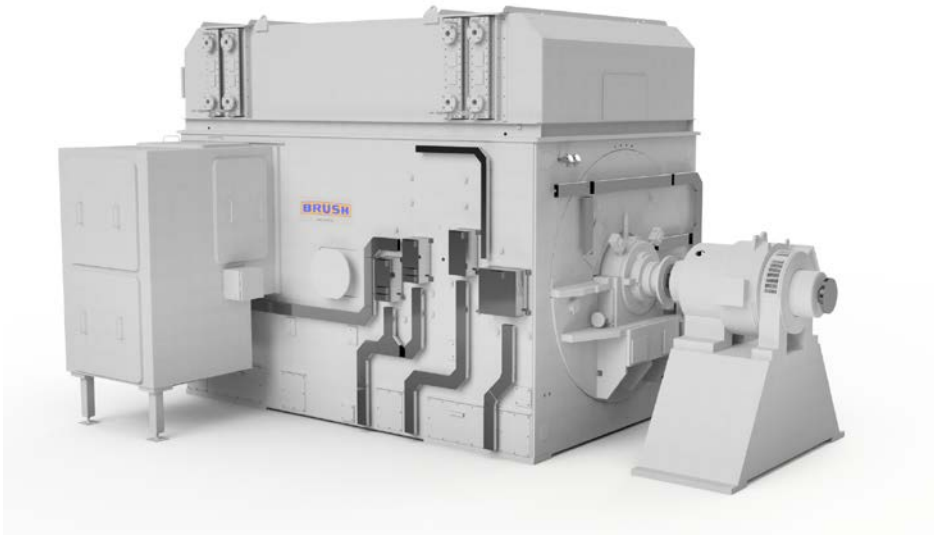




TRUST. WELL EARNED.

Synchronous Condensers

Absorb and supply reactive power. A BRUSH synchronous condenser is a cost effective solution to supply or absorb reactive power to bring stabilisation to a grid.



Introduction

BRUSH synchronous condensers are based on the proven DAX and DG range of generators which incorporate our engineering innovations developed over many decades.

As the synchronous condenser is a rotating machine, it has several advantages for grid transmission management over static options which include the ability to:

- Manage over-voltage swings and ride through the fault – if there is no voltage, a Static VAR Compensator (SVC) or Static Synchronous Compensator (STATCOM) cannot clear the fault
- Provide additional system short circuit capacity
- Provide a more effective response to low voltage conditions by providing quality reactive power
- Provide transmission system inertia

BRUSH already has an installed base of synchronous condensers, the majority of which are coupled to a turbine via a clutch to allow the operators the choice of producing power or providing system stabilisation.

Key Features

As with all BRUSH products, the synchronous condenser can be tailored to meet your operational requirements and therefore can be configured with the following options for bringing the unit up to synchronous speed:

- Mechanical drive (pony motor) which is directly connected to the generator rotor shaft. A high current, low voltage motor is used to drive the generator rotor up to synchronisation speed
- Using a static frequency converter (SFC) or load commutated inverter (LCI)
- Using an auto transformer or reactor
- Using a turbine and clutch assembly. This method is useful where operators wish to have the flexibility to generate as well as operate a synchronous compensator
- A pony motor can be installed to a turbine-generator package to provide the ultimate flexibility for operation

In addition, Brush can provide the following options as part of the package:

- Cooling system
- Excitation (Permanent Magnet Generator and Automatic Voltage Regulator)
- Main terminal cubicles with monitoring
- Control and electric protection systems
- Lubrication oil system
- Switchgear
- Generator step-up transformer

Specification

Voltage

Up to 20 kV

Excitation

Brushless or static

Insulation

Class F

Frequency

50 or 60 Hz

Output

105 mvar under-excited

255 mvar over-excited

Drive

Single or Double End Drive

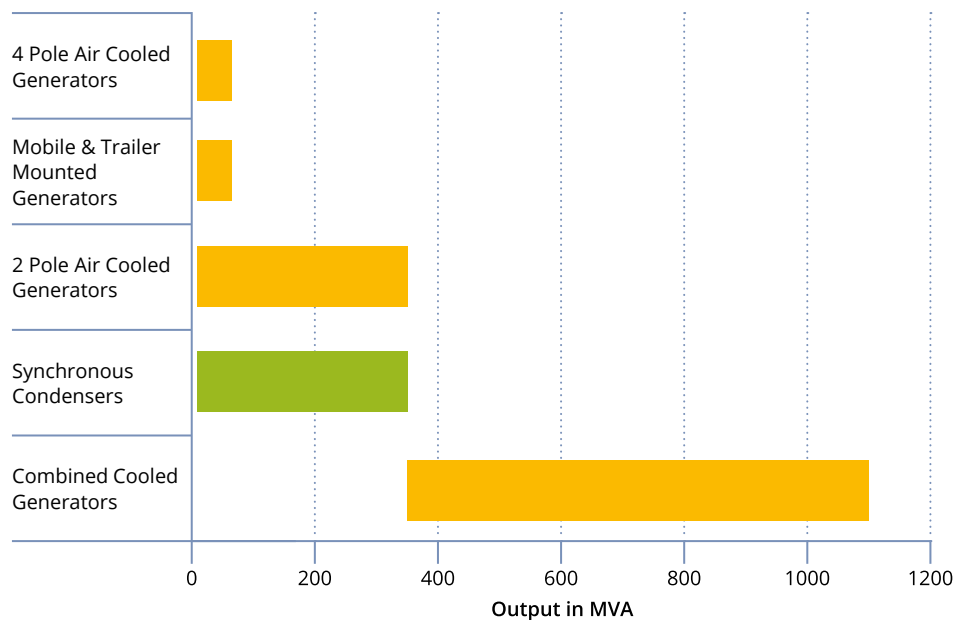
Design Standards

IEC & IEEE Compliant

Options

- Low temperature operation
- Low noise
- Lightweight
- Hazardous area operation
- Multiple heat exchanger options
- Double end drive
- High or low inertia
- Harsh environment operation

Output Range



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