

## Protection from limescale deicing reagent pipeline

In October 2019, we received email from a company in the structure of municipal water company: "We have encountered the problem of growing of calcium deposits on the walls of pipelines for pumping deicing reagent and fittings. The photo shows this more detail.



At the photo: calcium deposits (limescale) on the fittings of pipelines for pumping deicing reagent.

*This happens very quickly, in 6-12 months. Only mechanical cleaning helps, with pipelines – only replacement. The most problematic part is the mixing area and the pipeline for pumping ready product to the storage tanks. The diameter of pressure pipelines is 100-160 mm. The pressure is 5-8 ATM. The length of the pipelines is about 100 meters. The maximum production capacity is about 1500 tons per day.*

*Solution composition:*

*CaCl<sub>2</sub> from 22 to 23 %*

*NaCl from 5 to 6 %*

*The quantity of suspended particles is not more than 0.05 %*

*Operating temperature from -10 to 50 C".*

The customer needed a quick, simple and effective solution for the problem with calcium deposits in pipelines. We suggested him to install WS-168F ferrite flocculating device (DN168).



About a month later we got a report:

*"Device WS-168F (DN168) was tested on existing deicing reagent pumping lines. For the purity of the experiment, new pipes were used. The flocculating device was installed on the suction line of one of the transfer pumps.*

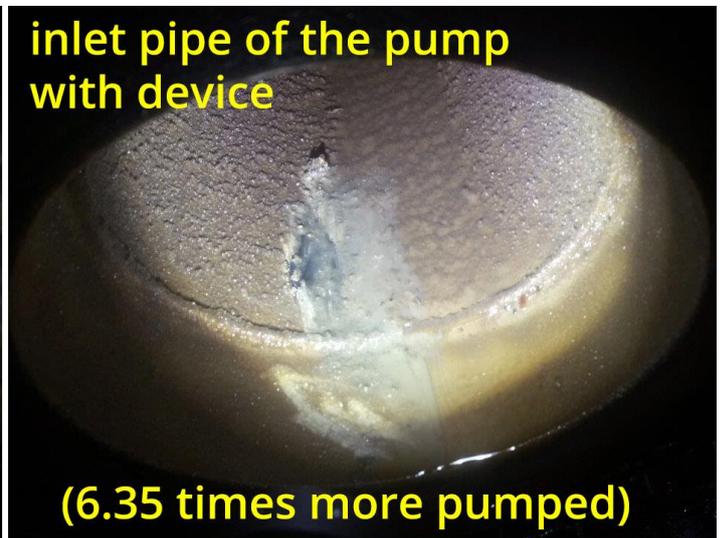
*In a month:*

*2'400 tons - pumped with a line without device.*

*15'250 tons - pumped with the device."*

I.e.  $15'250 \text{ t} / 2'400 \text{ t} = 6.35$  times more reagent was pumped through the line with the flocculating device than on the control line. With device noticeably less deposits appeared, and they have a different structure — they are not rigid, but loose and porous.

Opinion about the results of the head of the energy-mechanical service (customer's representative): *"In principle, we got a positive effect from using the device."*



Right photos: the deposits become loose and porous.