



Series

**Close-Tolerance
Bayonet**

The A-Series Bayonet is specifically designed for liquid hydrogen and liquid helium applications. It is capable of operating at extreme temperatures down to 4 Kelvin, delivering exceptionally low heat leaks along with zero inboard and outboard leakage.

Overview

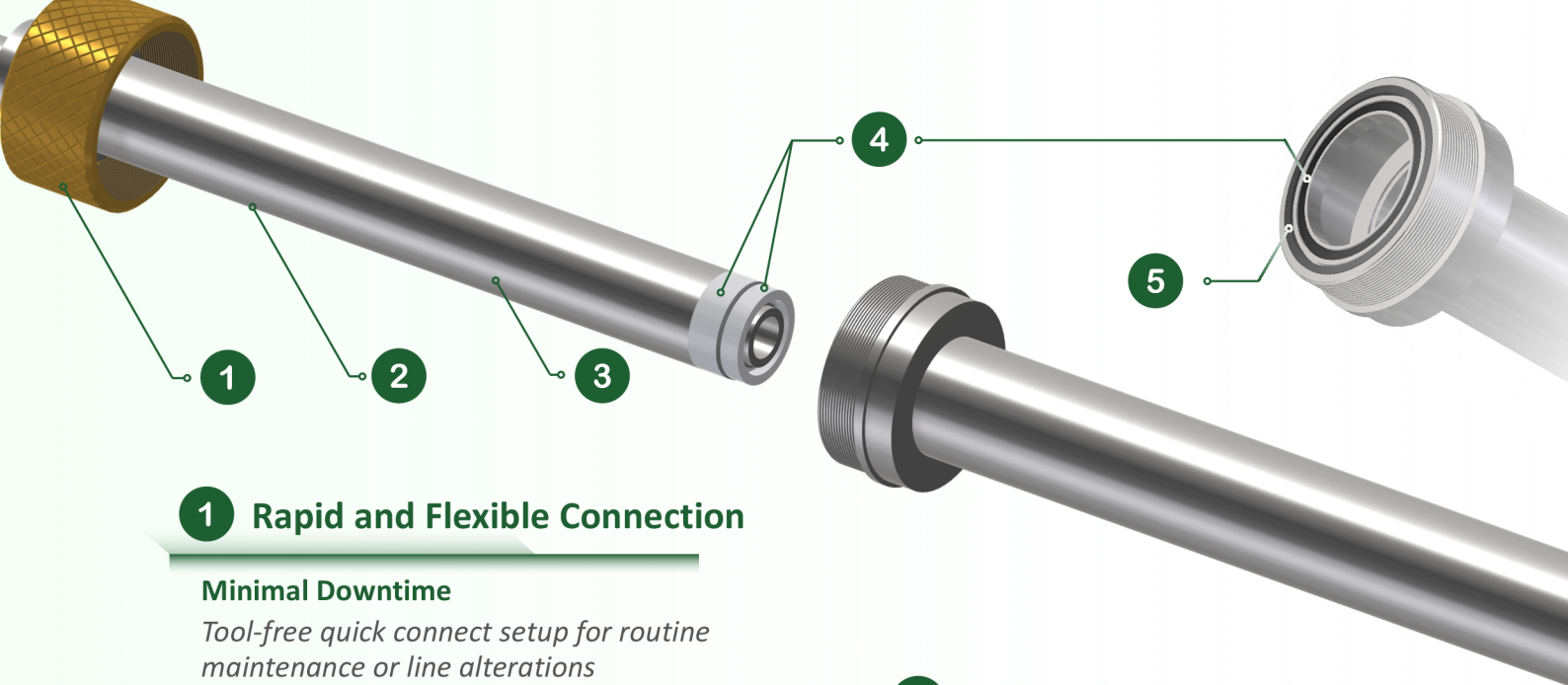
In cryogenic systems, permanent welded connections offer high reliability but severely restrict equipment servicing, relocation, and system reconfiguration. The CSM A-Series Bayonet resolves this operational challenge by providing a flexible, detachable connection that delivers the equivalent reliability of a permanent weld. Featuring an advanced vacuum-jacketed design and a tool-free quick-lock mechanism, the A-Series enables seamless system integration and operational flexibility while maintaining absolute vacuum integrity for extreme cryogenic applications operating down to 4 K.

Features & Benefits

- High-grade 316L SS Construction ensures min. 20 years product service life
- < 0.8 μm Ra Mating Surface ensures zero-mating failure
- Advanced thermal performance & insulation minimizes cryogen boil-off
- Triple PTFE Sealing System provides dependable, leak-free connection under extreme cryogenic conditions
- Fire-Safe Construction maximizes operational security
- Quick-lock, tool-free connection minimizes downtime
- Detachable interface lowers overall installation cost and offers cost-efficient expansion

Applications

- **Versatile Layouts:** Uniquely suited for both horizontal and vertical system layouts where flexible, detachable interfaces are essential.
- **Efficient Loading/Offloading:** Highly reliable performance for routine cryogenic fluid transfer as well as temporary system connections required during liquid loading and offloading operations.
- **Process Interface:** Ideal interface connection for linking vacuum-jacketed piping directly to cold boxes and related cryogenic process equipment.



1 Rapid and Flexible Connection

Minimal Downtime

Tool-free quick connect setup for routine maintenance or line alterations

Cost Efficient Expansion

Lowers overall installation cost & removes the need for specialized on-site welding

Versatile Configurations

Tailored with brass coupling nut, comes with optional alternative clamp connection

2 Durability & Precision Mating

Min. 20-year Product Service Life

High-grade 316L SS construction for exceptional durability & frequent use

Zero-failure Mating

Cold-hardened, precision-engineered sealing surface with low roughness tolerance of $< 0.8 \mu\text{m}$

Enhanced Purity

Eliminates the need for lubricants

3 Advanced Thermal Performance

Optimized for Super Insulated Systems

Integrated CSM's proprietary Super Insulation Technology, ensures minimum boil off

2 x lower conductive heat leak

Thin, innovative heat bridge

3 x lower convective heat leak

Narrow bayonet mating gap

4 Zero-Emission Sealing

Dependable Seal

Triple PTFE sealing system ensures leak-free performance under extreme cryogenic conditions

Hydrogen Barrier

Eliminate rapid heat transfer by hydrogen molecules

Rigorously Tested

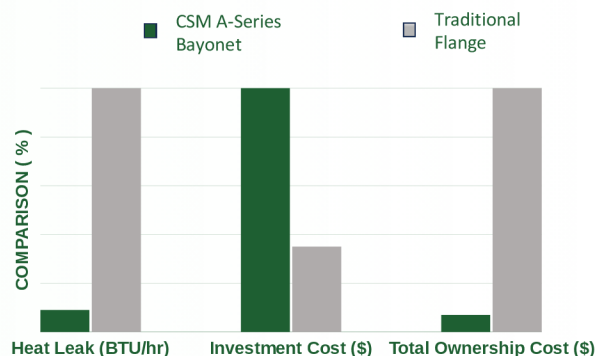
He leak tested $\leq 1.0 \times 10^{-9}$ std.cc/s

5 Safety Compliance

Fire-Safe Construction

API STD 6FB-compliant graphite seal

TCO ANALYSIS



Cryogenic Specialty Manufacturing Sdn Bhd

No 10, Jalan PPU 3A, 47150 Puchong, Selangor, Malaysia
 Tel : +603-8051 0982
 Fax : +603-8051 0913
 E-Mail : info@csm-cryogenic.com

