

High Current Bushings

Insulation: Oil Impregnated Paper/Oil Filled – Hermetically Sealed/Oil Communicating

Application: Transformer – Outdoor

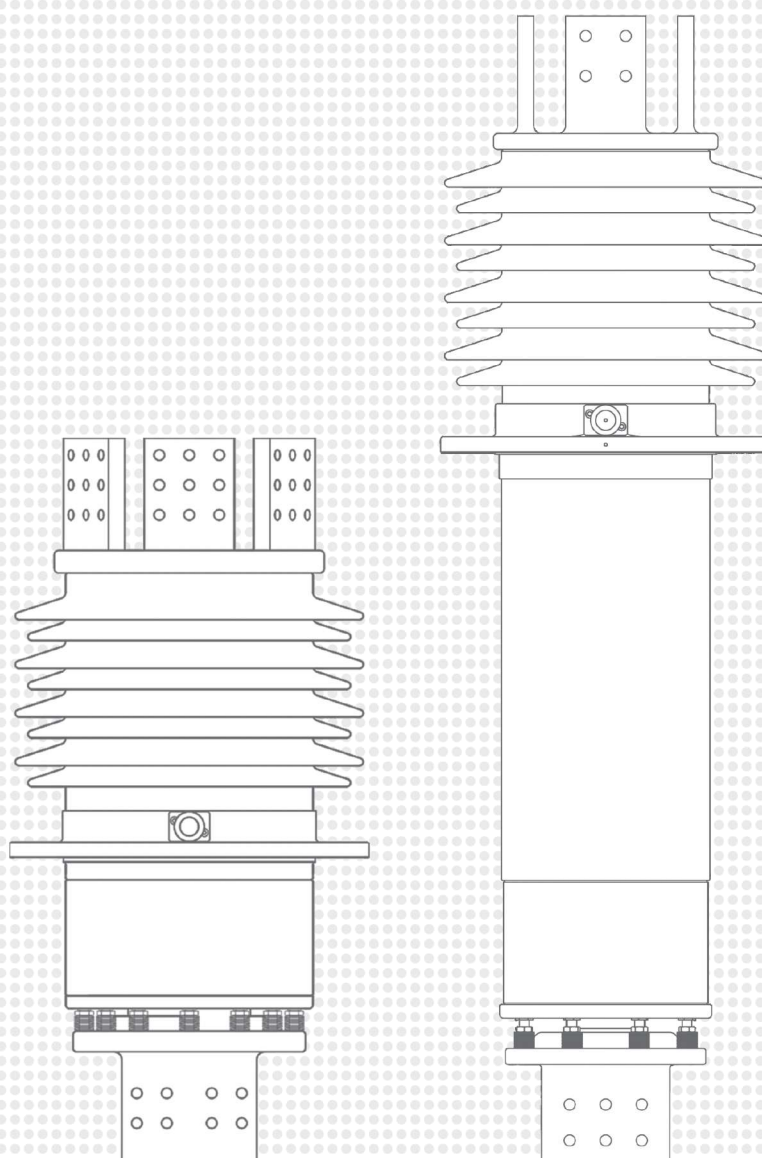
Type: Oil to Air

Rated Voltage: 24 kV – 52 kV

Rated Current: Up to 25000 A

Standards: IEC 60137:2017/IEEE C.57.19.00/01/

Other Equivalent



Salient Features

- Exact interchangeability with global reputed makes.
- Robust solid rod construction with oil end termination integrally milled on the conductor.
- No joint on the conductor below the top cap level.
- SS Helicoil inserts on oil end termination holes to enable direct bolting of transformer lead for aluminium design bushings.
- Manufacturing and field experience of more than 4000 bushings up to 25 kA.
- Finely graded capacitive insulation for optimum electrical field distribution.
- Partial discharge free and low dissipation factor.
- Excellent thermal performance.
- High seismic and short circuit load withstand capacity.
- Self-cleaning alternate shed profile according to IEC and IEEE standards.
- Viton material O-rings for oil sealing.
- Provision of test tap for insulation health monitoring.
- Highly customizable design in terms of mounting and terminal connection.
- Provision for accommodating special CT pocket length requirements.
- Suitable for Bus-duct operation.
- Shortest lead time industry-wide.
- High strength porcelain as per IEC 60815.

Additional Information

- The bushings comply with the performance requirements of IEC and IEEE standards for application in GSU power transformers, station transformers, unit auxiliary transformers and others.
- The main component in OIP Insulated Bushings is the active part and is manufactured using insulating kraft paper wound around a solid conductor. OIP condenser core is standard from 36 kV onwards but is available for lower voltage upon request.
- During paper winding, aluminium foils are embedded in the paper, co-axially at pre-calculated locations to optimize the radial and axial electrical field along the bushing.
- After winding, the paper core is dried under vacuum at elevated temperatures and subsequently impregnated with high-quality, vacuum-dried and degassed insulating mineral oil.
- For Oil Insulated Bushings, oil serves as major insulation.
- Bushing is assembled in a controlled environment and filled under vacuum with vacuum-dried and degassed insulating mineral oil.
- After oil filling, each bushing is subjected to oil over-pressure test for verification of joint sealing.
- Appropriate cushion is incorporated after pressure test on top of oil level to allow for expansion, and the space is purged with high purity nitrogen before sealing.
- All bushings are tested in accordance with IEC 60137/IEEE C.57.19.00/01/other equivalent.
- High density poly urethane packing cushion for impact resistance in transit and for ease of repackaging.



▣ **Fully type tested product range at accredited laboratories.**

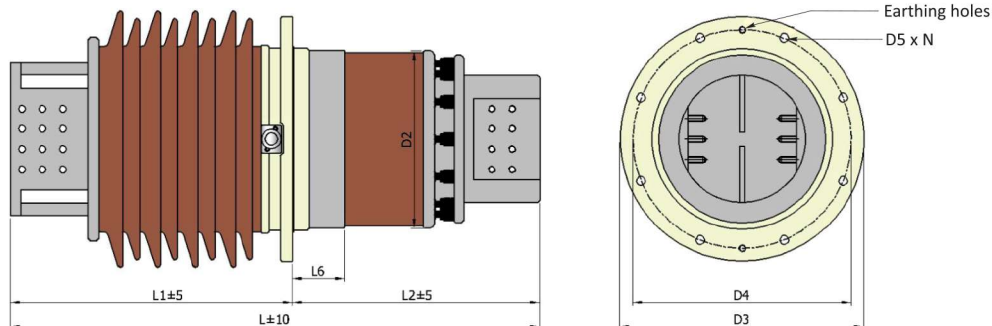
▣ **Multiple satisfactory performance credentials from customers and end users.**



Table - 1 - Standard dimensions of High Current bushings rated 24kV - 52kV, current 5000 A up to 25000 A*
(All dimensions are in mm)

Model	Conductor and Terminal material	Insulation	HSV, kV	BIL, kV/p	AC test load, kV	Rated current, Amp (I)	Creepage distance	Cantilever load, N	L1 - Air end length	L2 - Oil end length for 0 mm BCT(**)	L - Total length	L6 - BCT space	D2 - Oil side max. diameter	D3 - Outer diameter of flange	D4 - PCD of flange	D5 - x N - Mounting holes
HOA.2405	Aluminium	Oil filled	24	125	55	5000	25	3150	430	330	760	Standard: 0 Other CT space upon request upto 600	200	324	286	8 x 18
HOA.2405HC	Aluminium	"	24	"	"	5000	31	3150	510	330	840		200	324	286	8 x 18
HOA.2408	Aluminium	"	24	"	"	8000	25	3150	435	415	850		276	400	350	8 x 20
HOA.2408HC	Aluminium	"	24	"	"	8000	31	3150	480	415	895		276	400	350	8 x 20
HOA.2410	Aluminium	"	24	"	"	10000	31	3150	500	415	915		276	400	350	8 x 20
HOA.2413	Aluminium	"	24	"	"	12500	31	3150	500	415	915		335	480	430	8 x 20
HOA.2416	Aluminium	"	24	"	"	16000	31	3150	500	415	915		364	480	430	8 x 20
HCA.3605	Aluminium	OIP	36	170	77	5000	25	3150	510	330	840		200	324	286	8 x 18
HCA.3605HC	Aluminium	OIP	36	"	"	5000	31	3150	630	330	960		200	324	286	8 x 18
HCA.3608	Aluminium	OIP	36	"	"	8000	25	3150	500	415	915		276	400	350	8 x 20
HCA.3608HC	Aluminium	OIP	36	"	"	8000	31	3150	555	415	970		276	400	350	8 x 20
HCA.3610	Aluminium	OIP	36	"	"	10000	25	3150	500	415	915		276	400	350	8 x 20
HCA.3610HC	Aluminium	OIP	36	"	"	10000	31	3150	555	415	970		276	400	350	8 x 20
HCA.3613	Aluminium	OIP	36	"	"	12500	25	3150	500	415	915		335	480	430	8 x 20
HCA.3613HC	Aluminium	OIP	36	"	"	12500	31	3150	555	415	970		335	480	430	8 x 20
HCA.3616	Aluminium	OIP	36	"	"	16000	25	3150	500	415	915		364	480	430	8 x 20
HCA.3616HC	Aluminium	OIP	36	"	"	16000	31	3150	555	415	970		364	480	430	8 x 20
HOC.2406	Copper	Oil filled	24	125	55	6300	31	3150	495	340	835		200	324	286	8 x 18
HOC.2410	Copper	"	24	"	"	10000	31	3150	495	385	880		276	400	350	8 x 20
HOC.241	Copper	"	24	"	"	12500	31	3150	610	385	995		276	480	434	12 x 14
HOC.2416	Copper	"	24	"	"	16000	31	3150	600	415	1015		276	430	400	12 x 15
HOC.2420	Copper	"	24	"	"	20000	31	3150	505	410	915		335	480	430	8 x 20
HCC.3606	Copper	OIP	36	170	77	6300	25	3150	495	340	835		200	324	286	8 x 18
HCC.3613	Copper	OIP	36	"	"	12500	25	3150	555	385	940		276	450	400	12 x 16
HCC.3613HC	Copper	OIP	36	"	"	12500	31	3150	610	385	995		276	450	400	12 x 16
HCC.3616	Copper	OIP	36	"	"	16000	25	3150	545	415	960		276	430	400	12 x 15
HCC.3616HC	Copper	OIP	36	"	"	16000	31	3150	600	415	1015		276	430	400	12 x 15
HCC.3620	Copper	OIP	36	"	"	20000	25	3150	505	410	915		335	480	430	8 x 20
HCC.3620HC	Copper	OIP	36	"	"	20000	31	3150	560	410	970		335	480	430	8 x 20
HCC.5206	Copper	OIP	52	250	105	6600	25	3150	850	355	1205		200	335	290	8 x 22

*25000 A Bushing's dimension is available upon request.



Model selection:

HOA – High current bushing with aluminium conductor, and main insulation as electrical insulating transformer oil.

HCA – High current bushing with aluminium conductor, main insulation as OIP capacitive insulation, and also transformer oil.

HOC – High current bushing with copper conductor, and main insulation as electrical insulating transformer oil.

HCC – High current bushing with copper conductor, and main insulation as OIP capacitive insulation, in addition to electrical insulating transformer oil.

How to select and indicate the desired model number from table 1:

Specify "Model No./BCT".

For example, to select a bushing with:

- Conductor/Terminal material = aluminium
- Highest System Voltage (HSV) = 36kV
- Rated Current = 16,000A

- Creepage = 31mm/kV

- L6 (BCT) = 100 mm

the appropriate model would be "HCA/3616HC/100."

The same model for L6 (BCT) = 300 mm would be "HCA/3616HC/300."

The same model required with L6 (BCT) = 0 mm would be "HCA/3616HC/0."

**L2 depends on L6. L2 values in above table are valid for L6 = 0 mm.

If L6>0 mm is required, the additional L6 will be added to the L2 shown in table 1, to receive new L2.

Special creepage distances are available upon request. For Air end and Oil end terminal dimensions refer to the detailed bushing drawing.

For any non-standard, customized dimensions other than the ones stated in the table, please contact us. ^

For detailed dimensions of terminal connections, terminal hole diameters, terminal hole pitch, and their detailed GA drawing, please contact us. ^

^ Refer to the back page for contact details.

Product Range



OIP CONDENSER BUSHINGS

Rated Voltage:
24 kV – 245 kV
Rated Current
Up to 3150 A*
Standards:
**IEC 60137:2017/ANSI/
IEEE C.57.19.00/01/Others**

Connections:
**Draw lead/Draw Rod/
Stem type**

Housing:
Porcelain/Composite

*Customized rated current > 3150 A
are available upon request.



RIP/RIS CONDENSER BUSHINGS

Rated Voltage:
24 kV – 245 kV
Rated Current
400 A – 3150 A*

Standards:
IEC 60137:2017

Connections:
**Draw lead/Draw Rod/
Stem type**

Housing:
**Composite/Silicone
Rubber**

*6300 A and other special
current ratings also available on
request.

Technology collaboration

Technology collaboration with a
Swiss based company



OIP WALL BUSHINGS/ OIL TO OIL BUSHINGS

Rated Voltage:
24 kV – 245 kV
Rated Current
400 A – 3150 A*

Standards:
**IEC 60137:2017/
IEEE C.57.19.00/01/Others**

Connections:
**Draw lead/Draw Rod/
Solid Conductor**

Housing:
**Porcelain/Composite
Silicone – Polymer**

*Customized rated current > 3150 A
are available upon request.



RETROFIT SOLUTIONS

Interchangeable solutions
for OIP to OIP (Oil
Impregnated Paper), OIP to
RIP (Resin Impregnated
Paper), and OIP to RIS
(Resin Impregnated
Synthetic) up to 245 kV for
any globally reputed make
bushings.



YASH HIGHVOLTAGE LIMITED®

Office & Manufacturing Plant

84/1-B, P.O. Khakhariya, Halol-Savli Road,
Dist. Vadodara - 391510, Gujarat - 391510 INDIA

Email: sales@yashhv.com

Website: www.yashhv.com

Mobile: +91 90990 96577

This document has been drawn up with utmost care. We can not, however,
guarantee that it is entirely complete, correct or up-to-date.

© Copyright Yash Highvoltage Limited, Subject to change without notice. 01.2024.

Represented By

