

## Transformer Bushings





## OUR FOCUS

# Reliability and Innovation

With our wide range of products for all types of transformers we have established ourselves as a leader amongst the reliable suppliers for the global transformer industry. In addition to the production of tanks for distribution and power transformers, we can offer a large variety of bushings, tap changers, oil level indicators and even Buchholz relays.

In our competence centre for transformer accessories in Pernitz, Austria, our team of professional and committed employees place great emphasis on quality, reliability and new developments. Our many long-standing partnerships with the world-leaders amongst the transformer manufacturers show our expertise in all matters concerning transformers as well as flexibility in meeting all requirements.

This has enabled us to bring a number of important new products to the marketplace in recent years, such as the PREIS busbar bushing for wind turbines or the PREIS Click-Bushing with the revolutionary mounting system. We are also working continuously on further developments in the field of bushings for transformers to keep us ahead of our times.



## Stability at all times

Security of inventory and a stable supply chain capable of weathering storms are today the main focus of our globalized world economy. As a European supplier, we offer consistent delivery performance and exceptional service, making us a reliable and trustworthy partner you can count on.

## Mechanical tests in house

We have the capability to conduct cantilever and leakage tests on bushings as well as temperature and aging tests on gaskets in our state-of-the-art headquarters in Pernitz. In this way we can check the quality of our products as well as fully test our new innovations.



## Product development and innovation

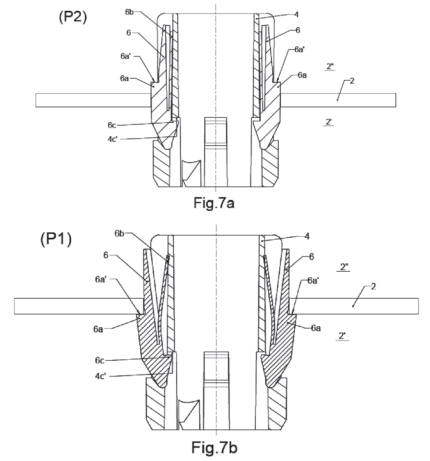
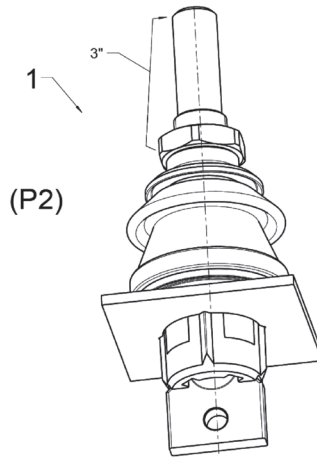
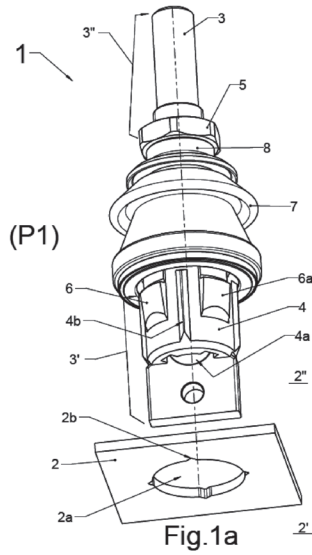
- universal design
- flexible fitting
- quick and simple mounting
- resistance to vibration
- resistance to mechanical force
- low space requirement

These are just the most important points that we take into consideration during development of new products. Our team of experts is not only concerned with quality assurance of the existing products, but they are also actively following our policy of continuous development. Our R&D department is in permanent contact with external sources to ensure that our technological lead is retained.



### Want more? No problem!

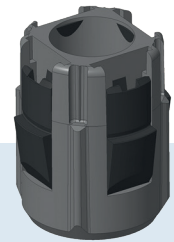
Please contact us as a development partner for your ideas or needs. Our experts can assist in bringing your design concept through prototype to serial use. 50 years of responsibility in a family-owned business, excellent customer service, and our willingness to push boundaries guarantee the success of your product.



# PREIS Click-Bushing

Timesaving made easy: With our patented **PREIS Click-Bushing** the time required for assembly and disassembly will be noticeably reduced. Our innovative Click-mechanism makes disassembly and alignment of the bushing unnecessary. Out of the box, drop it in the hole and tighten. It really is that simple!


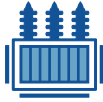

This bushing is compatible with all standard connections without the need for extra parts. It can also be replaced by a bushing without Click-mechanism at any time.



**Easy assembly  
principle, cost- and  
resource-saving!**

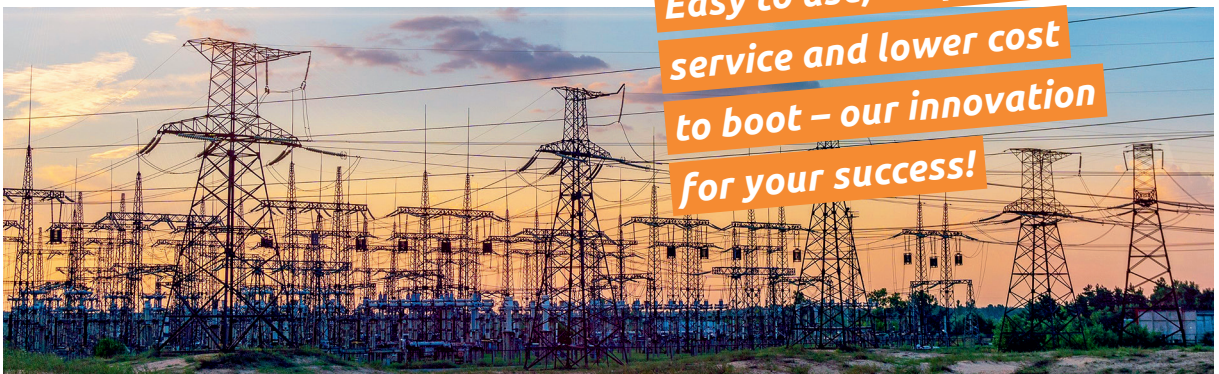


Please scan the QR code to see a video about this innovation.

1.   
Unpack
2.   
Attach
3.   
Tighten



**Easy to use, simple to  
service and lower cost  
to boot – our innovation  
for your success!**



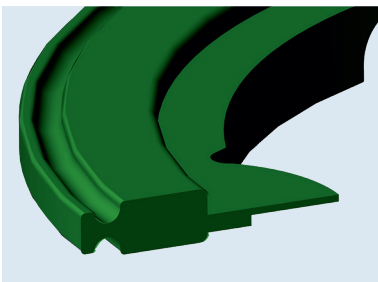
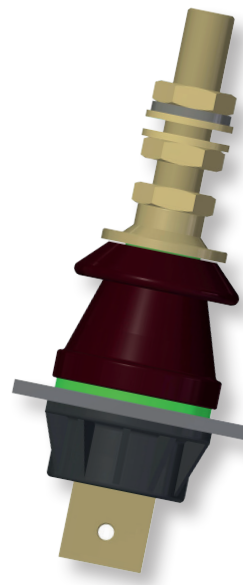


*The gasket that gives you three wishes!*

# PREIS Hybrid Gasket

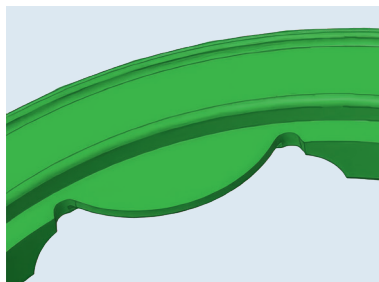
## Don't-lose-effect

The hybrid gasket with the built in "Don't-lose-effect" helps to stretch maintenance intervals and save resources. The standard UV resistant protection ring increases the lifetime of the gasket enormously and the integrated positioning lips ensure that the gasket is mounted centrally and cannot fall out. Innovation is in the details!



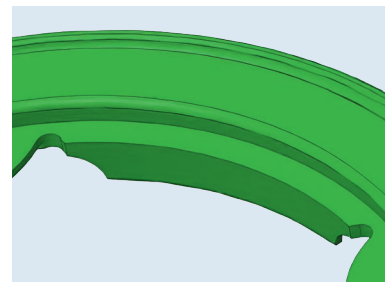
## UV-protection ring

The protection ring safeguards the gasket from deterioration due to perpetual UV exposure. Conventional gaskets can become brittle for this reason and lose their sealing properties. The protection ring therefore saves resources by extending the lifetime as well as reducing the maintenance requirements.



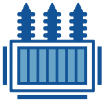
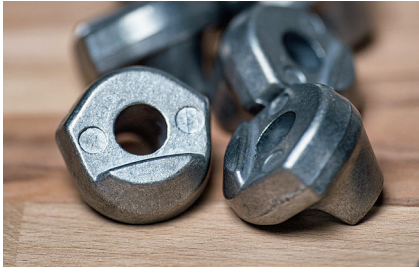
## Centering

The hybrid gasket has a specially constructed centering lip that ensures the correct and effortless positioning of the gasket in the bushing. This saves time and energy and allows personnel to be used more efficiently.



## Positioning lips

A specially constructed lip helps to hold the gasket on the bushing during assembly so that it cannot fall off.



# PREIS EC

## Bushings for Transformers

PREIS offers a large variety of high-quality bushings, from standard bushings to customer specific bushings developed and manufactured for a unique application.

BUSHING (1KV)

Hexagon nut



Copper bolt



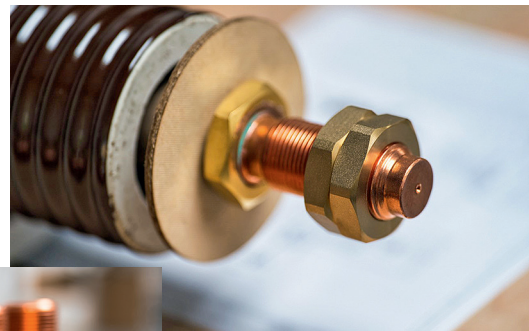
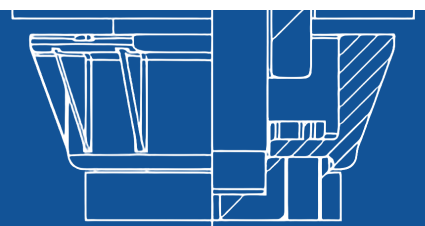
Cap  
Ring gasket



Insulator A  
Flat gasket N



Insulator B





**Our stock is  
your advantage!**



## Stock and assembly in Europe

**Our logistic centre in the heart of Europe** enables us to send the ordered articles to our customers within a few days. This unsurpassed advantage in your supply chain is one of the cornerstones of our customer orientation and allows just-in-time deliveries despite all the upheavals in the global economy.

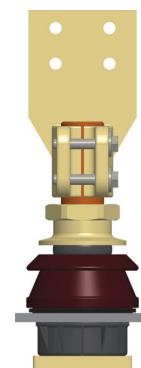


# PREIS LV-Bushings

## Type 1/100 - 3/6300

A well-tested and widely used low voltage bushing, mainly for distribution transformers.

The PREIS LV-Bushing is a porcelain bushing according to DIN and EN standards that can be used in a number of different installations. These bushings can be used indoors or outdoors and are available in various designs. The electrical connections in oil and in air and their surface protections can be changed as needed by the application. The PREIS LV-Bushing is fitted with an insulator made of porcelain (DIN) or plastic (EN) on the oil side.



Type	Variant	Norm	Rated Current A	Nominal Voltage kV	Dry lightning impulse voltage kV	Power frequency kV		Creepage distance mm (min)
						dry	wet	
1/100	ST	PREIS	100	1	20	10	10	40
1/250	ST	DIN 42530	250	1	20	10	10	55
1/250	ST	EN 50386	250	1	20	10	10	55
1/250	AP	EN 50386	250	1	20	10	10	55
1/250	Type 2 ST	EN 50386	250	1	20	10	10	115
3/250	ST	DIN 42539	250	3	40	11	10	120
1/630	ST	DIN 42530	630	1	20	10	10	70
1/630	ST	EN 50386	630	1	20	10	10	70
1/630	AP	EN 50386	630	1	20	10	10	70
3/630	ST	DIN 42539	630	3	40	11	10	120
1/1000	ST	DIN 42530	1000	1	20	10	10	75
1/1000	ST	EN 50386	1000	1	20	10	10	75
1/1000	AP	EN 50386	1000	1	20	10	10	75
3/1000	ST	DIN 42539	1000	3	40	11	10	125
1/1250	ST	EN 50386	1250	1	20	10	10	75
1/1250	AP	EN 50386	1250	1	20	10	10	75
1/2000	ST	DIN 42530	2000	1	20	10	10	75
1/2000	ST	EN 50386	2000	1	20	10	10	75
1/2000	AP	EN 50386	2000	1	20	10	10	75
3/2000	ST	DIN 42539	2000	3	40	11	10	125
1/3150	ST	DIN 42530	3150	1	20	10	10	75
1/3150	ST	EN 50386	3150	1	20	10	10	75
1/3150	AP	EN 50386	3150	1	20	10	10	75
3/3150	ST	DIN 42539	3150	3	40	11	10	125
1/4000	ST	EN 50386	4000	1	20	10	10	85
1/4000	AP	EN 50386	4000	1	20	10	10	85
1/4500	ST	EN 50386	4500	1	20	10	10	85
1/4500	AP	EN 50386	4500	1	20	10	10	85
3/4500	ST	PREIS	4500	3	40	11	10	130
1/5000	ST	EN 50386	5000	1	20	10	10	85
1/5000	AP	EN 50386	5000	1	20	10	10	85
3/6300	ST	PREIS	6300	3	40	11	10	130

# PREIS MV-Bushings

## Type 12/250 - 36/3150

PREIS MV-Bushings are porcelain bushings according to DIN and EN standards.

These are used for connections to transformers indoors or outdoors. The operating voltage is between 12 kV and 36 kV and the current range from 250 – 3150 A. Flexibility and simplicity make this bushing a robust solution for many applications.

### \*Explanation Variants:

<b>P1-4</b>	Pollution level
<b>M</b>	Metallized
<b>NI</b>	Indoor
<b>NF</b>	Outdoor
<b>Numbers</b>	Type of Insulator



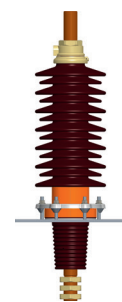
Type	Variant*	Norm	Rated Current A	Nominal Voltage kV	Dry lightning impulse voltage kV	Power frequency kV		Creepage distance mm (min)	Arcing distance mm (min)
						dry	wet		
12/250	NI	DIN 42531	250	12	75	30	28	170	85
12/250	NF	DIN 42531	250	12	75	30	28	295	85
12/250	1 / P1	EN 50180	250	12	75	30	28	260	145
12/250	1 / P2	EN 50180	250	12	75	30	28	260	145
12/250	2 / P4	EN 50180	250	12	75	30	28	490	260
24/250	NI	DIN 42531	250	24	125	55	50	295	155
24/250	NF	DIN 42531	250	24	125	55	50	445	155
24/250	NF / M	DIN 42531	250	24	125	55	50	370	155
24/250	2 / P2	EN 50180	250	24	125	55	50	490	260
24/250	3 / P3	EN 50180	250	24	125	55	50	605	315
24/250	4 / P4	EN 50180	250	24	125	55	50	935	465
36/250	NI	DIN 42531	250	36	170	77	70	445	220
36/250	NF	DIN 42531	250	36	170	77	70	635	220
36/250	NF / M	DIN 42531	250	36	170	77	70	570	220
36/250	3 / P1	EN 50180	250	36	170	77	70	605	315
36/250	4 / P3	EN 50180	250	36	170	77	70	935	465
36/250	5 / P4	EN 50180	250	36	170	77	70	1165	485
12/630	NI	DIN 42532	630	12	75	30	28	170	85
12/630	NF	DIN 42532	630	12	75	30	28	295	85
12/630	NF / M	DIN 42532	630	12	75	30	28	295	85
12/630	6 / P3	EN 50180	630	12	75	30	28	315	190
12/630	7 / P4	EN 50180	630	12	75	30	28	490	285
24/630	NI	DIN 42532	630	24	125	55	50	295	155
24/630	NF	DIN 42532	630	24	125	55	50	445	155
24/630	NF / M	DIN 42532	630	24	125	55	50	445	155
24/630	7 / P2	EN 50180	630	24	125	55	50	490	285
24/630	8 / P4	EN 50180	630	24	125	55	50	760	375
36/630	NI	DIN 42532	630	36	170	77	70	445	220
36/630	NF	DIN 42532	630	36	170	77	70	635	220
36/630	NF / M	DIN 42532	630	36	170	77	70	635	220
36/630	8 / P2	EN 50180	630	36	170	77	70	760	375
36/630	9 / P4	EN 50180	630	36	170	77	70	1155	475
12/1250	NF	DIN 42533	1250	12	75	30	28	295	85
12/1250	NF / M	DIN 42533	1250	12	75	30	28	200	85
12/1250	21 / P4	EN 50180	1250	12	75	30	28	385	215

Type	Variant*	Norm	Rated Current A	Nominal Voltage kV	Dry lightning impulse voltage kV	Power frequency kV		Creepage distance mm (min)	Arcing distance mm (min)
						dry	wet		
24/1250	NF	DIN 42533	1250	24	125	55	50	445	155
24/1250	NF / M	DIN 42533	1250	24	125	55	50	445	155
24/1250	22 / P3	EN 50180	1250	24	125	55	50	930	28
24/1250	23 / P4	EN 50180	1250	24	125	55	50	1165	385
36/1250	NF	DIN 42533	1250	36	170	77	70	635	220
36/1250	NF / M	DIN 42533	1250	36	170	77	70	635	220
36/1250	23 / P3	EN 50180	1250	36	170	77	70	930	385
36/1250	23 / P3M	EN 50180	1250	36	170	77	70	830	385
36/1250	24 / P4	EN 50180	1250	36	170	77	70	1145	500
36/1250	24 / P4M	EN 50180	1250	36	170	77	70	1045	500
12/2000 12/3150	NF	DIN 42533	2000	12	75	30	28	295	85
12/2000 12/3150	NF / M	DIN 42533	2000	12	75	30	28	295	85
12/2000 12/3150	25 / P4	EN 50180	2000	12	75	30	28	385	210
24/2000 24/3150	NF	DIN 42533	2000	24	125	55	50	445	155
24/2000 24/3150	NF / M	DIN 42533	2000	24	125	55	50	445	155
24/2000 24/3150	26 / P3	EN 50180	2000	24	125	55	50	620	275
24/2000 24/3150	27 / P4	EN 50180	2000	24	125	55	50	920	385
36/2000 36/3150	NF	DIN 42533	2000	36	170	77	70	635	220
36/2000 36/3150	NF / M	DIN 42533	2000	36	170	77	70	580	220
36/2000 36/3150	27 / P3	EN 50180	2000	36	170	77	70	920	385
36/2000 36/3150	27 / P3M	EN 50180	2000	36	170	77	70	830	385
36/2000 36/3150	28 / P4	EN 50180	2000	36	170	77	70	1135	495
36/2000 36/3150	28 / P4M	EN 50180	2000	36	170	77	70	1045	495

\*Explanation Variants: P1-4 = Pollution level, M = Metallized, NI = Indoor, NF = Outdoor, Numbers = Type of Insulator

## PREIS HV-Bushings

PREIS HV-Bushings are porcelain bushings with an operating voltage of 45 kV to 52 kV and operating current of 250 A to 3150 A. These are flexible and robust bushings with a wide range of applications.



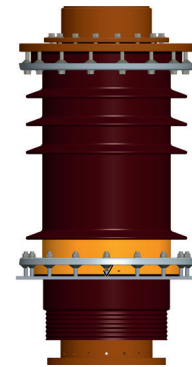
Type	Variant*	Norm	Rated Current A	Nominal Voltage kV	Dry lightning impulse voltage kV	Power frequency kV		Creepage distance mm (min)	Arcing distance mm (min)
						dry	wet		
45/250-3150	M	DIN 42534	250-3150	45	250	105	95	485	470
52/250-3150	M	DIN 42534	250-3150	52	250	105	95	950	470
52/250-3150	-	DIN 42534	250-3150	52	250	105	95	1120	470
52/250-3150	-	DIN 42534	250-3150	52	250	105	95	1430	470
52/250-3150	P1M	EN 50180	250-3150	52	250	105	95	950	480
52/250-3150	P3M	EN 50180	250-3150	52	250	105	95	1350	480
52/250-3150	P4M	EN 50180	250-3150	52	250	105	95	1655	520

\*Explanation Variants: P1-4 = Pollution level, M = Metallized, NI = Indoor, NF = Outdoor, Numbers = Type of Insulator

# PREIS HC-Bushings

## Type 24/5000 - 36/8000

The PREIS HC-Bushing is a heavy-duty porcelain bushing according to DIN and EN standards. It has a hollow copper conductor that allows the high current to pass along the increased surface. Transformer oil fills the area between copper conductor and porcelain and ensures good electrical insulation coupled with improved heat transfer.



Type	Variant*	Norm	Rated Current A	Nominal Voltage kV	Dry lightning impulse voltage kV	Power frequency kV		Creepage distance mm (min)	Arcing distance mm (min)
						dry	wet		
24/5000	–	DIN 42541	5000	24	125	55	50	470	260
24/5000	P2	EN 50243	5000	24	125	55	50	480	270
24/8000	–	DIN 42541	8000	24	125	55	50	470	260
24/8000	P2	EN 50243	8000	24	125	55	50	480	270
24/5000	P4	EN 50243	5000	24	125	55	50	744	380
24/8000	P4	EN 50243	8000	24	125	55	50	744	380
36/5000	–	DIN 42541	5000	36	170	77	70	555	355
36/5000	P2	EN 50243	5000	36	170	77	70	744	380
36/8000	–	DIN 42541	8000	36	170	77	70	555	355
36/8000	P2	EN 50243	8000	36	170	77	70	744	380
36/5000	P3	EN 50243	5000	36	170	77	70	900	370
36/8000	P3	EN 50243	8000	36	170	77	70	900	370

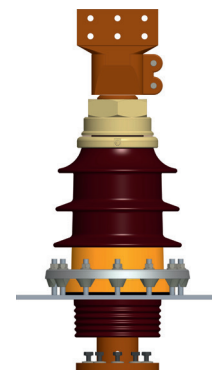
\*Explanation Variants: P1-4 = Pollution level, M = Metallized, NI = Indoor, NF = Outdoor, Numbers = Type of Insulator

# PREIS Customer Specific Bushings

## Type 10/4500 - 52/6000

PREIS has designed, constructed, produced and sold bushings according to customer requirements for several decades now.

Here, the requirements on the bushing are defined in cooperation with the customer and over our defined development process a robust product that satisfies all operating requirements during use will result.



Type	Variant*	Norm	Rated Current A	Nominal Voltage kV	Dry lightning impulse voltage kV	Power frequency kV		Creepage distance mm (min)	Arcing distance mm (min)
						dry	wet		
10/4500	–	PREIS	4500	12	75	30	28	295	85
20/4500	–	PREIS	4500	24	125	55	50	455	155
30/4500	–	PREIS	4500	36	170	77	70	635	220
52/4500	–	PREIS	4500	52	250	105	95	1170	470
52/4500	–	PREIS	4500	52	250	105	95	1020	470
52/6000	–	PREIS	6000	52	250	105	95	1550	470

\*Explanation Variants: P1-4 = Pollution level, M = Metallized, NI = Indoor, NF = Outdoor, Numbers = Type of Insulator



**Durable, innovative  
and sustainable!**

**UNDER DEVELOPMENT**

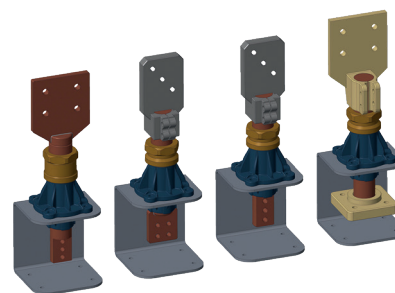
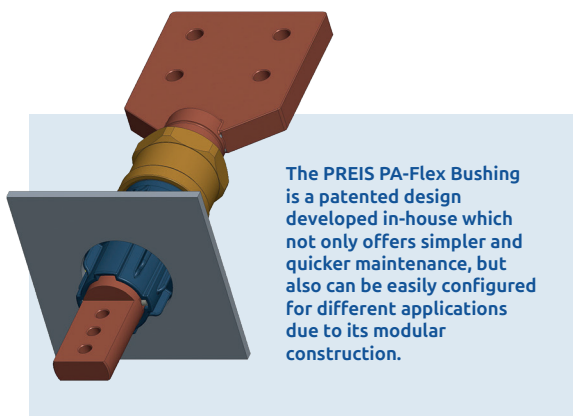
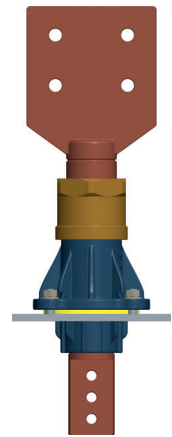
# PREIS PA-Flex

## Innovation for use in distribution transformers

The PREIS PA-Flex Bushings are the newest development in the PREIS selection. This revolutionary bushing enables a swap of the gasket in the field, without dismantling the bushing completely. The insulator of this bushing is made of a specific PA compound which meets all the requirements of a multi-purpose bushing.

## Robust, efficient and reliable

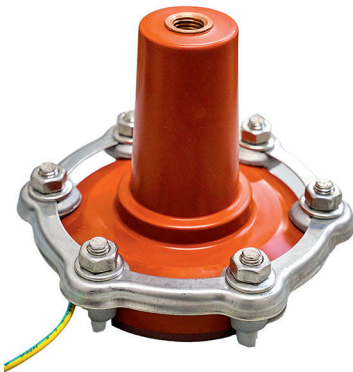
- for many applications: also ideal for windpower
- easy maintenance
- modular design
- some mountable from one side
- adaptable for different temperature ranges by changing the gasket type



## Technical Data:

Busbar material	copper	Rated current	1000 A – 8000 A	Voltage class	1 kV 3 kV
Busbar coating	tin-plated, nickel-plated, silver-plated	Material of gasket	NBR, FKM, FVMQ/MFQ	Test level (EN 50387)	acc. IEC 60137

# The PREIS Plug-in Bushing

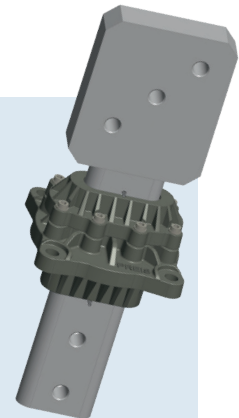


This is a bushing with a plug connection for an operating range of 1 kV to 52 kV and currents of 250 A to 2500 A according to the EN 50181. The bushings consist of an epoxy insulator with a central copper conductor cast in. Keeping within conservative process limits and systematic maintenance of the tooling ensure the constant high quality of our products. All of our bushings are subjected to a type-approval test according to IEC 60137.

# The PREIS Busbar Bushing

Universal design, flexible fitting and rapid mounting. The advantages of the new busbar bushing are clear to everyone. The construction of the new PREIS busbar bushing gives good resistance to mechanical influences and vibration and is hence ideal for windpower units.

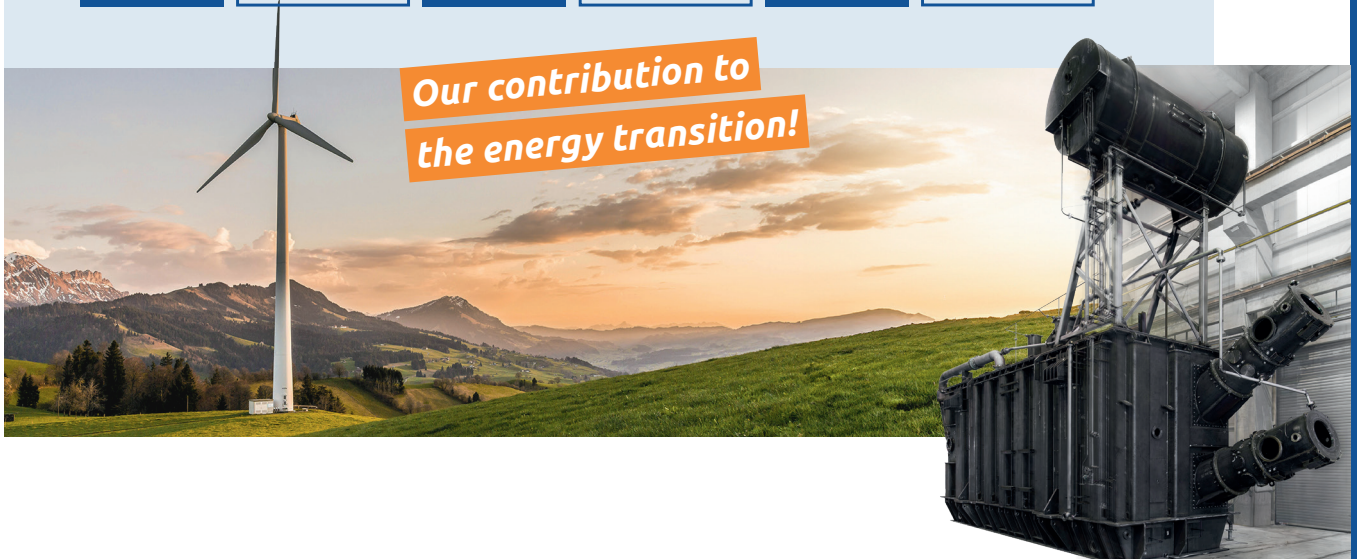
- universal design
- flexible fitting
- rapid mounting
- resistance to vibration
- mechanically stable
- low profile



## Technical Data:

Busbar material	copper	Rated current	4000 A – 8000 A	Voltage class	1 kV 3 kV
Busbar coating	tin-plated, nickel-plated, silver-plated	Material of gasket	NBR, FKM, FVMQ/MFQ	Test level (EN 50387)	acc. IEC 60137

*Our contribution to  
the energy transition!*



# Request

Medium voltage



Simply scan this page or use the digital version. (scan QR code)



Date: \_\_\_\_\_  
Customer: \_\_\_\_\_

## Electrical features

Nominal voltage: \_\_\_\_\_ kV  
Rated current: \_\_\_\_\_ A  
Creepage distance: \_\_\_\_\_ mm

## Relevant standards

DIN: \_\_\_\_\_  
EN: \_\_\_\_\_  
PREIS: \_\_\_\_\_  
Others: \_\_\_\_\_

## Flange

Aluminum:    
Stainless Steel (A2, A4):   (only for 250A & 630A)

## Arcing horns

Yes:    
No:

## Insulator

metallized:    
not metallized:

## Gaskets

NBR (-35°C/+120°C):    
FKM (-20°C/+250°C):    
FVMQ/MFQ (-70°C/+180°C):    
NBR-40 (-40°C/+120°C):    
other: \_\_\_\_\_  
Range of temperature in °C: \_\_\_\_\_

PREIS Group Catalogue page: \_\_\_\_\_

## Accessories for upper parts

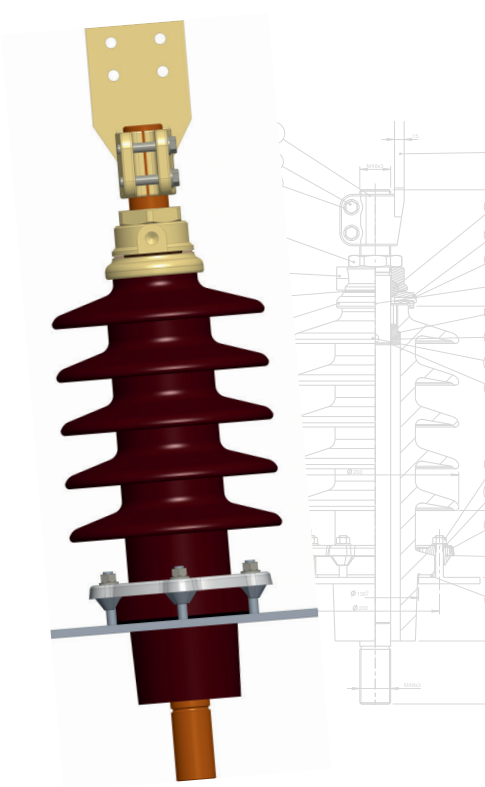
Flag: \_\_\_\_\_  
Customer drawing: \_\_\_\_\_

## Accessories for lower parts

Flag: \_\_\_\_\_  
Customer drawing: \_\_\_\_\_

## Coating

tin-plated 15 µm:    
nickel-plated 15 µm:    
silver-plated 10 µm:    
other:  \_\_\_\_\_



Contact us for more information and special requests!

# Request

**Low voltage**



Simply scan this page or use the digital version. (scan QR code)



Date:   
Customer:

## Electrical features

Nominal voltage:  kV  
Rated current:  A

## Relevant standards

DIN:   
EN:   
PREIS:   
Others:

## Design

AP – Design (Ø 6.7):   
AP – Design (Ø 13):   
ST – Design:

## Coating

tin-plated 15 µm:    
nickel-plated 15 µm:    
silver-plated 10 µm:    
other:

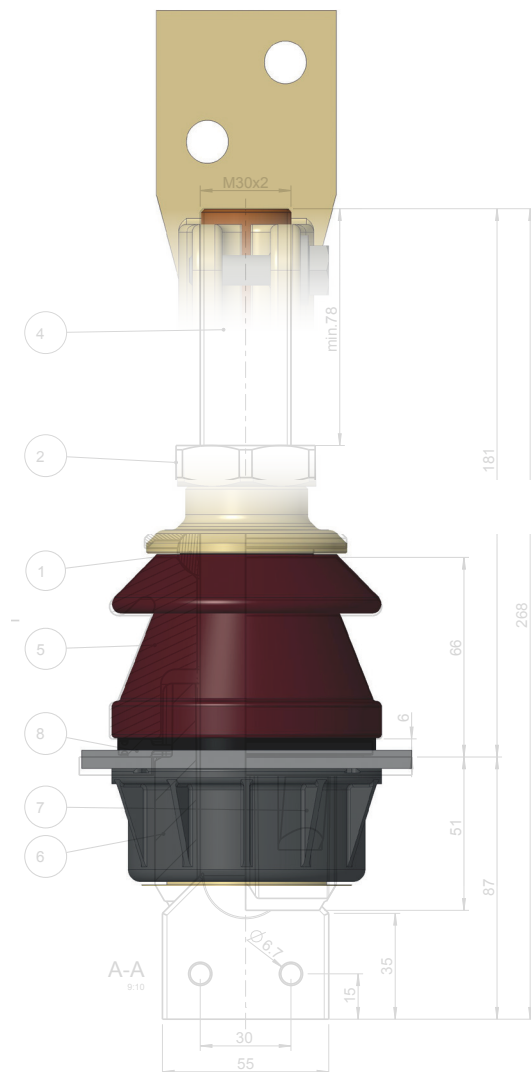
## Gaskets

NBR (-35 °C/+120 °C):   
FKM (-20 °C/+250 °C):   
FVMQ/MFQ (-70 °C/+180 °C):   
NBR-40 (-40 °C/+120 °C):   
other:   
Range of temperature in °C:

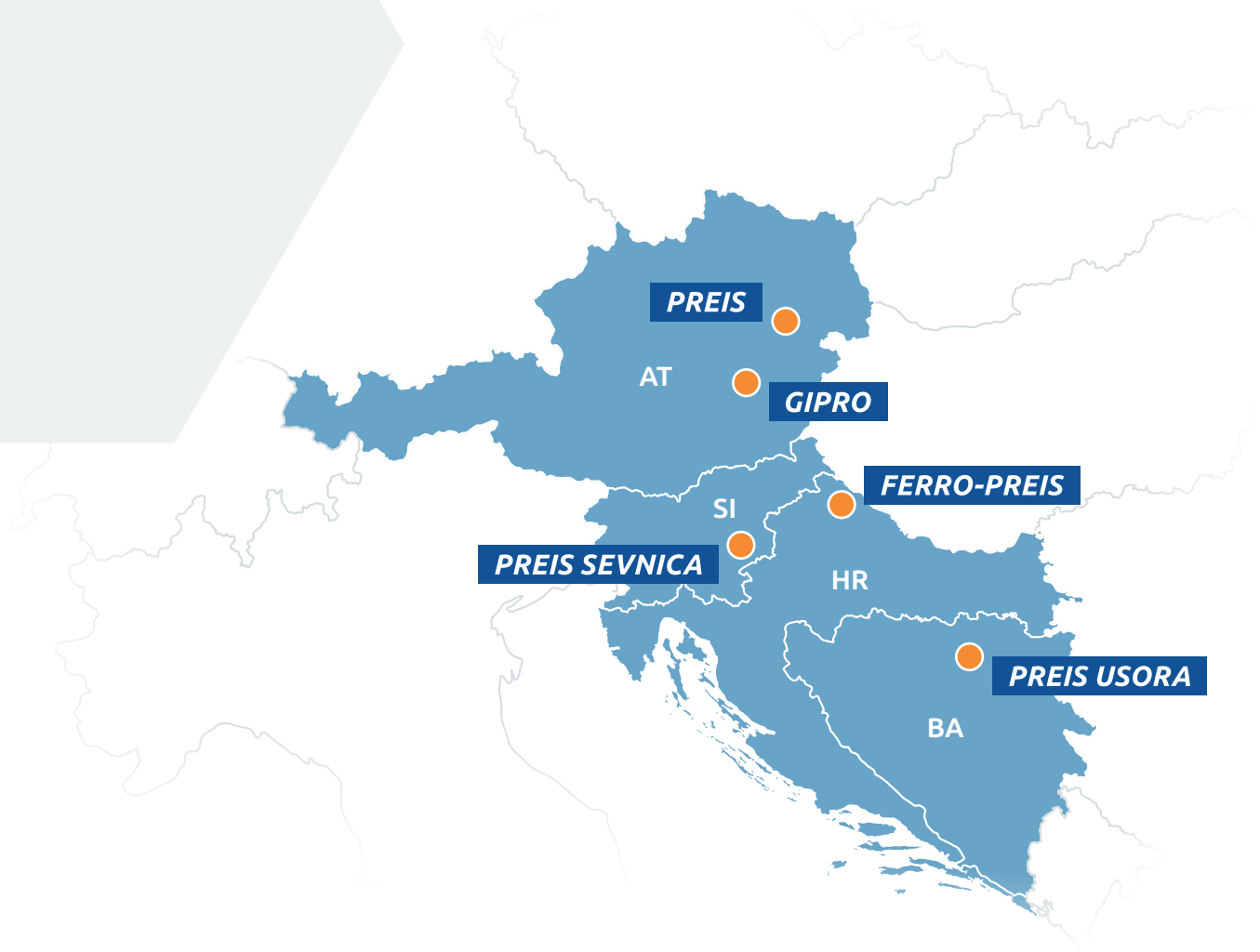
## Connecting parts

Yes:   
No:

PREIS Group Catalogue page:



**Contact us for more information and special requests!**



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