

# Status of the Pellet Target system

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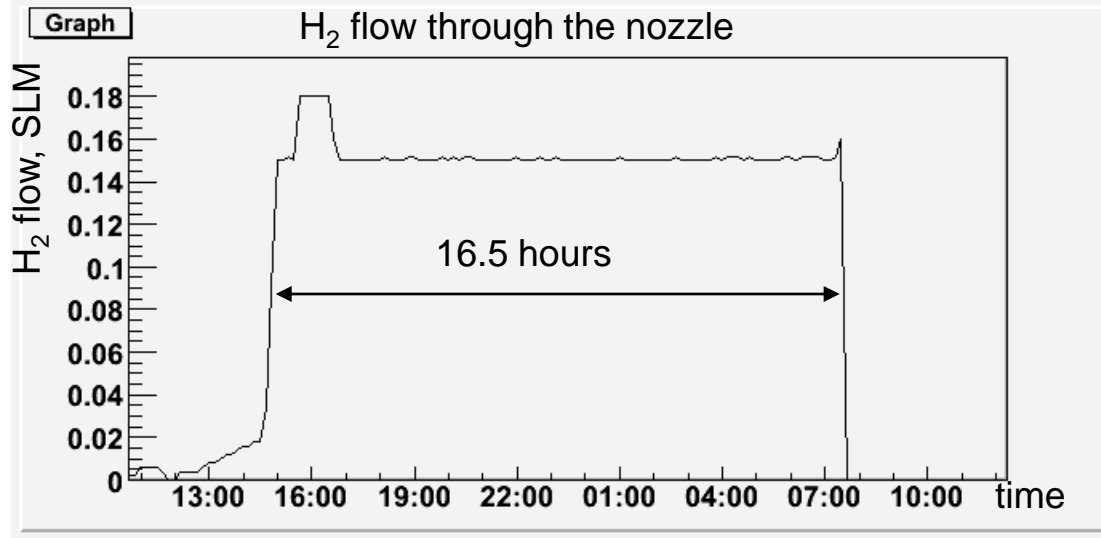
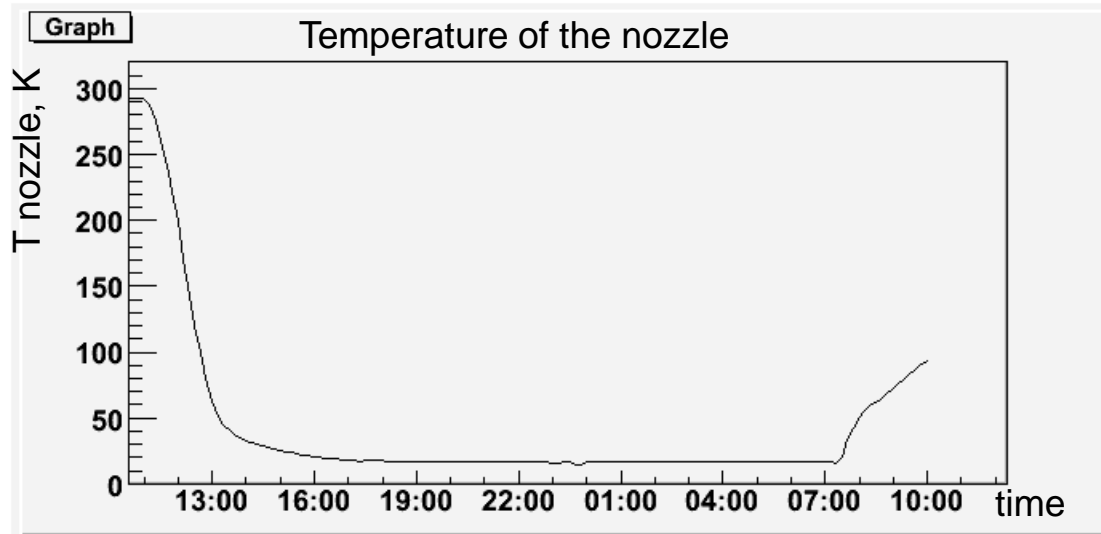
# Current activities

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1. First long time test of the target operation
2. Changes in the construction of the sluice.
3. Update of analysis software for the adjustment system nozzle-sluice
4. Tests with the adjustment system nozzle-sluice
5. Preparation of the draft of the TDR

# First long time test of the target operation

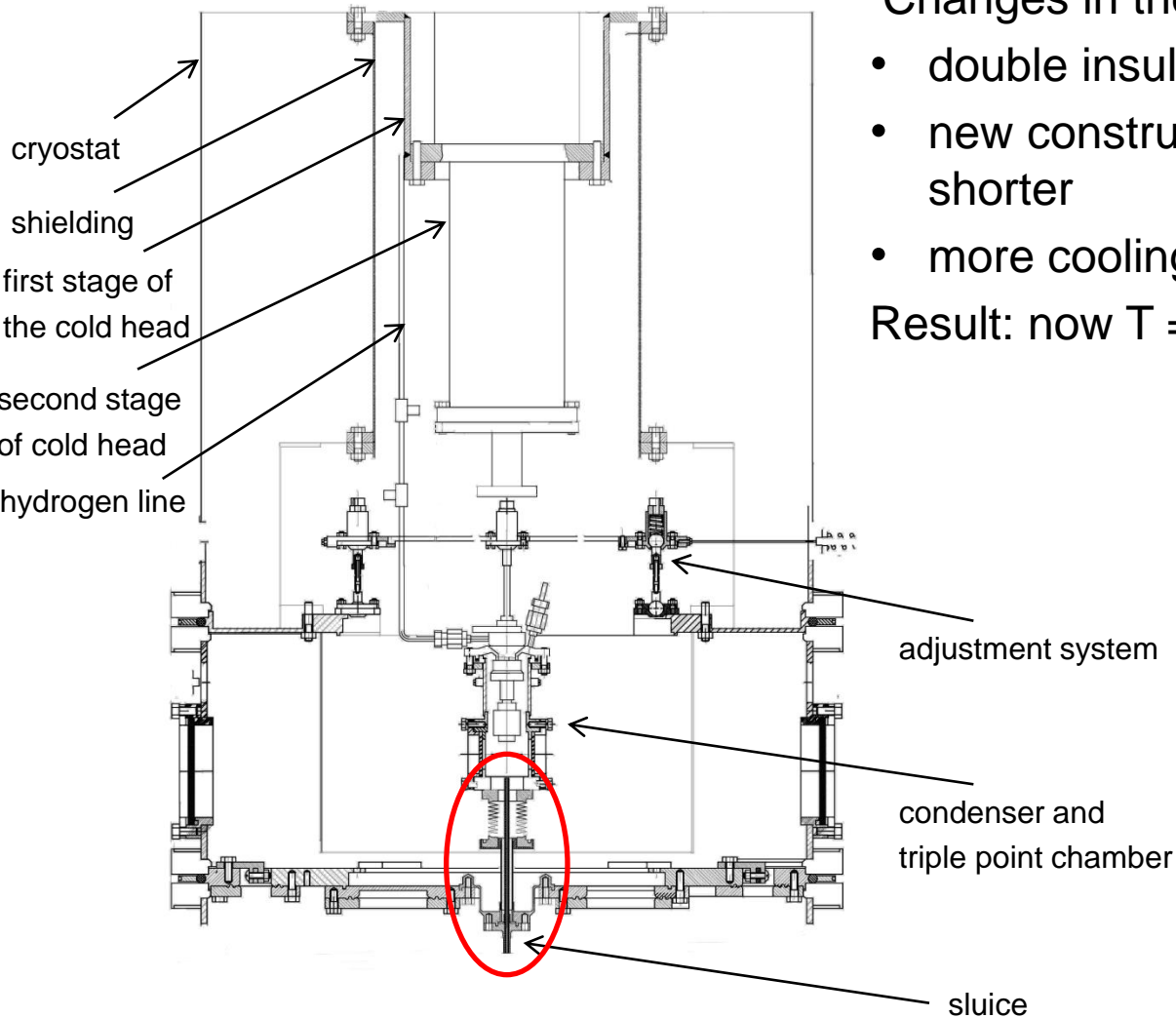
27-28 November 2019



Stable jet and droplet production during 16.5 hours. Operation of the target was stopped by hand due to the staff fatigue.

# Development of the target prototype

## Drawing of cryo-cooler and triple point chamber



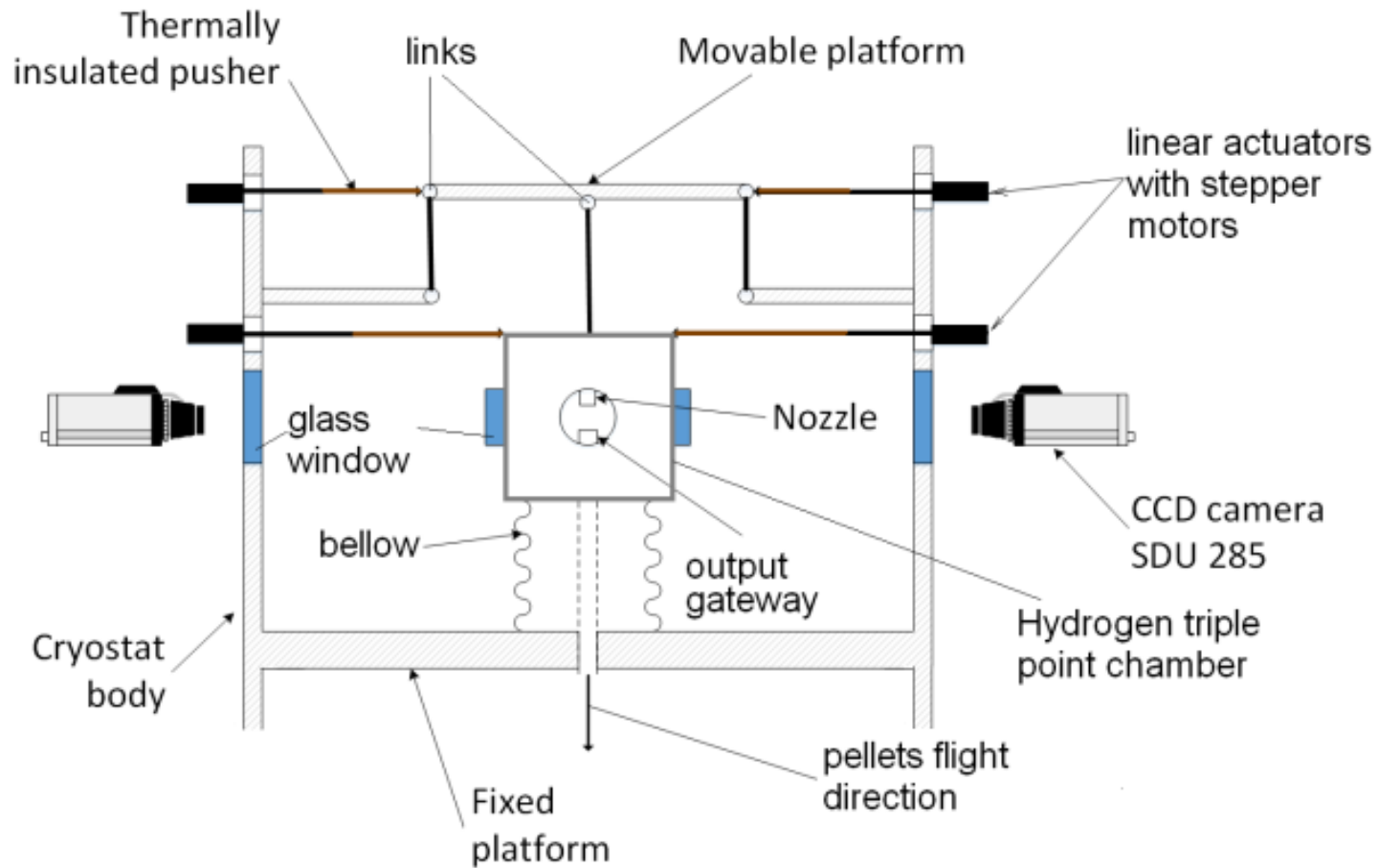
Changes in the construction of the sluice:

- double insulation of the sluice
- new construction - sluice is double shorter
- more cooling to the sluice

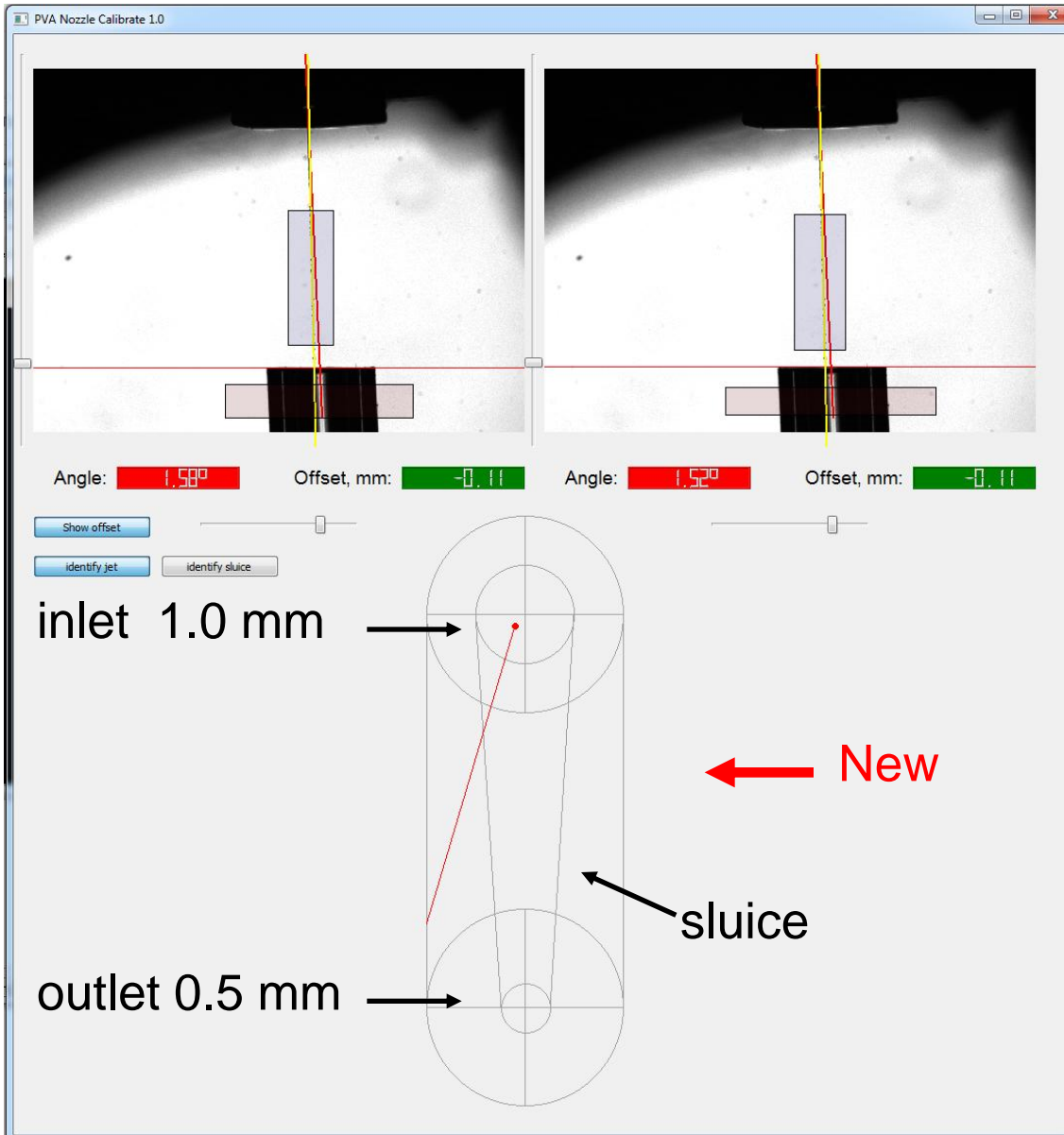
Result: now  $T = 48\text{ K}$

\*cold head and the condenser are connected via thick flexible copper wires (not shown)

# Tests with the adjustment system



# Update of analysis software for the adjustment system

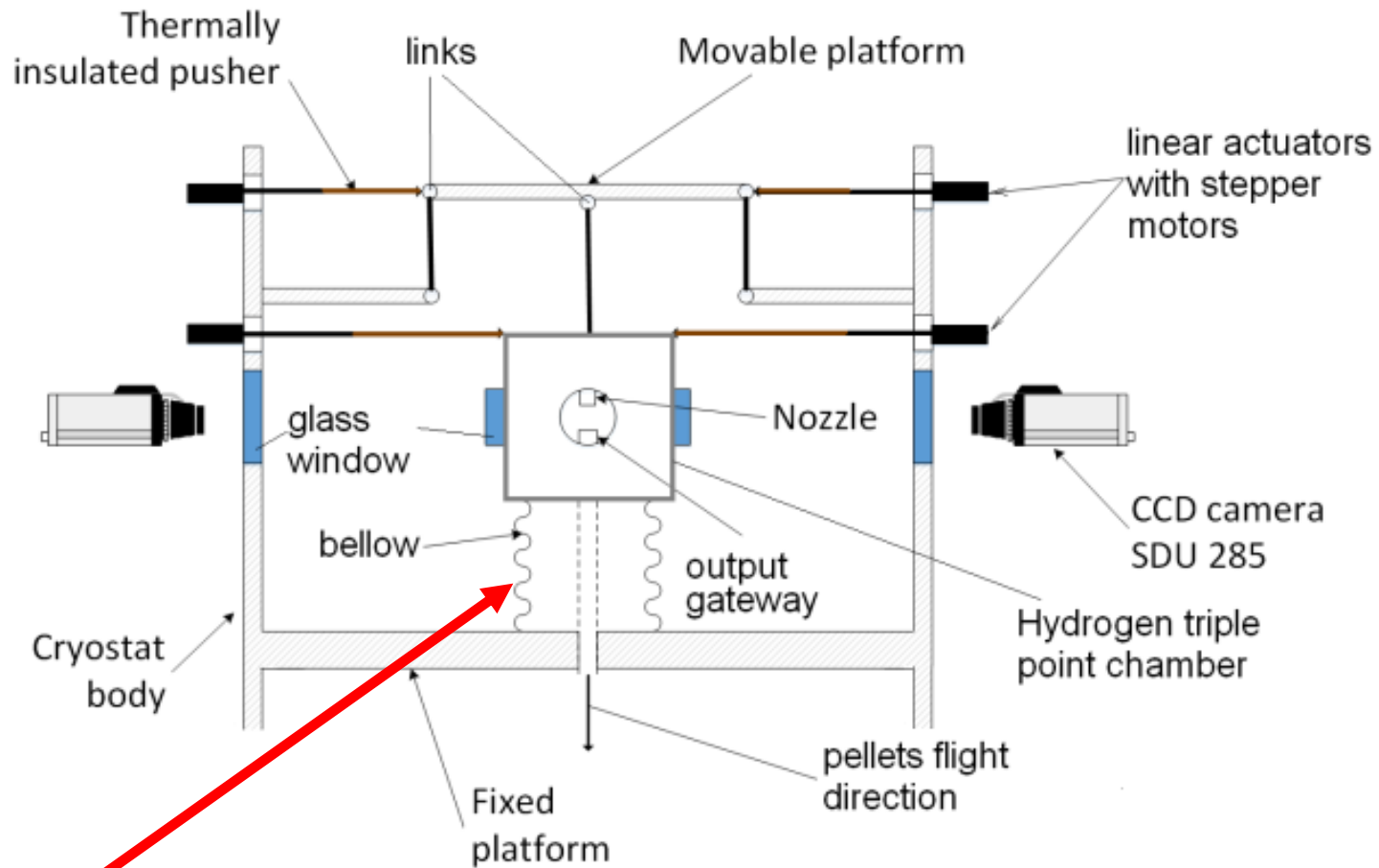


Software provides :  
in two projection

- axis of the jet
- axis of the sluice
- angle jet - sluice
- offset jet – sluice center

New:  
calculation of the pellet  
trajectory inside the sluice

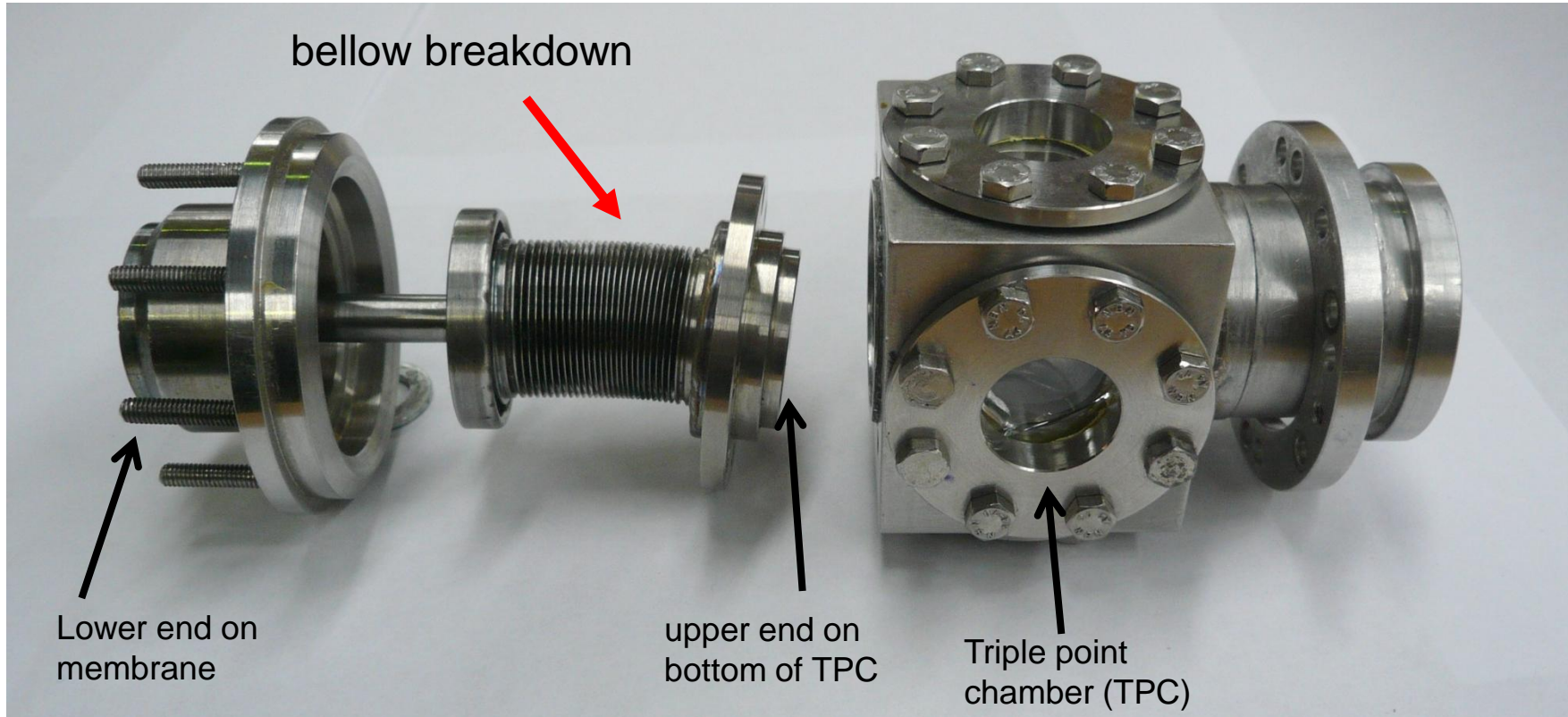
# Tests with the adjustment system



**Problem!**

# Unexpected breakdown of the bellow

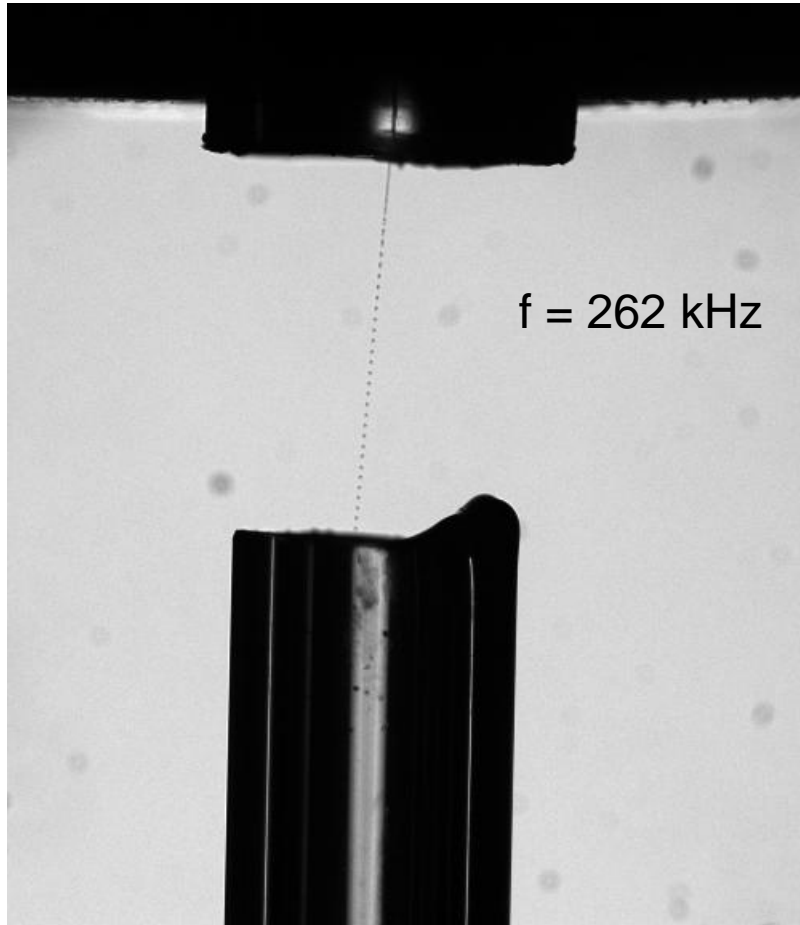
Extra flexible bellow. Not possible to produce in Russia. Special order from Switzerland. Now we have 10 pieces.





# Unexpected breakdown of the bellow

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Tests in winter with temporary hard bellow.  
Unsatisfactory flexibility.  
Not possible to operate for adjustment system.

Problem solved:  
Now we again installed extra flexible bellow.

Typical example of monodisperse droplet production in winter.

# Preparation of the draft of the TDR

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- Writing of the draft of the Pellet target TDR is going on.
- Preparation 3D drawings of the Pellet target.
- Preparation of drawings for location of the Pellet target on PANDA
- R&D studies are not finished. Some results are still absent.