

**BLUE LOGIC**



# WHO WE ARE

A highly experienced Subsea company focusing on cost efficient and environmentally friendly products and services/projects :

- We are located at Forus/Norway
- Address: Luramyrvеien 29, Sandnes
  - Office, workshop and warehouse
  - Client office
- 29 employees. Strong technical experience and competency
- Our objective: Be the preferred supplier within our business segment



ONS award 2020



BLUE LOGIC

# OUR DRIVERS, BLUE LOGIC PHILOSOPHY

## Reduced overall cost

- Standardized approach
- Innovative high quality products with reduced maintenance requirements
- Reduced duration for subsea operation
- Simple handling
- Creative and cost efficient solutions
- In total reduced duration for support vessel

## Environmental focus

- Reduced duration for support vessel
- No oil spill to deck or to sea
- Suppliers located locally



# OUR COMPETENCY

- Engineering
  - R&D
  - Studies
  - 3D modelling
  - Detail/Fabrication engineering
  - Multidiscipline and System integration
- EPCI capability
- Knowledge to relevant standards. Involved in API
- Certification requirements
- Assembly and testing
- Hi quality Rental products
- Service and PLM (Product Lifecycle Management)
- Standard products stocked
- New product development



**6.10.6 Hot Stab Materials**  
It is important that the design of the hot stab system ensures that the female part of the stab remains undamaged during the installation and continued use of the male stab. The material selection should also depend upon the intended use of the stab. A once or twice in a lifetime usage of the stab system (e.g. during pile sleeve grouting) requires a lower specification than a frequently used intervention stab.

Selection should be decided by the OEM. Material selection should follow the guidelines and principles in API Publication 194 in conjunction with the following:  
• Seawater corrosion resistant alloys and/or protected by a cathodic protection system for mating parts should be carefully assessed and mitigating actions taken. Mitigating action for non-galling materials or dissimilar metal used for mating parts. Receptacles should be made of a material harder than the stabs to be used.

**6.10.7 Hot Stab Connection, Type 1**  
The Type 1 hot stab is a multi-port design with single stab seal diameter. Different seal diameters and number of ports can be produced. Internal bore and hydraulic ports can be optimized for each design based on design pressure, interface requirements and number of ports. The Type 1 hot stabs typically utilize 1 to 6 individual ports. Figure 18 shows a typical example of a Type 1 hot stab. The internal interface dimensions of the Type 1, multiport hydraulic interface including seal surface areas for each bore size can be found in Table 5.

Figure 18—Typical Type 1 Hot Stab



# PRODUCT CATEGORY EXAMPLE, INTERVENTION AND/OR PERMANENT INSTALLATION

## 1. Hydraulic products

- Hot stabs and receptacles (Info on other slides)
- Valve stabs (Info on other slides)
- Check Valves, Relief Valves, Flow and Pressure Control
- Multi Purpose Pipeline Penetration System

## 2. Mechanical products - Intervention

- ROV Handles
- Flex Joints
- Lifting device (1000Te) Mechanical connected/released

## 3. Electrical products

- Inductive Power and Communication Connector System (“Subsea USB”)
- Subsea battery charging for drones and tools
- Electrical Torque Tools and Gearboxes (ISO Class 1-7 )
- Electrical ROV tools



# OUR HOT STABS AND RECEPTACLES

Connectors for fluid and gas

- $\varnothing 35$  to  $\varnothing 200$  ( $\frac{1}{4}$ " to 10") complete program
- Low to High Pressure alternatives (20K)
- Pressure, Dummy stab, and Parking receptacle
- Various sizes, 1-6 ports

## Advantages:

- Check Valves included, no leakage in or out
- No problems with seal
- Lock System (Optional)



# BLUE LOGIC VALVE STAB™

## FOR BOTH INTERVENTION AND PERMANENT INSTALLATION

- A combination of Hot Stab and Ball Valves
- Full working pressure at both ends unconnected, (not limited to compensator pressure)
- Double barrier to sea
- ROV and Diver operable
- Pressure Balanced system

### Advantages

- Alternative to hot stab or expensive ROV panel with valves
- When flow requirements > 50 l/min is required (e.g. cutting tool)
- 100% leakage free connection system. (If required Flushing of cavity can be added)
- No leakage in or out
- No check valve spring force to overcome
- Easy operation and maintenance

### Valve stab versus ROV panel

- Since the connector has integrated ball valves in both male stab and female receptacle, conventional ROV panels with ROV valves and tubing can be omitted, thus allowing for extremely compact subsea solutions



# VALVE STAB APPLICATION, EXAMPLES

## Pull Head – Valve stab

Lighter, flexible and re-connectable

## Auto Release

Weak Link – Emergency Quick Disconnect (EQD)



## Ø55/57 Hexa Port Single Seal Valve Stab w/flushing port

Hexa Port Valve Stab with two dedicated Flushing ports for flushing of cavity before opening of Valves/hydraulic functions



## Ø55/57 Hexa Port Receptacle w/flushing

Hexa Port Valve Stab Receptacle with Flushing Manifold





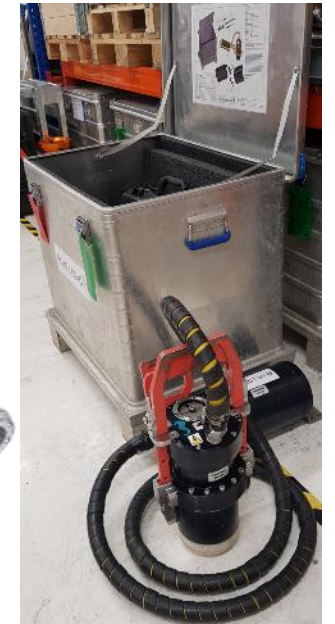
# ELECTRICAL TORQUE TOOL (ELTT)

## Electrical Torque Tool

- Exchangeable Outputs, Class 2 to 4
- Automatically switch between High and Low torque mode when initiated.
- A unique feature is the center pin in the key, reporting the absolute position.
- Accurate High and Low torque modes achieved without the need for changing the motor.

## Gear Box

- Ultra Compact and lightweight Torque Multiplier
- Fits into ISO standard short buckets
- 10 to 40kNm output torque
- 50kg submerged weight
- Gear box to be modified as required



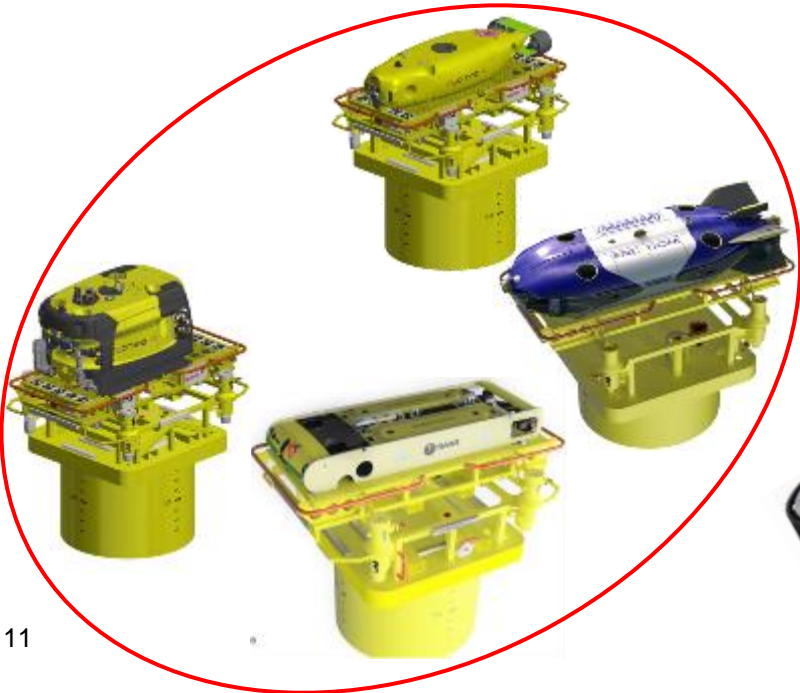
# ELECTRIC TORQUE TOOL, ADVANTAGES

- No more oil on deck or in the sea
- No need for special hydraulic controllers
- No more on deck calibration sequence
- Full Torque Control both Static and Dynamic
- No more valve damages
- Torque diagnostic
- Logging of applied torque, trending and diagnostic
- Break Open/ Re-Seat control
- Pre programmed multi-turn operation and sequences
- Full speed and torque control
- Increased availability possible to do diagnosis
- Remote operation

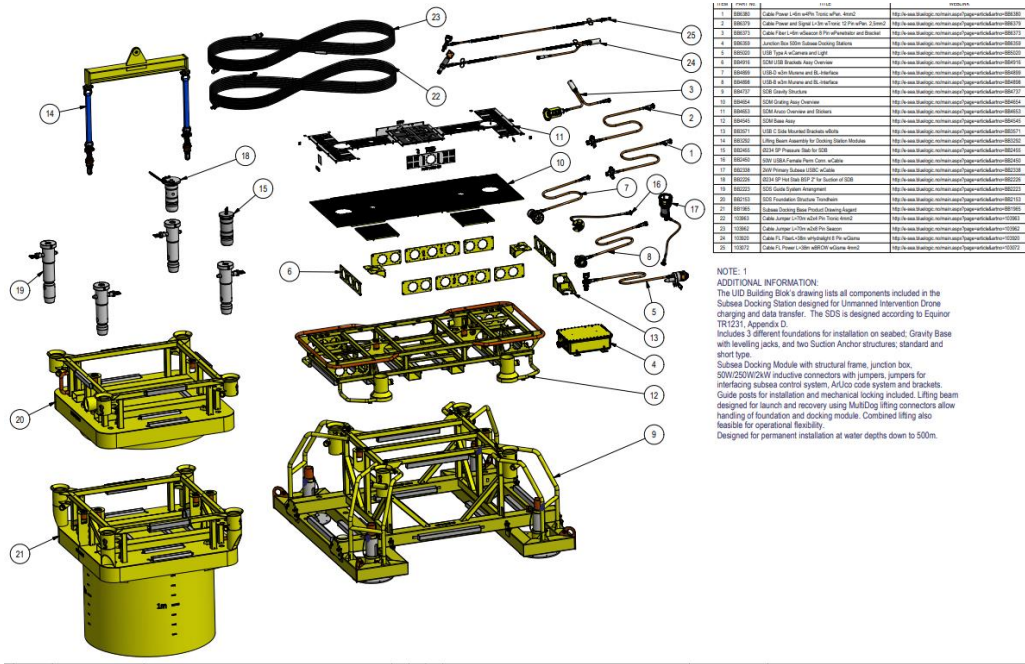
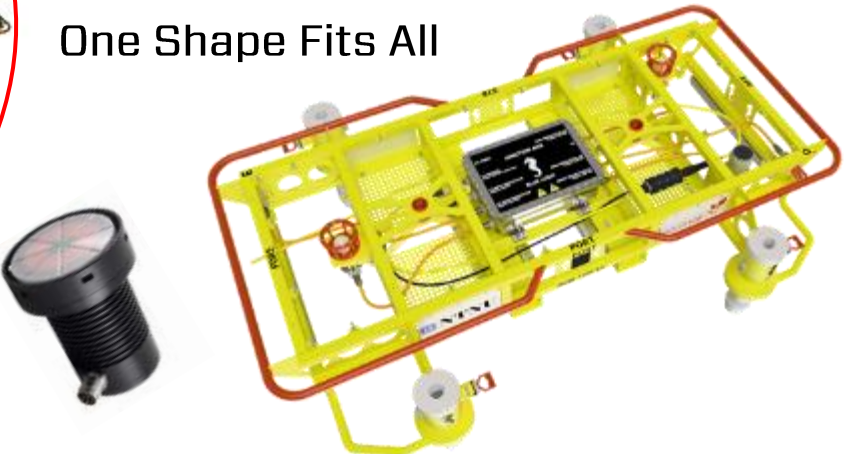


# Subsea Power and communication

- Universal/Standard Docking Station for Charging and communication (Stand alone or included in structure design)
- Inductive connectors for drone (AUV) charging (2,5kW)
- Inductive connectors for communications



One Shape Fits All



# Track record

Blue Logic deliver Equipment, tools, services and projects to operators and maritime industry

To date we have close to 400 customers. Our main market is the North Sea.  
Our plan and objective - be a preferred supplier and/or partner, **worldwide**

We have an extensive track record. Examples, standard product deliveries last 6 years:

- 5500 Hot stabs, various sizes. Some with client specific requirements
- 1800 Hot stabs with valves, various sizes
- 900 Valve stabs, various sizes. Some with client specific requirements

For other references; Nonstandard products, ROV tools, various electrical connectors and subsea docking stations, and project references please have a look at our Web shop: E-Sea <https://e-sea.bluelogic.no/>

# E-Sea



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## Welcome to the Blue Logic Webshop: e-sea

Use the menu on the left to navigate.

Every product type has several sub-menus with a range of different subsea products. The e-sea Webshop holds off the shelf products, if you want to see old project examples; select the top menu "[Blue Logic Project Track Record](#)"

In order to get access to 3D models, price and stock level, you need a Non-Exclusive Frame Agreement. You can access 2D drawings as a Guest.

**If you already are registered as a customer and would like to sign a frame agreement, send an e-mail to [post@bluelogic.no](mailto:post@bluelogic.no) in order to get username and logon password.**



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