MRC hybrid ceramic bearings for wind turbine generators

Lower the risk of failure and increase reliability in the most demanding environment

Wind industry challenge: stray currents

One of the main threats to bearings in variable-speed wind turbine generators is stray currents. Electrical erosion affects the bearing and the lubricant, causing micro-pitting and other types of surface damage. Eventually, the bearing can fail – potentially leading to a catastrophic failure of the generator itself. And any time a wind turbine is out of commission, it is generating no power, and no revenue. On top of this, fixing it can be very costly – especially if it is located offshore.

How can operators protect their turbines from electric currents?

MRC hybrid bearings lower the risk of failure in the generator and increase reliability. The bearing design, which combines a ceramic (silicon nitride) rolling element with conventional steel rings, eliminates the risk of electrical damage and the huge repair costs and lost energy production associated with it.

MRC hybrid bearing benefits include:

- Superior electrical insulation properties even against very high-frequency currents
- Extended maintenance intervals due to longer grease life
- Reliable operation even under poor lubrication and contaminated environment
- Greater wear resistance against solid particles
- Easy upgrade of already installed turbines
- Extended service life
- Reduced life cycle cost and total cost of operation

RUN 5–10°F COOLER THAN STEEL

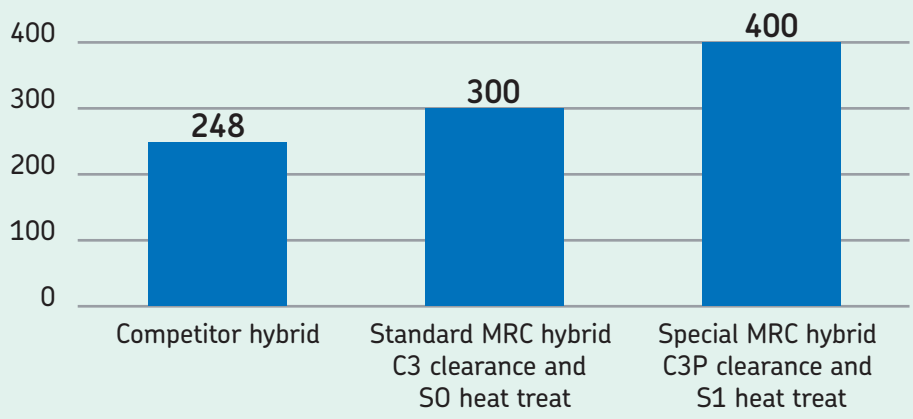
UP TO 7X LONGER GREASE LIFE

2X EXTENDED MAINTENANCE INTERVALS

MRC hybrid bearing capabilities:

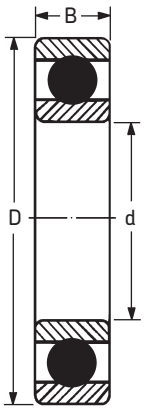
MRC hybrid bearings are designed to withstand harsh conditions that other manufacturers' bearings are no match for. In addition to the standard MRC offering, the line includes a special MRC offering that covers the upper half of C3 clearance and lower half of C4 clearance. MRC C3P benefits operators who require high temperature operation.

In addition to the technical advantages, all MRC hybrid bearings are manufactured locally at SKF's facility in North Charleston, SC – enabling short lead times and expedited service for our customers in the United States.



MRC hybrid bearings are available in the sizes below:

MRC Designation	Principal Dimensions (mm)			SKF Interchange Designation
Bore Sizes 120mm – 170mm	d	D	B	
324S-HYB#3	120	260	55	SKF 6324 HC5 C3 S0/VA970
326S-HYB#3	130	280	58	SKF 6326 HC5 C3 S0/VA970
328S-HYB#3	140	300	62	SKF 6326 HC5 C3 S0/VA970
330S-HYB#3	150	320	65	SKF 6330 HC5 C3 S0/VA970
332S-HYB#3	160	340	68	SKF 6332 HC5 C3 S0/VA970
334S-HYB#3	170	360	72	SKF 6334 HC5 C3 S0/VA970
336S-HYB#3	180	380	75	SKF 6336 HC5 C3 S0/VA970



Bearing designation descriptive part suffixes:

HYB Ceramic balls

#3 ABEC 3 Precision

skf.com | skf.com/us/products/mrc/hybrid-ceramic-ball-bearings

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