**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"

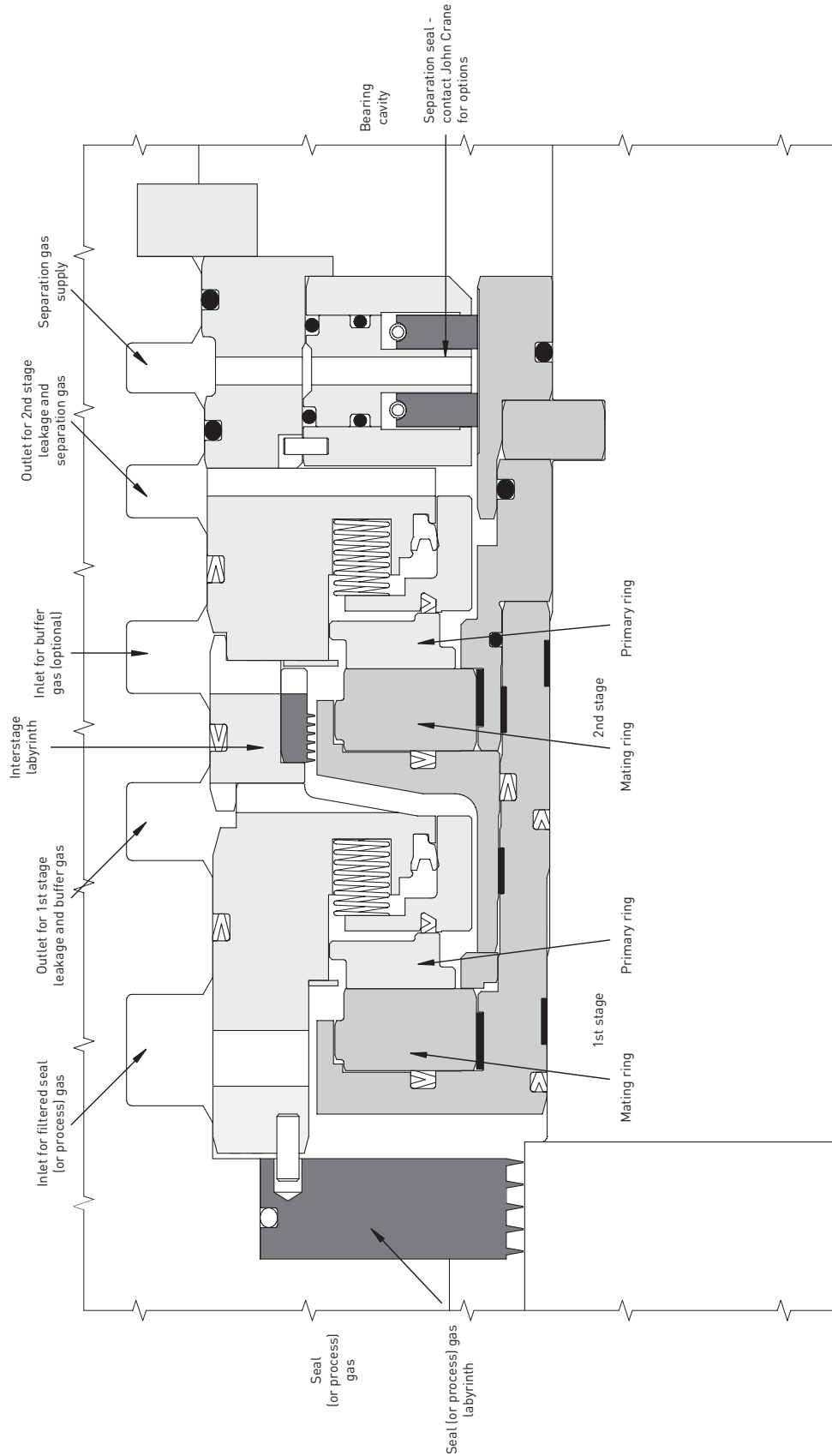
Performance Capabilities

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

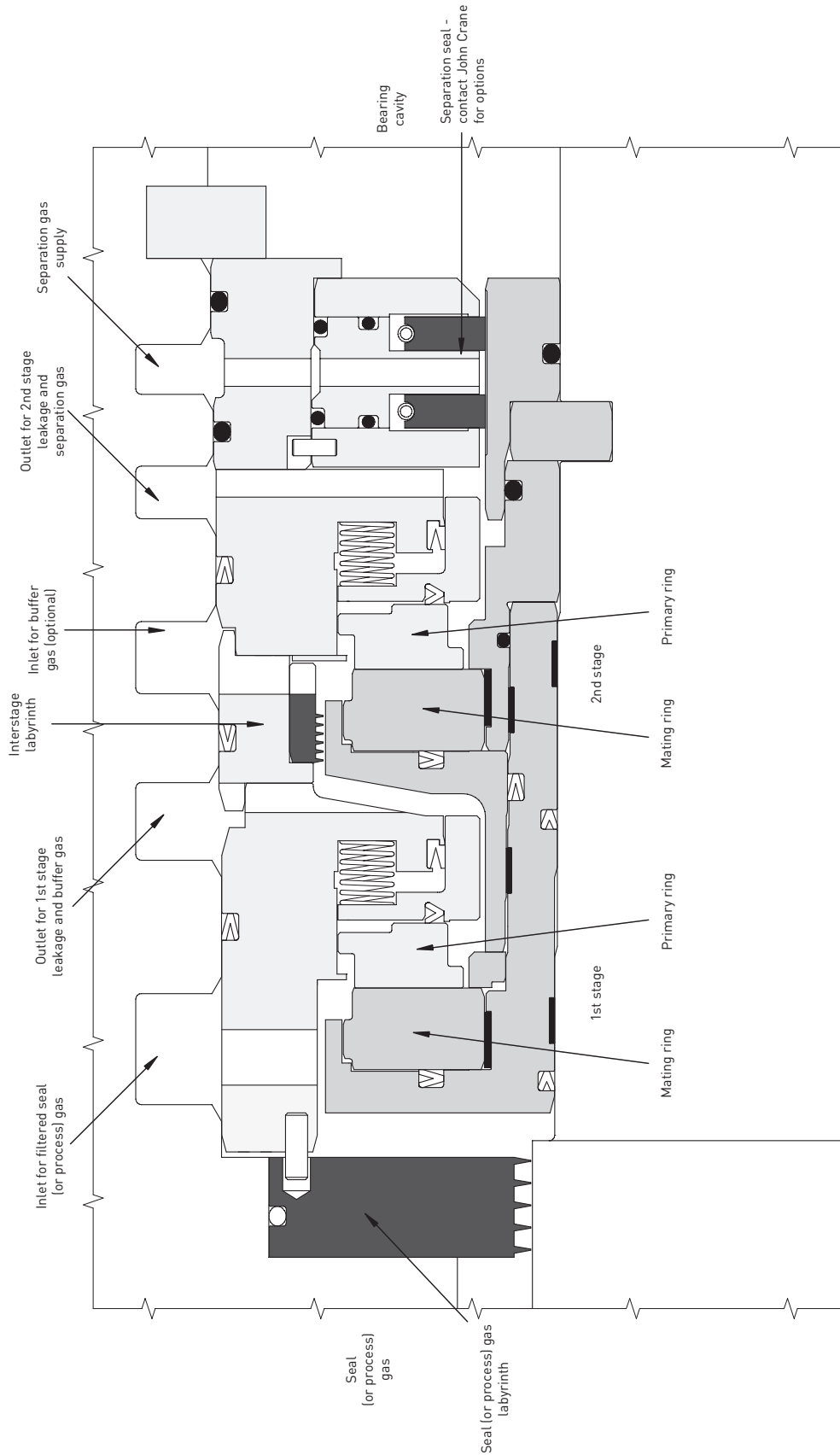
¹at balance diameter

²within the seal region

Aura 220 Typical Tandem Arrangement



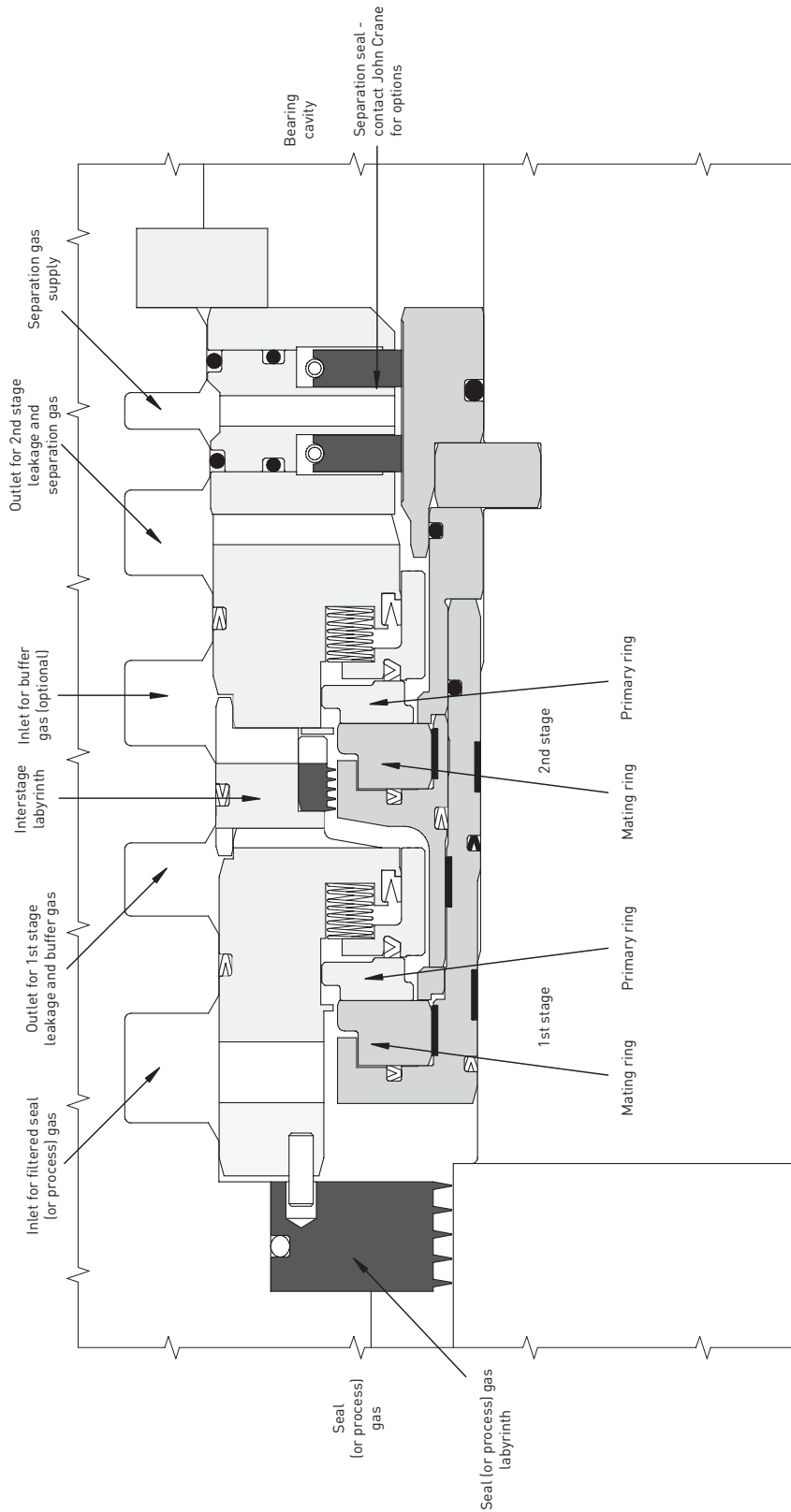
Aura 180 Typical Tandem Arrangement



Aura 100 Typical Tandem Arrangement

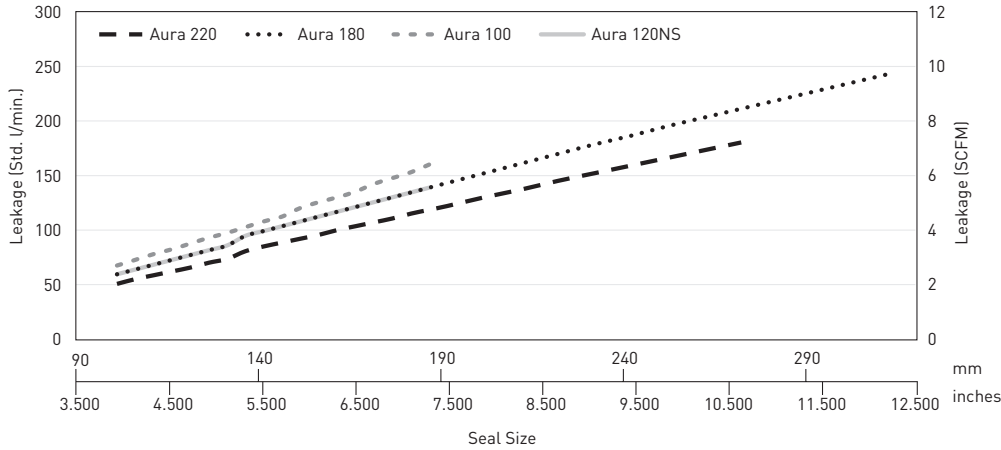


Aura 120NS Typical Tandem Arrangement



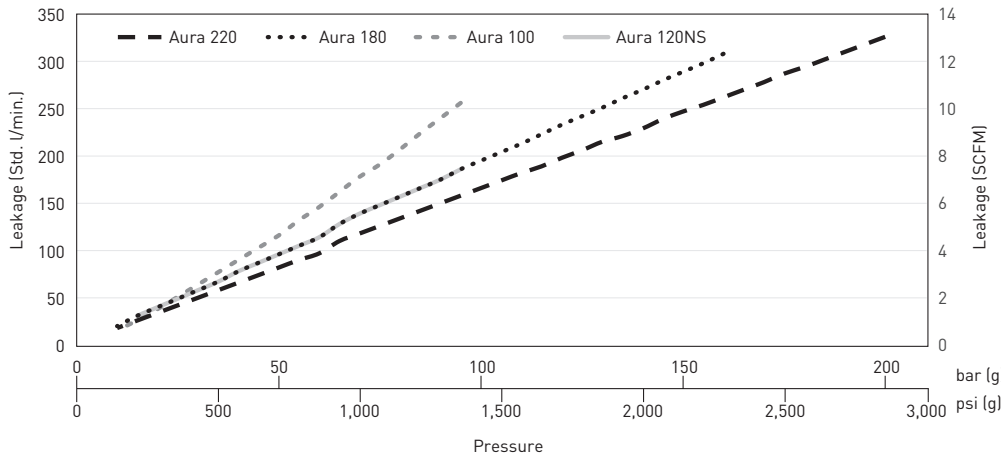
Illustrative Size and Speed Effect on Leakage

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



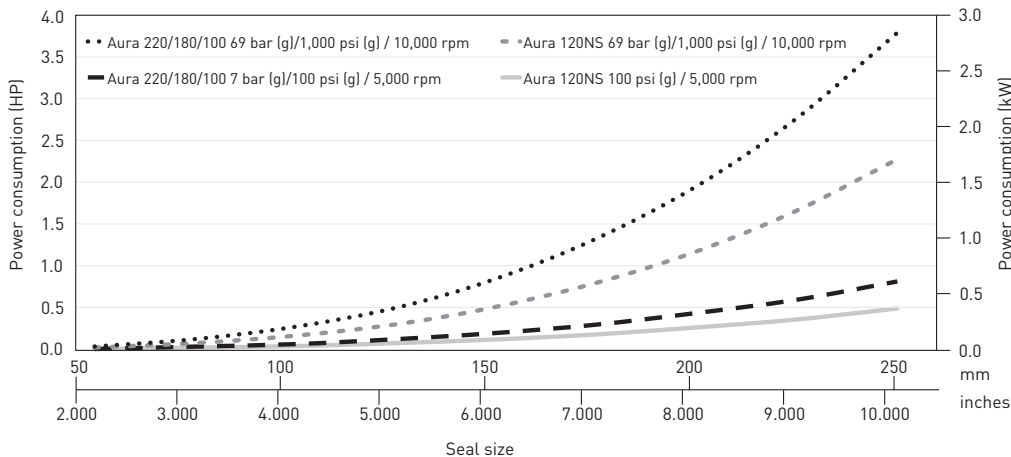
Pressure, Temperature and Gas Effect on Leakage

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.

