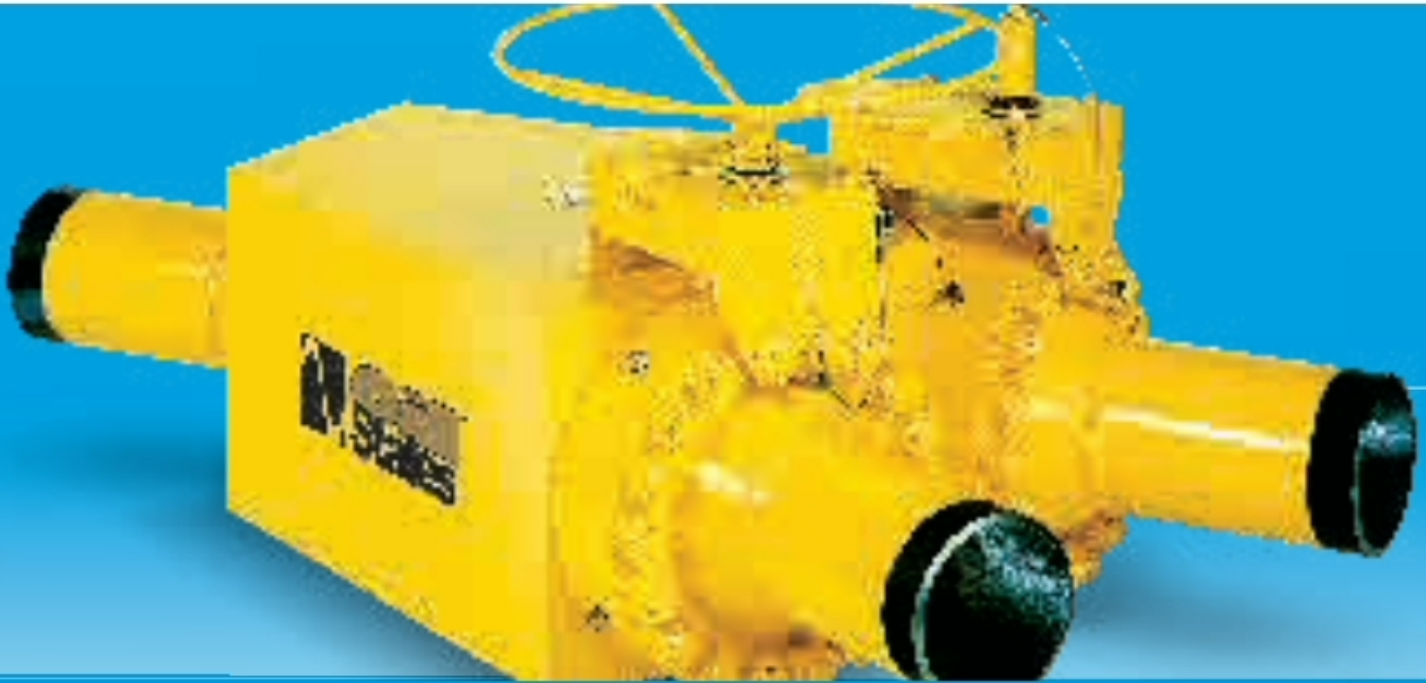




SUBSEA PIPELINE TECHNOLOGY

Dual Director Wye



DUAL DIRECTOR Bi-Directional Piggable Wye

The Oil States - QCS **Dual Director Wye** is a bi-directional, piggable Y-shaped fitting designed to facilitate the pigging and cleaning of lateral deep or shallow water subsea pipeline systems through one predetermined line. The Dual Director Wye has the unique ability to accommodate reverse flow pigging through both the main line and lateral line of the wye.

The Dual Director accommodates bi-directional pigging using a mirror-image internal director sleeve in both lines of the wye. The two director sleeves are rotated by independent external actuators, operated by ROV or diver. Activating the diverter sleeve in the main line rotates the sleeve to close the port to the lateral line, permitting bi-directional pigging in the main line. Activating the diverter sleeve in the lateral line rotates the sleeve to close the port to the main line, permitting bi-directional pigging in the lateral line. When both diverter sleeves are in the open position, the wye's unique design permits conventional flow combining pigging operations.

 **Oil States**™
OIL STATES INDUSTRIES, INC.



SUBSEA PIPELINE TECHNOLOGY

Dual Director Wye

Key Benefits

- Available in symmetrical or asymmetrical designs to accommodate specific pipeline configurations.
- Utilizes a thirty-degree angle of entry to ensure a smooth transition for the pig without risk of hanging up.
- Manufactured from a single-body forging or casting to ensure consistency of materials and workmanship.
- Standard weld ends can be provided with additional configurations upon request.
- ANSI pressure Class 300 to 2500 and API 6A ratings 2000 to 10000.

Applications

- Pipeline pigging operations – shallow and deepwater, ROV or diver assist

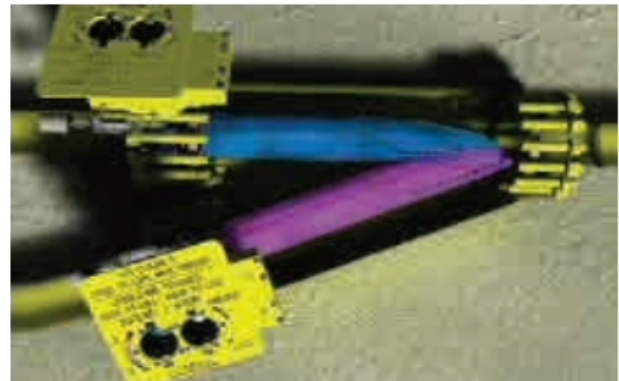
Services

- Engineering design
- Testing – FAT, SIT qualification
- Installation technical assistance

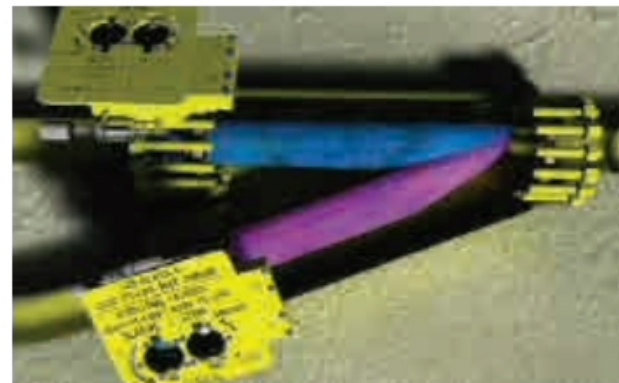
About Oil States - QCS

A division of Oil States Industries, Inc., Houston-based Oil States - QCS designs, manufactures and markets proprietary deep and shallow water pipeline connectors for subsea pipeline construction, repair and expansion projects.

The Dual Director's unique design permits conventional flow combining pigging operations.



Dual Director Sleeve Rotated Permitting Bi-Directional Pigging In the Main Line.



Dual Director Sleeve Rotated Permitting Bi-Directional Pigging in the Lateral Line.



www.oilstates.com

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