

Specifications

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Standard

The seller's standard conditions of sale set forth in Price Sheet 150 apply, except as modified in the "Warranty Qualifications" section on page 3.

Special To This Product

Inclusions

Mark VI Circuit-Switchers provide reliable, economical switching and protection of capacitor banks and distribution substation transformers. They are suitable for frequent operation over a long period of time with minimal maintenance. Mark VI Circuit-Switchers interrupt the circuit in electrically tripped interrupters, and close the circuit by means of an integral vertical-break power-operated disconnect.

The SF₆-gas-filled single-gap puffer-type interrupters provide 3-cycle circuit interruption and maintain dielectric ratings when open. They use lightweight, composite-polymer silicone insulation. Interrupters are factory-filled to full pressure and then permanently sealed. No additional gas handling is required for the life of the device, eliminating the risk of contaminating the interrupting medium. A temperature-compensated gas-pressure gauge is provided for each interrupter, providing local indication of gas density.

Interrupters are tripped by electrically actuated spring-charged, stored-energy mechanisms. Each is closed by a motor operator located under the base of the interrupter. Each interrupter includes indication of position: **Open** or **Closed**. Circuit-switchers also feature trip-free capability. Should the circuit-switcher be closed into a fault sensed by user-furnished relaying, the circuit-switcher will trip immediately.

The integral disconnect provides opening and closing without hesitation under 3/4-inch (19-mm) ice formation. Proper sequence of operation is ensured between the interrupters and the disconnect. The disconnect is powered by a Mark VI Type CS-1A Switch Operator furnished with the circuit-switcher.

The Mark VI Type CS-1A Operator includes the following features:

- A built-in internal decoupling mechanism, operable by integral external selector handle, with padlocking provisions and automatic mechanical locking of output shaft (A laminated safety-plate window permits "visible air-gap" verification of complete disengagement of output shaft.)
- OPEN/CLOSE pushbuttons, externally operable, with padlockable cover
- A built-in nonremovable, foldaway manual operating handle for the integral disconnect
- Mechanical position indicators for the switch operator and integral disconnect
- A non-reset electric operation counter
- A laminated safety-plate window for inspection of the built-in internal decoupling mechanism, mechanical position indicators, and operation counter (and optional position-indicating lamps, if furnished)
- Foolproof recoupling (It is impossible with position-indexing drums to couple the switch operator and the integral disconnect "unsynchronized.")
- Fingertip precision adjustment of the output-shaft rotation using self-locking spring-biased cams
- An eight-pole auxiliary switch, coupled to the motor, with fingertip-precision adjustment of individual contacts using self-locking spring-biased cams
- Antifriction bearings throughout; tapered roller bearings for all high-torque gear-train shafts
- Two-pole pull-out fuseholders for space heater and motor circuit
- A weatherproof, dustproof enclosure, equipped with 120/240-Vac space heater, factory-connected for 240-Vac operation (The heater can readily be field reconnected for 120-Vac operation.)

- A tamper-resistant design welded enclosure; baffled louvers; gasketed, flanged door openings; cam-action door latch; and provisions for padlocking
- Foul-weather accessibility to interior of the enclosure (Access is by door rather than by removal of entire enclosure.)

The Mark VI Circuit-Switcher can be mounted on user-furnished mounting pedestals or structures. Phase spacing and mounting height can be matched to virtually any arrangement. The mounting pedestals or structures must meet the static and dynamic deflection limits specified in S&C Data Bulletin 712-60. Alternately, the circuit-switcher can be mounted on an S&C-furnished mounting pedestal(s). Mounting pedestals include all necessary wiring and conduits for connecting the interrupters to the Mark VI Type CS-1A Switch Operator. Mounting pedestals can be selected from Table 5 on page 8.

Fault-Closing Ratings

Mark VI Circuit-Switchers provide two-time duty-cycle fault-closing ratings of 30,000 amperes, RMS, three-phase symmetrical, 76,500 amperes peak. These ratings are based on performance as follows:

- The circuit-switcher is capable of two fault-closing operations consisting of closing against and carrying for one second its rated fault-closing current, after which it can carry current and interrupt its rated continuous current.
- After each occasion consisting of either one or two fault-closing operations at its rated fault-closing current, the circuit-switcher must be inspected and any necessary repair or replacement of the fault-closing contacts made to restore the device to its original condition.

Exclusions

Mark VI Circuit-Switchers do not include optional features, mounting pedestal(s), anchor bolts, or connectors. Refer to Table 4 on page 7 through Table 7 on page 9.

Specification Deviations

When Mark VI Circuit-Switchers are to be provided with connectors other than those shown in Table 7 on page 9 (including all expansion, compression, and multi-conductor types), refer to the nearest S&C Sales Office.

Usual Operating Conditions

Mark VI Circuit-Switchers will perform as intended at temperatures within the range of -35°C (-31°F) to $+40^{\circ}\text{C}$ ($+104^{\circ}\text{F}$), or -15°C (5°F) to $+40^{\circ}\text{C}$ (104°F) for 138-kV circuit-switcher (catalog number 379119) applied on underground capacitor banks, at altitudes up to 3300 feet (1000 meters)●, and at wind loadings up to 100 miles per hour (160 kilometers per hour).

Further, when installed on an S&C mounting pedestal(s) using the appropriate S&C anchor bolts (see Table 6 on page 8) or on user-furnished mounting pedestal(s) or structure in accordance with Data Bulletin 712-60, and with flexible-conductor connections at all six terminal pads, the Mark VI Circuit-Switcher is capable of withstanding seismic loading of 0.2 g ground acceleration in any direction as well as performing as intended during and after such loading.

For applications at temperatures not within the specified range, at higher altitudes, at higher wind loading, or where higher seismic withstand capabilities are required, refer to the nearest S&C Sales Office.

Warranty Qualifications

Warranty of a Mark VI Circuit-Switcher is contingent upon installation and adjustment of the circuit-switcher in accordance with S&C's applicable instruction sheets, information bulletins, data sheets, and/or data bulletins.

● Mark VI Circuit-Switchers can be installed at altitudes higher than 3300 feet (1000 meters); derating to the BIL voltage will apply. Refer to the nearest S&C Sales Office for more information.

How to Order

How to Order a Mark VI Circuit-Switcher

Below are the steps to build a Mark VI Circuit-Switcher catalog number. Included with the steps are fill-in boxes to help keep track of the various components of the final catalog number.

- STEP 1.** Obtain the catalog number of the desired Mark VI Circuit-Switcher from Table 2 on page 6.

Catalog Number:

- STEP 2.** To select the motor and control voltage, obtain the appropriate suffix letter from Table 3 on page 6. Add the suffix letter to the circuit-switcher catalog number selected in Step 1.

Suffix letter: -

- STEP 3.** If optional feature(s) are desired, obtain the suffix letter(s) of the desired options from Table 4 on page 7.

Suffix letter: -

- STEP 4.** To specify a mounting pedestal(s), obtain the suffix letter of the desired mounting pedestal(s) from Table 5 on page 8.

Suffix letter: -

- STEP 5.** If anchor bolts are required, obtain the catalog number of the desired anchor bolts from Table 6 on page 8, taking care to note the quantity required for the selected mounting pedestal(s).

and Catalog Number: - -

- STEP 6.** If connectors are desired, obtain the catalog number of the desired connectors from Table 7 on page 9. Order six connectors per circuit-switcher.

Catalog Number: -

Example: For a 69-kV Mark VI Circuit-Switcher with a 48-Vdc motor and control voltage and a **Grounding Switch** option, installed on a single-column S&C Mounting Pedestal with 51-inch (1295-mm) phase spacing, the catalog number is:

- - -

If anchor bolts are needed, order catalog number:

(quantity=4) with this unit.

If connectors are needed, order connector catalog number:

(quantity=6) for standard bronze pad terminal, four-bolt, tin-plated connectors with 2-inch bolt length.

How to Order Spare or Replacement Parts

If spare or replacement parts are desired, obtain the catalog number of the desired part from Table 8 on page 10.

Catalog Number: - - - -

Table 1. Interrupting Ratings

Application		Qualifications	Maximum Amperes, Interrupting, RMS, Symmetrical
Class			
Transformer switching and protection	Load dropping ^①	—	630
	Duty-cycle fault interrupting (primary fault) ^{②③}	3-Time	31 500●
		5-Time	18 900
		10-Time	9450
		30-Time	3150
	Secondary faults ^④	69 kV	4200
115 kV and 138 kV		2600	
Internal faults—see both primary and secondary faults above			
Capacitor-bank switching and protection	Bank current-switching	Grounded capacitor banks applied on solidly grounded systems only, through 138 kV	420
		Ungrounded capacitor banks applied through 115 kV	420
		Ungrounded capacitor banks applied at 138 kV ^⑤	420
	Fault interrupting ^{②③●}	—	31 500

① Mark VI Circuit-Switchers can close, carry, and interrupt the magnetizing current of the protected transformer.

② Rating is based on transient-recovery voltage parameters defined in the following tables of IEC Standard 60056, Edition 4.0: 1987:

For circuit-switchers rated 69 kV: Tables IIa, XVa, and XVIa.

For circuit-switchers rated 115 kV and 138 kV: Tables IIc, XVc, XVIc, and XVII.

③ The interrupting ratings shown are applicable for the following duty cycles: O or CO.

④ Mark VI Circuit-Switchers are suitable for transformer-primary applications where the inherent secondary-fault current—the secondary-side fault current as reflected on the primary side of the transformer, assuming an infinite (zero-impedance) source—does not exceed this value for a fault external to the transformer. The inherent secondary-fault current may be calculated as follows:

$$I = \frac{57.8P}{(\%Z)E}$$

where I = Inherent secondary-fault current, amperes

P = Transformer self-cooled three-phase rating, kVA

E = Primary-side system phase-to-phase voltage, kV

%Z = Percent transformer primary-to-secondary impedance, referred to transformer self-cooled three-phase kVA rating

⑤ The interrupting ratings shown are applicable for Mark VI Circuit-Switcher catalog number 379119 when applied on 138-kV ungrounded capacitor banks.

● Mark VI Circuit-Switchers cannot be applied on systems with short-circuit currents in excess of this value.

Ordering Tables

Table 2. Mark VI Circuit-Switchers—50/60 Hz^①

kV			Amperes, RMS					Integral Disconnect Insulator T.R. No.	Catalog Number
Nom.	Max	BIL	Cont.	4-Hour	Peak Withstand	1-Sec.	Fault Closing, Duty-Cycle, Two-Time ^②		
69	72.5	350	420	630	81 900	31 500	30 000	216	379016
115	123	550	420	630	81 900	31 500	30 000	286	379018
138	145	650	420	630	81 900	31 500	30 000	288	379019●
									379119■

① Catalog numbers include a Mark VI Type CS-1A operator to power the integral disconnect.

② For complete information, refer to the "Fault-Closing Ratings" section on page 3.

● Suitable for transformer protection and grounded capacitor bank applications.

■ Suitable for ungrounded capacitor bank applications only.

Table 3. Motor and Control Voltage

Motor and Control Voltage	Schematic Wiring Diagram Drawing	Suffix to be Added to Circuit-Switcher Catalog Number
48 Vdc	CDR-6514	-A
125 Vdc	CDR-6515	-B
115 V 60 Hz	CDR-6516	-D

Table 4. Optional Features

Item			Suffix to be Added to Circuit-Switcher Catalog Number
Interrupter pole-unit quick-connect control cable. Plug-style connector replaces butt-splice electrical connection at interrupter junction box ^①			-C2
Complete quick-connect control cable. Plug-style connector replaces terminal block electrical connection between interrupter charging motor and interrupter junction box and Mark VI CS-1A Switch Operator ^①			-C3
Grounding switch, three-pole group-operated, 61,000 amperes momentary rating, with flexible straps for current transfer at jaw end of blades, and with 90° opening blades parallel to bases when in open position. Grounds jaw-contact terminal pads of the circuit-switcher. Includes manual operating handle	Applicable to Circuit-Switcher Rated, kV	-G	
	69		
	115		
	138		
Deletion of externally operable OPEN/CLOSE pushbuttons in Mark VI Type CS-1A Operator			-J
Space heater thermostat in Mark VI Type CS-1A Operator			-K
Key Interlock with switch, locks circuit-switcher open and disconnects motor control circuit in Mark VI Type CS-1A Operator. Key may then be used in interlock associated with grounding switch (such as key interlock option suffix "-L4"), or other device			-L1
Key-type interlock for use on grounding switch option suffix "-G." Key to be matched with key interlock with switch option suffix "-L1" and/or other interlocked device			-L4
International crating. Wood used is either hardwood or certified by the supplier as "Heat Treated (kiln dried) to a core temperature of 133°F (56°C) for a minimum of 30 minutes"			-L71
Position-indicating LED lamps (one red, one green for each interrupter), mounted in Mark VI Type CS-1A Operator			-M
Extra auxiliary switch (individually adjustable contacts), 4-PST (coupled to motor) in Mark VI Type CS-1A Operator			-Q
Auxiliary switch for use on grounding switch option suffix "-G" (individually adjustable contacts), 4-PST (coupled to circuit-switcher) ^②			-Q4
Remote gas-density indicator, for remote indication of two-level low-gas-density alarms			-R
Manual-trip device in Mark VI Type CS-1A Operator, offers provisions for tripping interrupters if control power is lost			-T
Duplex receptacle and convenience-light lampholder with Switch in Mark VI Type CS-1A Operator			-V
Extra auxiliary switch in Mark VI Type CS-1A Operator (individually adjustable contacts), 8-PST (coupled to circuit-switcher) ^③			-W
Auxiliary switch for use on grounding switch option suffix "-G" (individually adjustable contacts), 8-PST (coupled to circuit-switcher) ^②			-W4
Remote-control blocking switch in Mark VI Type CS-1A Operator, prevents remote operation of switch operator when the protective cover for the externally mounted OPEN/CLOSE pushbuttons is open			-Y
Extra auxiliary switch in Mark VI Type CS-1A Operator (individually adjustable contacts), 12-PST (coupled to circuit-switcher) ^④			-Z
Pre-Insertion Inductors ^③ ^⑤	Applicable to Circuit-Switcher Rated, kV	Capacitor Bank Size, MVac	
	69	5 to 20	-P6
		21 to 27	-P61
	115	10 to 46	-P6
13 to 55		-P6	

① Only available for Mark VI Circuit-Switchers on S&C Mounting Pedestals.

② The 4-PST auxiliary switch (suffix "-Q4") cannot be furnished if the 8-PST version (suffix "-W4") is specified, and vice versa.

③ Circuit-switchers with pre-insertion inductors are not suitable for fault-closing duty.

④ The 8-PST extra auxiliary switch (suffix "-W") cannot be furnished if the 12-PST version (suffix "-Z") is specified, and vice versa.

⑤ Circuit-switchers with pre-insertion inductors are capable of two consecutive closing operations five minutes apart, followed by one closing operation every hour.

Ordering Tables

Table 5. Mounting Arrangement—To be Specified

Description	Applicable to Circuit-Switcher Rated, kV	Phase Spacing, Inches (mm)	Height, Inches (mm)	Suffix to be Added to Circuit-Switcher Catalog Number
Installation on user-furnished structure ^①	All	All	All	-U●
Installation on S&C Mounting Pedestals ^②	69	51 (1295)	96 (2438)	-E84
			120 (3048)	-E104
			144 (3658)	-E124
	69 thru 138	84 (2134)	96 (2438)	-E88
			120 (3048)	-E108
			144 (3658)	-E128
	115 and 138	96 (2438)	96 (2438)	-E89
			120 (3048)	-E109
			144 (3658)	-E129
		102 (2591)	96 (2438)	-E81
			120 (3048)	-E101
			144 (3658)	-E121

① Users must supply a detailed drawing of their structure. Conduit is not supplied with the “-U” option. Refer to your nearest S&C Sales Office for more information.

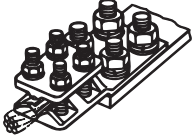
② Single column for pedestals with 51-inch phase spacing; set of two columns for pedestals with 84-inch, 96-inch and 102-inch phase spacing. All pedestals are 12-inch-square columns of galvanized steel.

● For installation on user’s structure where interphase shaft is more than 25 feet (762 cm) above the top of the foundation, refer to the nearest S&C Sales Office.

Table 6. Anchor Bolts for Mounting Pedestals

Applicable to Circuit-Switcher Rated, kV	Phase Spacing, Inches (mm)	Anchor Bolt		
		Nominal Size, Inches (mm)	Quantity Required	Catalog Number
69	51 (1295)	1¼×44 (32×1118)	4	S-81365-2
	84 (2134)	1×33 (25×838)	8	S-81365-1
115 and 138	84, 96, and 102 (2134, 2438, and 2591)	1×33 (25×838)	8	S-81365-1

Table 7. Connectors

Illustration	Description	Accommodating Conductor	Catalog Number ^①
	Standard bronze pad terminal, four-bolt, tin-plated. Includes 1/2-inch galvanized steel hardware for attachment to terminal pads of circuit-switcher	2/0 stranded (67.4 mm ²) through 800 kc mil (405 mm ²) copper	4568R1
		4/0 stranded (107 mm ²) through 1000 kc mil (507 mm ²) copper	4569R1
	Standard aluminum-alloy pad terminal, four-bolt. Includes 1/2-inch galvanized steel hardware for attachment to terminal pads of circuit-switcher	250 kc mil (127 mm ²) through 400 kc mil (203 mm ²) copper or aluminum	5329
	Standard aluminum-alloy pad terminal, four-bolt. Includes 1/2-inch galvanized steel hardware for attachment to terminal pads of circuit-switcher	350 kc mil (177 mm ²) through 600 kc mil (304 mm ²) copper or aluminum	5331
	Standard aluminum-alloy pad terminal, four-bolt. Includes 1/2-inch galvanized steel hardware for attachment to terminal pads of circuit-switcher	600 kc mil (304 mm ²) through 900 kc mil (456 mm ²) copper or aluminum	5333
	Standard aluminum-alloy pad terminal, four-bolt. Includes 1/2-inch galvanized steel hardware for attachment to terminal pads of circuit-switcher	900 kc mil (456 mm ²) through 1250 kc mil (633 mm ²) copper or aluminum	5334

① Add suffix letter to the catalog number to specify appropriate mounting bolt length as follows:

“-A” for 1/2–13×1

“-B” for 1/2–13×1 1/2

“-C” for 1/2–13×2

Ordering Tables

Table 8. Spare or Replacement Parts

Item		Rating, kV	Catalog Number	
Interrupter	Without sensors for remote gas-density indicator	69 kV	SXA-4700-B	
		115 kV	SXA-4701-B	
		138 kV	SXA-4702-B	
	Without sensors for remote gas-density indicator. With socket for quick-connect option ^①	69 kV	SXA-4700-B-C	
		115 kV	SXA-4701-B-C	
		138 kV	SXA-4702-B-C	
	With sensors for remote gas-density indicator ^②	69 kV	SXA-4700-1-B	
		115 kV	SXA-4701-1-B	
		138 kV	SXA-4702-1-B	
	With sensors for remote gas-density indicator. With socket for quick-connect option ^{①②}	69 kV	SXA-4700-1-B-C	
		115 kV	SXA-4701-1-B-C	
		138 kV	SXA-4702-1-B-C	
Interrupter filled to 110 PSI	Without sensors for remote gas-density indicator	138 kV	SXA-4746-B	
	Without sensors for remote gas-density indicator. With socket for quick-connect option ^①	138 kV	SXA-4746-B-C	
	With sensors for remote gas-density indicator ^②	138 kV	SXA-4746-1-B	
	With sensors for remote gas-density indicator. With socket for quick-connect option ^{①②}	138 kV	SXA-4746-1-B-C	
		Operator Voltage		
Motor operators	Replacement motor, single 6-pole replacement motor	Without socket for quick-connect option	48 Vdc	SXA-4020-1
			125 Vdc	SXA-4020-2
		With socket for quick-connect option ^③	48 Vdc	SXA-4020-1-C
			125 Vdc	SXA-4020-2-C

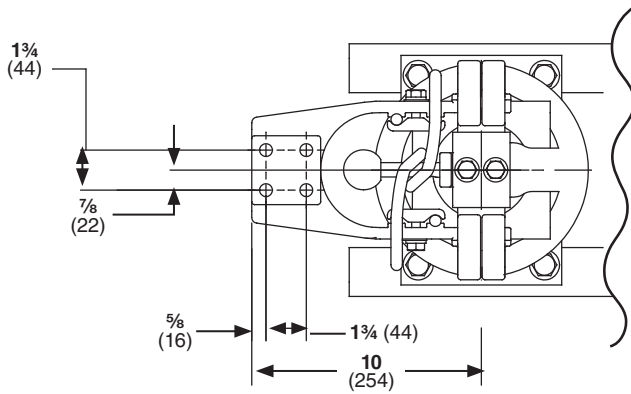
① Spare or replacement interrupters with quick-connect socket are only intended for use on Mark VI Circuit-Switcher units already equipped with quick-connect catalog option “-C2” or “-C3.”

② Spare or replacement interrupters with sensors for the remote gas-density indicator are only intended for use on Mark VI Circuit-Switcher units already equipped with remote gas-density indicator catalog option “-R.” They do not include a complete indicator. For a complete remote gas-density indicator, refer to the nearest S&C Sales Office.

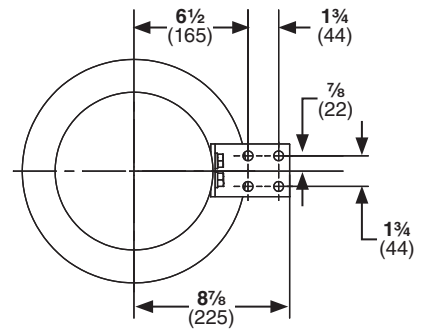
③ Spare or replacement motors with quick-connect socket are only intended for use on Mark VI Circuit-Switcher units already equipped with quick-connect catalog option “-C3.”

69-kV Model

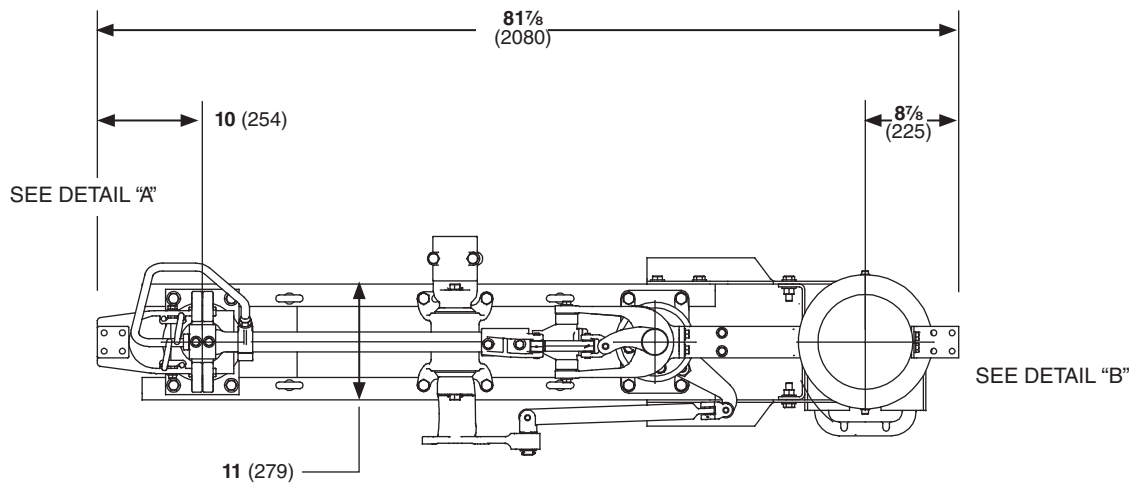
Dimensions in inches (mm)



DETAIL "A"



DETAIL "B"

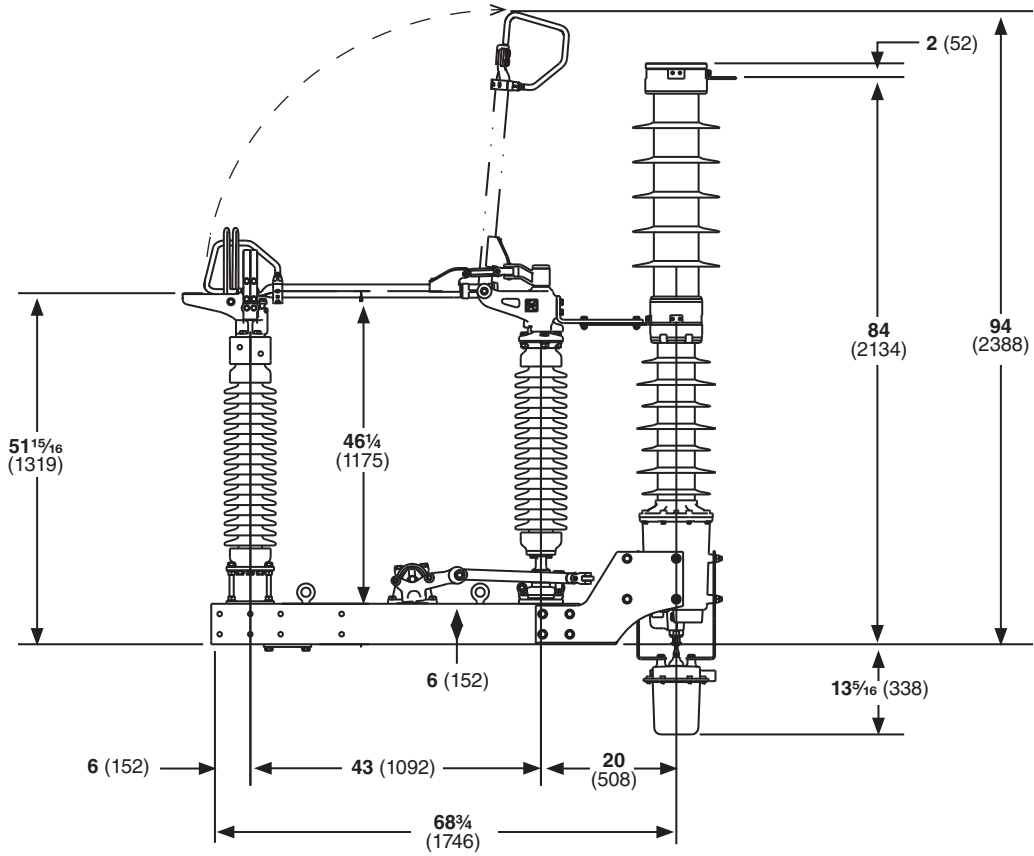


TOP VIEW

Dimensional Drawings

69-kV Model

Dimensions in inches (mm)

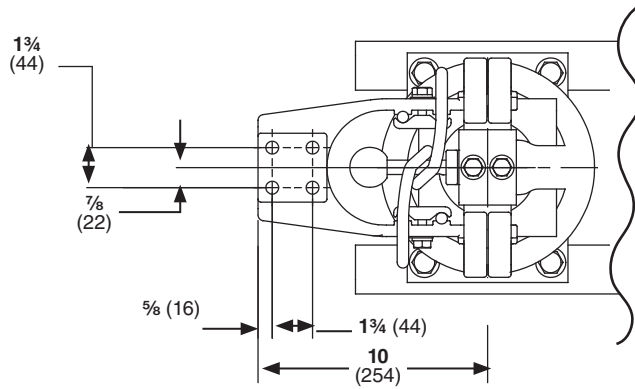


SIDE VIEW

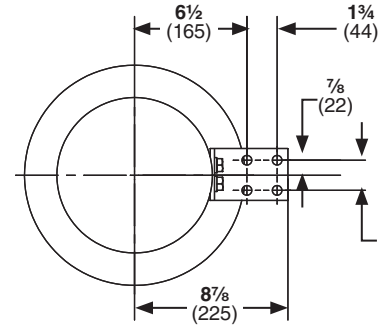
Catalog Number	Applicable to Mark VI Circuit-Switcher Rated, kV	Integral Disconnect Insulator T.R. No.	Net Wt., Per Pole-Unit Lbs. (kg)
379016	69	216	821 (372)

115- and 138-kV Models

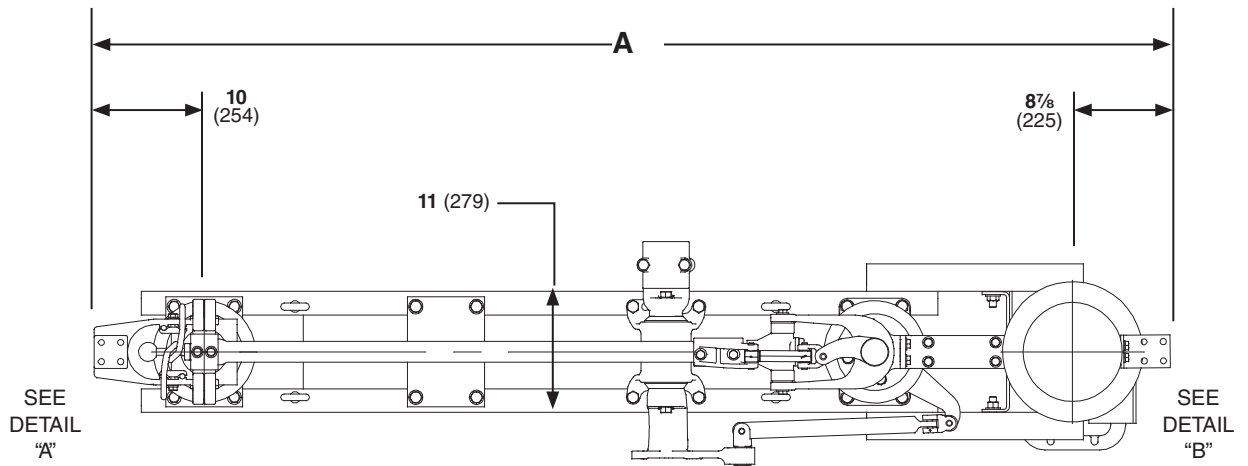
Dimensions in inches (mm)



DETAIL "A"



DETAIL "B"

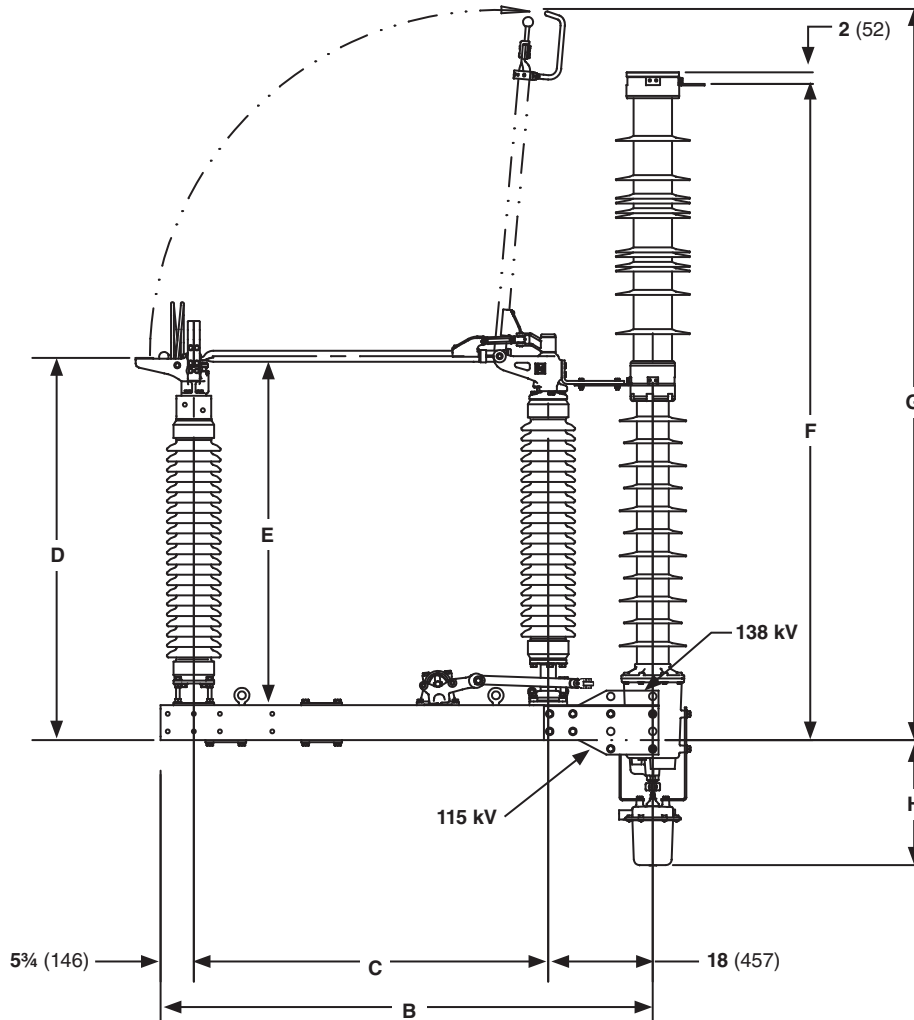


TOP VIEW

Dimensional Drawings

115- and 138-kV Models

Dimensions in inches (mm)

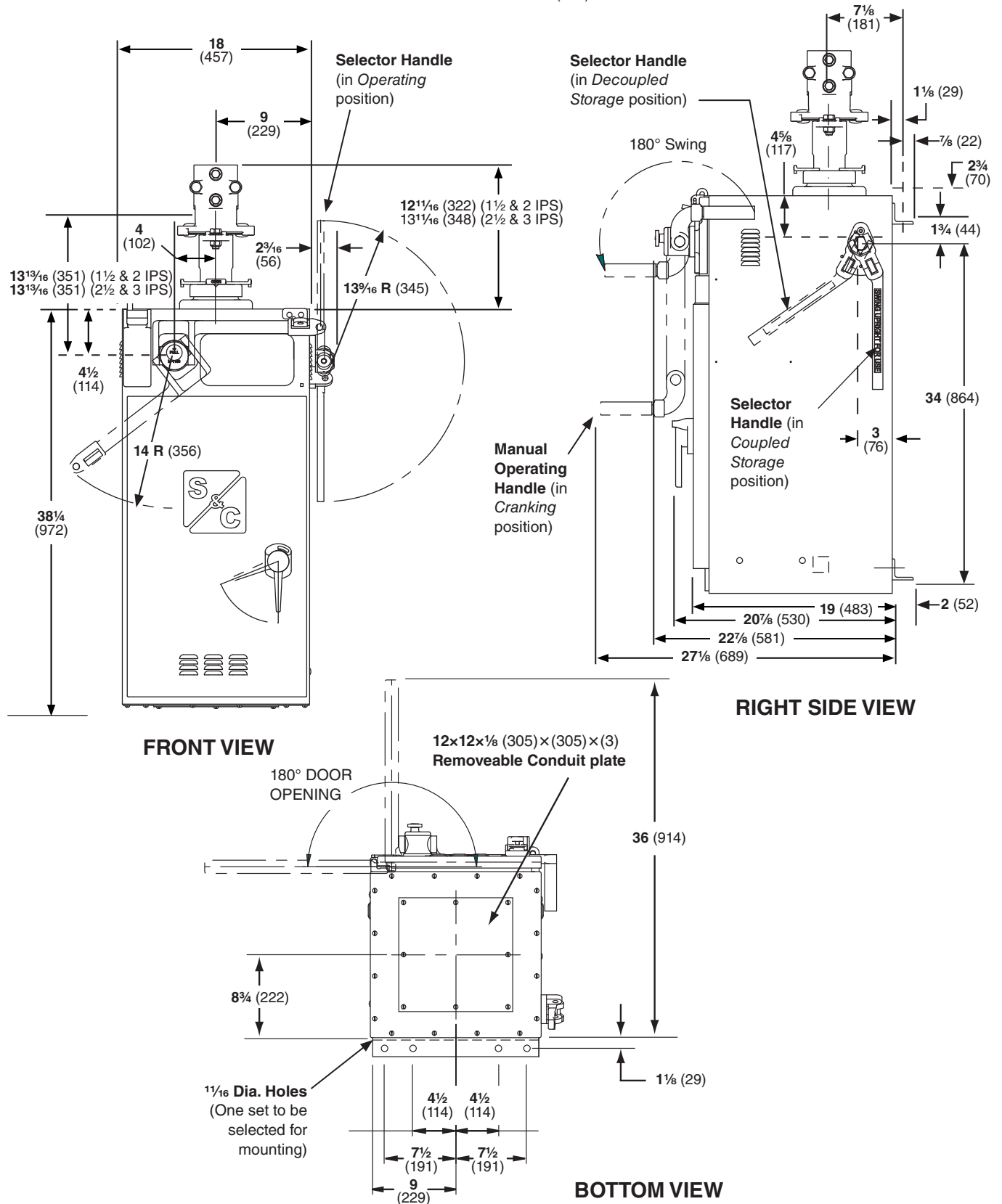


SIDE VIEW

Catalog Number	Applicable to Mark VI Circuit- Switcher Rated, kV	Integral Disconnect Insulator T.R. No.	Dimensions in Inches (mm)								Net Wt. per Pole-Unit, Lbs. (kg)
			A	B	C	D	E	F	G	H	
379018	115	286	97 ⁷ / ₈ (2486)	82 ³ / ₄ (2102)	61 (1549)	65 ³ / ₄ (1670)	60 (1524)	113 (2870)	125 (3175)	19 ³ / ₄ (502)	1030 (467)
379019 379119	138	288	107 ⁷ / ₈ (2740)	92 (2337)	71 (1803)	74 ³ / ₄ (1899)	129 (3277)	121 ⁷ / ₈ (3096)	144 (3658)	16 ³ / ₄ (425)	1104 (501)

Mark VI CS-1A Operator

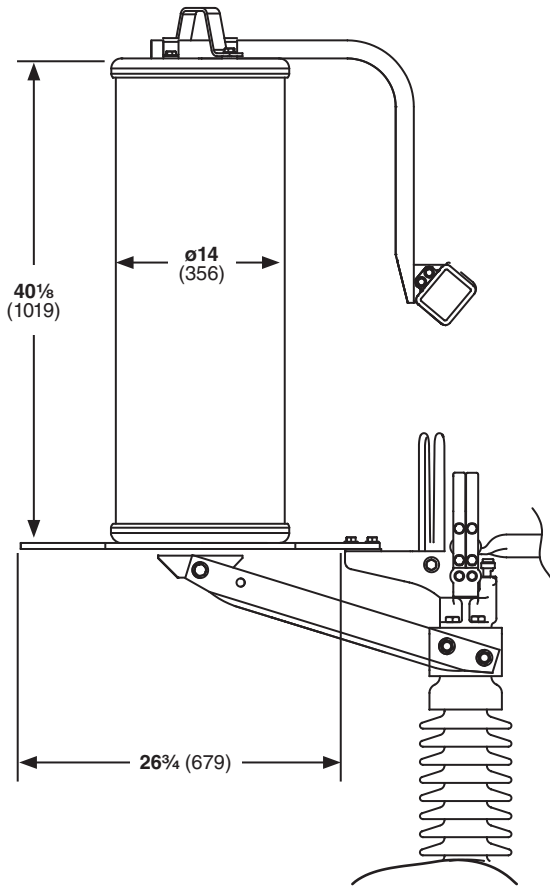
Dimensions in inches (mm)



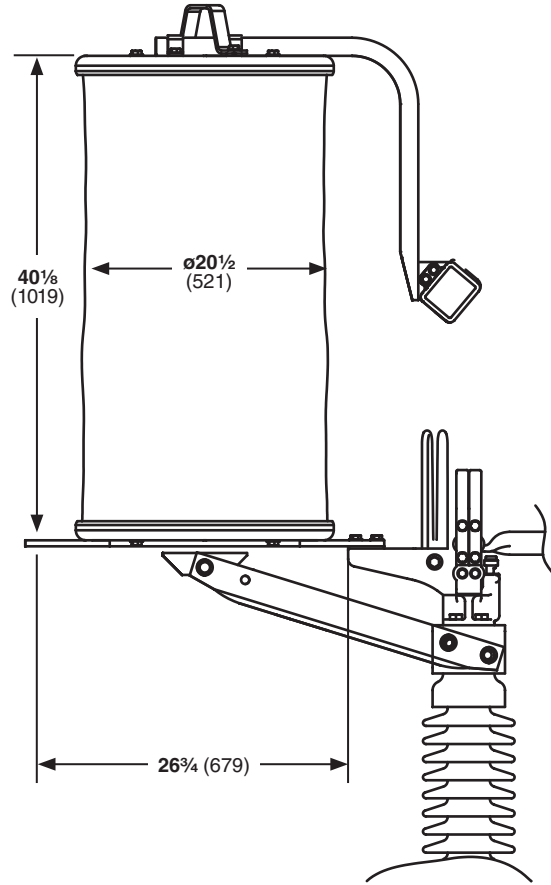
Dimensional Drawings

Pre-Insertion Inductors

Dimensions in inches (mm)



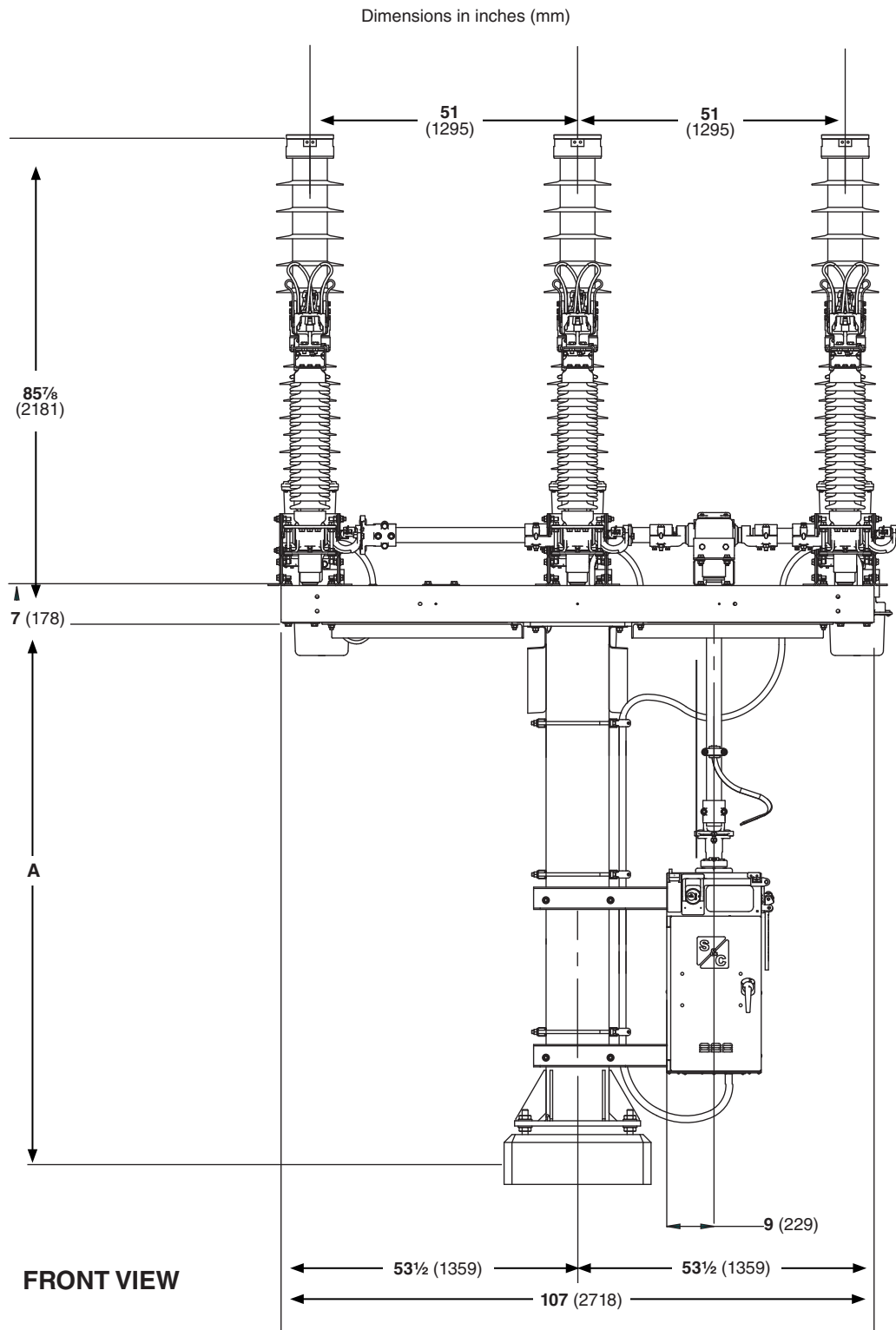
OPTION “-P61”



OPTION “-P6”

Applicable to Circuit-Switcher Rated, kV	Capacitor Bank Size, MVac	Suffix to be Added to Circuit-Switcher Catalog Number	Net Wt., per Inductor Lbs. (kg)
69	5 to 20	-P6	240 (109)
	21 to 42	-P61	215 (98)
115	10 to 60	-P6	240 (109)
138	13 to 75	-P6	240 (109)

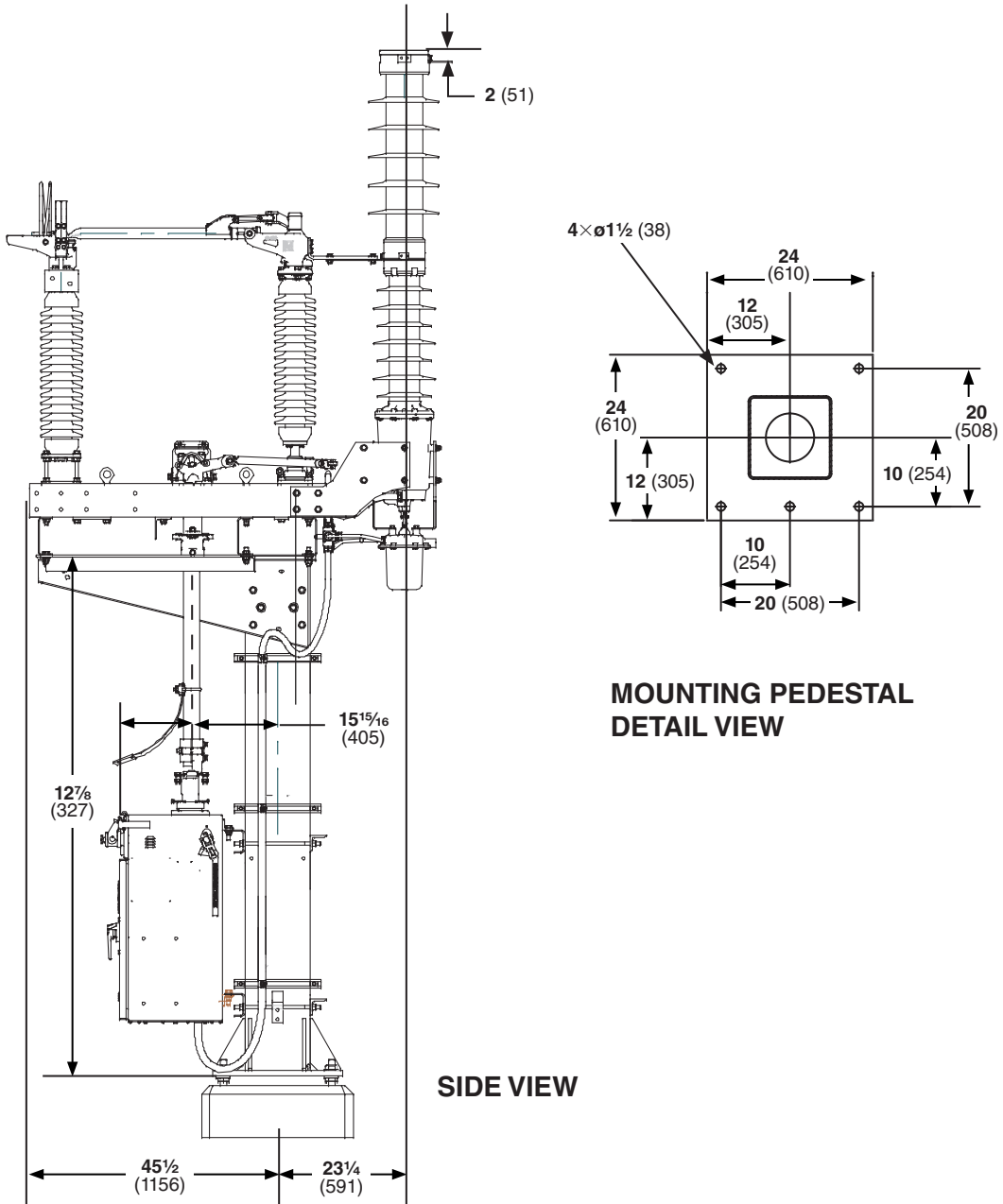
Mounting Pedestals
69-kV Model—51-Inch Phase Spacing



Dimensional Drawings

Mounting Pedestals—69-kV Mode 51-Inch Phase Spacing

Dimensions in inches (mm)



**MOUNTING PEDESTAL
DETAIL VIEW**

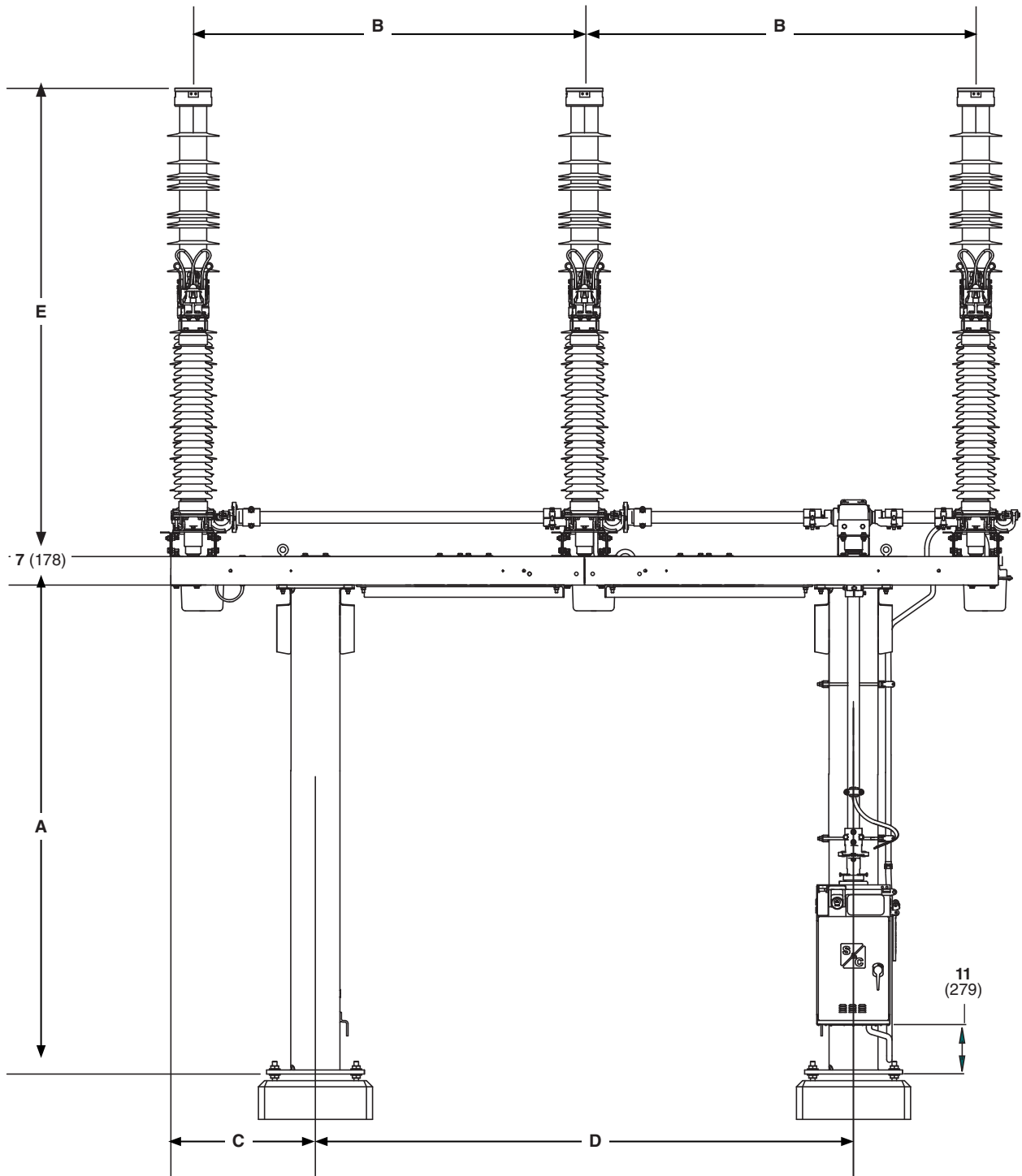
SIDE VIEW

Applicable to Catalog Number	Applicable to Circuit-Switcher Rated, kV	Phase Spacing Inches (mm)	Suffix to be Added to Circuit-Switcher Catalog Number	Dimensions in Inches (mm)	Net Wt., Lbs. (kg) ①
				A	
379016	69	51 (1295)	-E84	96 (2438)	3130 (1420)
			-E104	102 (2591)	3210 (1456)
			-E124	144 (3658)	3290 (1492)

① The net weight includes both the mounting pedestals and the complete Mark VI Circuit-Switcher.

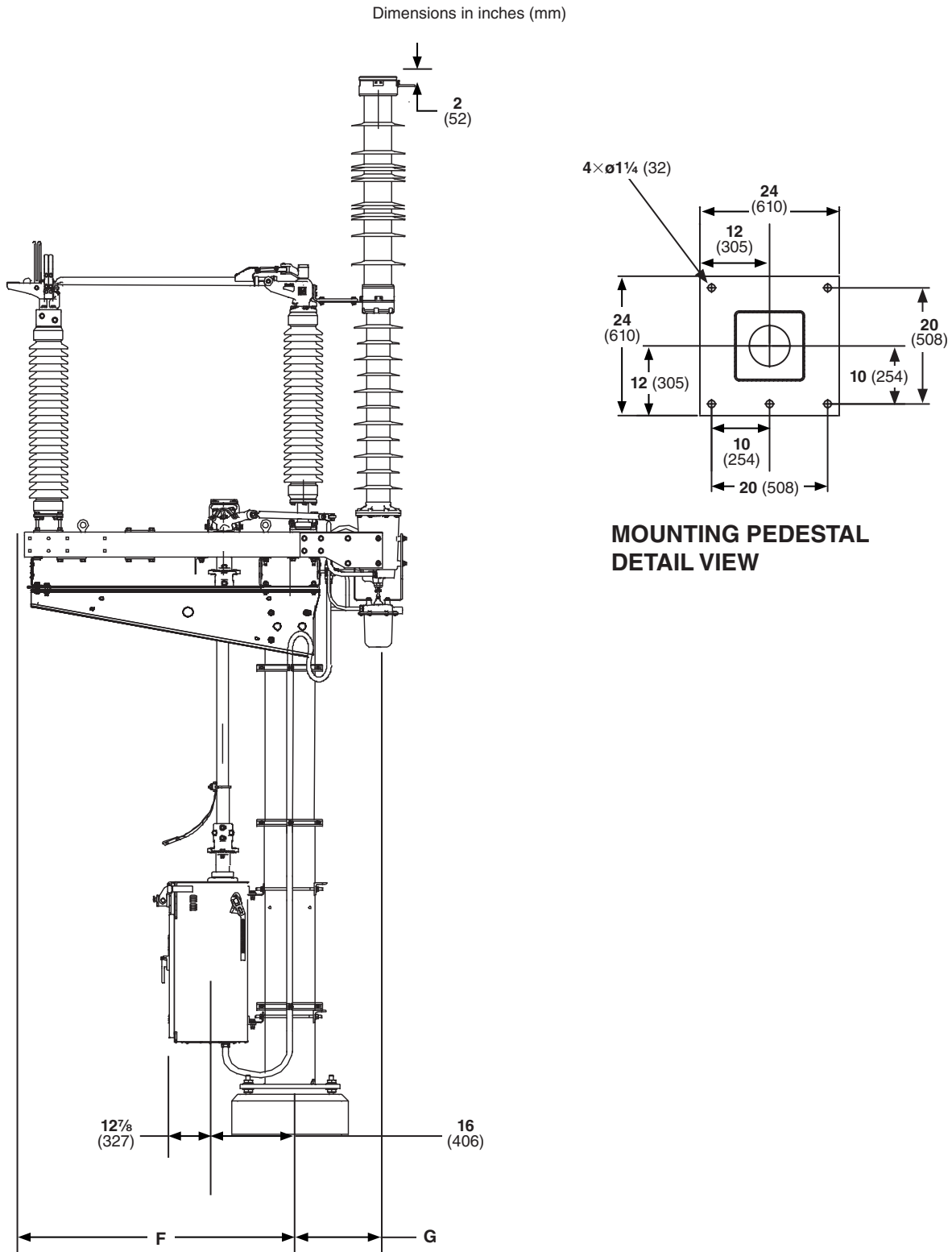
Mounting Pedestals
69/115/138-kV Models—84- through 102-Inch Phase Spacing

Dimensions in inches (mm)



Dimensional Drawings

Mounting Pedestals 69/115/138-kV Models—84- through 102-Inch Phase Spacing



Mounting Pedestals
69/115/138-kV Models—84- through 102-Inch Phase Spacing

Applicable to Catalog Number	Applicable to Mark VI Circuit-Switcher Rated, kV	Phase Spacing Inches (mm)	Suffix to be Added to Mark VI Circuit-Switcher Catalog Number	Dimensions in Inches (mm)							Net Wt., Lbs. (kg)①
				A	B	C	D	E	F	G	
379016	69	84 (2134)	-E88	96 (2438)	84 (2134)	35½ (902)	108 (2743)	86 (2184)	45½ (1156)	23¼ (591)	3551 (1611)
			-E108	120 (3048)	84 (2134)	35½ (902)	108 (2743)	86 (2184)	45½ (1156)	23¼ (591)	3711 (1683)
			-E128	144 (3658)	84 (2134)	35½ (902)	108 (2743)	86 (2184)	45½ (1156)	23¼ (591)	3871 (1756)
379018	115	84 (2134)	-E88	96 (2438)	84 (2134)	35½ (902)	108 (2743)	115 (2921)	63½ (1613)	21¼ (540)	4178 (1895)
			-E108	120 (3048)	84 (2134)	35½ (902)	108 (2743)	115 (2921)	63½ (1613)	21¼ (540)	4338 (1968)
			-E128	144 (3658)	84 (2134)	35½ (902)	108 (2743)	115 (2921)	63½ (1613)	21¼ (540)	4498 (2040)
		96 (2438)	-E89	96 (2438)	96 (2438)	35½ (902)	132 (3353)	115 (2921)	63½ (1613)	21¼ (540)	4178 (1895)
			-E109	120 (3048)	96 (2438)	35½ (902)	132 (3353)	115 (2921)	63½ (1613)	21¼ (540)	4338 (1968)
			-E129	144 (3658)	96 (2438)	35½ (902)	132 (3353)	115 (2921)	63½ (1613)	21¼ (540)	4498 (2040)
		102 (2591)	-E81	96 (2438)	102 (2591)	41½ (1054)	132 (3353)	115 (2921)	63½ (1613)	21¼ (540)	4188 (1900)
			-E101	120 (3048)	102 (2591)	41½ (1054)	132 (3353)	115 (2921)	63½ (1613)	21¼ (540)	4348 (1972)
			-E121	144 (3658)	102 (2591)	41½ (1054)	132 (3353)	115 (2921)	63½ (1613)	21¼ (540)	4508 (2045)
379019 379119	138	84 (2134)	-E88	96 (2438)	84 (2134)	35½ (902)	108 (2743)	121 (3073)	73 ¹³ / ₁₆ (1875)	21¼ (540)	4400 (1996)
			-E108	120 (3048)	84 (2134)	35½ (902)	108 (2743)	121 (3073)	73 ¹³ / ₁₆ (1875)	21¼ (540)	4560 (2068)
			-E128	144 (3658)	84 (2134)	35½ (902)	108 (2743)	121 (3073)	73 ¹³ / ₁₆ (1875)	21¼ (540)	4720 (2141)
		96 (2438)	-E89	96 (2438)	96 (2438)	35½ (902)	132 (3353)	121 (3073)	73 ¹³ / ₁₆ (1875)	21¼ (540)	4400 (1996)
			-E109	120 (3048)	96 (2438)	35½ (902)	132 (3353)	121 (3073)	73 ¹³ / ₁₆ (1875)	21¼ (540)	4560 (2068)
			-E129	144 (3658)	96 (2438)	35½ (902)	132 (3353)	121 (3073)	73 ¹³ / ₁₆ (1875)	21¼ (540)	4720 (2141)
		102 (2591)	-E81	96 (2438)	102 (2591)	41½ (1054)	132 (3353)	121 (3073)	73 ¹³ / ₁₆ (1875)	21¼ (540)	4410 (2000)
			-E101	120 (3048)	102 (2591)	41½ (1054)	132 (3353)	121 (3073)	73 ¹³ / ₁₆ (1875)	21¼ (540)	4570 (2073)
			-E121	144 (3658)	102 (2591)	41½ (1054)	132 (3353)	121 (3073)	73 ¹³ / ₁₆ (1875)	21¼ (540)	4730 (2145)

① The net weight includes both the mounting pedestals and the complete Mark VI Circuit-Switcher.