



Pneumatic  
expansion shafts



Mechanical  
expansion shafts



Expansion couplings



Expansion chucks  
and adapters



Friction and  
knife shafts



Shaft handling

# Expansion couplings





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Mechanical expansion shafts



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# 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 sheer 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.



# Pneumatic expansion coupling Series SPA

with individual expansion ledges

Vorwald expansion couplings with expansion ledges are based on the proven construction of the Series A expansion shaft. The expansion ledges are free moving. A hard-wearing, seamless bladder is seated in each expansion coupling, giving long service life even under the most difficult operating conditions. The internal bladder is designed for a permanent load of 6 bar.

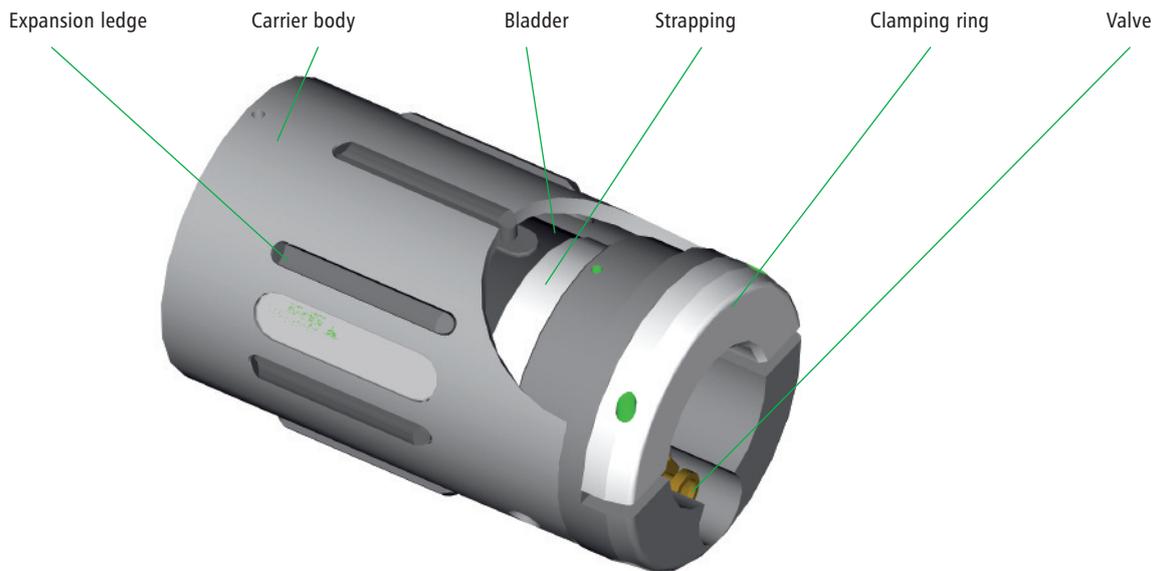
The Vorwald expansion couplings are an economical alternative for the conventional mechanical constructions utilised for printing labels. The expansion coupling can be utilised in both winding directions and permits secure clamping both with regard to safe torque transmission as well as securing against axial displacement.

The coupling body is made of aluminium and is easy to handle, even with larger diameters, by virtue of its simple construction. The expansion ledges are in compartments and can expand/impand without any problems, by virtue of their freedom of movement.

The construction permits larger internal diameters than comparable designs, so that the couplings can be mounted on larger rods or winding shafts. The standard version is attached with a clamping ring. Flange versions are available too.



## Sectional drawing of an expansion coupling, Series SPA



### Expansion coupling, version A with polyurethane expansion ledges

Order number	Core internal Ø, mm	A: max. internal Ø, mm	max. squared size, mm	B: exp. ledges non-expanded, mm	C: exp. ledges expanded, mm	Number of expansion ledges	D: expansion ledge length, mm	E: total length, mm	Weight approx. kg	Material carrier body	Transferable torque [Nm]
SPA 61634	3" ≈ 76,2	38	-	74,6	79	8	50	127	1,0	Alu	40
SPA 61633	3" ≈ 76,2	40	-	74,6	79	8	50	127	1,0	Alu	40
SPA 61635	3" ≈ 76,2	-	30	74,6	79	8	50	127	1,0	Alu	40
SPA 61644	6" ≈ 152,4	75,2	-	150,5	157	12	50	160	2,5	Alu	80
SPA 61645	150	75,2	-	148,5	155	12	50	160	2,5	Alu	80

### Options

- Surface protection (nickel plating, anodising, chrome plating, and many more)
- Version suitable for the foodstuffs industry
- Various materials of the expansion ledges available
- Flange version
- Special dimensions are available on inquiry

### Advantages

- + Very quick conversion to other core diameters
- + Small weight of the coupling
- + Simple handling
- + Take-up bore according to customer specification

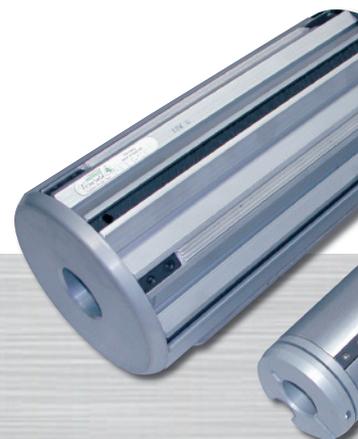
The standard sizes are 70, 76, 100, 150 and 152 mm

# Pneumatic expansion coupling Series SMB

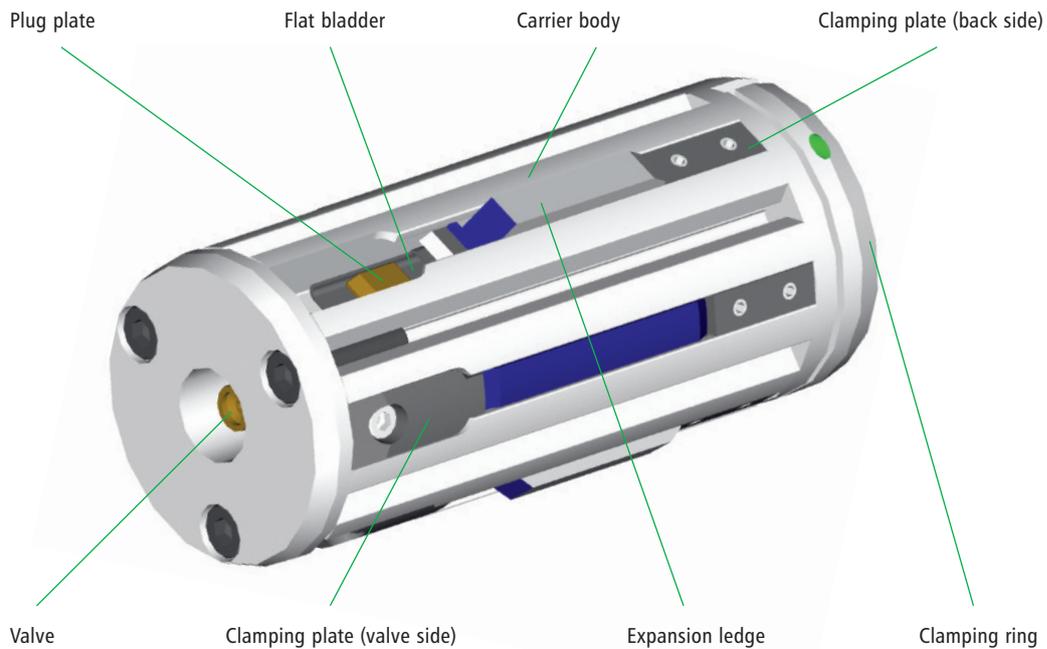
with continuous expansion ledges

Vorwald expansion couplings of the Series SMB are based on the proven construction of the MB shafts. The couplings can be pushed onto the carrier shaft or flange-connected directly on a bearing flange. One or several very narrow cores can be clamped on the coupling over the entire width. Special diameters up to 300 mm are available in addition to the standard diameters of 75 mm (3 inches) and 150 mm (6 inches). The length can be adapted to customer specification. In contrast to our other coupling systems, longer lengths are economically possible too.

An expansion bladder rated for up to 6 bar loading is seated under each expansion ledge and can be replaced from outside when necessary. There is no risk of bladder bursting even when clamping without core or when only partly loaded with cores. The expansion couplings are mounted on the carrier shaft with a split clamping ring or with securing screws.



## Sectional drawing of an expansion coupling, Series SMB



### Options

- Surface protection (nickel plating, anodising, chrome plating, and many others)
- Version suitable for the foodstuffs industry
- Expansion ledges made of polyurethane, aluminium or plastic
- Quasi-centring pneumatically or mechanically
- Free positioning of a core stop
- Special dimensions are available on inquiry

### Advantages

- + Very quick conversion to other core diameters
- + Small weight of the coupling
- + Simple handling
- + Eminently suitable for narrow webs
- + Conceived for „light“ applications
- + Take-up bore to customer specifications
- + „Soft clamping“, i.e. no deformation of the core

The standard sizes are 76, 150 and 152 mm

# Pneumatic expansion coupling Series 609

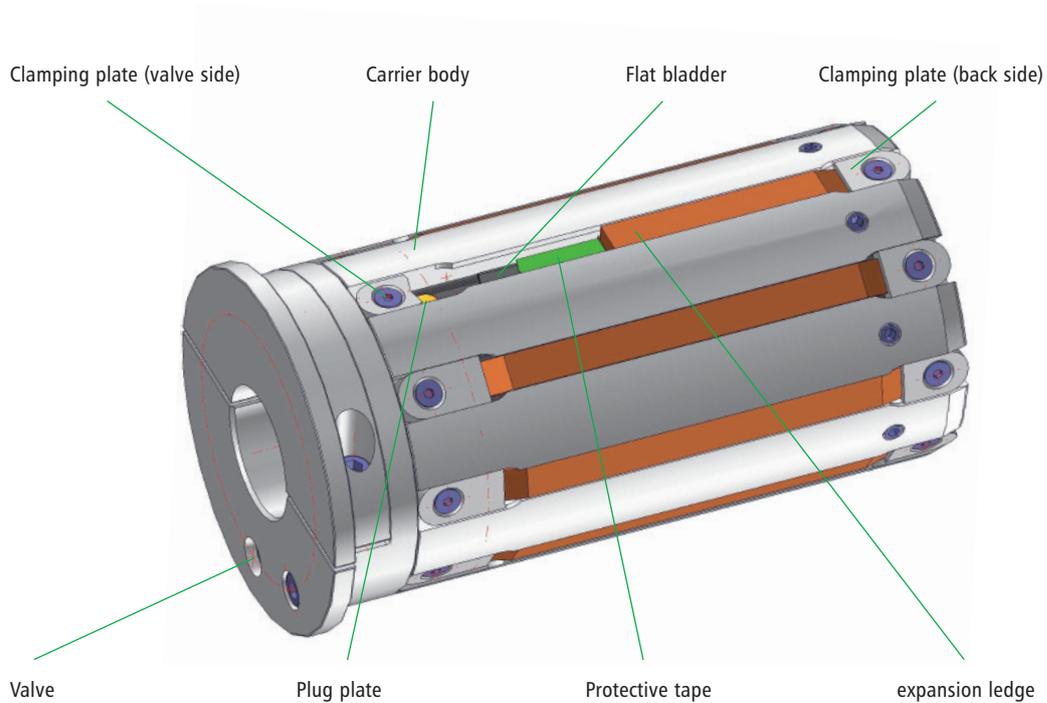
with continuous expansion ledges

Vorwald expansion couplings of the Series 609 are based on the proven construction of the expansion shafts of the Series 409 and constitute an unusually light and robust constructional design. These couplings can be pushed onto a carrier shaft or flange-connected on a bearing flange directly on the bearing shaft. One or several very narrow reels can be clamped on the coupling over the entire width. Special diameters up to 300 mm are available in addition to the standard diameters of 75 mm (3 inches) and 150 mm (6 inches). The length can be adapted to customer specification. In contrast to our other coupling types, longer lengths are economically possible too. The expansion couplings are attached on the carrier shaft with a split clamping ring.

This expansion coupling is particularly suitable for heavy reels, because the flat bladders can be loaded with up to 6 bar pneumatic pressure. This makes it possible to transmit a very large torque. When clamping without core there is no risk of bladder bursting because the expansion ledges are guided in a T-groove and thus undesired expansion of the bladder is prevented. The expansion bladder can be quickly replaced from outside when necessary by releasing the clamping plate.



## Sectional drawing of an expansion coupling, Series 609



### Options

- Surface protection (nickel plating, anodising, chrome plating, and many others)
- Version suitable for the foodstuffs industry
- Expansion ledges made of polyurethane, aluminium or plastic
- Quasi-centring pneumatically or mechanically
- Free positioning of a core stop
- Special dimensions are available on inquiry

### Advantages

- + Very quick conversion to other core diameters
- + Simple handling
- + Eminently suitable for narrow webs
- + Conceived for „rough“ applications
- + Take-up bore according to customer specification

The standard sizes are 76, 150 and 152 mm.



# Pneumatic expansion coupling Series SPM/SPZ

with continuous expansion leaves made of aluminium

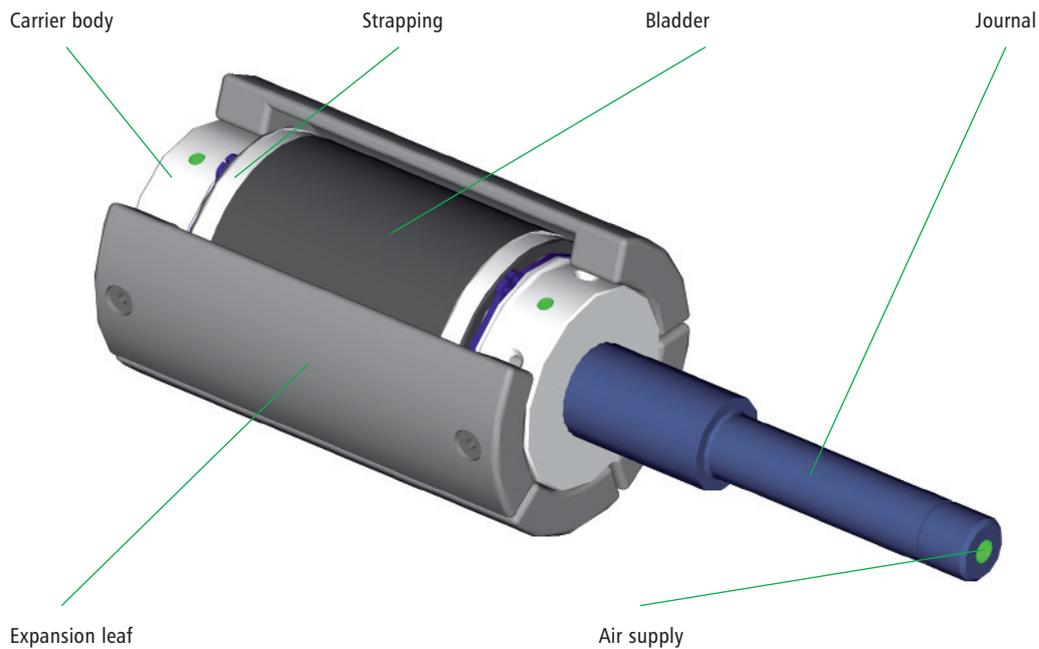
The Vorwald expansion couplings of the Series SPM/SPZ are based on the principle of the expansion shafts of the Series L. In contrast to conventional expansion couplings which clamp an inflatable expansion ring directly against the core, this type of coupling uses lengthwise grooved expansion leaves made of aluminium. The expansion leaves are expanded by an internally seated replaceable bladder. This arrangement avoids the damage and wear to the bladder which is experienced in other designs. The aluminium expansion leaves are also equipped with an expansion stop, so that this expansion coupling may be clamped with a pressure of up to 6 bar even without winding core, since the stop prevents the bladder bursting. The large contact area of the expansion leaves on the bladder produces a clamping force when activated with compressed air that holds the core securely in place, even in the case of quick starting and stopping.

Various take up diameters are available depending on the external diameter. A version with flange or bearing journal, the Series SPZ, is also possible.

The chief application field of this expansion coupling is for thin walled cores that are easily deformed and can become unusable with other expansion elements.



## Sectional drawing of an expansion coupling, Series SPM/SPZ



### Options

- Surface protection is possible
- Version suitable for the foodstuffs industry
- Free positioning of a core stop
- Flange version
- Special dimensions are available on inquiry

### Advantages

- + Very quick conversion to other core diameters
- + Small weight of the coupling
- + Simple handling
- + Eminently suitable for narrow webs and thin walled cores
- + Conceived for "light" applications
- + Take-up bore according to customer specifications

The standard sizes are 70, 76, 150 and 152 mm.



# Pneumatic expansion coupling Series 605

with expansion ring

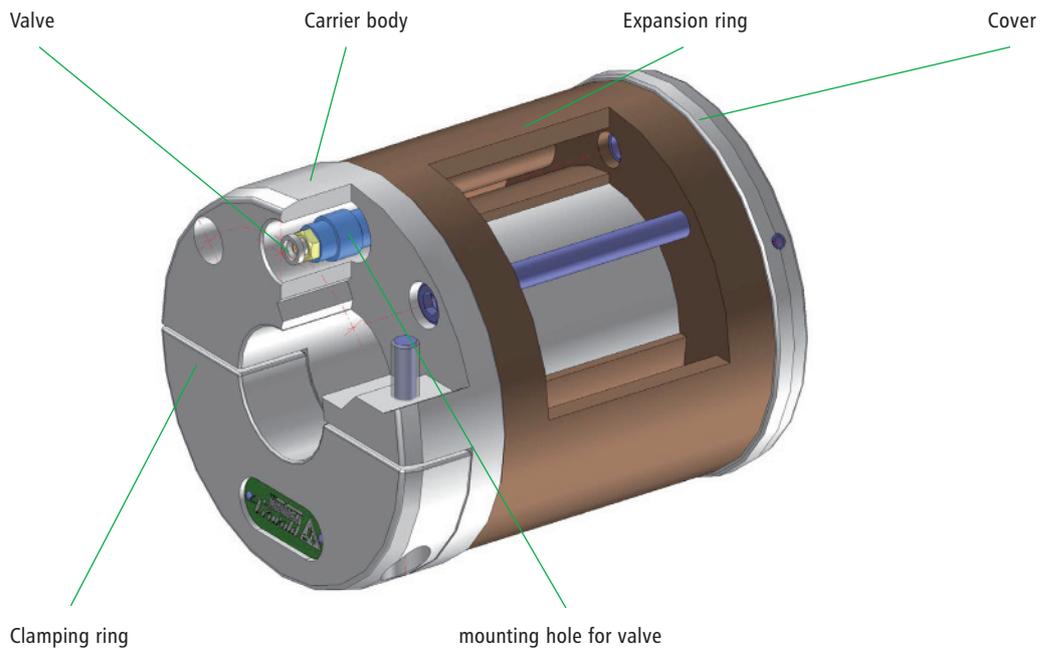
The Vorwald expansion couplings of the Series 605 with an expansion ring made of polyurethane are an extremely light and robust design. They are suitable for cores made of cardboard, aluminium, plastic or steel with an internal diameter in the range from 150 to 152.4 mm. The expansion couplings of the Series 605 feature very low weight of the coupling and a very high torque transmission of 600 Nm/coupling. The expansion coupling is available with and without core stop collar. This has the advantage of consistent positioning of the core in the rewind or unwind station. Furthermore, several expansion couplings can be mounted on one carrier shaft and connected

to each other with a spiral bladder for compressed air. The expansion couplings of the Series 605 should be filled with compressed air only once cores have been pushed on. Otherwise the expansion ring could be damaged.

The chief application field for this expansion coupling is where there are small variations in core internal diameters.



## Sectional drawing of an expansion coupling, Series 605



### Options

- Surface protection (nickel plating, anodising, chrome plating, and many others)
- Connection of several couplings with spiral bladder
- With and without core stop collar

### Advantages

- + Simple handling
- + High torque transmission of 600 Nm/coupling
- + Take-up bore according to customer specification

The standard sizes are 150 and 152 mm.



# Mechanical expansion coupling

## Series 260

with continuous aluminium leaves

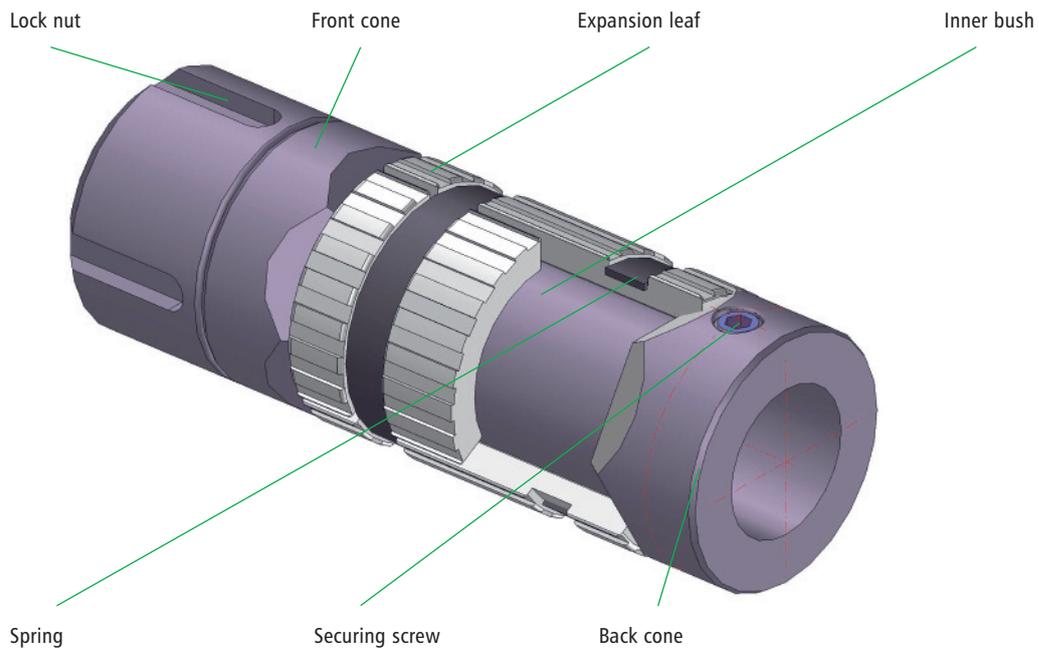
The Vorwald expansion couplings of the Series 260 with continuous aluminium expansion leaves are very robust. They are suitable for cores made of cardboard, aluminium, plastic and steel with the standard diameters of 70, 76.2, 100, 120, 150 and 152.4 mm. The expansion couplings of the Series 260 are based on the functional principle of the inclined plane, i.e. by actuation of a lock nut or hexagonal nut a cone is pushed under the expansion leaves, pressing them outwards. Depending on the tightening torque, the expansion coupling can transmit a greater or smaller torque.

A further advantage of this very simple clamping solution is the concentric clamping of the cores on the leaves, which permits higher winding speeds. When the clamping nut is released, spiral springs pull the leaves back to their original position.

The chief application field of this expansion coupling is where the demands are relatively low to medium and where costs have to be kept to a minimum.



## Sectional drawing of an expansion coupling, Series 260



### Options

- Surface protection (nickel plating, anodising, chrome plating, and many others)
- Various different bearings are possible
- Actuation by hook spanner or open ended spanner
- Special dimensions are available on inquiry

### Advantages

- + Very quick conversion to other core diameters
- + Simple handling
- + Concentric clamping
- + Take-up bore according to customer specification
- + No clamping force loss
- + Favourable price solution

The standard sizes are 70, 76.2, 100, 120, 150 and 152.4 mm.



## Representations in

Austria  
Czech Republic  
Denmark  
Finland  
France

Germany  
Great Britain  
Greece  
Hungary  
Iran

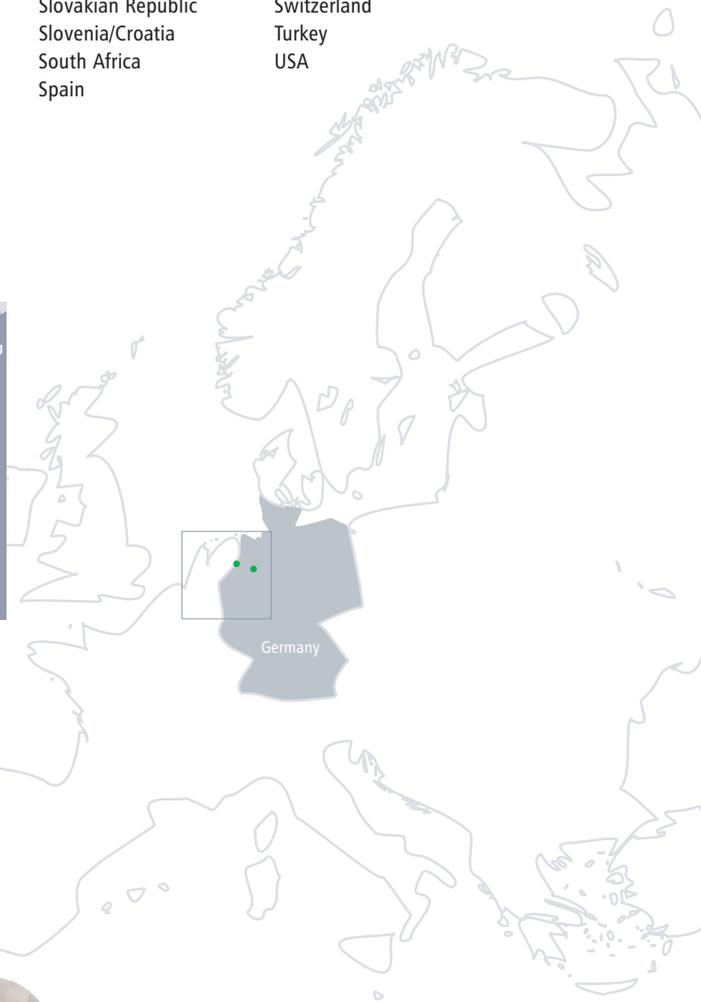
Israel  
Macedonia  
Netherlands  
Norway  
Poland

Portugal  
Slovakian Republic  
Slovenia/Croatia  
South Africa  
Spain

Sweden  
Switzerland  
Turkey  
USA



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