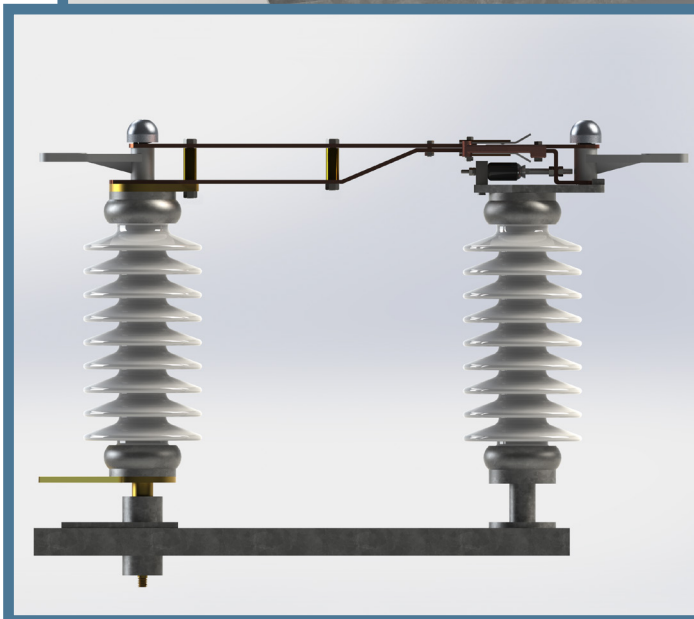
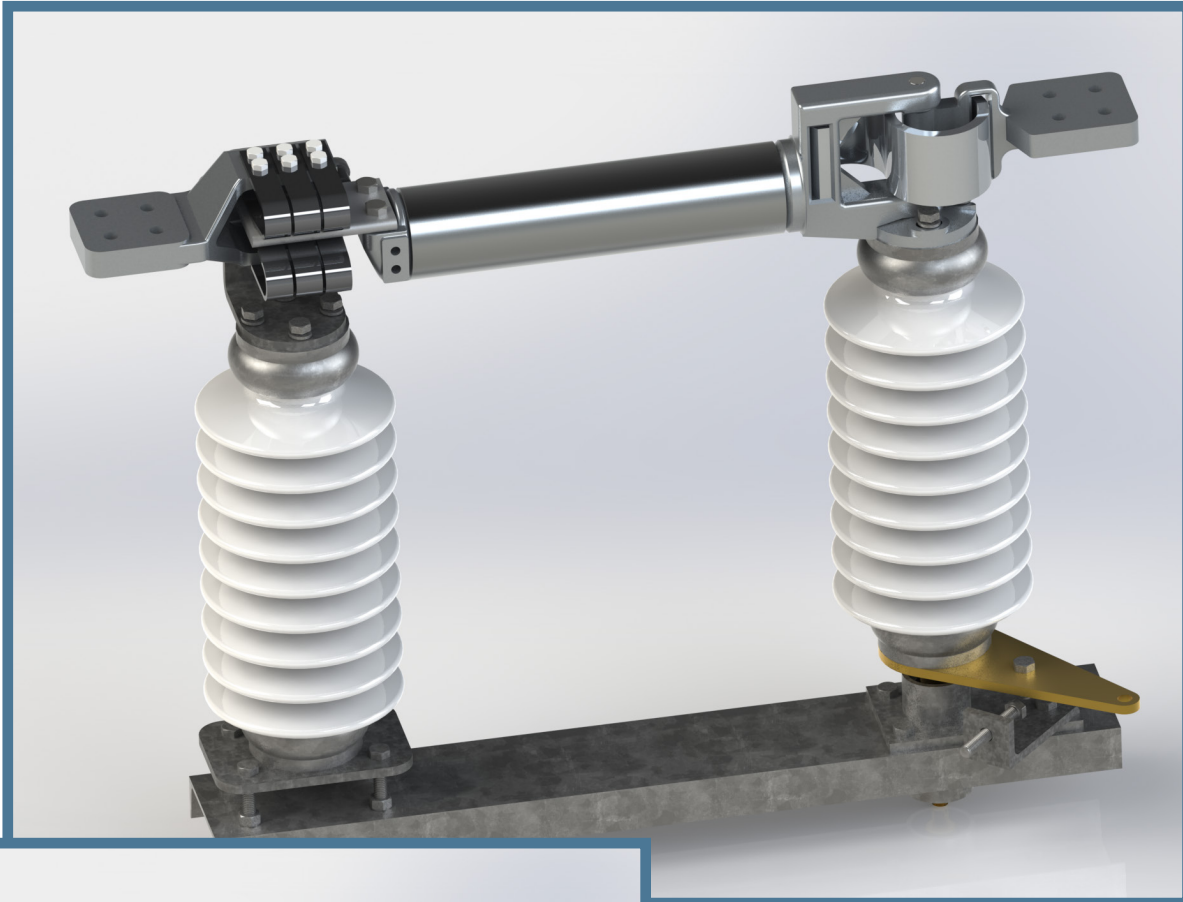


TYPE SB SIDE BREAK SWITCH

050-180705.1
(Rev. of 050-170331.1)

3-PHASE, GROUP-OPERATED (SUBSTATION AND TRANSMISSION APPLICATIONS)



- Horizontal upright, vertical or underhung mounting
- Manual or motor operated control mechanism
- Full load-break capability up to 34KV with the Royal RVI-38 vacuum interrupter
- 15KV through 69KV
- 1200A & 2000A

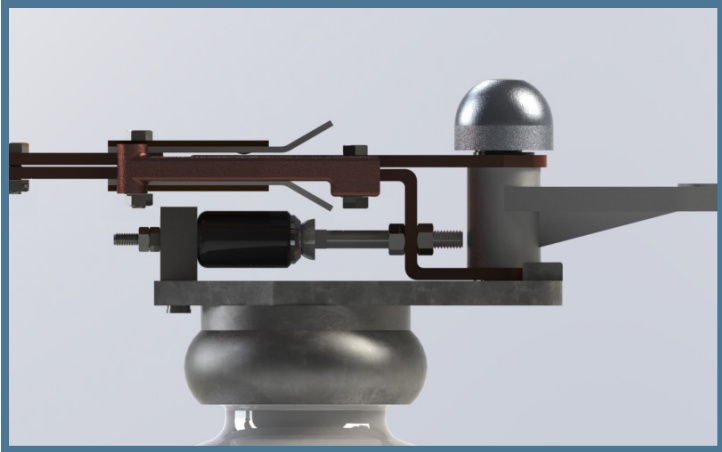


MANUFACTURER OF HIGH VOLTAGE PRODUCTS SINCE 1914
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FEATURES OF THE TYPE SB SWITCH

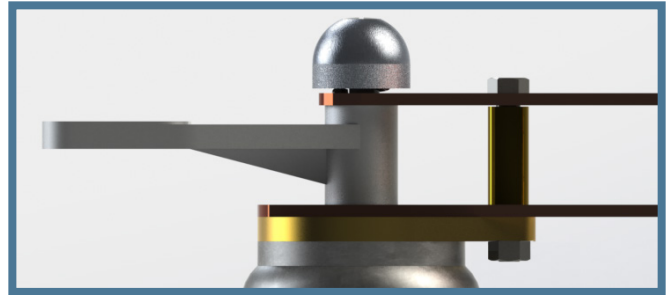
COPPER POSITIVE CONTACT ASSEMBLY

Pivoting contact reduces operating force and enhances ice-breaking capability. Toggle spring maintains open or closed contact positions. Individual contact shoes provide silver to silver contact surfaces. Each contact shoe is backed by a phosphor bronze spring to assure high pressure wiping contact.



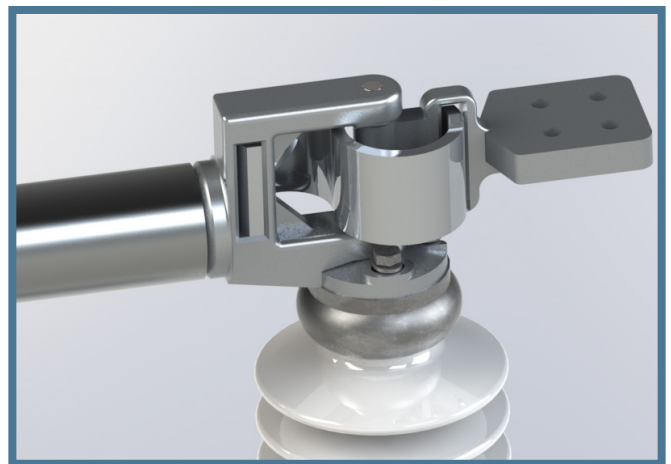
COPPER POSITIVE HINGE CONTACT

The hinge swivels on a stainless steel bearing rod. A high pressure stainless steel coil spring, outside the current path, applies pressure to the silver to silver current transfer points.



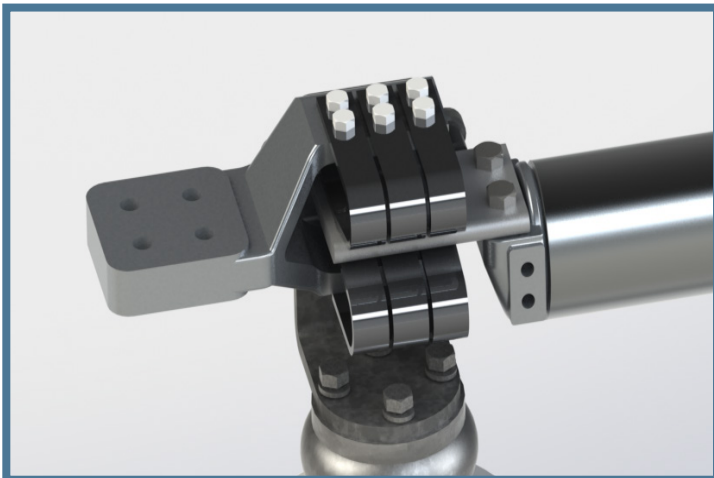
ALUMINUM LAMINATE HINGE

The hinge swivels on a stainless steel bearing rod. Hinge design utilizes a welded lamination to carry the current and eliminate maintenance and hot spots at the hinge.



ALUMINUM JAW CONTACT ASSEMBLY

The LSB switch has silver plated copper reverse-loop contacts. Reverse-loop contacts use electromagnetic forces to increase contact pressure during short circuit conditions. Stainless steel backup springs ensure adequate contact pressure and are isolated from the current path for maximum reliability.

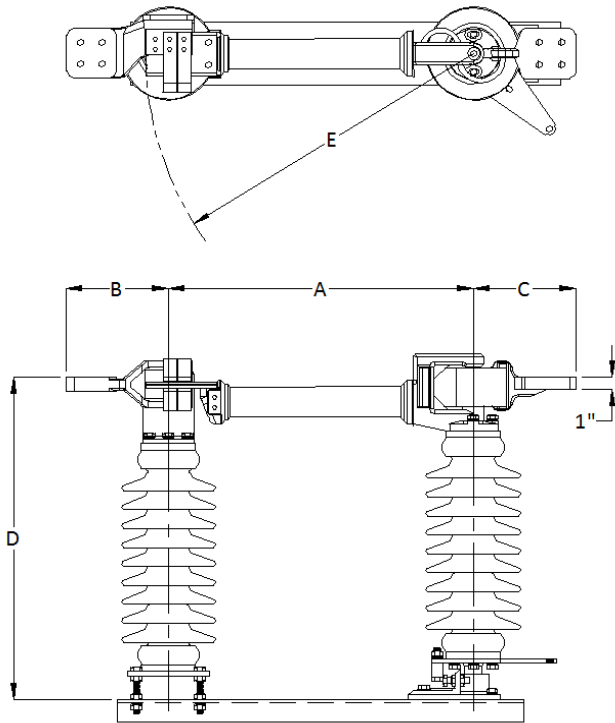


MAINTENANCE-FREE BEARING DESIGN

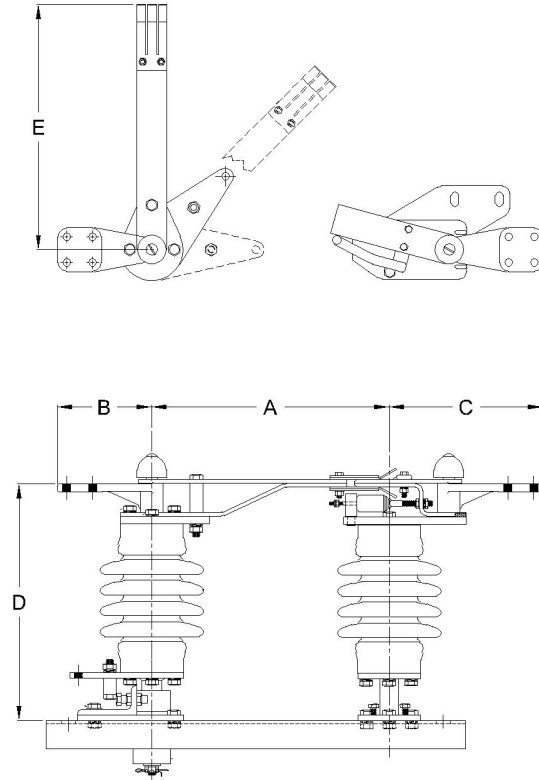
Each insulator stack is supported by double ball bearings permanently lubricated and sealed for the life of the switch. The base assembly has open and close position stops for a full 90° full throw of the switch.

* Available pre-assembled with three switch poles mounted to a steel or fiberglass rectangular tube-type base. Interphase pipe links the switch poles. Outboard bearing or direct operating drive. Consult factory for more information.

ALUMINUM SWITCH DIMENSIONS



COPPER SWITCH DIMENSIONS



kV Nom. (kV Max.)	Amps Continuous (kA Momentary)	Insulator T.R. No.	B.I.L. Rating (kV)	Catalog Number	Dimensions (in)					Single Pole Weight (lbs.)
					A	B	C	D	E	
ALUMINUM TUBULAR BLADE SWITCH										
15 (15.5)	1200 (61)	205	110	LSB1512	15	8 1/16	7 11/16	17 1/2	16 11/16	98
	2000 (100)			LSB1520						102
23 (27)	1200 (61)	208	150	LSB2312	18	8 1/16	7 11/16	21 1/2	19 11/16	123
	2000 (100)			LSB2320						127
34.5 (38)	1200 (61)	210	200	LSB3412	24	8 1/16	7 11/16	25 1/2	25 11/16	143
	2000 (100)			LSB3420						148
46 (48.3)	1200 (61)	214	250	LSB4612	30	8 1/16	7 11/16	29 1/2	31 11/16	163
	2000 (100)			LSB4620						168
69 (72.5)	1200 (61)	216	350	LSB6912	42	8 1/16	7 11/16	37 1/2	43 11/16	241
	2000 (100)			LSB6920						247
COPPER FLAT BLADE SWITCH										
15 (15.5)	1200 (61)	205	110	SBF1512	16	6 3/8	10 3/8	15 7/8	15 1/2	89
23 (27)	1200 (61)	208	150	SBF2312	18	6 3/8	10 3/8	19 7/8	18 1/2	114
34.5 (38)	1200 (61)	210	200	SBF3412	24	6 3/8	10 3/8	23 7/8	24 1/2	133
46 (48.3)	1200 (61)	214	250	SBF4612	30	6 3/8	10 3/8	27 7/8	30 1/2	152
69 (72.5)	1200 (61)	216	350	SBF6912	42	6 3/8	10 3/8	35 7/8	42 1/2	229

CURRENT INTERRUPTING DEVICES

Arcing Horns

Arcing horns are designed to prevent arcing at the main switch contacts. They have no interrupting rating, however they are commonly used to interrupt small values of current such as transformer magnetizing current or the charging current of a short length of bus.

Quick-Break

The quick-break circuit interrupter is capable of interrupting a limited amount of line charging or transformer magnetizing current. It provides high speed contact separation by the means of a spring loaded whip. For successful current interruption the rate of dielectric recovery must exceed the rate of restored voltage across the contacts.

The dielectric characteristics of air can be affected by atmospheric pressure, humidity, wind speed, etc. The rate of recovery voltage depends upon system configuration and operating parameters. For these reasons actual quick-break current interruption performance may vary from the guideline values provided.

Quick-Break Guidelines

Voltage Rating (kV)	Line (Miles)	Current (Amps)	Transformer (MVA)
34.5	55	8	25
46	45	8	35
69	30	8	50

RVI-38 Vacuum Interrupter

The side break is the ideal switch for pairing with a Royal RVI-38 vacuum interrupter. The RVI-38 can be used on full load break applications up to 38kV, 2000A (30kV max recovery voltage) which is perfect for use as a transformer bank disconnect or a bus-tie disconnect. The interrupter is in the power circuit only for a few seconds during the opening operation and is not in the circuit while the switch is closed. or closing. Continuous, momentary and impulse ratings of the switch are not affected.

RVI-38 Ratings

Max. Recovery Voltage	30 kV
Max. Interrupting Current	2000A
Cable Charging Current	20A
Magnetizing Current	20A
Loop Split (170kV Max.)	2000A

