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.

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

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.
For Federal Pacific type DST

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

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

Dimensions (inches)

<table>
<thead>
<tr>
<th></th>
<th>5DTR2-250/350</th>
<th>7/15DTR2-500/750</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>65.47</td>
<td>65.47</td>
</tr>
<tr>
<td>B</td>
<td>21.32</td>
<td>28.56</td>
</tr>
<tr>
<td>C</td>
<td>11.00</td>
<td>11.00</td>
</tr>
<tr>
<td>D</td>
<td>19.85</td>
<td>19.75</td>
</tr>
<tr>
<td>E</td>
<td>25.37</td>
<td>25.37</td>
</tr>
</tbody>
</table>

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

Siemens Industry, Inc.
7000 Siemens Road
Wendell, NC 27591

For more information, please contact our Customer Support Center.
Phone: 1-800-333-7421
usa.siemens.com

Order No: EMTS-B40009-00-4AUS
Printed in USA
©2017 Siemens Industry, Inc.

The technical data presented in this document is based on an actual case or on as-designed parameters, and therefore should not be relied upon for any specific application and does not constitute a performance guarantee for any projects. Actual results are dependent on variable conditions. Accordingly, Siemens does not make representations, warranties, or assurances as to the accuracy, currency or completeness of the content contained herein. If requested, we will provide specific technical data or specifications with respect to any customer’s particular applications. Our company is constantly involved in engineering and development. For that reason, we reserve the right to modify, at any time, the technology and product specifications contained herein.