

# ***PipeActivClean***

***An effective way to clean pipes***



## The pipeline; the packaging and security for drinking water

We want to prevent/avoid the following:

- pollution, which brings contamination with chemical substances
- substances, which can feed micro-organisms and cause them to grow.

## Corrosion and hygiene in pipe systems

leakage, reduction of the flow, impairment of drinking water through turbidity, cloudiness, odor, microbiological or chemical causes



## Flushing of pipes only with water

It's not possible to remove pollution or a contamination only with disinfection procedure after intensive flushing

- Flushing speed: 2-3 m/s
- Minimum flushing time: 30 min
- Flushing volume: 3 to 5 times the pipe contents

## Flushing of pipes with water

- For a flushing with 2 m/s, we need the following amount of water:

DN 80: ca. 25 m<sup>3</sup>/h

DN 100: ca. 45 m<sup>3</sup>/h

DN 160: ca. 130 m<sup>3</sup>/h

DN 200: ca. 220 m<sup>3</sup>/h

## Flushing of pipes with a mixture of water and air



## Flushing of pipes with a mixture of water and air

- Flushing speed:  $> 0,5$  m/s
- Flushing from the bottom upwards
- Better effect by periodically opening and closing the air and water supply
- Finally intensive flushing with water.
- Only with oil-free compressed air.

## Cleaning of pipes with „Molchen“





## Cleaning of pipes with „Molchen“

- Removing of loosely sediments and deposits (iron precipitations)
- Mechanical cleaning of new pipes and removal of adhering deposits
- Removal of massive surfaces

## Cleaning of pipes with high pressure



## Cleaning of pipes with high pressure

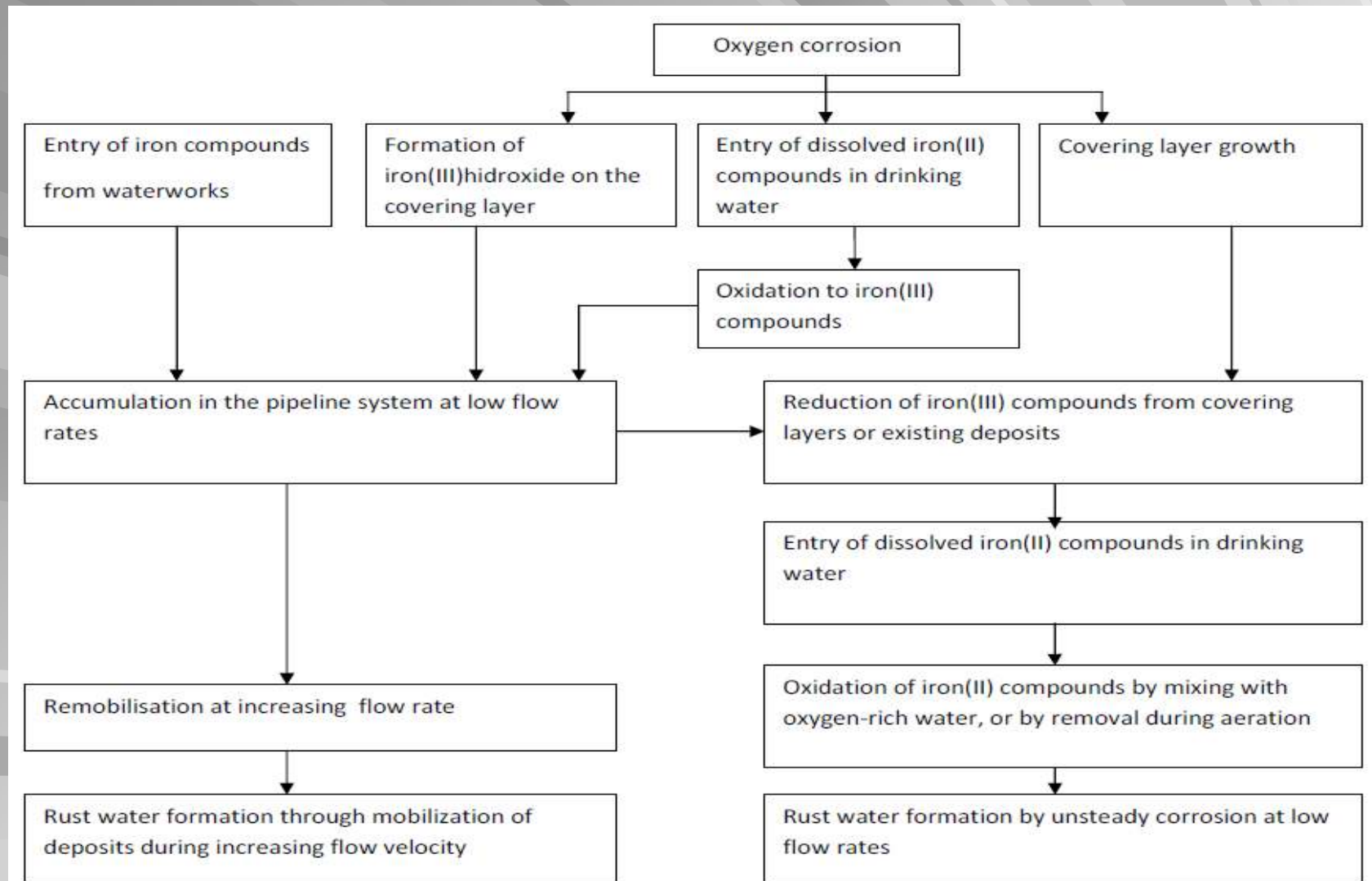


## **New patented pipe cleaning method:**

Developed and researched with DVGW Water technology center Karlsruhe, Dresden office and in cooperation with WVU Stadtwerke Chemnitz AG and Halle Water and Sewage Ltd.

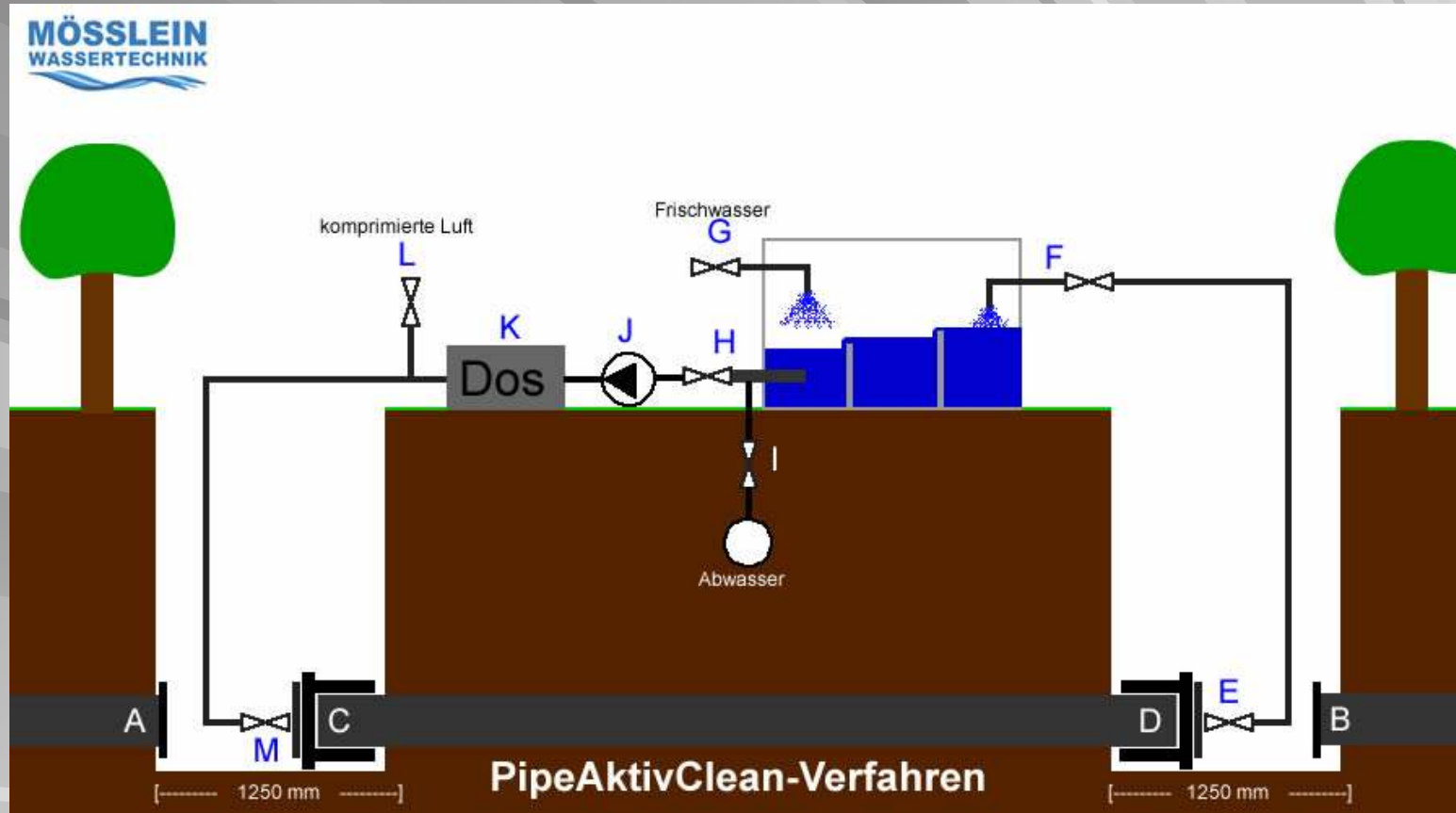
Project number 02WT0077: "Development of method for effective flushing underground sectors in existing water supply network to avoid rust water formation"

# Demonstration of rust water formation

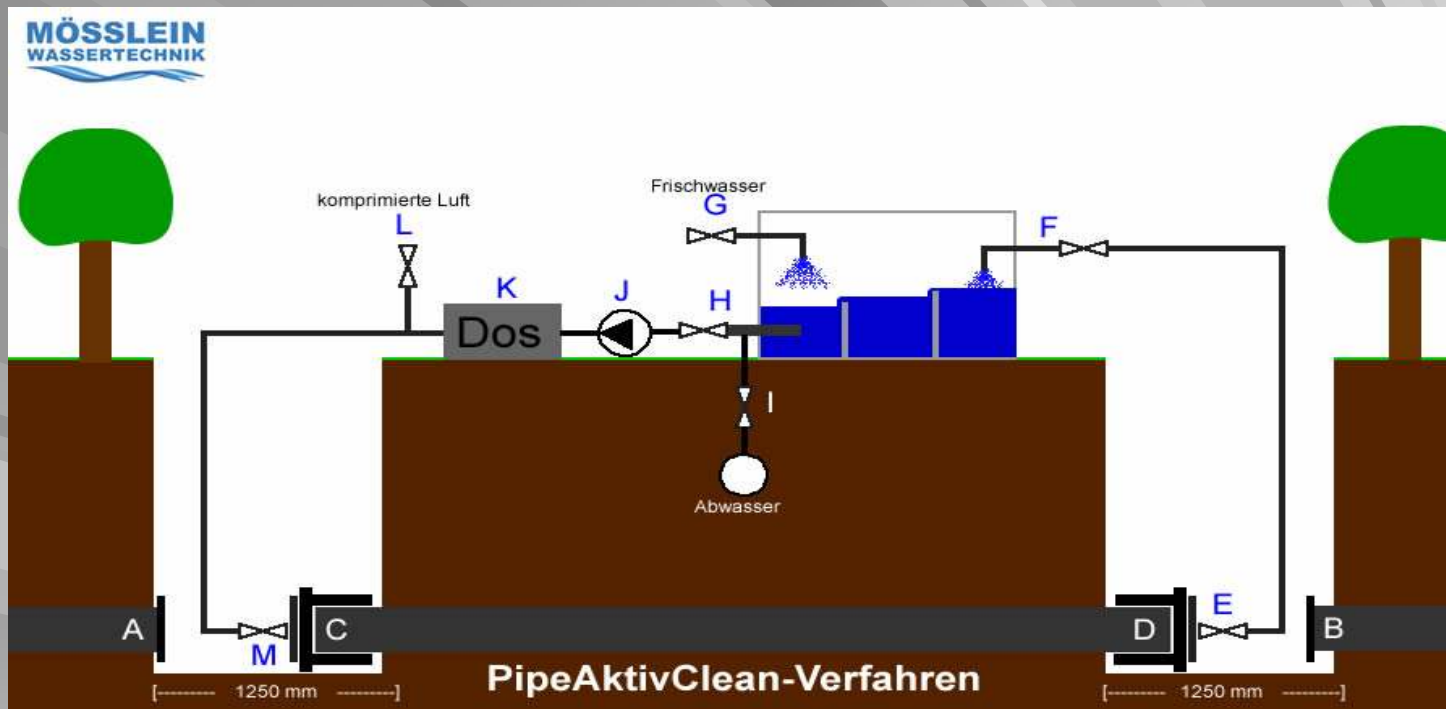


## Pipe cleaning during circulation process





New, patented pipe cleaning method using circulation.



## Combination of air-water flushing with mild chemical in circulation process

- Fast,
- Gentle for the pipe system,
- Low water consumption,
- Cleaning and disinfection



## Čišćenje cevovoda Sv. Peter – faza 2. (investitor Rižanski vodovod)

- Močno zakalcinirane cevi dimenzije TPE90
  - Dolžina odseka 930 m.
  - Višinska razlika 40 m.

Situacija vodovodnega omrežja  
*Rižanski vodovod Koper*



November 2011

M 1:2000

Rižanski vodovod Koper

## Čiščenje cevovoda Sv. Peter – faza 2. (investitor Rižanski vodovod)

- Rezultat čiščenja povečanje pretoka za več kot 100%.
  - Odklop odseka iz omrežja 12 ur.
- S čiščenjem izvedena tudi dezinfekcija cevovoda.