HAPP Technology Ltd.

International Pipeline Cleaning Services

Hydraulically
Activated
Power
Pig

Speed Control of ILI tools in gas pipelines

- Contact -

HAPP Technology Ltd.

Tel.: Germany +49-89 41 17 04 70

Switzerland +41-62 849 54 29

UK +44-871 284 2111

USA +1-281 337 0900

Mail: info@happ-tech.com

www.happ-tech.com

HAPP™ brake unit

The Hydraulically Activated Power Pig Technology

used for

Hydraulically
Activated
Power
Pig

Speed Control of ILI tools in gas pipelines

Inspection of gas pipelines poses a particular challenge to inline inspection tools: Due to the compressibility of the gas as driving medium the travel speed of the tools varies during the inspection run.

The inspection pigs collect data with the required accuracy only up to their design travel speed. Data collected at higher travel speed does not show the pipeline's integrity with the desired resolution thus allowing for the possibility to oversee eventual dangerous developments.

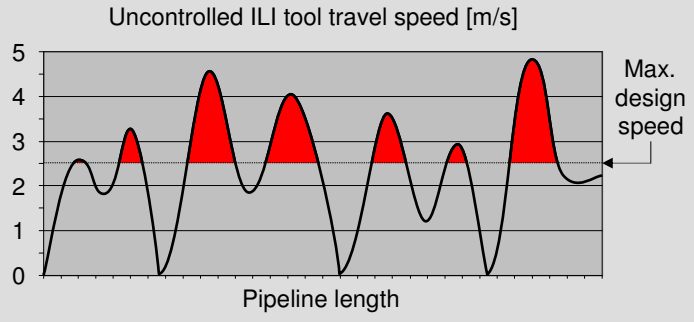
The challenge

The travel velocity of uncontrolled ILI-tools varies violently due to friction changes between the pipeline and the tool.

While a tool is blocked or slowed down due to an obstacle (i.e. higher friction) the driving gas pressure behind it builds up until it is strong enough to propel the tool though this section.

If not controlled, this results in the tool popping forward at high speed causing the driving gas pressure at rear to break down. At the same time, a counter pressure builds up in front slowing down the tool again.

As a result, ILI tools travel up 40% of the pipeline length above their maximum design travel speed!

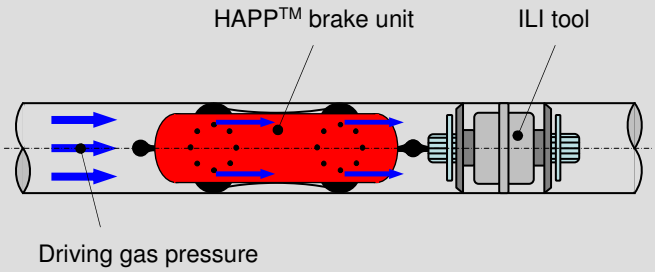


Other speed control systems

The compressibility of the driving medium, the gas, makes it extremely difficult to apply a reliable speed control mechanism. Solutions applying electronically controlled bypass orifices often deliver only unsatisfactory results due to dull reaction times of the electronic control system.

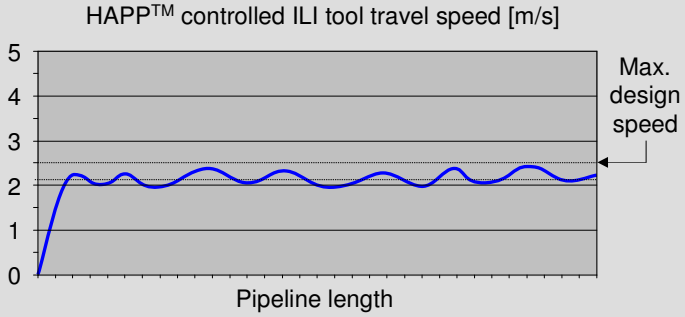
HAPP™ brake controls the ILI tool travel speed

HAPP™ brake systems offer reliable and elegant speed control for all kind of inline inspection tools operated in gas pipelines. Therefore it simply needs to be connected to the ILI tool.



Its hydro-mechanics instantly adapt to any pressure change of the driving gas. Correctly adjusted the brake constitutes a defined counter force to the driving gas force abating all speed variations both above and below the design travel speed.

Violent speed variations are smoothed to moderate changes which, at correct settings, always remain below the tools design speed allowing for 100% data collection within the travel speed specification.



- Improve the quality of your pipeline integrity data with a HAPP™ speed control system -