

TYPE 28XP WITH CARBON LF™

DRY GAS SEAL
WITH NEW
PRIMARY RING
MATERIAL FOR
ARDUOUS
APPLICATIONS



DESIGN BENEFITS

- Field-proven design delivers extended time between maintenance
- New Carbon LF stationary ring material improves the friction and wear-resistance of the sealing interface under contacting operation
- Successfully performed under extensive test regime including ratcheting, turbine wash and windmilling

PRODUCT DESCRIPTION

As the capacity of centrifugal compressors has increased to better address production requirements such as LNG applications, the physical size of associated turbomachinery equipment has also grown and now frequently requires the dry gas seals to be run under 'contacting conditions' for extended periods as part of the standard operating procedures. The Type 28XP LNG seal includes Carbon LF a new solid lubricant-doped carbon graphite material for operation under extended periods of contacting operation.



Your Name
Is How We Make Ours

TYPE 28XP WITH CARBON LF™

DRY GAS SEAL
WITH NEW
PRIMARY RING
MATERIAL FOR
ARDUOUS
APPLICATIONS

The use of Carbon LF now enables operators of the largest compressors and associated turbomachinery to deploy dry gas seals that better tolerate the extended periods of low speed contacting operation. By developing an enhanced seal interface combination for use with the newest, most arduous LNG applications, this new Carbon LF version of Type 28XP is friction- and wear-resistant under repeated dynamic contact. During these operating conditions, the dry gas seal surfaces must withstand contact without degrading the performance of the seal.

Extensive testing and user field operation have demonstrated that the seal faces exhibit only minor wear and seal leakages remain consistent. The use of Carbon LF is ideally suited for operation in dry nitrogen, low-speed compressor applications that are likely to experience recurring and prolonged seal face contact.

CONTACTING DURABILITY TESTS

Windmilling	20 cycles of 1-hour holds at 180 rpm, with a run up to 3,000 rpm (96.4 ft/s or 29.4 m/s surface speed) in between cycles
Ratcheting/ Turning Gear	1000 hours @ 14 rpm. Every 24 hours, seals run up to 3,000 rpm for 15 minutes and the axial position of the seal was shifted to ±0.04 in/1 mm from center
Turbine Wash	37 cycles of 1-hour holds at 445 rpm, with 15 minutes hold at 3,000 rpm (96.4 ft/s or 29.4 m/s surface speed) in between cycles

After completing all the durability tests (enough testing to represent an “end-of-life” condition), the seals were tested to the maximum operating pressure and speed conditions to ensure seal condition functional behavior and leakages were not adversely affected.

Together, we will work with you to keep your mission-critical operations up and running with support and guidance from our experienced team. 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.



North America United States of America Tel: 1-847-967-2400	Europe United Kingdom Tel: 44-1753-224000	Latin America Brazil Tel: 55-11-3371-2500	Middle East & Africa United Arab Emirates Tel: 971-481-27800	Asia Pacific Singapore Tel: 65-6518-1800
---	--	--	---	---

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.