

# PSR Composite Short-tailed Condenser Bushing 52kV-245kV Oil-to-Air Applications Resin Impregnated Paper Bushing

PSR Bushings are capacitance graded bushings with Resin Impregnated Paper core. Design, Components and manufacturing technology of RIP Bushings promote an average lifetime in excess of 30 years under normal operating conditions.

## GE Bushings – your Partner of choice

GE, a company you can trust to harness your power. Following the acquisition of Passoni and Villa in 2008, former Alstom Grid, now GE Grid Solutions offers a wide range of condenser bushings for AC and DC applications. Our partner acknowledges us as one of the most reputable and reliable Bushings manufacturer in the world.

## A Wealth of Benefits

We have pioneered in Bushing Technology with our combined experience and expertise for a century. RIP Bushings offer multiple benefits over conventional Bushings (OIP). RIP Bushings suitable for all transformers types are available.

## Flexibility

Easy of transport, handling, storage and installation. Flexibility in any installation angle.

## Seismic Solutions

RIP Bushings have been seismic tested according to IEC 61463 for specific variants. Details on request.



## Key Benefits

- Compact, Robust and Reliable design.
- Partial discharge-free up to rated nominal voltage
- Excellent mechanical strength
- High thermal strength (Class E, 120°C)
- Low dielectric losses ( $\tan\delta \leq 0.35\%$ )
- Suitable for Ester Oil immersion media.
- Suitable for low temperature of -50DegC

## Safety – Our priority

- Personnel, Substation and Environment protection
- RIP bushings are fire and explosion-proof
- Oil and SF<sub>6</sub> free means no environmental costs on end-of-life disposal
- Free from leakage issues
- Special Internal Arc test on Bushing
- Tracking and Erosion test on insulator
- High thermal strength (class E, 120°C)

## Minimal Maintenance

- RIP Bushings are 100% oil and pressure-free, hence no specific maintenance or on-site verification are required.
- Measurement of  $\tan\delta$  and capacitance is recommended as part of maintenance check

## Test Standards

- Bushings conform to IEC-60137
- Very High Cantilever Solution available on request.
- Tailor made Design available on request.



## PSR Bushings Main Features

### Resin Impregnated Paper Bushing

- Oil-to-air
- Resin Impregnated Paper
- Installation in any position
- Dimensions of flange terminals in accordance with IEC 60137 standards
- Partial discharges < 5pC at 1.5 Um/V3
- Power factor tap grounded through the cap
- Flange made of corrosion-free aluminum
- Execution with fixed and solid conductor

### Bushing Designation PSR.145.650.1250

CODE	DESCRIPTION
P	Condenser bushings ('P' from the Italian word 'Passante')
S	Short-tallied
R	Resin Impregnated Paper (RIP)
145	Rated voltage in kV
650	BIL in kV
1250	Rated current in A

### Nameplate

Each bushing is provided with a nameplate, containing complete electrical data and the serial number, in accordance with IEC 60137 requirements.

The aluminum nameplate is secured to the flange with rivets and carries the following information.

### Key Features

#### Metal Surface Treatment

All metal bushing surfaces are made of aluminum alloy with high resistance in industrial environment, with high humidity content and aggressive atmosphere, like offshore with high salinity.

Power factor tap and voltage tap surface finish avoids any corrosion throughout lifetime and allows for easy fixing and unscrewing in service. Further finishing or final painting are the customer's option.

#### Packing & Transportation

Bushings are thoroughly cleaned after testing before packing. Bushings are packed in vacuum sealed bag along with silica gel to avoid moisture ingress. For long term storage (for spares bushings) oil side is inserted in a metallic container and sealed with Nitrogen or Oil.

#### Long Term Storage Accessories

For long term storage and upon request the bushings are equipped with protective tank filled with nitrogen to protect the condenser core against any damage, moisture and humidity. The crate can be equipped with shock indicator as well.

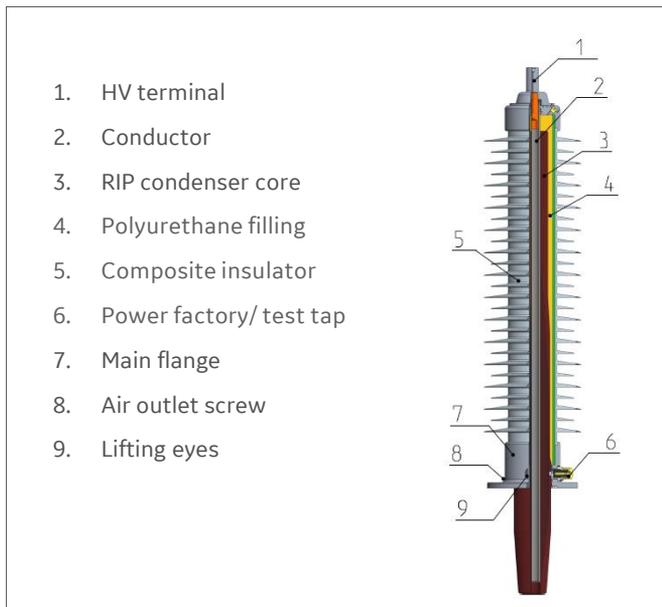


Fig. 1: PSR Bushing Typical Cross Section

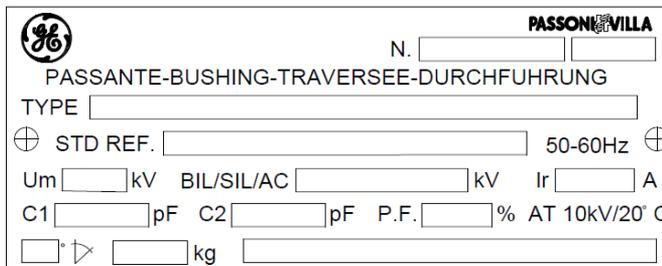


Fig. 2: Nameplate



Fig. 3: Long term storage RIP bushings

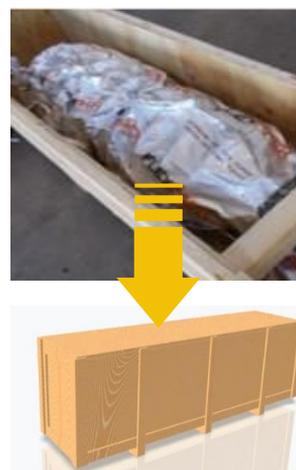


Fig. 4: Packaging - transportation



*Bushings Manufacturing Site :*

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Sesto San Giovanni  
Milan, Italy*



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