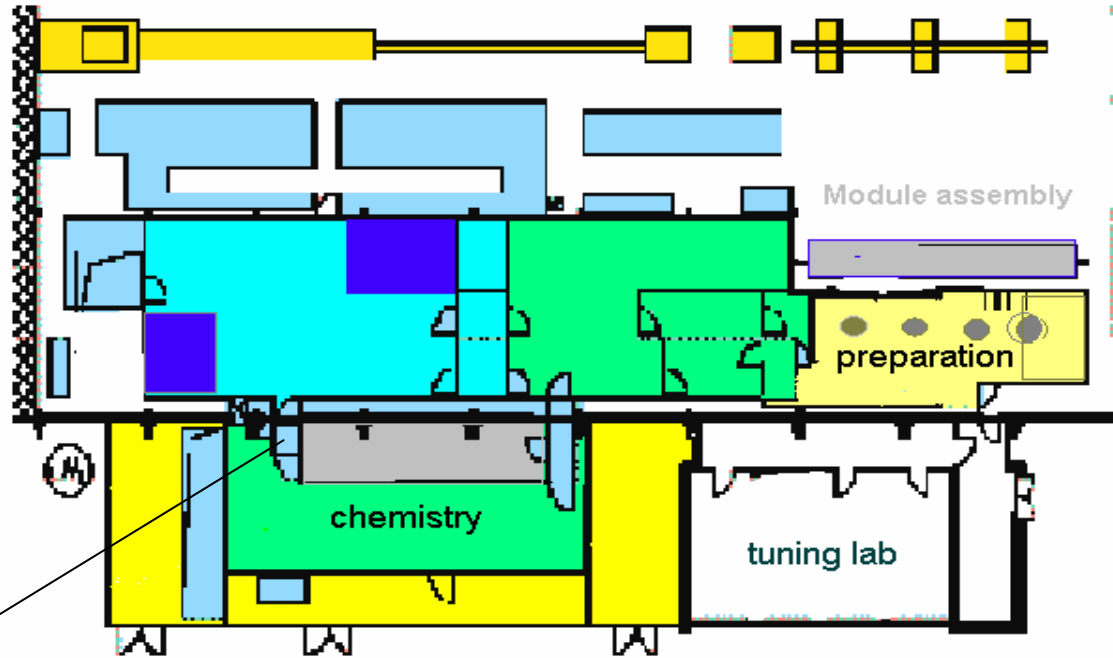


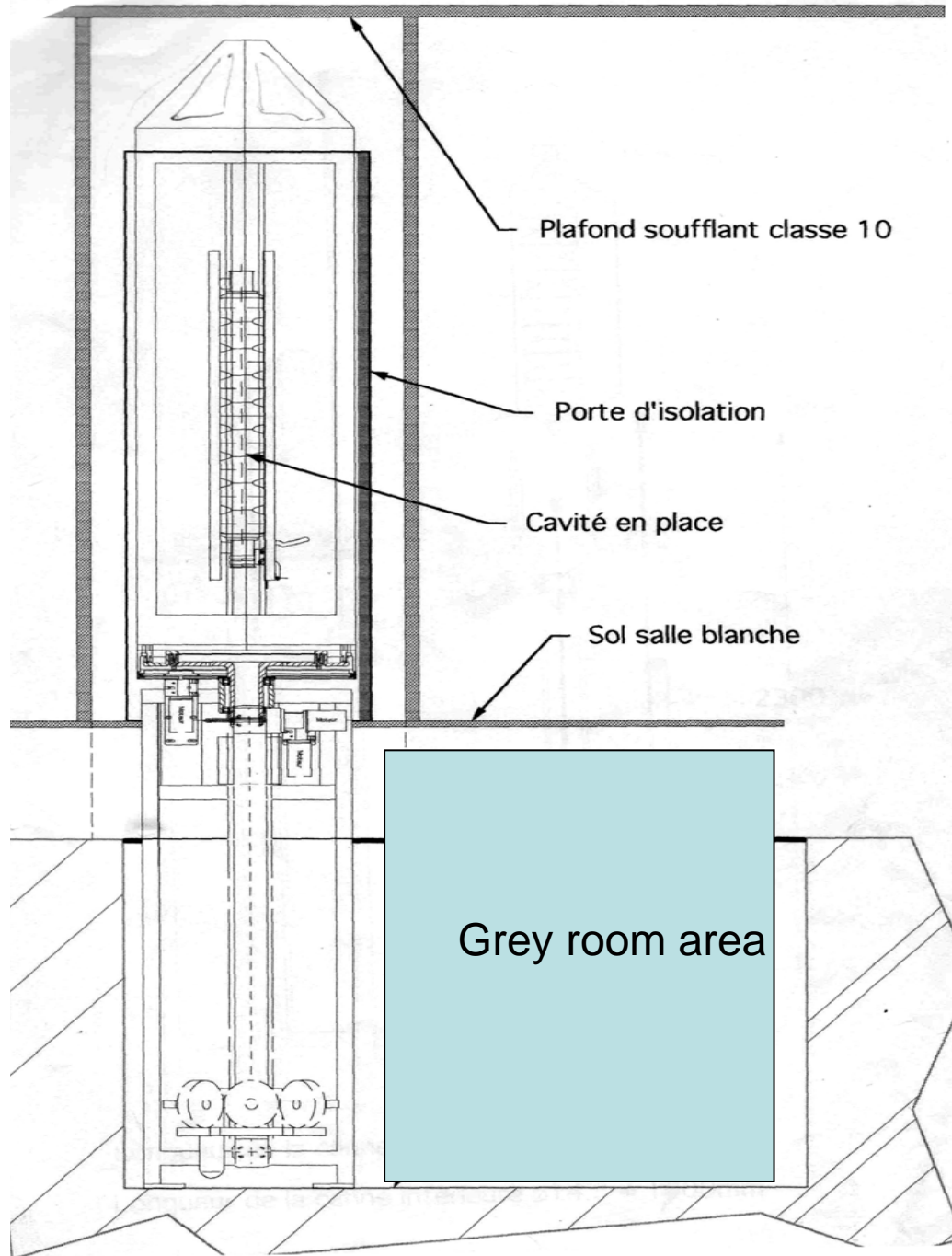
High pressure rinsing stand at DESY

- Class 10
- Class 100
- class 10000
- gray room
- air supply



HPR stand

Class 10 filter unit



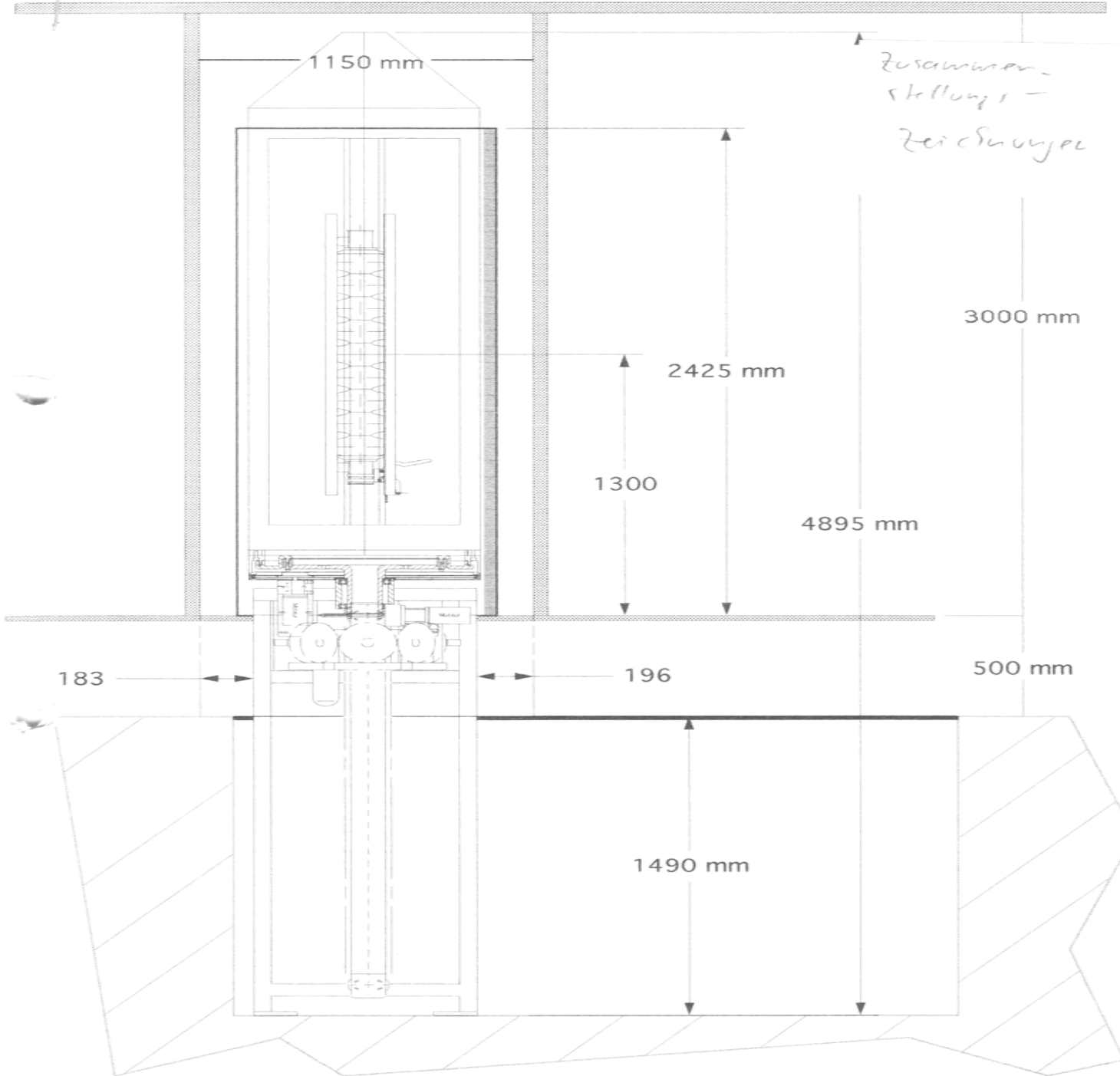
Plafond soufflant classe 10

Porte d'isolation

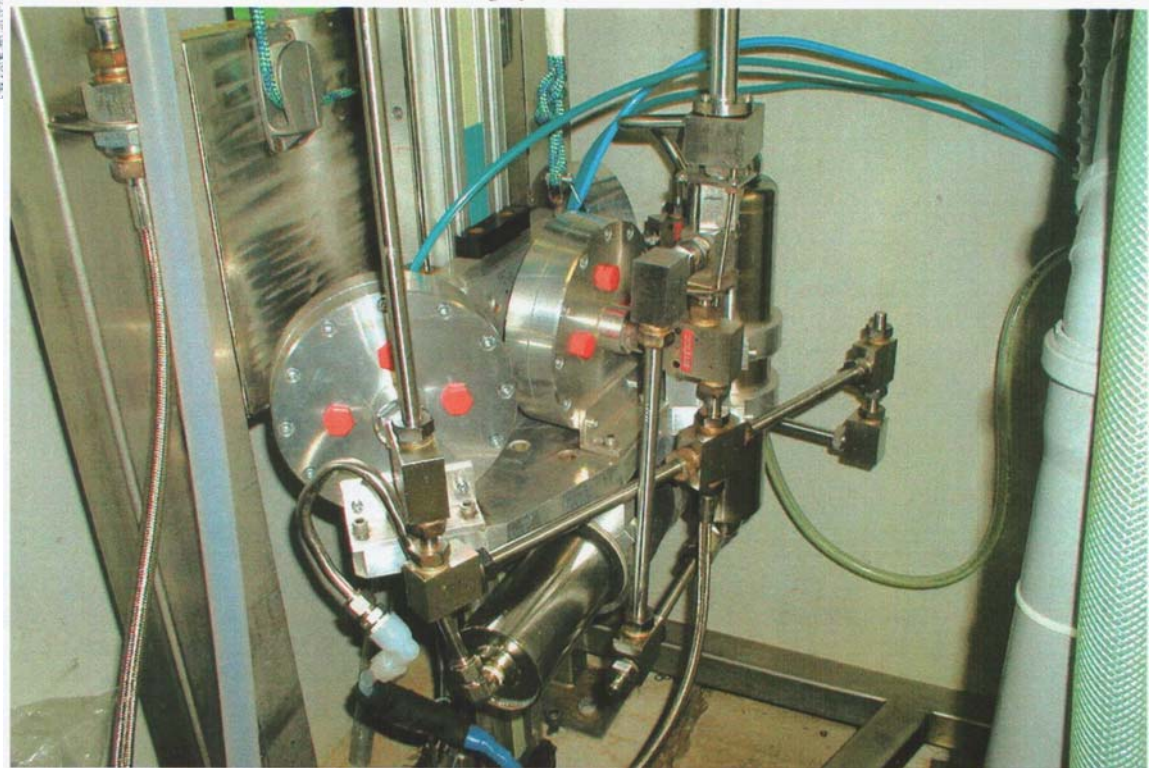
Cavité en place

Sol salle blanche

Grey room area







HPR at DESY

actions on the system since installation

- Installation of new software

- **Bearings of cavity table and housing rusty**
(exchanged to stainless with sealed greasing area)
- **Housing ventilation installed** (measurements showed calls 10000 inside)
- **Chain and chain wheel Not lubricated** (particulates / renewing)

- **Rotational bearing Platform to cane crashed** (badly lubricated by water)
- Residues from PTFE / guidance on inner cane
- Sealing ring abrasive (particles on cane)

- Cane tube leaking no repair possible
- N2 Overlay filter blocked by water (general design)
- **Valves behind filter unit** (changed =only Inner cane has 0,02 µm filter)
- Vale leaking / blocking

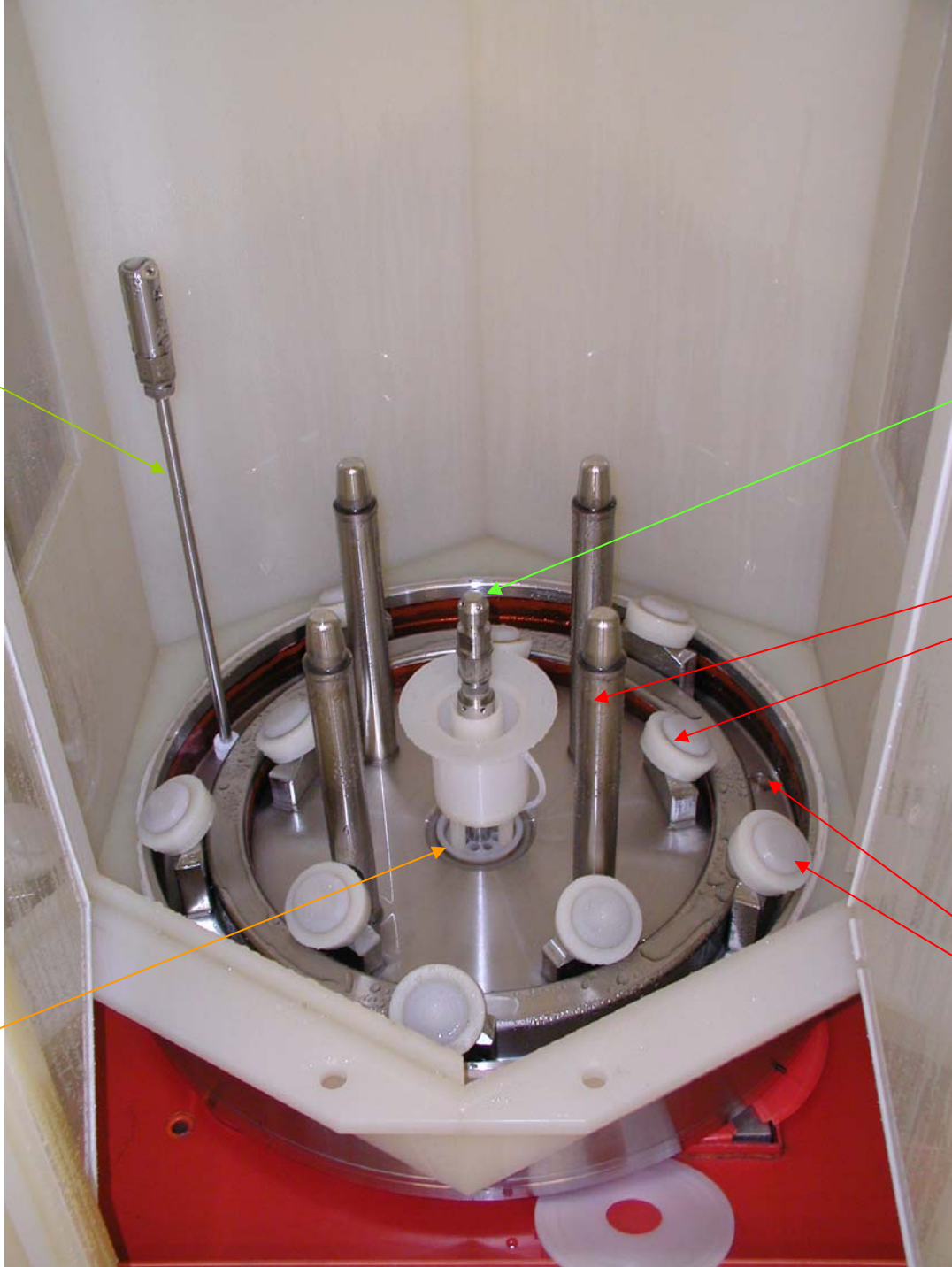
Cane outside
rinse

Cane inside
rinse

Cavity drive unit

Baring and
guidance for
cane

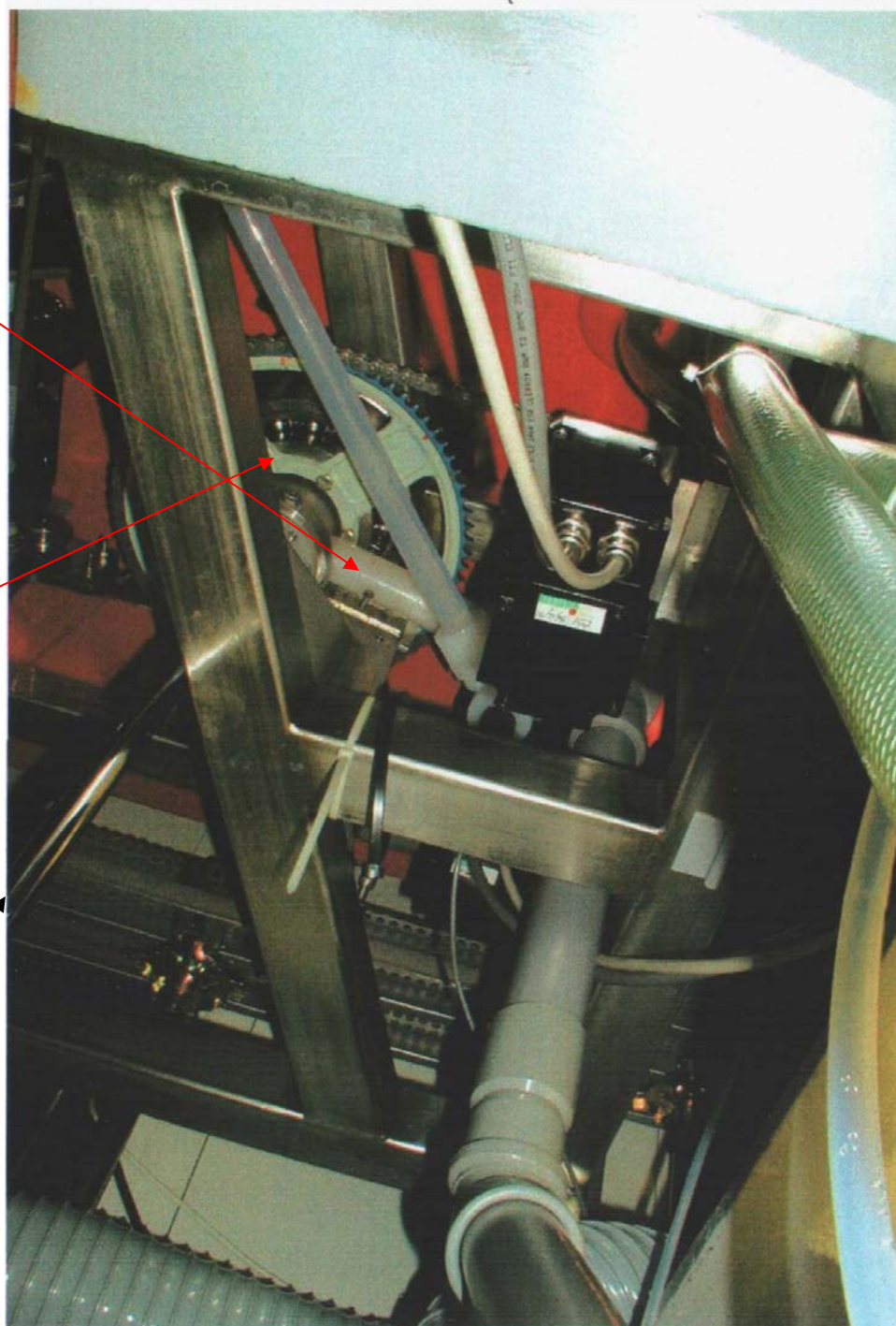
Housing drive unit

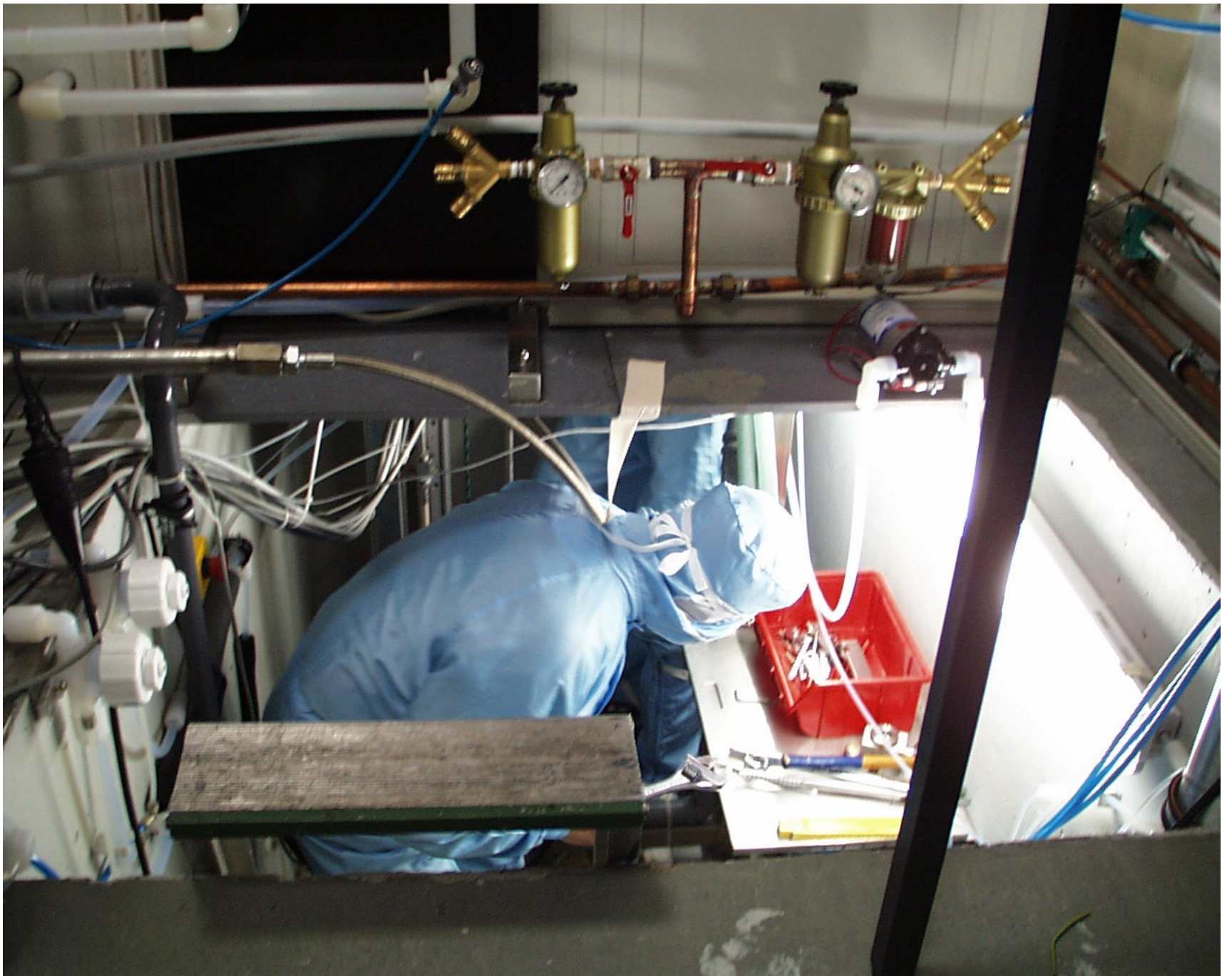


Drain and bearing unit

Drive for cavity platform

cane





HPR at DESY

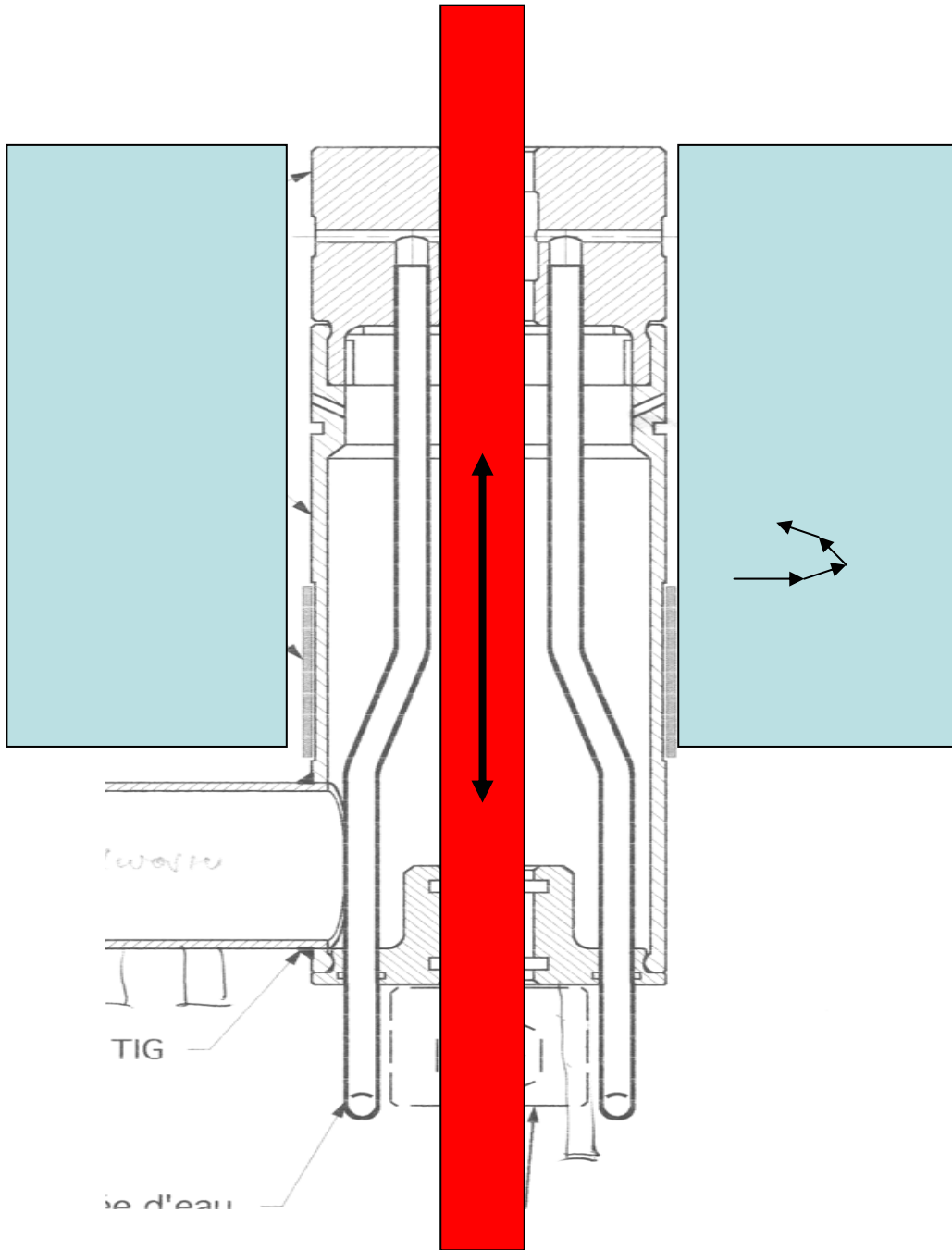
actions on the system since installation

- Installation of new software

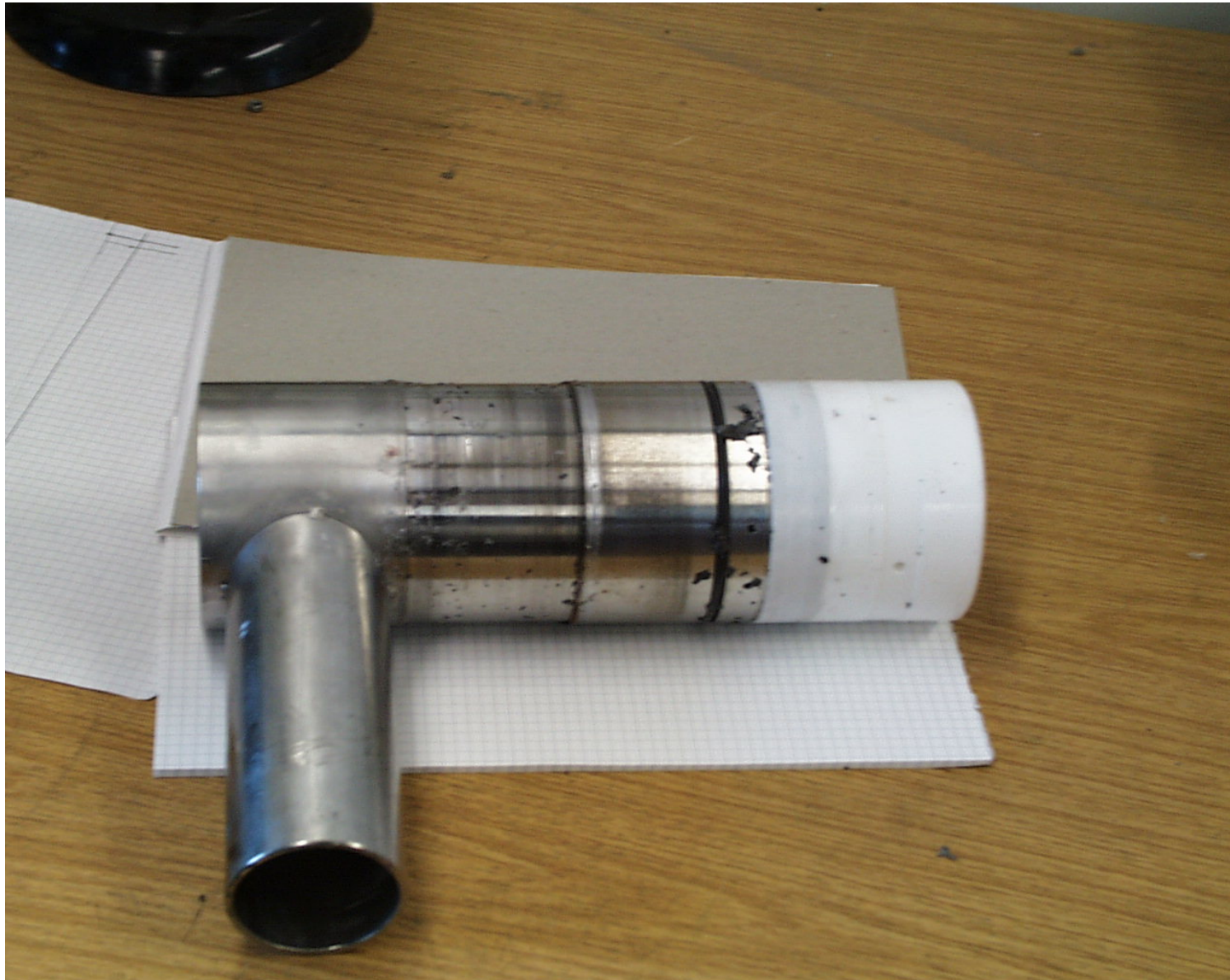
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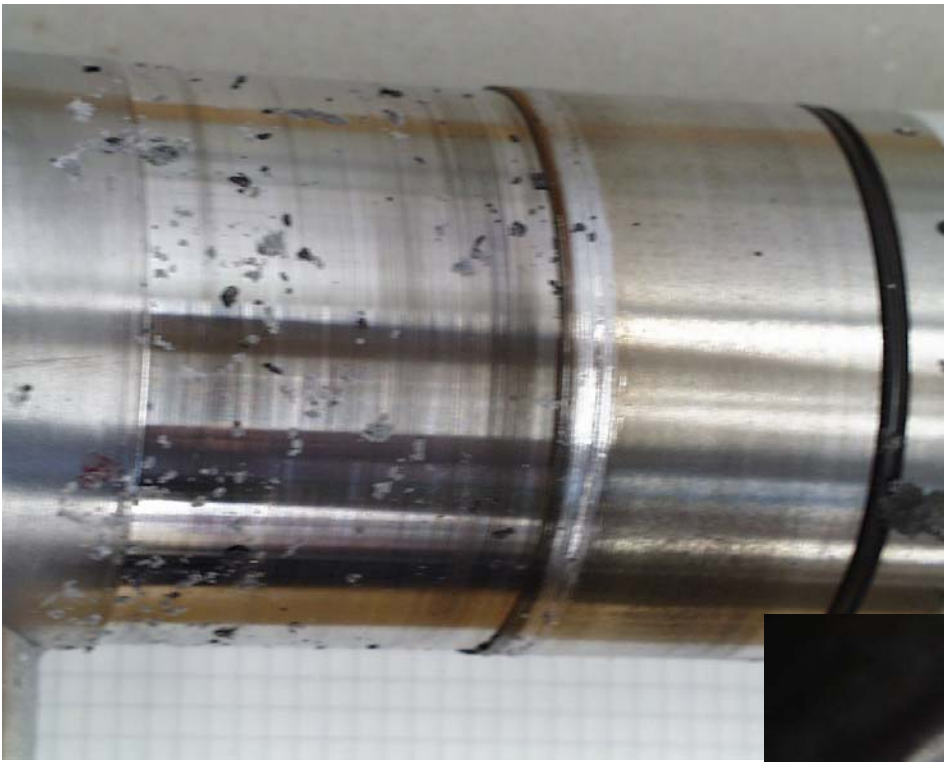
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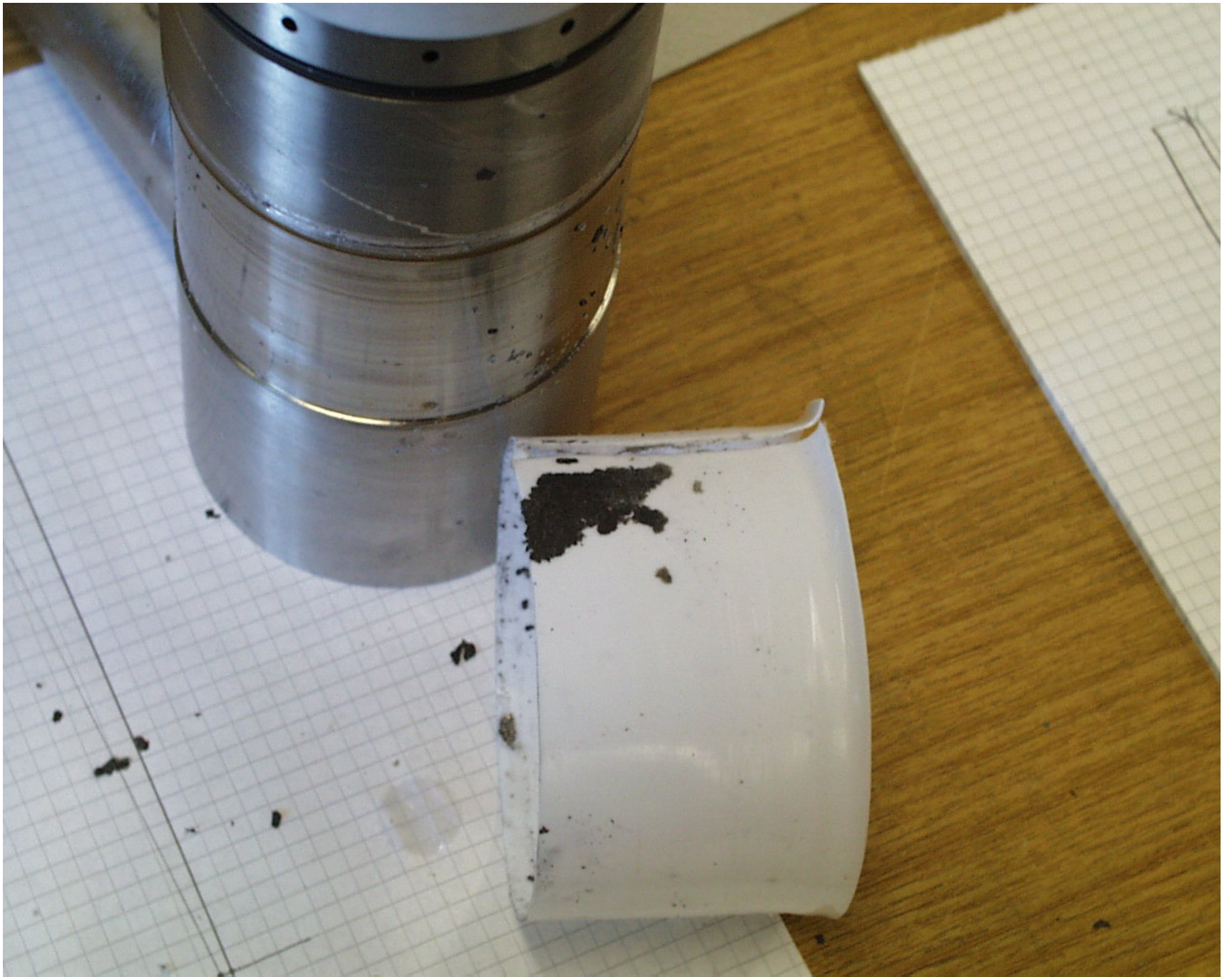
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Main design draw back







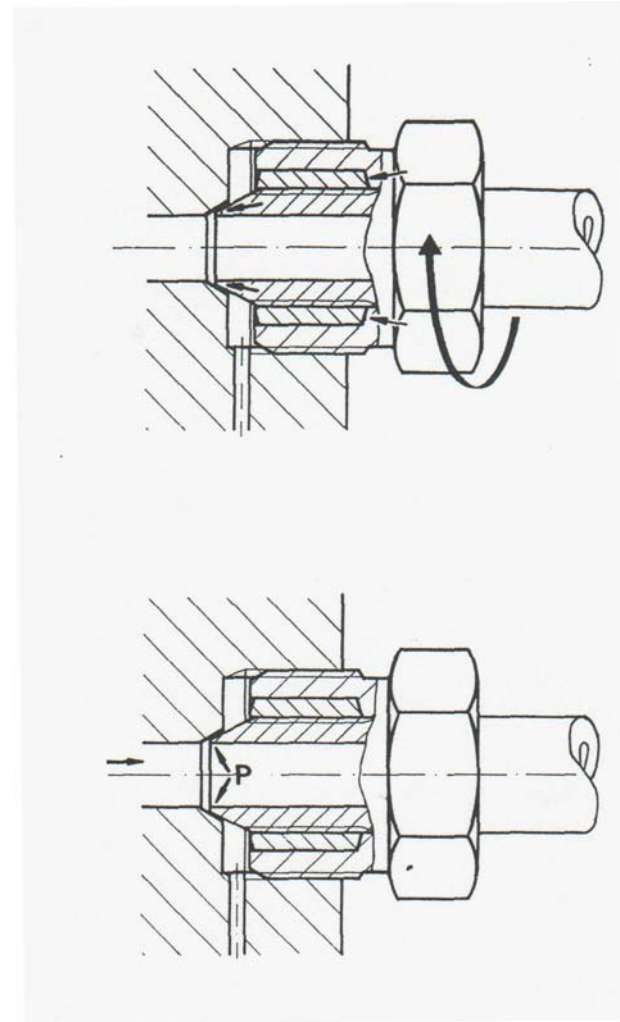
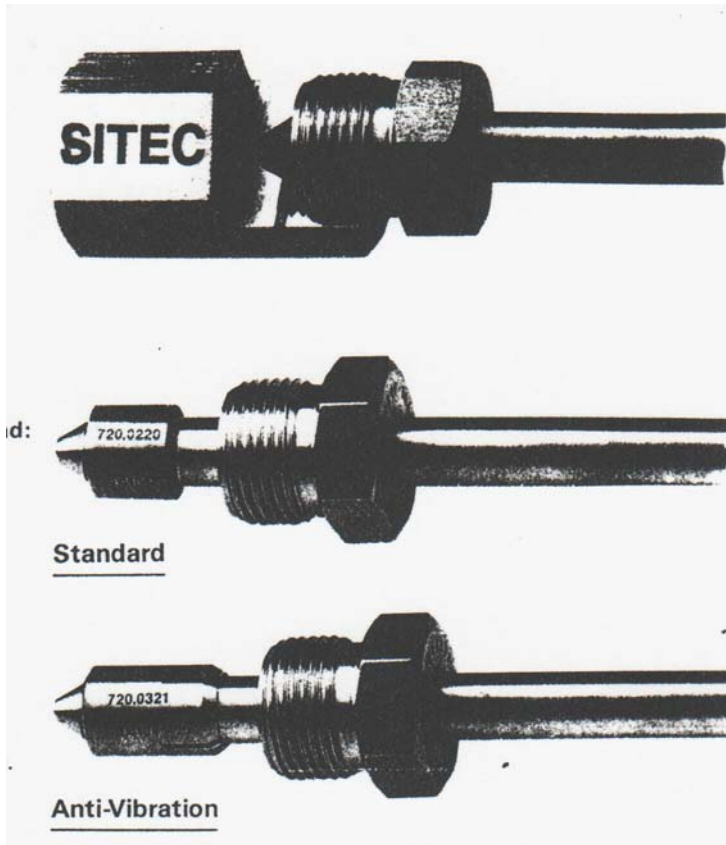
HPR at DESY

actions on the system since installation

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- Minimum death volume
- Cutting of cone on place
- Cutting of threads on place
- Alignment of elements critical
- Material combination stainless on stainless

General design problem.

- Cane rests in gray room interior (moves into cavity)
- Moving cane need seal (platform for filters; valve; mechanics and sensors in water)
- Bearing for cane and cavity table movement combined
- N2 filter unit installation filter lowest point in tube
- Water lines can not be drained Draining of tubing (inner cane has standing water
- Rust in 100 bar line elements / non lubricated parts cracked during disassembly
- Excess for maintenance
 - change cane seal means complete dismounting of rinsing unit!!
 - Rinsing for weeks to clean)
- insertion of cavity (abrasives form post and frame)
- Airflow inside HPR cabinet
- Alignment of cane (bottom platform underground cane top in class 10)

Failure on HPR equipment

- Membrane of pumps broken (programming and restart procedure of pump)
 - organic oil inside HPR tubing
- Valves blocked (pump running condition)
- N2 overlay blocked (turbulences from bottom platform to cavity)
- Check valves of Pump leaking (Pump out of parameter set)
- Bacteria contamination of UPW system
 - filter blocked up to 4 bar crashed at 100 bar
- Handling of filter units (not activated for installation
 - crack at 100 bar pressure)
- Bubbles inside UP Water system (blockage / break of filter)

