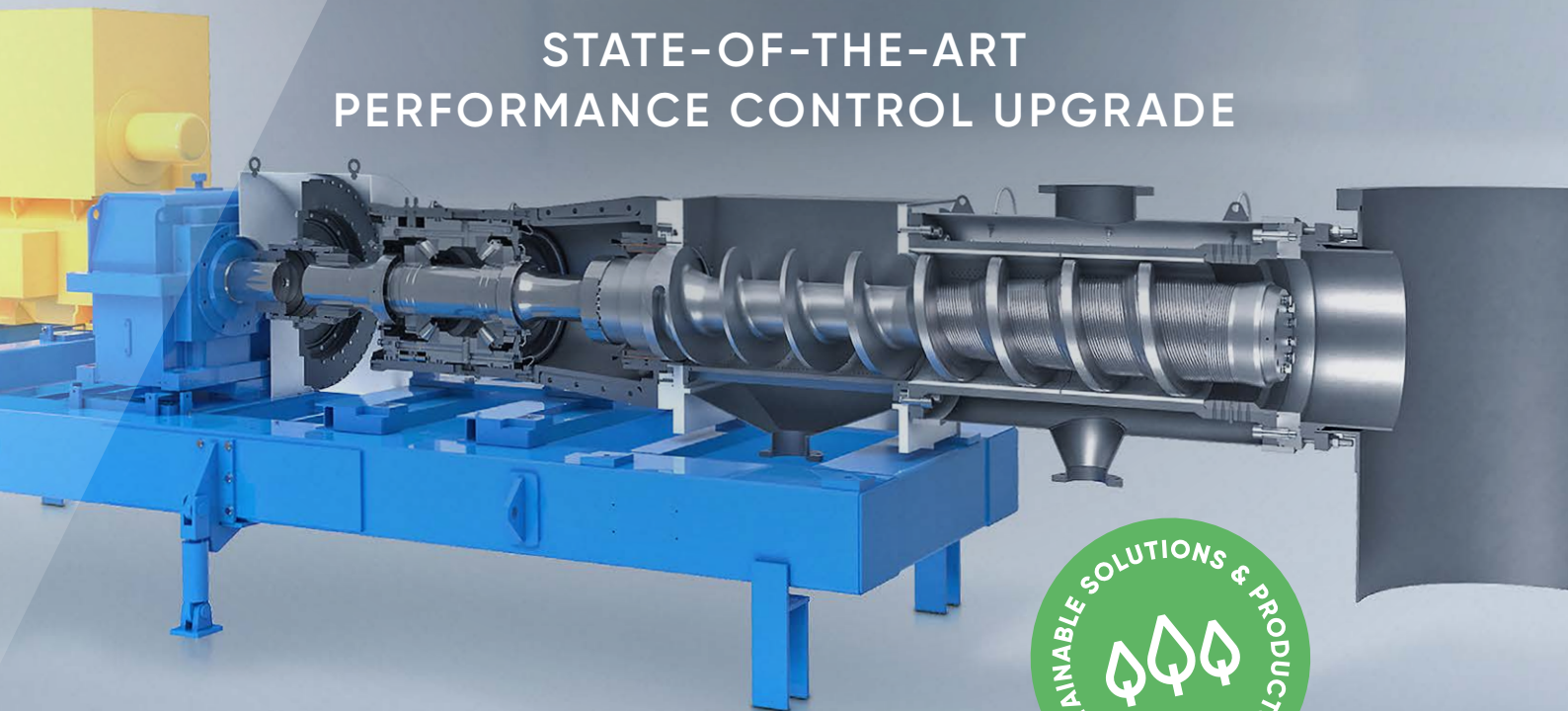




PANELBOARD

ANDRITZ ADJUSTABLE PLUG SCREW FEEDER

STATE-OF-THE-ART
PERFORMANCE CONTROL UPGRADE

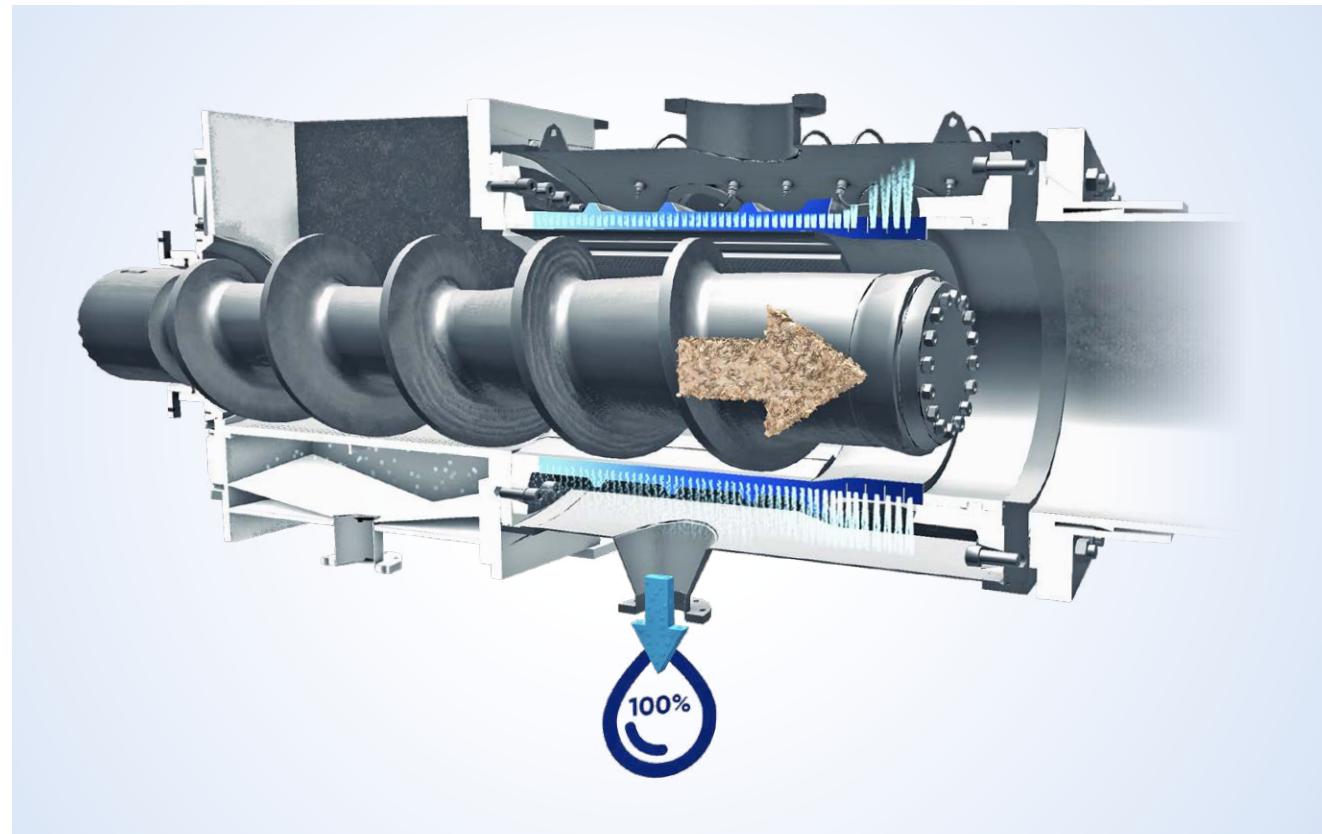


ANDRITZ

ENGINEERED SUCCESS

ANDRITZ Adjustable Plug Screw Feeder

The solution for thermal energy (e.g. natural gas) savings and increased production throughput and efficiency

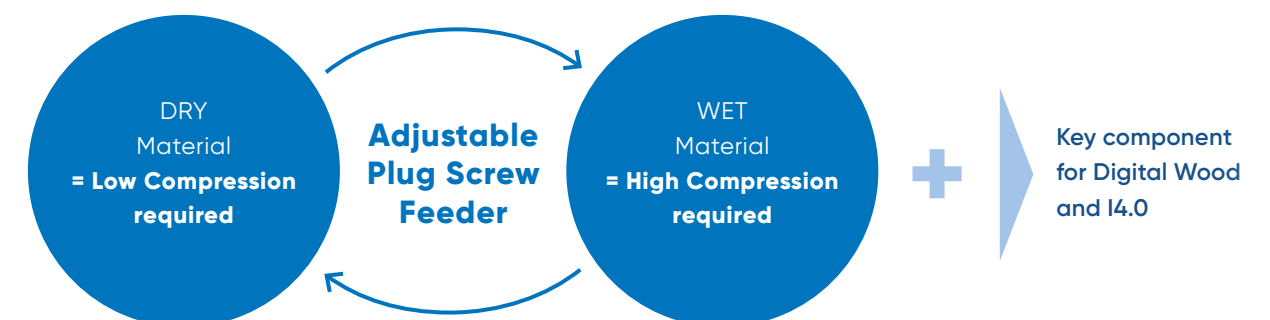
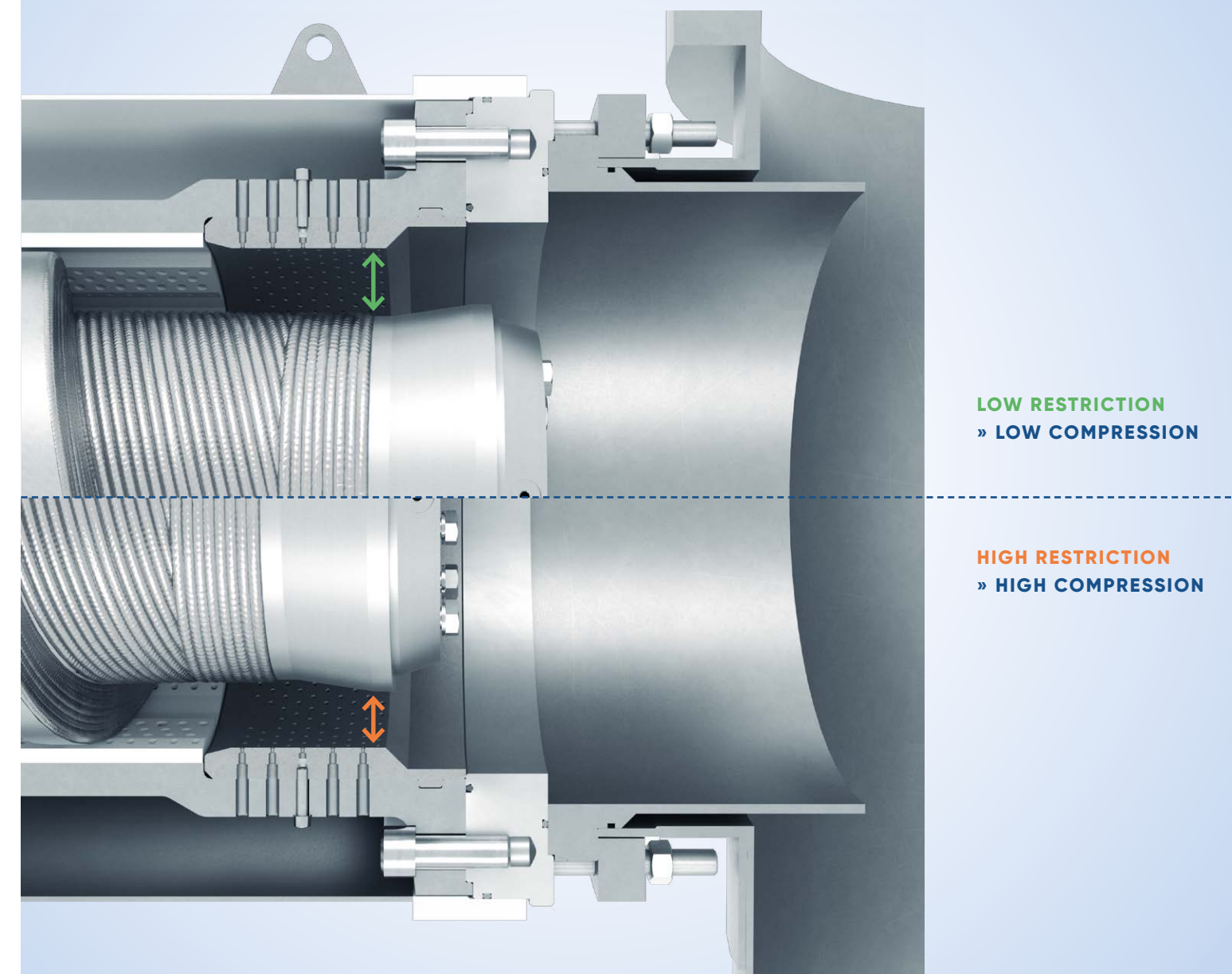


With the Adjustable Plug Screw Feeder ("Adjustable PSF"), ANDRITZ offers a patented world innovation that transforms a static system into a dynamic one. The new cylindrical plug screw can now be moved back and forth in its axis by up to 10 cm. Thanks to the specially designed conical nose, the size of the gap between the screw and the spool piece can be varied to increase or decrease compression during ongoing production.

This new design of the screw extends the compression range and prevents blocking of the raw material. With the new system, compression can be adjusted to the moisture content of the fibers to optimize water re-

moval at the plug screw feeder area and temperature requirements at the dryer to control energy costs and CO₂ emissions. The flexibility to work with dry or wet wood means that the system can help fiberboard manufacturers in all regions of the world, and it is even possible to use recycled wood as raw material in a much simpler way.

The system offers not only the possibility of manual adjustment of compression, but also automatic amplitude control. The automation hardware responds to the variations in the plug screw feeder motor torque and controls the hydraulic power unit for an optimized and smooth process like never before.



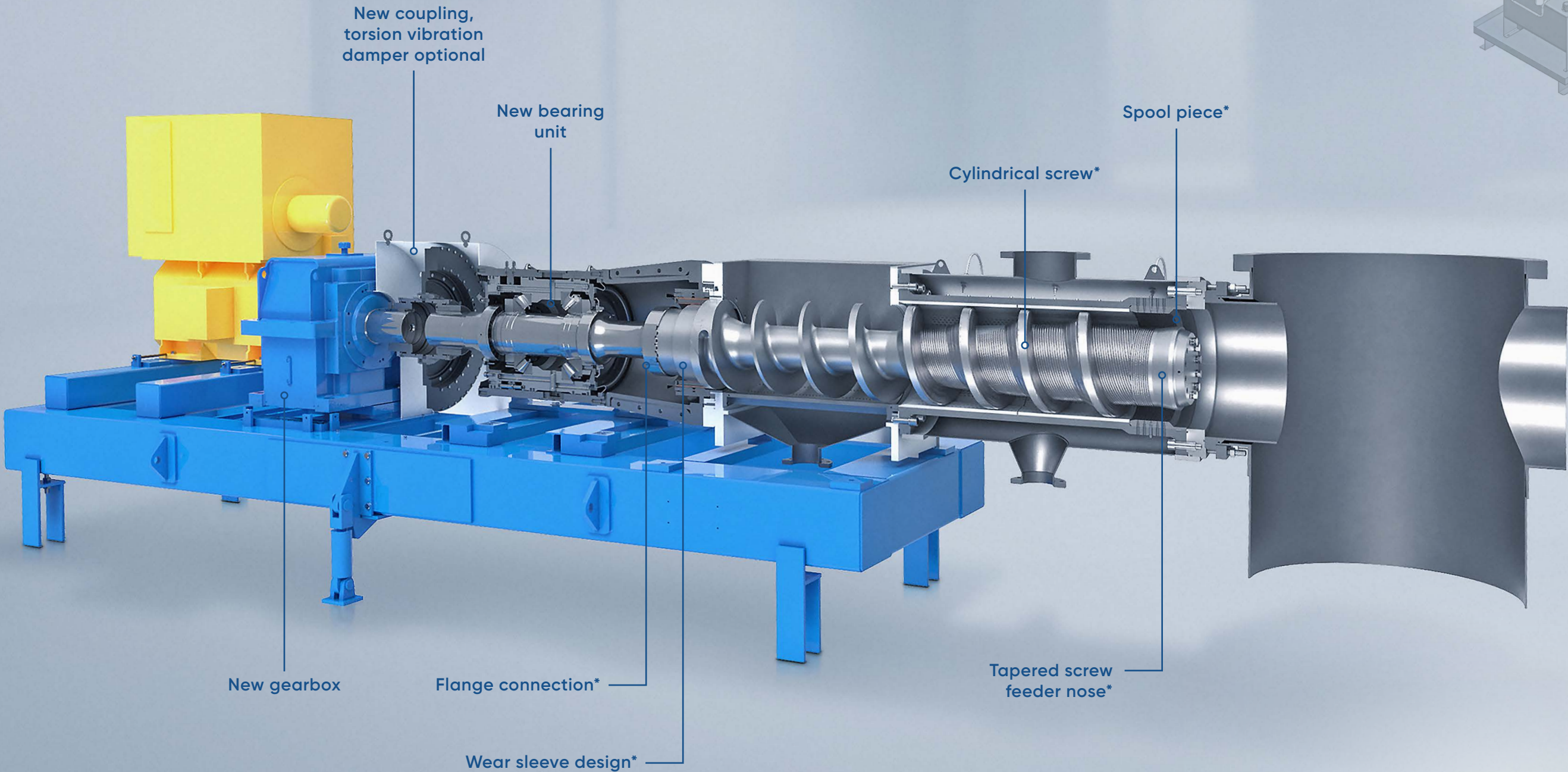
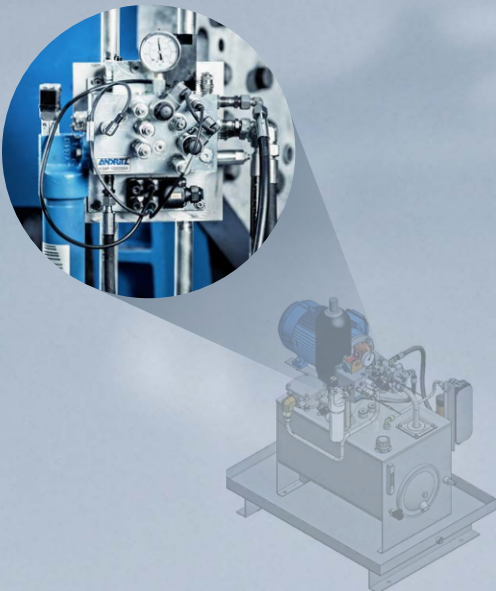
Online adjustable compression setpoint with closed control loop.

ANDRITZ Adjustable Plug Screw Feeder

PATENT
PENDING

Components to replace/modify

New hydraulic unit and new automation hardware



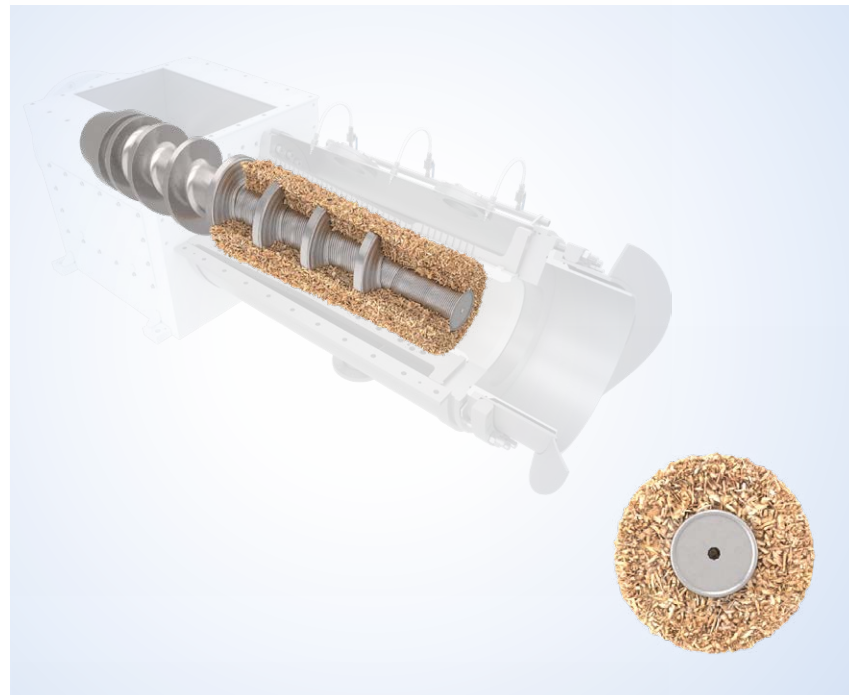
* Note: existing cylindrical screws and components can be rebuilt to the Adjustable Screw functions

CALCULATE
YOUR SAVINGS
with our ROI-App



Upgrade from conical to cylindrical screw design

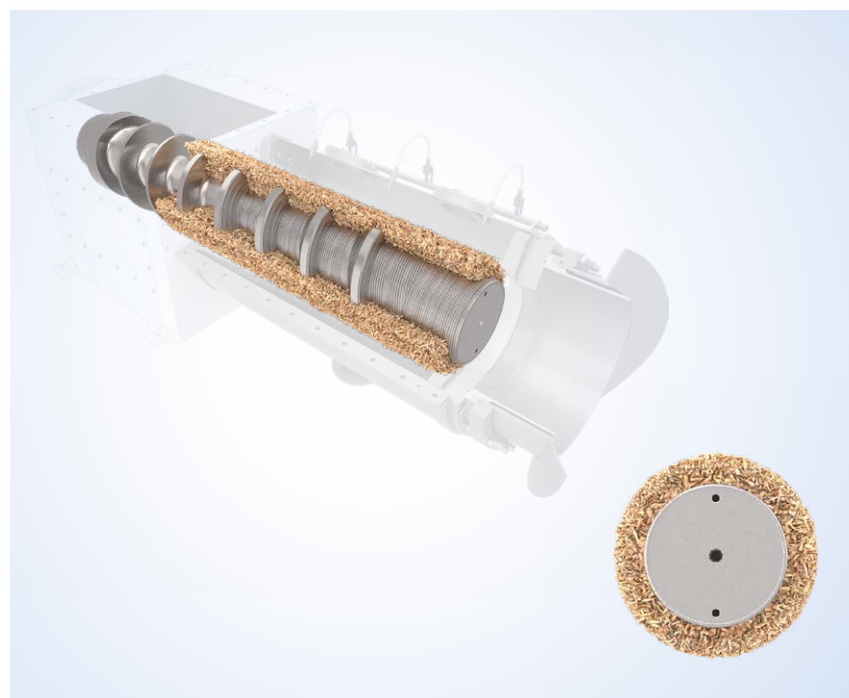
Comparison based on equal takeaway volume conical & cylindrical plug screw feeder and same Compression Housing length.



Conical plug screw feeder design

Traditional conical PSF design limited the dewatering possibilities due to the large pad thickness from the screw core to the compression housing shell.

- Limited number of dewatering holes
- 100% Open Area (holes)
- 100% Pad Thickness



Cylindrical plug screw feeder design

High performance plug screw feeders for dewatering and highest performance available in the market.

- Maximum number of dewatering holes
- 150% Open Area
- 20% Pad Thickness

Benefits for the MDF industry

1. INCREASED RECYCLING - WOOD USAGE

- Wood and glue are the main costs in MDF production. The use of cheap wood (recycled wood) reduces production costs enormously

The use of cheap wood (recycling wood) will reduce the production costs drastically.

2. MAXIMIZED THERMAL ENERGY SAVING

- The compression can be adjusted to the moisture content of the incoming material (softwood / hardwood / mixture)

Maximizing the dewatering performance by adjusting the compression according the raw material needs will reduce the thermal energy (e.g. natural gas) consumption drastically.

3. TROUBLEFREE PRODUCTION - NO BLOCKING

- Raw material fluctuations cause no blocking problems anymore due to the adjustable compression
- Reduction of torque, vibration and wear for the drive train when starting and producing due to less compression

More reliable production, no plug screw feeder blocking anymore. Less maintenance costs on the drive train.

4. MAXIMIZED PRODUCTION

- The adjustable Plug screw feeder enables to control the amount of effluent and the dryer inlet temperature

Elimination of bottle necks in production (max. effluent, max. dryer performance) by dynamic control of the dewatering performance.

5. REDUCTION OF WEAR ON PLUG SCREW FEEDER, COMPRESSION HOUSING AND SPOOL PIECE

- When using fresh and wet raw material > high compression beneficial
- When using old and dry raw material > low compression beneficial

Reduction of maintenance costs due to longer life time of Plug screw feeder, compression housing and spool piece.

6. REDUCTION OF ELECTRIC ENERGY FOR THE PLUG SCREW FEEDER DRIVE

- When using fresh and wet raw material > high compression beneficial
- When using old and dry raw material > low compression beneficial

Less compression means less power consumption and therefore reduced electric energy costs.



TO DISCOVER THE BEST SOLUTIONS FOR YOUR NEEDS, PLEASE CONTACT YOUR RESPECTIVE KEY ACCOUNT MANAGER

We also want to take up your challenges! For more information about ANDRITZ's services, please visit andritz.com/refiner-service for details.

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