

Mechanical expansion shaft Series 401

with individual expansion lugs

The Vorwald expansion shafts of the Series 401 are the standard range of models with individual expansion lugs that may be used in nearly all winding processes. The simple construction ensures long service life.

Two types of expansion lugs are available to cover all requirements: Lengthwise grooved expansion lugs made of steel and expansion lugs with smooth surface made of polyurethane. The number and positioning of the expansion lugs in the shaft body are determined by the customer requirements.

The lengthwise grooved and hardened surface of the steel lugs permits greatest possible torque transmission with paper cores. The smooth surface of the polyurethane lugs makes this force transmission possible with steel and plastic cores. All expansion lugs are equipped with a leg spring ensuring slide-back into the shaft body. This makes simple push-on and push-off of the material cores possible.

Expansion shafts with expansion lugs are available for cores with an inside diameter in the range from 50 to 500 mm.

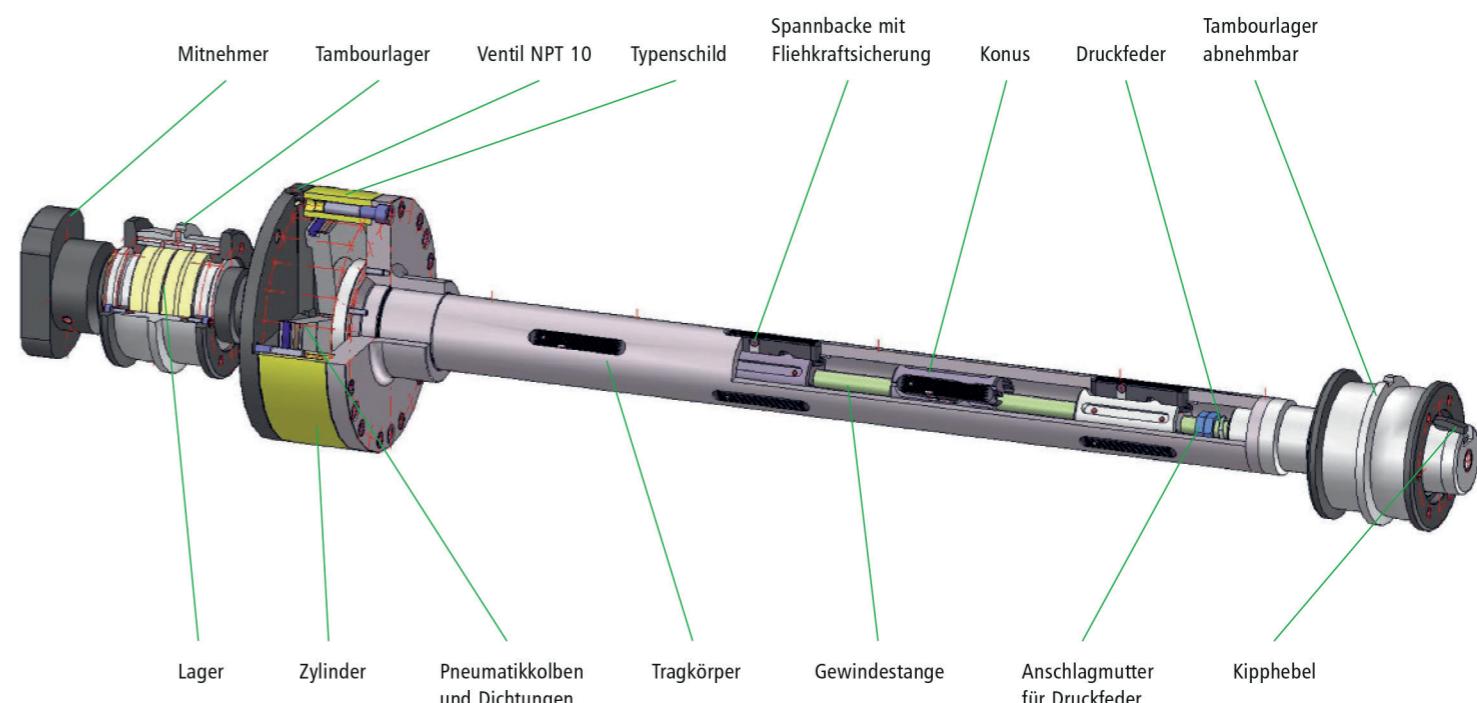
The functional principle is based on the inclined plane. By feeding compressed air into the pneumatic chamber the cone is pushed via a threaded rod under the clamping lug like a wedge. The cone and the expansion lug have the same bevel. This produces a radial movement from an axial movement. By this means the expansion shaft acquires a very large clamping force.

A very important further advantage of this method is the absolutely concentric clamping of the cores, since all expansion lugs expand to the same extent. This makes very high winding speeds achievable. The shaft bodies are made of numerous materials with numerous wall thicknesses – depending on the application by the customer.

Based on the Vorwald standard, the expansion shafts are customised according to the modular design principle. The clamping mechanism is actuated via a pneumatic piston that can optionally be equipped with a hydraulic booster for further increasing the clamping force.

Sectional drawing of an expansion shaft, Series 401

Example of a 3" expansion shaft



Options

- inflation axially, radially or as combination
- With and without hydraulic booster
- Also available as cantilevered version
- Special dimensions are possible on inquiry

Advantages

- + Very high weight bearing capability for heavy reels
- + Absolutely concentric clamping, thus very high web speeds possible
- + Very large torque transmission
- + Journal version on customer request
- + Simple handling
- + Very little maintenance required



Available shaft diameters
in the range from 50 to 500 mm

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