**Unidirectional groove design****Bidirectional groove design****Product Description**

The Aura range represents the next generation of John Crane gas seals, 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 220 bar static pressure
- **Aura 180:** Silicon carbide rotating and carbon stationary sealing faces, advanced-polymer secondary sealing, up to 180 bar static pressure
- **Aura 100:** Silicon carbide rotating and carbon stationary sealing faces, O-ring secondary sealing up to 95 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 220 bar / 3190 psi
- Speed: up to 140 m/s / 459 ft/s at balance diameter
- Size limits: shaft sizes up to 260 mm / 10.25", corresponding to seal sizes up to 307.9 mm / 12.125"

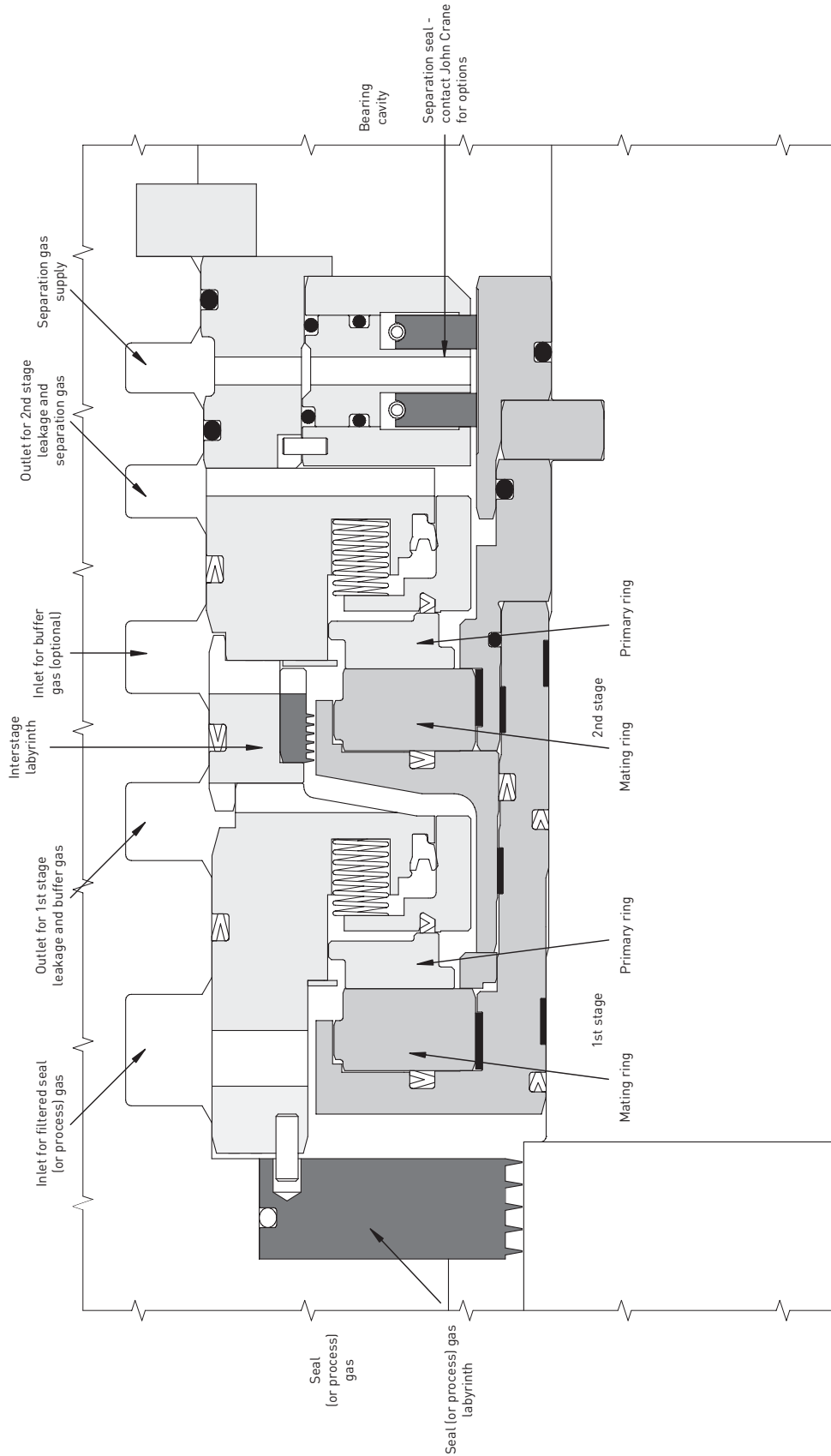
Performance Capabilities

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 220 bar/3,190 psi Dynamic: to 200 bar/2,900 psi	140 ms ⁻¹ 459 ft/s	-50°C to 200°C -58°F to 392°F
Aura 180	70 mm to 260 mm/ 2.75" to 10.25"	165 mm to 412 mm/ 6.50" to 16.25"	Static: to 180 bar/2,650 psi Dynamic: to 160 bar/2,350 psi	120 ms ⁻¹ 394 ft/s	
Aura 100	70 mm to 260 mm/ 2.75" to 10.25"	165 mm to 412 mm/ 6.50" to 16.25"	Static: to 95 bar/1,380 psi Dynamic: to 95 bar/1,380 psi	120 ms ⁻¹ 394 ft/s	-20°C to 200°C -4°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

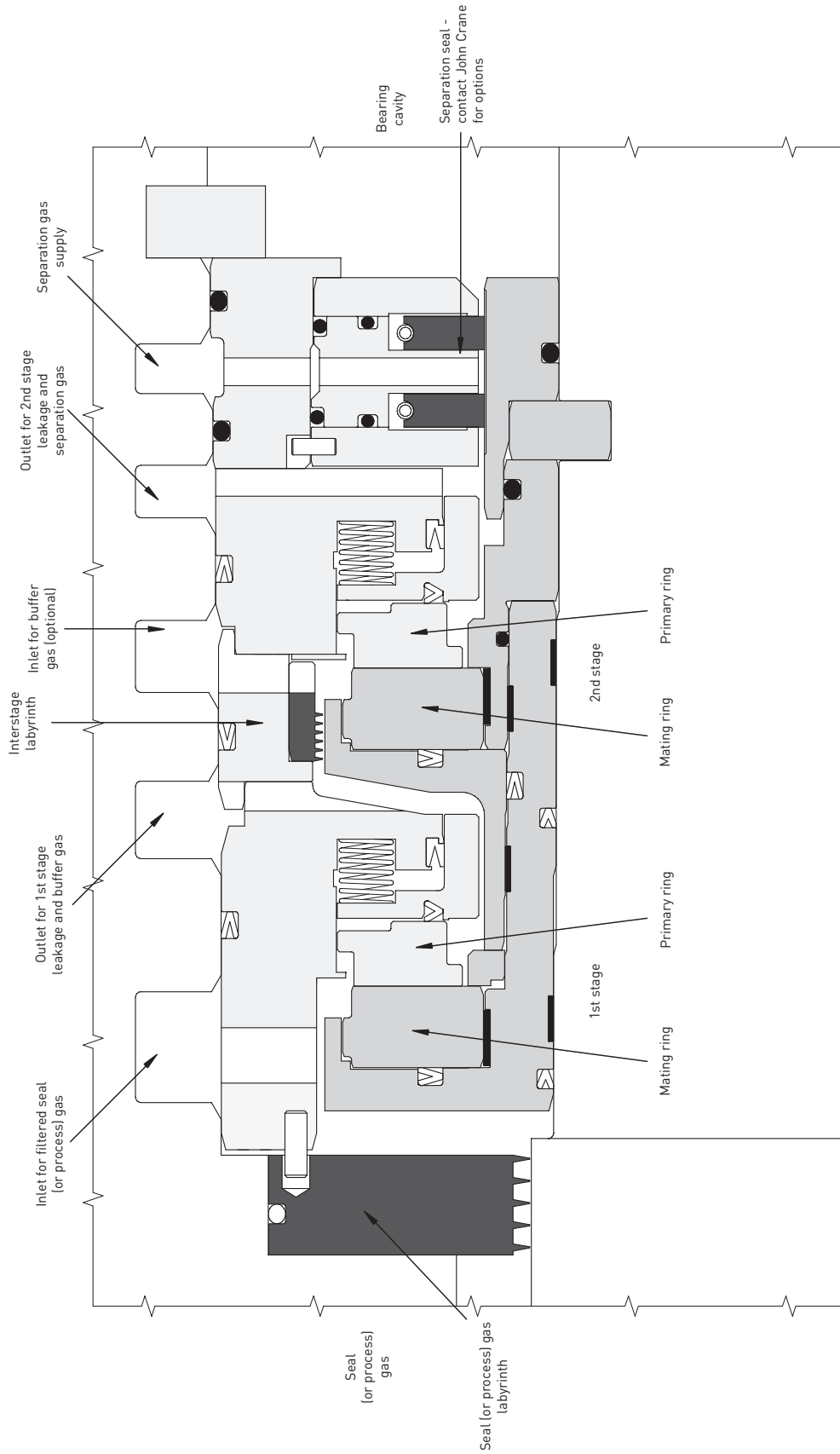
¹at balance diameter

²within the seal region

Aura 220 Typical Tandem Arrangement



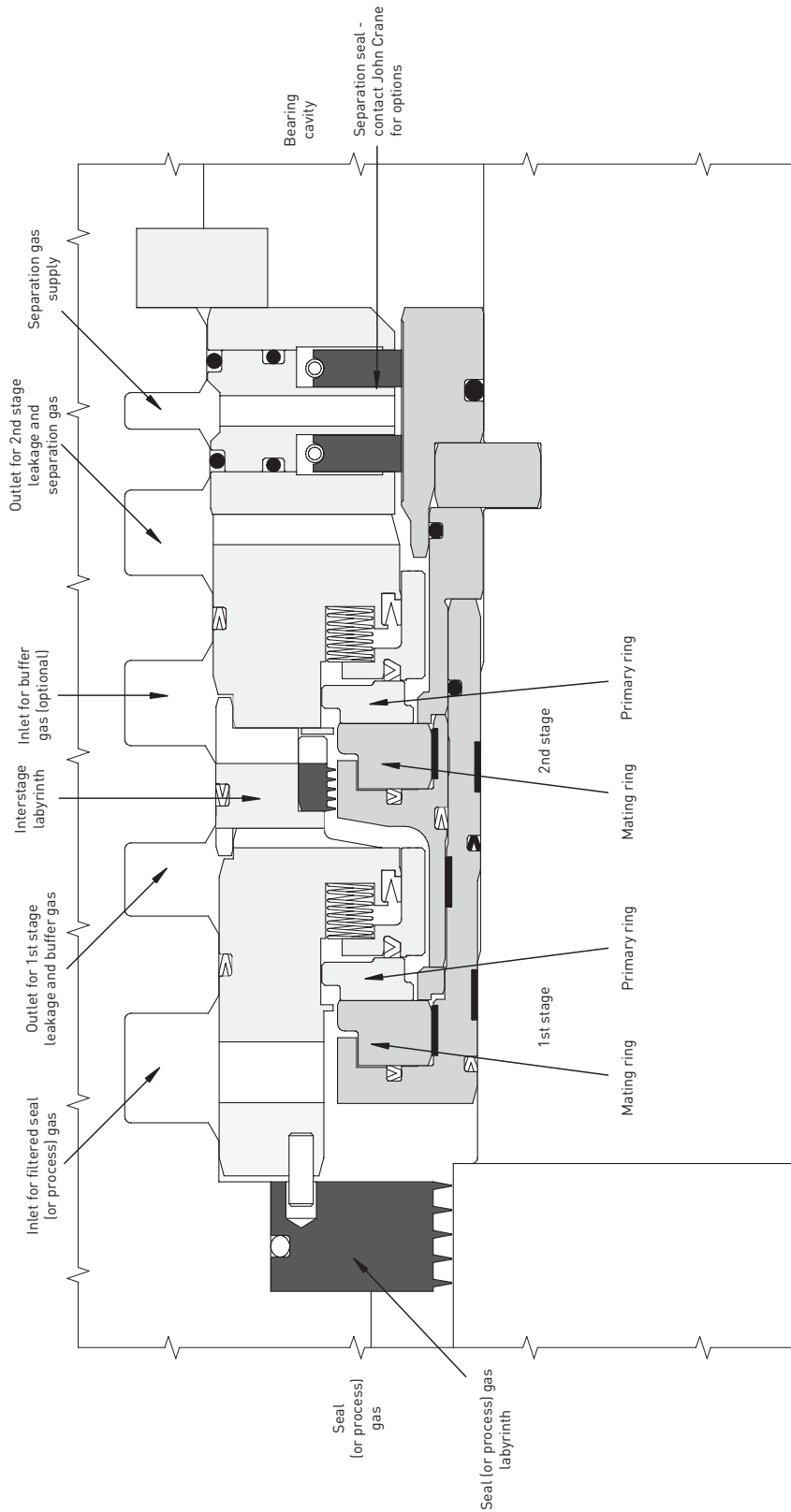
Aura 180 Typical Tandem Arrangement



Aura 100 Typical Tandem Arrangement



Aura 120NS Typical Tandem Arrangement





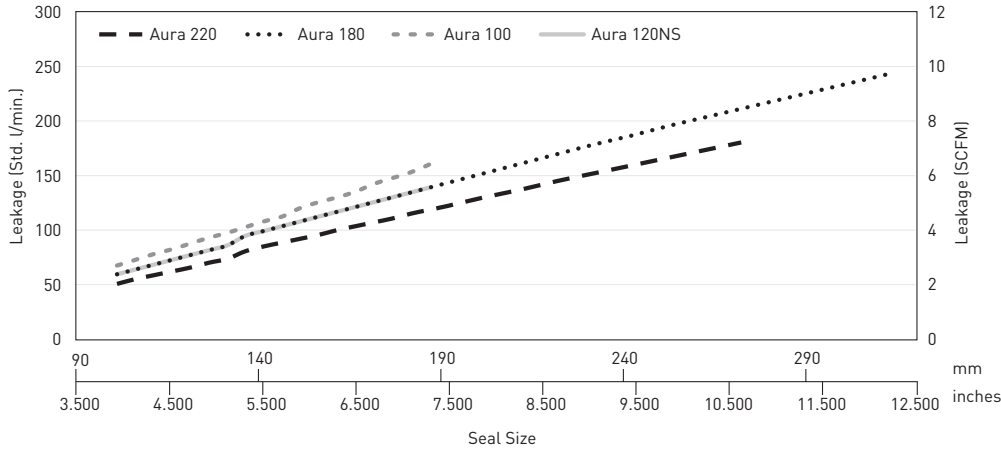
AURA™ 220/180/100/120NS

DRY-RUNNING, NON-CONTACTING GAS SEALS FOR COMPRESSORS

Technical Specification

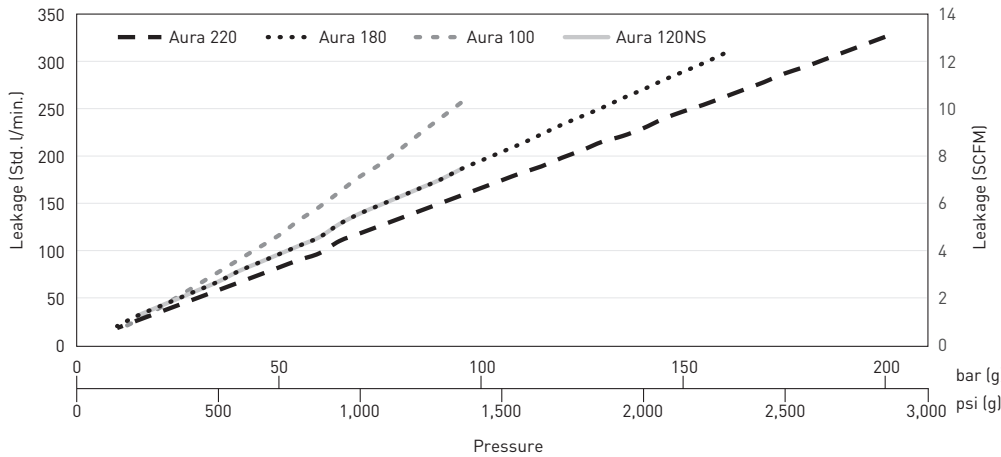
Illustrative Size and Speed Effect on Leakage

Illustrative Leakage - Aura 220/180/100/120NS
Air, bidirectional seal, 83 bar (g)/1,200 psi (g), 10,000 rpm



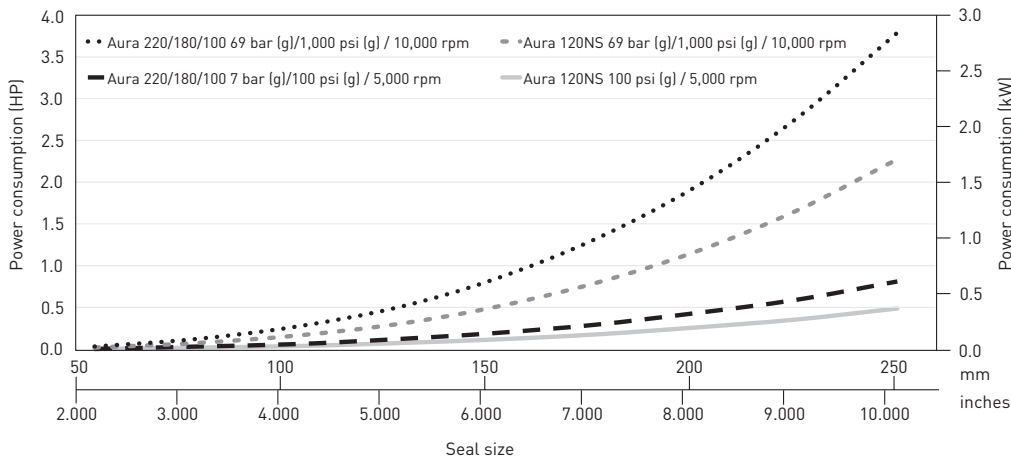
Pressure, Temperature and Gas Effect on Leakage

Illustrative Leakage - Aura 220/180/100/120NS
Methane, bidirectional seal size 157 mm/6.187", 14,000 rpm



Gas Seal Power Consumption

Illustrative Power Consumption - Aura 220/180/100/120NS
Air, bidirectional seal



*This information should not be used for specification purposes. Contact John Crane for more information about exact application requirements.



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