

Bushings

Expertise up to 1200 kV

For all applications, Alstom Grid bushings represent a cost-effective solution to facilitate the electric stress control of your equipment.

PASSONIVILLA
AN ALSTOM COMPANY

Alstom Grid offers a large portfolio of condenser bushings for AC or DC operation:

- Epoxy resin bonded paper up to 36 kV for generators
- Oil-impregnated paper for voltages up to 1200 kV for power transformers and through-wall applications
- SF₆ insulated up to 800 kV for GIS, GIL and through-wall.
- RIP - resin Impregnated Paper Bushings for power transformers

Motivated to provide you with innovative and superior quality products, our vision remains focused on meeting customer requirements while anticipating and exceeding the needs of a continuously changing market.



Looking for a company you can trust to tame your power?



Together with our customers towards the future

Alstom Grid began producing capacitance-graded bushings in 1924 and is recognized today as one of the most reputable manufacturers in the world.

With top quality products, numerous worldwide references and capacity to innovate, Alstom Grid is also one of the first supplier of 1,100 kV in China!

Customer Benefits

- Advanced R&D department
- Full property of production technology and know-how
- Bushing with longer lifetime and higher reliability
- No performance reduction with age
- Decades of on-site experience

Expert in HV condenser bushings

All the winding machines used for condenser bushings production are computer controlled and have been specifically designed and developed for that purpose by Alstom Grid.

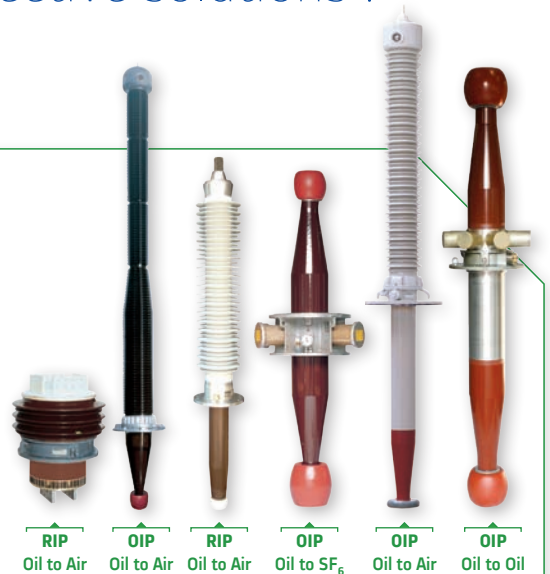
For all applications, we offer cost-effective solutions :

Power transformers



- Oil-to-air, high current (up to 30,000 A, 36 kV) with Aluminum inner conductor for bus duct connection.

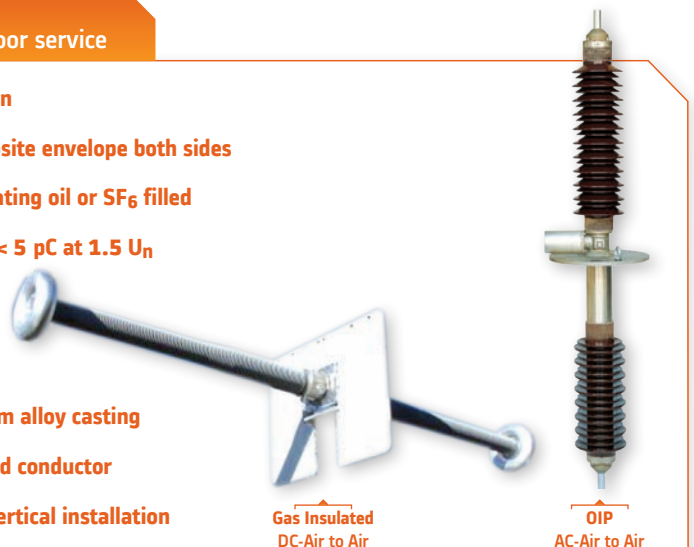
- Oil-to-air, for the connection to the HV Transmission or Distribution System
- Oil-to-oil, for the connection to HV cables
- Oil-to-SF₆, for the connection to the SF₆ metal enclosed bus ducts



Through-wall Air-to-air, for indoor and outdoor service



- AC or DC application
- Porcelain or composite envelope both sides
- Synthetic impregnating oil or SF₆ filled
- Partial discharges < 5 pC at 1.5 U_n
- Provided with power factor tap
- Flange of aluminium alloy casting
- Execution with solid conductor
- For horizontal or vertical installation



Power generator

Turbo-generator, hydrogen or water cooling up to 30 kV, 45.000 A



- Outer envelopes: Porcelain and/or Fiberglass tube
- Cooling: Natural, hydrogen, water
- Coupling by means of a Belleville washer placed on the air side
- Inner conductor made of aluminum or copper casting
- Dry filling (polyurethane foam) of the space between the porcelain and condenser body
- Installation in any position
- CT accommodation on request
- Flange made of aluminum or stainless steel, low permeability



RBP
generator bushings

GIS



- **SF₆-to-air, for the connection between GIS, GIL, Dead tank circuit breakers and the HV Alstom Grid System**

PASSONI & VILLA supplies these bushings according to SF₆ insulation technology:

- SF₆ filled for voltages from 72.5 to 300 kV and condenser-type made of SF₆ impregnated polypropylene film for voltages more than 300 to 550 kV for applications
- SF₆-to-air, for the connection between GIS, GIL, Dead tank circuit breakers and the HV network.



Gas Insulated
SF₆ to Air

E.R.B.P.



PGFE

generator bushings
Up to 36 kV

SF₆



PABS

52-550 kV



PWS

800 kV DC

R.I.P.



PNR

52-170 kV



PTFR/PTHR

oil-to-air transf. bushings
24-36 kV

O.I.P.

Oil-to-air transformer bushings



PNO

52-1200 kV



PSO

52-245 kV



PAO

25-765 kV

Oil-to-SF₆



POBO

72.5-1050 kV

Oil-to-oil



PCTO

72.5-1050 kV

Air-to-air



PWO

72.5-420 kV

Alstom Grid advantages

- ☐ One source for all bushings type up to 1200 kV
- ☐ Improved reliability
- ☐ Short delivery time even for higher creepage bushings
- ☐ Easy transport and installation
- ☐ State-of-the-art technology
- ☐ Customers preferred product
- ☐ International expertise in UHV

PASSONI & VILLA

AN ALSTOM COMPANY

Following the acquisition of PASSONI & VILLA, Alstom Grid now offers a large portfolio of condenser bushings for AC or DC operation. If you require any further information, please address your queries to

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GRID

ALSTOM