

## Introducing JOHN CRANE DIAMOND™ Next-Generation Face Technology That Extends Seal Life

John Crane combines its industry-leading mechanical seal expertise with the proven solutions of Advanced Diamond Technologies, Industrial Division, to deliver an exciting innovation: John Crane Diamond, the face treatment solution that uses the qualities of nature's hardest substance to increase industrial equipment reliability and productivity.



**WHAT IT IS:** Ultrananocrystalline diamond (UNCD®) technology is a diamond material grown through a chemical vapor deposition process. This process, proven across more than 40,000 components, supports production capabilities for our customers.



**WHAT IT DOES:** John Crane Diamond face technology stands up to difficult applications involving poor lubricating fluids, liquids above their atmospheric boiling point and abrasive slurries. Its low coefficient of friction reduces heat generation and energy consumption. This diamond-tough face technology also addresses intermittent dry running conditions to improve the reliability of rotating equipment.

**WHY YOU NEED IT:** John Crane Diamond delivers essential benefits:

**Increased durability.** This pure diamond film delivers unmatched hardness and superior chemical stability to increase seal durability and longevity.

**Increased reliability.** Rigorous controls assure film crystallinity, thickness, and consistency.

**Reduced costs.** The low coefficient of friction results in cooler running faces, reduced power use, and lower lifecycle costs.

**Increased productivity.** Mission-critical equipment stays up and running, helping you achieve production goals.



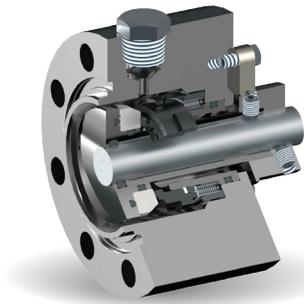
**JOHN CRANE DIAMOND™**

Less friction, less wear,  
longer life.

**UNCD®**  
ultrananocrystalline  
diamond technology

## ENERGY AND COOLING WATER SAVINGS

Model Results for 3.25" 48V Seal					Analysis of Savings Due to Migrating from Material Pair to Another					
					(SiC vs SiC) to (SiC vs UNCD)			(Carbon vs SiC) to (SiC vs UNCD)		
Metric	Units	SiC vs SiC	Carbon vs SiC	SiC vs UNCD	Value	Units	Payback	Value	Units	Payback
Power Consumption	HP	3.9	2.44	0.44						
Heat Generation	Watts	2,908	1,820	328	31,391	kW-hr/yr	< 6 mo.	18,145	kW-hr/yr	< 12 mo.
Cooling Flow Rate	gal/min	3.257	2.036	0.366	1,519,510	gal/yr		877,752	gal/yr	



**PRODUCT AVAILABILITY:** John Crane Diamond is available as an enhancement to many of our most widely used seal families, including:

- » **T5600 Universal Cartridge Seal Family**
- » **T5800 Slurry Seal Family**
- » **48VBF Boiler Feed water Seal**
- » **Other High-Performance Sealing Solutions**

**WHERE IT'S USED:** Nearly every industry, including oil and gas, chemical, pharmaceutical, pulp and paper, water and wastewater, power generation and mining, can use John Crane Diamond to improve reliability and performance of mechanical seals, pumps and other components.



**LEARN MORE.** Partner with a global leader focused on your long-term success. Ask us today about John Crane Diamond for your application.

If the products featured will be used in a potentially dangerous and/or hazardous process, your John Crane representative should be consulted prior to their selection and use. In the interest of continuous development, John Crane Companies reserve the right to alter designs and specifications without prior notice. It is dangerous to smoke while handling products made from PTFE. Old and new PTFE products must not be incinerated. ISO 9001 and ISO14001 Certified, details available on request. ©2020 John Crane Revised 5/20 [www.johncrane.com](http://www.johncrane.com)