



MEETING GLOBAL STANDARDS SINCE 1975

Founded in 1975, PH Hydraulics & Engineering is Asia's leading offshore oil and gas equipment manufacturer.

From our corporate offices and manufacturing facilities in Singapore, Malaysia and Thailand, PH is committed to deliver total solutions in electro-hydraulic systems that meet global standards.

Our group's dedication in delivering total solutions have strengthen our position as a leading Pipe Lay System manufacturer in Asia.

PH's total solution will guide you through every aspect of your equipment from detailed engineering design to fabricating, testing and commissioning.

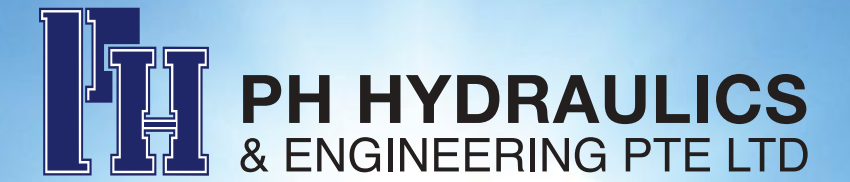
We have the engineering capability and experience to deliver complete packages for Pipe Lay System.



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April 2015



Pipe Lay System

Pipe Tensioner • Pipe Rollers • Pipe Davits
• Abandonment and Recovery Winch • Mooring Winches



Designed, engineered and delivered by
**Asia's Leading Offshore Oil & Gas
Equipment Manufacturer**

PIPE LAY SYSTEM

PH Hydraulics & Engineering is Asia's leading Pipe Lay System manufacturer. A typical Pipe Lay Vessel/Barge is equipped with a Pipe Tensioner, an Abandonment and Recovery (A/R) Winch, Rollers, Pipe Davits and Mooring Winches. At PH Hydraulics, we are able to design and customize solutions to meet the different requirements of each Pipe Lay Vessel/Barge.

Pipe Tensioner

- Is used to hold the pipes in place as well as preventing the pipes from clinking.
- Enables the operator to lay pipes onto the sea bed at a consistent speed and control the angle in which the pipe enters into the waters.
- Operates in shallow waters of about 100m to 300m and can be adjusted to suit deep water operations.
- Can hold pipes of about 12 meters in length and 60 inches in diameter.



2 x 80 ton Hydraulic Driven Pipe Tensioner

Pipe Rollers

- Comprising a series of different rollers. Mainly line up stations, conveyors, elevators and pipe transfer vehicles.
- Used to transport pipes within the Vessel/Barge.



V4 Fixed Roller Support

Pipe Davits

- A-frame with a hydraulic driven winch at the rear.
- Located on the side of the Vessel/Barge and are used for lifting rigid sub-sea pipe lines from the sea bed for repair and maintenance.
- Usually come in a series of 3 to 5 davit cranes.



50 ton Pipe Davit with built-in HPU & local/remote controls

Abandonment and Recovery (A/R) Winch

- Is used when the pipe lay operation cease due to poor weather. This winch is used to recover the pipes from the seabed to continue its pipe lay operations.
- While laying pipes, there could be some damages to the joints between each pipe and this winch is used to recover the pipes from the sea-bed and bring it on deck for further repairs.



200 ton Abandonment and Recovery (A/R) Winch

Mooring Winches

- Use to moor the Vessel/Barge forward while laying pipes.
- Has global positioning dynamics to guide the Vessel/Barge on a straight course.
- Enables the Vessel/Barge to move in a uniform direction while laying pipes.
- On some occasions, operators use mooring winches as anchor winches to anchor a Vessel/Barge down while not in operation.



130 ton Electric Drive Mooring Winch

PIPE LAY SYSTEM TRACK RECORD

Year	Project Description	Customer/End User	Year	Project Description	Customer/End User
2012	Stern Pipe Roller Support	Punj Lloyd	2008	Hull 1306 • Pipe Handling System • 2 x 70T Tensioner • 150T AR Winch	Pacific Ocean Engineering & Trading P/L
2011	15T Cable Tensioner	KT Submarine	2008	Superior Performance (Hull 1268) • Pipe Handling System • 2 x 70T Tensioner • 150T AR Winch	Pacific Ocean Engineering & Trading P/L
2011	400T Reel Drive System	Kreuz Subsea			
2011	6 x 50T Davits	BP Exploration (Caspian Sea) Ltd	2008	ITS 3000 • 6 x 50T Davits	Larsen & Toubro
2010	Hull 1454 • Pipe Handling System • 2 x 70T Tensioner • 1 x 150T AR Winch	Pacific Ocean Engineering & Trading P/L	2008	DLV4400 • 5 x 60T Davits	IOEC
2010	Shengli 902 • 1 x 75T Tensioner (VFD) • 1 x 150T AR Winch	Beijing LYXB Petroleum	2008	Global G1200 • Pipe Handling System • 6x50T Davits	Global Offshore International
2009	Global G1201 • Pipe Handling System • 6 x 50T Davits • 8 x 110T Mooring Winch (VFD)	Global Offshore International	2007	15T Cable Tensioner	J Ray McDermott
2009	Kota KL101 • Pipe Handling System • 2 x 70T Tensioner • 182 Ton AR Winch	Kota Offshore	2007	Aussie 1 • Pipe Handling System • 90T Tensioner • 200T AR Winch	Kim Heng Marine
2009	Swiber Aziz • Pipe Handling System	Swiber Offshore	2007	100T Wire Spooling Tower	Aceryg
2009	Regina 250 • Pipe Handling System • 4 x 50T Davits	Valentine Marintime	2007	Swiber Conquest • Pipe Handling System • 6 x 35T Davits	Swiber Offshore
2009	Indonesia Eclipse • Pipe Handling System • 2 x 70T Tensioner • 150T AR Winch • 4 x 50T Davits • 8 x 110T Mooring Winch (VFD)	Leighton	2007	Mahesh • 5 Stinger Roller Boxes • 1 Vertical Roller Unit	Punj Lloyd
2009	BAB DLB Barge • Pipe Handling System • 56 x 50T Davits	Bumi Armada	2007	• 300T Reel Drive System • 15T Tensioner • 6 x 50T Davits	Punj Lloyd
2009	• Pipe Handling System • 75T Tensioner (VFD) • 75T AR Winch (VFD) • 8 x 180T Mooring Winch (VFD)	China National Petroleum Company	2006	Sapura 3000 • 3 x Transverse Conveyor System • 6 x Transfer Vehicles • Pipe Elevator System • 2 x Line Up Modules • 2 x Beveling Supports	Sapura
2009	DB27 • Walking Beam • HPU	JR McDermott	2006	Sarku 2000 - Enterprise III • Pipe Handling System • 120T Tensioner • 150T AR Winch • 4 x 100T Double Drum Mooring Winch	SJR Marine
2009	LB32 • Pipe Handling System • 8 x 130T Mooring Winch	JR McDermott	2006	• 100T Tensioner • 100T AR Winch	Leighton
2009	Hull 1288 • Pipe Handling System • 2 x 60T Tensioner • 120T AR Winch • 6 x 50T Davits	MLC Shipbuilding Sdn Bhd	2005	• 2 x 30T Tensioner • 2 x 30T AR Winch	Leighton
2009	Giant 6 • 2 x 65T Tensioner • 130T AR Winch	Pioneer Offshore	2005	Shiva I • Pipe Handling System	Punj Lloyd
2008	• Pipe Handling System • 2 x 75T Tensioner • 2 x 88T AR Winch • 8 x 80T Mooring Winch	MCB Partnership	2005	Castoro 10 • Stern Support Roller Unit	Saipem
2008	DLB 1600 • Pipe Handling System • 2 x 100T Tensioner • 200T AR Winch	Valentine Marintime	2005	Comanche • 4 x Fixed Track Support Units • 2 x Adjustable Track Support Units	Global Offshore International
			2004	5 x 50T Davits	IOEC
			2004	DB-30 • Pipe Handling System	J Ray McDermott
			2003	DB27 • Pipe Handling System	J Ray McDermott
			2002	DB-27 • Pipe Handling System	J Ray McDermott
			2001	10T Tensioner	COOEC