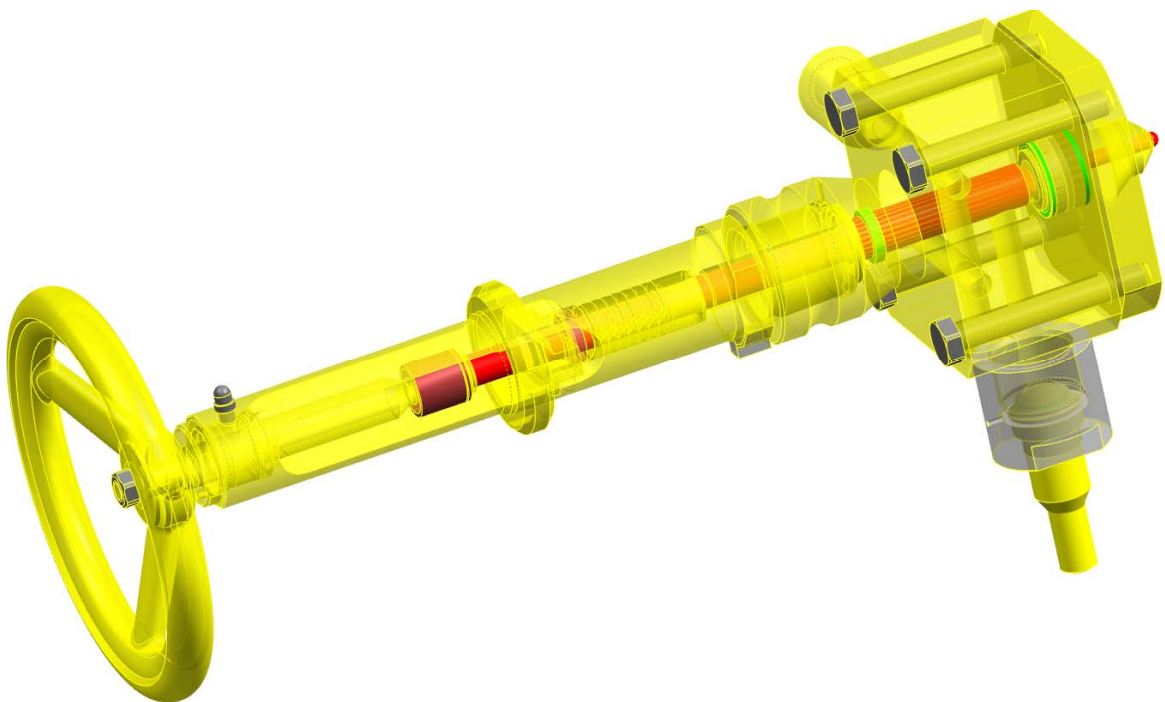


The BHDT “No Dead Volume” High Pressure Sampling Valve



BHDT, Best High Pressure and Drilling Technology in Austria proudly presents its latest Innovation:
The BHDT “No Dead Volume” High Pressure Sampling Valve.

The BHDT “No Dead Volume: High Pressure Sampling Valve makes taking samples from the High Pressure Synthesis section in a Urea Plant much more Safe, more Reliable and lot Easier.

Taking a sample in a urea plant

Taking samples can be a risky and troublesome procedure.

The process lines are high pressure lines and having high temperatures.

The solution will flash whereby ammonia gas releases.

During sampling no gasses are allowed to escape in order to obtain a reliable and representative sample.

The sample needs to be caught in a balloon in which it is dissolved in a pre-weighted amount of water.

The sampling flow needs to be controlled accurately in order that the sample has time to dissolve in the water and to avoid that the balloon will burst.

The sampling valve and inlet line need to be pre-heated and flushed through to remove the old solution.

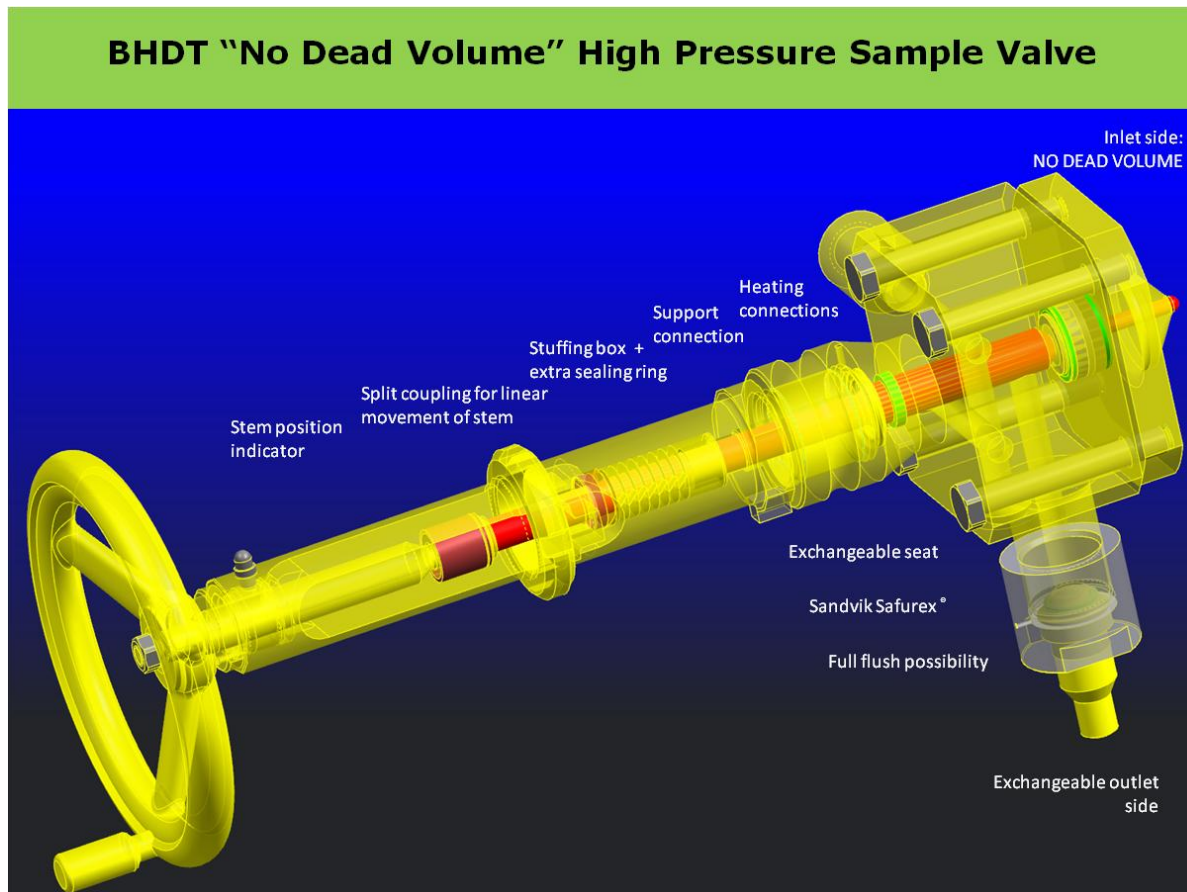
Proper personal protection equipment is needed to avoid any risks.

It is time to solve these safety hazards...

The major obstacle in taking a sample is the dead volume present at the inlet of the sampling valve. This inlet pipe needs to be pre-heated in order to assure that the sample is free flowing. Furthermore the sample line needs to be flushed first as the dead volume is not representing the right composition at the time the sample is to be taken. BHDT has solved this obstacle by developing a NO DEAD VOLUME sampling valve.



Features of the BHDT “No Dead Volume” High Pressure Sampling Valve



The BHDT “No Dead Volume” High Pressure Sampling Valve has the following features:

1. No dead volume at the inlet

The design of the spindle is such that in closed valve position there is not any dead volume. This means that crystallization cannot occur, so there is no need to pre-heat the sampling line before taking the sample. Also there is no need to flush the sampling line first as there is no old solution at the inlet of the valve. Thus one takes always and immediately the right sample.

2. High controllability of flow

The design of the spindle also realizes a high controllability of the sampling flow. The first six rotations only slowly increase the flow rate until a safe and comfortable sampling flow rate. Thereafter in six more rotations one reaches a full flush position in order to flush out the valve whenever required. The valve of course has a stem position indicator.

3. Possible to have full flush position in order to minimize chance of clogging

This valve can have a full flush position, so the spindle is able to extract completely so that all fouling (if any) can be flushed away.

4. Proprietary design to avoid shooting out of spindle

The shape of the spindle avoids any risk that the spindle can shoot out of the body of the valve. The construction of the spindle is one piece Safurex[®].

5. Proprietary design to protect stuffing box

The stuffing box is protected from the process solution by means of an additional and special seal ring between the spindle and the body.

6. Exchangeable seat

Like all BHDT valves also this valve has an exchangeable seat.

7. Steam heating connections

This valve has steam heating connections to avoid any crystallization problems.

8. Exchangeable outlet side

The design of this valve allows to choose your own preferred outlet line size and type. The outlet line can be rotated 360° to allow you to choose the optimum position to take a sample. As the outlet line can be easily disconnected and cleaned no problems of crystallization in the outlet line can occur.

9. Standardized design

This valve can be used for the high pressure reactor outlet and high pressure stripper outlet but also for the carbamate and the urea melt streams.

10. Safurex[®]

BHDT did choose Safurex[®] as the material of construction. This will guarantee a long lifetime and no risk of crevice corrosion problems.

11. Support connection

This valve can be fixed with an extra support to assure a safe and reliable construction.

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