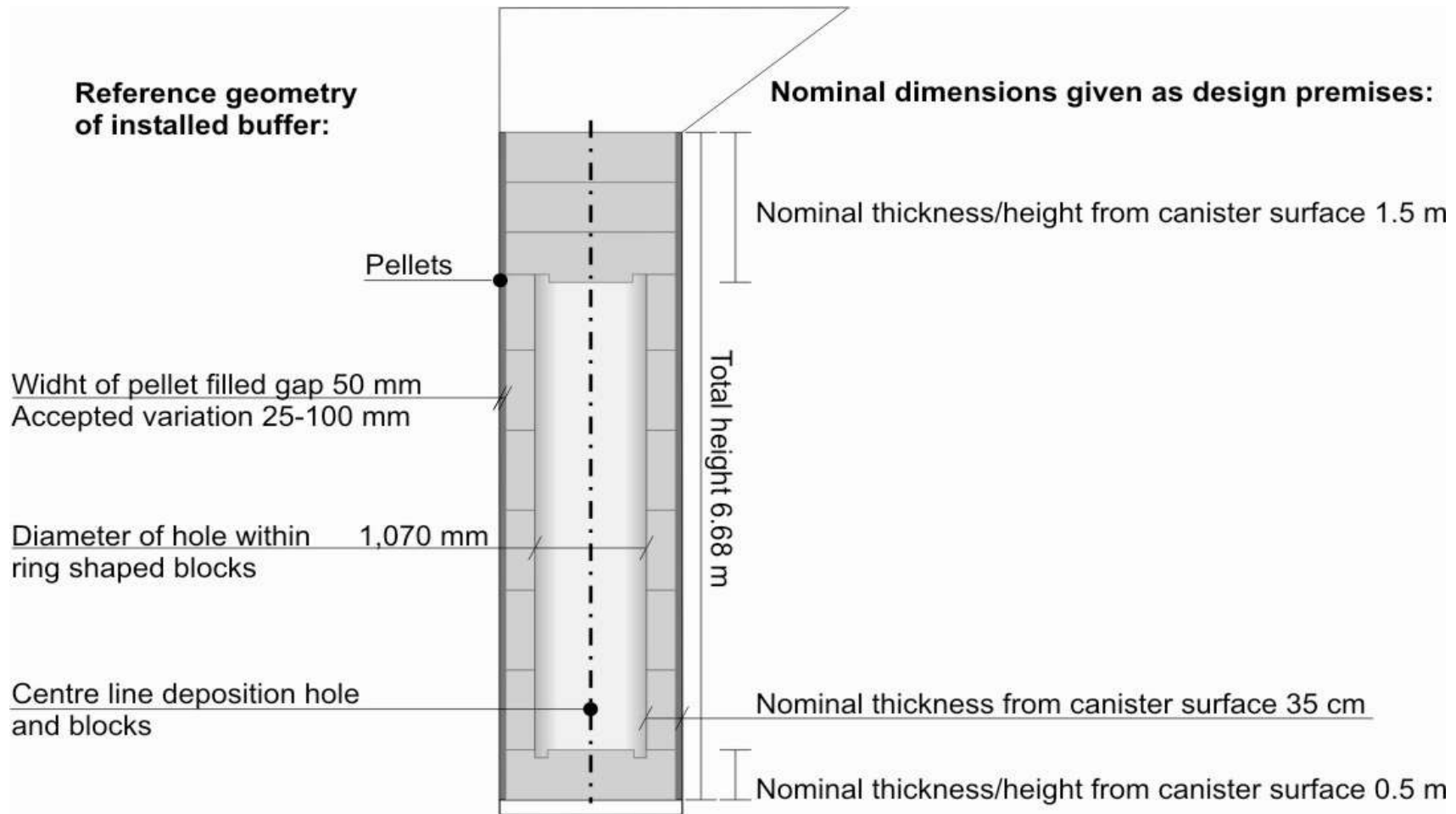




System design of buffer

Lars-Erik Johannesson
David Luterkort

SKB:s reference design (TR-10-15)



SKB:s reference design (TR-10-15)

- Material: Montmorillonite content 75-90 %
Total sulphur content <1%
Sulphide content < 0.5%
Organic carbon <1%
- Density: $1950 \text{ kg/m}^3 < \rho_m < 2050 \text{ kg/m}^3$
- Reference geometry



Objectives

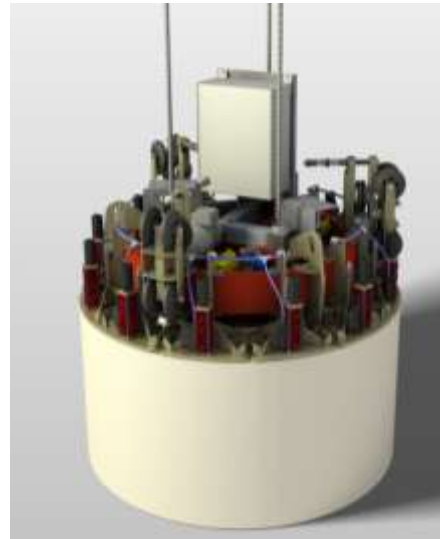
The main objective for SKB:s work regarding buffer development is to optimize and further develop the reference design by performing a system design.



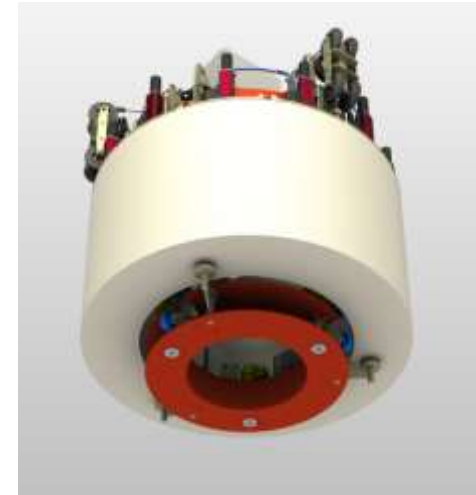
Development of equipment for installing buffer blocks



a)



b)



c)

Equipment for installing buffer blocks. a) Vacuum yoke together with an over head crane . b) the vacuum yoke from above. c) the vacuum yoke from below.

Development of equipment for installing pellets



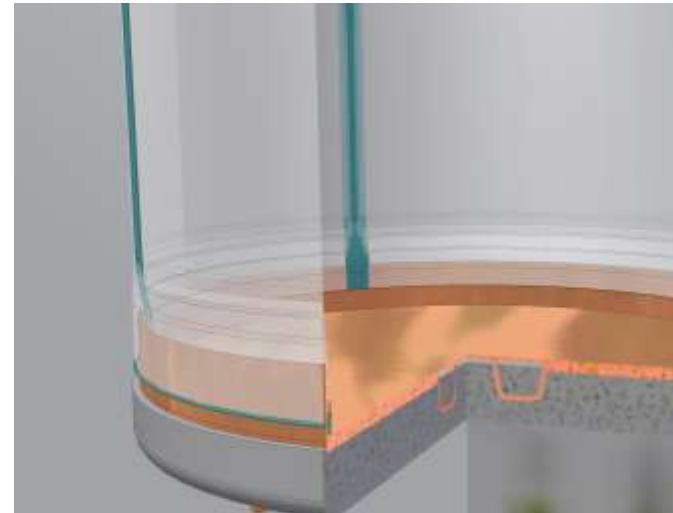
- A new prototype machine will be developed
 - Faster filling
 - Minimum of dust
 - Possibility to control the density of the filling of pellets

Develop parts of the reference design

- Buffer protection



- Bottom plate



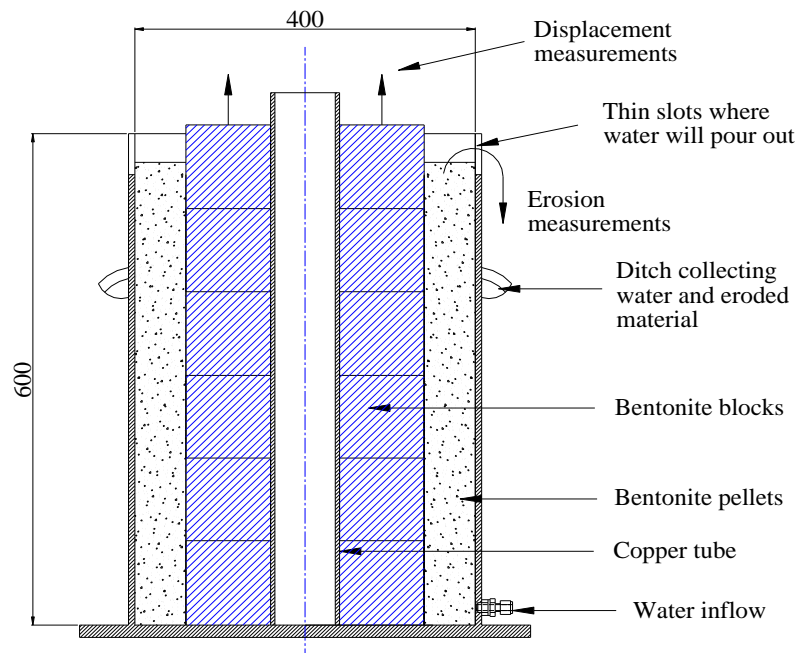
Tests of the system of blocks and pellets



- Laboratory test for studying the effect of water inflow on the system
 - Erosion of bentonite
 - Heaving of the buffer blocks

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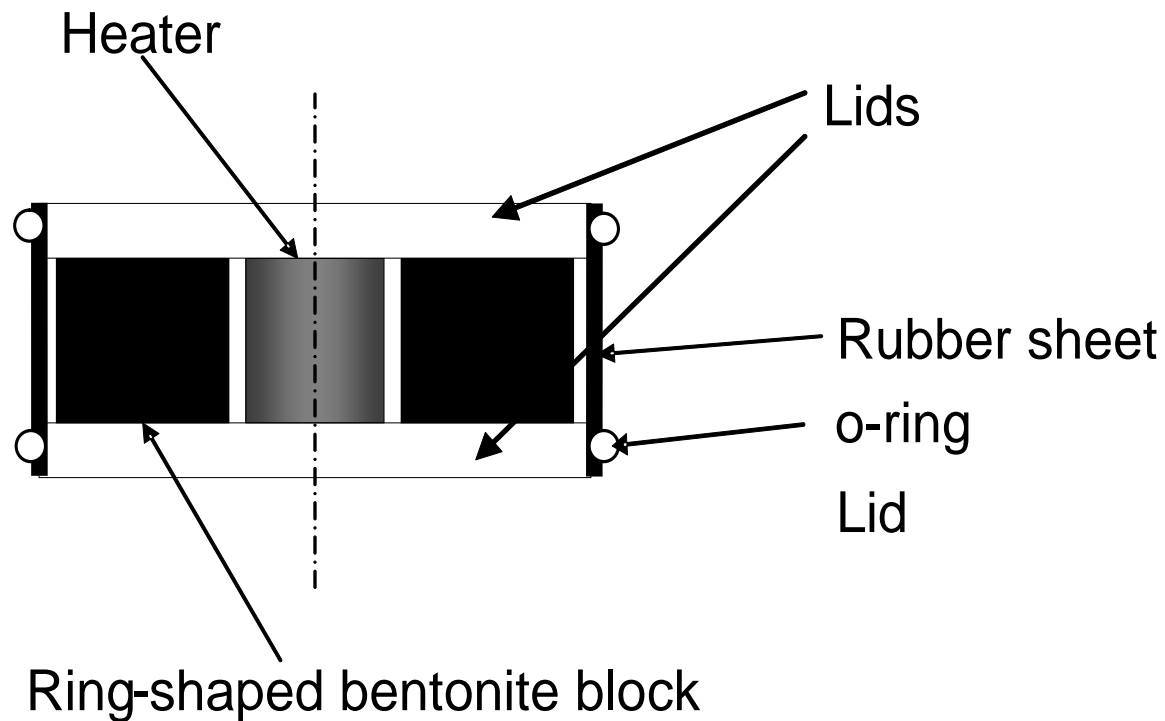
Tests of the system of blocks and pellets

- Laboratory test for studying the effect of water inflow on the system
 - Erosion of bentonite
 - Heaving of the buffer blocks



Tests of the system of blocks and buffer protection

- Laboratory test for studying the effect of heat on the blocks installed inside the buffer protection



Thank you!

