



TRENDSETTER CONNECTION SYSTEMS (TCS)

Reliable, Robust Metal to Metal Connection Systems

The Trendsetter Connection System (TCS) is a family of subsea connector solutions developed to meet industry needs for reliable, innovative connector products. The heart of the Trendsetter Connector System is the proprietary metal to metal (MTM) gasket system, TEX. The development of the TCS positions Trendsetter to offer products to our clients which meet and often exceed requirements, with unparalleled levels of quality, service, competitive pricing, and fast delivery.

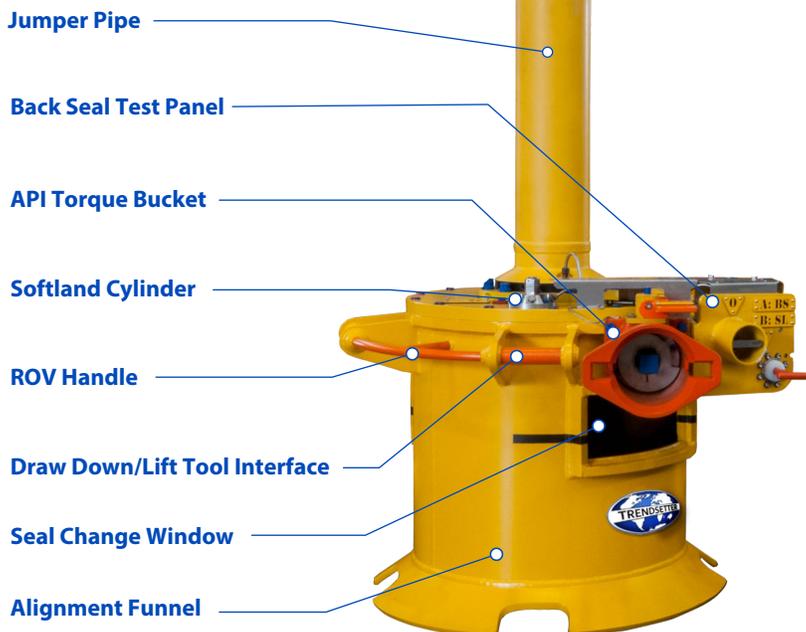
The TCS 3-piece clamp connection system is a fully integrated connector product complete with hubs, clamp, and alignment structures in a simple, efficient package. The TCS clamp requires only a standard API torque tool to make up the lead screw and preload the TEX gasket. The torque bucket is equipped with a simple turn count indicator and mechanical secondary lock.

The clamp housing and softland cylinder are incorporated into the outboard alignment structure to save space, simplify packaging and streamline installation. The alignment structure features the pull down/lift tool interface and windows to facilitate subsea seal change. The TCS clamp connector is available in three sizes and has

been qualified to accept a range of gaskets up to 16" ID with sufficient structural capacity to support large jumpers with pipe sizes up to 20".



TCS Clamp Connector System



KEY FEATURES

- ✓ Trendsetter designed and built connection system
- ✓ Robust metal-to-metal gasket
- ✓ Full qualification testing to rigorous standards up to 20,000psi and 400° F
- ✓ Designed for rigid and flexible jumpers with pipe sizes up to 20" nominal
- ✓ Industry standard ROV interfaces
- ✓ Supports subsea seal installation and removal
- ✓ Integrated soft landing feature
- ✓ Built-in back seal test capability
- ✓ Contingency tooling available to support subsea gasket replacement and connector drawdown

TC7 Clamp System

The TC7 3-piece clamp system is targeted for well and small flowline jumpers, accepting a range of gaskets up to 7" ID, and is operated with a standard API Class 5 torque tool. The TC7 can handle up to 8" nominal pipe.

The TC7 is API qualified to:

- 5" bore up to 20,000 psi internal pressure and 400°F
- 7" bore up to 15,000 psi internal pressure and 400°F

TC11 Clamp System

The TC11 3-piece clamp system is the mid-range clamp size for larger flowline jumpers. The TC11 accepts gaskets up to 11" ID and is operated with a standard API Class 6 torque tool. The TC11 can handle up to 14" nominal pipe.

The TC11 is API qualified to:

- 5" bore up to 20,000 psi internal pressure and 350°F
- 7" bore up to 20,000 psi internal pressure and 350°F
- 9" bore up to 15,000 psi internal pressure and 302°F
- 11" bore up to 10,000 psi internal pressure and 302°F

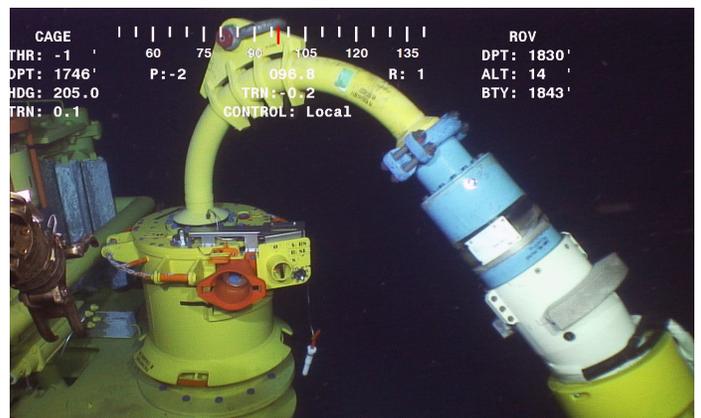
TC16 Clamp System

The TC16 3-piece clamp system is the largest clamp size for gathering and export line jumpers. The TC16 accepts gaskets up to 16" ID and is operated with a standard API 17D Class 7 torque tool. The TC16 can handle up to 20" nominal pipe.

The TC16 is API qualified to:

- 13" bore up to 7,500 psi internal pressure and 250°F
- 16" bore up to 7,500 psi internal pressure and 250°F

TCS Connectors in the Field



Trendsetter Connection Systems are field proven and designed to meet customer needs.

GENERAL SPECIFICATIONS

Rated Water Depth	10,000 ft
Rated Working Pressure for Wellbore Equipment	Up to 20,000 psi *
Product Specification Level (Wellbore Equipment)	PSL 3/3G
Working Bore Temperature	Up to 400° F *
API Material Class (wetted surfaces)	EE / HH
ROV Interface	ROV Bucket, Hot Stab and Grab Handles (API 17H)
Design Life	30 years
Design Code	API 6A and API 17D

*varies with connector size



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Manufactured by:
 Trendsetter Engineering
 Leader in Contemporary Subsea Solutions