

SIEMENS

Ingenuity for life

DTR2 medium-voltage vacuum roll-in replacement circuit breakers

ANSI 4.76/8.25/15 kV, at 250-750 MVA
1,200-2,000 amperes

Roll-in replacement breakers provide a cost-effective way to upgrade to current vacuum technology while increasing equipment reliability and minimizing downtime. Siemens provides the experience your company needs to successfully extend the life of your equipment. Our circuit breakers are assembled utilizing tools and fixtures to replicate the original Federal Pacific manufacturing specifications.

Why replacement breakers?

- Increased reliability and performance
- Reduced operating and maintenance expenditures
- Reduced downtime, minimal changeover time during upgrade
- Preserved investment in existing cubicles
- Improved employee and environmental safety

Why Siemens?

- **Long operational life**
Siemens replacement breakers have an expected life of 30,000 mechanical operations and a maintenance interval of 10 years or 10,000 mechanical operations,

which far exceeds most operational requirements in industrial and utility applications.

- **Direct interchangeability**
Siemens replacement breakers, including those that utilize our patented MOC-Saver™ design, are interchangeable with no adjustments required from cubicle to cubicle regardless of the number of MOC switch banks within the existing cubicles.
- **Extensive experience**
Siemens has supplied thousands of medium-voltage replacement breakers from our manufacturing facility in Wendell, North Carolina, successfully completing over 750 projects since 1983. Over 350 breakers are located in nuclear 1E rated applications.
- **Standardized design**
Siemens utilizes the 3AH operator for our complete family of over 150 different medium-voltage replacement breaker designs, reducing spare parts and training requirements. Over 350,000 3AH series circuit breakers are in service worldwide.

MOC-Saver™

The Siemens MOC-Saver system addresses the various operational issues associated with certain air-magnetic circuit breakers. The MOC-Saver controls the velocity operating the original cubicle MOC system, thus mitigating the increased forces that would be applied to the cubicle MOC system. The MOC-Saver provides positive MOC switch actuation in the Open and Close directions. The MOC-Saver includes a bi-directional stored energy mechanism (snubber) and a bi-directional hydraulic velocity controller.

Note: MOC-Saver system is available on 7 and 15 kV DTR2 breakers but not 5 kV DTR2 breakers.



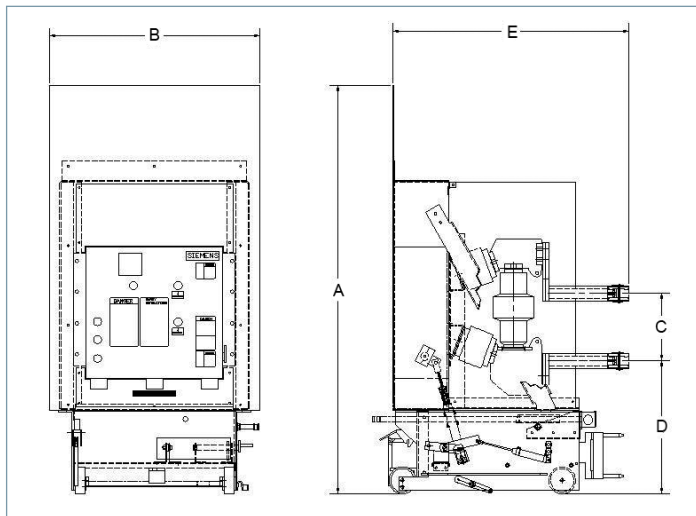
Siemens DTR2
(replacement for Federal Pacific DST)

For Federal Pacific type DST

The following circuit breakers are available as pre-engineered designs:

Replacement circuit breaker	Nominal voltage class	Nominal 3-phase MVA class	Maximum voltage	Voltage range factor	Interrupting time	Full wave withstand test voltage	Continuous current (60 Hz)	Short circuit current (at max kV)	Close and latch capability	Nominal weights
	kV	MVA	kV rms		Cycles	kV Peak	Amperes	kA rms	kA rms	lbs.
5DTR2-250	4.16	250	4.76	1.24	5	60	1,200, 2,000	29	58	625/675
5DTR2-350	4.16	350	4.76	1.19	5	60	1,200, 2,000	41	78	625/675
7DTR2-500	7.2	500	8.25	1.25	5	95	1,200, 2,000	33	66, 77	650/700
15DTR2-500	13.8	500	15	1.3	5	95	1,200, 2,000	18	37, 38	650/700
15DTR2-750	13.8	750	15	1.3	5	95	1,200, 2,000	28	58, 77	700

Dimensions (inches)		
	5DTR2-250/350	7/15DTR2-500/750
A	65.47	65.47
B	21.32	28.56
C	11.00	11.00
D	19.85	19.75
E	25.37	25.37



Sample dimensional diagram – DTR2

3AH operator features:

- Spring charge motor mechanism – lifetime lubricated gear box
- Operating linkage – machine parts versus stamped metal
- Change-out of components – easily accessible
- Vacuum contact erosion indication – easily verifiable

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Order No: EMTS-B40009-00-4AUS
Printed in USA

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