

AURA™ 220/120NS

DRY-RUNNING, NON-CONTACTING GAS SEALS FOR COMPRESSORS

Technical Specification



Unidirectional groove design



Bidirectional groove design



Product Description

John Crane Aura dry gas seals are designed to reduce seal-operating and transaction costs by implementing a common design approach across the range and delivering extended maintenance intervals. The new Aura 120NS provides solutions for compressor applications with small cross-section cavities.

- Wider performance envelope, including bidirectional operation
- Increased reliability for extended maintenance intervals
- Improved design for simpler serviceability

Design Features

- **Aura 220:** Silicon carbide rotating and stationary sealing faces, spring-energized-polymer secondary sealing for high-pressure duties to 250 bar static pressure
- **Aura 120NS:** Silicon carbide rotating and stationary sealing faces, spring-energized-polymer secondary sealing. This latest design delivers up to 120 bar static pressure with 42% reduced radial cross section and 25% reduced axial length to fit smaller compressor seal cavities.

Range Performance Capabilities

- Temperature: -50°C to 200°C/-58°F to 392°F
- Static pressure: up to 250 bar/3,625 psi
- Speed: up to 140 m/s /459 ft/s at balance diameter
- Size limits: shaft sizes up to 230 mm/9.125", corresponding to seal sizes up to 307.9 mm/12.125"

Performance Capabilities

| Seal | Shaft Size | Bore Size | Pressure Limits | Speed ¹ | Temperature Limits ² |
|------------|-------------------------------------|--------------------------------------|---|----------------------------------|----------------------------------|
| Aura 220 | 70 mm to 230 mm/ 2.75" to 9.125" | 161 mm to 371 mm/ 6.37" to 14.60" | Static: to 250 bar/3,625 psi Dynamic: to 250 bar/3,625 psi | 140 ms ⁻¹ 459 ft/s | -50°C to 200°C -58°F to 392°F |
| Aura 120NS | 73 mm to 155 mm/ 2.87" to 6.10" | 140 mm to 223 mm/ 5.50" to 8.78" | Static: to 120 bar/1,740 psi Dynamic: to 100 bar/1,450 psi | 100 ms ⁻¹ 328 ft/s | -50°C to 200°C -58°F to 392°F |

¹at balance diameter

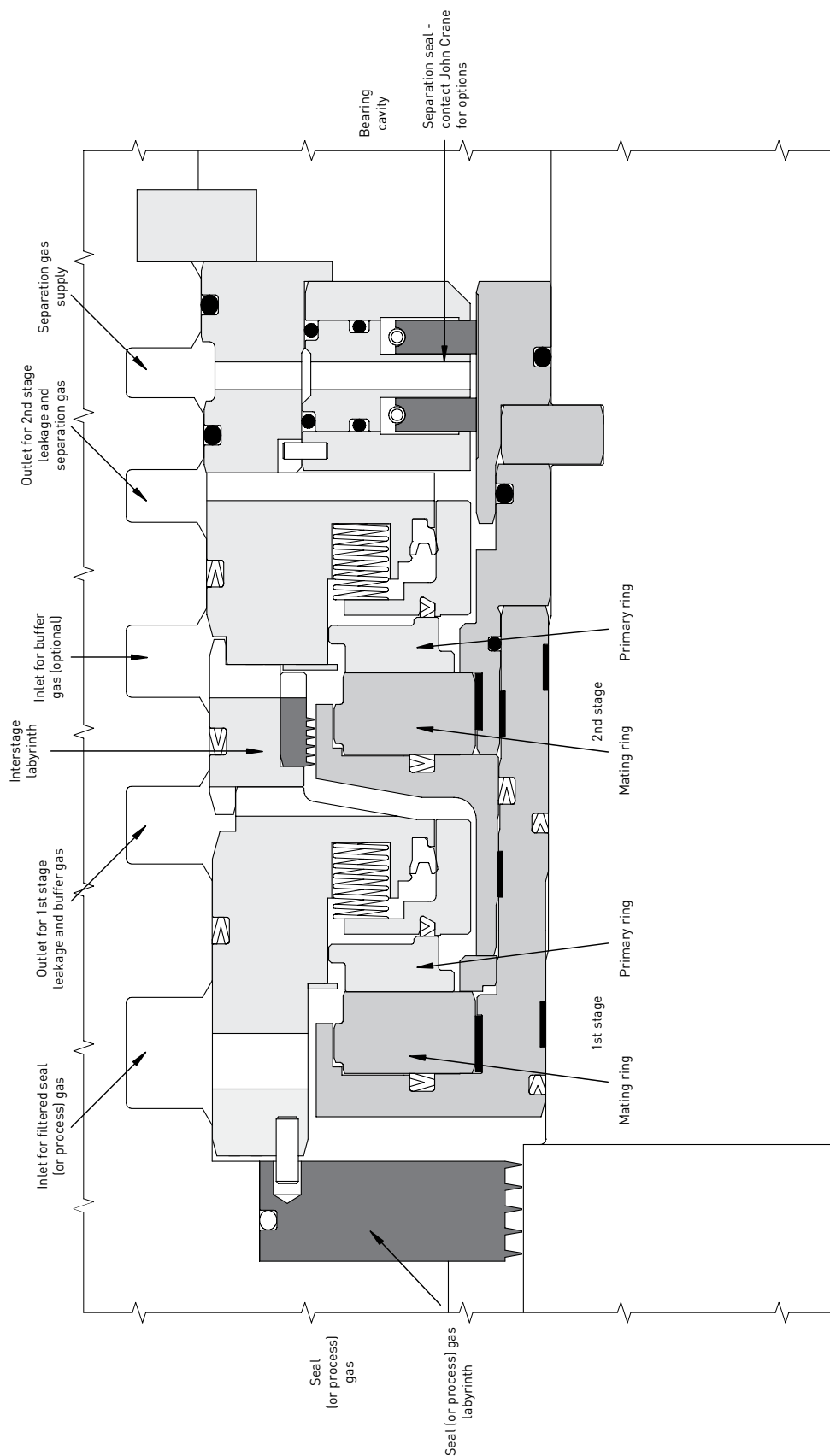
²within the seal region

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Aura 220 Typical Tandem Arrangement

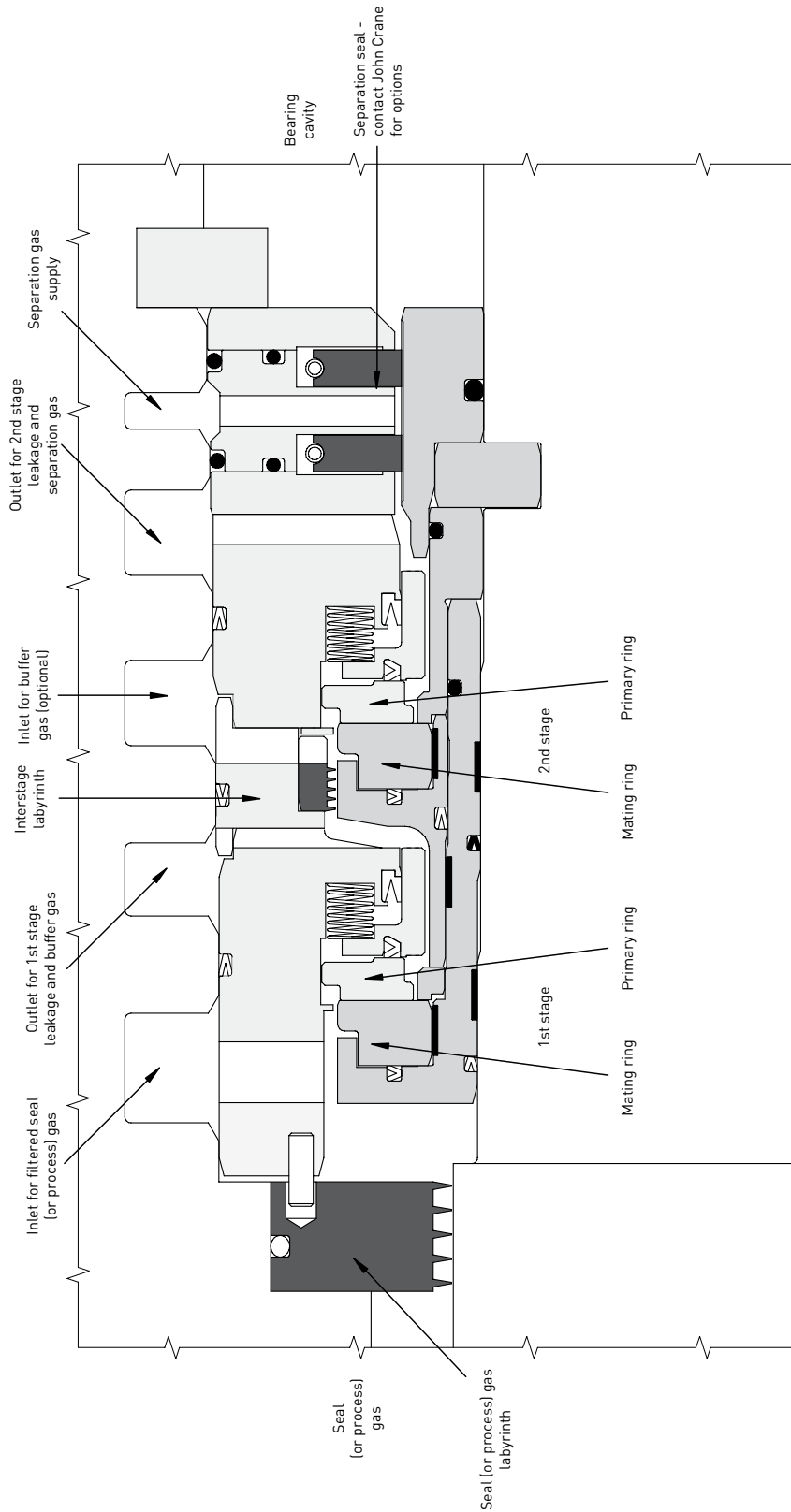


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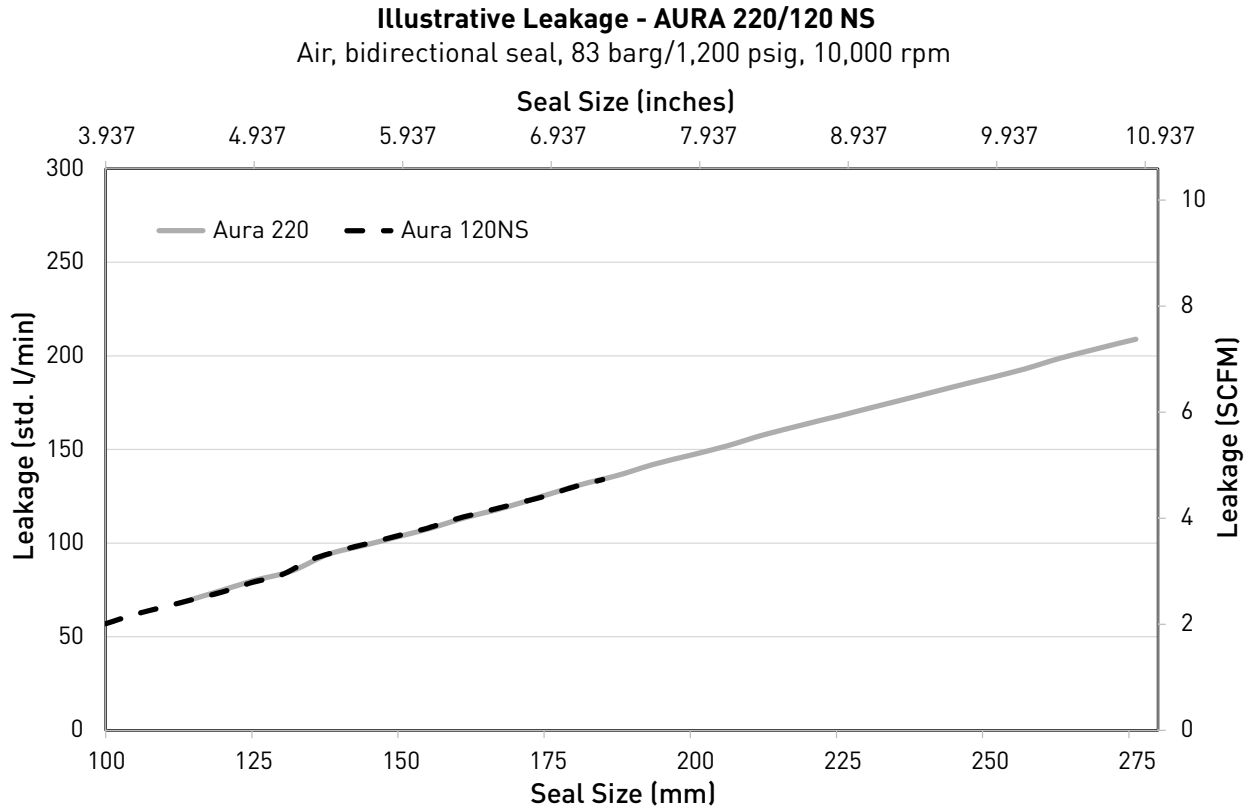
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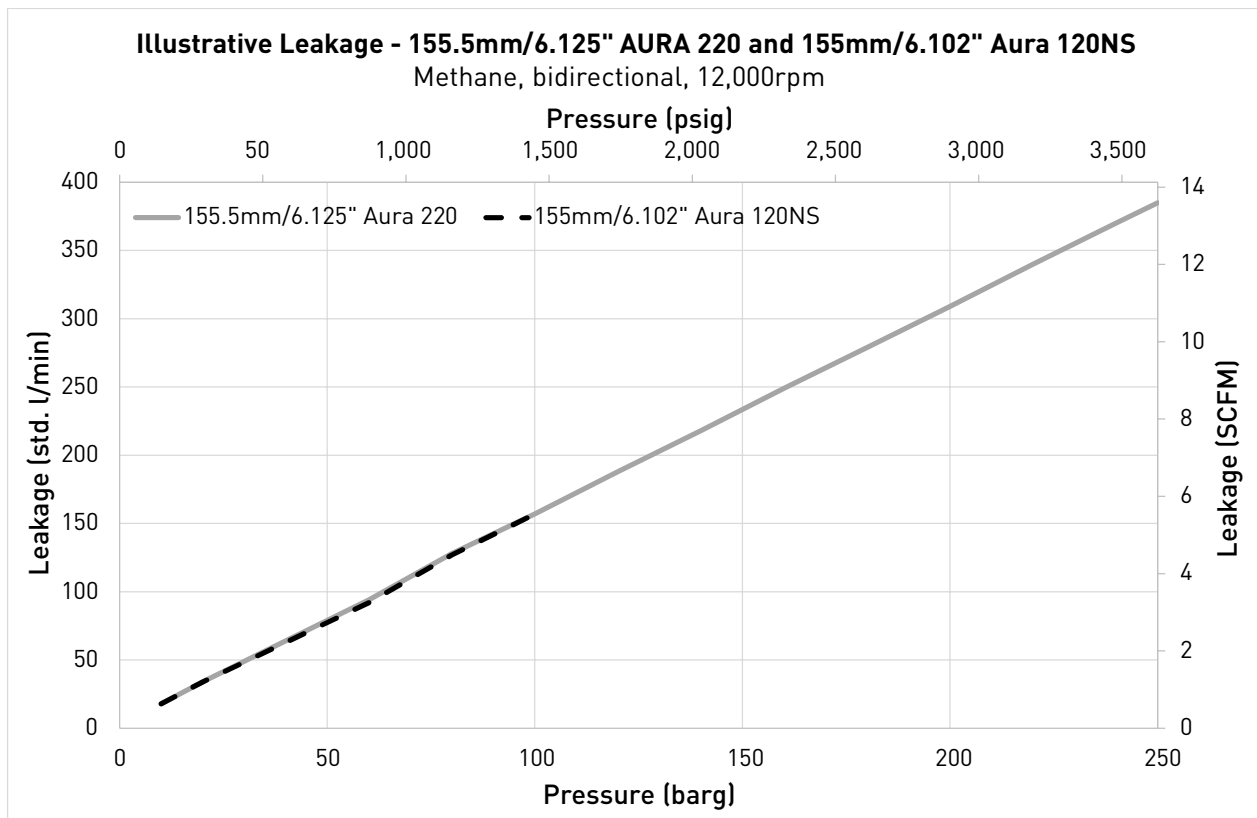
Aura 120NS Typical Tandem Arrangement



Illustrative Size and Speed Effect on Leakage



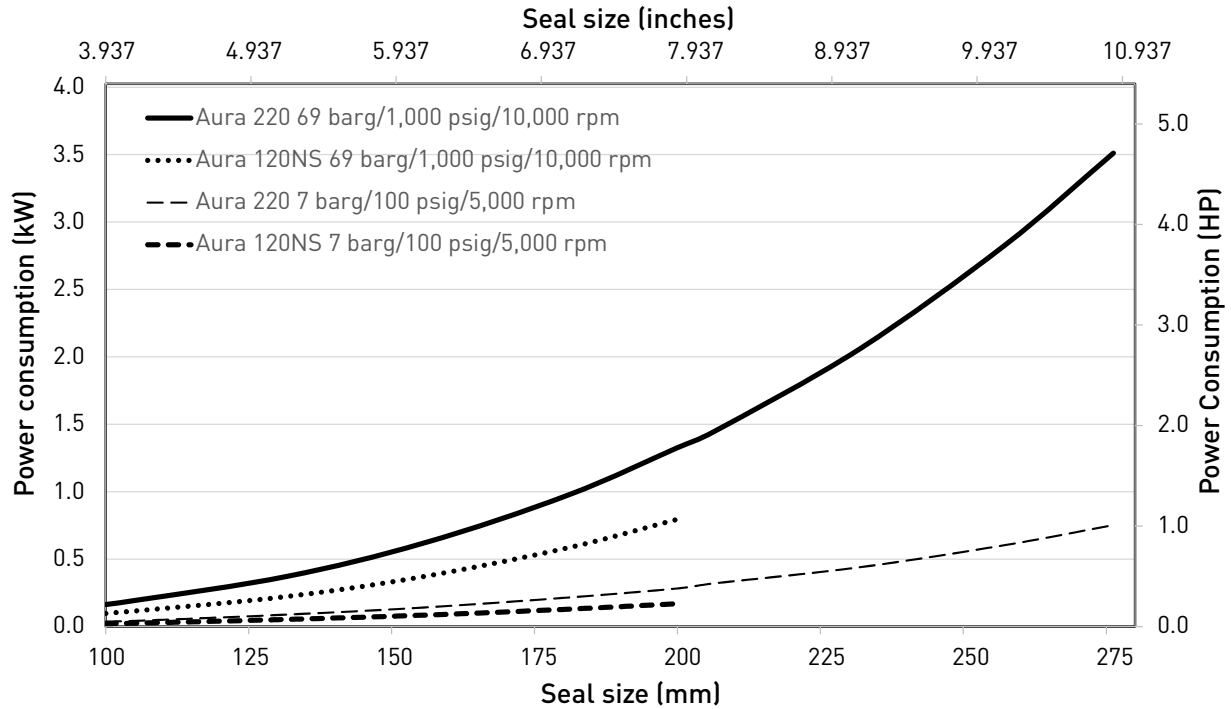
Pressure, Temperature and Gas Effect on Leakage



Gas Seal Power Consumption

Illustrative Power Consumption - AURA 220/120 NS

Air, bidirectional seal



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.