SC9000 drives
Medium-voltage variable frequency drives

Efficient, reliable and built to last

A complete family of medium-voltage drives

Powering Business Worldwide

Reliable performance and durability

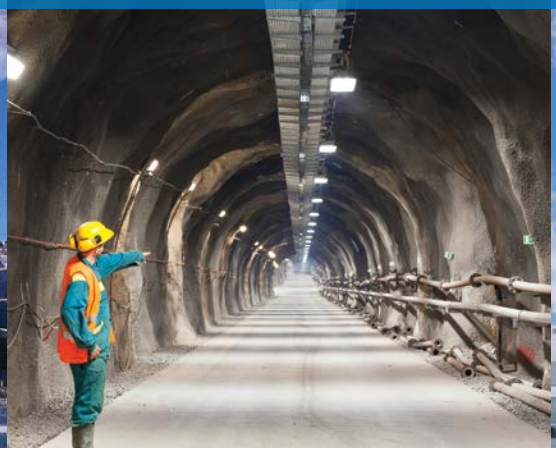
even in harsh industrial environments

Water/wastewater

Oil and gas

Utility

Mining



Pulp and paper

Eaton's innovative medium-voltage drives provide versatile solutions across a wide range of applications.

You can count on SC9000™ drives to provide precise motor control with high efficiency, resulting in significant energy savings. All drives seamlessly integrate with other Eaton equipment through hard-bus connections for complete solutions. From synchronous transfer to arc-resistant offerings, our drives incorporate the reliable construction you've come to expect with Eaton.

Features

- Integrated main disconnect with isolation switch, power fuses and contactor
- 6500 V power electronics for reduced part count and increased reliability
- 24-pulse transformer for IEEE® 519 compliance
- Roll-in/roll-out inverter
- UL®/cUL® Listed
- Neutral point clamped (NPC) inverters
- Exclusive soft-mag pre-charge system eliminates 100% of drive inrush current
- Self-healing film capacitors with 25-year lifespan
- Common bus for easy integration with other Eaton medium-voltage products
- Comprehensive in-house testing using fully rated medium-voltage motors on every drive
- Arc-resistant designs available
- Synchronous transfer (double bus) designs available

Soft-mag pre-charge system

Our exclusive soft-mag pre-charge system outperforms traditional pre-charge methods by magnetizing the isolation transformer while simultaneously charging the DC bus capacitors—the first of its kind in the industry.

- Eliminates 100% of drive inrush current
- Simplifies protection and coordination
- Provides a reduction of incident energy and PPE level at the drive in certain applications
- Reduces stress on critical components, increasing product lifespan and overall reliability
- Improves short-circuit protection

Our range of SC9000 products is the choice for any medium-voltage motor application.

SC9000 CI Frame A

- 65" W x 113" H x 50" D
- Up to 1500 hp at 4160 V
- dV/dt and sine output filters fit within frame ❶

SC9000 CI Frame B

- 105" W x 113" H x 50" D
- Up to 2500 hp at 4160 V
- dV/dt and sine output filters fit within frame ❶

SC9000 EP Frame C

- 137" W x 113" H x 50" D
- Up to 3000 hp at 4160 V

SC9000 EP Frame D/E

Frame D

- 170" W x 113" H x 50" D
- Up to 4500 hp at 4160 V

Frame E

- 194" W x 113" H x 50" D
- Up to 6000 hp at 4160 V

SC9000 EP Frame F

- 232" W x 113" H x 50" D
- Up to 12,000 hp at 4160 V
- Shown without main disconnect and transformer
- Transformer ships separately

SC9000 EP Arc-Resistant

- 172" W x 128" H x 52" D
- Up to 6000 hp at 4160 V

❶ Some ratings may require an additional structure.

Synchronous transfer system

Synchronous transfer systems maximize capital efficiency by controlling multiple motors with one drive. In multi-motor applications, a sync transfer system is designed to ramp up multiple motors in series, transfer the load to adjacent bypass contactors, and operate the motors at full speed. The system can ramp the motors down in the same way. Sync transfer systems are available for all Eaton SC9000 drives, including arc-resistant designs.

Specially rated drives are also available for starting duty applications. This provides all the benefits of sync transfer while allowing for a lower horsepower-rated drive to be used for the application, saving money and footprint.

Hard bus connections make installation easy and reliable while our closed transition method eliminates current and torque surges. Full system testing is completed in the factory prior to shipment.

Stacked 800 A contactor synchronous transfer

For larger horsepower drives, Eaton offers stacked contactors up to 800 A. The 800 A stacked contactor configuration has the same width as the 400 A contactor design, effectively reducing footprint by 50% compared to traditional designs.

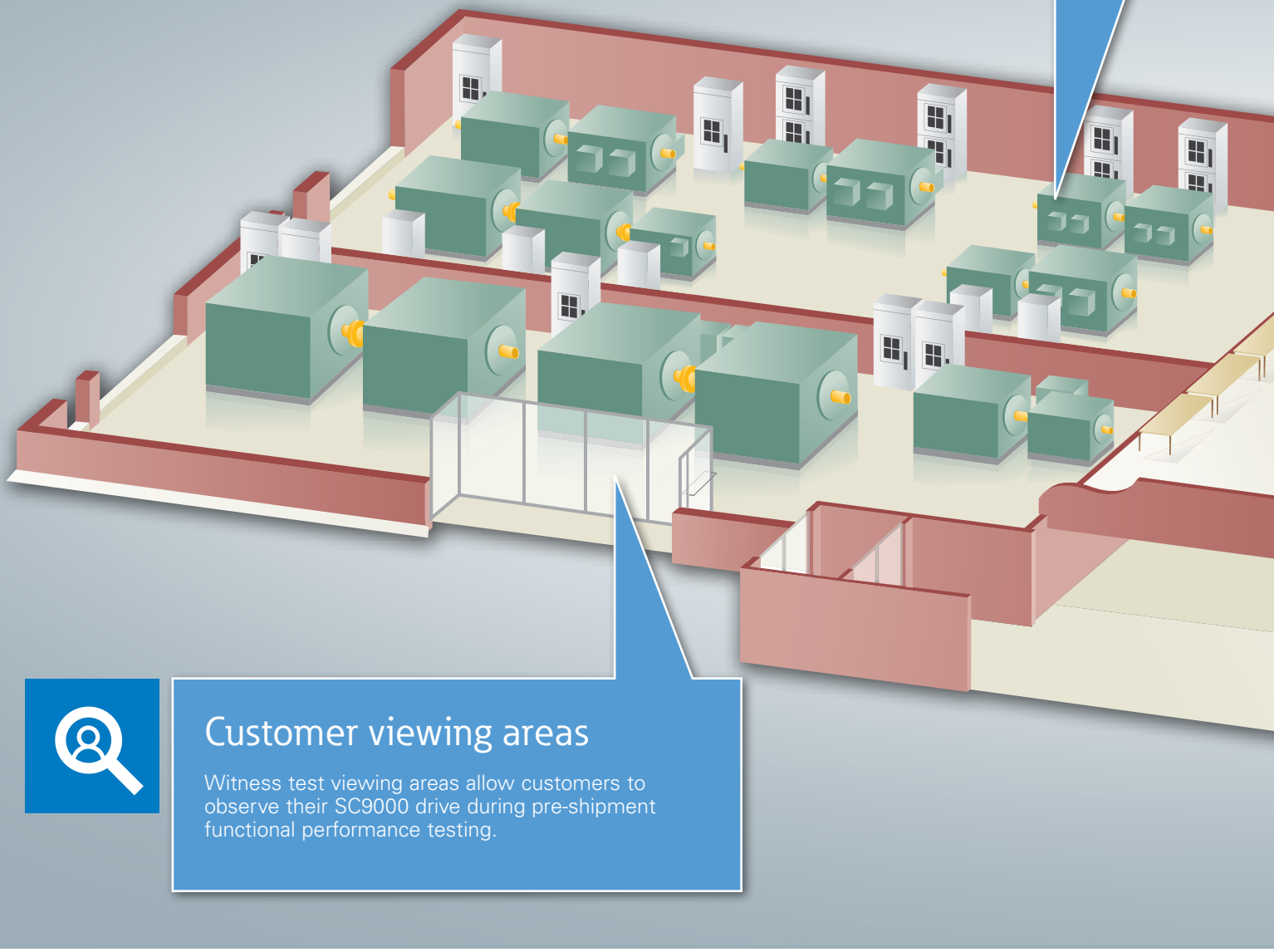
Complete performance testing

Every Eaton drive undergoes full burn-in testing on fully rated motors to ensure proper operation. The SC9000 test facility consists of five test bays with combined power of 25,000 hp. The test bays are equipped with ambient temperature control up to 50 °C.

100% step-by-step testing is performed on all active components. The 8-hour burn-in test ensures any problems are detected and corrected prior to shipment. This process exceeds IEEE 1566 requirements of a 4-hour burn-in test before shipment.

Motor room

Our world-class facilities allow testing with full voltage and current on a real motor to ensure proper operation. Motors range from 500 hp to 6000 hp with voltages from 2.4 kV to 6.9 kV.



Customer viewing areas

Witness test viewing areas allow customers to observe their SC9000 drive during pre-shipment functional performance testing.

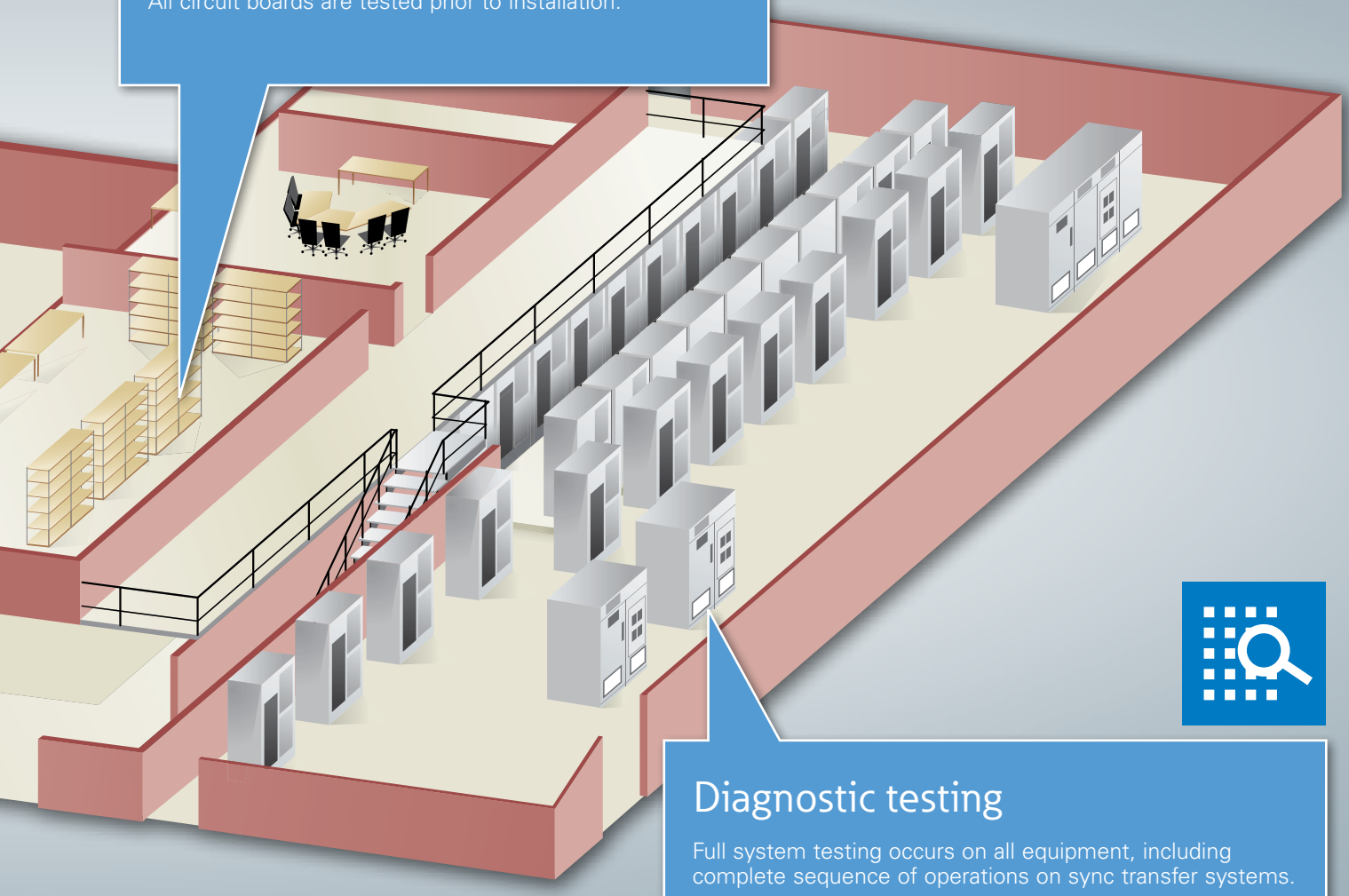
Production capability development

- Eight test bays
- +25,000 hp of test motors available
- Up to 3000 hp at 2400 V, 60 Hz
- Up to 6000 hp at 4160 V, 60 Hz
- Up to 6000 hp at 6900 V, 60 Hz

We invite you to come to our facility and witness the testing of your drive first-hand. You'll leave with total assurance that you've made a sound purchase, backed by documentation that you can retain for your records.

Power components and circuit cards pre-testing

At the Eaton test facility, all semi-conductor components (diode, IGBT) are run through a functional test procedure. All circuit boards are tested prior to installation.

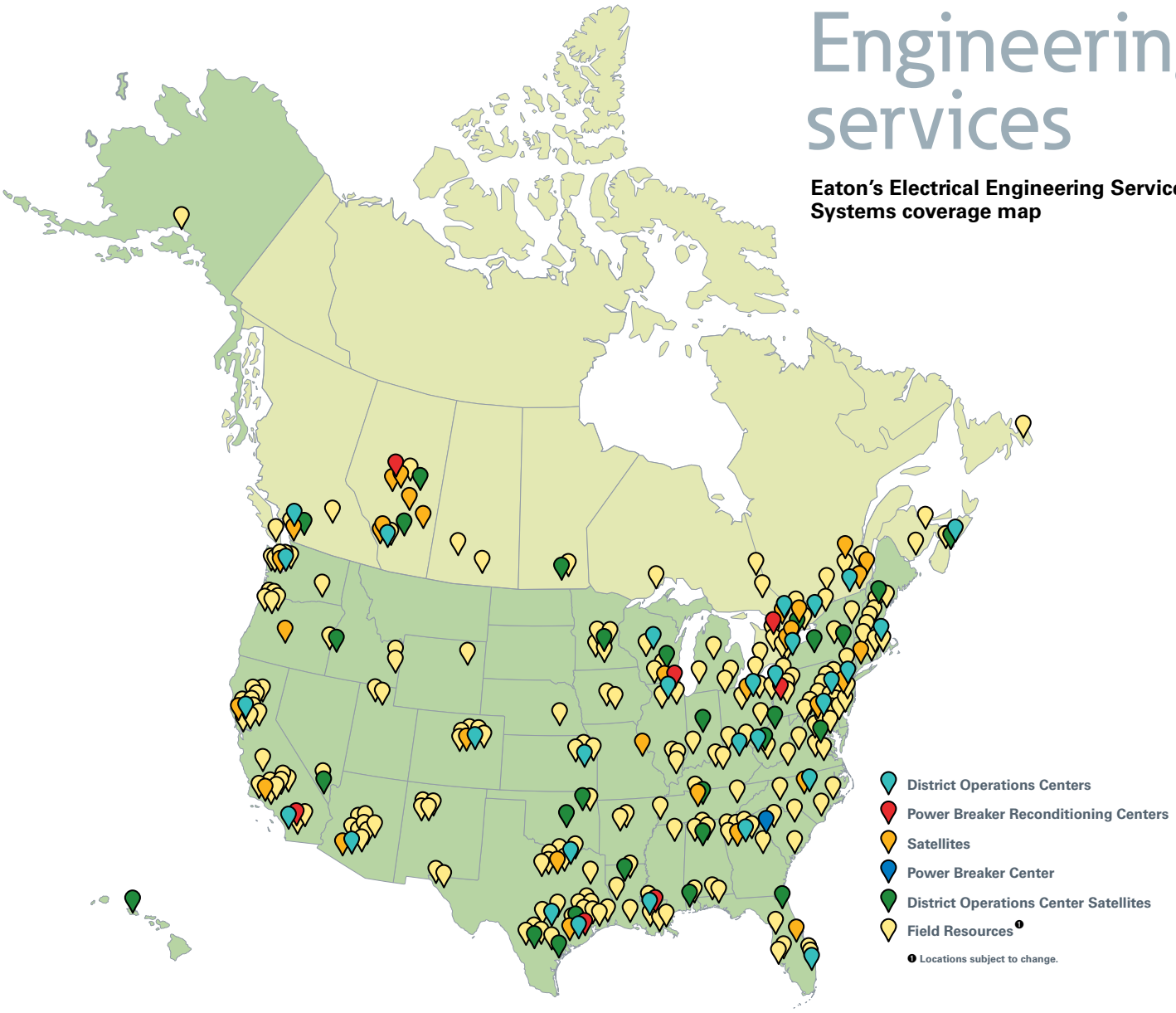


Diagnostic testing

Full system testing occurs on all equipment, including complete sequence of operations on sync transfer systems.

Engineering services

Eaton's Electrical Engineering Services & Systems coverage map



Eaton's Electrical Engineering Services & Systems (EESS)

SC9000 drives are backed by one of the largest and most experienced industrial service organizations in North America. With highly trained professionals in 60 engineering service locations throughout the U.S. and Canada, EESS has complete capabilities to provide a full range of electrical, civil and mechanical equipment services. An additional year of warranty is provided when site acceptance testing is performed by EESS.

For more information, contact your local Eaton sales office or visit **Eaton.com/sc9000**

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