

TYPE 5870

FLUSHLESS CARTRIDGE SEAL

Technical Specification

- A – Face/Primary Ring
- B – Seat/Mating Ring
- C – Spring
- D – Dynamic O-ring
- E – Sleeve
- F – Quench/Drain Ports
- G – V-ring



Goulds Pumps TaperBore™ PLUS
Seal Chamber Patented: No. 5,336,048



Product Description

The Type 5870 Flushless Seal is designed to operate unsupported in all paper stock consistencies and light slurry applications in Goulds Pumps' TaperBore™ PLUS with Vane Particle Ejector (VPE) seal chambers. John Crane's Type 5870 open-profile, abrasive-resistant sealing faces positioned near the impeller, allows cool running and clog-free performance.

- Goulds Pumps' TaperBore *PLUS* VPE seal chambers allow operation in up to 6% paper stock and light slurries up to 20% by weight without typical flush water seal support.
- Seal lubrication and cooling are supplied from the pumped fluids.

Performance Capabilities

- Temperatures: up to 150°C/300°F
- Pressures: up to 21 bar g/300 psig
- Particle Size: up to 5,000 micron
- Speeds: up to 11 m/s/2200 fpm
- Axial Movement: $\pm 2\text{mm}/0.080\text{''}$

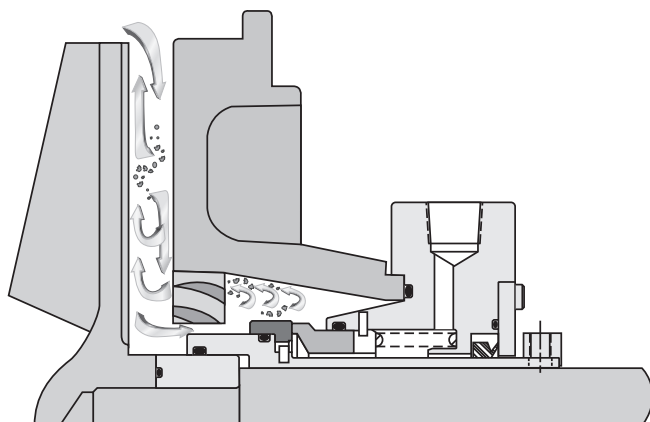
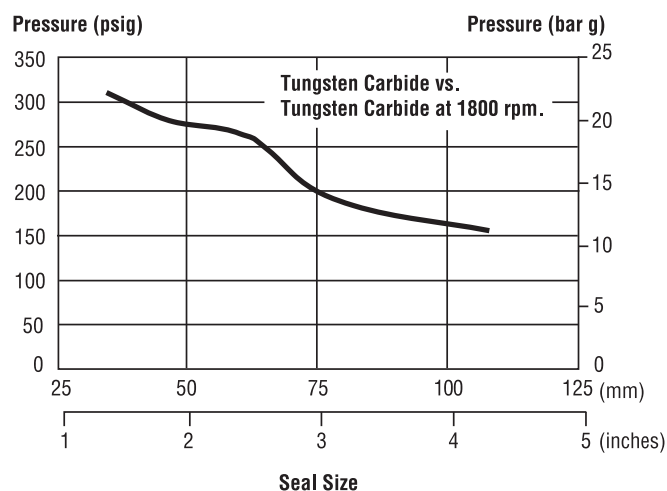
Typical Applications

- Services: up to 6% paper stock, ash slurries, corn slurries, beer wort, sugar juice, raw sewage, slurries up to 20% by weight.
- Paper stock
- Fibrous media
- General duty slurries

Design Features

- No support required — smooth, open-profile seal faces resist clogging and receive cooling and lubrication from the pumped liquid, eliminating flush water seal support.
- TaperBore *PLUS* seal chamber — VPE ring efficiently removes fibers, solids and vapors from pumped liquid, extending Type 5870 seal reliability.
- Cartridge design — factory preassembled into a complete package and tested to ensure fast, easy installation and trouble-free startup.
- Clog-resistant — large, dynamic o-ring prevents fibers or solids from causing hang-up and limiting seal life.
- Rotating mating ring — designed for maximum cool running, higher shaft speeds and more gland-to-shaft misalignment.
- Flexible — rugged, single-coil spring, located outside of the product, allows for greater shaft motion due to cavitation, pulsations and other upset operating conditions.
- Quench connection — allows grease or water to lubricate and cool atmospheric side of seal if dry-running, cavitation or air bind operation occurs.

TaperBore *PLUS* is a trademark of Goulds Pumps.

Type 5870 Seal with TaperBore™ PLUS Seal Chamber**Pressure/Velocity Limits**

Consult John Crane Engineering for higher speeds and other equipment applications.

Materials of Construction

SEAL COMPONENTS	MATERIALS	
	Standard	Options
Face/Primary Ring	Solid Tungsten Carbide	—
Seat/Mating Ring	Solid Tungsten Carbide	—
Gland Plate Assembly Sleeve Assembly Stub Sleeve Auxiliary Gland Collar Capscrews Spring	316 Stainless Steel	—
O-Rings	TFE Elastomer (Aflas®)	Ethylene Propylene Fluoroelastomer (Viton®)
V-Ring	Nitrile	—

Aflas is a registered trademark of Asahi Glass.

Viton is a registered trademark of DuPont.

Safeunit is a registered trademark of John Crane Inc.

Quench Options

Quench water usage can be optimized and controlled with a Safeunit® Grease quench can be automatically replenished with the grease feeder option. Contact John Crane about these quench supply options.