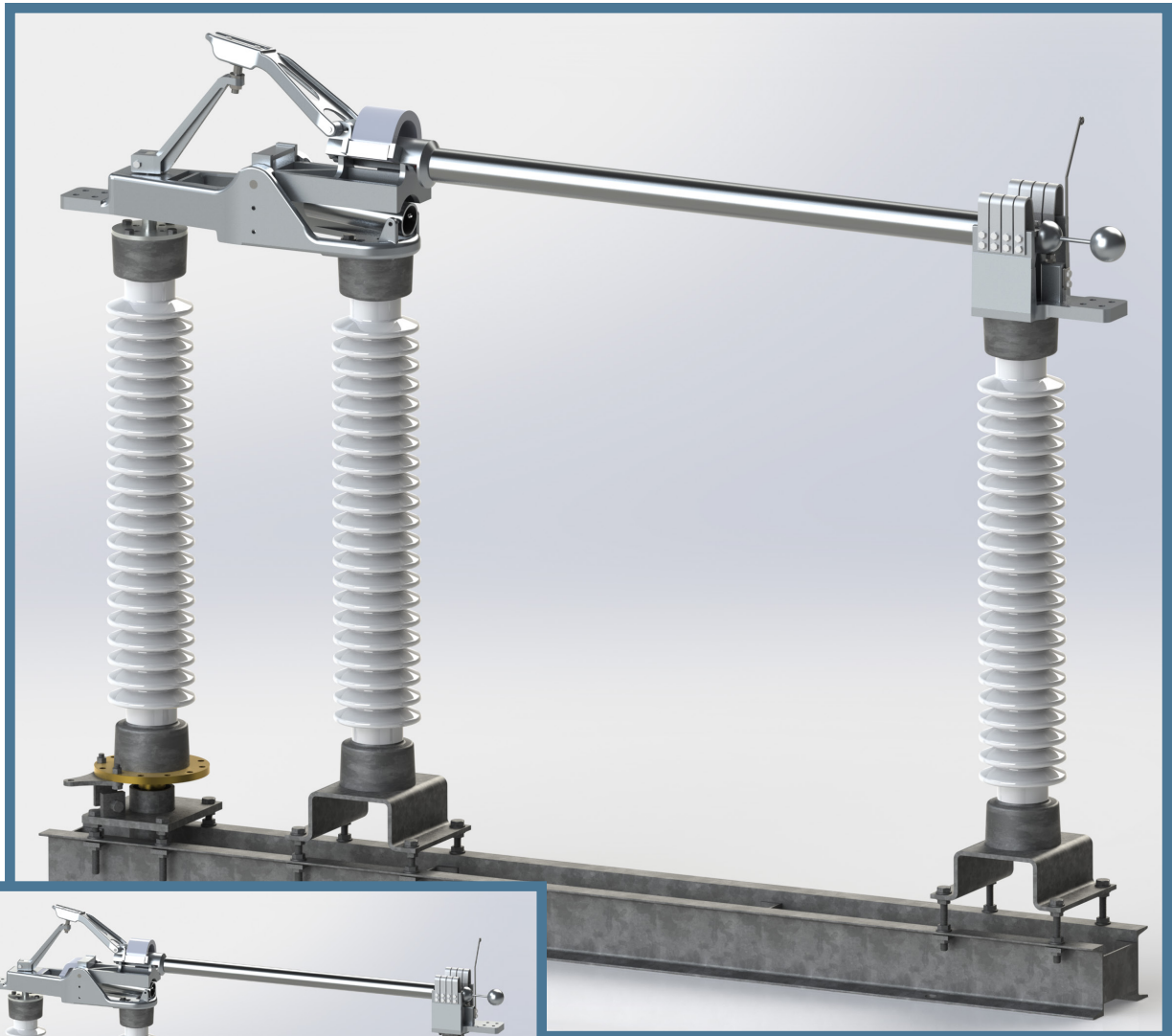


TYPE AVT VERTICAL BREAK SWITCH

020-180705.1
(Rev. of 020-10331.1)

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



***Slant Insulator Optional**

- Horizontal upright, vertical or underhung mounting
- 15KV through 345KV
- 1200A through 3000A
- Manual or motor operated control mechanism



MANUFACTURER OF HIGH VOLTAGE PRODUCTS SINCE 1914
1.800.426.4380

FEATURES OF THE TYPE AVT SWITCH

The **AVT** vertical-break switch is an aluminum, three pole, outdoor, air-break, group-operated, disconnect switch. It has three insulators and is operated by rotation of the outboard insulator on the hinge end. The switch is supplied with a complete operating mechanism including swing handle, vertical operating pipe, outboard bearing, interphase pipe, position indicator and all connecting fittings. Gear and motor operators are available as options. The AVT meets applicable industry standards for electrical and mechanical performance. Applications include disconnecting, isolating or bypassing equipment such as transformers or breakers, and sectionalizing bus and line.

JAW CONTACT

The AVT switch has silver plated copper reverse-loop contacts. This contact design utilizes magnetic forces generated by current to increase contact pressure as the current increases. Insulated stainless steel coil springs maintain contact pressure and are out of the current path. The mating blade contact plate is silver plated copper. The blade rotates in the contact during opening and closing operations. This action cleans contact surfaces and improves ice-breaking capability.

BLADE

The blade is constructed of aluminum tubing with welded aluminum castings for the jaw and hinge ends.

HINGE

The AVT utilizes welded lamination to carry the current. This design feature allows the current path of the AVT to bypass all mechanical joints in the hinge.

BASE

345kV-- Square tube structural steel base is drilled to customer mounting specifications. The base is hot dip galvanized and has jacking bolts in the insulator supports to simplify switch alignment and adjustment.
115kV to 230kV -- Double channel structural steel base is drilled to customer mounting specifications. The base is hot dip galvanized and has jacking bolts in the insulator supports to simplify switch alignment and adjustment.
15kV to 69kV -- Single channel galvanized steel base is drilled to customer specifications.

COUNTERBALANCE

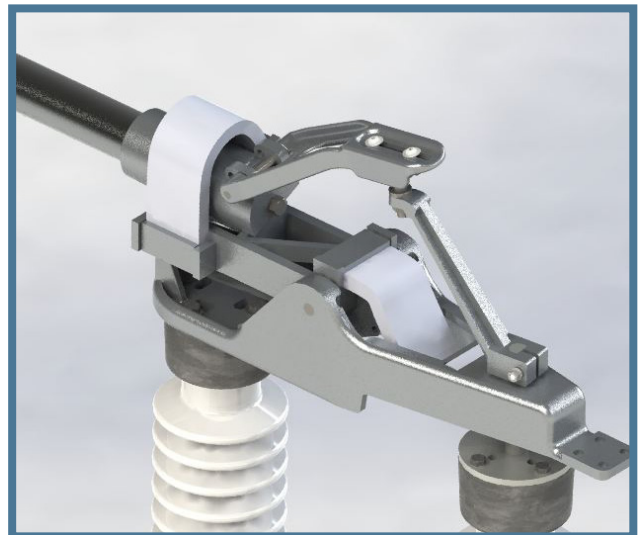
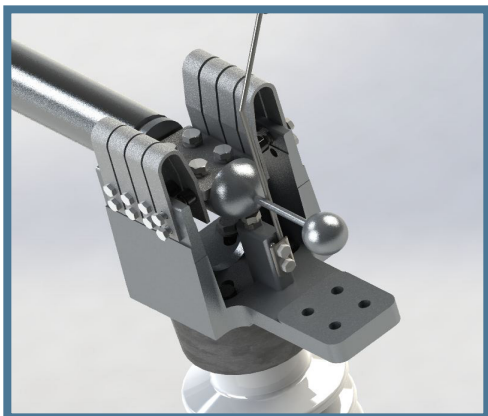
Steel coil spring in tubular housing assists switch pole operation in any mounting position.

ARCING HORN

Protects switch contacts from arcing damage when low values of switching current are present.

TERMINAL PADS

Drilled to NEMA specifications -- 9/16" holes on 1 3/4" spacing.

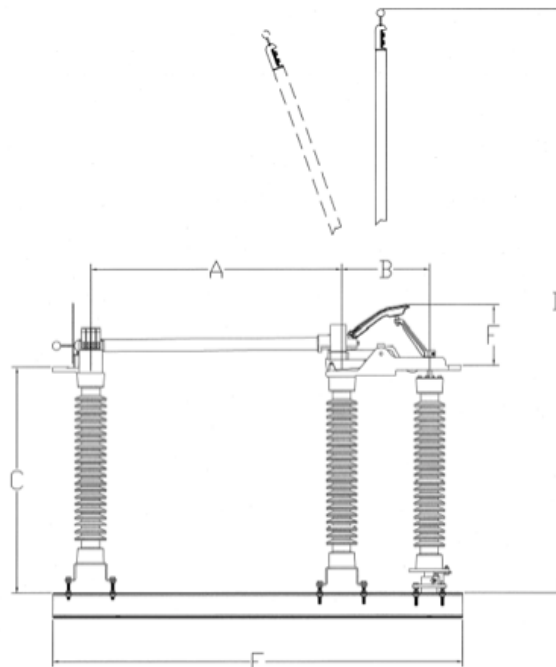


TYPE AVT SWITCH SPECIFICATIONS

kV Nom. (kV Max.)	Amps Cont. (kAmps Mom.)	Insulator T.R. No.	B.I.L.	Catalog Number	Dimensions (in.)						Single Pole Weight (Lbs.)
					A	B	C	D	E	F	
15 (15.5)	1200 (61)	205	110	AVT1512	15	21	16 3/8	52 1/2	47	14 1/2	215
	2000 (100)			225							
	3000 (120)			250							
23 (27)	1200 (61)	208	150	AVT2312	18	21	20 3/8	59 1/2	50	14 1/2	250
	2000 (100)			261							
	3000 (120)			286							
34.5 (38)	1200 (61)	210	200	AVT3412	24	21	24 3/8	69 1/2	56	14 1/2	276
	2000 (100)			286							
	3000 (120)			311							
46 (48.3)	1200 (61)	214	250	AVT4612	30	21	28 3/8	79 1/2	62	14 1/2	299
	2000 (100)			308							
	3000 (120)			334							
69 (72.5)	1200 (61)	216	350	AVT6912	42	21	36 3/8	99 1/2	74	14 1/2	406
	2000 (100)			416							
	3000 (120)			441							
115 (123)	1200 (61)	286	550	AVT11512	60	21	53 1/2	135	98	14 1/2	724
	2000 (100)			734							
	3000 (120)			771							
138 (145)	1200 (61)	288	650	AVT13812	72	21	62 1/2	156	110	14 1/2	778
	2000 (100)			801							
	3000 (120)			817							
161 (170)	1200 (61)	291	750	AVT16112	84	21	70 1/2	176	122	14 1/2	1012
	2000 (100)			1048							
	3000 (120)			1057							
230 (245)	1200 (61)	304	900	AVT23012	96	21	88 1/2	208	134	14 1/2	1159
	2000 (100)			1208							
	3000 (120)			1218							
	1200 (61)	312	1050	AVT23012Z	116	21	100 1/2	240	154	14 1/2	1247
	2000 (100)			1318							
	3000 (120)			1330							
345 (362)	1200 (61)	324	1300	AVT34512	132	21	114 1/2	271 1/8	165	14 1/2	1647
	2000 (100)			1647							
	3000 (120)			1698							

NOTES

1. Dimensions are in inches and are for NEMA standard station post insulators.
2. Counterbalances are standard on all switches 115kV and above.
3. Counterbalances are optional on 69kV switches.
4. Blade stops at 70° when switch mounts in vertical and underhung position.
5. A gear or motor operator is recommended on 230kV and above switches.



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 line.

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 Interruption Guidelines

Voltage Rating (kV)	Line (Miles)	Current (Amps)	Transformer (MVA)
34.5	55	8	25
46	45	8	35
69	30	8	50
115	16	7	70
138	10	5	60
161	Consult Factory		
230	Consult Factory		

RVI-38 Vacuum Interrupter

The vacuum interrupter will permit currents up to 2000 amperes to be interrupted in loop splitting or parallel switching to 161kV if peak recovery voltage does not exceed 30 kV. It 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.

