

## Wall Bushings: STB Series: 40.5~252 kV

## Combined Wall Bushings with Current Transformer: STB-L Series: 40.5~252kV

### Reliable, Explosion-free High-Voltage Bushings That Never Need Maintenance

RHM International's proprietary dry-type Wall Bushings and Combined Wall Bushings/Current Transformers are unique as they provide a rugged, reliable alternative for high-voltage insulation up to 252 kV.

RHM bushings are of the category known as condenser, or capacitance-graded bushings, in which the desired voltage grading is obtained by an arrangement of conducting materials or semi-conducting layers incorporated in the insulating material.

What is new? An advancement of accepted principles, our truly dry proprietary HV DryShield™ insulation uses proven materials like PTFE (polytetrafluoroethylene) and silicone rubber. HV DryShield™ high-voltage insulation provides unmatched uniform control of electric field distribution homogeneity between the conductor and the grounded outside structure in a genuine stress-free design that requires no insulating oil or gas, and needs no impregnated support up to 252 kV.

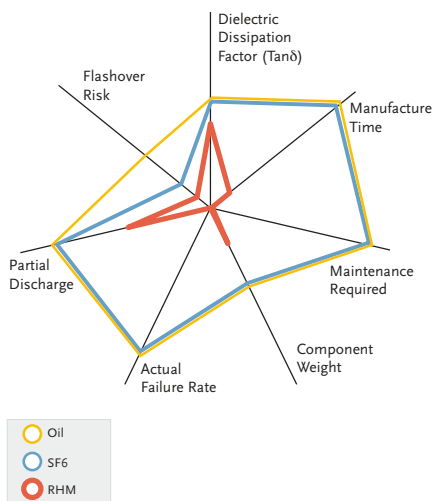
This provides a simple and robust construction that is completely stable, explosion-proof and that never needs maintenance.



STB 126 kV



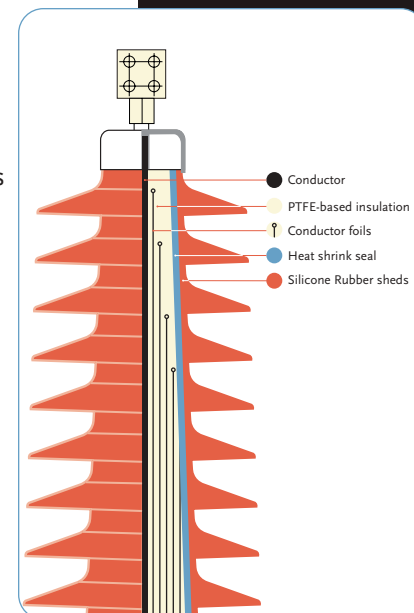
STB 252 kV



### Customer benefits:

- Totally safe – no risk of explosion
- Totally maintenance free – exceptionally low cost of ownership
- Environmentally friendly – no risk of toxic leak and insulation materials are recyclable
- 2 to 3 times lighter than conventional oil- or gas-based products
- Mature yet innovative, with unmatched quality record – not a single failure in 20 000 HV DryShield™ equipped products in the field
- Sealed and impervious to water and pollution

All products are developed and manufactured in an ISO 9001 certified plant and compliant with IEC and IEEE international standards.



Comparison of conventional wall bushings and current transformers with RHM International's

### A TR Electric Partner

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## Performance Characteristics for Wall Bushings

### a. Wall Bushing alone - STB Series

Highest voltage for equipment:	40.5 – 252 kV
Rated Current (I <sub>r</sub> ):	100~3150 A
Rated Frequency:	50 Hz; 60 Hz

### b. Wall Bushings combined with a Current Transformer – STB-L Series

Rated transformation ratio:	100~2500/5 A or 100~2500/1 A
Rated output:	20~40 VA
Accuracy Class:	0.2S, 0.2, 0.5S, 0.5 or 5P, 10P
Accuracy limit factor:	5, 10, 15, 20, 25, 30
Instrument security factor:	5, 10
Number of secondary windings:	1~6

### c. Environmental conditions

Ambient temperature:	-45°C (-49°F) ~ +45°C (113°F)
Altitude:	<1000 m above sea level (when higher than 1000 m, specific design available. Please contact us)
Specific creepage distances:	25~31 mm/kV

### d. Wall Bushing Testing

Highest voltage for equipment U <sub>m</sub> kV (rms)	Rated power frequency withstand voltage 1 min 50/60 Hz. kV (rms)	Rated lightning impulse withstand voltage kV (peak)	Partial discharge pC
40.5	95	200	≤ 5 (@24kV)
72.5	140	325	≤ 5 (@42kV)
126	230	550	≤ 5 (@77kV)
252	460	1050	≤ 5 (@154kV)

- Dielectric dissipation factor (tanδ) Under 10kV, and 1.05 U<sub>r</sub>/√3 voltage, tanδ value ≤ 0.004
- Rated short-time current (I<sub>th</sub>) 25 times the rated current I<sub>r</sub>, for 1 second.
- Temperature-rise test: 75K
- Minimum withstand values of cantilever load (IEC60137):

Highest voltage for equipment U <sub>m</sub> kV (rms)	Rated I <sub>r</sub> (A)		
	800	1000-1600	2000-2500
	Cantilever test load (N)		
40.5	1000 N	1000 N	2000 N
72.5	1000 N	1250 N	2000 N
126	1250 N	1600 N	2500 N
252	1250 N	1600 N	2500 N

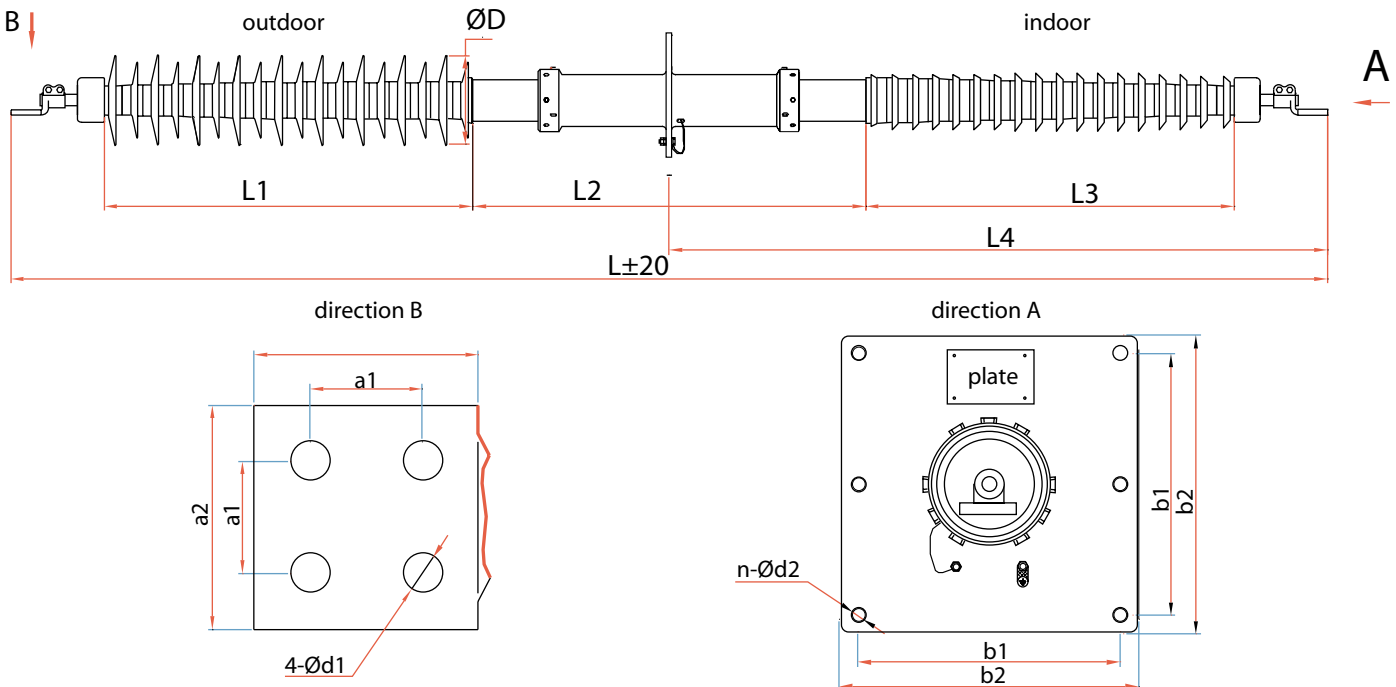
All our products are maintenance-free

## STB Series — Wall Bushing

Model & Specification	Highest voltage for equipment (kV)	Rated current (A)	Dimensions (mm)													Creepage distance (mm)	Weight (kg/lb)
			L	L1	L2	L3	L4	D	d1	d2	n	a1	a2	b1	b2		
STB-40.5/630	40.5	630	1510	350	350	350	755	180	14	15	4	40	80	200	240	1015	30/66
STB-40.5/800~1000	40.5	800~1000	1510	350	350	350	755	180	14	15	4	40	80	200	240	1015	35/77
STB-40.5/1250	40.5	1250	1510	350	350	350	755	180	14	15	4	40	80	200	240	1015	40/88
STB-40.5/1600	40.5	1600	1570	350	350	350	785	180	14	15	4	50	100	200	240	1015	45/99
STB-40.5/2000~2500	40.5	2000~2500	1610	350	350	350	805	180	18	15	4	60	120	200	240	1015	50/110
STB-72.5/630	72.5	630	2630	630	800	630	1315	210	14	17	6	40	80	350	400	1925	60/132
STB-72.5/800~1000	72.5	800~1000	2630	630	800	630	1315	210	14	17	6	40	80	350	400	1925	65/143
STB-72.5/1250	72.5	1250	2630	630	800	630	1315	210	14	17	6	40	80	350	400	1925	70/154
STB-72.5/1600	72.5	1600	2690	630	800	630	1340	210	14	17	6	50	100	350	400	1925	75/165
STB-126/630	126	630	3270	960	900	960	1635	210	14	17	6	40	80	350	400	3200	70/154
STB-126/800~1000	126	800~1000	3270	960	900	960	1635	210	14	17	6	40	80	350	400	3200	80/176
STB-126/1250	126	1250	3270	960	900	960	1635	210	14	17	6	40	80	350	400	3200	90/198
STB-126/1600	126	1600	3340	960	900	960	1665	210	14	17	6	50	100	350	400	3200	110/243
STB-126/2000~2500	126	2000~2500	3420	960	900	960	1680	210	18	17	6	60	120	350	400	3200	120/265
STB-252/630	252	630	5500	1750	1500	1750	2750	290	14	19	8	40	80	640	700	6300	300/661
STB-252/800~1000	252	800~1000	5500	1750	1500	1750	2750	290	14	19	8	40	80	640	700	6300	310/683
STB-252/1250	252	1250	5500	1750	1500	1750	2750	290	14	19	8	40	80	640	700	6300	320/705
STB-252/1600	252	1600	5520	1750	1500	1750	2760	290	14	19	8	50	100	640	700	6300	340/750
STB-252/2000~2500	252	2000~2500	5600	1750	1500	1750	2800	290	18	19	8	60	120	640	700	6300	350/772

All dimensions are indicative of typical designs - actual dimensions are confirmed with orders. Special sizes available upon request.

### STB Series — Wall Bushing



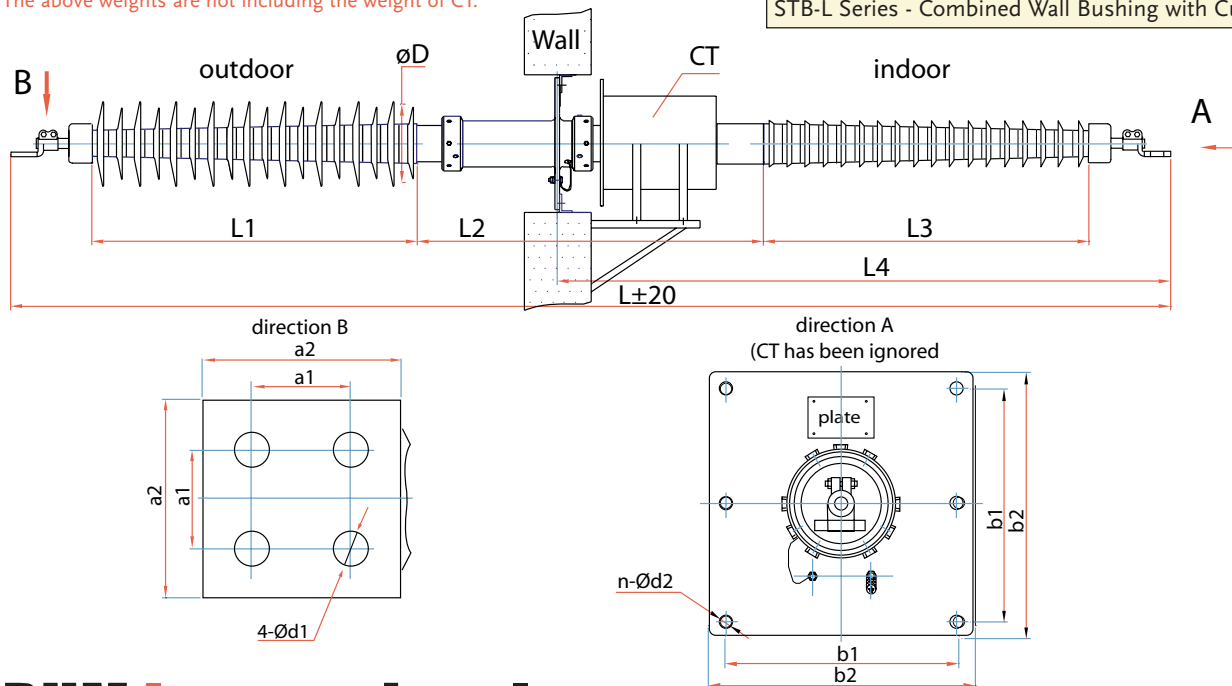
## STB-L Series — Combined Wall Bushing with Current Transformer

Model & Specification	Highest voltage for equipment (kV)	Rated current (A)	Dimensions (mm)													Creepage distance (mm)	Weight (kg/lb)
			L	L1	L2	L3	L4	D	d1	d2	n	a1	a2	b1	b2		
STB-L-40.5/630	40.5	630	1640	350	450	350	1045	180	14	15	4	40	80	300	360	1015	40/88
STB-L-40.5/800~1000	40.5	800~1000	1640	350	450	350	1045	180	14	15	4	40	80	300	360	1015	45/99
STB-L-40.5/1250	40.5	1250	1640	350	450	350	1045	180	14	15	4	40	80	300	360	1015	50/110
STB-L-40.5/1600	40.5	1600	1700	350	450	350	1075	180	14	15	4	50	100	300	360	1015	55/121
STB-L-40.5/2000~2500	40.5	2000~2500	1740	350	450	350	1095	180	18	15	4	60	120	300	360	1015	60/132
STB-L-72.5/630	72.5	630	2770	630	1000	630	1550	210	14	17	6	40	80	350	400	1925	75/165
STB-L-72.5/800~1000	72.5	800~1000	2770	630	1000	630	1550	210	14	17	6	40	80	350	400	1925	80/176
STB-L-72.5/1250	72.5	1250	2770	630	1000	630	1550	210	14	17	6	40	80	350	400	1925	85/187
STB-L-72.5/1600	72.5	1600	2820	630	1000	630	1575	210	14	17	6	50	100	350	400	1925	90/198
STB-L-126/630	126	630	3470	960	1100	960	1850	210	14	17	6	40	80	350	400	3200	90/198
STB-L-126/800~1000	126	800~1000	3470	960	1100	960	1850	210	14	17	6	40	80	350	400	3200	100/220
STB-L-126/1250	126	1250	3470	960	1100	960	1850	210	14	17	6	40	80	350	400	3200	110/243
STB-L-126/1600	126	1600	3540	960	1100	960	1880	210	14	17	6	50	100	350	400	3200	130/287
STB-L-126/2000~2500	126	2000~2500	3620	960	1100	960	1930	210	18	17	6	60	120	350	400	3200	140/309
STB-L-252/630	252	630	5500	1750	1500	1750	2750	290	14	19	8	40	80	640	700	6300	300/661
STB-L-252/800~1000	252	800~1000	5500	1750	1500	1750	2750	290	14	19	8	40	80	640	700	6300	310/683
STB-L-252/1250	252	1250	5500	1750	1500	1750	2750	290	14	19	8	40	80	640	700	6300	320/705
STB-L-252/1600	252	1600	5520	1750	1500	1750	2750	290	14	19	8	50	100	640	700	6300	340/750
STB-L-252/2000~2500	252	2000~2500	5600	1750	1500	1750	2800	290	18	19	8	60	120	640	700	6300	350/772

All dimensions are indicative of typical designs - actual dimensions are confirmed with orders. Special sizes available upon request.

The above weights are not including the weight of CT."

STB-L Series - Combined Wall Bushing with Current Transformer



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HV DryShield™ is a trademark of RHM International.