



## Stray Electric Current: Meet Your Match

**The problem:** Damage caused by electrical current passing through bearings in electric motors.

**The solution:** Current-insulated bearings from Schaeffler — including hybrid ceramic or ceramic-coated versions featuring our proprietary Insuctect™ coating — that have been engineered to stop stray electric current in its tracks.

Now that's electrifying!



**SCHAEFFLER**

# Current-Insulating Solutions from Schaeffler

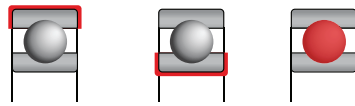
Demand for variable speed motors is surging – and so is damage caused by electrical current passing through the motors' bearings! Electric motors are the No. 1 consumer of global electricity, so variable frequency drives are increasingly being used to save energy. Moreover, with the global proliferation of renewable energy (wind turbine generators), interurban mobility (rail traction motors) and electric vehicles, bearing damage caused by electric erosion is a clear, present and growing danger.

## Product Features

- Schaeffler-proprietary Insutect™ ceramic coating, which
  - Provides protection up to 3000 VDC, and is
  - Available on either the OD (J20AA) or bore (J20C)
- Offered with steel, brass or polymer cages
- Lip seals or non-contact shields available as options

## Customer Benefits

- Peace of mind – maximum protection from electric arcing damage
- Complete flexibility – fully interchangeable with standard bearings
- Economical – less heat inside the HC bearing reduces energy costs
- Less downtime – longer grease life extends maintenance schedules
- Lower overall cost of ownership



Designation	J20AA	J20C	HC
Insulation type	outer ring ceramic coated	inner ring ceramic coated	ceramic ball or cylindrical rollers
Disruptive voltage	3000 VDC		∞
Operating environment	dry, damp		
Coating thickness	200 µm		NA
Seals / Shields	RSR seal	Z-shield or RSR seal	Z-shield or RSR seal
Electrical resistance	+		++
Limiting speed	-		++
Grease life	-		+
Energy efficiency	-		+
Service life	-		+

++ Especially suitable  
 + Suitable  
 - Same as standard bearing

Red area in cross sections above indicates insulated bearing feature

- J20AA Outer ring ceramic coated**
- Protection up to 3000 VDC
  - Cost-effective solution
  - Fully interchangeable with standard bearings
  - Stationary outer ring
- J20C Inner ring ceramic coated**
- Suitable for high-frequency currents
  - Rotating outer ring permissible
  - Fully interchangeable with standard bearings
- HC Ceramic balls or cylindrical rollers**
- Highest resistance value
  - Lower rolling friction generally leads to lower operating temperatures
  - Longer grease life
  - Significantly higher reliability
  - Fully interchangeable with standard bearings