

Company Newsletter

Welcome to the Summer 2011 edition of the **SEACON**[®] Group newsletter which contains all of the latest company news and selected product developments that have taken place within the **SEACON**[®] Group. We hope you enjoy reading this newsletter and would welcome any comments that you wish to make. If you would like to receive further information on any of our products or services then please contact us. Tel **+1 (619) 562-7071** or e-mail seacon@seacon-usa.com.

Alternatively visit our website at www.seaconworldwide.com.

SUMMER 2011

*We don't just make
connectors...
...we provide solutions!*

Exhibitions

- 48 Channel Optical Wet-Mate
HYDRALIGHT Under Development

New Product Developments;

- New Integrated **HYDRALIGHT /
OPTI-CON**

- **CM2012 / 6mm Connector Series**

- **8 Channel Hybrid HYDRALIGHT
Now Available**

- **New Flat ALL-WET Water Blocked
Connector**

Expansion of Testing Capabilities

- **Award Presented to
SEACON (europe) Ltd**

- **SEACON Advanced Products, LLC
Receives Big Business of the Year
Award**

Events in 2011

Exhibitions



OTC 2011, Houston, Texas, USA

The SEACON[®] Group has exhibited at a number of events so far this year. These include **Underwater Intervention in New Orleans, LA, Subsea Tieback in San Antonio, TX and the Australian Oil & Gas conference in Perth, Australia all held in February, 2011.**

Other exhibitions have included the **Offshore Mediterranean Conference (OMC)** held in Ravenna, Italy back in March, the **Offshore Technology Conference (OTC)** held in Houston, TX, **All Energy** exhibition in Aberdeen, Scotland, UK and the **Ocean Tech Expo** event held in Newport, RI, USA during May.

More recently, the Group exhibited at **Brazil Offshore** in Macae, RJ, Brazil and **Energy Ocean** in Portland, Maine, where **SEACON**[®]'s **Renewable Energy Business Development Manager, Mr. Dave Pye** presented a paper on the 'Selection of Electrical and Optical Connectors for Marine Renewable Energy Applications.'

A number of other events are also planned for the Group this year including the **AUVSI (Association for Unmanned Vehicle Systems International)** being held in Washington, D.C., USA and the **Navy Gold Coast conference** in San Diego, CA, USA both being held in August, **Offshore Europe** in Aberdeen, Scotland, UK and **Oceans** in Kona, Hawaii in September, **Kormarine** in Busan, Korea in October and **Subsea Survey** in Houston, TX, USA during December.

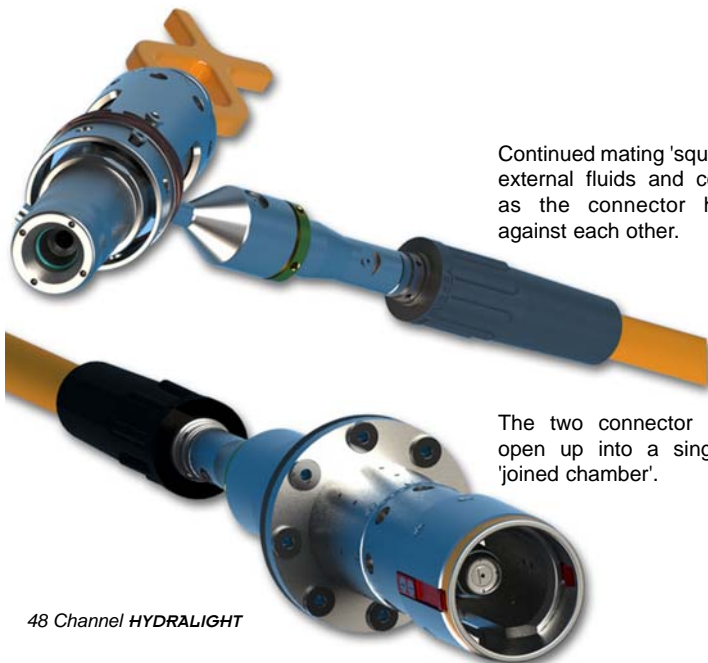
In addition **SEACON**[®] is planning to hold a number of 'Technology Days'/Lunch & Learns' this year in various locations. Keep an eye for details on our website at www.seaconworldwide.com

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48 Channel Optical Wet-Mate HYDRALIGHT Under Development

A high count optical wet-mate HYDRALIGHT is currently under development with a maximum of 48 Angled Physical Contacts (APC) optical channels using a modular approach.

The external size is identical to the current standard field proven 8-channel HYDRALIGHT family of connectors with an increased fiber interface utilizing high density optic ferrules. The design is being driven initially through the need to optimize optical data transfer between the surface platform and a vast array of optical sensors that are deployed subsea.

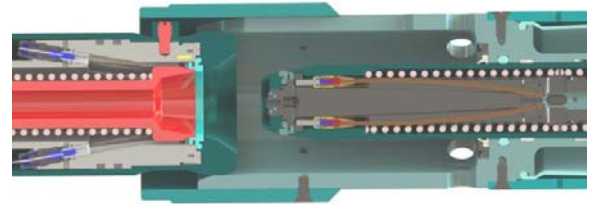


48 Channel HYDRALIGHT

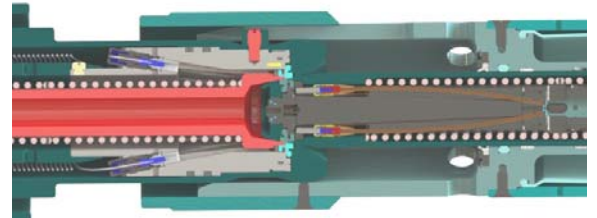
Principle of Operation

The critical fiber-to-fiber joint is made without exposure to external contamination in a harsh subsea environment. This is achieved as both ends of the optical termination are protected from seawater, sand and silt by being enclosed within separate, oil-filled and pressure compensated chambers. The sequence of operation is as follows:

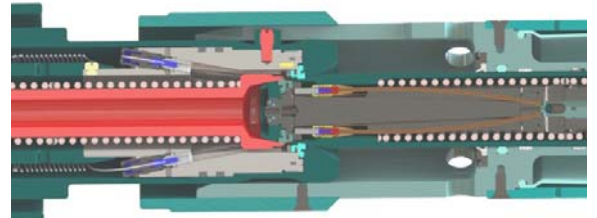
The first stage is the 'physical alignment' of the two connector halves. The receptacle is shown on the left and the plug on the right.



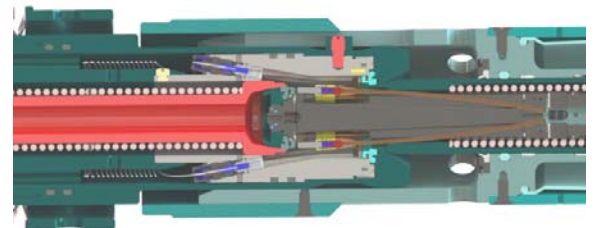
The next step is the 'front seals' of each connector half contact and engage on their respective other half.



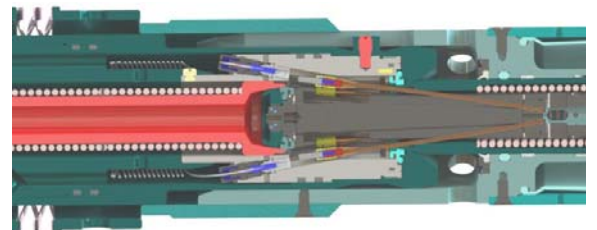
Continued mating 'squeezes out all external fluids and contaminants' as the connector halves seal against each other.



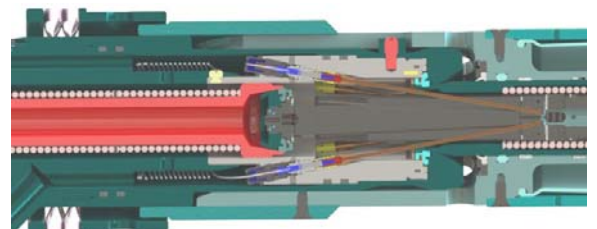
The two connector halves then open up into a single patented 'joined chamber'.



The connectors continue to move and the flexible contact guide tubes splay and align via guide-ways in their opposite half, which facilitates the coupling of the optical ferrules within the benign oil-filled environment.



The connector is fully mated.



For more details, contact
SEACON Advanced Products, LLC at
+1 (979) 865-8846
 or e-mail sales@seacon-ap.com
 or visit our website at www.seacon-ap.com

New Product Developments

New Integrated HYDRALIGHT / OPTI-CON

SEACON Advanced Products, LLC of Bellville, Texas, USA is pleased to introduce a new **HYDRALIGHT** Optical wet-mate configuration integrating a dry-mate **OPTI-CON** electrical hybrid connector.

This latest design provides a number of advantages:

- Allows a quick and simple hook-up of the **HYDRALIGHT** via the **OPTI-CON** dry-mate connector in the field before deployment.
- Allows the flexibility of selecting different cables or PBOF hoses during the design phase that terminate to the much simpler and standardized **OPTI-CON** connector.
- Modularity allows quick change out of either system for maintenance or repair.

Once connected topside, these systems can be installed underwater by a diver or ROV.

For further details please contact
SEACON Advanced Product, LLC
+1 (979) 865-8846
 or e-mail sales@seacon-ap.com



HYDRALIGHT receptacle with top-mounted ROV handle and lower spigot-mounted OPTI-CON dry-mate connector



HYDRALIGHT receptacle showing terminated OPTI-CON cable system

8 Channel Hybrid HYDRALIGHT Now Available

Our optical 8 channel wet-mate **HYDRALIGHT** connector is now also available in a hybrid configuration.



8 Channel Hybrid HYDRALIGHT

Fully underwater mateable, oil filled and pressure balanced, this field proven connector incorporates 4 modular optical and 4 electrical contacts with a voltage rating of 1,000 VAC and a current rating of 5 amps. This connector is qual-

ified to 7,000m (23,000ft), with an average single-mode insertion loss of less than 0.2dB and an average single mode back reflection of -50dB. With a design life of 25 years and a life cycle of a minimum of 100 mate/de-mates, this connector meets 'Optical Wet-Mate Connector Specifications' for Norsk Hydro, Statoil, Elf Exploration, Total, Hess and BP.

For further information please visit our website
www.seacon-ap.com
 or alternatively contact
SEACON Advanced Products, LLC on
+1 (979) 865-8846
 or e-mail sales@seacon-ap.com

CM2012 / 6mm Connector Series

Weighing over 125 pounds and with a mated length of 40 inches, the **CM2012 / 6mm / 3.3kV / 60 amp PBOF** connector is the largest in the **CM Series** to date and has been designed with permanent subsea use in mind.

Each of the connector's 12 channels is rated for constant voltage/current of 3,300 Volts/60 amps at depths of up to 10,000 feet, making it ideal for operating large subsea motors or other devices with large current requirements. Oil-filling is required to balance the pressure differential across this connector and therefore it has been designed to work with a variety of either silicon or mineral-type compensation oils.

Originally developed for major offshore operators, the initial configuration was for a bulkhead mounted socket plug half, with a pin receptacle connector. Manufactured from Stainless Steel, the weight of this connector makes this ROV handle configuration suitable for a vertical ROV installation/retrieval operation only. Either connector can be easily adapted for several different types of mounting or with various types of handles, as well as any hose exit configuration. Dielectric withstand voltage testing, temperature rise testing, mate/de-mate and breakdown voltage testing have all been successfully conducted with excellent results.



Mated CM2012 / 6mm / 3.3kV / 60 amp / PBOF Connector Set next to a Mated HYDRALIGHT Connector Set

For more details, contact
SEACON Advanced Products, LLC at
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 or e-mail sales@seacon-ap.com
 or visit our website at www.seacon-ap.com

New Flat ALL-WET Water Blocked Connector

SEA CON Global Production has recently produced a water blocked version of the Flat **ALL-WET (FAW)** connector series.



Flat ALL-WET Water Blocked Connector

Originally designed for installation onto an Autonomous Underwater Vehicle (AUV), this

new connector provides a protection system to prevent water penetration should the connector body be severely damaged, therefore preventing catastrophic failure of the equipment. Mounting details are the same as the standard FAW bulkhead connector, however instead of solder buckets this new version has wires molded into the GRE insert therefore providing excellent protection and avoiding soldering breaks in the field. This also reduces the pigtail bend radius making it ideal for tight or reduced spaces.

Manufactured from Neoprene with a 316

Stainless Steel shell and brass gold plated contacts this new addition is currently available in 2, 3, 4 and 5 configurations although others are available upon request. Pressure rated to 10,000 psi (mated)/5,000 psi (open face), this connector has a voltage rating of 500 VDC and an amperage rating of up to 5.6 amps.

For further details please contact
SEA CON Global Production on
+52 (664) 626 2726
 or e-mail sales@seaconglobal.com

Company Newsletter

Expansion of Testing Capabilities

With continued growth and the large range of connectors being supplied, **SEA CON Advanced Products, LLC** has expanded its Qualification Department with the addition of a fourth hydrostatic pressure vessel bringing the total number of pressure vessels across the **SEA CON®** Group to 19.

In use around the clock since it was commissioned in May, 2011, the new vessel is housed in a climate controlled facility complemented with a 5 ton crane. Designed to 2001 ASME, Section VIII, Div. 2 specifications, the vessel has an operating area of 39" ID x 110" deep and features a working pressure of 6,750psi/465 bar. Furthermore, it is equipped with a clam shell lid that allows quick opening in less than 2 minutes and programmable software for controlled ramp rates and hold times.



Arrival and Installation of New Pressure Vessel at **SEA CON Advanced Products, LLC**

Please contact sales@seacon-ap.com for rates and availability.

Award Presented to SEA CON (europe) Ltd

SEA CON (europe) Ltd has been awarded a plaque from Tidal Generation Ltd to mark the successful development of the Deep Gen III 500kW Tidal Stream Turbine located in Orkney, Scotland, UK which has been generating since September 2010 and providing power for up to 300 homes.

A number of **SEA CON®** products were supplied for this project including the **WET-CON**, Micro **WET-CON** and **SEA-MATE** wet-mate connector ranges and the **G-SERIES** wet-mate optical connector.



SEA CON® are presently expanding their range of products in order to fully meet the needs of the Marine Renewable Energy sector. This will involve the introduction of high power connectors which are specifically designed to work for extended periods in this very challenging environment. The focus is mainly on providing Oil & Gas reliability at prices which better suit the resources of Marine Renewables.

SEA CON Advanced Products, LLC Receives Big Business of the Year Award



Photo shows SAPL employees in attendance to accept the award;

Front row from left to right: Dana Minnaar (Quality Manager), David Neumann (Production Manager), Karen Lewis (Field Service Manager), Chris Minnaar (Junior Engineer).

Back row from left to right: Jody Kaase (Inside Sales), James Lassiter (HSE Co-ordinator) and Kurt Hinze (Lead Technician).

Back in March, 2011 **SEA CON Advanced Products, LLC** received the Big Business of the Year Award from the Bellville Chamber of Commerce. This award was presented to SAPL in recognition of the company's contribution and participation in the community and also the employment of more than 50 people.

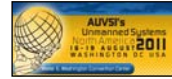
The evening started with a social hour and silent auction featuring items donated by local merchants. The money raised from this event was awarded to area graduates through the Chamber's Scholarship Program. Following the auction, guests & honorees were served dinner during which local Houston celebrity Jim Mcingvale delivered a very inspiring and humorous presentation which was enjoyed by all.

SAPL feels extremely privileged to receive such a prestigious award and is honored to be part of the Bellville community.

All reasonable efforts have been taken to ensure that the information contained herein is accurate at the date of publication, but no representation or warranty as to the accuracy or completeness of such information is intended or to be implied by its inclusion herein. Any and all representations and warranties pertaining to the information and products referred to herein shall be set forth in **SEA CON®** standard sales order form. In addition, **SEA CON®** reserves the right to make changes to the contents hereof without notice, therefore it is suggested that at the time of inquiry, the appropriate sales office or factory be contacted directly for verification of published specifications and products availability.

Events in 2011

AUGUST 2011



AUVSI AMERICAS 2011
<http://symposium.auvsi.org>
 Washington D.C., USA
 Aug. 16th - 19th, 2011
 Booth #2113



NAVY GOLD COAST 2011
www.navygoldcoast.org
 San Diego, California, USA
 Aug. 22nd - 24th, 2011
 Booth #818

SEPTEMBER 2011



OFFSHORE EUROPE 2011
www.offshore-europe.co.uk
 Aberdeen, Scotland, UK
 Sept. 6th - 8th, 2011
 Booth #5D61



SCOTTISH RENEWABLES MARINE CONFERENCE EXHIBITION 2011
www.scottishrenewables.com
 Inverness, Scotland, UK
 Sept. 19th - 20th, 2011
 Booth #TBA



OCEANS 2011
<http://www.oceans11mtsIEEEKONA.org/>
 Kona, Hawaii
 Sept. 19th - 22nd, 2011
 Booth #117

OCTOBER 2011



KORMARINE 2011
www.marineweek.org/
 Busan, Korea
 Oct. 26th - 29th, 2011
 Booth #406

DECEMBER 2011



SUBSEA SURVEY 2011
www.subseasurvey.com
 Houston, Texas, USA
 Dec. 12th - 15th, 2011
 Booth #112