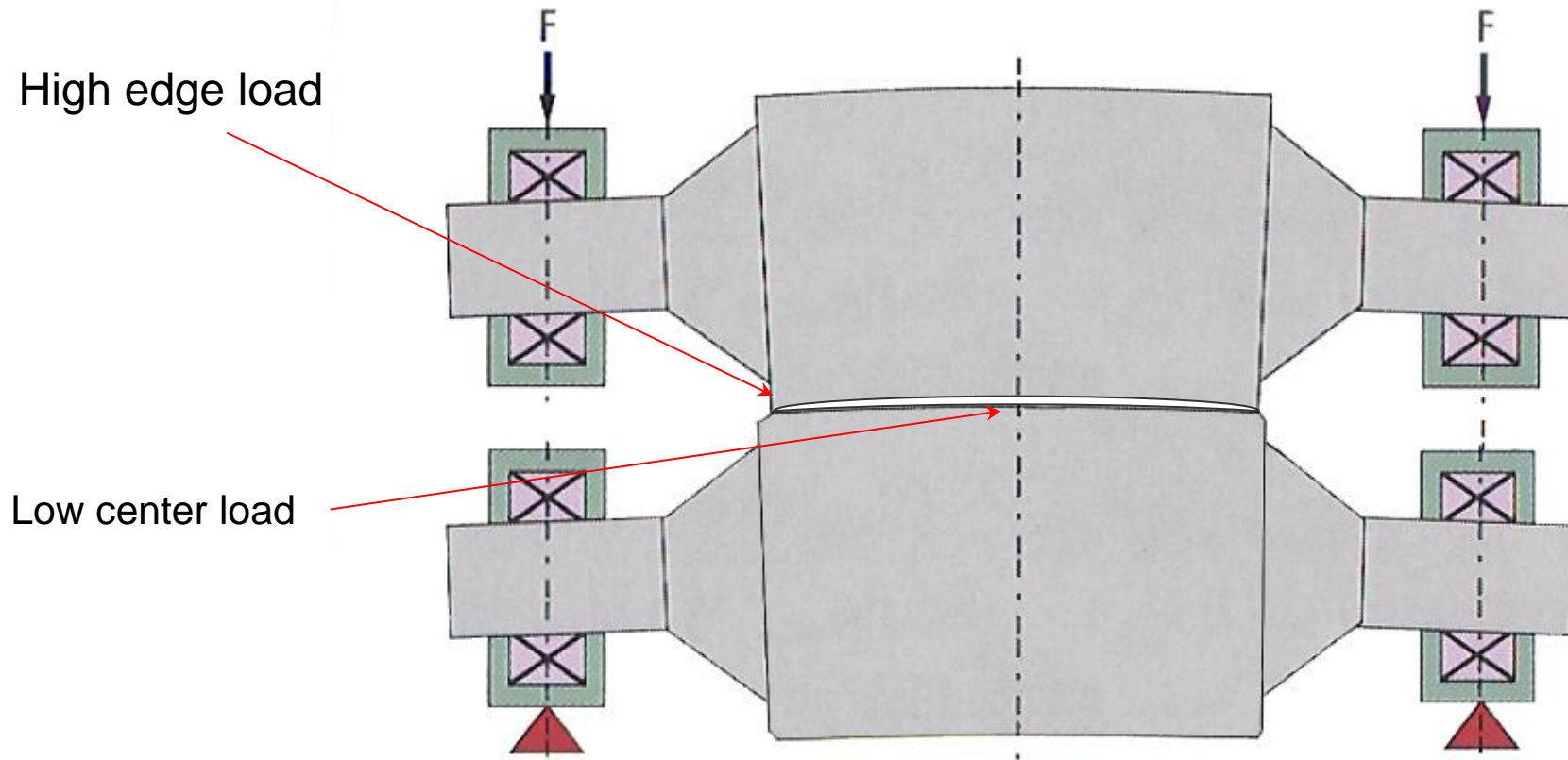


Overview EcoNip[™] and Nipco[™] Roller

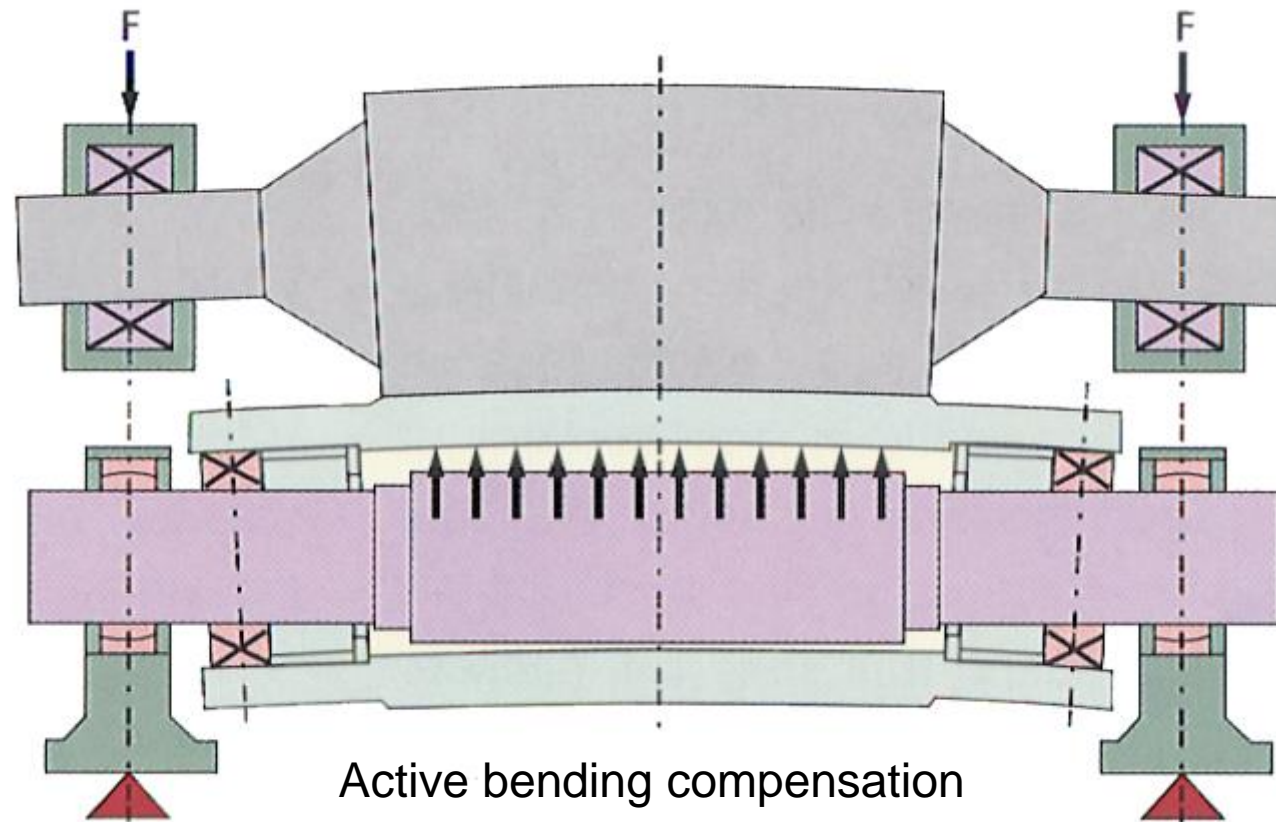
Basic principle bending compensation

Inhomogeneous line load between rolls



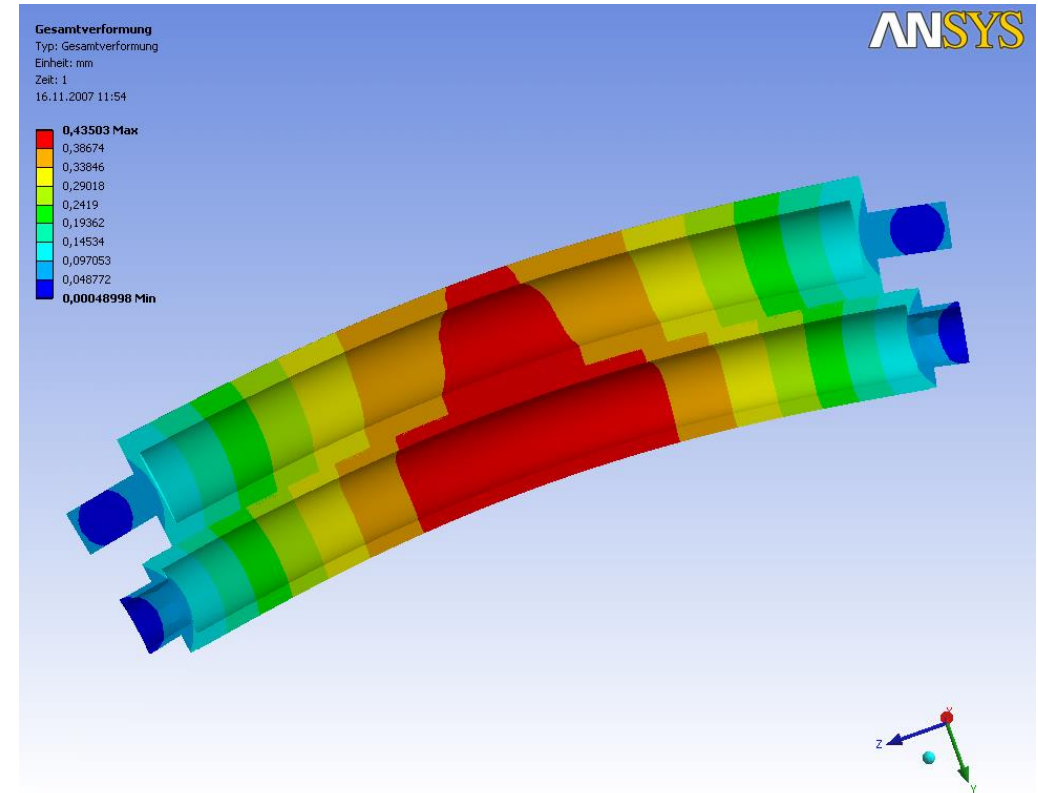
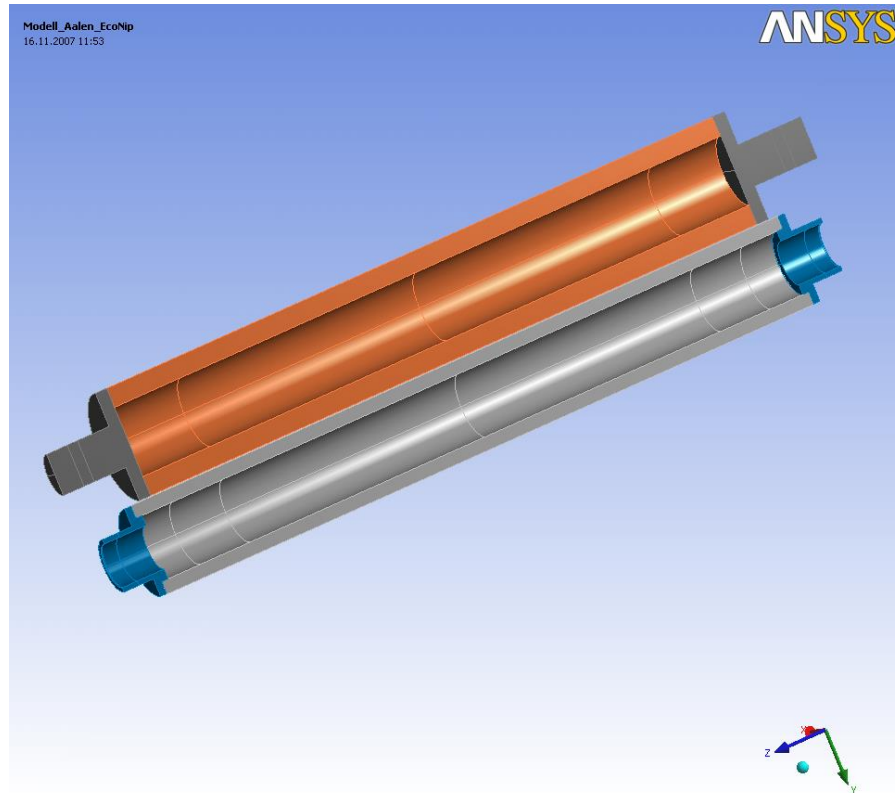
Basic principle bending compensation

Homogeneous line load between rolls



Basic principle

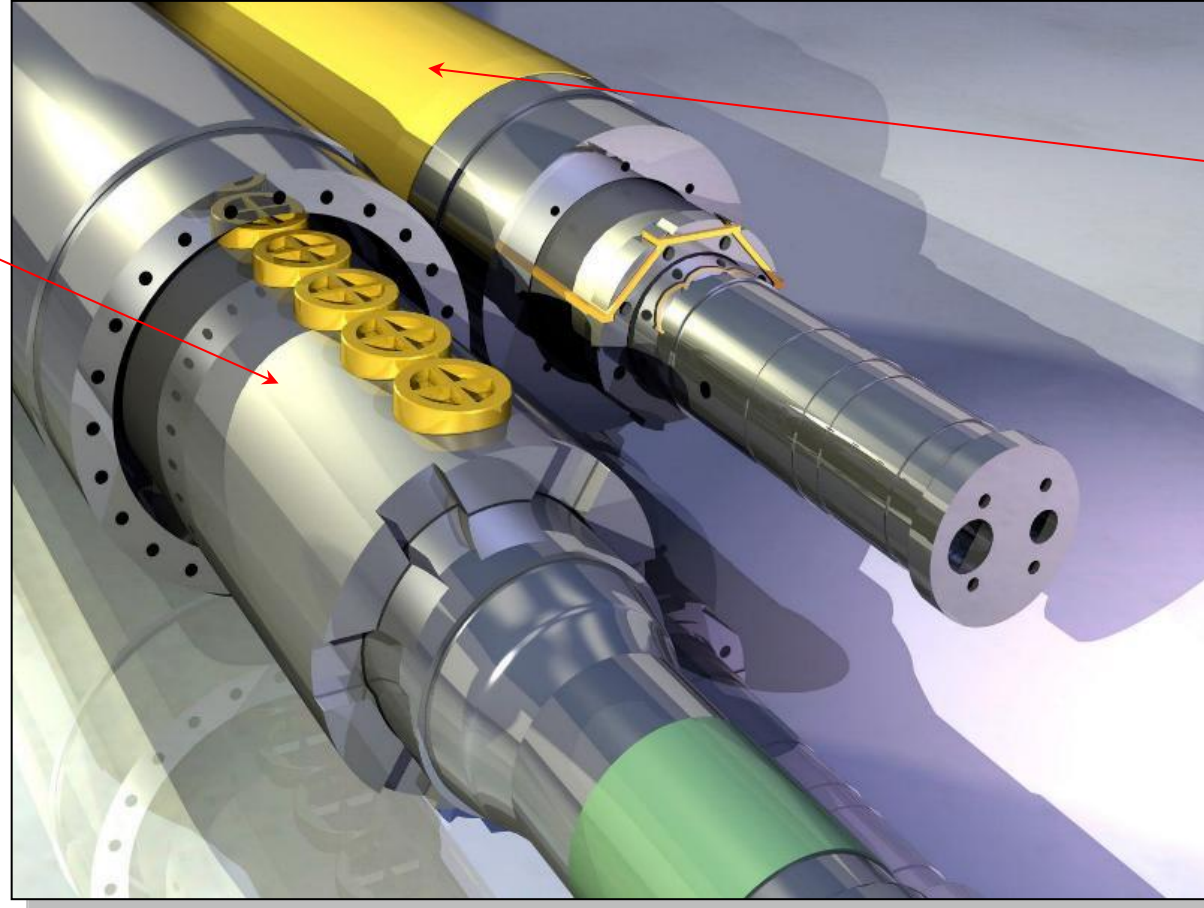
Active bending compensation



Overview

Technologies

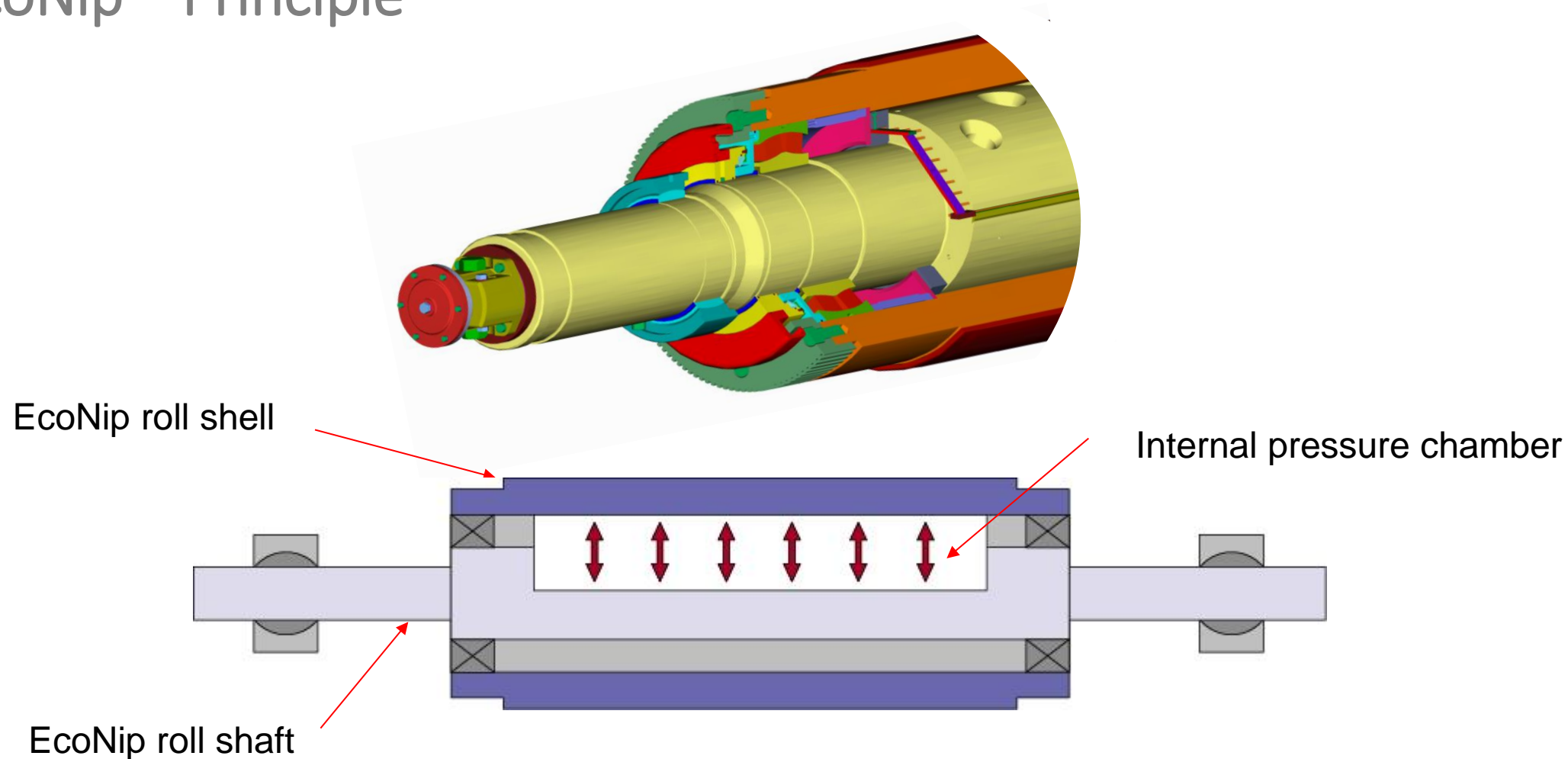
Nipco roll



EcoNip roll

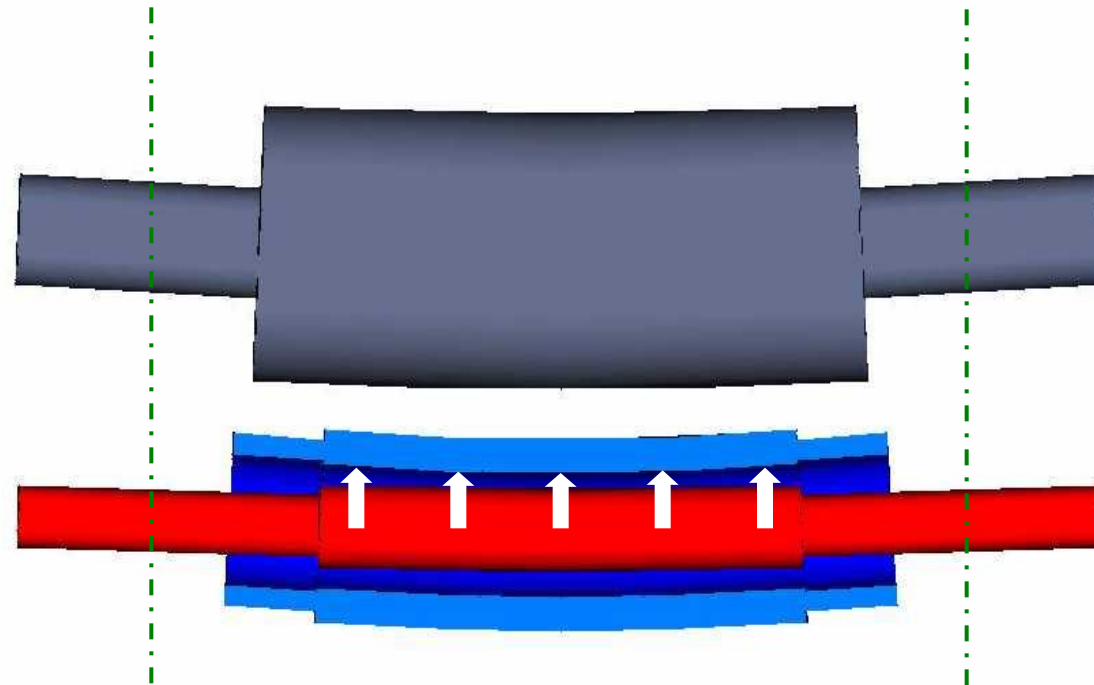
Overview

EcoNip™ Principle



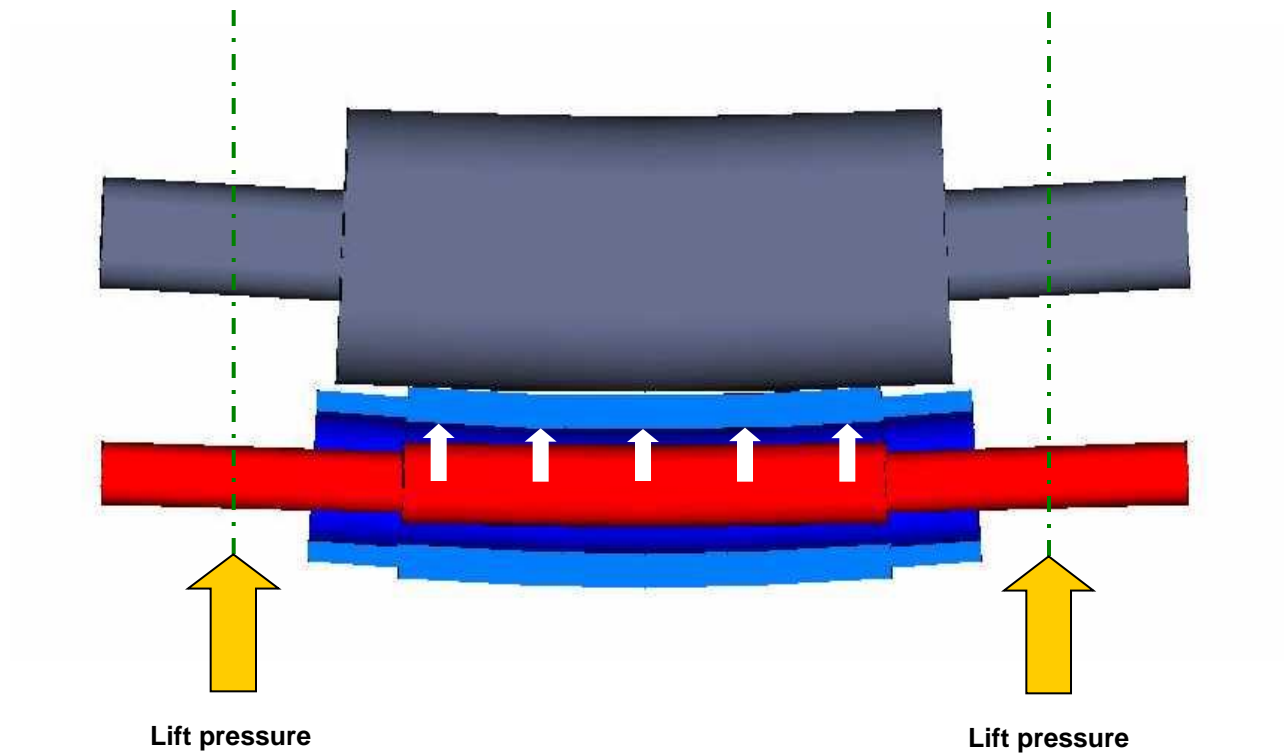
Basic principle EcoNip

Roll bending – Rolls open



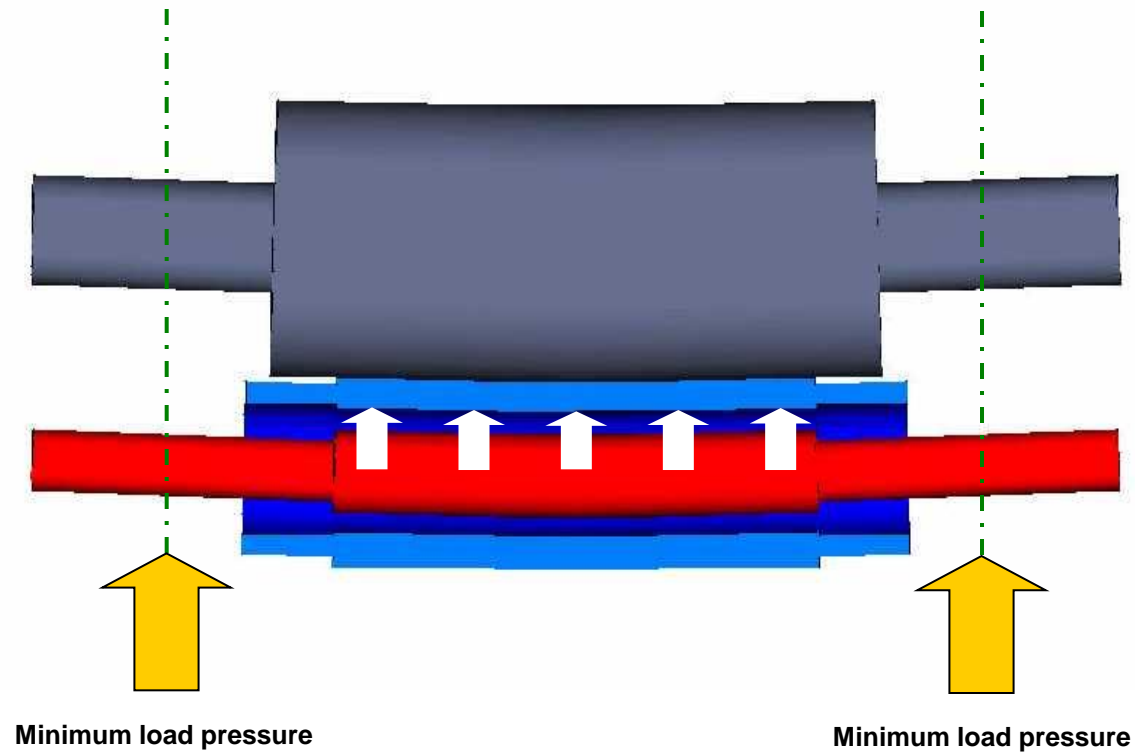
Basic principle EcoNip

Roll bending – Rolls closing



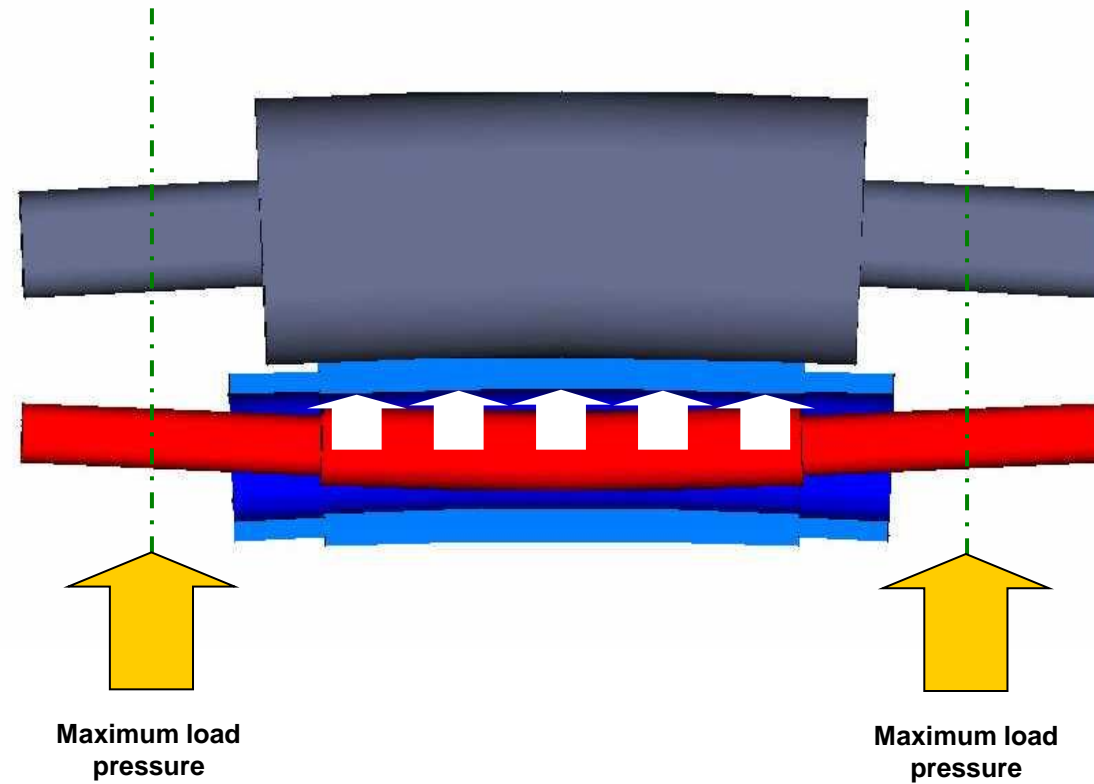
Basic principle EcoNip

Roll bending – Minimum load



Basic principle EcoNip

Roll bending – Maximimu load



Overview

Nipco™ Principle

Flexible Nipco shell

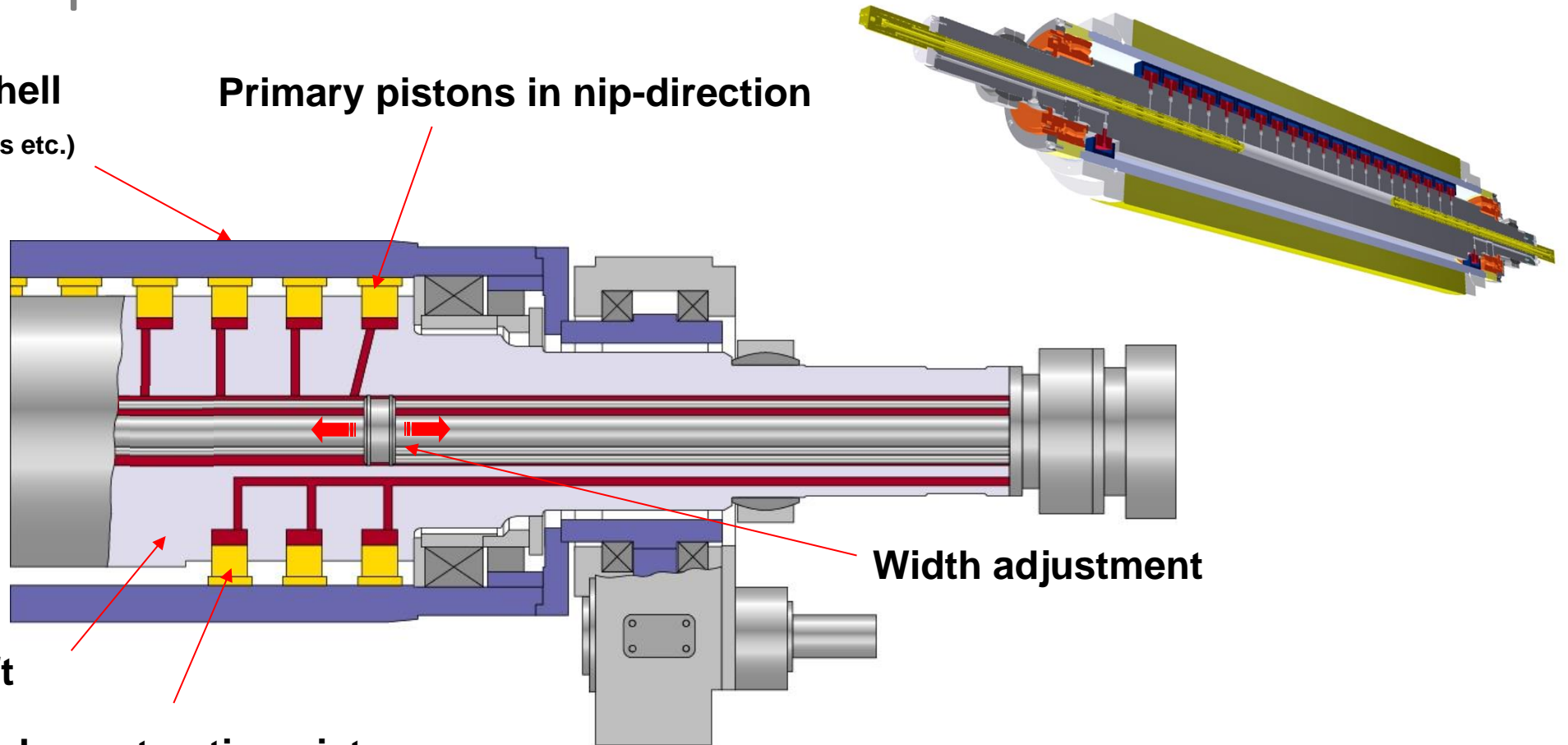
(Steel, reinforced plastics etc.)

Primary pistons in nip-direction

Nipco shaft

Secondary retraction pistons

Width adjustment



Overview

Nipco™ Hydrostatic piston

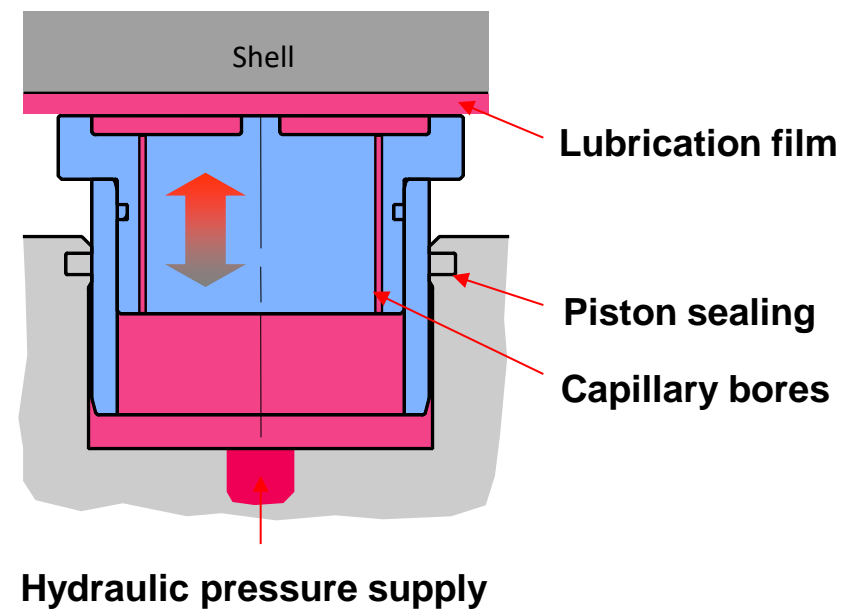
Nipco™ roller



Nipco™ piston

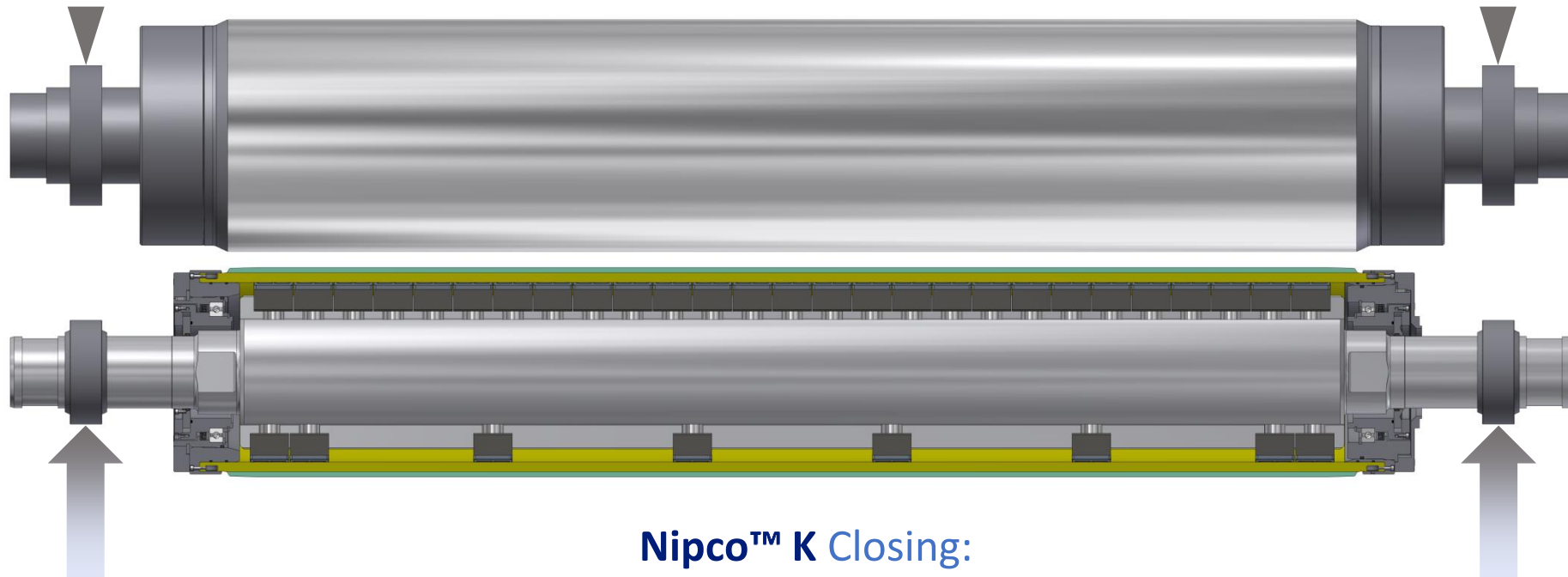


Piston details



Overview

Nipco™ Hydrostatic piston

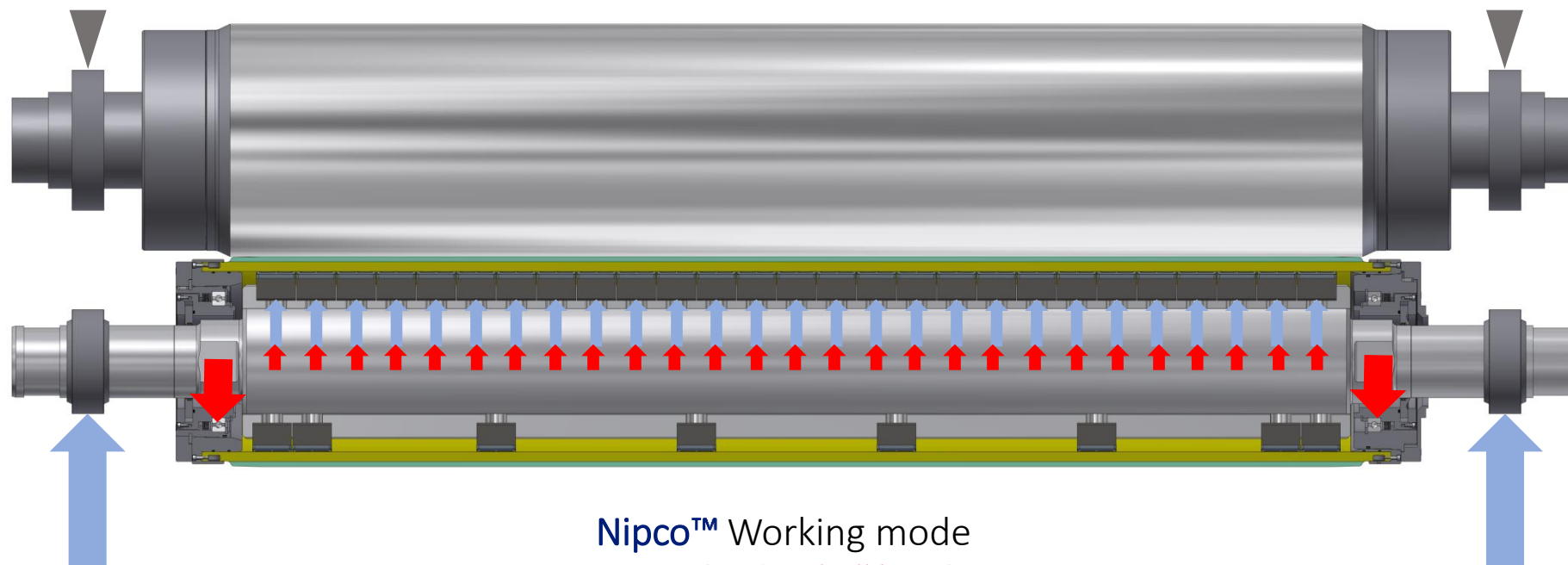


Nipco™ K Closing:

Outer cylinder >> Moving with reduced pressure

Overview

Nipco™ Hydrostatic piston



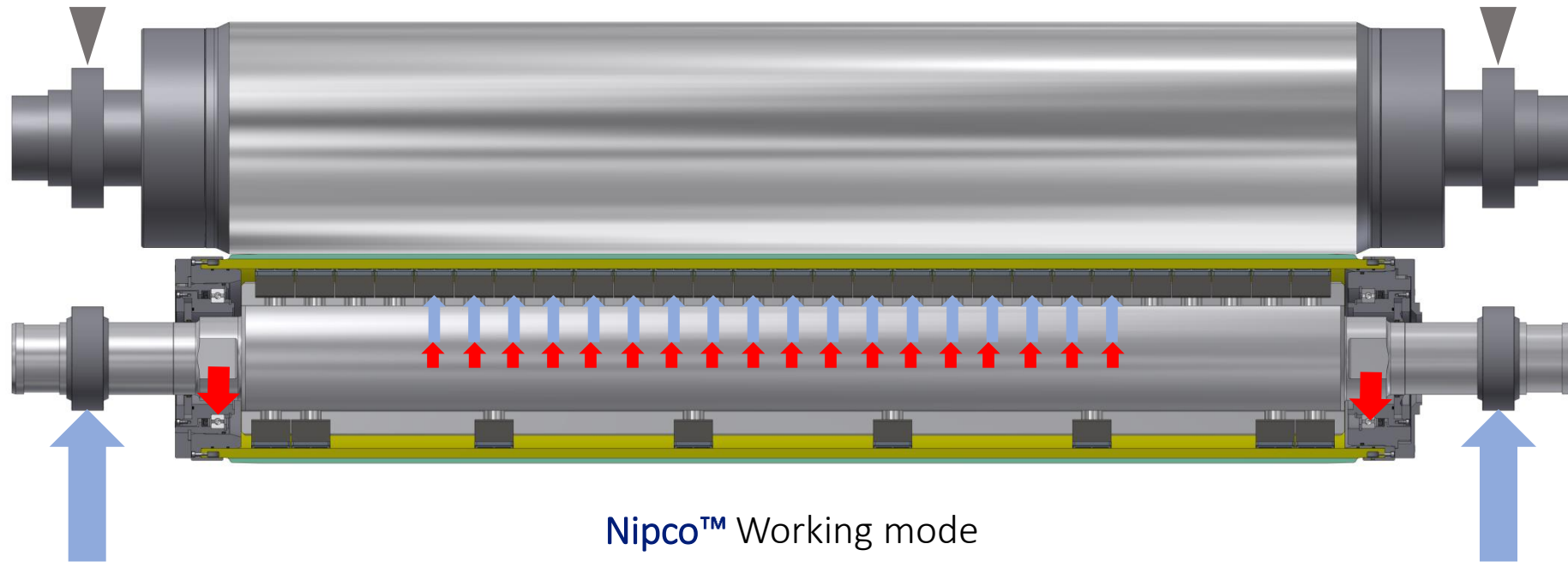
Nipco™ Working mode

Line load + Shell bending

Blue e.g. Line load 300 N/mm + Red (e.g. shell bending 100 N/mm)
= 400 N/mm inner Nipco pad load – roll chamber pressureless

Overview

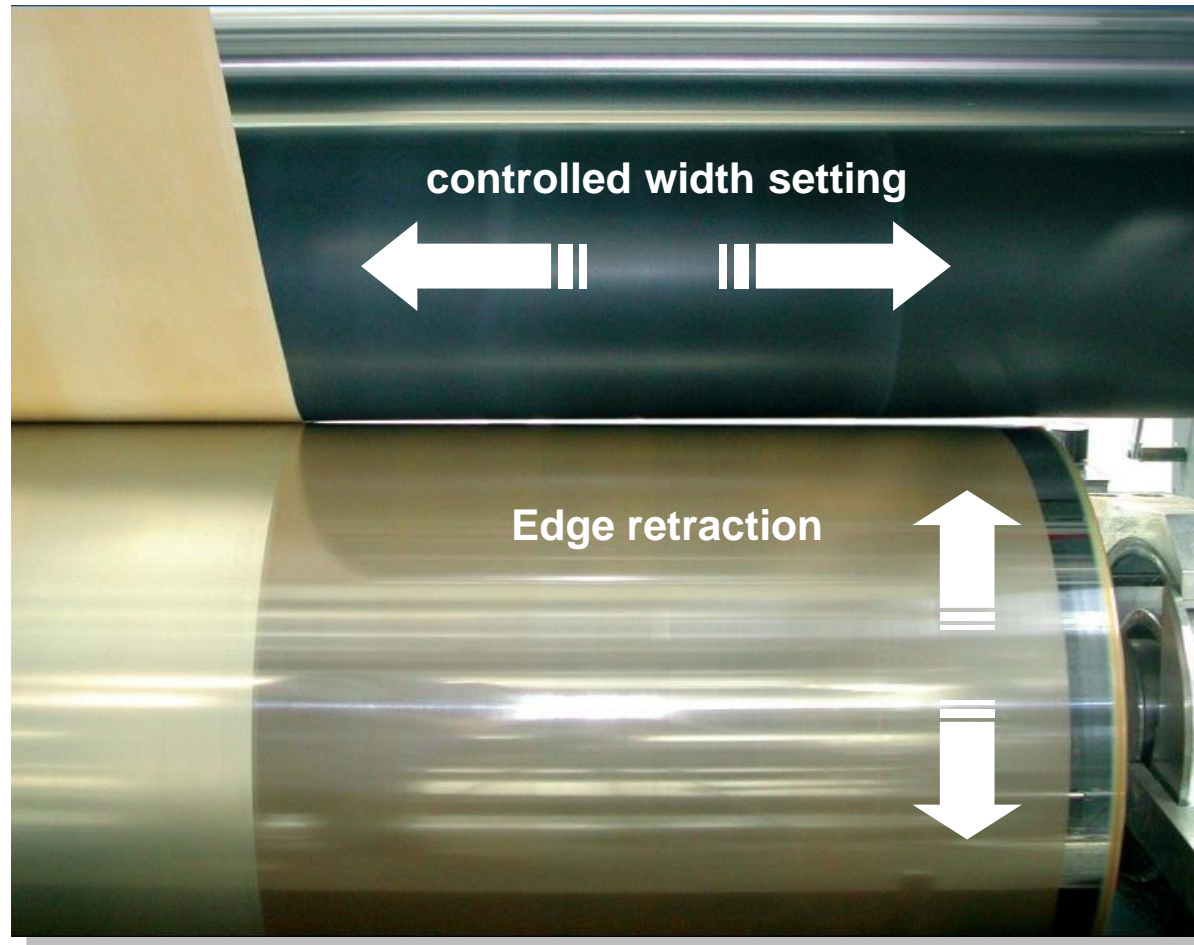
Nipco™ Hydrostatic piston



Nipco™ Working mode
Reduced working with – outer part deloaded
Roll chamber - pressureless

Overview

Nipco™ Width adjustment and edge retraction



- The Nipco™ concept – simple and proven thousands of times
- Inner shell bore section – pressureless
- Substantial better load distribution control
- Active controlled width setting

Overview

Nipco™ Advantages

- **Perfect line load distribution**
- **Precise width adjustment for each material width**
- **Edge retraction for sleeve protection**
- **Pressure less roller interior**
- **Easy sleeve change**

**Guarneri Technology solutions
for anti-deflection systems
Nipco[™] / EcoNip**

Thank you