

# Optimization solutions for high consistency cleaners and protector systems



# Protecting your stock preparation machines with high consistency cleaners and protector systems

Directly after the pulping system, the paper suspension is still full of abrasive contaminants, such as paper clips, glass, stones and other plastic and metal particles. In order to prevent these contaminants from causing high wear in the subsequent process steps – such as screening machines, refiners and dispergers – it is the task of the high consistency cleaner and protector system to remove these contaminants from the process.



# Optimally aligned solutions through experience and know-how

Based on decades of experience in papermaking, Voith has developed the BlueLine for stock preparation. With products from the BlueLine family, our customers benefit from proven Voith quality, while at the same time profit from low costs for energy, fiber, water and maintenance as well as improved runability and occupational safety.

The latest members of the BlueLine product family in the field of high consistency cleaning are the high consistency cleaner InduraHiClean IDH and the protector system InduraPro IDP. This new generation of cleaners is equipped from the outset with highly wear-resistant H<sup>2</sup>-Cones, Junk Trap Type II and rotation brakes. In order to optimize older high consistency cleaner systems, increase their efficiency and sustainability and reduce downtimes, we offer various cleaner product and service solutions.

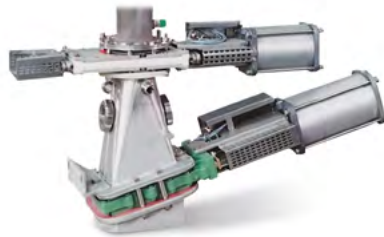
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## Optimization solutions at a glance



### H<sup>2</sup>-Cone

- Highly wear-resistant separation cones with ceramic insert
- High reliability of original spare parts
- Easy and quick repair by replacing the ceramic inserts (H<sup>2</sup>-Cone refurbishment)



### Junk Trap Type II

- Reliable trap function
- High wear resistance
- Standardized trap for different high consistency cleaner



### VortexBreaker Rotary brake RB100

- More reliable operation of the trap
- Less wear on valve plate and flange ring
- Reduced maintenance
- Minimized spare parts stock

# Increased lifetime due to the highly wear-resistant H<sup>2</sup>-Cone

Due to the constantly increasing amount of contaminants found in recovered paper, the wear resistance of the cones was adjusted to increase the lifetime and thus the overall operational reliability of the system. Our wear-resistant H<sup>2</sup>-Cone has been developed for reliable use with high stock consistencies and high dirt loads.

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H<sup>2</sup>-Cone



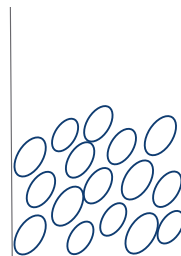
# Sustainability through new material structures

## Best material and a special production process

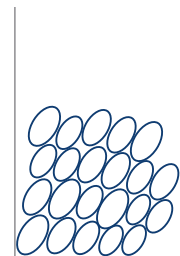
Our H<sup>2</sup>-Cone is the further development of the H-Cone. It consists of a stainless-steel shell with an integrated, highly wear-resistant ceramic insert. During the special manufacturing process, the ceramic parts are compressed more compactly under pressure, making our H<sup>2</sup>-Cone extremely resistant to abrasion. This leads to a two-to-three times longer lifetime than conventional cones.

In the DR and HICC series of high consistency cleaners, both the upper, inner hard-chrome separating cone and the lower separating cone (conventional ceramic insert) can be replaced with a H<sup>2</sup>-Cone. This significantly increases the lifetime and reduces expensive replacement intervals.

## Comparison of the material structure of a conventional cone with a H<sup>2</sup>-Cone



Material structure of a slip casted cone



Material structure of the H<sup>2</sup>-Cone

## H<sup>2</sup>-Cone for the optimization of the following high consistency cleaners



Upper separating cone



Lower separating cone

DR400	not available	•
DR600	•	•
HICC-Series (all sizes)	•	•
Protector system Pro nd HiPro	•	•
IDH-Series (all sizes)	• (original)	• (original)
Protector system IDP	• (original)	• (original)

# Fast exchange of the ceramic insert via refurbishment service for H<sup>2</sup>-Cone

All types of H<sup>2</sup>-Cone can be easily and quickly repaired in our service centers worldwide by replacing the worn ceramic inserts. Of course, other parts of the high consistency cleaners can also be repaired in our service centers.

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## Comparison of a cone before and after the refurbishment service



Worn ceramic insert



Refurbished H<sup>2</sup>-Cone

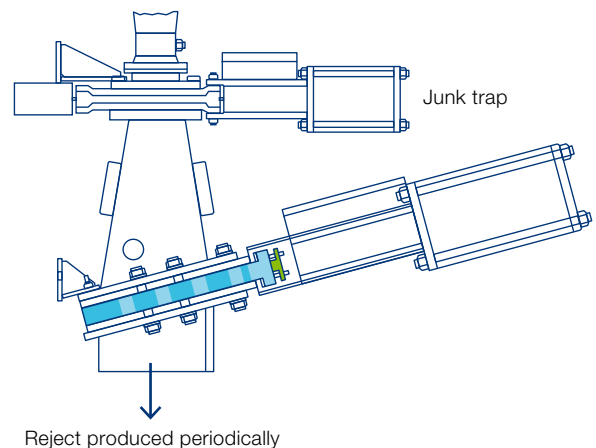
# Reduced fiber loss with effective separation and minimal wear Junk Trap Type II

Thanks to its special design, the Junk Trap Type II improves the separation of heavy particles with minimal fiber loss. In addition, the trap is absolutely wear resistant and can be easily retrofitted even to existing high consistency cleaners.

## Your benefits

- + Significantly less wear on the valve plate due to the inclined arrangement of the discharge gate valve
- + No jamming of particles between housing and valve plate due to geometrically optimized cross-section of the discharge gate valve
- + Flush pipe for flushing the junk trap when the bottom gate valve is open
- + Low fiber loss due to backflushing of fibers from the junk trap into the system

## Structure Junk Trap Typ II



## Optimization with the Junk Trap Typ II\*

Trap	T1 – T2	T3	S1 – S4	DR1 – DR3	D1P – D2P	D1C – D2C	DR400 – DR600	KS200	KS250
DN100 / 250, type II	•		•	•	•	•	•	•	•
DN150 / 250, type II		•							

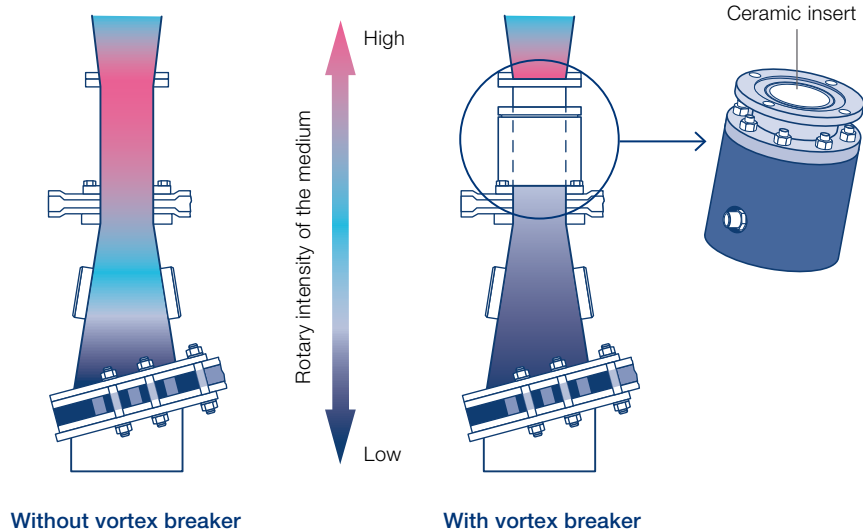
\* All HICC and IDH series high consistency cleaners are already equipped with an original junk trap in the scope of delivery. A subsequent installation of the trap in high consistency cleaners of other OEMs is also possible.

# Reduced wear of Junk trap thanks to VortexBreaker RB 100

The VortexBreaker RB100 is a rotation brake for junk traps. The ready-to-install retrofit kit extends the lifetime of valve plates and ensures reliable operation of the junk trap.

## Benefits of the VortexBreaker RB 100

- + The specially-designed cross section slows the rotation of the medium and thus prevents the valve plates from wearing out too quickly
- + The rotation is additionally slowed down by adding dilution water
- + Easy installation of the rotation brake RB 100



## Optimization with the rotation brake VortexBreaker RB 100\*

Optimization	DR 400	DR 600	KS 250/8	KS 250/6
VortexBreaker RB 100	•	•	•	•

\* All HICC and IDH series high consistency cleaners are already equipped with an original rotation brake. A subsequent installation of the rotation brake in high consistency cleaners of other OEM is also possible.





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## Service at the next level

Our service experts are available 24/7 with advice and services to ensure that your system works optimally.

With 20 service centers strategically located around the world, our global service network offers a wide range of customized services with highly qualified experts on site. In addition, the service-oriented infrastructure ensures short response times and local contacts.



Find your local contact and click here.

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### Voith Service workshops worldwide

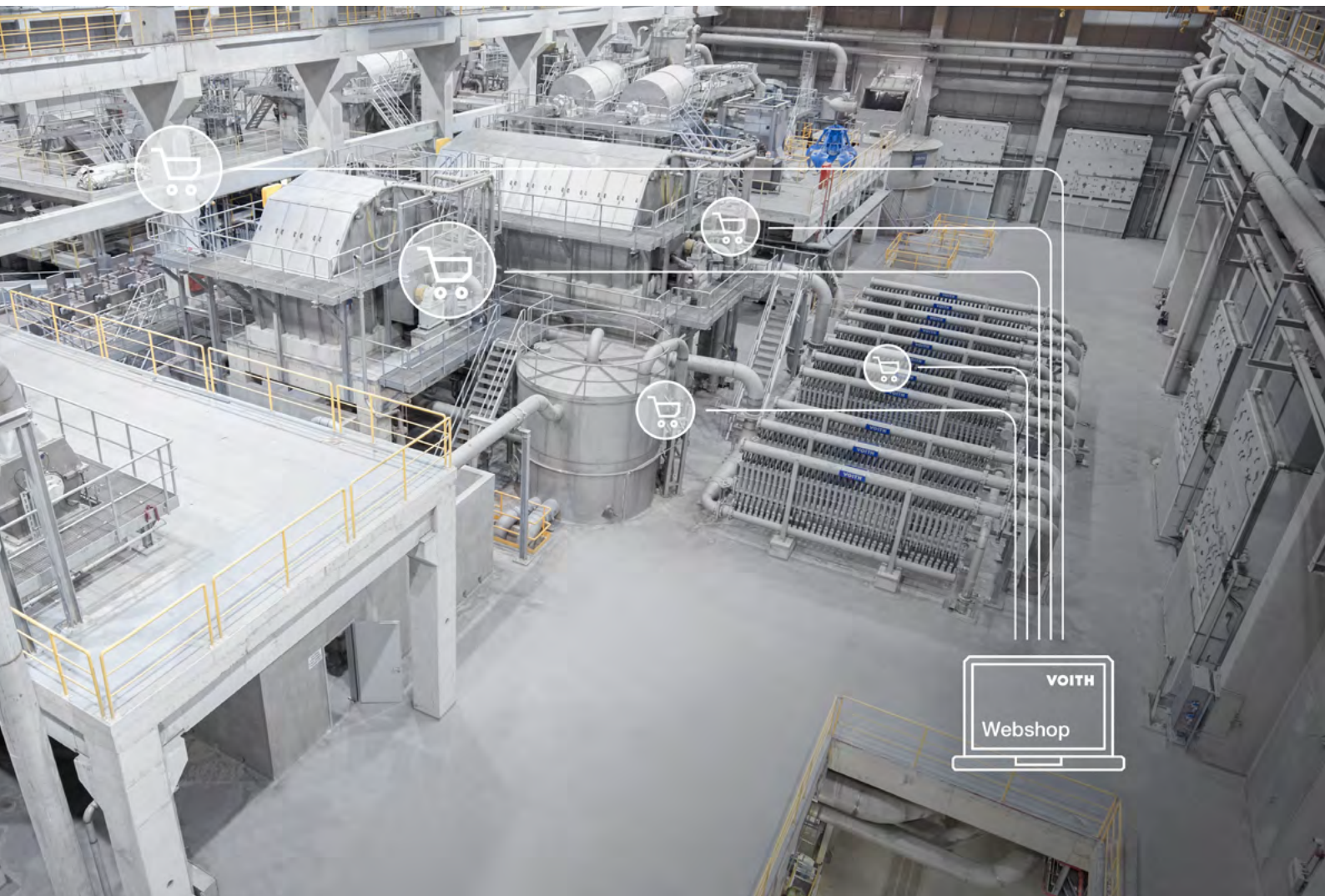


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