

No limits

No boundaries

IHC Handling Systems
product overview 2014/2015



'Lots of reasons why.' IHC Handling Systems

No limits **No boundaries**

No limits, no boundaries. This means that issues such as 'large', 'heavy' and 'deep' are relative terms to us. The crux is identifying opportunities and translating these into practical applications. As a global expert in the field of tools for installing foundations and structures, we know our market. And our market - in turn - is fully aware of what we have to offer as a technology innovator, as a reliable partner and as a producer of efficient fail-safe tools to ensure the best possible safety.

IHC Handling Systems, part of IHC Merwede, is a leading supplier of high-quality handling systems and services as well as a problem solver for handling issues. At IHC Handling Systems we have a rich history as

an innovative company experienced through various offshore installation or removal 'challenges'. We have been ahead of market developments for many years now. How? Innovation and thinking in terms of the market are deeply entrenched in our company's DNA. We enjoy limitless conceptualisation.

Together with our sister companies IHC Hydrohammer® and IHC Sea Steel we offer a full package of offshore installation equipment, either from our standard range of products or to our clients specific needs or requirements. We invite you to step into our world in order to learn more about our company, products and services and the reason we are proud to say 'No limits, no boundaries'.

IHC Merwede

IHC Merwede is focussed on the continuous development of design and construction activities for the specialist maritime sector. It is the global market leader for efficient dredging and mining vessels and equipment – with vast experience accumulated over decades – and a reliable supplier of custom-built ships and supplies for offshore construction.

IHC Merwede has in-house expertise for engineering and manufacturing innovative vessels and advanced equipment, as well as providing life-cycle support. Its integrated systematic approach has helped to develop optimum product performance and long-term business partnerships.

The company's broad customer base includes dredging operators, oil and gas corporations, offshore contractors and government authorities.

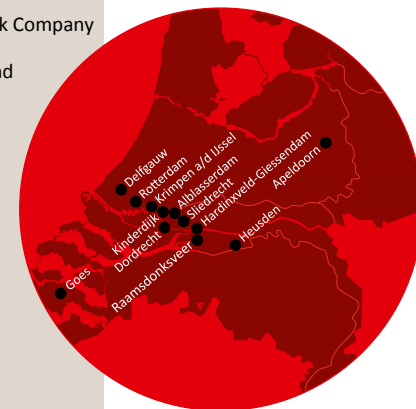
IHC Merwede has over 3,000 employees based at various locations in The Netherlands, Brazil, China, Croatia, France, India, Malaysia, the Middle East, Nigeria, Serbia, Singapore, Slovakia, South Africa, the United Kingdom and the United States.

Technological innovation will remain the company's underlying strength through its continuous investment in research and development. Moreover, it helps to safeguard a sustainable environment.



Locations in the world

The Netherlands, Brazil, China, Croatia, France, India, Malaysia, the Middle East, Nigeria, Serbia, Singapore, Slovakia, South Africa, the United Kingdom and the United States.





Oil & Gas

We invite you to step into our world of equipment in order to learn more about our company and the reason we are proud to say 'Your world, our challenge'.

Structures

IHC Handling Systems long history in the Oil & Gas industry has a strong connection with the installation of structures. The challenges, faced by our customers led to the design and fabrication of dedicated equipment which 'nowadays' is available on a rental or a purchase basis.

Deep Water

Over the years, the Oil & Gas industry moved (and still is moving) from shallow to deeper, and even ultra-deep waters. IHC Handling Systems supported its customers during this 'evolution' by designing and producing equipment capable of withstanding deep water conditions.

Pipelay

IHC Handling Systems involvement in the pipelaying market started in the mid 90's with the supply of our first line-up clamps. Since then, the growth of offshore activities led to a demand for a wide range of equipment, all of which is currently available within our product range.

Decommissioning

A relatively new market in which IHC Handling Systems is involved in is the removal market. The removal of structures, jackets, subsea templates and pipelines requires specialised and customised equipment or, in other cases, equipment that is a 'spin-off' from existing tools.

Oil & Gas

Structures

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Pipelay

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Wind

The offshore wind business is clearly a growth market. During the coming decades sizeable wind farms will be created, especially offshore. IHC Handling Systems has been involved in this market from the very early start and nowadays, it is a very important ‘second’ pillar of the business.

Jackets & Tripods	Monopiles	Gravity Based	Deck Equipment
<p>The offshore wind industry is currently moving into deeper waters and due to the ever-increasing capacity of wind turbines, jackets and tripods are more often chosen as foundation type. For the installation of structure foundations IHC Handling Systems can contribute its experiences from the Oil & Gas market.</p>	<p>Since 2001, IHC Handling Systems is involved in the installation of monopiles, starting with the installation of the Horns Rev I project off the Danish coast. Since then, IHC Handling Systems has been involved in 95% of all monopile projects that followed Horns Rev I.</p>	<p>A rare type of foundation is the Gravity Base foundation, which requires huge constructions to be handled and installed offshore. IHC Handling Systems experience in handling and lifting heavy constructions is an assurance for the successful installation of these foundations.</p>	<p>Apart from the equipment used during the installation of foundations, IHC Handling Systems is increasingly involved in the handling of structures, piles, etc on deck of installation vessels, this varies from the hydraulic operated pile storage frames to guiding and/or positioning frames.</p>

Wind

Monopiles

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Jacket & Tripods

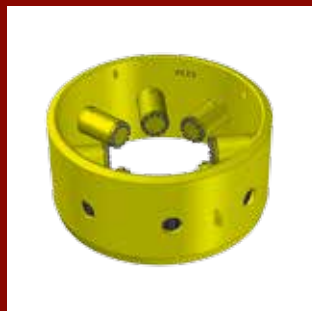
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Gravity Based

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Concepts

IHC Handling Systems has a rich history as an innovative 'problem-solving' company and has gained extensive experience through various offshore installation or removal 'challenges'. Innovation and thinking in terms of solutions for our customers are deeply entrenched in our company, starting from our experienced sales team, through our engineering and our service department. IHC Handling Systems is capable of limitless conceptualization.

Concepts

Various

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Supporting Equipment

All IHC Handling Systems equipment is hydraulically operated, both for surface and for subsea operations.

IHC offers its customers complete equipment packages, which result in a 'plug-and-play' solution. A major advantage for our customers is the fact that they can rely on equipment packages that already have been tested as an assembly. Obviously, having one single point of contact for an equipment package that consists of several components is an additional benefit for the customer.

Supporting Equipment

Various	
Hydraulic Power Pack 5,5 kW (PP5.5)	121
Hydraulic Power Pack 22 kW (PP22)	123
Diesel Power Pack (PP157)	125
Hydraulic Hose Reel 2 x 160m / 2x 320m / 4x 160m (HR)	127
Hydraulic Hose Reel 6 x 200m (HR)	129
Hot Stab (HS)	131


ILT

Internal Lifting Tool

ILT's are used for upending of piles, conductors and lifting of jackets, templates, buoyancy tanks and modules.

Specifications

- Standard pile range 16" - 96"
- Lifting capacities of 200t - 2000t
- Standard operating water depth is 500m
- Special modifications allow for:
 - pile OD 108"
 - water depth up to 2500m
 - capacity up to 2000t
 - Certified and designed according Lloyds Lifting Appliances
- Available for rental & purchase

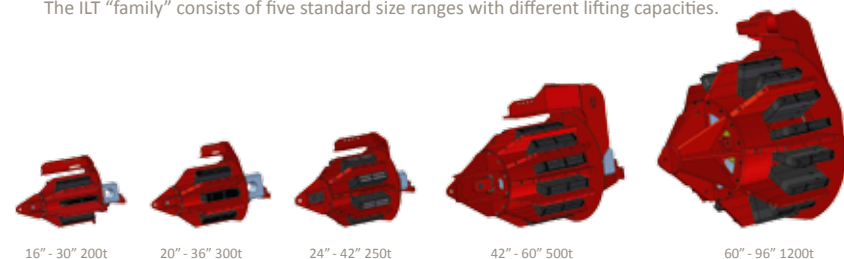
Applications

An evolution in ILT use has taken place over the years from simple pile handling into use during various installations, such as:

- Lifting of buoyancy tanks
- Lifting of jackets
- Lifting of topside modules
- Lifting of subsea manifolds

Product Range

The ILT "family" consists of five standard size ranges with different lifting capacities.



16" - 30" 200t

20" - 36" 300t

24" - 42" 250t

42" - 60" 500t

60" - 96" 1200t


ILT

Internal Lifting Tool

Fail Safe Principle

The ILT is equipped with IHC's innovative

Fail Safe Principle:

- Mechanical load applied on the tool in longitudinal direction results in a transversal force on the pile which creates the 'locking / fail safe' connection

Projects

2013	OSX-3 - Brazil
2013	Diyabekir - Turkmenistan
2013	KMA - Malaysia
2012	EMEPMI TE-A, TA-Q, TE-B - Malaysia
2012	FSO Erawan-2 mooring installation - Thailand
2012	Bubut & Danau - Brunei
2012	EPRD Ekofisk cessation - North Sea
2012	Pertamina Hulu Energy - Indonesia
2011	Pierce Manifold Installation - North Sea
2011	SHWE project - Myanmar
2011	D1 project - India
2011	Esso Kipper Tuna - Australia
2011	MHN Re-development - India
2011	Montara - Australia
2011	Bien Dong 1 - Vietnam
2010	Gumusut-Kakap - Malaysia
2010	Devil Creek - Australia
2010	Gajah Baru - Indonesia
2010	Castor T & I - Spain
2010	KNPG-B jacket - Malaysia
2010	Ekofisk removal - North Sea

Projects prior to 2010 upon request


ELT

External Lifting Tool

ELT's are used for pile upending, pile lifting and as a hang off clamp.

Specifications

- Pile range 20" - 112"
- Lifting capacity up to 1200t
- Max. operating depth of 250m
- Certified and designed according Lloyds Lifting Appliances
- Available for purchase

Features

The ELT has some specific innovative features.

- Subsea operation via ROV or umbilical
- ELT can be optional delivered with side opening
- Centralizing system improving position prior to clamping

Applications

- Pile upending in a dual crane operation
- Use as hang-off clamp
- Use a temporary clamping device during welding of leg piles

Fail Safe Principle

The ELT is equipped with IHC's innovative Fail Safe Principle

- Mechanical load applied on the tool in longitudinal direction results in a transversal force on the pile which creates the 'locking / fail safe' connection

Projects

2012	Conoco Eldfisk - Norway
2012	North Rankin B - Australia
2012	Jasmine - North Sea
2010	Castor T & I - Spain
2009	North West Hutton - Norway
2009	Peregrino - Brasil
2009	Mexilhao - Brasil
2008	Tombua Landana - Angola

Projects prior to 2008 upon request



UF

Upending Frame

Upending Frames enable offshore installation contractors to increase their sphere of activity and efficiency by upending long piles with a relatively short crane boom.

Specifications

- Pile range 54" - 108"
- 600t holding capacity
- Requires ILT at the pile top
- Available for rental & purchase

Features

- Hydraulically operated
- Rotation of frame 0° - 100°
- Lateral freedom of movement ±10°
- Full pile weight can be taken by frame
- Frame can be equipped with inclino sensor for accurate digital angle information
- New design with hydraulic hinge back

Projects

- 2013 KPOC - Malaysia
- 2013 KBB Northern Hub project - Malaysia
- 2012 Global Tech 1 Offshore Wind Farm - Germany
- 2012 Hai Thach / Bien Dong - Vietnam
- 2012 Cendor phase 2 - Malaysia
- 2011 Yetagun-C - Myanmar
- 2011 B-193AP & B-193AQ - India
- 2011 Bien Dong MT1 - Vietnam
- 2011 Dai Hung - Vietnam
- 2010 F23R - Malaysia
- 2009 Chim Sao - Vietnam
- 2007 Krishana Godavari - India

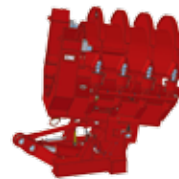
Projects prior to 2007 upon request

**UF**

Upending Frame

Developments

The latest frames are equipped with a hydraulic hinge back option, this additional device allows the Upending Frame to return into its horizontal position without additional tools, such as tugger winches and/or cranes. This latest design further improves the efficiency of offshore operations.




LT

Leveling Tool

The Leveling Equipment can be used for leveling of jackets and/or templates.

Specifications

- Surface and subsea leveling operations
- Leveling capacity up to 3000t
- Fail safe design
- Certified and designed according Lloyds Lifting Appliances
- Available for rental & purchase

Features 1600t – 3000t equipment

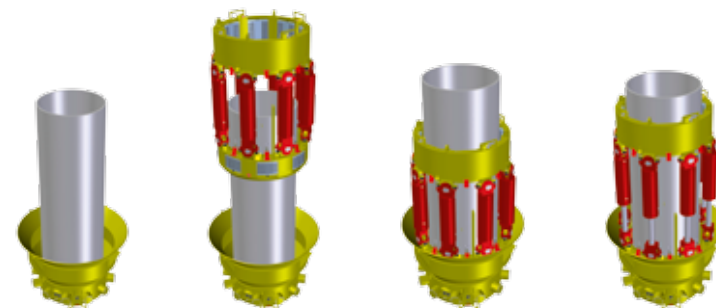
- Subsea leveling tool
- Leveling capacity 1600t - 3000t
- Pile range 72" - 102"
- Guide cone requires an integrated rolled vertical ring only to facilitate leveling tool
- Leveling tool operates independent from pile stick up
- Operates in combination with a Jacket
- Free orientation during installation of tool

Features 200t – 1600t equipment

- Above water and subsea use
- Leveling capacity 200t / 800t / 1600t
- Adjustable to all pile diameters
- Stroke 1000mm / 1800mm
- Emergency release via hot-stab (ROV)
- Stick-up height variable
- Recommended to operate in combination with a Jacket Pile Gripper during subsea leveling
- No special preparations to jacket/template structure are required:
 - Connects with pile guide / catcher plate in subsea use
 - Connects with jacket pad eye in surface use


LT

Leveling Tool



Fail Safe Principle

The LT is equipped with IHC's innovative Fail Safe Principle:

- Mechanical load applied on the tool in longitudinal direction results in a transversal force on the pile which creates the 'locking / fail safe' connection

Projects

- 2013 Thang Long Dong Do Project - Vietnam
- 2012 Forties Alpha - North Sea
- 2012 Jasmine II - North Sea
- 2012 Greater Ekofisk - Norway
- 2011 Dai Hung - Vietnam
- 2011 Jasmine I - North Sea
- 2009 Chim Sao - Vietnam
- 2009 alhall & Harding - North Sea
- 2007 Ledong - China
- 2007 Xijiang 23-1 - China
- 2006 Pany PY31 - China
- 2006 Britsats - North Sea

Projects prior to 2006 upon request



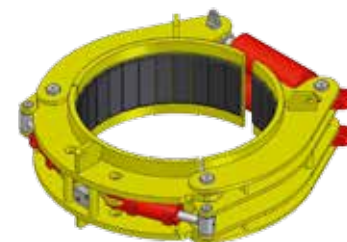
PARC

Pile Anti Running Clamp

Specific designed Clamp to stop pile running during pile driving.

Specifications

- Pile range 30" - 84"
- To prevent damage to jacket, crane and hammer caused by running piles
- Hydraulically controlled
- Available for purchase



Features

- PARC stops piles from running
- PARC operates in combination with a standard power pack and high pressure accumulator set
- Initial low clamping pressure of PARC during pile driving, to create pile / clamp contact
- When pile running occurs energy from the accumulator package is release in order to stop the pile run within milliseconds
- Automated or manual system
- PARC has the ability to overcome transversal welds between pile sections

Projects

- 2011 Pemex - Mexico
- 2009 Several projects - India
- 2007 Pemex - Mexico


JPG

Jacket Pile Gripper

Pile grippers are used to create a temporary connection between the skirt pile and jacket.

Specifications

- Capacities are limitless
- Pile diameters are limitless
- Hydraulically operated
- 3rd party certification is optional
- Available for purchase

Features

- Securing jacket during bad weather conditions and abandonment
- Retaining elevated position after leveling
- Provides high jacket stability during grouting process
- Operated from surface with subsea redundancy control
- Optional completely subsea controlled
- Optional multiple hydraulic circuits
- Extensive track record



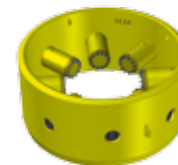
**JPG**

Jacket Pile Gripper

Specials



- Re-usable Jacket Pile Gripper;
 - Special jacket pile gripper design to be re-used on project with multiple jackets
 - Connection to skirt sleeve by mechanical or hydraulic operated pin connection



- Inside-out Jacket Pile Gripper;
 - Jacket pile gripper which is part of the pile grips internally in skirt sleeve or bucket arrangement

Projects

- 2013 Laila - Malaysia
- 2013 Edvard Grieg - North Sea
- 2013 Montrose - North Sea
- 2013 Martin Linge - Norway
- 2013 Kepodang - Malaysia
- 2012 Forties Alpha - North Sea
- 2012 Jasmine II - North Sea
- 2011 Jasmine I - North Sea
- 2011 Hornsea Met Mast - North Sea
- 2011 Dai Hung - Vietnam
- 2010 EAPL Kipper Tuna - Australia
- 2010 Greater Ekofisk - Norway
- 2009 Valhall & Harding - North Sea
- 2008 Baraka - Tunesia
- 2007 Heera - India
- 2007 Bohai Phase II - China
- 2006 Ikalou - Congo
- 2006 Ikalou sud - Congo
- 2006 Britsats - North Sea

Projects prior to 2006 upon request



HRS

Hydraulic Release Shackle

Hydraulic release shackles are used for lifting and positioning structures both subsea as well as at the surface.

Specifications

- Capacity 17,5t - 2000t
- Remote controlled engagement and disengagement of shackles
- Available for rental & purchase
- Independent of shackle brand
- Ultra deep water versions available

Features

- Hydraulic operated pin
- Standard suitable for 500m water depth
- Several, optional, back-up activation methods available:
 - Hot Stab
 - Secondary back-up cylinders
 - Accumulators
 - Mechanical back-up

New

New patented mechanical pin lock design.

Projects

- 2013 Nexen Golden Eagle - North Sea
- 2013 Eldfisk II - North Sea
- 2013 Ell Dolphin - Australia
- 2013 Washit Gas - UAE
- 2012 Britannia - North Sea
- 2012 Togi - North Sea
- 2012 HST & HSD Project - Vietnam
- 2012 Jasmine II - North Sea
- 2011 OIG - Norway
- 2011 Liwan - China
- 2011 Dai Hung - Vietnam
- 2011 London Array OWF - North Sea
- 2011 Hornsea Meteorological Mast - North Sea
- 2011 Total Gabon Anguille - Gabon
- 2010 Topaz - Asia
- 2010 Cape Lambert - Australia
- 2009 Ormonde OWF - Belgium
- 2009 Alpha Ventus OWF - Germany
- 2009 Montara - Australia
- 2008 Montara - Australia

Projects prior to 2008 upon request


PiPI

Pile Plug

Pile plugs create an air and water tight seal at one or both ends of a pile.



Specifications

- Can be used in combination with all standard foundation pile sizes
- Hydraulically controlled from surface or by ROV
- Available for purchase

Features

- Suitable for upending and / or transportation
- Suitable for shallow water depths
- Available for straight and angled pipe ends
- Hydraulically operated

Latest development

- Special ILT with a fixed pile plug attached.
- Pile plug integrated with ILT which allows for a combined operation of pile upending and sealing

Projects

- 2012 SHWE - Myanmar
2009 Chim Sao - Vietnam


SKS

Skidding System

Skidding systems are used for accurate positioning, load out of heavy objects or launch of jacket structures.

Specifications

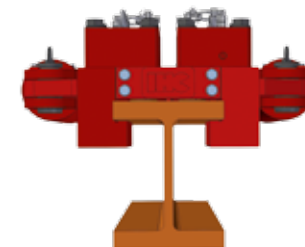
- Hydraulic push-pull system
- Movement of loads up to 10.000t
- Available for rental & purchase

Features

- Double hydraulic system: gripping and push-pull
- Easy to operate
- Controllable and accurate positioning
- No special skid beam preparations
- Low maintenance costs

Skidding principle

- Pressurize gripper jacks on beam
- Extend skid jacks (= push object)
- Release gripper jacks
- Retract skid jacks



Projects

- 2012 SHWE - Myanmar
- 2011 Netmak - Turkeye
- 2010 FDS2 - Saipem
- 2009 Mexilhão - Brazil
- 2008 Well Enhancer - Helix
- 2007 Perenco Group23 - Congo

Projects prior to 2007 upon request

**BC**

Bear Cage

Bear cages are used to line up piles prior to welding.

Specifications

- Suitable for various diameters
- For use at surface only

Features

- Line up of two pile sections
- Can operate on battered piles
- Hydraulic clamping
- Capacity to hold full pile section weight
- Welding platform can be integrated in design

Projects

- 2012 Pemex - Gulf of Mexico
- 2012 Ceyhan - Caspian
- 2011 Pemex - Gulf of Mexico
- 2010 Block17 - Angola
- 2009 Camarupin - Brazil
- 2008 India - Punji Lloyd
- 2007 Pemex - Gulf of Mexico

Projects prior to 2007 upon request


ILT

Deep water Internal Lifting Tool

Deep water ILT's are used for lifting and positioning mooring piles, conductors and subsea structures in ultra deep waters.

Specifications

- Standard pile range 16" - 96"
- Lifting capacities of 200t - 1200t
- Maximum operating depth of 2500m
- Certified and designed according Lloyds Lifting Appliances
- Available for rental & purchase

Features

- ILT control panel is ROV operated
- Built-in accumulator pack

Fail Safe Principle

The ILT is equipped with IHC's innovative Fail Safe Principle:

- Mechanical load applied on the tool in longitudinal direction results in a transversal force on the pile which creates the 'locking / fail safe' connection

Projects

- 2013 Big Foot - Gulf of Mexico
- 2010 Block 31 - Angola
- 2010 Gumusut-Kakap - Malaysia
- 2008 Kikeh II - Malaysia
- 2007 Kikeh I - Malaysia
- 2003 Kizomba A - Angola


PRM

Pin Release Mechanism

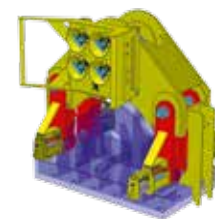
Pin release mechanisms are operated in deep water for the installation of templates, structures and suction piles.

Specifications

- Custom made design
- Lifting capacities up to 2000t
- Maximum operating depth of 3000m
- Certified and designed according Lloyds Lifting Appliances
- Available for purchase

Features

- Can be integrated in any structure or lifting beam arrangement
- Hydraulic operated pin
- Hydraulic energy through accumulators
- Mechanical back-up
- Many additional (back-up) options available
 - Hot Stab
 - Secondary cylinders
 - Separate hydraulic circuits



Projects

- 2013 Jack & St. Malo FPU - Gulf of Mexico
- 2013 Lucius FPU - Gulf of Mexico
- 2011 Kizomba Satellites - Angola
- 2011 Castoro II
- 2010 Valhall - North Sea
- 2009 Mexilhão - Brazil
- 2008 BC-10 - Brazil
- 2006 Independence Hub - Gulf of Mexico
- 2005 Thorton Bank OWF - Belgium
- 2004 Thunderhorse - Gulf of Mexico
- 2004 Mad Dog - Gulf of Mexico
- 2004 Atlantis Chains - Gulf of Mexico

Projects prior to 2004 upon request


CC

Chain Clamp

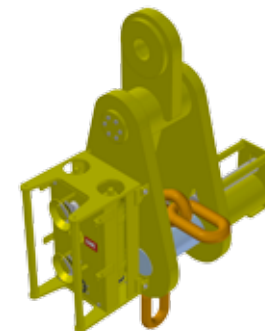
Chain clamps are used for the positioning of deep water mooring chains.

Specifications

- Project related lifting capacities
- Unlimited operating depth
- Certified and designed according Lloyds Lifting Appliances
- Available for purchase

Features

- Positioning of deep water mooring chain
- Various chain link sizes possible
- Fail safe design
- Hydraulic release by ROV



Projects

- 2004 Holstein - Gulf of Mexico
- 2004 Thunderhorse - Gulf of Mexico
- 2004 Atlantis Chains - Gulf of Mexico
- 2003 Gunnison - Gulf of Mexico
- 2003 Vastar - Gulf of Mexico
- 2002 Horn Mountain - Gulf of Mexico


SPLF

Suction Pile Lifting Frame

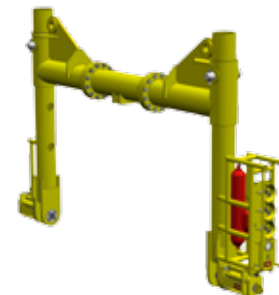
Suction pile lifting frames are specifically designed for upending and lifting of suction piles for deep water moorings.

Specifications

- Pile diameters up to 6700mm
- Operating depth up to 3000m
- Certified and designed according Lloyds Lifting Appliances
- Available for purchase

Features

- Upending and positioning of suction piles
- Deepwater applications with accumulator
- ROV operated
- Standard modular design frame adapts to various pile diameters



Projects

- 2013 Jack & St. Malo FPU - Gulf of Mexico
- 2013 Lucius FPU - Gulf of Mexico
- 2011 Kizomba Satalites - Angola
- 2006 Indepence Hub - Gulf of Mexico
- 2004 Thunderhorse - Gulf of Mexico
- 2004 Mad Dog - Gulf of Mexico
- 2004 Atlantis Chains - Gulf of Mexico
- 2003 Vastar - Gulf of Mexico
- 2003 Gunnison - Gulf of Mexico

Projects prior to 2003 upon request

**AS**

Accumulator Set

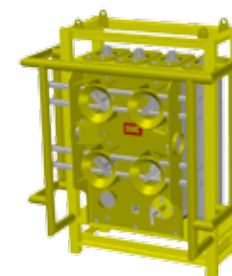
Hydraulic energy supply for deep water tool applications.

Specifications

- Max operating depth of 3000m
- Max working pressure 500bar
- Available for purchase

Features

- Available in various sizes
- Fully ROV operated
- ROV access from three sides (incl. pressure read out)
- Several back-up operations possible, including subsea hydraulic pump



Projects

- 2011 Kizomba Satalites - Angola
- 2006 Indepence Hub - Gulf of Mexico
- 2004 Thunderhorse - Gulf of Mexico
- 2004 Mad Dog - Gulf of Mexico
- 2004 Atlantis Chains - Gulf of Mexico
- 2003 Vastar - Gulf of Mexico
- 2003 Nikika - Gulf of Mexico
- 2003 Gunnison - Gulf of Mexico
- 2003 Valhall - Norway
- 2002 Na Kika - Gulf of Mexico
- 2002 Horn Mountain - Gulf of Mexico


HRS

Hydraulic Release Shackle

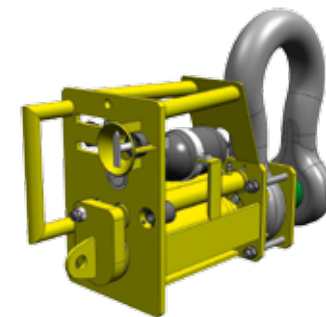
Hydraulic release shackles are used for lifting piles, subsea structures, modules and templates.

Specifications

- Capacity 17,5t - 2000t
- Max operating depth 3000m
- Remote controlled engagement and disengagement of shackles
- Fully ROV operated
- Independent of shackle brand
- Available for purchase

Features

- Several, optional, back-up activation methods available:
 - Hot Stab
 - Secondary back-up cylinders
 - Accumulators
 - Mechanical back-up



Projects

- 2013 Jack & St. Malo FPU - Gulf of Mexico
- 2012 Togi - Norway
- 2012 Laggan & Tormore - UK
- 2009 Ormen Lange - Norway

New

New patented mechanical pin lock design.

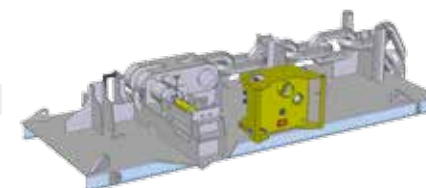

SCF

Subsea Connection Frame

Subsea connection frames can be used for the connection of mooring chains.

Specifications

- Used to reconnect mooring chains
- Used during installation of new mooring chains
- Re-usable frame for several link sizes
- Available for purchase



Features

- Integrated system redundancy
- Subsea connection operation
- Operated by ROV from subsea control panel
- Pin locking by ROV
- Designed for re-use

Projects

- 2013 Banff - North Sea
- 2011 Cascade & Chinook - Gulf of Mexico
- 2009 Neptune Deepwater - Boston USA
- 2009 Peregrino - Brazil
- 2008 FPSO Berge Helene - Mauritania


PRT

Pipe Recovery Tool

A tool specifically designed for the recovery of pipes or pipelines.

Specifications

- Capacity up to 1000t
- Pipe range 8" - 42"
- Max water depth 3000m
- Subsea de-watering possible
- Certified and designed according Lloyds Lifting Appliances
- Available for rental & purchase



Features

- Long friction pads prevent overstressing of pipe wall
- Removable lifting arm allows for retrieval via stinger

Fail Safe Principle

The PRT equipped with IHC's innovative Fail Safe Principle:

- Mechanical load applied on the tool in longitudinal direction results in a transversal force on the pipe which creates the 'locking / fail safe' connection

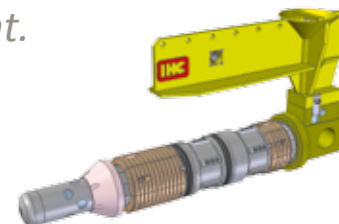
Projects

- 2013 Gorgon - Australia
- 2012 Desfa - Greece
- 2012 Castorone
- 2011 Castor pipeline - Spain
- 2009 Peregrino - Brazil
- 2008 Gjøa - North Sea
- 2008 South Pars - Iran
- 2008 Halfdan - Denmark
- 2006 Tangguh - Indonesia
- 2006 Ormen Lange - Norway


PAT

Pipe Abandonment Tool

A tool designed to seal off a pipeline in case of abandonment.



Specifications

- More efficient abandonment process compared to existing techniques
- Extends pipelay operation time
- Certified and designed according Lloyds Lifting Appliances
- Available for purchase

Features

- Double seal element seals off pipeline
- Long friction pads prevent overstressing of pipe wall
- Integrated hydraulics
- Integrated check valve for subsea dewatering

Fail Safe Principle

The PAT is equipped with IHC's innovative Fail Safe Principle:

- Mechanical load applied on the tool in longitudinal direction results in a transversal force on the pipe which creates the 'locking / fail safe' connection

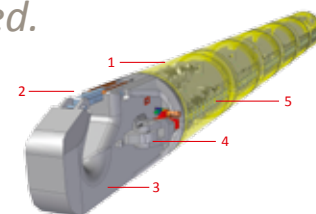
Projects

- 2011 Goliat - Norway
- 2010 Marulk - Norway
- 2007 Morvin - Norway
- 2006 Asgard - Norway
- 2006 Fram East - Norway
- 2006 Alvheim - Norway


A&R

A&R Cable Connector

A tool to lay down or recover pipelines from the seabed.



Specifications

- Capacity up to 1000t
- Max. water depth 3500m
- Certified and designed according Lloyds Lifting Appliances
- Available for purchase

Features

- Construction design allows to follow stinger radius
- Primary release hydraulically by acoustic signal from the surface
- Secondary release by ROV operated spindle
- Sensors for open / close indication
- Release under 50t load

Components

1. Hull
2. Latch
3. Main hook
4. Release hook (2x)
5. Load cells and A&R cable connection

Projects

- 2009 Standard equipment Allseas Solitaire
- 2009 Independence trail - Gulf of Mexico


PRM

Pin Release Mechanism

Pin release mechanisms can be used for the installation of pipelines or PLEM constructions.

Specifications

- Custom made design
- Lifting capacities up to 2000t
- Maximum operating depth of 3000m
- Certified and designed according Lloyds Lifting Appliances
- Available for purchase

Features

- Subsea system
- Power supply via integrated accumulator(s)
- Several, optional, back-up activation methods available:
 - Hot Stab
 - Secondary back-up cylinders
 - Mechanical back-up

Projects

2013 FDS2 assets - Italy
Various - not by name




BC

Bear Cage

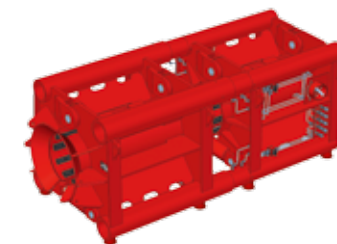
Bear cages are used to line up pipes prior to welding.

Specifications

- For use at surface only
- Suitable for a various range of diameters

Features

- Final weld between landfall and sea pipeline
- Hydraulic clamping
- Hydraulic controlled weld gap adjust
- Clamp and line up of two pipe ends



Projects

- 2012 Baku - Azerbaijan
- 2010 Block 17 - Angola
- 2009 Camarupin - Brazil
- 2008 Al Aqaba - Jordania
- 2007 Balgzand - The Netherlands


ILT

Internal Lifting Tool

The ILT can be used for lifting structures, structure sections and topside modules during decommissioning operations.

Specifications

- High longitudinal capacity Internal Lifting Tool
- ILT's are equipped with accumulators to overcome use of hoses
- ILT's are equipped with IHC's innovative Fail Safe Principle
- Certified and designed according Lloyds Lifting Appliances
- Available for rental & purchase

Projects

- 2013 Ekofisk 2/4S - Norway
- 2012 Ekofisk - Norway
- 2012 Togi - Norway
- 2010 North West Hutton - UK
- 2009 Frigg DP2 - Norway
- 2005 Frigg DP1 - Norway
- 2005 Brent Spar Flare Tower - Norway



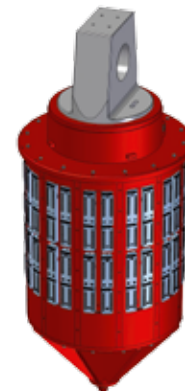
20" - 36" 300t



36" - 54" 1000t



54" - 84" 1750t



84" - 120" 2500t

**ELT**

External Lifting Tool

ELT's can be used for lifting structures or structure sections during decommissioning operations.

Specifications

- Pile range 72" - 112"
- Lifting capacity up to 1200t
- Max. operating depth of 250m
- Certified and designed according Lloyds Lifting Appliances
- Available for purchase

Features

- ELT's are equipped with IHC's innovative Fail Safe Principle
- Subsea operation via ROV or umbilical
- ELT's can be designed with side opening
- Integrated centralizing system for tool positioning

Projects

2010 North West Hutton - UK


BuC

Buoyancy Clamp

Clamping equipment integrated in buoyancy tanks can be used for the removal of offshore structures in floating condition.

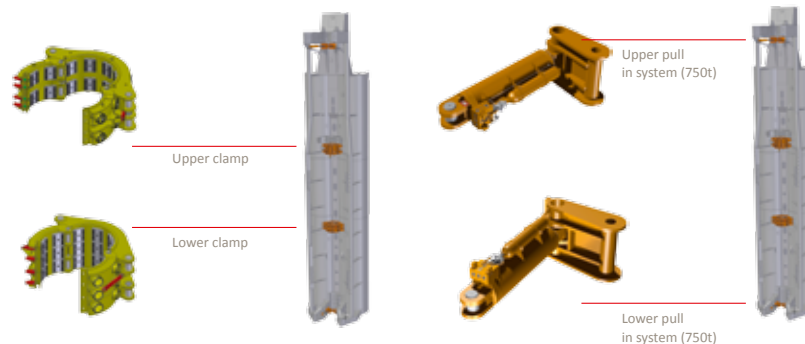
Specifications

- Fully computer controlled operation
- Available for purchase

Projects

2009 Frigg DP2 - Norway

Components




HRS

Hydraulic Release Shackle

Remote controlled engagement and disengagement of shackles.

Specifications

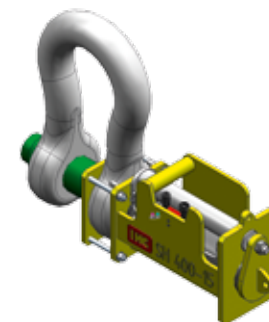
- Capacity 17,5t - 2000t
- Lifting and handling support during the dismantle of structures
- Remote controlled engagement and disengagement of shackles
- Independent of shackle brand
- Available for rental & purchase

Features

- Hydraulic operated pin
- Standard suitable for 500m water depth
- Adjustable for any shackle brand
- Many additional (back-up) options available:
 - Hot Stab
 - Mechanical back-up

New

New patented mechanical pin lock design.



Projects

2009 Frigg DP2 - Norway

**UT**

Upending Tool

Upending Tool for upending large diameter piles (monopiles).

Specifications

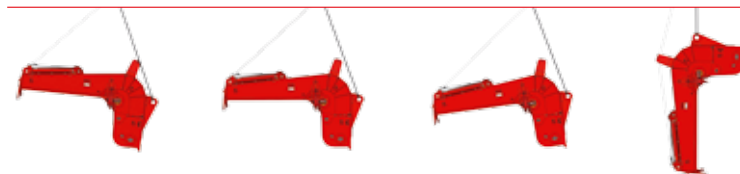
- Lift diameters up to 6500mm
- Lifting capacities of 290t, 700t and 1000t
- Certified and designed according Lloyds Lifting Appliances
- Available for rental

Features

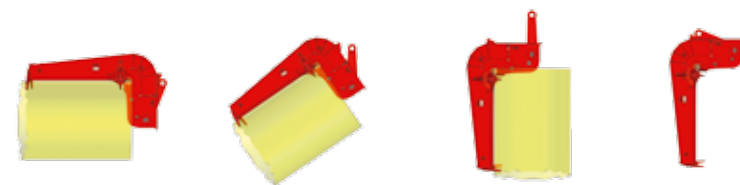
- Adjustable to any diameter (within range)
- Hydraulically operated
- UT's are equipped with IHC's innovative Fail Safe Principle
- No special preparations of pile
- Optional jigger winch
- Compatible with IHC Monopile Plugs (pag.91)
- Optional tool monitoring systems

Operating Steps

Jigger Winch



Excl. Jigger Winch



UT

Monopiles

Wind


UT

Upending Tool

Projects

2014 Westermest Rough - North Sea UK
 2013 Northwind - North Sea Belgium
 2013 Gwynt y Mor - Irish Sea UK
 2013 HelWin & BorWin OWF - Germany
 2013 West of Duddon Sands - Irish Sea UK
 2012 Gwynt y Mor - Irish Sea UK
 2012 London Array - North Sea UK
 2012 Meerwind - North Sea German Bight
 2011 Teesside - North Sea UK
 2011 Lincs - North Sea UK
 2011 Sheringham Shoal - North Sea UK
 2011 London Array - North Sea UK
 2010 Baltic I - Baltic Sea Germany
 2010 Belwind - Belgium
 2009 Thanet - North Sea UK
 2009 Bard I - Germany
 2009 Walney 1 - Irish Sea UK
 2008 Rhyl Flats - Irish Sea UK
 2008 Horns Rev II - North Sea Denmark

Projects prior to 2008 upon request



New design Upending Tool 1000t

UT
Monopiles
Wind


FPUT

Flange Pile Upending Tool

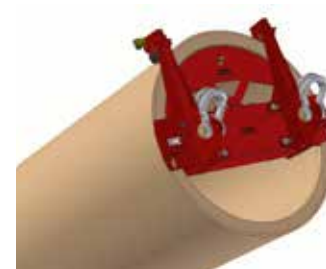
Flange pile upending tools are used for the upending and lifting of large diameter piles with an integrated flange.

Specifications

- Using the flange geometry as a support during lifting
- Lifting capacities up to 750t
- Certified and designed according to Lloyd's Lifting Appliances
- Available for rental & purchase

Features

- Remotely operated using integrated power pack
- All contact areas covered with protective material
- Optional tool monitoring systems
- No special preparations of pile
- Integrated redundancy



Projects

- 2013 Amrumbank - North Sea Germany
- 2013 Humber Gateway - North Sea UK
- 2003 Scroby Sands - North Sea UK


MoPI

Monopile Plug

Monopile plugs create an air and water tight seal at one or both ends of a pile.

Specifications

- For monopile diameters up to 8000mm
- Certified and designed according Lloyds Lifting Appliances
- Available for purchase
- Patented design



Features

- Towing directly on plug
- No special preparations to monopiles required
- Can be used in combination with Upending Tool (pag.85)
- Sealing by solid rubber
- Hydraulically operated
- Design includes redundancy

Projects

- 2010 Belwind - North Sea Belgium
- 2009 Walney 1 - Irish Sea UK
- 2008 Rhyl Flats - Irish Sea UK
- 2008 Gunfleet Sands - North Sea UK


ILT

Internal Lifting Tool

ILT's are used for upending/lifting of piles, tripods, jackets and modules.

Specifications

- Standard pile range 16" - 96"
- Standard lifting capacities of 200t – 1200t
- Special lifting capacities up to 2000t
- Standard operating water depth is 500m
- Certified and designed according Lloyds Lifting Appliances
- Available for rental & purchase

Features

ILT's are equipped with IHC's innovative Fail Safe Principle:

- Mechanical load applied on the tool in longitudinal direction results in a transversal force on the pipe which creates the 'locking / fail safe' connection

Projects

OWF

- 2013 West of Duddon Sands - Irish Sea
- 2012 Borkum West 2 - Germany
- 2011 Hornsea Meteorological Mast - North Sea
- 2010 Walney 2 - Irish Sea
- 2007 Lynn & Inner Dowsing - North Sea

Oil & Gas

- 2012 EMEPMI TE-A, TA-Q, TE-B - Malaysia
- 2012 FSO Erawan-2 mooring installation - Thailand
- 2012 Bubut & Danau - Brunei
- 2012 EPRD Ekofisk cessation - North Sea
- 2012 Pertamina Hulu Energy - Indonesia
- 2011 Pierce Manifold Installation - North Sea
- 2011 SHWE project - Myanmar
- 2011 D1 project - India
- 2011 Esso Kipper Tuna - Australia
- 2011 MHN Re-development - India
- 2011 Montara - Australia
- 2011 Bien Dong 1 - Vietnam

Projects prior to 2011 upon request


UF

Upending Frame

The upending frame enables installation contractors to increase their sphere of activity and efficiency by upending long piles with a relatively short crane boom.

Specifications

- Pile range 54" - 108"
- Requires ILT at the pile top
- 600t holding capacity
- Other dimensions and capacities upon request
- Available for rental & purchase

Features

- Hydraulically operated
- Hydraulic hinge back option
- Rotation of frame 0° - 100°
- Lateral freedom of movement $\pm 10^\circ$
- Frame can be equipped with inclino sensor for accurate digital angle information
- New design with hydraulic hinge back

Projects

OWF

- 2013 SylWin - Germany
- 2012 NordSee Ost - Germany
- 2012 Global Tech 1 - Germany

Oil & Gas

- 2013 KPOC - Malaysia
 - 2012 Hai Thach / Bien Dong - Vietnam
 - 2012 Cendor phase 2 - Malaysia
 - 2011 Yetagun-C - Myanmar
 - 2011 B-193AP & B-193AQ - India
 - 2011 Bien Dong MT1 - Vietnam
 - 2011 Dai Hung - Vietnam
 - 2010 F23R - Malaysia
 - 2009 Chim Sao - Vietnam
 - 2007 Krishana Godavari - India
- Projects prior to 2007 upon request*


LT

Leveling Tool

Leveling tools can be used for leveling of jackets and tripods.

Specifications

- Surface and Subsea leveling operations
- Available capacities 200t, 400t, 800t, 3000t
- Pile range 54" - 108"
- Certified and designed according Lloyds Lifting Appliances
- Available for rental & purchase

Features

- LT's are equipped with IHC's innovative Fail Safe Principle
- Connects to pile catcher plate
- Emergency release via ROV hot stab

Projects

OWF

- 2013 West of Duddon Sands - Irish Sea
- 2012 NordSee Ost - Germany
- 2012 Global Tech 1 - Germany

Oil & Gas

- 2012 Forties Alpha - North Sea
- 2012 Jasmine II - North Sea
- 2012 Greater Ekofisk - Norway
- 2011 Dai Hung - Vietnam
- 2011 Jasmine I - North Sea
- 2009 Chim Sao - Vietnam
- 2009 Valhall & Harding - North Sea
- 2007 Ledong - China
- 2007 Xijiang 23-1 - China
- 2006 Pany PY31 - China
- 2006 Britsats - North Sea

Projects prior to 2006 upon request

**JPG**

Pile Gripper

Pile grippers are used to create a temporary connection between the skirt pile and jacket.



Specifications

- Capacities are limitless
- Pile diameter is limitless
- Certification by Lloyds optional
- Consumable (single use) or re-usable
- For pre-piling or post-piling
- Available for purchase

Features

- Securing jacket during bad weather conditions and abandonment
- Retaining elevated position after leveling
- Provides high jacket stability during grouting process
- Multiple hydraulic circuits possible
- Extensive track record
- Optional completely subsea controlled
- ROV operable (clamp / release)

Projects

OWF

- 2013 West of Duddon Sands - Irish Sea
- 2012 NordSee Ost - Germany
- 2011 Hornsea Meteorological Mast - North Sea

Oil & Gas

- 2013 Laila - Malaysia
- 2013 Edvard Grieg - North Sea
- 2013 Montrose - North Sea
- 2013 Martin Linge - Norway
- 2013 Kepodang - Malaysia
- 2012 Forties Alpha North Sea
- 2012 Jasmine II - North Sea
- 2011 Jasmine I - North Sea
- 2011 Dai Hung - Vietnam
- 2010 EAPL Kipper Tuna - Australia
- 2010 Greater Ekofisk - Norway

Projects prior to 2010 upon request


HRS

Hydraulic Release Shackle

Hydraulic release shackles are used for lifting and positioning of structures or foundation piles.

Specifications

- Capacity 17,5t - 2000t
- Independent of shackle brand
- Remote controlled engagement and disengagement of shackles
- Available for rental & purchase

Features

- Hydraulic operated pin
- Standard suitable for 500m water depth
- Several, optional, back-up activation methods available
- Mechanical back-up

New

New patented mechanical pin lock design.

Projects

OWF

- 2013 Northwind - Belgium
- 2013 Haliade - Belgium
- 2011 London Array - UK
- 2011 North Sea Meteorological Mast - North Sea
- 2009 Ormonde - Belgium
- 2009 Alpha Ventus - Germany

Oil & Gas

- 2012 Britannia - North Sea
- 2012 Togi - North Sea
- 2012 HST & HSD Project - Vietnam
- 2012 Jasmine II - North Sea
- 2011 OIG Norway
- 2011 Liwan - China
- 2011 Dai Hung - Vietnam
- 2011 Total Gabon Anguille - Gabon
- 2010 Topaz - Asia
- 2010 Cape Lambert - Australia
- 2009 Montara - Australia
- 2008 Montara - Australia

Projects prior to 2008 upon request


PiPI

Pile Plug

Pile plugs create an air and water tight seal at one or both ends of a pile.

Specifications

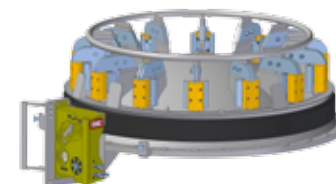
- Can be used in combination with all standard foundation pile sizes
- Hydraulically controlled from surface or by ROV
- Available for purchase

Features

- Suitable for upending and / or transportation
- Suitable for shallow water depths
- Available for straight and angled pipe ends
- Hydraulically operated

Latest development

- Special ILT with a fixed pile plug attached.
- Pile plug integrated with ILT which allows for a combined operation of pile upending and sealing



Projects

OWF

- 2010 Belwind - Belgium
- 2009 Walney 1 - UK
- 2008 Rhyl Flats - UK
- 2008 Gunfleet Sands - UK

Oil & Gas

- 2012 SHWE - Myanmar
- 2009 Chim Sao - Vietnam



PRM

Pin Release Mechanism

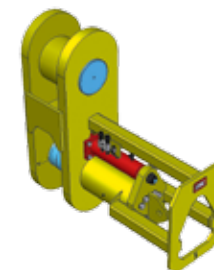
Pin release mechanisms are used in custom-made lifting applications.

Specifications

- Standard suitable for 500m water depth
- Custom made design
- Lifting capacities up to 2000t
- Certified and designed according Lloyds Lifting Appliances
- Available for purchase

Features

Specifically used for the connection between the crane and the gravity based foundation.



Projects

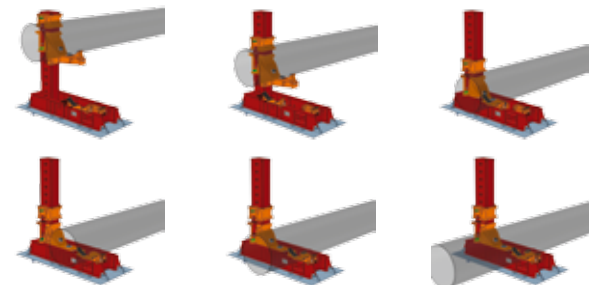
OWF

- 2011 Hornsea Meteorological Mast - UK
- 2008 Thorton Bank 1 - Belgium

**SF**

Stacking Frame

Stacking frames are used for stacking and handling multiple foundation piles on deck of an installation vessel.



Specifications

- Storage and handling of foundation piles
- Efficient use of deck space
- Available for purchase

Features

- Fully hydraulically operated
- Option to use in combination with upending support such as:
 - saddle & hook
 - pile guide and positioning frame

Projects

OWF

2009 BARD I - Germany


PGPF

Pile Guide and Positioning Frame

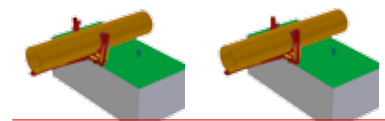
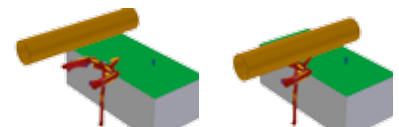
The frame can be used for guiding of foundation piles during upending and positioning of these piles during pile-driving.

Specifications

- Increase of crane efficiency, no vertical pile movement after upending
- Significant reduction of offshore installation time
- Accurate positioning of monopile
- Adjusting verticality of monopile after upending
- Available for purchase

Features

- Innovative design
- Handling of pile diameters up to 6000mm
- Hook holding capacity 700t
- Maximum tilting motion of PGPF $\pm 6^\circ$
- Upending angle range $0^\circ - 93^\circ$
- Option to use in combination with other IHC deck equipment
- Upending tool required at top of monopile for upending



Projects

OWF

2012 Meerwind - Germany

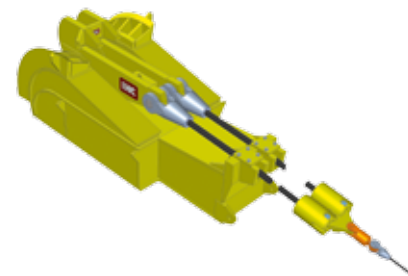

S&H

Saddle & Hook

The saddle and hook system creates a controlled fixed hinge point during the upending of long foundation piles.

Specifications

- Provides an extended working window for offshore cranes
- Significant reduction of offshore installation time
- Available for purchase



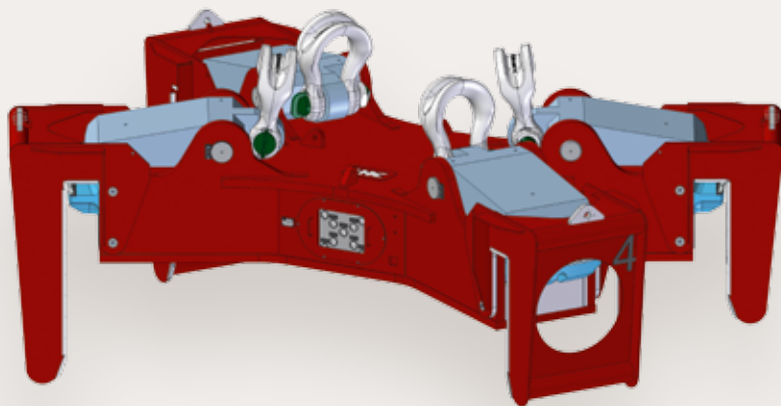
Features

- Hook takes axial load of pile
- Saddle to guide piles during upending
- Hook retrievable via a winch
- Lifting capacities up to 1000t

Projects

OWF

2009 BARD I - Germany


FSLT

Flange Structure Lifting Tool

Equipment designed to lift structures equipped with a connection flange.

Specifications

- Lifting of transition pieces, jackets and tripods
- No special arrangement on flange required
- Increase in efficiency during offshore operations
- Current design for 1000t and pile diameter 6000mm
- Certified and designed according to Lloyd's Lifting Appliances
- Available for purchase

Features

- Remotely operated using integrated power pack
- Integrated optical warning systems
- Zero forces on flange during lifting
- Integrated redundancy
- Different lifting points for COG adjustment
- Remotely operated
- Integrated hydraulic power pack
- Minimum of bending stresses in pile

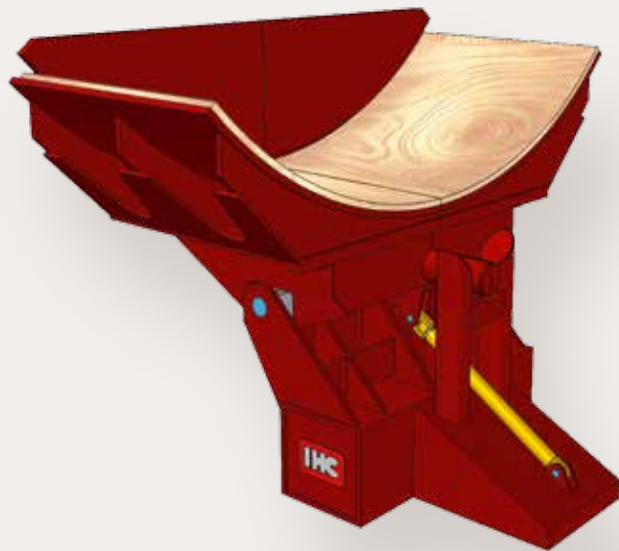
**PC**

Pipe Cutter

Equipment designed to cut jacket and structures.

Specifications

- Hydraulically operated
- Innovative manipulator arm allows for subsea repositioning
- Current designs for pipe size 12" - 36" and 24" - 48"
- Pipe cutting forces 1000t - 1300t
- Designed for maximum water depth of 150m
- Cost and time effective design compared to existing alternatives

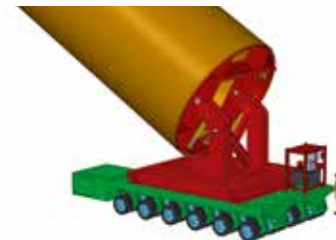
**UH**

Upending Hinge

Equipment designed to support the pile tip of monopiles during upending on deck.

Specifications

- Pile tip is mechanical locked during upending
- During entire upending sequence $\pm 6^\circ$ transversal freedom
- Hydraulic hinge back



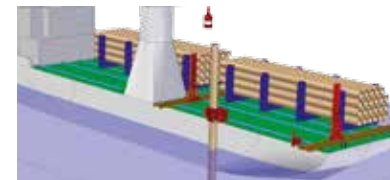

HG

Hammer Gripper

Optional hydraulic hammer equipment.

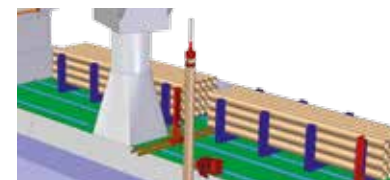
Specifications

- Gripper frame designed for lifting piles with a hydraulic hammer
- Reduce the number of equipment changes during an offshore operation
- Time efficient installation
- Lifting tool for hydraulic hammer
- Vertical pile lift and handling only



Gripping

The upending frame takes the full longitudinal force by gripping the pile prior to lifting.



Lifting

The pile can be lifted into position by a special gripping frame connected to a hydraulic hammer or an Internal Lifting Tool.

Power Pack ILT

Standard power pack of 5,5Kw - 350 bar max

Power Pack Leveling Tool

Standard power pack
5,5kW - 350 bar max (200t, 400t tools)

Power Pack PARC

Standard power pack of 5,5kW - 350 bar max

Power Pack Jacket Pile Gripper

Standard power pack of 5,5Kw - 350 bar max

Power Pack Hydraulic Release Shackle

Standard power pack of 5,5Kw - 350 bar max

Power Pack Pile Plug

Standard power pack of 5,5Kw - 350 bar max

Power Pack Bear Cage

Standard power pack of 5,5Kw - 350 bar max

Power Pack Pin Release Mechanism

Standard power pack of 5.5Kw - 350 bar max,
water glycol fluid

Power Pack Chain Clamp

Standard power pack of 5.5Kw - 350 bar max,
water glycol fluid

Power Pack Suction Pile Lifting Frame

Standard power pack of 5.5Kw - 350 bar max,
water glycol fluid

Power Pack Accumulator Set

Standard power pack of 5.5Kw - 350 bar max,
water glycol fluid

Power Pack Hydraulic Release Shackle

Standard power pack of 5.5Kw - 350 bar max,
water glycol fluid

Power Pack Connection Frame

Standard power pack of 5.5Kw - 350 bar max,
water glycol fluid

Power Pack PRT

Standard power pack of 5.5Kw - 350 bar max,
water glycol fluid

Power Pack PAT

Standard power pack of 5.5Kw - 350 bar max,
water glycol fluid

Power Pack Pin Release

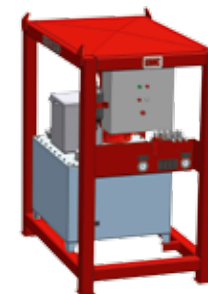
Standard power pack of 5.5Kw - 350 bar max,
water glycol fluid

PP5.5**Hydraulic Power Pack 5,5kW****Specifications**

- Supply of hydraulic energy to operate hydraulic equipment
- In combination with hose reel standard supporting equipment of IHC

Features

- Multi voltage, multi cycle E-motor
- 9 ltr/min at 1750 rpm
- Max. operating pressure 350 bar
- Hydraulic fluids; mineral or environmental friendly oil, water glycol

**Applicable for following IHC equipment**

- ILT - Internal Lifting Tool
- LT 200t - Leveling Tool 200t
- PARC - Pile Anti Running Clamp
- JPG - Jacket Pile Gripper
- HRS - Hydraulic Release Shackle
- PIPI - Pile Plug
- UF - Upending Frame
- BC - Bear Cage
- SPLF - Suction Pile Lifting Frame
- PRM - Pin Release Mechanism
- SCF - Subsea Connection Frame
- PRT - Pipe Recovery Tool
- PAT - Pipe Abandonment Tool
- UT - Upending Tool

Power Pack ELT

Standard power pack of 22kW - 350 bar max

Power Pack Upending Frame

Standard power pack of 22kW - 350 bar max

Power Pack Leveling Tool

Standard power pack, 22kW - 350 bar max
(800t, 3000t tools)

Power Pack Deep Water ILT

Standard power pack of 22Kw - 350 bar max,
water glycol fluid

Power Pack Upending Tool

Standard power pack of 22kW - 350 bar max

PP22**Hydraulic Power Pack 22kW****Specifications**

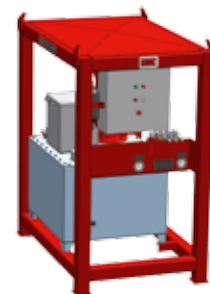
- Supply of hydraulic energy to operate hydraulic equipment
- In combination with hose reel standard supporting equipment of IHC

Features

- Multi voltage, multi cycle E-motor
- 24 l/min at 1750 rpm
- Max. operating pressure 350 bar
- Hydraulic fluids; mineral or environmental friendly oil, water glycol

Applicable for following IHC equipment

- ELT - External Lifting Tool
- LT 800t - Leveling Tool 800t
- LT 3000t - Leveling Tool 3000t¹
- UT - Upending Tool
- UF - Upending Frame



¹ 2x 28.5 l/min at 1750 rpm – 400 bar



PP157

Diesel Hydraulic Power Pack 157 kW

Specifications

- Supply of hydraulic energy to operate hydraulic equipment

Applicable for following IHC equipment

- SkS - Skidding System

Features

- Diesel driven Volvo Penta motor
- 220 l/min at 2100 rpm
- Max operating pressure 380 bar
- Hydraulic fluids; mineral or environmental friendly oil

Hose Reel ILT

Hose reel with 2 pc 1/2" high pressure hose,
min 2x 160m

Hose Reel Leveling Tool (200t, 800t)

Hose reel with 4 pc 1/2" high pressure hose,
min 2x 160m

Hose Reel PARC

Hose reel with 2 pc 1/2" high pressure hose,
min 2x 160m

Hose Reel Jacket Pile Gripper

Hose reel with 2 pc 1/2" high pressure hose,
min 2x 160m

Hose Reel Pile Plug

Hose reel with 2 pc 1/2" high pressure hose,
min 2x 160m

Hose Reel Bear Cage

Hose reel with 2 pc 1/2" high pressure hose,
min 2x 160m

Hose Reel Deep Water ILT

Hose reel with 2 pc 1/2" high pressure hoses 40m

Hose Reel Chain Clamp

Hose reel with 2 pc 1/2" high pressure hoses 40m

Hose Reel Suction Pile Lifting Frame

Hose reel with 2 pc 1/2" high pressure hoses 40m

Hose Reel Accumulator Set

Hose reel with 2 pc 1/2" high pressure hoses 40m

Hose Reel Hydraulic Release Shackle

Hose reel with 2 pc 1/2" high pressure hose,
min 2x 160m

Hose Reel Connection Frame

Hose reel with 2 pc 1/2" high pressure hose,
min 2x 160m

Hose Reel PRT

Hose reel with 2 pc 1/2" high pressure hoses 2x
400m (depending on water depth)

Hose Reel PAT

Hose reel with 2 pc 1/2" high pressure hoses 2x
400m (depending on water depth)

Hose Reel Pin Release Mechanism

Hose reel with 2 pc 1/2" high pressure hose,
min 2x 160m

HR

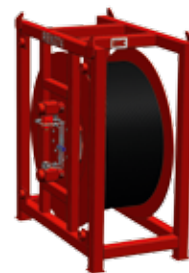
Hydraulic Hose Reel 2x160m / 2x 320m / 4x 160m

Specifications

- Connection between power pack and hydraulic equipment
- In combination with hose reel standard supporting equipment of IHC

Features

- Hose internal diameter 1/2"
- Hose length 2x 160m, 2x 320m or 4x 160m
- Average reel speed 15 m/min
- Max. pull force 580kg

**Applicable for following IHC equipment**

- ILT - Internal Lifting Tool
- ELT - External Lifting Tool
- LT 200t - Leveling Tool 200t¹
- LT 800t - Leveling Tool 800t¹
- JPG - Jacket Pile Gripper
- HRS - Hydraulic Release Shackle
- PiPI - Pile Plug
- BC - Bear Cage
- PRT - Pipe Recovery Tool
- PAT - Pipe Abandonment Tool
- UT - Upending Tool
- PARC —Pile Anti Running Clamp

¹ 4 hoses required

Hose Reel ELT

Hose reel with min 6 pc ½" high pressure hose
lines 250m

Hose Leveling Tool (3000t)

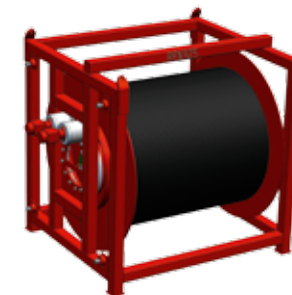
Hose reel with min 6 pc ½" high pressure hose
lines 250m

HR***Hydraulic Hose Reel 6x200m******Specifications***

- Connection between power pack and hydraulic equipment
- In combination with hose reel standard supporting equipment of IHC

Features

- Hose internal diameter ¾" & ½"
- Hose length 6x 200m
- Average reel speed 25 m/min
- Max pull force 2670kg

***Applicable for following IHC equipment***

- LT 3000t - Leveling Tool 3000t
- ELT - External Lifting Tool

Hot Stab ILT

Male hot stab connector (IHC type)

Hot Stab ELT

Male hot stab connector dual line
(Oceaneering)

Hot Stab Leveling Tool

Male hot stab connector dual line
(Oceaneering)

Hot Stab Hydraulic Release Shackle

Male hot stab connector dual line
(Oceaneering)

Hot Stab Pin Release Mechanism

Male hot stab connector dual line
(Oceaneering)

Hot Stab Shackles

Male hot stab connector dual line
(Oceaneering)

Hot Stab Jacket Pile Gripper

Male hot stab connector dual line
(Oceaneering)

Hot Stab Deep Water ILT

Male hot stab connector dual line
(Oceaneering)

Hot Stab Chain Clamp

Male hot stab connector dual line
(Oceaneering)

Hot Stab Suction Pile Lifting Frame

Male hot stab connector dual line
(Oceaneering)

Hot Stab Accumulator Set

Male hot stab connector dual line
(Oceaneering)

Hot Stab Connection Frame

Male hot stab connector dual line
(Oceaneering)

Hot Stab PRT

Male hot stab connector dual line
(Oceaneering)

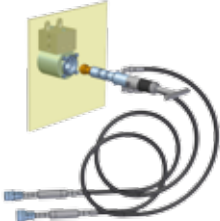
Hot Stab PAT

Male hot stab connector dual line
(Oceaneering)

HS
Hot Stab



ILT hotstab



Oceaneering hotstab

Specifications

- Connection between power pack and hydraulic equipment subsea
- Can be used in combination with hose reel for shallow water

Features

- ILT uses an IHC design hot stab
- Deep water applications use an Oceaneering type hot stab
- Hydraulic fluids; mineral or environmental friendly oil, water glycol

Applicable for following IHC equipment

- LT 200t - Leveling Tool 200t
- LT 800t - Leveling Tool 800t
- LT 3000t - Leveling Tool 3000t
- JPG - Jacket Pile Gripper
- HRS - Hydraulic Release Shackle
- SPLF - Suction Pile Lifting Frame
- PRM - Pin Release Mechanism
- SCF - Subsea Connection Frame
- PRT - Pipe Recovery Tool
- PAT - Pipe Abandonment Tool

Colofon

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