Pneumatic expansion shafts

Mechanical expansion shafts

Expansion couplings

Expansion chucks and adapters

Friction and knife shafts

Shaft handling

Friction and knife shafts

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Pneumatic expansion shafts

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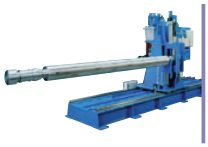

Shaft handling

We want you to be successful

The expansion units presented in this catalogue originate from the Vorwald Classic Programme and the winding technology products developed and marketed by Deublin USA and Germany. By virtue of their specific features these products have acquired a large market share in the field of rewinding and unwinding systems in the paper and film processing industry ranging from the smallest to the largest installations. The shear breadth of products within the Neuenhauser-Vorwald range means that all areas of winding technology are now covered. Each product reflects the quality and experience of the manufacturing company behind it. Neuenhauser-Vorwald manufactures these products in European factories that are equipped with ultra-modern facilities and have been **certified according to DIN ISO 9001**. Our product quality and depth of experience ensures for all our customers economic utilisation of our expansion units.

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Pneumatic knife shaft
Series 405/100

with continuous expansion ledges

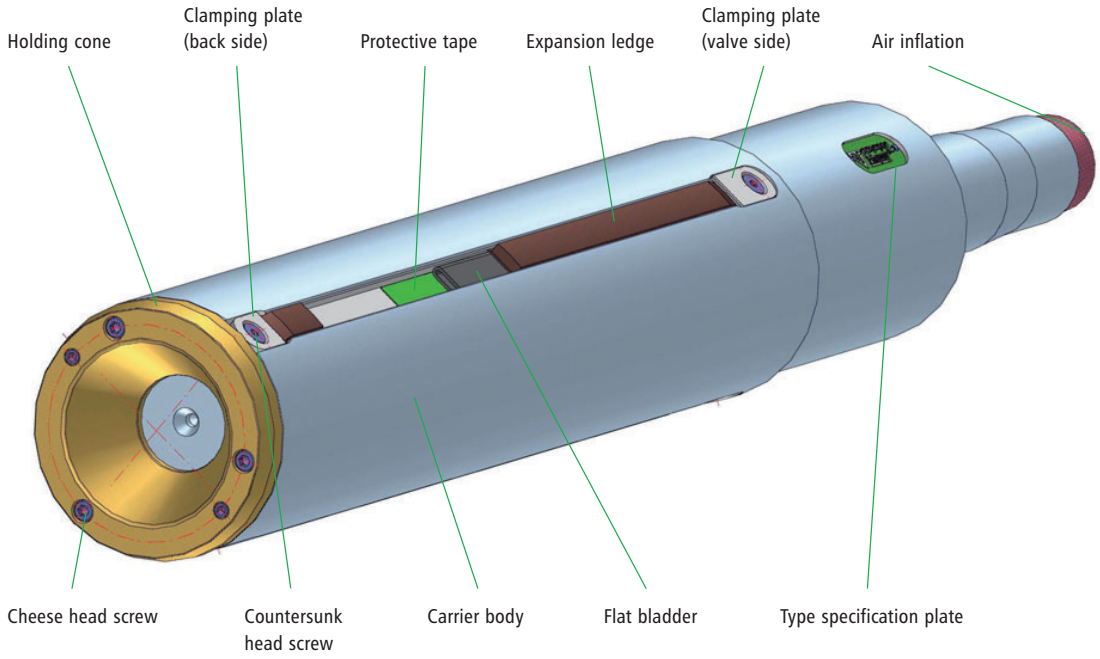
By virtue of their continuous expanding ledges Vorwald knife shafts of the Series 405 L are suitable for use with the widest as well as the narrowest circular knives or knife bushings for longitudinal web cutting. The knife shaft transfers a very large torque together with exceptionally high positioning accuracy.

This economical and flexible shaft has an expansion system which is easily accessible externally and is available in nearly all sizes. The carrier body is made of hard chrome plated steel with a ground surface fulfilling the highest demands for quality and true running. The shaft journals are also made of steel and can be manufactured to customer specifications.

The expansion ledges which are made of polyurethane serve for quick and highly accurate locking of circular knives or knife bushings, so that this shaft type is ideal for automated processes. The knife shaft described above can also be delivered in special versions on customer request, e.g. without expansion ledges as crush cutter shafts (Series 100) for which a glass-hard regrindable surface is produced.

4 . 5 ›

Sectional drawing of a knife shaft, Series 405



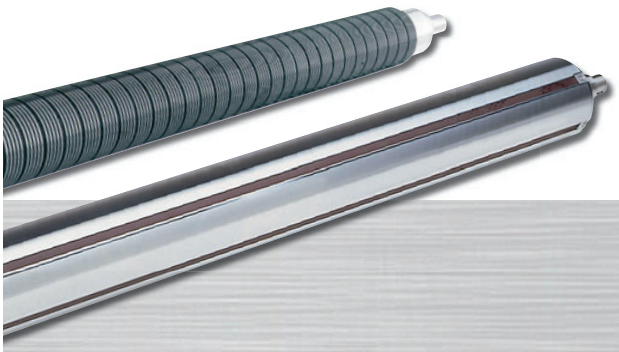
Options

- Solid shaft or deep hole drilled version possible
- Regrindable hardened surface on which cutting takes place directly

Advantages

+ Central clamping with precision guiding
+ Highest true running accuracy
+ Surface hard chrome plated and ground
+ Quick and accurate locking of the knife bushings
+ Easy to maintain
+ Suitable for manual or automated operation

Almost any shaft diameter can be delivered



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Pneumatic friction shaft Series 404

with friction rings

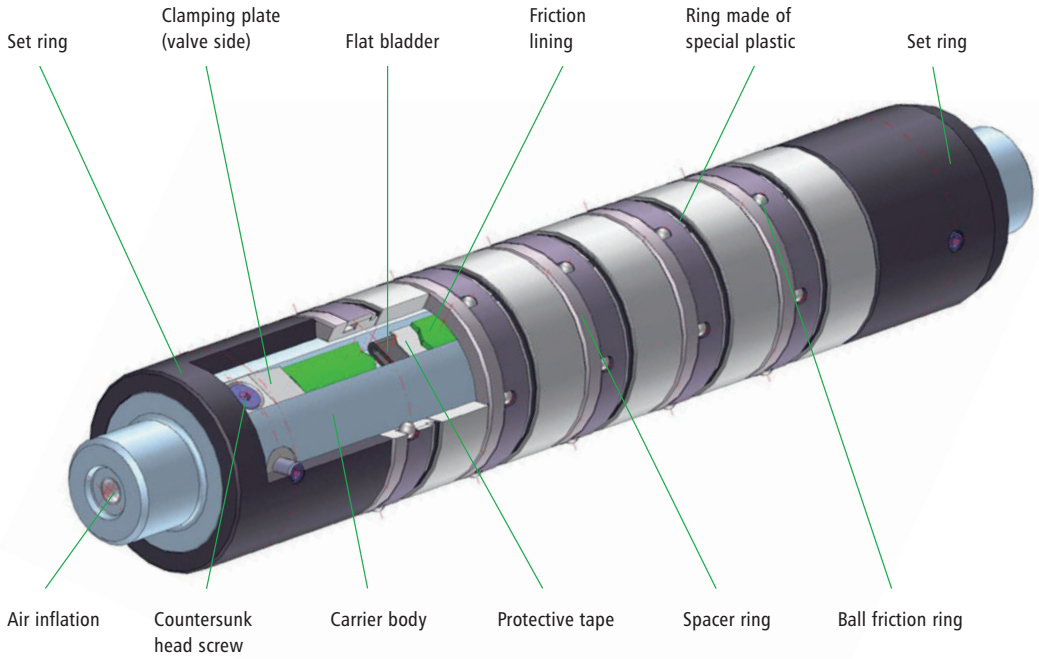
Vorwald friction shafts of the Series 404 are recommended for winding processes with longitudinal web cutting of narrow and stretch-sensitive products. The friction shafts permit exact compliance with the tensional force specification, even with difficult materials. During the winding process the friction ledges are pressed from the inside by compressed air bladders against the friction rings. This applies the same torque, which can be varied by adjusting the pneumatic pressure to each friction ring. This required pressure can be calculated, for example by a diameter sensing system, and applied to the friction shaft via a continuous air feed system. The web tension that then builds up clamps each core centrally by the friction ring and holds it securely until the end of the winding process. An overspeed of the friction shaft of at least 3% is necessary to sustain the web tension. Since there is no relative movement between the core and the friction ring, no dust is produced by abrasion.

The carrier body is made of chrome plated steel with a ground surface. The shaft journals are also made of steel and manufactured according to the customer specifications.

The described friction shaft is available in the standard sizes of 70, 76.2, 150 and 152.4 mm diameter. Intermediate sizes are also possible on inquiry.

6 . 7 ›

Sectional drawing of a friction shaft, Series 404



Options

- Shaft ends can be designed as flange or as a round journal
- Also suitable for safety chucks
- Reduced weight variant possible for larger diameters
- Special dimensions are possible on inquiry

Advantages

+ Short set-up times for reel changing
+ Low maintenance
+ Various friction ring designs available
+ Large range of different reel widths can be wound on the same shaft
+ Shaft body is chrome plated and ground
+ No dust produced by the core due to friction

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Pneumatic friction shaft Series 409

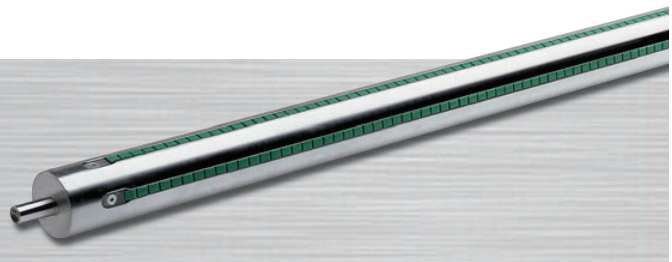
Direct friction

Vorwald friction shafts of the Series 409 LF are recommended for winding processes with longitudinal web cutting of stretch-sensitive products. The friction shaft permits exact conformity with the specified tensional force, particularly with materials that do not have constant thickness. The frictional slip takes place between the friction elements and the core on the shaft body.

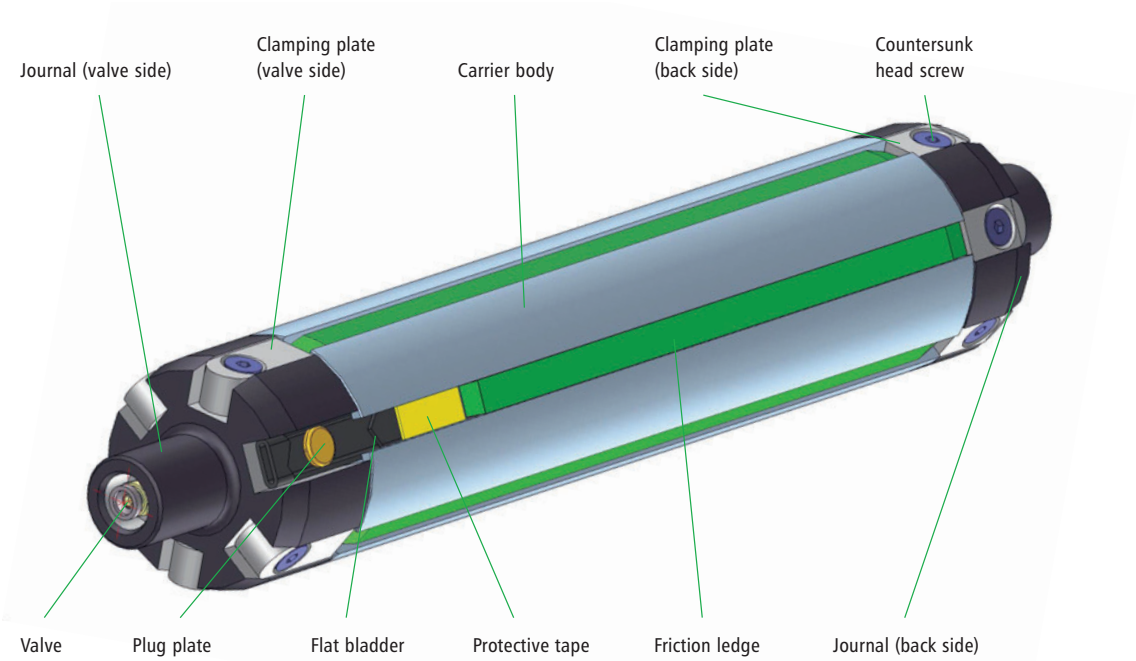
The carrier body is made of aluminium or steel with a refined smooth surface. The shaft journals are made of steel and manufactured according to the customer specifications. The expanding slotted ledges made of easy-slip plastic are pressed by flat bladders against the inner side of the core and thus apply the torque to the core.

The pneumatic pressure in the bladders is controlled, and thus the torque is varied, via a diameter sensing system. An overspeed of the friction shaft by at least 3% is necessary to sustain the web tension. The friction shaft of the Series 409 LF described above is available as from a core diameter of 50 mm. Special dimensions are possible on inquiry.

8 . 9 ›



Sectional drawing of a friction shaft, Series 409

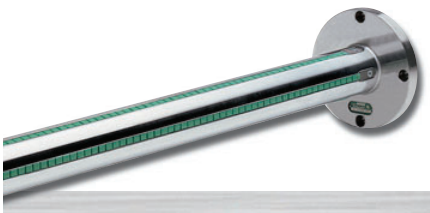


Options

- Shaft ends can be designed as a flange or as a round journal
- Also suitable for safety chucks
- Reduced weight variant possible for larger diameters
- Special dimensions are possible on inquiry

Advantages

+ Short set-up times for reel changing
+ Low maintenance
+ Suitable for a very wide range of web widths
+ Reel take-off can be automated



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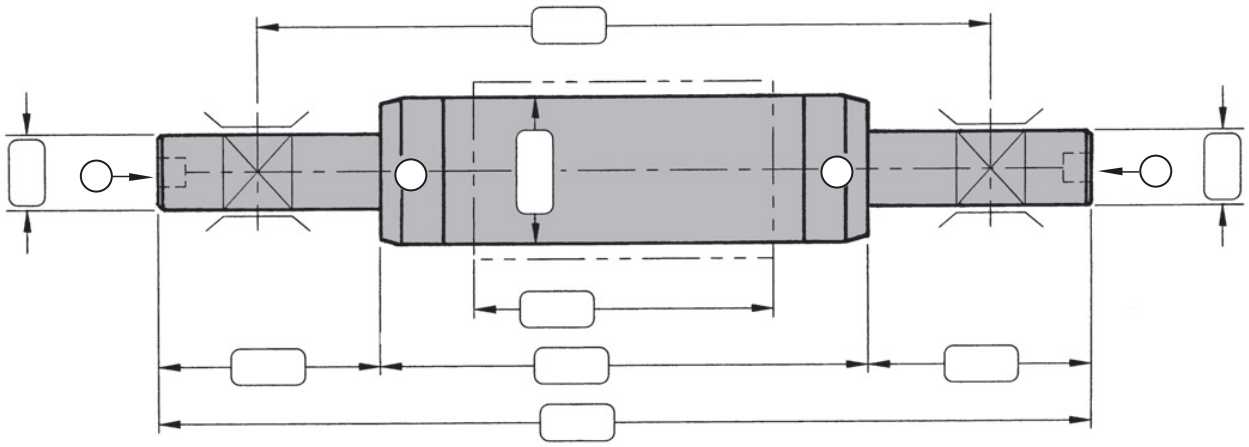


◯ Valve position (please mark with cross)

Core information

Core internal diameter ± .....
Core external diameter .....
Core material .....

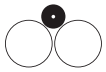
Winding method

❑  Single shaft winder

❑  Double shaft winder

❑  Winder with horizontal shaft and backing roller

❑  Carrier roll winder

❑  Double carrier roll winder

❑ Unwind unit ❑ Central drive unit
❑ Rewind unit ❑ Circumferential drive unit

Technical requirements

Material .....
Web speed (max.) ..... m/min
Web tension (max.) ..... N;(N/cm)
Working width (max.) ..... mm
Working width (min.) ..... mm
Slit width (max.) ..... mm
Slit width (min.) ..... mm
Reel diameter ..... mm
Reel weight (max.) ..... kg
Reel weight (min.) ..... kg
Concentric expansion ❑ yes ❑ no
Journal hardened ❑ yes ❑ no

Comments

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neuenhauser Vorwald 1920
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