



## Diverless Pipe Recovery Systems

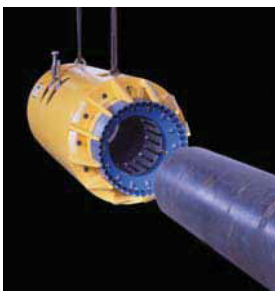
### Two efficient solutions for lifting deepwater pipelines to the surface

Oil States offers two diverless methods for attaching to and retrieving pipelines dropped during lay operations or in need of repair at the surface.

Diverless Pipe Recovery System – based on proven Hydro-Tech technology

The Diverless Pipe Recovery System is sized and built for a given pipeline and is deployed on an emergency standby basis. The key component of the system is the Diverless Pipe Recovery Tool (PRT), which is a modified Hydro-Tech Grip & Seal HydroCouple connector. The PRT is installed over a pipeline end and is actuated hydraulically. No special cleaning of the pipe OD is required except for concrete-weight-coat removal. Longitudinal weld seams and fusion-bonded epoxy (FBE) coating do not present a problem.

The Pipe Recovery Tool is used in conjunction with a Diverless Pipe Lift Frame (DPLF), which is deployed to the seafloor where it straddles the pipeline. The ROV, by means of a torque bucket, lowers a clamp assembly that captures the pipeline. The ROV then activates the lifting mechanism to raise the pipe end several feet off bottom so that the PRT can be stabbed onto it. After the PRT is installed and tested, the pipe is lowered to the seafloor and the DPLF is retrieved. The PRT is then used to lift the pipeline to the surface.



Close-up shows the radial gripping segments and circumferential seals in the Diverless Pipe Recovery Tool.

The PRT is rigged to hang under a heave-compensating buoy, so the ROV can guide it easily over the pipe end. Once the PRT is stabbed over the pipe end, the tool's grips and seals are hydraulically actuated. The ROV then uses a test port to verify that the gripping segments are locked and that the seals are pressure-tight. To lift the pipeline, the ROV guides a Master Link over the A&R



The Diverless Pipe Recovery System comprises the the ROV-operated Pipe Recovery Tool and Diverless Pipe Lift Frame.

hook on the PRT, and the derrick barge or lay vessel raises the pipe to the surface. If the pipeline must be dry for lifting, the PRT can be made to serve as either a pig launcher or pig receiver.

### Lifting without a lift frame – the Drop-On Pipe Recovery Saddle

The Pipe Recovery Saddle (PRS) is a simple, easy-to-use lifting device that requires no excavation, pipe lift frames, or pipe end preparation. It can be attached to a pipeline at any point. The drop-on PRS is a saddle-shaped device with a lifting yoke. As the tool is lowered onto the pipe, spring-loaded steel balls on each side of the saddle capture the pipe (smaller PRTs have one ball on each side; larger tools have two on each side). As the tool and pipe are lifted by the surface line, the tool rolls along the pipe until it reaches the nearest buckle arrestor, which serves as a stop. The pipe can then be lifted to the surface.





# Diverless Pipe Recovery Systems

## OIL STATES HOUSTON

### MANUFACTURING, ENGINEERING & SALES:

6120 E. Orem Drive  
Houston, Texas 77048USA  
Tel +1 713 445 2210  
Fax +1 713 445 2380  
houston@oilstates.com

### Houston Ship Channel

16730 Jacintoport Blvd.  
Houston, Texas 77015USA  
Tel +1 281 247 7400  
Fax +1 281 247 7401

### SALES OFFICES:

#### North America

Oil States Industries, Inc.  
1155 Dairy Ashford, Ste. 700  
Houston, Texas 77079  
USA  
Tel +1 713 510 2200  
Fax +1 713 510 2307

#### South America

**Oil States Industries do Brasil Ltda.**  
Centro Empresarial Barra Shopping  
Av das Américas 4200, Bl 8,  
Cob 303CEP 22640-102  
Barra da Tijuca, RJ Brazil  
Tel +55 21 3385 4473

#### Europe & Eurasia

**Oil States Industries, Inc.**  
Blackness Road  
Altens Industrial Estate  
Aberdeen, AB12 3LH  
Scotland, UK  
Tel +44 (0)1224 896190  
Fax +44 (0)1224 896199

#### Oil States Industries, Inc.

36, Bd des Oceans  
13275 Marseille, Cedex 9  
France  
Tel +33 491 40 89 35  
Fax +33 491 40 14 82

#### Oil States Industries, Inc.

Suite 5, 1 F. Amirov Street  
Baku, AZ1000  
Azerbaijan  
Tel +994 12 4 981 125  
Fax +994 12 5 379 125

#### SE Asia

#### Oil States Industries, Inc.

102 Bis/M Le Lai Street  
Ho Chi Minh City, District 1  
SR Vietnam  
Tel +84 8 3925 3545  
Fax +84 8 3925 0123

#### Middle East

#### Oil States Industries, Inc.

Fairmont, St. 712  
Sheikh Zayed Road  
Dubai, United Arab Emirates  
Tel +971 50 5500954

#### Africa

#### Oil States Industries (Nigeria) Ltd.

No. 50c Glover Road  
Ikoyi, Lagos  
Nigeria  
Tel +234 1 2718363  
Fax +234 1 2718364

## Sizes and pressure ratings

Diverless Pipe Recovery Tools meet the requirements of *API 6H* and are designed in accordance with *ASME Pressure Vessel Code, Section VIII, Division 2*, unless otherwise specified.

## Ordering Information

Please provide the following information on any purchase order or request for quotation:

- Nominal pipe diameter, wall thickness, and grade
- Design lift requirement
- Pipeline product (sealing-type tools):  
oil or gas, sweet or sour



**12-inch PRT rigged with a bouyancy module, ready for deployment**



**Diverless Pipeline Lift Frame on deck, ready for deployment**

