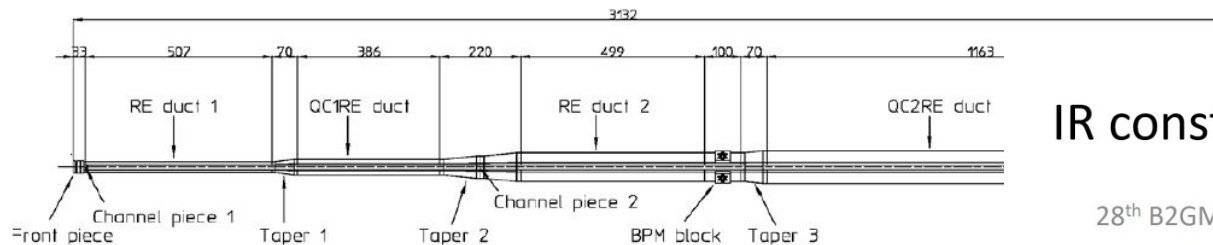
RVC installation schedule

(1) Remake of current leads	23 Oct – 7 Nov
(2) Change the head of the cryostat	QCSR: 31 Oct – 13 Nov
(3) Install beam pipes	QCSL: 4 Nov – 21 Nov
(4) Attach RVC	QCSR: possible after 14 Nov QCSL: possible after 22 Nov



RVC (test install)

New heads of the cryostat. The front face is made of W alloy.



IR construction status

28th B2GM, Oct 9 – 13, 2017, KEK

Ken-ichi Kanazawa
Accelerator Laboratory

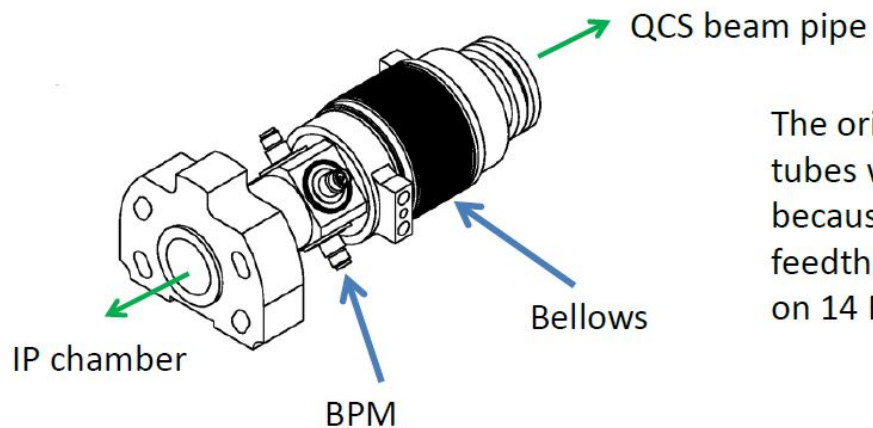


RVC installation schedule

(5) Connect BPM-bellows tube
(6) QCS slides in and connects beam pipes with RVC

21 Dec – 27 Dec
(depends on Belle schedule)

08.01.2018



The original delivery date of these tubes was 14 Jul. It was delayed because of a trouble of BPM feedthroughs. They will be delivered on 14 Nov.

- The connecting work of these tubes must be done under very difficult conditions. MPI promised us to provide a minimum necessary space and a working bed.
- Vacuum connection of these tubes with beam pipes in the cryostat is performed with RVC. The working principle is well tested and established at DESY.
- See following three slides.

IR construction status

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Ken-ichi Kanazawa
Accelerator Laboratory

Final remark

- The following works are difficult, delicate and challenging.
 - (3) Install beam pipes (in QCS)
 - (5) Connect BPM-bellows tube
 - (6) QCS slides in and connects beam pipes with RVC
- We will do our best.

IR construction status

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Ken-ichi Kanazawa

Accelerator Laboratory

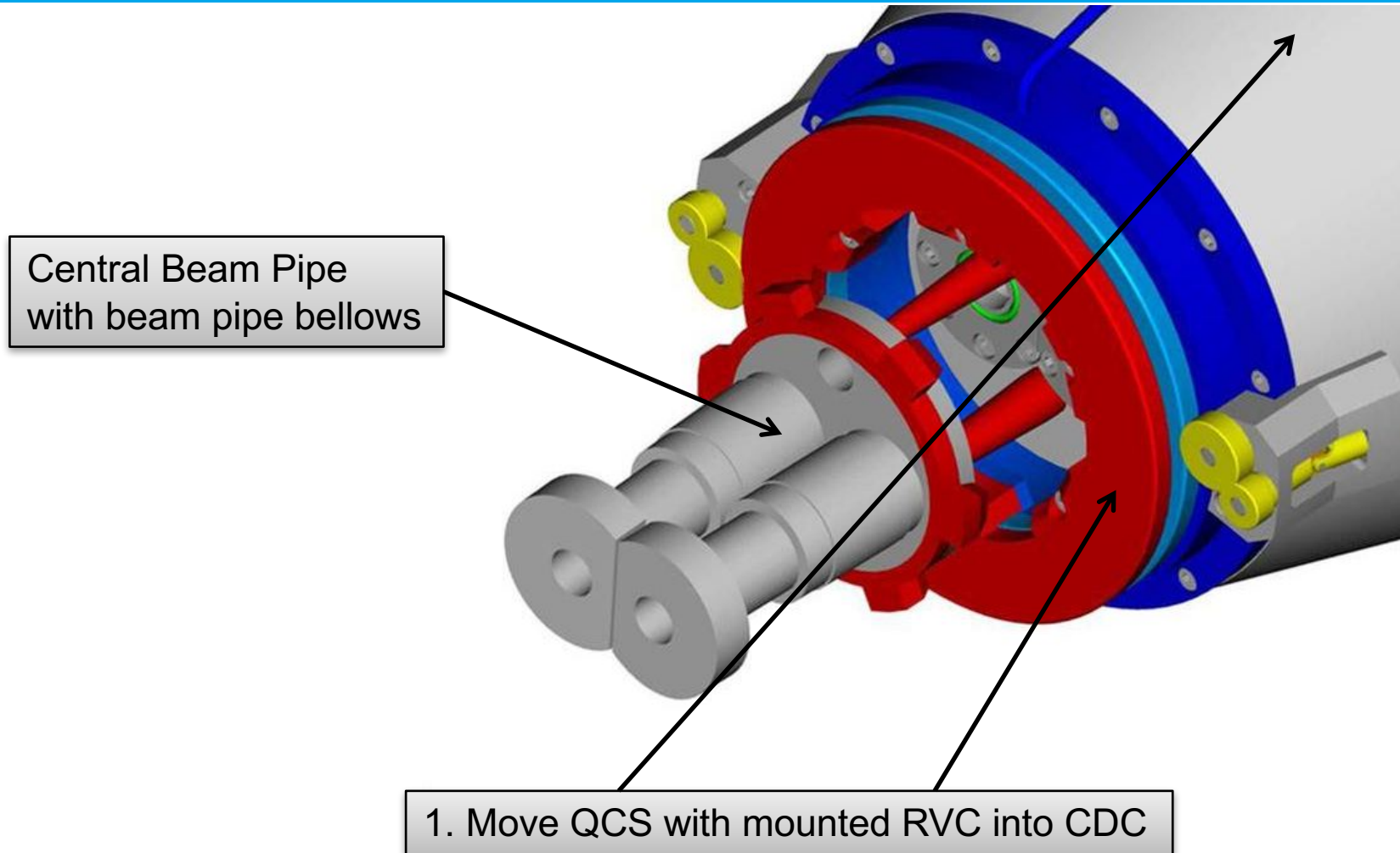


Backup

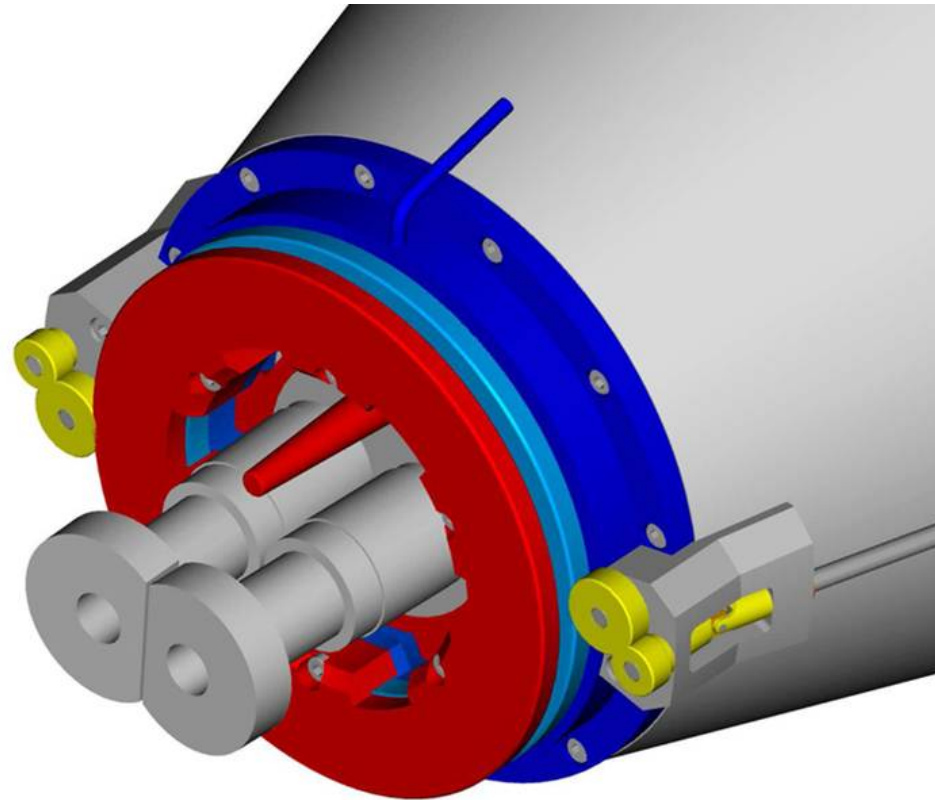
- RVC function
- RVC test setup
- Bellow beam pipe leak search



RVC function: QCS moved into Belle II



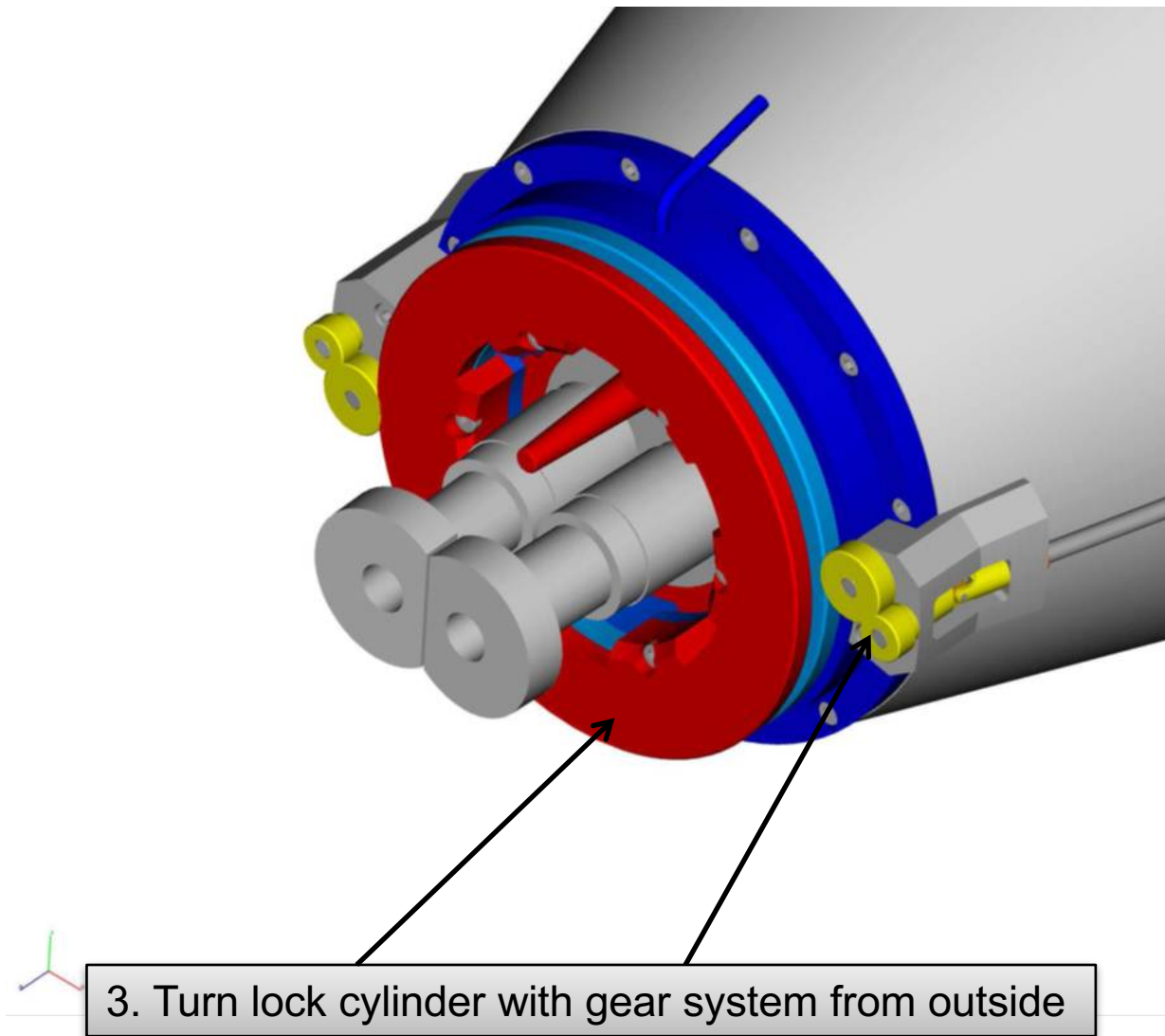
RVC function: QCS moved to CBP



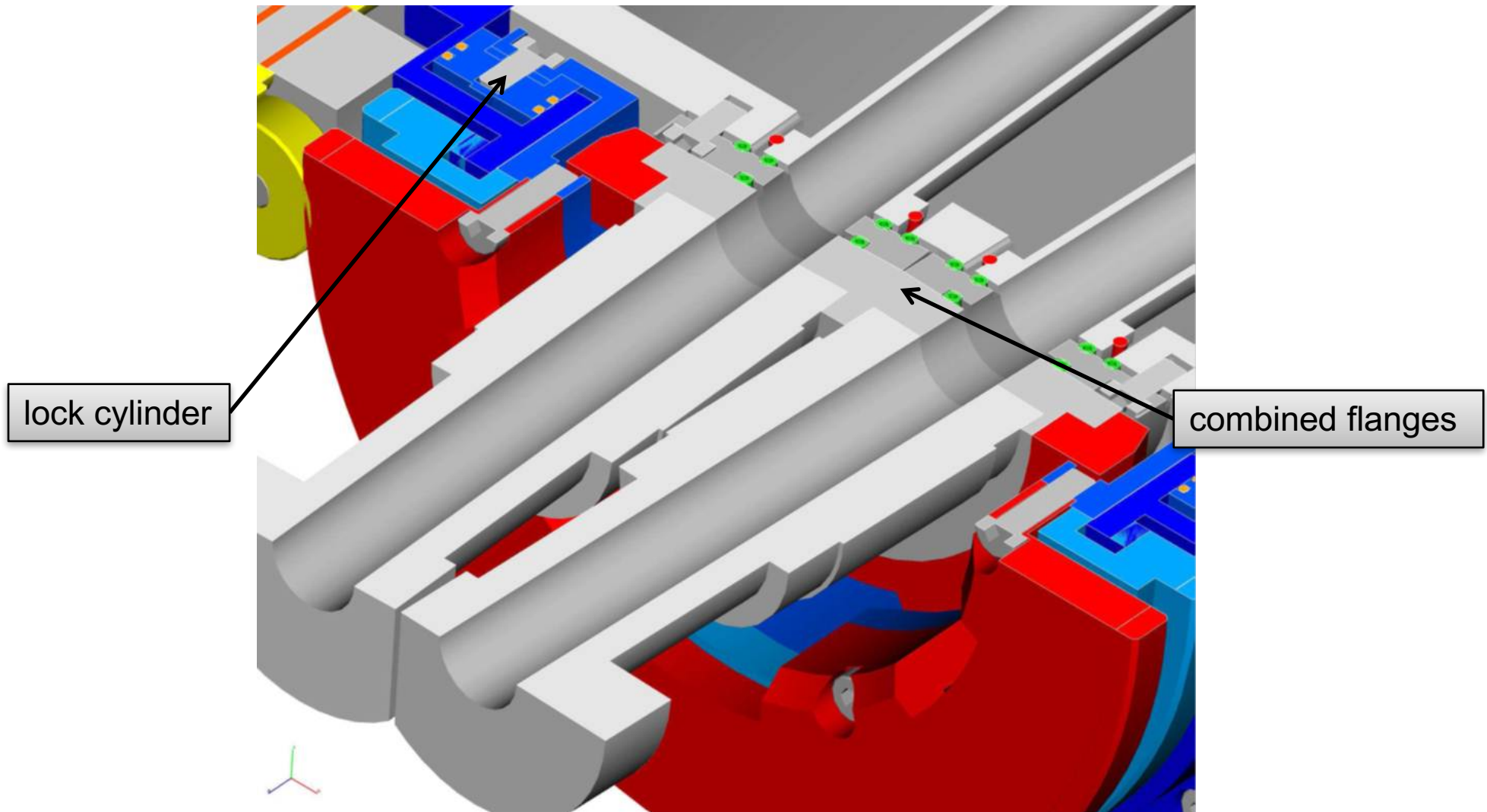
2. Move QCS with mounted RVC close to CBP to get flanges in contact



RVC function: turn lock

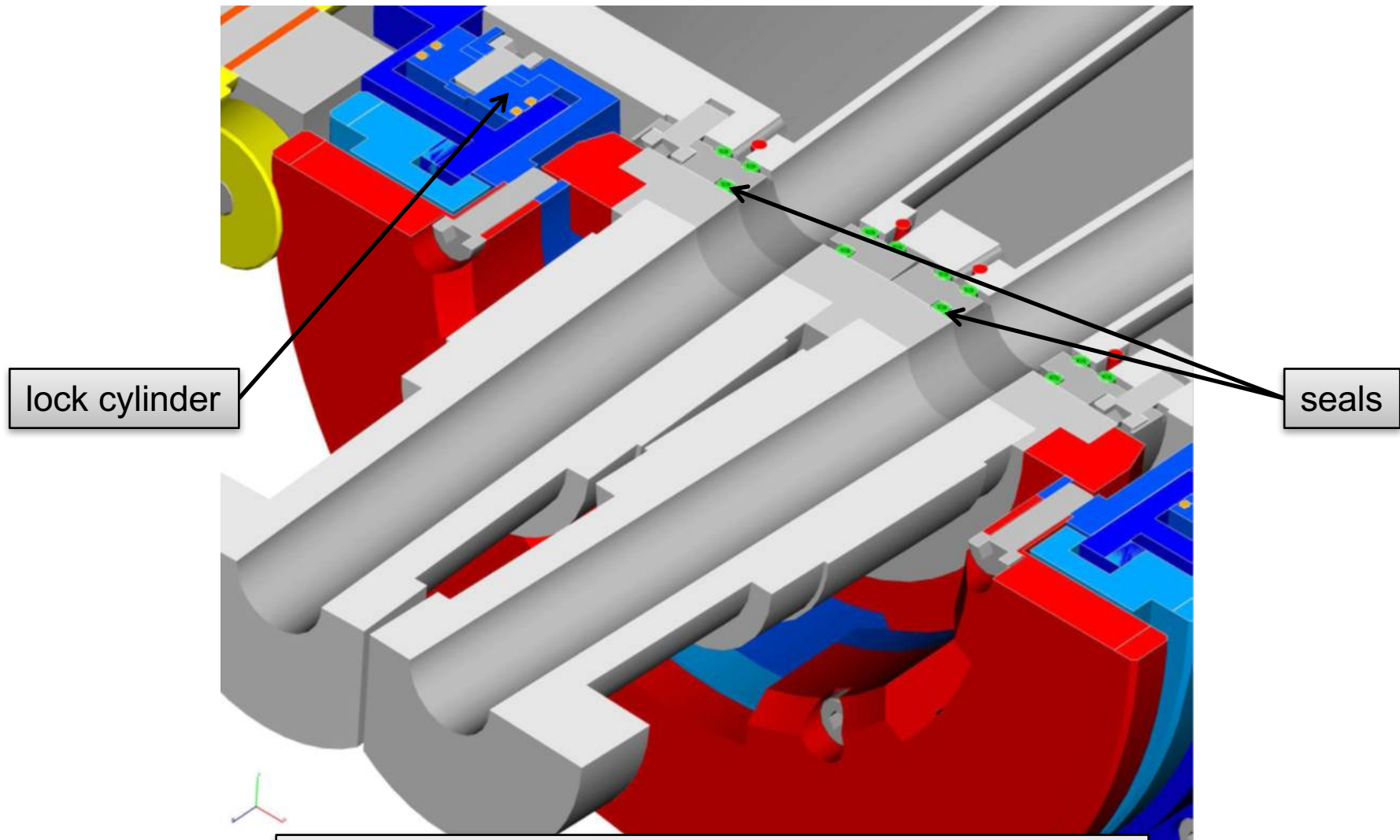


RVC function: turned lock cylinder



3. Turned lock cylinder with beam pipe flanges close together

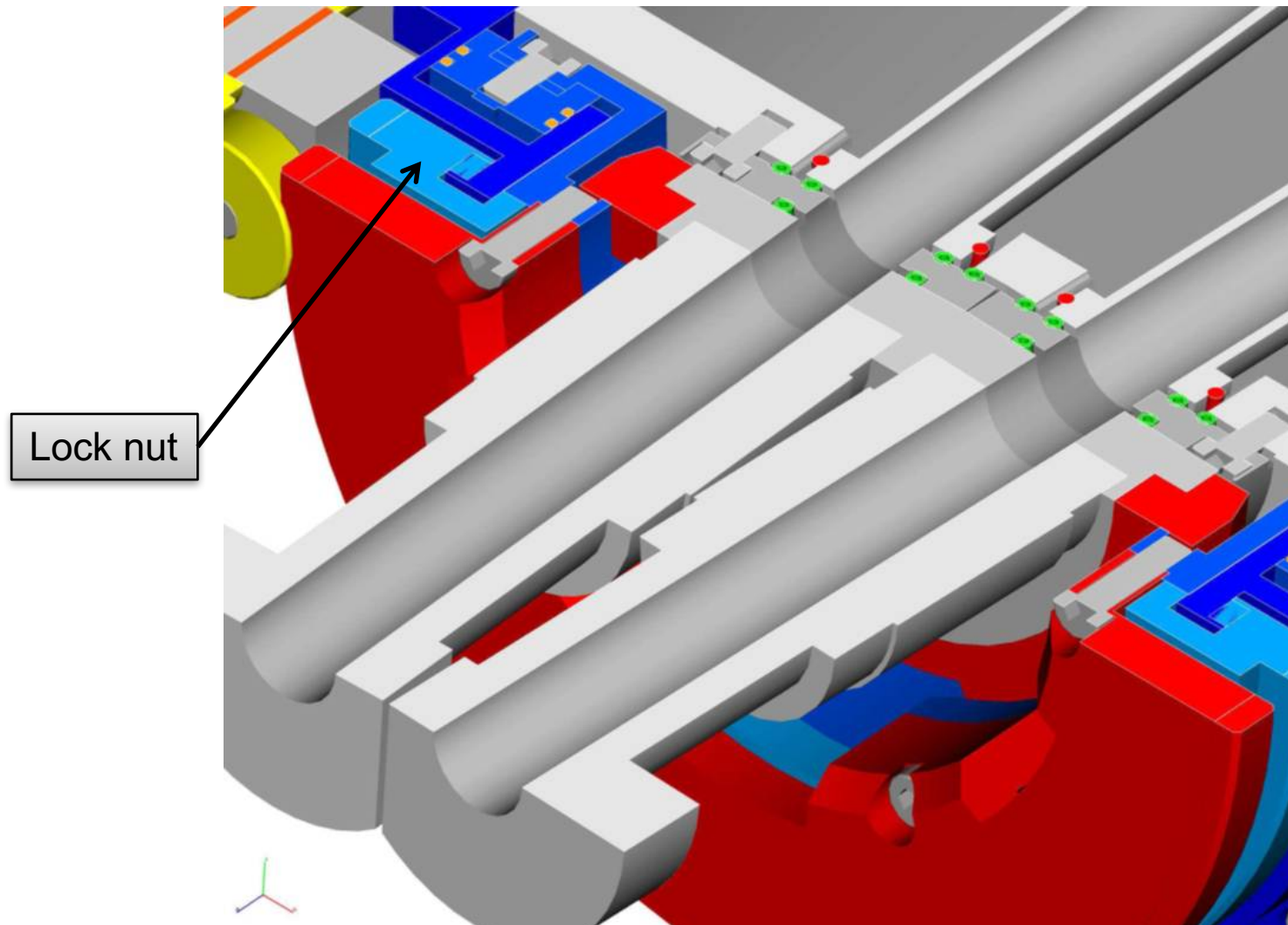
RVC function: activate pressure cylinder



4. Activate pressure from outside to the lock cylinder and press seals of CBP flanges to leak tightness

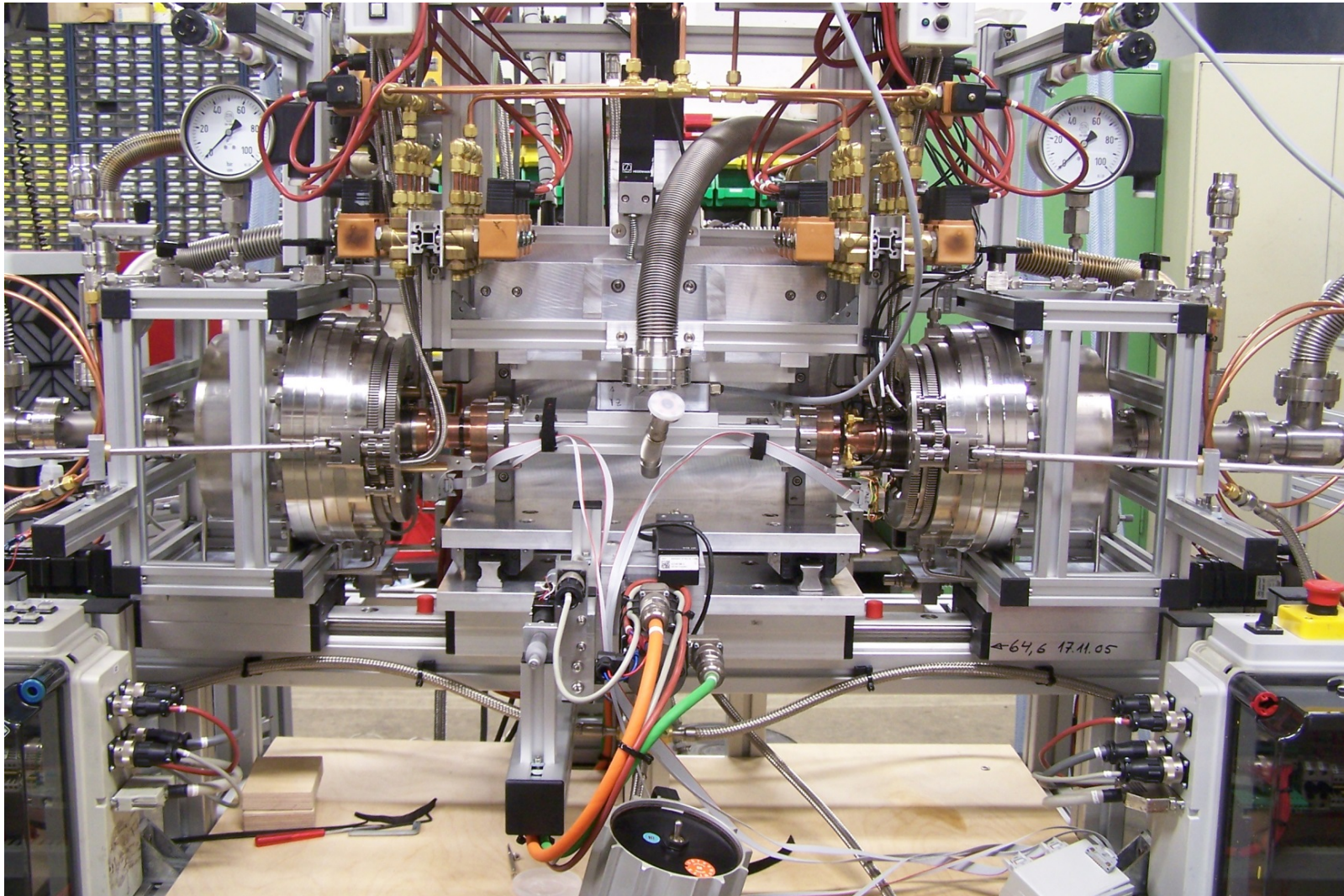


RVC function: close cylinder lock nut



5. Turn lock nut from outside with gear system to lock cylinder and release pressure

RVC test setup



Bellow beam pipe leak search

