



# J1W LTD

## Tooling Catalogue

Tooling, Robotics and Services for  
the ROV and Subsea Industries





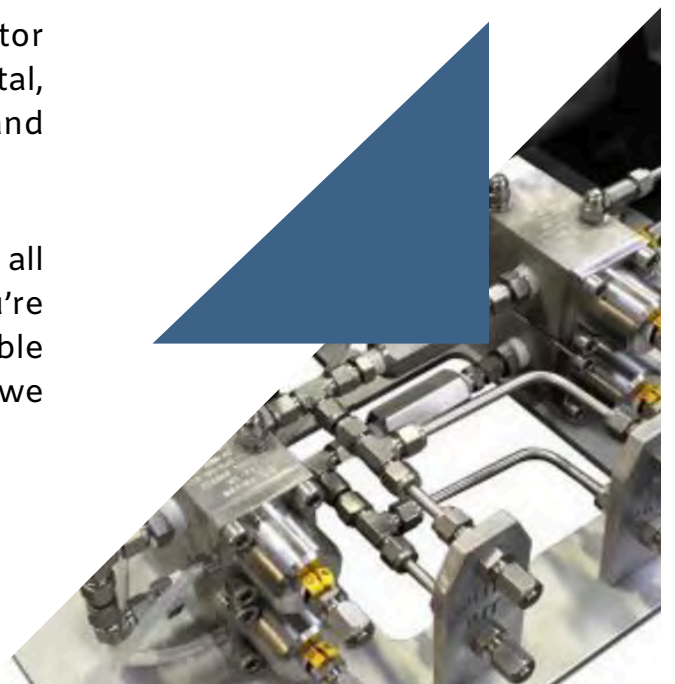
## ■ Introduction

J1W has established a renowned presence in the ROV and subsea sectors, distinguished for exceptional service, superior quality, rapid turnaround times, and the capacity to provide tailored engineering solutions renowned for their reliability.

## ■ About us

J1W Ltd was formed in 2021 by director John Walker with an aim to provide rental, sales and repair of ROV robotics and tooling.

At J1W Ltd, we strive for excellence in all aspects of our business. Whether you're looking for exceptional service, reliable equipment, or flexible rental options, we have you covered.



# ■ Our Services

01

## **DESIGN-BUILD-DELIVER**

J1W can offer in-house design, build, test and deliver capabilities to suit client requirements. We have design software and experienced users available to support various design projects. We can also manage detail design, procurement and deliver scopes for our clients as a turnkey package.

02

## **MANIPULATOR REPAIR**

With our purpose built manipulator repair workshop and over 30 years experience with supporting the ROV industry J1W is strongly positioned to support clients with all their manipulator requirements.

03

## **TOOLING & HYDRAULICS**

J1W can support clients with repair, refurbishment and testing of all subsea tooling. Along with supporting our own rental fleet of tooling we have the capacity to support clients tools to an extremely high standard.

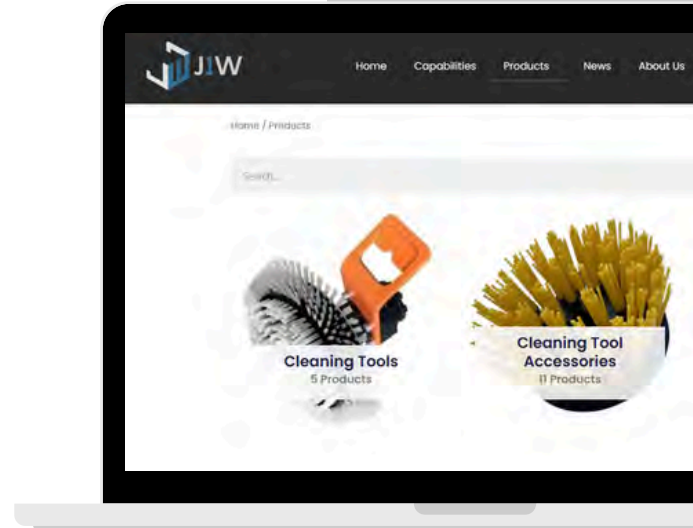
Looking to the future, J1W's aim is to continue supporting the local industry requirements in subsea robotics and intervention tooling but also to assist clients with their new energy ventures..



## ■ Rental Fleet

Alongside our partners Envirent, J1W offer a wide range of subsea intervention tooling available for rental.

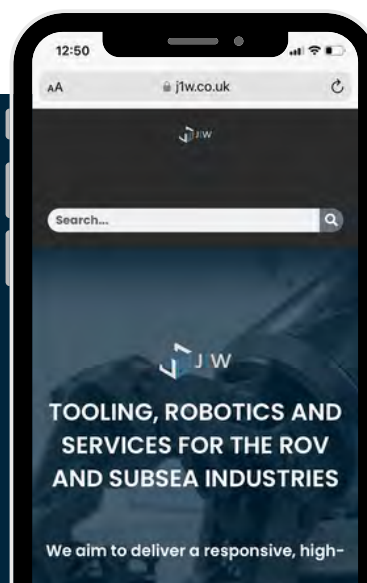
When clients rent our equipment, they are provided with a complete solution conveniently packaged. This encompasses all essential accessories needed to execute the task, ensuring there are no unforeseen setbacks or interruptions when the equipment is dispatched offshore.

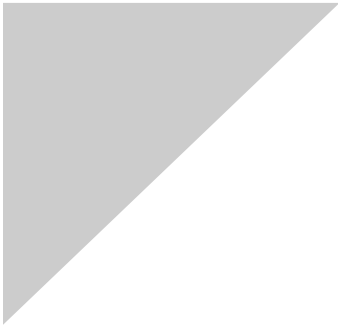


## ■ Equipment Sales


J1W not only offers rental services but also provides the opportunity to purchase equipment, as all the products listed throughout the brochure are available for sale.

**"We aim to deliver a responsive, high-quality service to our customers.."**





**Cleaning Tools**  
**Compensators**  
**Cutting & Grinding Tools**  
**Dirty Work Packs & Backpacks**  
**Filter Units**  
**Fluid Injection & Pressure Testing**  
**Lifting & Handling**  
**Manipulators**  
**Manipulator Accessories**  
**Miscellaneous Equipment**  
**Pumps & Jetters**  
**Recovery Clamp**  
**ROV Skids**  
**Stabs & Receptacles**  
**Survey & Inspection Equipment**  
**Topside Equipment**  
**Torque Tools**  
**Valve Packs**



# ■ Cleaning Tools



- General Cleaning Tool
- Lateral Flexiclean Mini
- Lateral Flexiclean Standard
- Multipurpose Cleaning Tool Flat Brush
- Multipurpose Cleaning Tool Round Brush

# GENERAL CLEANING TOOL

CLEANING TOOLS



## Description

**The general cleaning tool (GCT) is a versatile tool capable of performing various cleaning tasks.**

The GCT comes standard with an ROV manipulator D-handle. Attachment options available are listed below and custom brush heads can be requested.

- Cleaning Brushes (6", 8" & 12")
- Wire Cup Brush (4" & 5")

## Features

- Durable Brush Heads
- Lightweight
- Easy Changeout of Brush Type



# Specifications

## General Cleaning Tool

### General Technical Specifications

Type	General Cleaning Tool
Part Number	N/A
Dimensions L x W x H	275 mm x 125 mm x 220 mm
Weight in air	5 kg

### Hydraulic

Max Input Pressure	140 Bar
Max Input Flow	25 L/min
RPM (continuous)	395 @ 30 Bar /20LPM

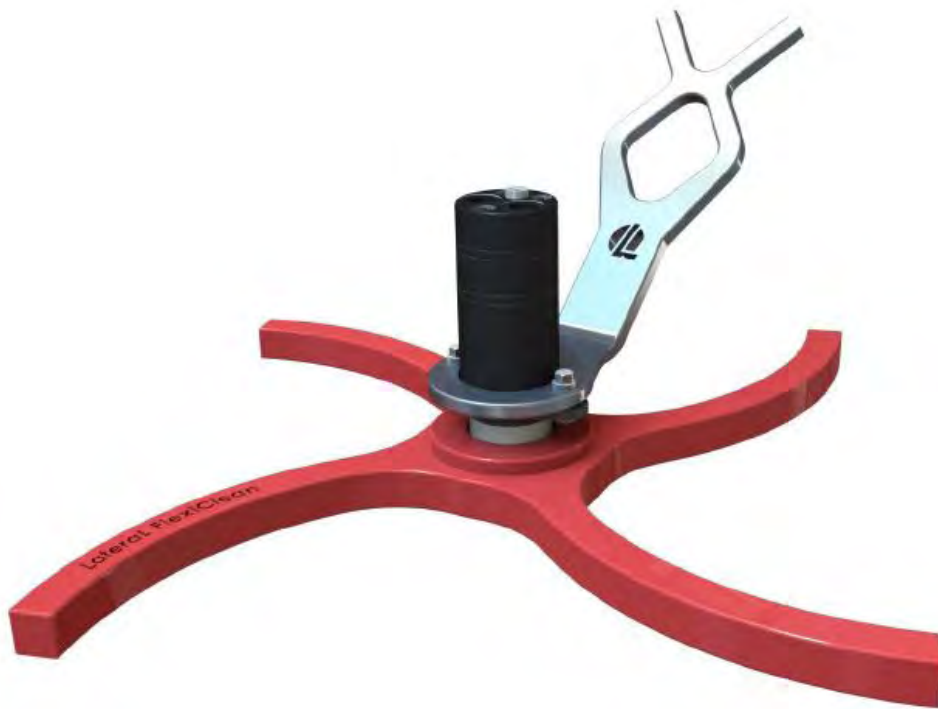
Connection ROV Pressure	JIC #4
Connection ROV Return	JIC #4





# LATERAL FLEXICLEAN MINI

ROV TOOLING  
MULTIPURPOSE  
CLEANING TOOL



## Description

**FlexiClean is a highly efficient, patent-protected cleaning tool designed for subsea operation on ROVs.**

It rapidly and gently removes soft marine growth, mussels, barnacles and coral while leaving sensitive surfaces such as paint, plastic sheathing or even duct tape unharmed. The complete FlexiClean assembly consists of a cleaning head, a drive motor and an ROV handle.

## Features

- Rapid cleaning of marine growth
- Manipulator deployed
- Compact and low weight

# SPECIFICATIONS

## LATERAL FLEXICLEAN MINI

### General Technical Specifications

Type	Lateral FlexiClean Mini
Part Number	116803
Width of cleaning head, tip to tip	mm 600
Weight (in air / submerged)	kg ~6 / ~5

### Hydraulic

Max. Input Pressure	Bar 207
Max. Output Pressure	Bar 800
Max. Input Flow	L/min 15
Max. Output Flow	L/min 4

Connection ROV pressure A	JIC #8
Connection ROV pressure B	JIC #8
Connection ROV drain	JIC #6

### General Features

Depth rating	MSW 3000
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# LATERAL FLEXICLEAN STANDARD

DO NOT HARM SENSITIVE SURFACE  
CAN REDUCE CLEANING TIME UP TO 80%  
LONG LIFETIME CLEANING HEADS



## Description

**The Envirent Lateral FlexiClean Standard Tool is a field proven and efficient product.**

## Typical Operations

- ROV Chain Cleaning
- Marine growth removal

## Features

- Long lifetime cleaning heads
- Effective Tool for marine growth removal
- Can reduce cleaning time up to 80%
- Hydraulic motor interface directly to ROV
- Does not harm sensitive surface

# SPECIFICATIONS

## Lateral FlexiClean Standard

### General Specification

Type	Lateral FlexiClean Standard
Part Number	CT-LAT-STD
Weight in Air / Water	15 / 12 Kg


### Hydraulic Specifications

Max. Input Pressure	140 bar
Max. Input Flow l/min	35 l/min

### Hydraulic Connections

Port A	JIC 06
Port B	JIC 06

Made for work class ROVs



**Standard Head**

- Original FlexiClean
- Long lifetime cleaning heads.
- Effective tool for marine growth removal.  
(Can reduce cleaning time by up to 80%)
- Hydraulic motor interfaces directly to ROV

**Low Vibration Head**

- Reduce strain and wear on manipulator
- Long lifetime cleaning heads.
- Effective tool for marine growth removal.  
(Can reduce cleaning time by up to 80%)
- Hydraulic motor interfaces directly to ROV

**Heavy Duty Head**

- Clean the toughest of marine growth.
- Long lifetime cleaning heads.
- Does not harm sensitive surfaces.
- Hydraulic motor interfaces directly to ROV
- Available in different finger configurations.

# MULTIPURPOSE CLEANING TOOL

ROV TOOLING  
FLAT BRUSH HEAD  
GRINDER TOOL



## Description

**This multipurpose ROV Cleaning Tool is designed and built to be easily handled by standard ROV manipulators.**

Along with the tool we can offer a wide variety of cleaning brushes. Designed for cleaning all types of subsea surfaces ranging from soft marine growth to hard marine growth. A grinding disc can also be mounted for stripping surfaces down to bare metal.

## Features

- 185CC Danfoss hydraulic motor
- Multipurpose use for cleaning
- Nylon brushes as standard
- Steel and polyester wire as option
- Configurable to Grinder tool
- Low weight and compact tool

■ The specification details are illustrative for marketing purposes only. Actual equipment may be different as a result of product improvement or other reasons. Specific interface and performance information should be reconfirmed at time of order placement.

Envirent AS, Hattelandsveien 92, 4353 Klepp Stasjon, +47 477 77 500 post@envirent.no

# SPECIFICATIONS

## MULTIPURPOSE CLEANING TOOL

### General Technical Specifications

Type	Multipurpose Cleaning Tool Flat Brush
Part Number	114552
Weight (in air / submerged)	kg ~13 / ~11

### Hydraulic

Max. Input Pressure	Bar	103
Max. Input Flow	L/min	56

Fluid tank size	Liter	16
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Connection ROV pressure A	JIC	#8
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Connection ROV pressure B	JIC	#8
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### General Features

Depth rating	MSW	3000
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# MULTIPURPOSE CLEANING TOOL

ROV TOOLING  
NYLON BRUSHES  
GRINDER TOOL



## Description

**This multipurpose ROV Cleaning Tool is designed and built to be easily handled by standard ROV manipulators.**

Along with the tool we can offer a wide variety of cleaning brushes. Designed for cleaning all types of subsea surfaces ranging from soft marine growth to hard marine growth. A grinding disc can also be mounted for stripping surfaces down to bare metal.

## Features

- 185CC Danfoss hydraulic motor
- Multipurpose use for cleaning
- Nylon brushes as standard
- Steel and polyester wire as option
- Configurable to Grinder tool
- Low weight and compact tool

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envirent

# SPECIFICATIONS

## MULTIPURPOSE CLEANING TOOL

### General Technical Specifications

Type	Multipurpose Cleaning Tool
Part Number	104609
Dimensions	mm 840 x 700 x 600
Weight (in air / submerged)	kg ~13 / ~11

### Hydraulic

Max. Input Pressure	Bar 103
Max. Input Flow	L/min 56

Fluid tank size	Liter 16
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Connection ROV pressure A	JIC #8
Connection ROV pressure B	JIC #8
Connection output pressure	JIC #6

### General Features

Depth rating	MSW 3000
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# ■ Compensators



- Compensator 0.25 Litre
- Compensator 1.2 Litre
- Compensator 100 Litres Spring Loaded
- Compensator 13.5 Litres
- Compensator 16 Litre
- Compensator 50 Litre Spring Loaded
- Subsea Pressure Compensator

# COMPENSATOR 0,25 LITER

FULL OCEAN DEPTH  
KYSTDESIGN



## Description

The 0,25L compensator is a lightweighted, small, and proven compensator. It is mainly used to maintain a raised pressure in a fluid circuit related to ambient at all water depths.

Compensator can be used at full ocean depth. Oil level can be visually read through slots in the spring housing.

## Features

- ▣ Solid and Reliable Design
- ▣ Full Ocean Depth
- ▣ Spring Loaded

# Specifications

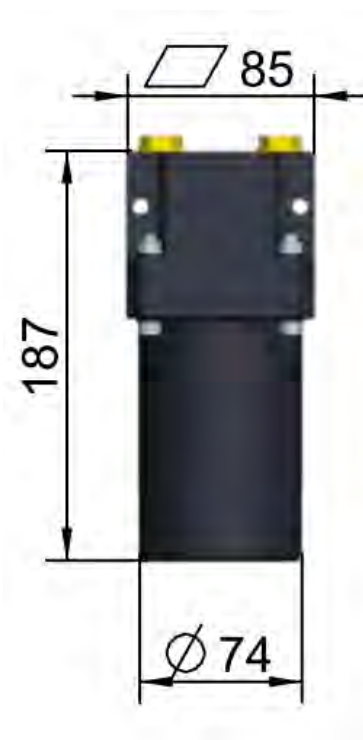
## 0,25L Compensator

### General Technical Specifications

Type	0,25 L Compensator
Capacity	0,25 Liter
Dimensions L x W x H	85 x 85 x 187 mm
Weight in air	0,93 kg
Depth Rate	Full Ocean Depth
Pressure	0,25 – 0,60 Bar
Hydraulic Connection	2x 1/4" BSPP

### Mechanical Interface

Fastening to external structure by using any of the bolt holes, or by clamps around the cylindrical part. Clams can be supplied on request.



# COMPENSATOR 1,2 LITER

WITH OR WITHOUT SENSOR  
3000 OR 6000 MSW  
KYSTDESIGN



## Description

The 1,2L compensator is a lightweighted, small and proven compensator. It is mainly used to maintain a raised pressure in a fluid circuit related to ambient at all water depths.

Compensator can be delivered with or without volume sensor. Without sensor you can use the compensator at full ocean depth. With sensor maximum depth is limited to sensor specifications.

## Features

- ▣ Solid and Reliable Design
- ▣ Optional Sensor
- ▣ Full Ocean Depth
- ▣ Spring Loaded

# Specifications

## 1,2L Compensator

### General Technical Specifications

	Without Sensor	With Sensor
Type	1,2L Compensator	1,2L Compensator
Capacity	1,28 Liter	1,22 Liter
Dimensions L x W x H	125 x 125 x 351 mm	125 x 125 x 563 mm
Weight in air	3,27 kg	4,33 kg
Depth Rate	Full Ocean Depth	3000m / Optional 6000m
Pressure	0,15 – 0,55 Bar	0,15 – 0,55 Bar
Hydraulic Connection	5x 3/8" BSPP	5x 3/8" BSPP

### Mechanical Interface

Fastening to external structure by using any of the bolt holes, or by clamps around the cylindrical part. Clams can be supplied on request.



# COMPENSATOR 100 LITERS SPRING LOADED

A PART OF ENVIREX  
COMPENSATOR  
SERIES



## Description

**The Envirex Compensator Series represents a number of hydraulic compensators that features a reliable and solid design, made to handle harsh subsea environments on great depths.**

The compensator is designed for systems which requires relatively over-pressure on depths down to 5000 meter and are typically used as fluid reservoirs for subsea systems.

The compensators are produced of stainless steel, GRP and POMC materials with stainless steel springs.

In addition to our hydraulic compensators, we also deliver complete subsea control systems (hydraulic, electronic and software).

## Features

- Solid and Reliable Design
- Facilitates system over-pressure
- Analog fluid level sensor

## Typical Applications

- Subsea HPU Systems
- Subsea Reservoir
- Chemical Injection
- Subsea RWOCS System
- Subsea Excavators
- Trenchers

# Specifications

## 100L Compensator

### General Technical Specifications

Type	Spring Loaded Compensator 100 liter
Compensation Volume	101,5 L
Depth Rating	3000 MSW
Weight Stainless SS316 (in air / submerged)	140/80 kg*
Weight Aluminium (in air / submerged)	100/40 kg*
	<i>*Weight is without fluid</i>
Operating Temperature	-4°C / +40°C
Store temperature	-18°C / +40°C
Dimensions Ø x L	Ø420 x 1365 mm (mounting plate 410 x 410)

### Hydraulic Data

Min. Compensation Pressure	0,1 bar ±0,05
Max. Compensation Pressure	0,6 bar ±0,05
Max. Working Pressure	5 bar*
Hydraulic Connections	4x 1" BSP 4x 1/2" BSP 2x 1/4" BSP
	<i>*Recommended to use relief valve 1,5 bar</i>

### Electrical Data (only applicable if LVDT)

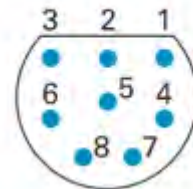
Nominal Voltage	20...30VDC
Signal Type	4-20mA
Connector	55 Series, Shell size 15, 8 pins

### Pin Out

### PWR & COMMS

Pin 01	– 0 VDC
Pin 02	– 24 VDC
Pin 03	– 4-20 mA
Pin 04	– NC
Pin 05	– NC
Pin 06	– NC
Pin 07	– NC
Pin 08	– NC

### Connector face view



# COMPENSATOR 13,5 LITER

WITH OR WITHOUT SENSOR  
LIGHTWEIGHT  
SUB-ATLANTIC



## Description

**The 13,5L compensator is a lightweight and proven compensator. It is mainly used to maintain a raised pressure in a fluid circuit related to ambient at all water depths.**

Compensator can be delivered with or without volume sensor. Without sensor you can use the compensator at full ocean depth. With sensor maximum depth is limited to sensor specifications.

## Features

- ▣ Solid and Reliable Design
- ▣ Lightweight
- ▣ Optional Sensor
- ▣ Spring Loaded
- ▣ Adjustable Pressure Relief Valve



# Specifications

## 13,5L Compensator

### General Technical Specifications

Type

Capacity

Dimensions Ø x H

Weight in air (full of oil)

Weight in Water (full of oil)

Pressure when full

Pressure when near empty

Hydraulic Connection

### Without Sensor

13,5L Compensator

13,1 Liter

285 x 500 mm

28,3 kg

7,6 kg

0,48 Bar

0,24 Bar

BSPP or SAE

### With Sensor

13,5L Compensator

13,3 Liter

285 x 500 mm

29 kg

7,9 kg

0,48 Bar

0,24 Bar

BSPP or SAE

# COMPENSATOR 16L

WITH OR WITHOUT LEVEL SENSOR



## Descriptions

**The function of the compensator is to maintain a raised pressure in a fluid circuit related to ambient at all water depths.**

This is achieved by a spring acting on a rolling diaphragm, i.e., the connected fluid circuit will always see a pressure equal to ambient sea water pressure plus the pressure generated by the spring.

Use of rolling diaphragm instead of piston is a great advantage to reduce hysteresis in the compensation system.

The compensator is provided with an interface that allows easy installation and stacking. Optional analog volume sensor is available. Even without volume sensor, the oil level can be visually read through slots in the spring housing.

## Features

- ▣ Solid and Reliable Design
- ▣ Facilitates System Over-Pressure
- ▣ Analog Fluid Level Sensor
- ▣ Maximum operating pressure 1.5 bar

# SPECIFICATIONS

## 16L COMPENSATOR

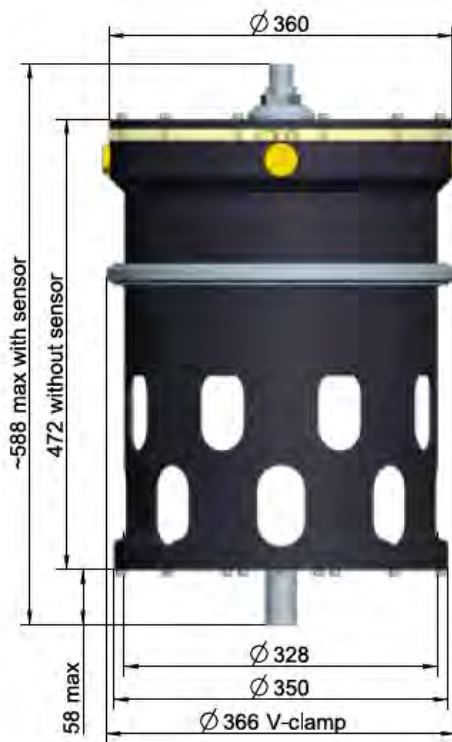
### General Technical Specification

Type	16L Compensator
Capacity	15,8 Ltr
Weight in air without / with sensor	24 / 25Kg
Diameter / Height	Ø366 / 467mm
Length without / with sensor	472 / 588mm at full stroke
Spring pressure	0,15 - 0,25 Bar.
Depth rate without / with sensor	Full ocean depth/3000 m (option 6000m)
Hydraulic connections	4 X ¾" BSPP Ports

### Mechanical Interface

Fastening to external structure by using clamps around the cylindrical part.

Clamps can be supplied on request.



Customised Manifold Plate with a wide range of connection ports on stock



# COMPENSATOR 50 LITER SPRING LOADED

A PART OF  
ENVIRENT  
COMPENSATOR  
SERIES



**The Envirent Compensator Series represents a number of hydraulic compensators that features a reliable and solid design, made to handle harsh subsea environments on great depths.**

The compensator is designed for systems which requires relatively over-pressure on depths down to 5000 meter and are typically used as fluid reservoirs for subsea systems.

The compensators are produced of EN-AW 6082 T6, GRP and POMC materials with stainless steel springs.

In addition to our hydraulic compensators, we also deliver complete subsea control systems (hydraulic, electronic and software).

## Features

- Solid and Reliable Design
- Facilitates system over-pressure
- Analog Fluid Level Sensor

## Typical Applications

- Subsea HPU Systems
- Subsea Reservoir
- Chemical Injection
- Subsea Tooling
- Subsea RWOCS Systems
- Subsea Excavators
- Trenchers

# SPECIFICATIONS

## SPRING LOADED COMPENSATOR 50 LITER

### General Technical Data

Type	Spring Loaded Compensator 50 Liter
Compensation Volume	(liters / USG) 47,75 / 12,6
Total Fluid Volume	(liters / USG) 57,5 / 15,2
Depth Rating	(msw) 5000 meter
Weight (in air / submerged) [kg]	~60 kg / ~23 kg
Operating Temperature	-10°C/ + 60°C (14°F / 122°F)
Part Number	2201301 - with level sensor 2201816 - without level sensor

### Hydraulic Data

Connection 01 - 6 off	1/2" BSP Female
Connection 02 - 3 off	1-1/4" BSP Female
Min. Pressure (empty)	0,2 Bar (2,9 PSI) ***
Max. Pressure (full)*	0,7 Bar (10,15 PSI) ***
Fluid Compatibility **	Petroleum Based Mineral Oil / Water Based Glycol**
Hydraulic Connections	6 x 1/2" BSPP Female, 3 x 1-1/4" BSPP Female

\* Maximum pressure 1 Bar (14,5 PSI)  
 \*\* Please contact us for more information regarding fluid compatibility.  
 \*\*\* Accuracy +/- 0,1 Bar

### Electrical Data (only applicable for P/N 2201301)

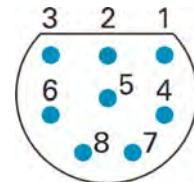
Nominal Voltage	20...30VDC
Signal Type	4-20mA
Connector	55 Series, Shell Size 15, 8-Pins

### Pin-out

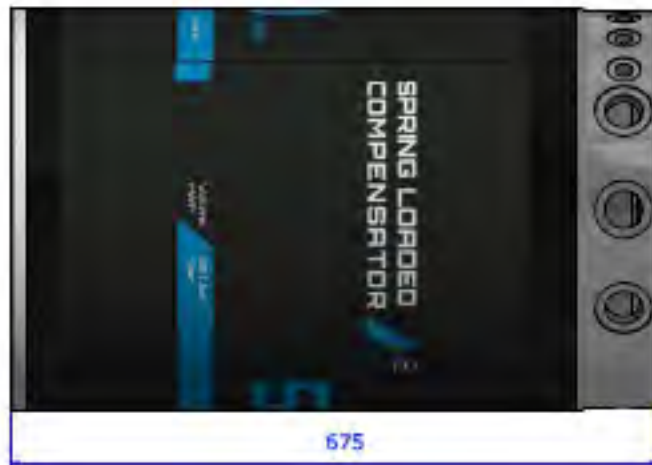
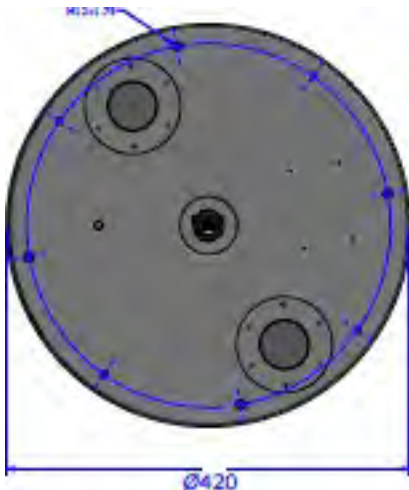
### PWR & COMS

- Pin 01 – 0 VDC
- Pin 02 – 24 VDC
- Pin 03 – 4-20mA
- Pin 04 – NC
- Pin 05 – NC
- Pin 06 – NC
- Pin 07 – NC
- Pin 08 – NC

### Connector Face View



### Dimensions



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# SUBSEA PRESSURE COMPENSATOR

ENVIREX PRODUCT  
30ML  
0,7 BAR



## Description

**The 30ml compensator design is simple and consist of few parts which prevents potential errors. The compensator parts are machined subsea suitable materials.**

The compensator contains a rolling diaphragm which ensures a smooth and linear movement of the piston. The oil level indicator is placed in center on the back end and allows you to easily visually inspect the oil level inside.

## Features

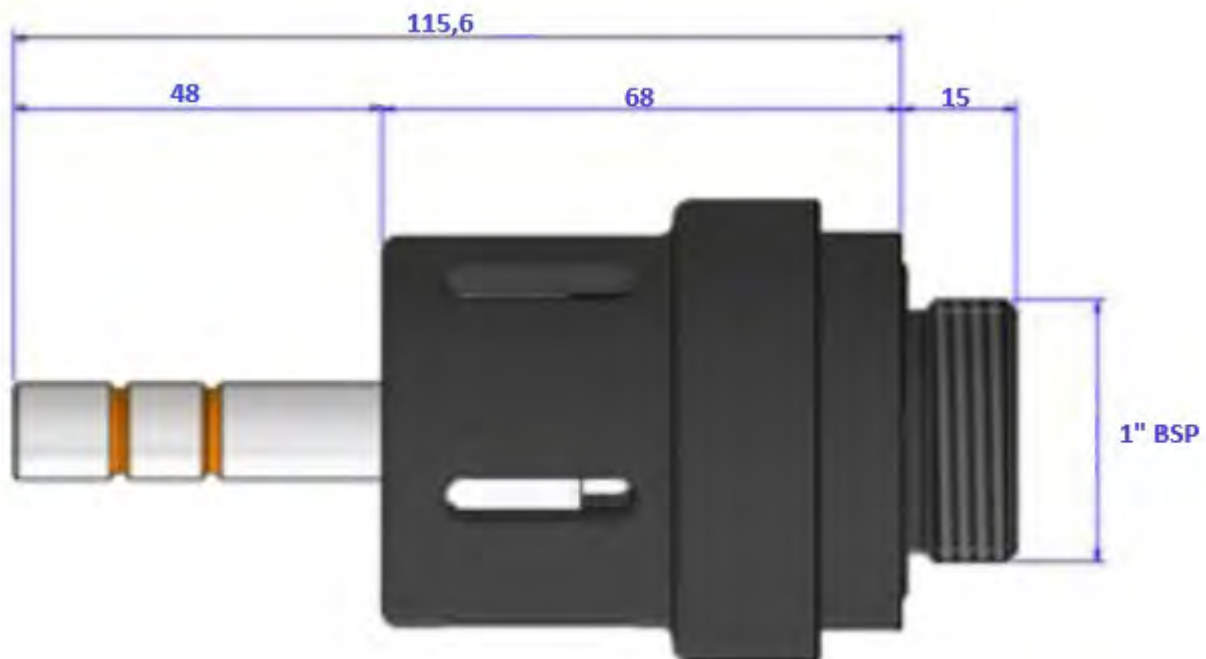
- ▣ Compact and low weight
- ▣ Flexible and reliable
- ▣ Wide Range of fluid compatibility
- ▣ Easy Installation
- ▣ Consist of few components

# Specifications

## Subsea Pressure Compensator

### General Technical Specifications

Type	Subsea Pressure Compensator
Capacity	30 ml
Dimensions Ø x L (max. L with indicator rod)	60 x 68mm (116mm)
Pressure	0,7 Bar
Hydraulic Connection	1" BSP
Fluid Compatibility	Mineral Oil, Water Based Glycol and Seawater



# ■ Cutting & Grinding Tools

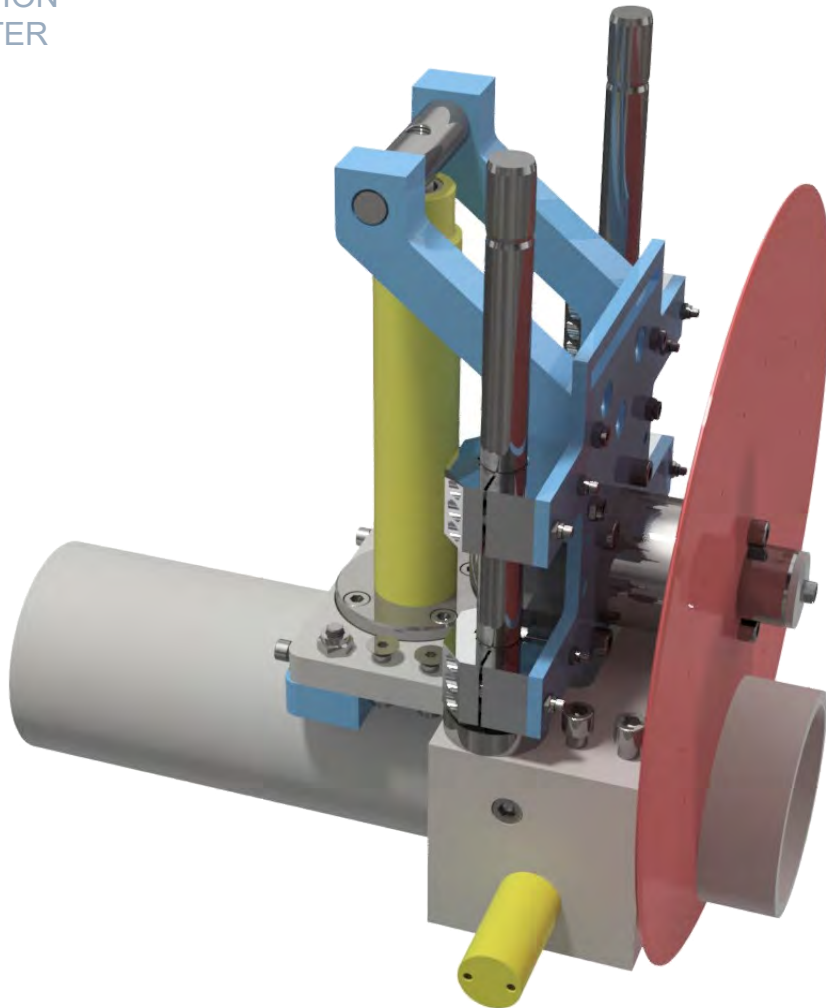


- Compact Chop Saw
- Diamond Wire Saw 0-320mm
- Diamond Wire Saw 630mm
- Diamond Wire Saw 770mm
- GR29 UW Grinder
- J-Tube Diaphragm Cutting Tool
- ROV Grinder Ø350
- ROV Knife
- SCU Cutter 181mm
- SL55 Softline Cutter
- SL80 Softline Cutter
- Subsea Drill 10-100mm
- Subsea Saw 15-90mm
- Subsea Saw 60-200mm
- Wire Rope Cutter RCV155
- Wire Rope Cutter RCV75HD
- Wire Rope Cutter WCOS38DLP



# COMPACT CHOP SAW

ROV INTERVENTION  
CLAMP ON CUTTER  
GRINDER Ø350



## Description

**Compact Chop Saw is a subsea cutting tool for use in subsea structure removal or repair operations. It has been developed to cut pipelines, stud bolts, chains, wire rops, jackets, guide posts, drill strings and tubing/structures.**

The Chop Saw comes with clamp-on functions used to keep the tool in ridget position during cutting. A flow control valve is used to adjust cutting speed on both feed cylinder and rotation of the cutting blade. In order to protect the cutting disc a pressure relief valve is installed on feed cylinder.

## Features

- Maximum cutting blade Ø350
- Clamp opening 190 mm
- Flow control valves
- Pressure relief valve
- ROV friendly design
- Low weight

# SPECIFICATIONS

## COMPACT CHOP SAW

### General Technical Specifications

Type	Compact Chop Saw
Part Number	103330
Dimensions	mm 430 x 344 x 587
Weight (in air / submerged)	kg ~48 / ~40

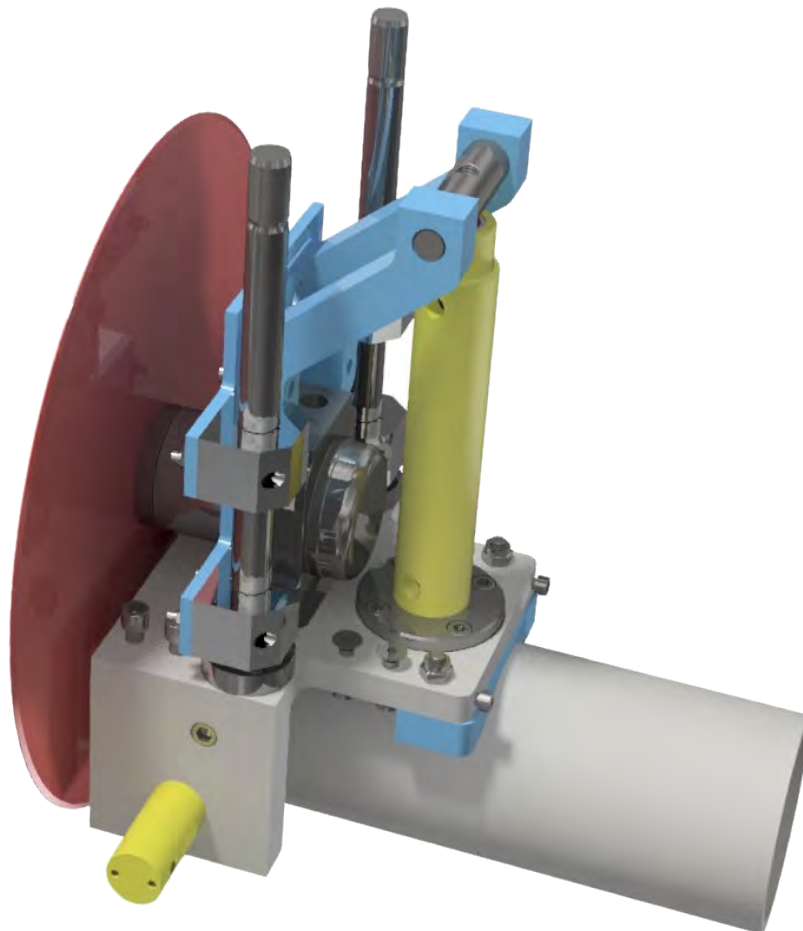
### Hydraulic

Max. Input Pressure Drive	Bar 140
Max. Input Pressure Clamp	Bar 207
Max. Input Flow	L/min 40

Connection ROV pressure drive CW	JIC #6
Connection ROV pressure drive CCW	JIC #6
Connection ROV cylinder retract	JIC #4
Connection ROV cylinder extract	JIC #4
Connection ROV clamp cylinder	JIC #4 (spring return/open)

### General Features

Depth rating	MSW 3000
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# DIAMOND WIRE SAW 0-320 MM

ROV INTERVENTION  
DIAMOND CUTTING  
USER-FRIENDLY



## Description

**Manipulator held utility saw with long track record.**

Diamond Wire Saw with a range up to 320mm. Within capacity for most Work Class ROV's. Track record after years of use in the North Sea. The saw is designed to cut steel pipes, steel profiles and wires.

## Features

- Maximum cutting 320 mm
- Small footprint
- ROV friendly cutting tool
- Multipurpose use
- Low weight

# SPECIFICATIONS

## DIAMOND WIRE SAW 0-320 MM

### General Technical Specifications

Type		Diamond Wire Saw 0-320 MM
Part Number		104615
Dimensions	mm	754 x 716 x 293
Weight (in air / submerged)	kg	~42 / ~27

### Hydraulic

Max. Input Pressure	Bar	103
Max. Input Flow	L/min	45
Max. Rotation Speed	RPM	969
Recommended Feeding Speed	mm/min	10-15
Connection ROV pressure A	JIC	#6
Connection ROV pressure B	JIC	#6

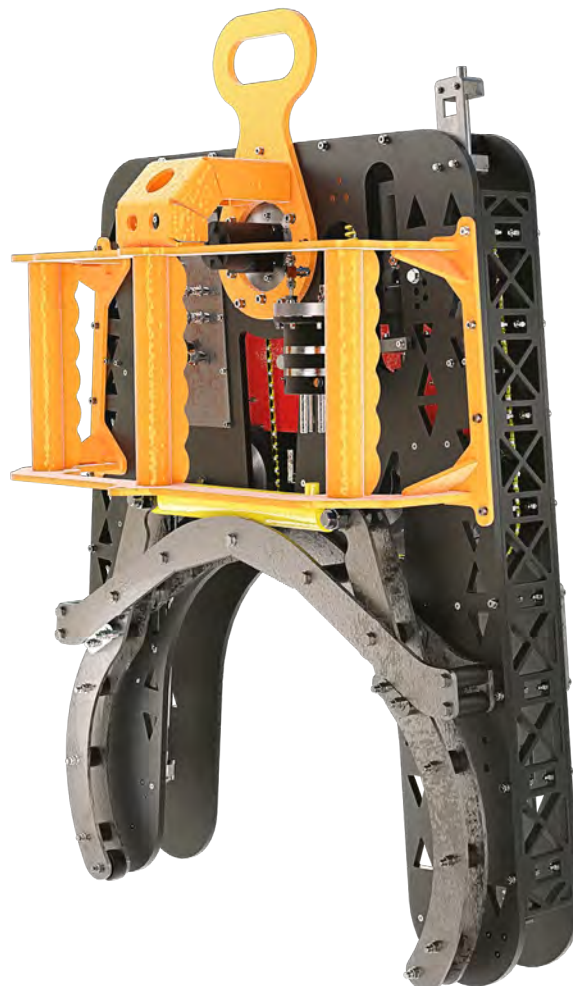
### General Features

Depth rating	MSW	3000
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# DIAMOND WIRE SAW 630 MM

ROV INTERVENTION  
DIAMOND CUTTING  
USER-FRIENDLY



## Description

**Unique and compact subsea Diamond Wire Saw with a range up to Ø630 mm OD pipe.**

Within capacity for most Work Class ROV's.  
To universal cutting operations with exceptional performance and long service life.

Standard wires to be supplied with the saw are diamond wire for steel and diamond wire for concrete.

Claws can be replaced if specific interface is required.

## Features

- Maximum cutting 630 mm
- Compact design
- ROV friendly cutting tool
- Multipurpose use
- Low weight

# SPECIFICATIONS

## DIAMOND WIRE SAW 630 MM

### General Technical Specifications

Type	Diamond Wire Saw 630 MM
Part Number	103333
Dimensions	mm 1628 x 1189 x 516
Weight (in air / submerged)	kg ~155 / ~99

### Hydraulic

Max. Input Pressure	Bar 103
Max. Input Flow	L/min 55

Recommended Feeding Speed mm/min 10-15

Connection ROV pressure A	JIC #8 (hotstab as option)
Connection ROV pressure B	JIC #8 (hotstab as option)
Connection ROV Feed / Clamp	JIC #6 (hotstab as option)

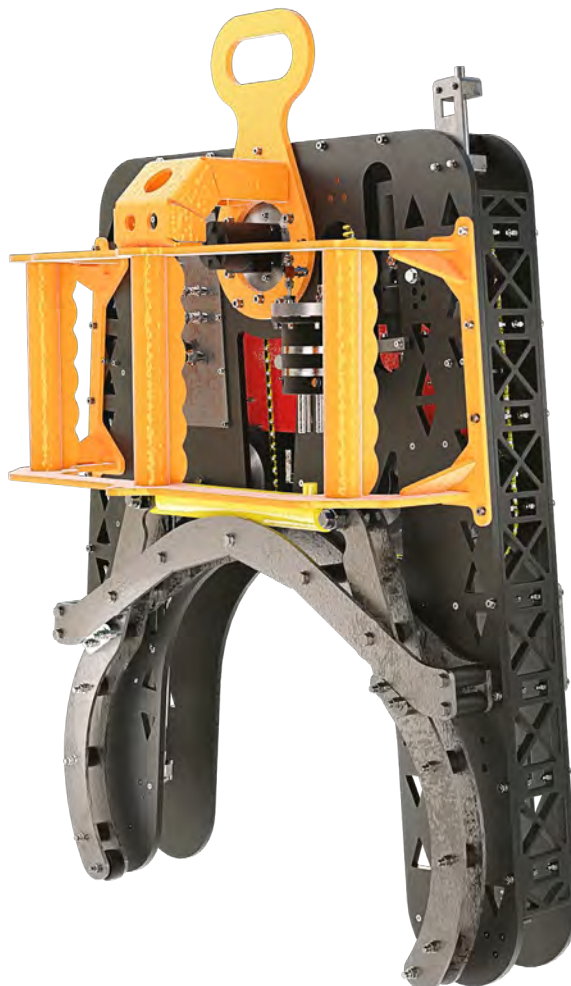
### General Features

Depth rating MSW 3000



# DIAMOND WIRE SAW 770 MM

ROV INTERVENTION  
DIAMOND CUTTING  
USER-FRIENDLY



## Description

**Unique and compact subsea Diamond Wire Saw with a range up to Ø770 mm OD pipe.**

Within capacity for most Work Class ROV's.  
To universal cutting operations with exceptional performance and long service life.

Standard wires to be supplied with the saw are diamond wire for steel and diamond wire for concrete.

Claws can be replaced if specific interface is required.

## Features

- Maximum cutting 770 mm
- Compact design
- ROV friendly cutting tool
- Multipurpose use
- Low weight

# SPECIFICATIONS

## DIAMOND WIRE SAW 770 MM

### General Technical Specifications

Type	Diamond Wire Saw 770 MM
Part Number	104613
Dimensions	mm 2099 x 1370 x 515
Weight (in air / submerged)	kg ~239 / ~159

### Hydraulic

Max. Input Pressure	Bar 103
Max. Input Flow	L/min 55

Recommended Feeding Speed mm/min 10-15

Connection ROV pressure A	JIC #8 (hotstab as option)
Connection ROV pressure B	JIC #8 (hotstab as option)
Connection ROV Feed / Clamp	JIC #6 (hotstab as option)

### General Features

Depth rating MSW 3000





# GR29 UW GRINDER

CUTTING & GRINDING TOOLS



## Description

**The GR29 underwater grinder is a 230mm (9") grinder for cutting, grinding and cleaning a wide range of materials.**

The GR29 grinder is a trusted and versatile tool capable of performing cleaning, grinding and cutting tasks.

The grinder comes standard with an ROV manipulator D-handle. Attachment options available are listed below and custom brush heads can be requested.

- Standard Grinding Disc (9")
- Standard & Diamond Cutting Discs (9")
- Cleaning Brushes (6", 8" & 12")
- Wire Cup (4" & 5")

## Features

- Supplied With Manipulator Handle
- Requires Low Maintenance

# Specifications

## GR29 UW Grinder

### General Technical Specifications

Type	GR29 UW Grinder
Part Number	N/A
Dimensions L x W x H	500 mm x 250 mm x 250 mm
Weight in air	7.5 kg

### Hydraulic

Max Input Pressure	140 Bar
Max Input Flow	45 L/min
RPM	3200 @ 45 L/min

Connection ROV Pressure	JIC #8
Connection ROV Return	JIC #8



# J-TUBE DIAPHRAGM CUTTING TOOL

ROV INTERVENTION  
CUTTING TOOL FOR  
J-TUBE DIAPHRAGM



## Description

**This J-Tube Diaphragm Cutting tool is designed and built to be easily handled by standard ROV manipulators for cutting of reinforced rubber diaphragms.**

The ROV friendly tool are primarily designed with aluminum and POM material to keep low weight in water. Tool body works as a guiding frame inside the J-Tube Bellmouth. POM material are used for protection of the Bellmouth due to scrapes and damages of surface and painting. The tool is manual rotated by the ROV manipulator by rotating the center D-handle of the tool. A hydraulic motor / bearing house, shaft and modified drill bit are used to drill hole in diaphragms and mill out the pieces without damaging inside surface of the Bellmouth.

## Features

- Hydraulic drill tool
- Manipulator rotation
- Cutting OD Ø770 mm
- Cutting OD Ø530 mm (optional)
- Low weight
- ROV friendly design

■ The specification details are illustrative for marketing purposes only. Actual equipment may be different as a result of product improvement or other reasons. Specific interface and performance information should be reconfirmed at time of order placement.

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# SPECIFICATIONS

## J-TUBE DIAPHRAGM CUTTING TOOL

### General Technical Specifications

Type	J-Tube Diaphragm Cutting Tool
Part Number	114224
Dimensions	mm -- x -- x --
Weight (in air / submerged)	kg ~43 / ~24

### Hydraulic

Max. Input Pressure	Bar 103
Max. Input Flow	L/min 45

Measurements	OD Ø530
Measurements	OD Ø770 (optional)
Measurements	OD Ø970 (optional)

Connection ROV pressure A	JIC #6
Connection ROV pressure B	JIC #6

### General Features

Depth rating	MSW 3000
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# ROV GRINDER Ø350

ROV INTERVENTION  
COMPACT GRINDER  
Ø125 - 350MM BLADE



## Description

The Ø350 Grinder is a compact tool, designed for use by standard WROV. It is primarily used for cutting operations, but can also be fitted with a variety of suitable grinding, abrasive and polishing discs.

A well-proven cutter / grinder which can be fitted with various cutting discs:

- Dual abrasive disc
- Steel abrasive disc
- Diamond abrasive disc

## Features

- Danfoss OMPW
- Max 140 bar working pressure
- Max 55 L/min flow rate
- Fishtail handle as standard
- Standard Ø25,4 mm cutting disc

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# SPECIFICATIONS

## ROV GRINDER

### General Technical Specifications

Type	ROV Grinder
Part Number	103331
Weight (in air / submerged)	kg ~15 / ~12

### Hydraulic

Max. Input Pressure	Bar	140
Max. Input Flow	L/min	55
Connection ROV pressure A	JIC	#8
Connection ROV pressure B	JIC	#8

### General Features

Depth rating	MSW	3000
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# ROV KNIFE

Stainless Steel Construction

Lighweight

D-Type Handle



## Description

**The J1W ROV Knife has been designed for cutting soft materials including webbing slings, fishing nets, cables, and fiber rope.**

This tool can serve as an alternative to a hydraulic Softline cutter.

Available for both sale and rental.

## Features

- Stainless steel construction
- D Type handle suitable for parallel and intermeshing jaws
- Cutting capacity 40mm
- Quick and efficient
- Lightweight



# Specifications

## ROV Knife

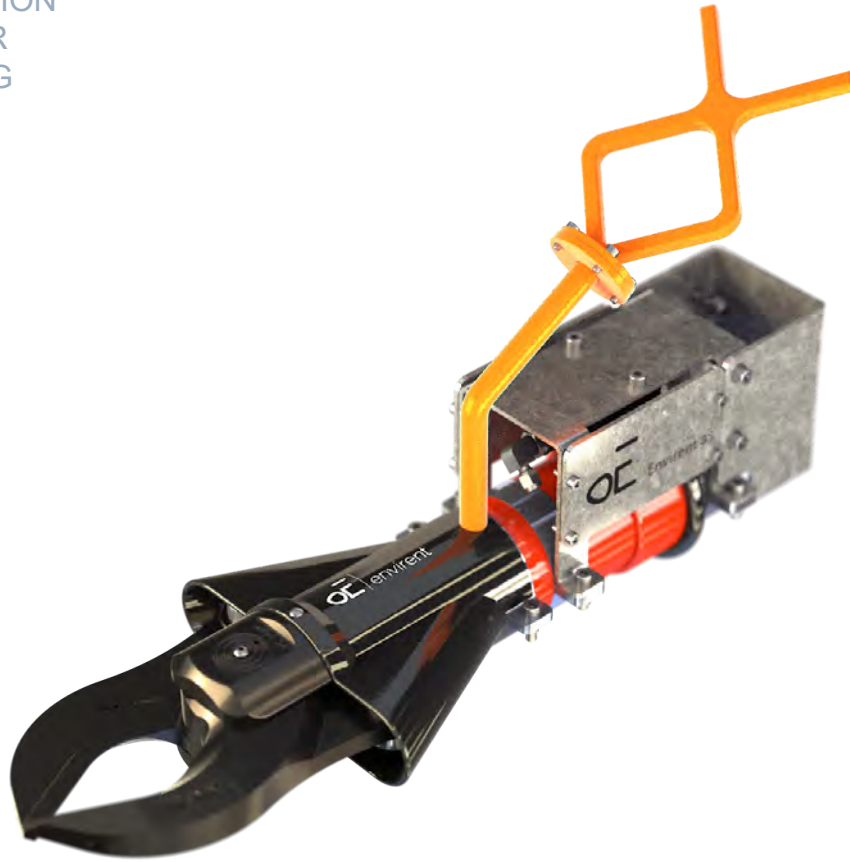
### General Technical Specifications

Type	ROV Knife
Part Number	N/A
Dimensions L x W x H	580 mm x 160 mm x 20mm
Weight in air	4 kg



# SCISSOR CUTTER TOOL

ROV INTERVENTION  
SUBSEA CUTTER  
181 MM OPENING



## Description

**Scissor Cutter Tool is designed to be used on an ROV by using a rugged fish-tail handle and operated with the hydraulic pressure. It comes with an integrated pressure intensifier.**

- Rod material
- Tubes
- Profiles
- Frames
- Cables
- Small steel wires up to Ø20\*
- Decommissioning

## Features

- ▣ Integrated pressure intensifier
- ▣ Blade opening 181 mm
- ▣ Cutting force 65,7 T
- ▣ Blade type A30 Holmatro
- ▣ Small footprint
- ▣ ROV friendly cutting tool
- ▣ Multipurpose use

\*If wire to be cut please clarify with supplier

▣ The specification details are illustrative for marketing purposes only. Actual equipment may be different as a result of product improvement or other reasons. Specific interface and performance information should be reconfirmed at time of order placement.

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# SPECIFICATIONS

## SCISSOR CUTTING TOOL

### General Technical Specifications

Type	Scissor Cutting Tool
Part Number	103309
Dimensions	mm 775 x 270 x 218
Weight (in air / submerged)	kg ~20 / ~15

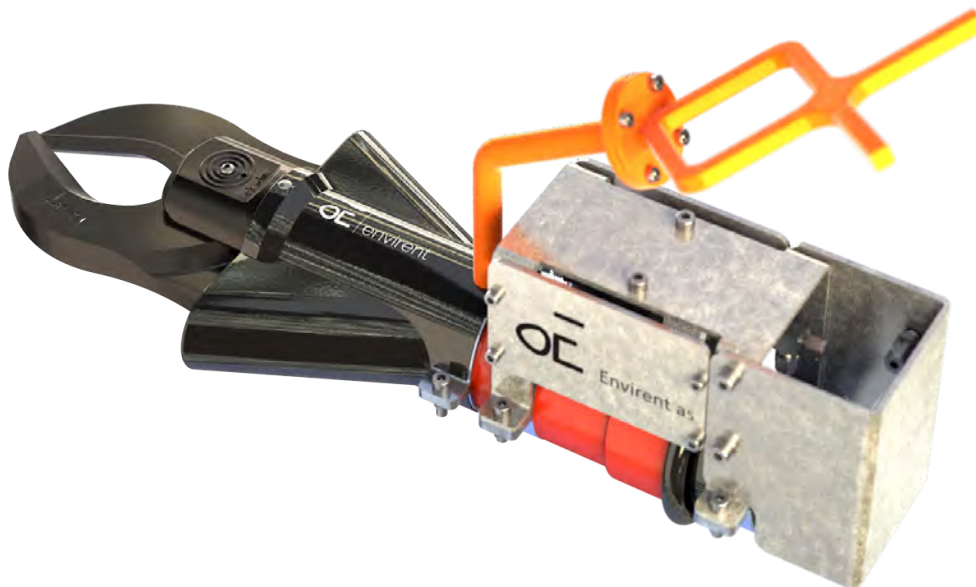
### Hydraulic

Max. Input Pressure	Bar 207
Max. Input Flow	L/min 5

Connection ROV pressure	JIC #4
Connection ROV return	JIC #4

### General Features

Depth rating	MSW 3000
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# SL55 SOFTLINE CUTTER

ROV TOOLING  
CUTTING TOOL



## Description

**SL55 Softline Cutter is a highly efficient cutting tool for soft lines and fibre rope materials.**

Our SL55 – Softline Cutter is a quick and efficient tool for cutting soft lines and fibre ropes. Designed for use with ROV or diver operations.

## Features

- Open Side Design
- Heavy Duty Capacity
- Lightweight
- ROV or Diver Operable
- Quick & Efficient Operation
- Long Blade Life

# SPECIFICATIONS

## SL55 SOFTLINE CUTTER

### General Technical Specification

Type	Webtool SL55 Softline Cutter
Dimensions	487x155x135 mm
Weight in Air	10Kg
Weight in water	7Kg
Cylinder Volume	0.25L

### Hydraulic

Max Input Pressure	210 Bar
Connection A	JIC 4
Connection B	JIC 4

# SOFTLINE CUTTER

## SL-80

SUBSEA WIRE AND ROPE HANDLING  
ROBUST AND USER FRIENDLY  
CAN BE USED AT ANY WATER DEPTH



### Description

**The SL-80 cutter is a heavy-duty hydraulically operated soft and fibre line cutting tool. The open sided design allows for easy positioning on the line by ROV or diver and simple operation.**

The wire rope cutter has integrated hydraulic intensifier and internal relief valve which improves reliability and prevents accidental over-pressurisation of the cylinder. It also has integrated minibooster intensifier – The RCV75HD requires a low-pressure hydraulic supply to operate. Hydraulically operated anvil makes the tool easy to operate and removes the need for diver intervention.

Long blade life ensures that the tool maintenance is kept to a minimum.

### Typical Operations

- ROV
- Subsea Wire handling
- Rough operations

### Features

- Can be used at any water depth
- Diver or ROV operabel design
- Quick and efficient operation
- Service & User Friendly
- Corrosion resistant
- 2 Hydraulic ports (blade up, blade down)

# SPECIFICATIONS

## SLC-80 SOFTLINE CUTTER

### General Technical Specifications

Type	SLC-80 Softline Cutter
Part number	SLC-80
Materials	Aluminium, Stainless Steel
Fluid	ISO32 Hydraulic oil
Weight	In Air: 15Kg / In Water: 10,5Kg

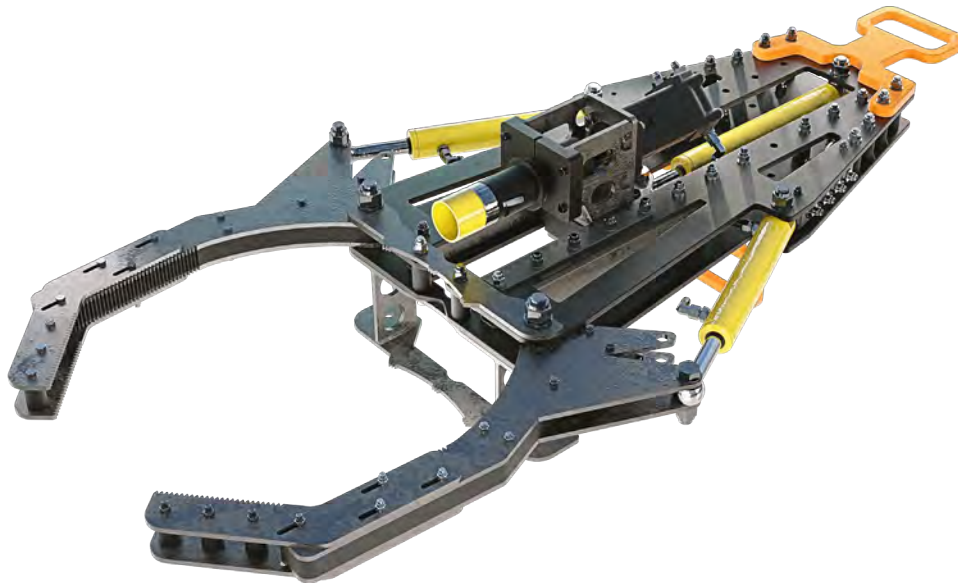
### Hydraulic Specifications

Max. Operating pressure	690 Bar (External intensifier are following the SLC-55)
Swept volume (Cut stroke)	0,15 litres
Swept volume (Return stroke)	0,1 litres
Cutting capacity	Up to 80mm (3.15") diameter
Hyd Connection - Extract	JIC 04 Male - 690 Bar rated
Hyd Connection - Retract	JIC 04 Male - 690 Bar rated



# SUBSEA DRILL 10-100 MM

ROV INTERVENTION  
SUBSEA DRILL  
CLAMP-ON



## Description

**Subsea drill designed to drill desired holes in pipe or profiles.**

The tool can be modified to fit different interfaces and it can be equipped with various drill and hole bits.

The tool can be hydraulic operated by standard workclass ROV. Compact and low-weight design makes the tool very ROV friendly.

## Features

- Maximum drill diameter 100 mm
- Clamps for small and large structures
- Optional drill bits
- ROV friendly drill tool
- Multipurpose use
- Low weight

# SPECIFICATIONS

## SUBSEA DRILL 10-100 MM

### General Technical Specifications

Type	Subsea Drill 10-100 MM
Part Number	104222
Dimensions	mm -- x -- x --
Weight (in air / submerged)	kg ~140 / ~110

### Hydraulic

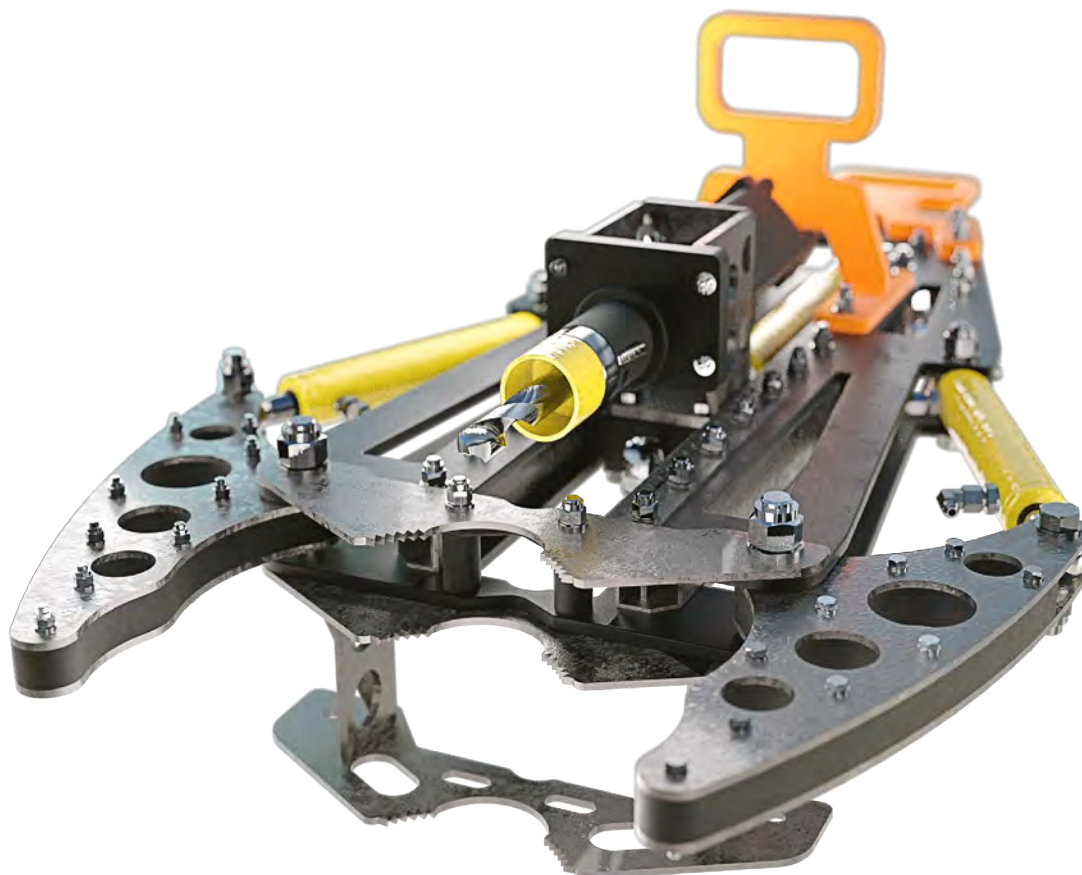
Max. Input Pressure	Bar	207
Max. Input Flow	L/min	76
Max. Rotation Speed	RPM	226

Recommended Feeding Speed      mm/min 10-15

Connection ROV pressure A	JIC	#6 (hotstab option)
Connection ROV pressure B	JIC	#6 (hotstab option)
Connection ROV feed / clamp	JIC	#6 (hotstab option)

### General Features

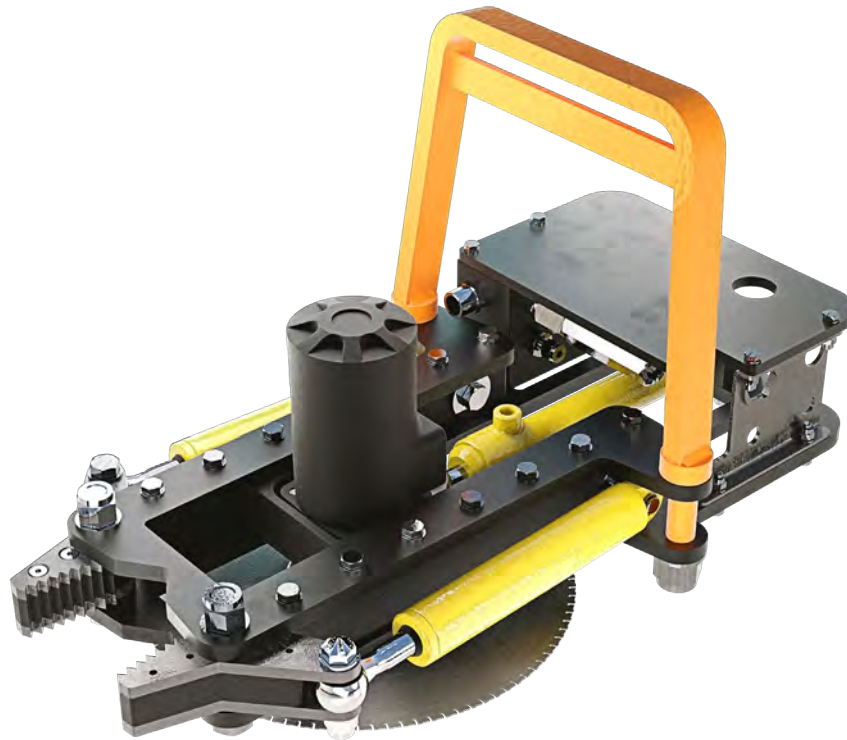
Depth rating      MSW 3000





# SUBSEA SAW 15-90 MM

ROV INTERVENTION  
CUTTING & GRINDING  
CLAMP-ON



## Description

**Manipulator held utility saw with long track record.**

Subsea Saw with a range up to 90mm. Within capacity for most Work Class ROV's. Track record after years of use in the North Sea. The saw is designed to cut steel pipes, steel profiles and wires.

Standard blades to be supplied with saw are carbide and diamond types.

Claws can be replaced if specific interface is required.

## Features

- Maximum cutting 90 mm
- Small footprint
- ROV friendly cutting tool
- Multipurpose use
- Low weight

# SPECIFICATIONS

## SUBSEA SAW 15-90 MM

### General Technical Specifications

Type	Subsea Saw 15-90 MM
Part Number	14219
Dimensions	mm -- x -- x --
Weight (in air / submerged)	kg ~35 / ~30

### Hydraulic

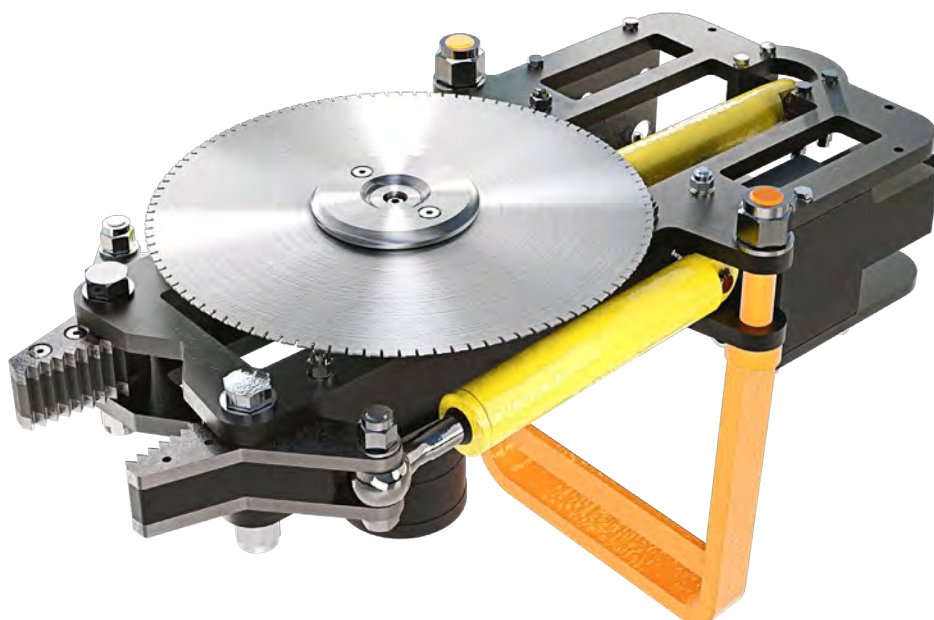
Max. Input Pressure	Bar	103
Max. Input Flow	L/min	57
Max. Rotation Speed	RPM	300

Recommended Feeding Speed      mm/min    10-15

Connection ROV pressure A	JIC	#6 (hotstab option)
Connection ROV pressure B	JIC	#6 (hotstab option)
Connection ROV clamp / feed	JIC	#6 (hotstab option)

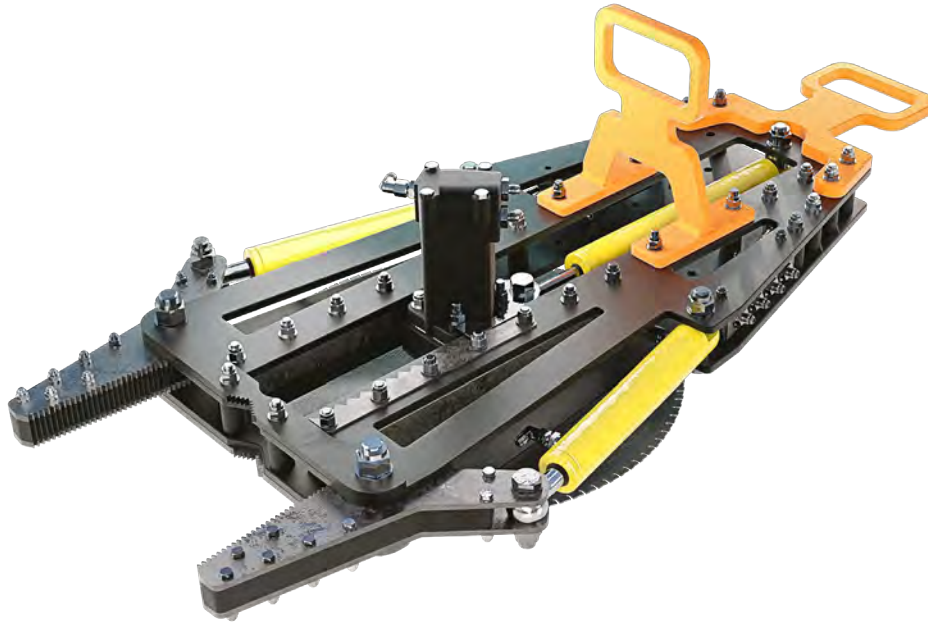
### General Features

Depth rating                              MSW    3000



# SUBSEA SAW 60-200 MM

ROV INTERVENTION  
CUTTING & GRINDING  
CLAMP-ON



## Description

**Manipulator held utility saw with long track record.**

Subsea Saw with a range up to 200mm. Within capacity for most Work Class ROV's. Track record after years of use in the North Sea. The saw is designed to cut steel pipes, steel profiles and wires.

Standard blades to be supplied with saw are carbide and diamond types.

Claws can be replaced if specific interface is required.

## Features

- Maximum cutting 200 mm
- Small footprint
- ROV friendly cutting tool
- Multipurpose use
- Low weight

# SPECIFICATIONS

## SUBSEA SAW 60-200 MM

### General Technical Specifications

Type	Subsea Saw 60-200 MM
Part Number	114221
Dimensions	mm -- x -- x --
Weight (in air / submerged)	kg ~101 / ~80

### Hydraulic

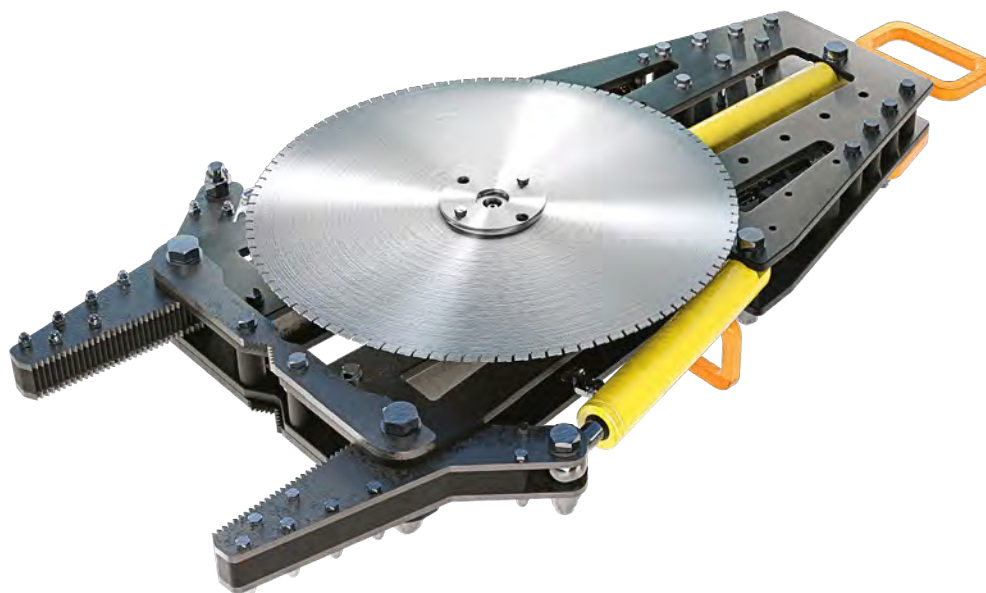
Max. Input Pressure	Bar	207
Max. Input Flow	L/min	76
Max. Rotation Speed	RPM	226

Recommended Feeding Speed      mm/min    10-15

Connection ROV pressure A	JIC	#6 (hotstab option)
Connection ROV pressure B	JIC	#6 (hotstab option)
Connection ROV feed / clamp	JIC	#6 (hotstab option)

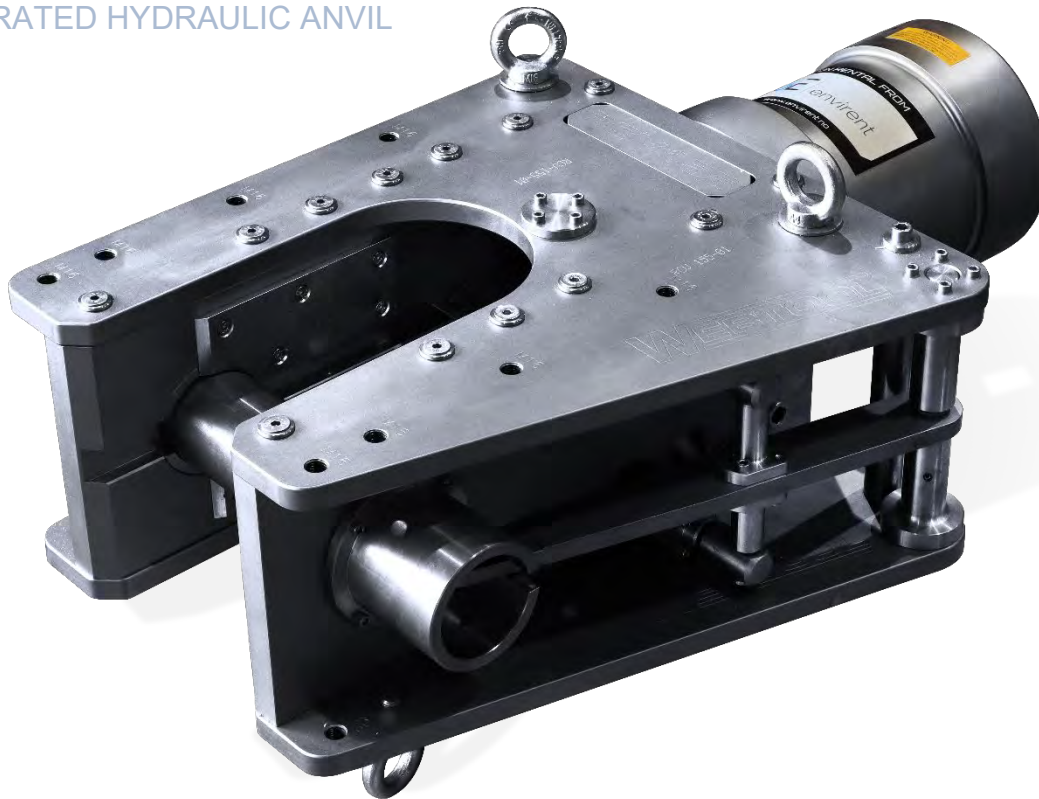
### General Features

Depth rating                              MSW    3000



# WIRE ROPE CUTTER RCV155

FOR SUBSEA & TOPSIDE OPERATIONS  
USED FOR STEEL WIRE & ROPE CUTTING  
CUTS UP TO 155MM  
INTEGRATED HYDRAULIC ANVIL



## Description

**The RCV155 is a heavy-duty wire rope cutter designed for use in severe working conditions and can be used at any water depth.**

**The integrated hydraulic anvil removes the need for diver intervention and makes the tool easily deployed and operated by ROV, as safety is paramount.**

The wire rope cutter has plated steel and stainless-steel construction. All steel components are electroless nickel plated to resist corrosion.

Long blade life ensures that the tool maintenance is kept to a minimum.

## Typical Operations

- ▣ ROV & Topside
- ▣ Subsea Wire handling
- ▣ Rough operations

## Features

- ▣ Can be used at any depth
- ▣ Environmentally friendly
- ▣ Compact Design
- ▣ Service & User Friendly
- ▣ Corrosion resistant

# SPECIFICATIONS

## RCV155 WIRE ROPE CUTTER

### General Technical Specifications

Type	RCV155 Wire Rope Cutter
Part number	RCV-155
Materials	Steel, Stainless Steel
Fluid	ISO32 Hydraulic oil
Weight	In Air: 241Kg / In Water: 208Kg
Lifting points	20ea (10 on each side) dedicated M16 lifting points

### Hydraulic Specifications

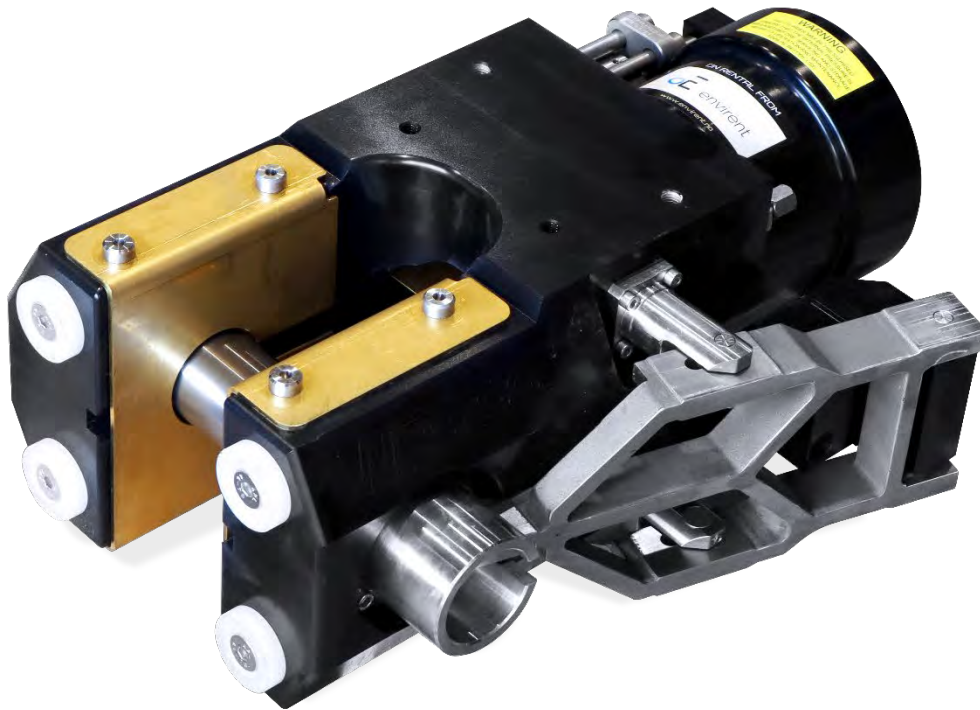
Max. Input pressure for main cylinder	690 Bar (External booster is part of the RCV155)
Max. Input pressure for anvil	210 Bar
Swept volume cut stroke	3,7 Litres
Swept volume return stroke	1,6 Litres
Cutting capacity	Ø76mm to Ø155mm wire rope
Wire rope grade N/mm <sup>2</sup>	2160N/mm <sup>2</sup> to 1880N/mm <sup>2</sup>

### Connectors

Anvil Open	JIC 04
Anvil Close	JIC 04
Knife Extend	JIC 04
Knife Retract	JIC 04

# RCV75HD WIRE ROPE CUTTER

ITS LIGHT WEIGHT AND  
RELIABILITY MAKE IT A STANDARD  
PIECE OF TOOLING IN MANY  
ROV FLEETS



## Description

**The RCV75HD is a heavy-duty wire rope cutter designed for use in severe working conditions and can be used at any water depth.**

**With integrated interlock it will ensure that the blade cannot activate until the anvil is fully deployed.**

The wire rope cutter has integrated hydraulic intensifier and internal relief valve which improves reliability and prevents accidental over-pressurization of the cylinder. It also has integrated minibooster intensifier – The RCV75HD requires a low-pressure hydraulic supply to operate. Hydraulically operated anvil makes the tool easy to operate and removes the need for diver intervention.

Long blade life ensures that the tool maintenance is kept to a minimum.

## Typical Operations

- ROV & Topside
- Subsea Wire handling
- Rough operations

## Features

- Can be used at any depth
- Robust and durable
- Compact Design
- Service & User Friendly
- Corrosion resistant

# SPECIFICATIONS

## RCV75HD WIRE ROPE CUTTER

### General Technical Specifications

Type	RCV75HD Wire Rope Cutter
Part number	RCV-75
Materials	Aluminium, Stainless Steel
Fluid	Mineral Oil AWS 22-32
Weight	In Air: 43Kg / In Water: 30,5Kg

### Hydraulic Specifications

Max. Input pressure	210 Bar
Flow rate	4 l/min to 14 l/min
Cutting capacity	Max. Ø75mm wire rope of 1960N/mm <sup>2</sup> grade

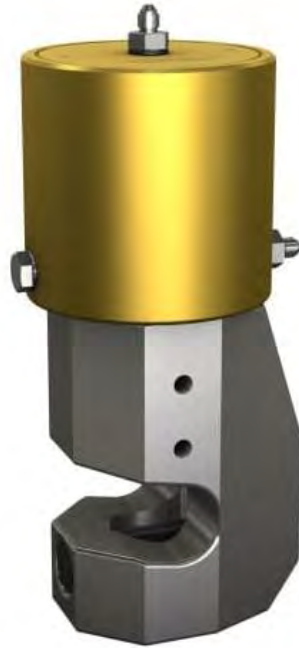
### Connectors

Anvile Open	JIC 04
Anvile Close	JIC 04
Knife extend	JIC 04
Knife Retract	JIC 04



# WCOS38DLP WIRE ROPE CUTTER

ITS LIGHTWEIGHT AND RELIABILITY  
MAKE IT A STANDARD PIECE OF  
TOOLING IN MANY ROV FLEETS



## Description

The WCOS38DLP is a double acting tool primarily intended for use on steel wire rope, having a maximum tensile strength of 1770N/mm and will cut ropes up to 38mm diameter.

This rope cutter may be used on alternative materials, such as electrical power or communication cables, again to a maximum of 38mm diameter.

## Features

- Heavy duty wire rope cutter designed for use in severe working conditions
- Open sided design allows easy positioning of the cutter on the cable
- Corrosion resistant stainless steel
- Long blade life
- Ideal for operation in confined spaces
- Low pressure cylinder removes the need for an intensifier panel

# Specifications

## WCOS38DLP Wire Rope Cutter

### General Technical Specifications

Type	WCOS38DLP Wire Rope Cutter
Part Number	980488
Dimensions L x W x H	308 mm x 130 mm x 130 mm
Weight in air	20.5 kg

### Hydraulic

Max Input Pressure	220 Bar
Max Input Flow	80 L/min

Connection ROV Extend	JIC #4
Connection ROV Retract	JIC #4



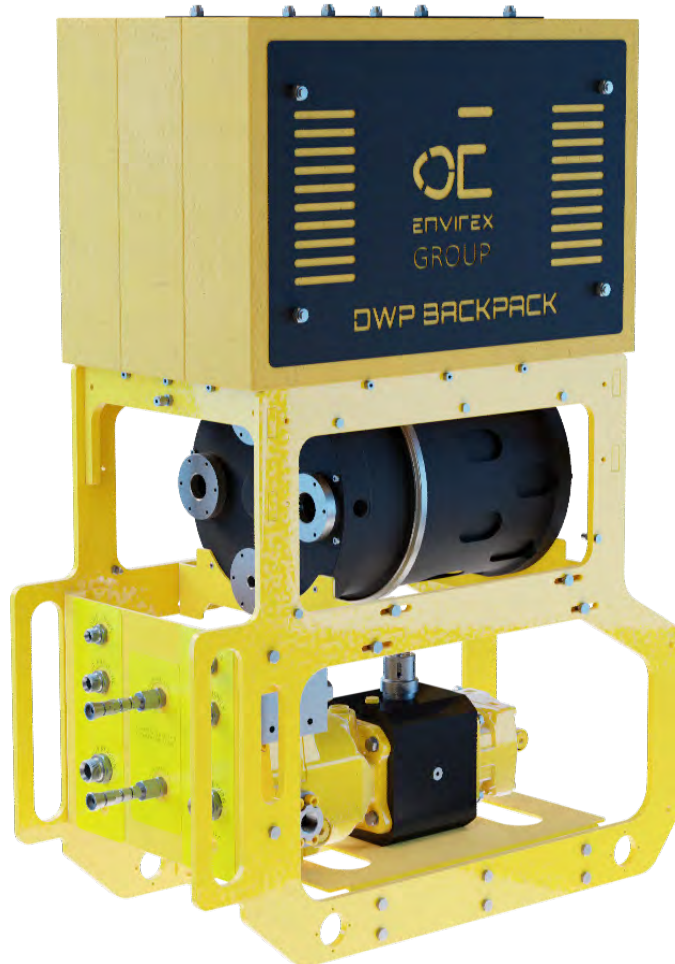
# ■ Dirty Work Packs & Backpacks



- Backpack DWP 345 Bar 120L//Min
- Dirty Work Pack 207 Bar 45 L/Min Gen-1
- Dirty Work Pack 207 Bar 45 L/Min Gen-2
- Dirty Work Pack 210 Bar Pump 60 LPM
- Dirty Work Pack 345 Bar 120 L/Min
- Dirty Work Pack 345 Bar 165 L/Min
- Dirty Work Valve Pack 207/690 Bar
- High Pressure Multifluid Backpack

# DIRTY WORK PACK

HIGH FLOW PUMP  
ISOLATED HYDRAULIC  
POWERPACK



## Description

**The High Flow Backpack DWP is compact, simple to incorporate and service friendly all-in-one pump system.**

The Dirty Work Pack is an isolated hydraulic power unit that can easily incorporate into a ROV hydraulic system to provide an isolated hydraulic supply for driving tooling and equipment that may have potentially otherwise cause contamination to the main ROV hydraulic supply.

The Backpack Skid consist of a 16L compensated reservoir, Dirty Work Pack, depth compensated flow-reducing valve and buoyancy

## Features

- 207 or 345 Bar pump supply
- 120 L/min pump flow
- 16L Compensated reservoir
- Depth-compensated Flow Control Valve
- Pilot start-stop valve
- Bulkhead connection plate
- Buoyancy to reduce weight in water
- Compact design

# SPECIFICATIONS

## ISOLATED HYDRAULIC POWER UNIT

### General Technical Specifications

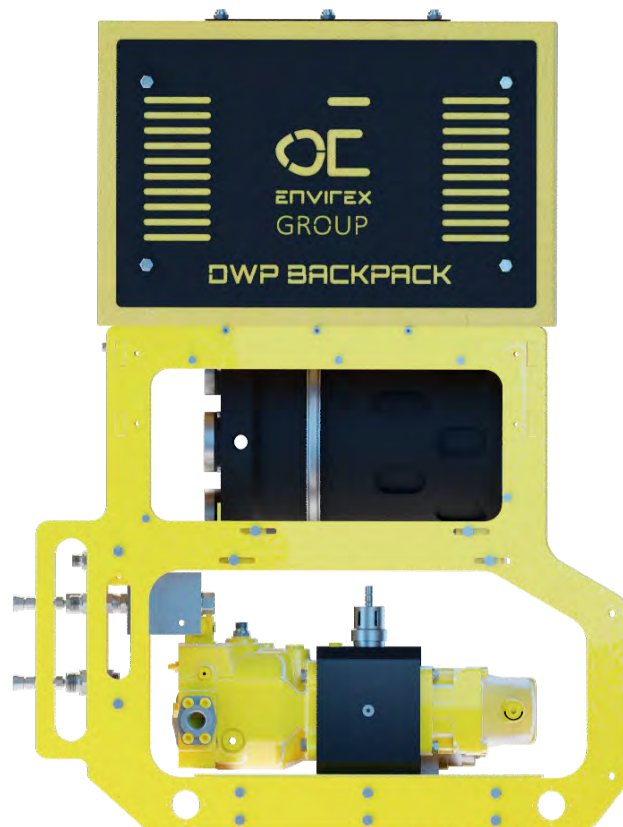
Type	Isolated Hydraulic Power Unit
Part Number	103322
Dimensions	mm 975 x 1349 x 484
Weight (in air / submerged)	kg ~250 / ~20

### Hydraulic

Max. Input Pressure	Bar	207
Max. Output Pressure	Bar	207 or 345
Max. Input Flow	L/min	168
Max. Output Flow	L/min	120
Fluid tank size	Liter	16
Connection ROV pressure	JIC	#12
Connection ROV return	JIC	#16
Connection ROV drain	JIC	#6
Connection ROV start-stop valve	JIC	#6
Connection DWP supply	JIC	#12
Connection DWP return	JIC	#16
Connection DWP drain	JIC	#6
Connection DWP fill port	JIC	#4

### General Features

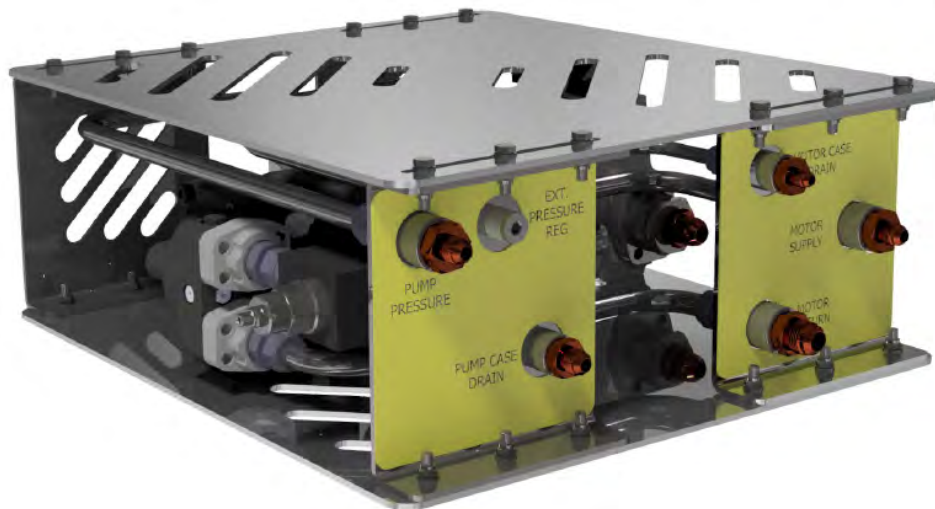
Depth rating	MSW	3000
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Envirent AS, Robotvegen 16, 4340 Bryne, +47 477 77 500 [post@envirent.no](mailto:post@envirent.no)

# DIRTY WORK PACK

GEN-1  
ISOLATED HYDRAULIC  
POWERPACK



## Description

**This Dirty Work Pack is an Isolated Hydraulic Power Unit (IHPU) that can be easily incorporated into a ROV hydraulic system to provide an isolated hydraulic supply for driving tooling and equipment that may potentially otherwise cause contamination to the main ROV hydraulic supply.**

The unit is a fully self-contained circuit incorporating hydraulic motor, pressure compensated pump, compensated bellhousing, pressure and return line and multiple inlet/outlet connection points. Hook-up to the ROV is quick and simple by connecting a supply, return and drain line to a ROV valve pack function.

Can also be delivered with compensated reservoir and electric/hydraulic operated directional valve as option.

## Features

- 207 / 345 Bar pump supply
- 45 L/min pump flow
- Integrated flow control valve
- Mineral oil or water based fluid
- Rated to 3000 MSW
- Bulkhead connection
- Steel protection cover

# SPECIFICATIONS

## ISOLATED HYDRAULIC POWER UNIT

### General Technical Specifications

Type	Isolated Hydraulic Power Unit
Part Number	103319
Dimensions	mm 550 x 244 x 600
Weight (in air / submerged)	kg ~41 / ~32

### Hydraulic

Max. Input Pressure	Bar 207
Max. Output Pressure	Bar 207 or 345
Max. Input Flow	L/min 90
Max. Output Flow	L/min 45

Fluid Compatibility\*\* Output Mineral oil, Control Fluid and Water based glycol

Connection ROV pressure	JIC #8
Connection ROV return	JIC #12
Connection ROV drain	JIC #6
Connection DWP Supply	JIC #8
Connection DWP Case Drain	JIC #6
Connection DWP Suction	JIC SAE 1-1/4" Flange
Connection DWP Ext. Regulator	JIC #6 (OPTIONAL)

### General Features

Depth rating MSW 3000

\*\* Please contact us for more information regarding fluid compatibility.



# DIRTY WORK PACK

GEN-2 COMPACT  
ISOLATED HYDRAULIC  
POWERPACK



## Description

**This Dirty Work Pack is an Isolated Hydraulic Power Unit (IHPU) that can be easily incorporated into a ROV hydraulic system to provide an isolated hydraulic supply for driving tooling and equipment that may potentially otherwise cause contamination to the main ROV hydraulic supply.**

The unit is a fully self-contained circuit incorporating hydraulic motor, pressure compensated pump, compensated bellhousing, pressure and return line and multiple inlet/outlet connection points. Hook-up to the ROV is quick and simple by connecting a supply, return and drain line to a ROV valve pack function.

Can also be delivered with compensated reservoir and electric/hydraulic operated directional valve as option.

## Features

- 207 / 345 Bar pump supply
- 45 L/min pump flow
- Integrated flow control valve
- Compact and ROV friendly design (Gen-2)
- Mineral oil or water based fluid
- Rated to 3000 MSW
- Bulkhead connection
- Steel protection housing



# SPECIFICATIONS

## ISOLATED HYDRAULIC POWER UNIT

### General Technical Specifications

Type	Isolated Hydraulic Power Unit
Part Number	116584
Dimensions	mm 589 x 284 x 269
Weight (in air / submerged)	kg ~61 / ~47

### Hydraulic

Max. Input Pressure	Bar 207
Max. Output Pressure	Bar 207 or 345
Max. Input Flow	L/min 90
Max. Output Flow	L/min 45

Fluid Compatibility\*\* Output Mineral oil, Control Fluid and Water based glycol

Connection ROV pressure	JIC #12
Connection ROV return	JIC #12
Connection ROV drain	JIC #8
Connection DWP supply	JIC #16
Connection DWP case drain	JIC #8
Connection DWP suction	JIC #20
Connection DWP ext. regulator	JIC #4

### General Features

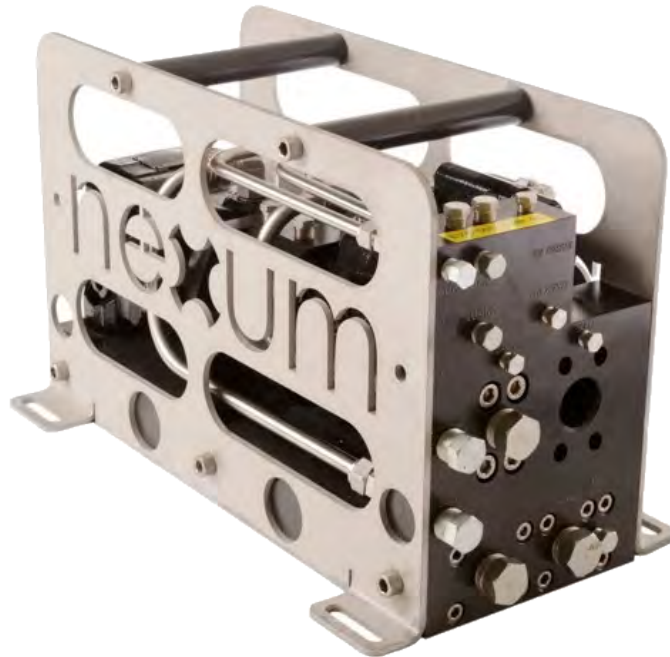
Depth rating MSW 3000

\*\* Please contact us for more information regarding fluid compatibility.



# DIRTY WORK PACK

210 BAR PUMP  
60 LPM FLOW POWERPACK  
EFFICIENCY RATED TO 66%



## Description

**210 Bar Dirty work pack is compact, simple to incorporate and service friendly. Contains well proven components integrated and all hydraulic connections is located in one end.**

The motor circuit on the DWP has a built in start/stop valve for remote start/stop, and has a flow regulator valve for speed control. The pump circuit has a built in pressure relief valve. The pump can be internally pressure compensated, remote pressure regulated or connected to a load sensing valve system. Soft-start function integrated to ensure fully utilization at all times.

## Features

- 210 Bar pump supply
- 60 L/min pump flow
- Integrated flow control valve
- Integrated start/stop valve
- Integrated soft-start function
- Rated to 3000 MSW
- Bulkhead connection
- Efficiency is rated to 66%

# SPECIFICATIONS

## ISOLATED HYDRAULIC POWER UNIT

### General Technical Specifications

Type	Isolated Hydraulic Power Unit
Part Number	DWP-REX
Dimensions	mm 590 x 350 x 250
Weight (in air / submerged)	Kg ~65 / ~55

### Hydraulic

Max. Input Pressure	Bar 210
Max. Output Pressure	Bar 210
Max. Input Flow	L/min 90
Max. Output Flow @ 210 Bar	L/min 60

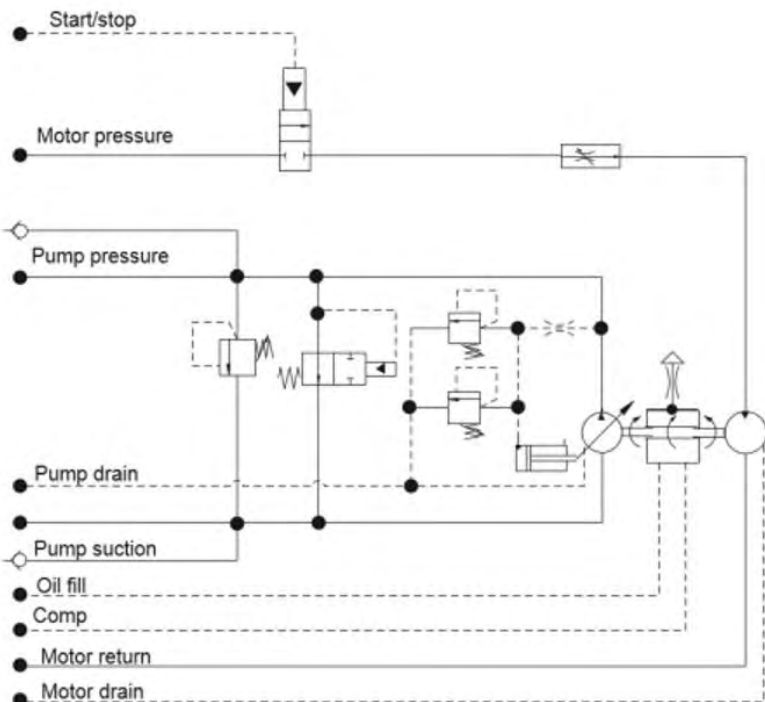
Fluid Compatibility Pump= Mineral oil / Waterbased  
Motor= Mineral Oil

Connection ROV pressure	JIC	08
Connection ROV return	JIC	12
Connection ROV drain	JIC	06
Connection ROV start/stop	JIC	04
Connection DWP supply	JIC	08
Connection DWP Case Drain Connection	JIC	06
DWP Suction	BSP	1-1/4"
Connection DWP Ext. Regulator	NPT	1/8"

Connection DWP Bellhousing Fill Swagelock QC6 Female

### General Features

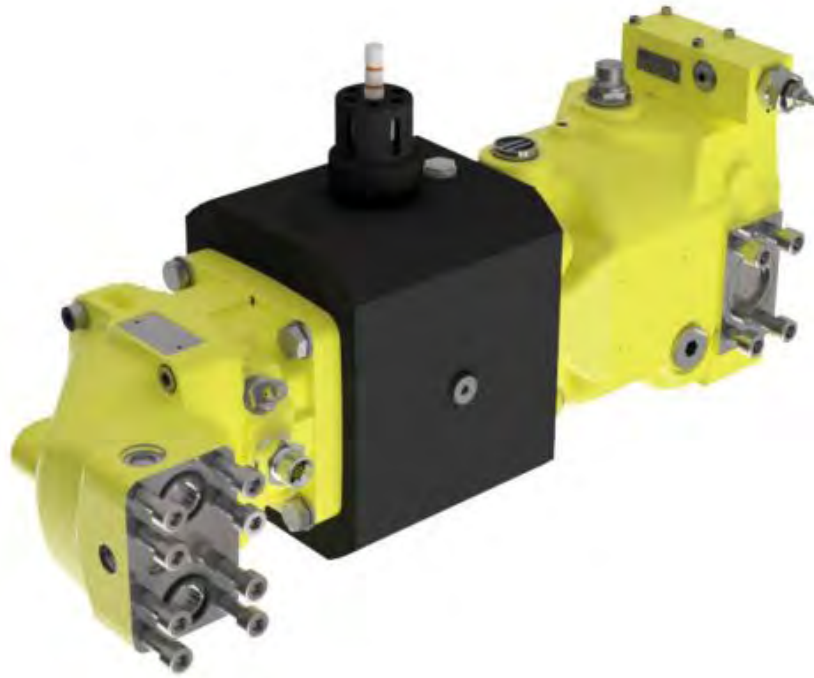
Depth rating MSW 3000



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# DIRTY WORK PACK

46CC PUMP  
ISOLATED HYDRAULIC  
POWERPACK



## Description

**The High Flow Dirty Work Pack Unit is used to reduce the risk of contamination in the main ROV hydraulic system. By using this equipment, you will get two completely separate oil circuits and avoid concerns about contamination in your hydraulic system.**

The Dirty Oil Pack is an Isolated Hydraulic Power Unit (IHPU) that can be easily incorporated into a ROV hydraulic system to provide an isolated hydraulic supply for driving tooling and equipment that may potentially otherwise cause contamination to the main ROV hydraulic supply.

Hook-up to the ROV is quick and simple by connecting a supply, return and drain line to a ROV valve pack function.

## Features

- 207 / 345 Bar pump supply
- 120 L/min pump flow
- Compact design
- Service and user friendly
- Customized pressure control option
- Rated to 3000 MSW

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# SPECIFICATIONS

## ISOLATED HYDRAULIC POWER UNIT

### General Technical Specifications

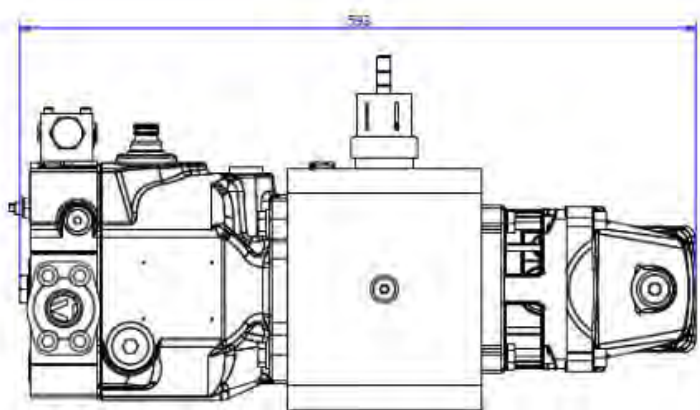
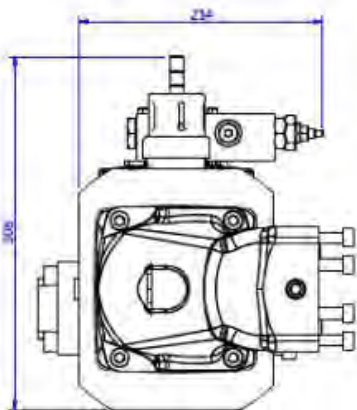
Type	Isolated Hydraulic Power Unit
Part Number	103276
Dimensions	mm 214 x 308 x 593
Weight (in air / submerged)	kg ~75 / ~66

### Hydraulic

Max. Input Pressure	Bar 207
Max. Output Pressure	Bar 207 or 345
Max. Input Flow	L/min 168
Max. Output Flow	L/min 120
Connection ROV pressure	SAE SAE Code 62 3/4"
Connection ROV return	SAE SAE Code 62 3/4"
Connection ROV drain	JIC #6
Connection DWP supply	SAE SAE Code 62 1"
Connection DWP drain	JIC #6
Connection DWP suction	SAE SAE Code 62 1-1/2"
Connection DWP regulator	JIC #6

### General Features

Depth rating	MSW 3000
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# DIRTY WORK PACK

345 BAR PUMP  
165 LPM FLOW  
POWERPACK



## Description

**345 Bar - 165 L/min High-Flow DWP is compact, simple to incorporate and service friendly. Contains well proven components integrated and all hydraulic connections is located in one end.**

The motor circuit on the DWP has a built in start/stop valve for remote start/stop, and has a flow regulator valve for speed control. The pump circuit has a built in pressure relief valve. The pump can be internally pressure compensated, remote pressure regulated or connected to a load sensing valve system. Soft-start function integrated to ensure fully utilization at all times.

## Features

- 345 Bar pump supply max
- 165 L/min pump flow max
- Integrated flow control valve
- Integrated start/stop valve
- Integrated soft-start function
- Rated to 3000 MSW
- Bulkhead connection
- Manifold block design

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# SPECIFICATIONS

## ISOLATED HYDRAULIC POWER UNIT

### General Technical Specifications

Type	Isolated Hydraulic Power Unit
Part Number	114201
Dimensions	mm 752 x 307 x 357
Weight (in air / submerged)	kg ~113 / ~90

### Hydraulic

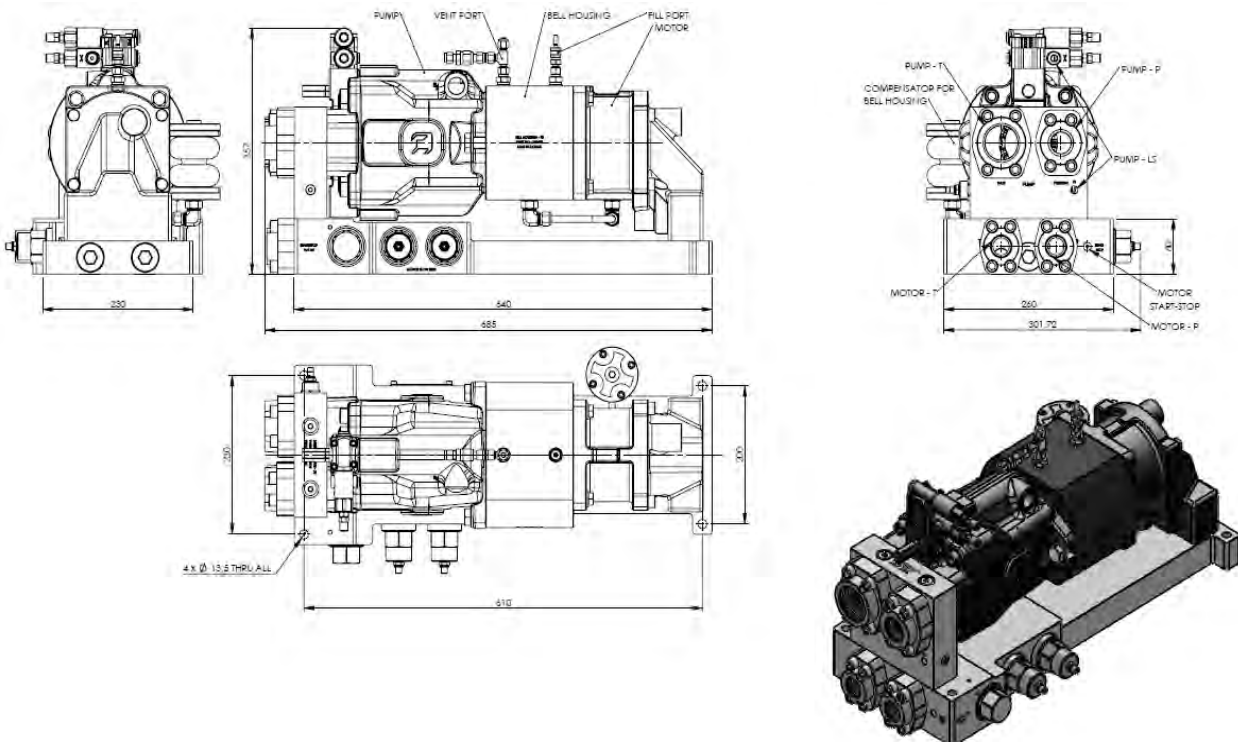
Max. Input Pressure	Bar 207
Max. Output Pressure	Bar 345
Max. Input Flow	L/min 262
Max. Output Flow	L/min 165

Fluid Compatibility\*\* Output Mineral oil

Connection ROV pressure	BSP 1" (alt. SAE 6000)
Connection ROV return	BSP 1" (alt. SAE 6000)
Connection ROV drain	M18 x 1.5 F 12 DEEP
Connection ROV start/stop	BSP 1/4"
Connection DWP supply	BSP 1-1/4" (alt. SAE 6000)
Connection DWP Case Drain	BSP 3/4"
Connection DWP Suction	BSP 2" (alt. SAE 3000)
Connection DWP Ext. Regulator	BSP 1/4"

### General Features

Depth rating MSW 3000



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# DIRTY WORK VALVE PACK

ROV TOOLING  
ISOLATED HYDRAULIC  
PUMP VP SYSTEM



## Description

**The Dirty Work Valve Pack (DW-VP) is a compact unit for subsea use in relation to tooling and pressure leak / test applications.**

DW-VP contains 4x NG4 and 1x NG6 proportional valves for controlling ROV tooling. A motor-pump (Dirty Work Pack) are flanged directly to the Valve Pack making it to a all-in-one system. The unique design are both cost efficient with regard to ROV interface and reduced connections (hoses/fittings) makes it a more reliable system due to HSE impact and leakages. Surface Software gives the operator control of both pump pressure and flow adjustment on all output lines.

## Features

- Integrated Control System
- Digital flowmeter
- Digital pressure sensors
- 207 Bar pump supply (LP output)
- 690 Bar booster supply (HP output)
- Print of pressure test certification
- All in one system
- Coms. RS 232, 485 and Ethernet
- Small footprint and ease interface to ROV



# SPECIFICATIONS

## DIRTY WORK VALVE PACK

### General Technical Specifications

Type	Dirty Work Valve Pack
Part Number	103271
Dimensions	mm 840 x 700 x 600
Weight (in air)	kg ~90

### Electrical

Supply Voltage	VDC 24VDC
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### Communication

RS 232, RS 485 and Ethernet	8PIN Glen Air G5506-1508-0004 Pigtail 1 meter
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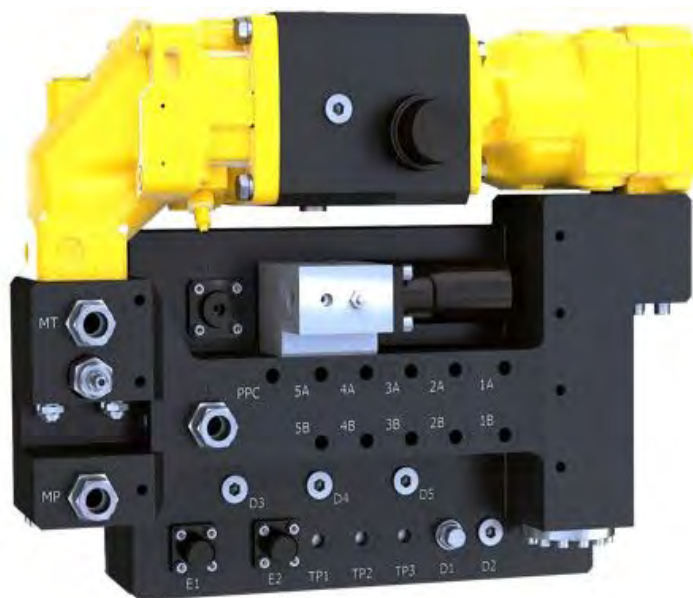
### Hydraulic

Max. Input Pressure	Bar 207
Max. Output Pressure LP line	Bar 207 - 5 off
Max. Output Pressure HP line	Bar 690 - 1 off
Max. Input Flow	L/min 75
Max. Output Flow	L/min 40

Connection ROV pressure	JIC #8
Connection ROV return	JIC #8
Connection ROV drain	JIC #6
Connection output pressure LP	JIC #6
Connection output pressure HP	JIC #4

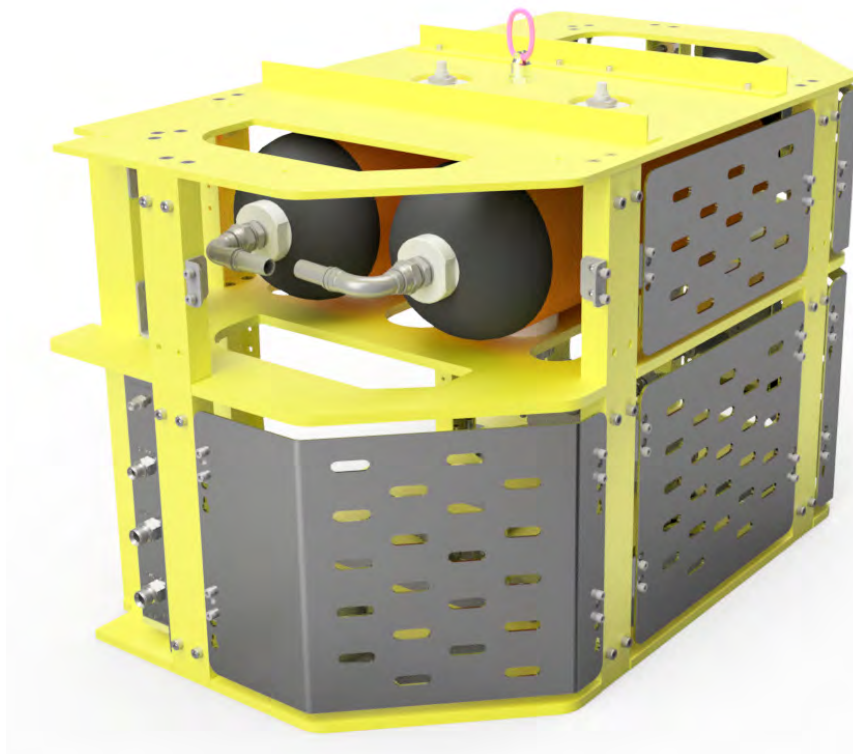
### General Features

Depth rating	MSW 3000
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# HIGH PRESSURE MULTIFLUID BACKPACK

800 BAR  
INTEGRATED DCV  
80L BLADDER RESERVOIR



## Description

**The High Pressure Multifluid Backpack is compact, simple to incorporate and service friendly all-in-one pump system.**

The Backpack pump system is an isolated hydraulic pump unit that can easily incorporate into a ROV hydraulic system to provide an isolated hydraulic high-pressure supply for multifluid injection, pressure testing and intervention work.

The Backpack skid consist of an 80L reservoir, 800 bar pump, depth compensated flow-reducing valve and pressure safety valves. It can easily be fitted with pressure testing equipment and logging software for recording of pressure testing.

## Features

- 800 Bar pump supply
- 30 L/min pump flow
- 80L flexible bladder reservoir
- Integrated flow control valve
- Pressure Relief & Relieving Valve
- Pressure Safety Valve
- Pilot to open vent-valve
- Dual acting booster pump
- Bulkhead connection plate
- Integrated DCV Valve

# SPECIFICATIONS

## ISOLATED HYDRAULIC POWER UNIT

### General Technical Specifications

Type	Isolated Hydraulic Power Unit
Part Number	DWP-MBP
Dimensions	mm 768 x 760 x 1324
Weight (in air / submerged)	kg ~180 / ~155

### Hydraulic

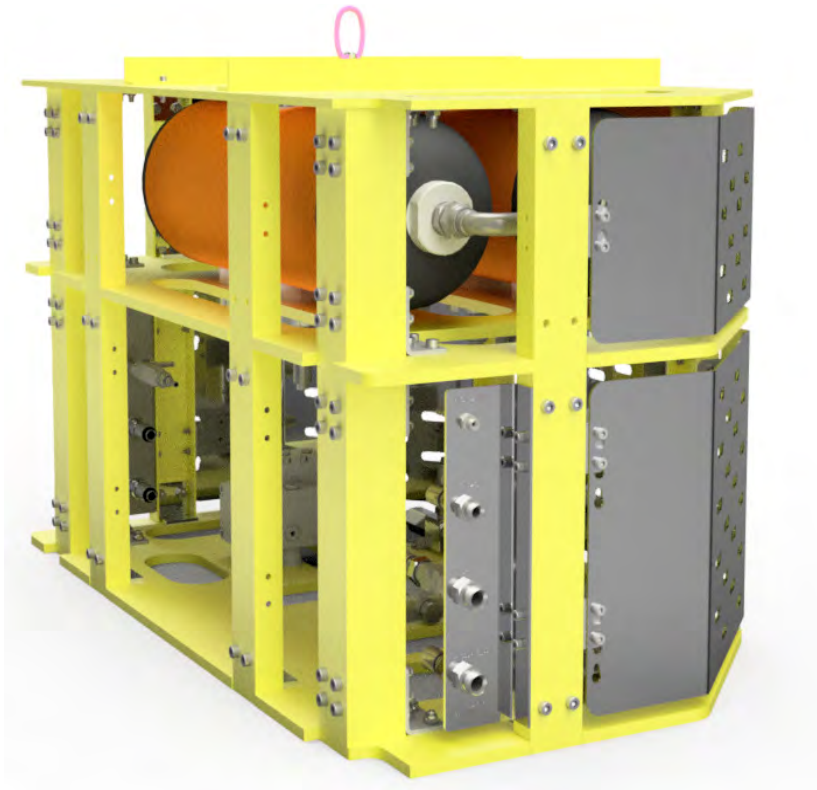
Max. Input Pressure	Bar 207
Max. Output Pressure	Bar 800
Max. Input Flow	L/min 140
Max. Output Flow	L/min 30

Fluid tank size    Liter 80

Connection ROV pressure	JIC #8
Connection ROV return	JIC #12
Connection ROV pilot start-stop	JIC #6
Connection Pump supply	JIC #6
Connection Pump fill and flush	JIC #6
Connection Pump vent-valve	JIC #6

### General Features

Depth rating    MSW 3000



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# ■ Filter Units



- Filtration Trolley
- Filtration Unit
- Subsea Filtration Unit

# FILTRATION TROLLEY CARDEV

CARDEV  
ONSHORE  
OFFLINE FILTRATION SYSTEM



## Description

**This filtration trolley from Cardev is simple to install and use on multiple systems. It removes water and particle contamination for most oils, leaving them “cleaner than new”.**

4x Cardev filters to increase effectivity and cleanliness. Because of the trolley design it is easy to move around where needed. This trolley is capable of removing fine dirt particles and totally remove water.

## Typical Operations

- Power generation
- Oil maintenance of ROV on deck.
- LARS
- Winches
- Cranes
- TMS
- HPU

## Features

- Simple to install
- Progressive cavity pump set
- Mineral Oil
- Water / Glykol
- Low Maintenance Cost

# Specifications

## Filtration Trolley Cardev

### Description

Type	Filtration Unit
Part Number	FU-TROLLEY-xx
Dimensions L x W x H	775 mm x 550 mm x 1000 mm
Weight	95 kg

### Technical Specifications

Max Operating Temp	60°C
IP Rating	IP55
Flow Rate	500 l/h
Voltage	230V
Current Draw	≤ 3,0 Amps

### Connections

Inlet Port	½ Quick Connection male (BG 3)
Outlet Port	½ Quick Connection male (BG 3)

### Performance Example

Oil Type: ISO VG 46 HLP @ 40°C

100 Litres System	1 hr
250 Litres System	2 hr 30 min
500 Litres System	5 hr
1000 Litres System	10 hr

# FILTRATION UNIT CARDEV

CARDEV  
ONSHORE  
OFFLINE FILTRATION SYSTEM



## Description

**This filtration unit from Cardev is simple to install and use on multiple systems. Filter Unit is for onshore use only. The system is fitted with dedicated connection point to allow easy use of an Oil Sampler.**

2x Cardev filters to increase effectivity and cleanliness. 1x Cardev filter is also available upon request.

Oil cleanliness maintained at “better than new” levels. Up to 99.9% water removed. The 2x Cardev system is capable of operating systems up to 1000 litres.

## Typical Operations

- Power generation
- Oil maintains of ROV on deck.
- LARS
- Winches
- Cranes
- TMS
- HPU

## Features

- Simple to install
- Over-pressure protection
- Pressure Gauge
- Integrated Oil Sample points
- Progressive cavity pump set
- Mineral Oil
- Water / Glykol

# Specifications

## Filtration Unit Cardev

### Description

Type	Filtration Unit
Part Number	FU-xx
Dimensions L x W x H	547 mm x 285 mm x 576 mm
Weight	44 kg

### Technical Specifications

Max Operating Temp	60°C
IP Rating	IP55
Flow Rate	220 l/h
Voltage	110V / 230V
Current Draw	≤ 2,68 Amps / ≤ 1,6 Amps

### Connections

Inlet Port	½ Quick Connection male (BG 3)
Outlet Port	½ Quick Connection male (BG 3)

### Performance Example

Oil Type: ISO VG 46 HLP @ 40°C

100 Litres System	2 hr
250 Litres System	5 hr
500 Litres System	10 hr
1000 Litres System	20 hr



# FILTER UNIT

## SUBSEA FILTRATION UNIT



### Description

**The Subsea Filter Unit is used to protect components while pumping fluid in subsea operations.**

It can be used for suction and pressure applications. Parallel arrangement of filters to maximize runtime and maintain wanted flow. It is connected to flow line by using receptacles. Check valves can be inserted to prevent spill to sea when disconnecting.

The Filter Unit is handled by ROV and/or crane. It can be delivered with an internal flow controller for flow adjustment. Cleaning of filters are easy and the filter elements can be changed.

### Typical Operations

- ▣ Pumping operations
- ▣ Suction operations

### Features

- ▣ Protects components
- ▣ Hot stab connection
- ▣ Max pressure 38 Bar
- ▣ Flow controller
- ▣ Service and user friendly

# Specifications

## Subsea Filtration Unit

### General technical specifications

Type		Subsea Filtration unit
Part Number		SUB-FU
Dimensions L x W x H	mm	627 x 388 x 366
Weight (in air / submerged)	kg	48 / 38

### Hydraulic/Fluid

Max. Input Pressure	bar	38
Max. Output Pressure	bar	38
Flow in / out		Hotstab Ø43 Single

### General features

Depth Rating		MSW 3000
Operational Temperature Range	°C	-18 and 50



# ■ Fluid Injection & Pressure Testing



- 50L Fluid Injection System
- Hydraulic Power Unit
- IHPU 10kpsi 690 Bar
- Pressure Test Unit (PTU)
- Subsea Accumulator System
- Subsea Pressure Logger
- Subsea Pump Unit
- Subsea Reservoir 2200L

# SPRING COMPENSATED INJECTION SYSTEM

SPRING LOADED COMPENSATOR SYSTEM FOR FLUID INJECTION



## Description

**Standalone spring loaded 16/28/50 liter reservoir to be used for filling and injection of fluid or chemicals subsea.**

A complete system consisting of a spring loaded subsea reservoir, ROV isolation valve, hose kit and stab can be used as an add-on to the ROV for filling and injection applications. Hydraulic driven motor-pump can be added to the system to increase level of flow and pressure.

Standard setup comes with 16L reservoir, 3 meter hose kit and a ROV Isolation Valve.

## Features

- 16 / 28 / 50 liter compensators
- Manip. operated isolation valve
- Hose kit of 3 meter lengths
- Hydraulic motor-pump as optional
- Light weight POM material frame

# SPECIFICATIONS

## 16 / 28 / 50 LITER FLUID INJECTION SYSTEM

### General Technical Specifications

Type	Standalone Fluid Injection System
Part Number	113890
Dimensions	mm L675 x Ø443
Weight (in air / submerged)	kg ~60 / ~23

### Hydraulic

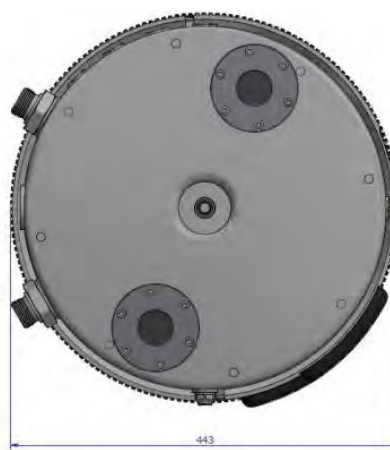
Min Pressure	Bar 0,09
Max Pressure	Bar 0,44

Fluid Compatibility	Type Mineral Oil, Water Glycol and Citric Acid
Fluid tank size	Liter 16 / 28 / 50

Connections - 4 off	JIC #8
Connection output supply hose	JIC #8

### General Features

Depth rating	MSW 3000
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# HYDRAULIC POWER UNIT

ROV INTERVENTION  
ISOLATED HYDRAULIC  
PUMP SYSTEM



## Description

**IHPU is designed to be a compact and highly effective tool for subsea pressure testing from ROV.**

The IHPU comes with integrated dual acting booster pump, remote controlled proportional flow control valves and pressure reducing valves for maximum pump control. A pressure safety valve are installed on HP output line to avoid over-pressurization on 3rd part equipment.

The IHPU have an in-built digital flowmeter and pressure sensor for reading of accurate flow and pressure consumption.

## Features

- Integrated Control System
- Digital flowmeter
- Digital pressure sensor
- Print of pressure test certification
- Compensated fluid tank
- Dual acting booster pump
- Coms. RS 232, 485 and Ethernet
- Light weight POM material frame

# SPECIFICATIONS

## ISOLATED HYDRAULIC POWER UNIT

### General Technical Specifications

Type	Isolated Hydraulic Power Unit
Part Number	111709
Dimensions	mm 840 x 700 x 600
Weight (in air / submerged)	kg ~120 / ~85

### Electrical

Supply Voltage	VDC 24VDC
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### Communication

RS 232, RS 485 and Ethernet	Glen Air 8PIN G5506-1508-0004 pigtail 1,2 meter
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### Hydraulic

Max. Input Pressure	Bar 207
Max. Output Pressure	Bar 800
Max. Input Flow	L/min 15
Max. Output Flow	L/min 4

Fluid tank size	Liter 16
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Connection ROV pressure	JIC #8
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Connection ROV return	JIC #8
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Connection output pressure	JIC #6
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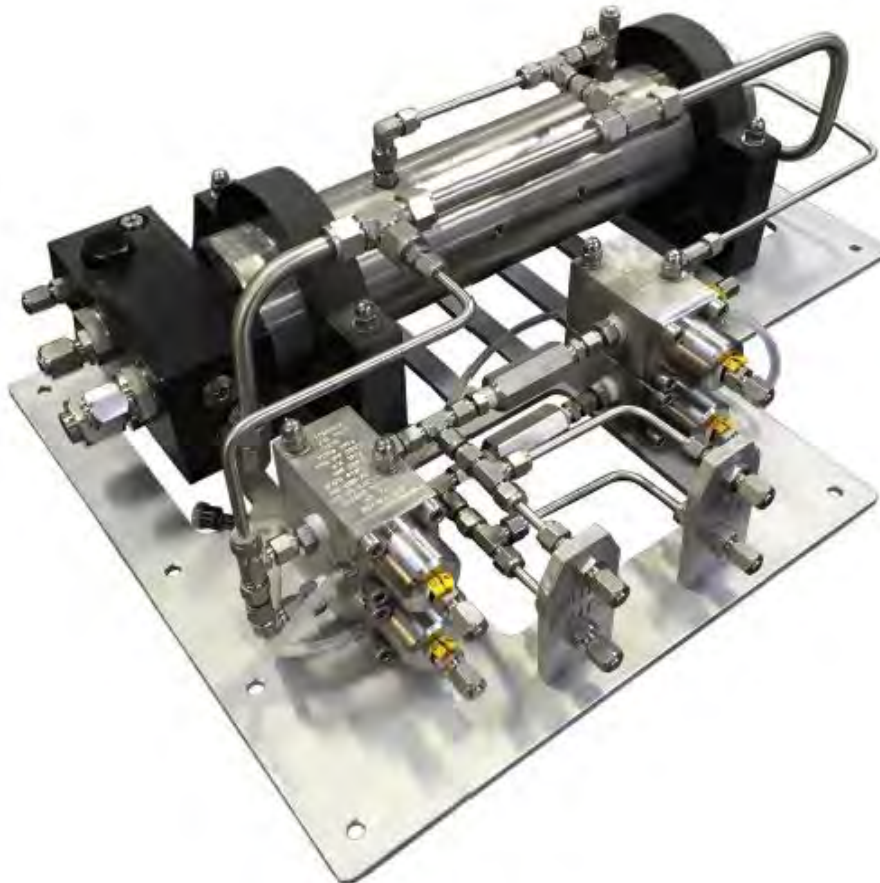
### General Features

Depth rating	MSW 3000
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# ISOLATED HYDRAULIC POWER UNIT

ROV INTERVENTION  
ISOLATED HYDRAULIC  
POWER UNIT (IHPU)



## Description

**The 10,000psi IHPU is a versatile tool that can be used for numerous subsea applications including; Operating BOP Tooling, Transferring Media and Pressure Testing.**

The output pressure is directly proportional to the output pressure. This allows the output to be adjusted from 0 – 10,000 psi. The pump can be connected to any subsea reservoir by the suction port (12 JIC). We can supply various sizes of soft reservoir and piston reservoir with an electronic readout depending on requirements.

## Features

- Full proportional pressure control
- 690 Bar pump pressure
- 8.7 L/min pump flow
- Subsea gauges to monitor pressure A and B
- Multifluid tool
- Robust design

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# SPECIFICATIONS ISOLATED HYDRAULIC POWER UNIT

## General Technical Specifications

Type	Isolated Hydraulic Power Unit
Part Number	116582
Dimensions	mm 630 x 465 x 205
Weight (in air / submerged)	kg ~45 / ~38

## Hydraulic

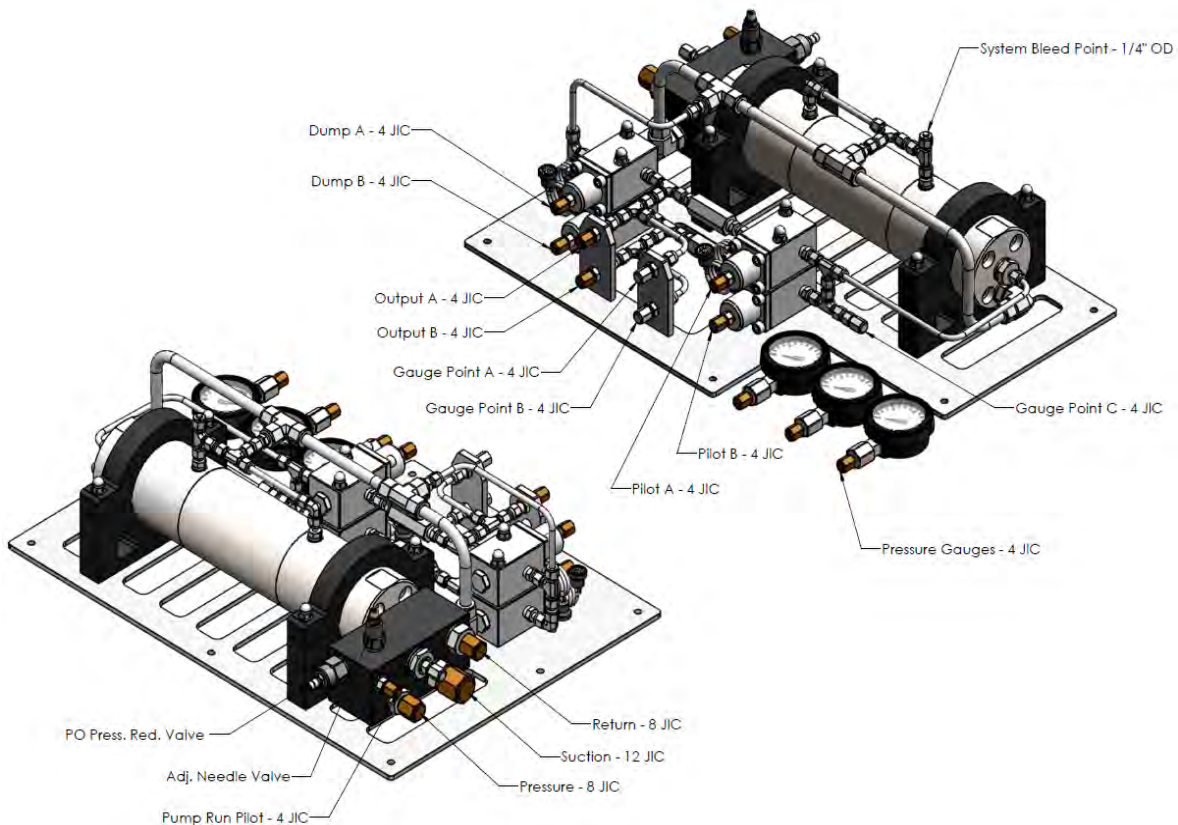
Max. Input Pressure	Bar 207
Max. Output Pressure	Bar 690
Max. Input Flow	L/min 35-65
Max. Output Flow	L/min 8,7
Fluid Compatibility	Output Mineral oil, seawater, glycol, methanol

Fluid tank size	Liter	Optional - clarified upon request
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Connection ROV pressure	JIC #8
Connection ROV return	JIC #12
Connection Output pressure A & B	JIC #6
Connection Pilots	JIC #4
Connection Suction	JIC #12
Connection Dump pressure	JIC #4

## General Features

Depth rating	MSW 3000
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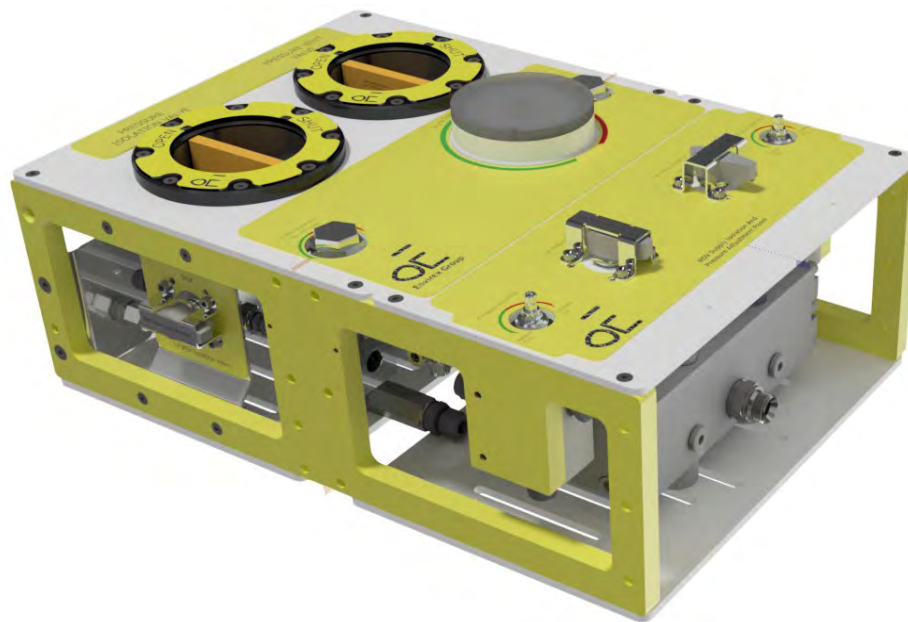
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# PRESSURE TEST UNIT 520 BAR

ROV INTERVENTION  
ISOLATED HYDRAULIC  
PUMP SYSTEM



## Description

**Pressure Test Unit (PTU) is designed to be a compact and highly effective tool for subsea pressure testing from ROV.**

The PTU comes with integrated dual acting booster pump, Flow Control Valve and two Pressure Reducing Relieving Valves on inlet supply for tuning- and maximum pump pressure control. PTU can be setup for low pressure test through separate LP or high pressure tests though HP circuits. Each system have separate Safety Pressure Valves on pressure outlet line. Digital sensor and logging software gives live pressure feedback and recording options for pressure test certificates.

## Features

- Dual Acting booster pump 520 Bar
- Vent to sea/tank line
- LP and HP circuit
- Digital pressure sensor
- Print of pressure test certification
- Coms. RS 232
- Compact design and low weight

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# SPECIFICATIONS

## PRESSURE TEST UNIT 520 BAR

### General Technical Specifications

Type	Pressure Test Unit 520 Bar
Part Number	09220
Dimensions	mm 650 x 247 x 450
Weight (in air)	kg ~85

### Electrical

Supply Voltage	VDC 24VDC
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### Communication

RS 232, RS 485 and Ethernet	8PIN Glen Air G5506-1508-0004 Pigtail 1 meter
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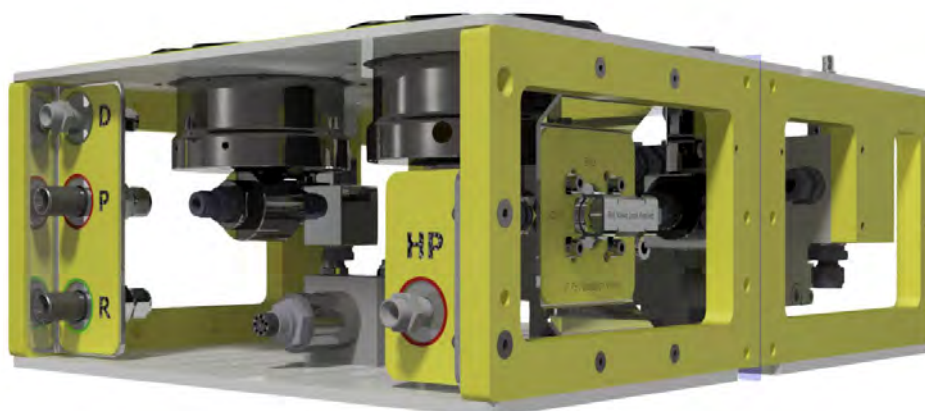
### Hydraulic

Max. Input Pressure	Bar 207
Max. Output Pressure	Bar 520
Max. Input Flow	L/min 80
Max. Output Flow	L/min 30

Connection ROV pressure	JIC #8
Connection ROV return	JIC #8
Connection output pressure	JIC #6

### General Features

Depth rating	MSW 3000
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# SUBSEA ACCUMULATOR SYSTEM

BOP INTERVENTION  
API 53S COMPLIANT  
EMERGENCY SYSTEM



## Description

**In relation to drilling standard API 53S the Accumulator System has been designed and tested to close BOP critical functions within 45 seconds timeframe.**

The Accumulator System is a standalone basket equipped with 15 off 54L 5,000 PSI bottles, subsea displays and battery driven control system for pressure and flow monitoring and logging. A ROV friendly valve control panel will allow ease operation of the system and can be operated by all types of ROV's with manipulator arm. Accumulators can be recharged subsea through stab and receptacle system.

## Features

- API 53S compliant high flow system
- Integrated Control System
- Digital flowmeter
- Digital pressure sensor
- Subsea displays for monitoring
- Print of function test certificates
- Daisy chain of additional accumulators
- Guide funnel arms for guide wires
- Mud-matt platform
- DNV 2.7-1 Lifting Certified

# SPECIFICATIONS

## SUBSEA ACCUMULATOR SYSTEM

### General Technical Specifications

Type	Subsea Accumulator System
Part Number	103287
Dimensions	mm 1640 x 1880 x 2410
Weight (in ar)	kg ~4700

### Hydraulic

Max. Input Pressure	Bar 345
Max. Output Pressure	Bar 345
Max. Output Flow	L/min 450

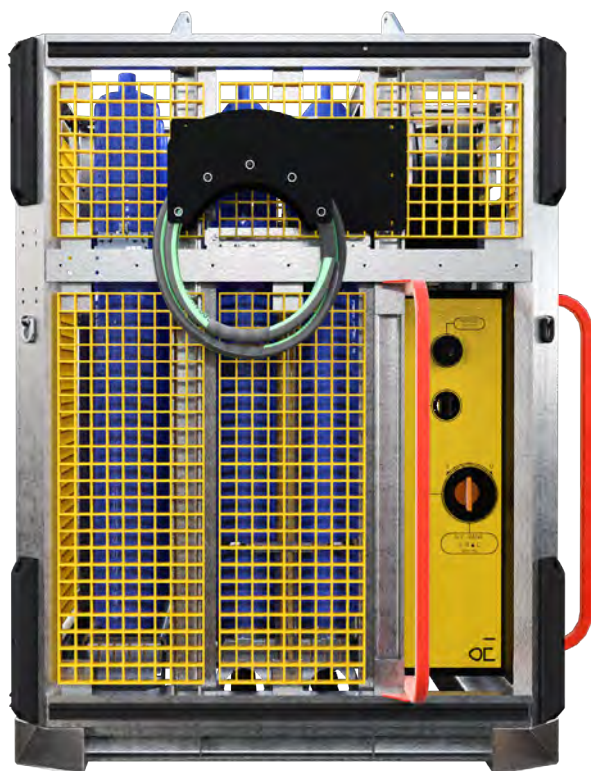
Accumulators	EA 15 off 54L
Certificates	PED certified

Connection High flow hose	BSP 1" Swivel
Connection Filling stab	BSP 1" Swivel

Hose type	20M 3/4" diameter
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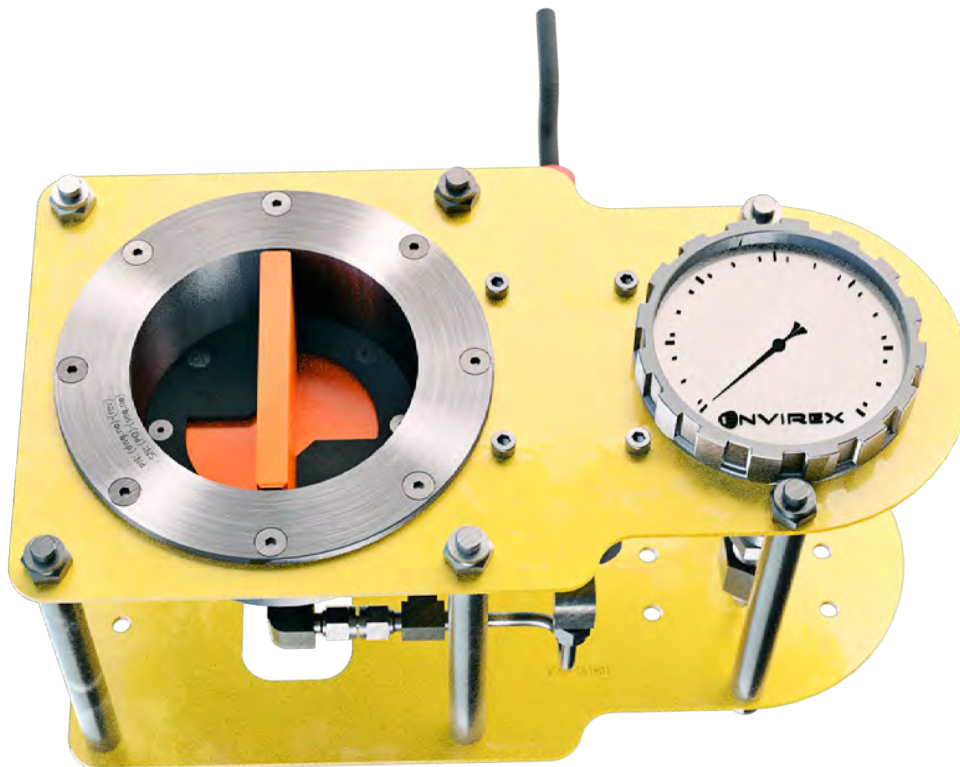
### General Features

Depth rating	MSW 3000
Guide funnels	10" ID 2586 mm center-center



# SUBSEA PRESSURE LOGGER

ROV INTERVENTION  
PRESSURE TESTING  
DIGITAL RECORDING



## Description

**Subsea Pressure Logger (SPL) is a compact tool which allows the ROV to perform pressure tests on subsea equipment, typically back seal testing.**

The Subsea Pressure Logger consist of a ROV operated isolation valve, pressure gauge and a digital pressure sensor showing live pressure feedback in surface software. The software have recording and print of pressure test certificates with graph. The small footprint will allow for ease interface on a ROV or belly skid.

## Features

- iCsys Pressure Test Software
- Digital pressure sensor
- Print of pressure test certification
- Analogue and digital pressure gauges
- Coms. RS 232
- Compact and small footprint
- Light weight

■ The specification details are illustrative for marketing purposes only. Actual equipment may be different as a result of product improvement or other reasons. Specific interface and performance information should be reconfirmed at time of order placement.

Envirent AS, Hattelandsveien 92, 4353 Klepp Stasjon, +47 477 77 500 post@envirent.no



envirent

# SPECIFICATIONS

## SUBSEA PRESSURE LOGGER

### General Technical Specifications

Type	Subsea Pressure Logger
Part Number	103334
Dimensions	mm 377 x 200 x 140
Weight (in air / submerged)	kg ~13 / ~9

### Electrical

Supply Voltage	VDC 24VDC
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### Communication

RS 232, RS 485 and Ethernet	8PIN Glen Air G5506-1508-0004 Pigtail 1 meter
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### Hydraulic

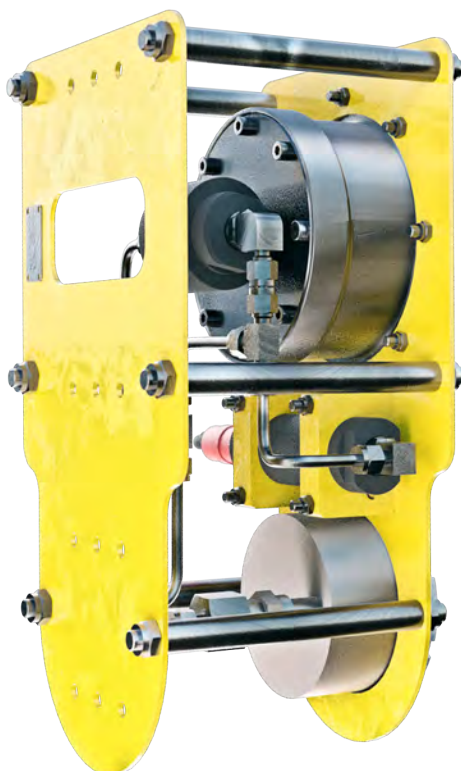
Max. Input Pressure	Bar 250-690 (to be specified by client)
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Connection ROV pressure	JIC #6
-------------------------	--------

Connection SPL outlet pressure	JIC #6
--------------------------------	--------

### General Features

Depth rating	MSW 3000
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■ The specification details are illustrative for marketing purposes only. Actual equipment may be different as a result of product improvement or other reasons. Specific interface and performance information should be reconfirmed at time of order placement.

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# SUBSEA PUMP UNIT

INJECTION AND FLUSHING  
1100L RESERVOIR  
345 BAR PUMP



## Description

**The Subsea Pump Unit is a standalone pump basket with high fluid volume capacity for injection and flushing applications. The pump is powered by a standard WROV and can either supply mineral based oil, water glycol based fluids and MEG.**

The SPU will increase efficiency of fluid injection and flushing performed from e.g. IMR vessels by removing traditional cost-driven deck spread such as HPU, pumps, reel and downline. The basket comes with a 1100 litres flexible tank, hydraulic driven motor-pump unit for 5,000 PSI pressure and a ROV control panel.

## Features

- 345 Bar pump system
- Subsea pressure gauges
- Pressure Safety Valve
- ROV control panel
- Hotstab & Receptacle
- Pressure vent valve
- DNV 2.7-1 lifting certified

## Optional

- Subsea Data Logger
- Subsea flowmeter
- Subsea pressure sensor
- Subsea display



# SPECIFICATIONS SUBSEA PUMP UNIT

## General Technical Specifications

Type	Subsea Pump Unit
Part Number	113989
Dimensions	mm 2414 x 1604 x 1374 (H=2910 incl. lifting bar)
Weight (in air)	kg ~820

## Hydraulic

Max. Input Pressure	Bar 207
Max. Output Pressure	Bar 345
Max. Input Flow	L/min 32
Max. Output Flow	L/min 24
Fluid tank size	Liter 1100
Connection ROV pressure	JIC #6 (Ø43 3-port stab)
Connection ROV return	JIC #6 (Ø43 3-port stab)
Connection ROV drain	JIC #6 (Ø43 3-port stab)
Connection SPU outlet (pressure)	JIC #6
Connection SPU inlet (return)	JIC #6
Connection SPU Flush-Fill 1	QC 3/8" Female Snap-Tite Series H QC
Connection SPU Flush-Fill 2	QC 3/8" Female Snap-Tite Series H QC

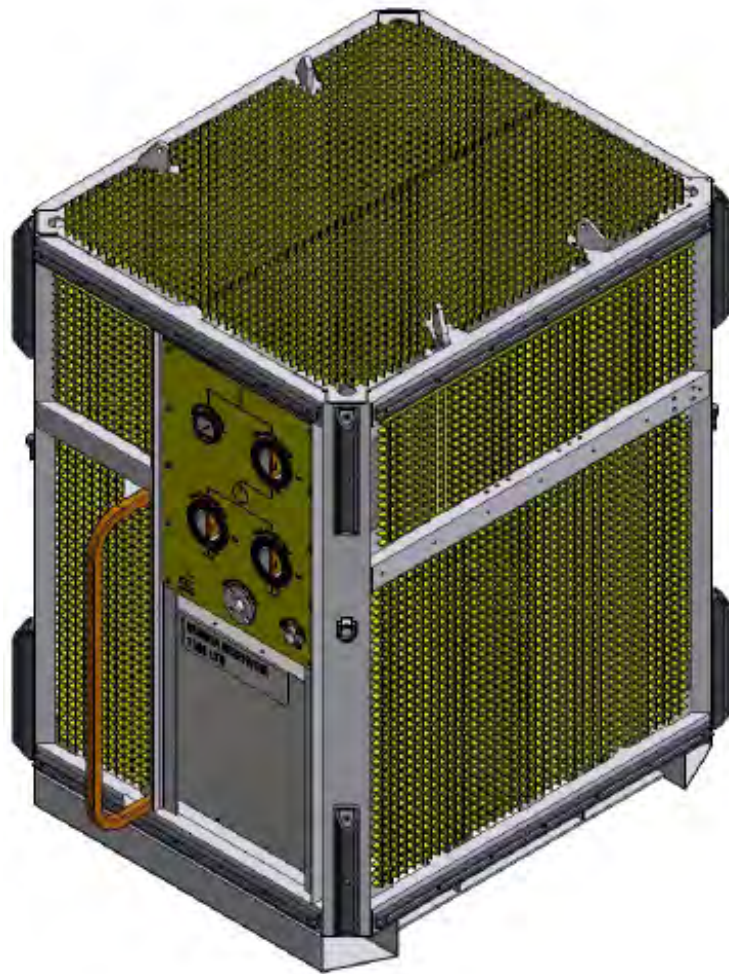
## General Features

Depth rating	MSW 3000
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# SUBSEA RESERVOIR BASKET

2200 LITER  
SUBSEA RESERVOIR  
PUMP SYSTEM



## Description

**Subsea Reservoir Pump Basket is designed to reduce cost and HSE impact during pumping and injection operations by removing surface equipment from vessel deck.**

The Reservoir Basket have 2 off 1100L fluid tanks that can be filled with two types of fluid prior to deployment. Hydraulic driven transfer pump are operated by an ROV, connected with a jumper hose, hotstab and receptacle. The large reservoir is ideally suited for any deep water applications to save time in operations requiring large volume of fluid.

## Features

- Integrated transfer pump system
- ROV friendly valve control panel
- Two separate reservoirs
- Support different fluid types
- Guide funnel system
- DNV 2.7-1 Lifting certified

# SPECIFICATIONS

## SUBSEA RESERVOIR PUMP BASKET

### General Technical Specifications

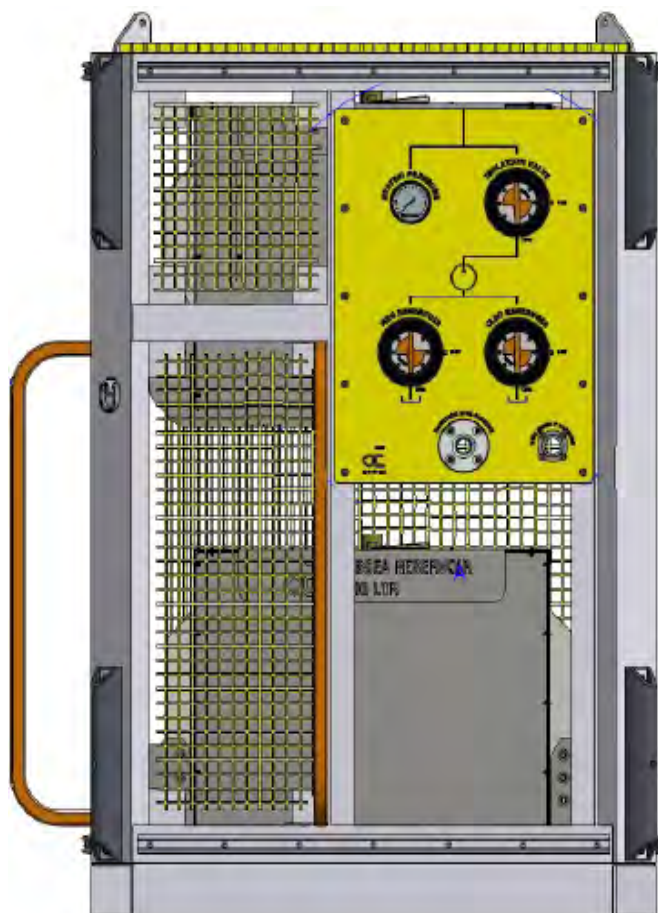
Type	Subsea Reservoir Pump Basket
Part Number	109721
Dimensions	mm 1850 x 1600 x 2470
Weight (in air)	kg ~3850

### Hydraulic

Max. Input Pressure	Bar 207
Max. Output Pressure	Bar 350
Max. Input Flow	L/min 50
Max. Output Flow	L/min 30
Fluid tank size	Liter 2200 (2 off 1100)
Connection ROV pressure	JIC #8
Connection ROV return	JIC #8
Connection output pressure	JIC #6

### General Features

Depth rating	MSW 3000
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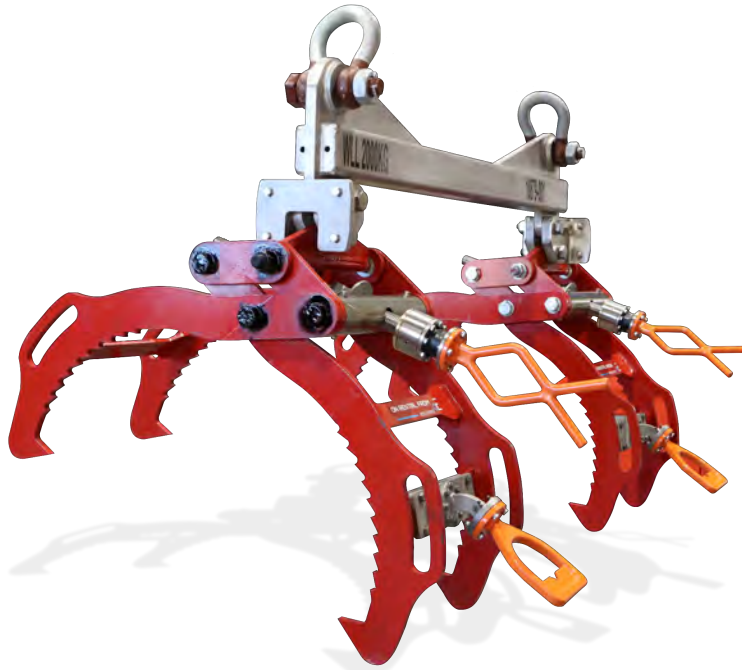
# ■ Lifting & Handling



- Mechanical Grapple Tool
- ROV Chain Hoist 20T 10 Metre
- ROV Chain Hoist 20T 16 Metre
- Subsea Tooling Basket 1.7T
- Subsea Tooling Basket 7T
- Subsea Winch 15T 360° Swivel

# MECHANICAL GRAPPLE TOOL

Ø290-Ø600  
MECHANICAL OPERATED  
WLL2000 KG



## Description

The Mechanical Grappler Tool is designed to easily grip and un-grip flex pipes without any hydraulic connections. This tool is capable of lifting pipes up to 2000kg.

Tool is mostly operated from crane, but gripping and un-gripping is done mechanically. Typical from a ROV. Two-legged wire sling is always supplied with the tool.

## Typical Operations

- ▣ Removing pipes
- ▣ Lifting pipes

## Features

- ▣ Mechanical gripping and un-gripping
- ▣ Ø290 to Ø600 gripping range
- ▣ WLL 2000kg
- ▣ Two-legged wire sling

# SPECIFICATIONS

## MECHANICAL GRAPPLER TOOL

### Description

Type	Lifting Tool
Dimensions L x W x H	1395 mm x 1020 mm x 850 mm
Weight (in air / submerged)	144 kg / 125 kg

### Technical

MGW	2200 kg
Payload	2000 kg
Min. Gripping OD	290 mm
Max. Gripping OD	600 mm



# ROV CHAIN HOIST 20T 10 METER

HYDRAULIC DRIVEN  
20T CAPACITY  
10M CHAIN



## Description

**The ROV hydraulic driven chain block is available for rental with 20T lifting capacity and 10 meter chain.**

Chain block is fully corrosion protected with A316 framework and handle. The hydraulic motor is driven through a dual port Hotstab Type A. Chain block comes with a proven subsea brake design and patented Twin Cam shaped pawl design. A heavy duty flexible chain bag c/w A316 mounting frame to store 10 meter of chain. Frame has a balanced design for easy handling and installation.

## Features

- Hydraulic driven motor
- Hotstab 2-port Type A
- 20 Tonne lifting capacity
- 10 meter chain
- Speed and Pressure Control
- Compact and user friendly
- Proven subsea design

# SPECIFICATIONS

## ROV CHAIN HOIST 20T 10M

### General Technical Specifications

Type	ROV Chain Hoist 20T 10M
Part Number	108310
Dimensions	mm 700 x 278 x 425
Weight (in air / submerged)	kg ~200

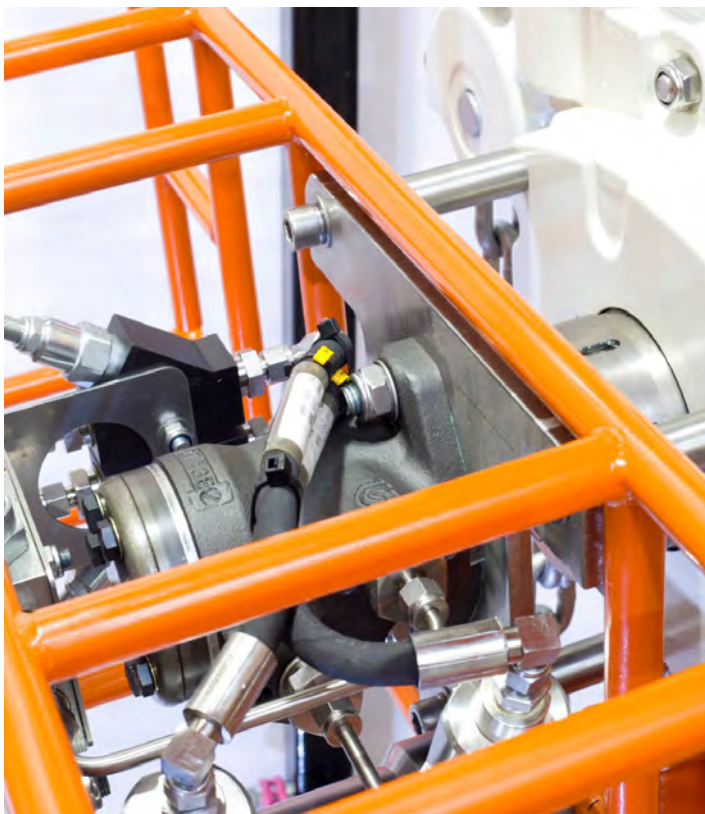
### Hydraulic

Max. Input Pressure	Bar 207
Max. Input Flow	L/min 8

Connection ROV pressure A	JIC #6
Connection ROV pressure B	JIC #6

### General Features

Depth rating	MSW 3000
--------------	----------





# ROV CHAIN HOIST 20T 16 METER

HYDRAULIC DRIVEN  
20T CAPACITY  
16M CHAIN



## Description

**The ROV hydraulic driven chain block is available for rental with 20T lifting capacity and 16 meter chain.**

Chain block is fully corrosion protected with A316 framework and handle. The hydraulic motor is driven through a dual port Hotstab Type A. Chain block comes with a proven subsea brake design and patented Twin Cam shaped pawl design. A heavy duty flexible chain bag c/w A316 mounting frame to store 16 meter of chain. Frame has a balanced design for easy handling and installation.

## Features

- Hydraulic driven motor
- Hotstab 2-port Type A
- 20 Tonne lifting capacity
- 16 meter chain
- Speed and Pressure Control
- Compact and user friendly
- Proven subsea design

# SPECIFICATIONS

## ROV CHAIN HOIST 20T 10M

### General Technical Specifications

Type	ROV Chain Hoist 20T 16M
Part Number	108310
Dimensions	mm 700 x 278 x 425
Weight (in air / submerged)	kg ~200

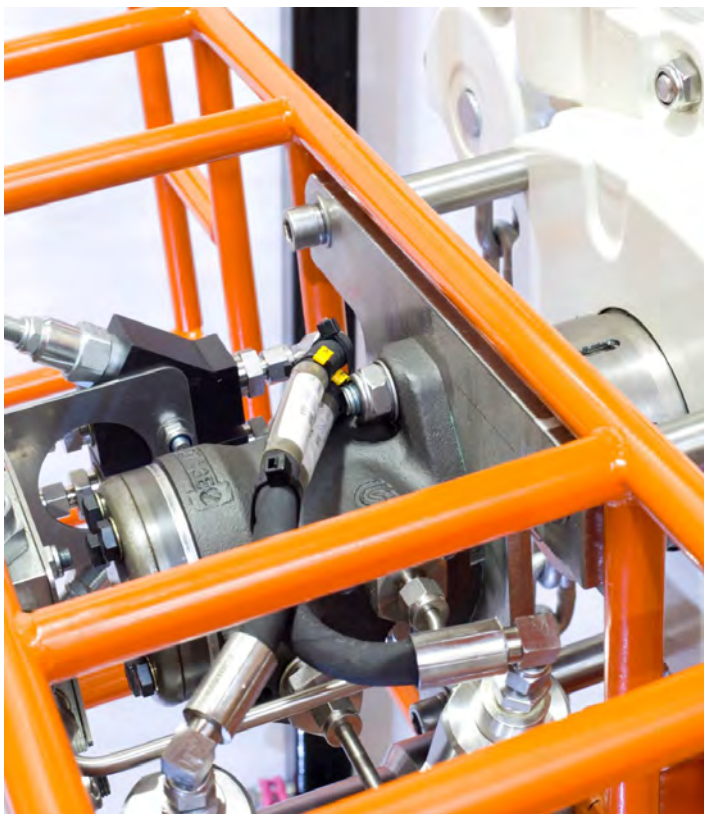
### Hydraulic

Max. Input Pressure	Bar 207
Max. Input Flow	L/min 8

Connection ROV pressure A	JIC #6
Connection ROV pressure B	JIC #6

### General Features

Depth rating	MSW 3000
--------------	----------



# SUBSEA TOOLING BASKET

LIFTING & HANDLING  
1700 KG PAYLOAD  
2500 KG MGW



## Description

The payload capacity is 1700 kg and weight in air is 735 kg. The basket can be delivered with hatch with ROV lock and compartment dividers.

## Features

- Weight in air 735 kg
- Payload 1700 kg
- MGW 2500 kg
- Outside dim. 2388 x 1858 x 1362
- Inside dim. 2268 x 1468 x 1150
- ROV Grabber bar
- Certification according to DNV 2.7-3

# SPECIFICATIONS SUBSEA PUMP UNIT

## General Technical Specifications

Type	Subsea Pump Unit
Part Number	113989
Dimensions	mm 2414 x 1604 x 1374 (H=2910 incl. lifting bar)
Weight (in air)	kg ~820

## Hydraulic

Max. Input Pressure	Bar 207
Max. Output Pressure	Bar 345
Max. Input Flow	L/min 32
Max. Output Flow	L/min 24
Fluid tank size	Liter 1100
Connection ROV pressure	JIC #6 (Ø43 3-port stab)
Connection ROV return	JIC #6 (Ø43 3-port stab)
Connection ROV drain	JIC #6 (Ø43 3-port stab)
Connection SPU outlet (pressure)	JIC #6
Connection SPU inlet (return)	JIC #6
Connection SPU Flush-Fill 1	QC 3/8" Female Snap-Tite Series H QC
Connection SPU Flush-Fill 2	QC 3/8" Female Snap-Tite Series H QC

## General Features

Depth rating	MSW 3000
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# SUBSEA TOOLING BASKET

7 TE PAYLOAD  
OPTIONAL LIFTING SETUP  
HATCHES WITH ROV LOCK



## Description

**Subsea Tooling Basket for multipurpose use. Center pole or lifting from 4 point lifting sling. Certified according to DNV 2.7.3.**

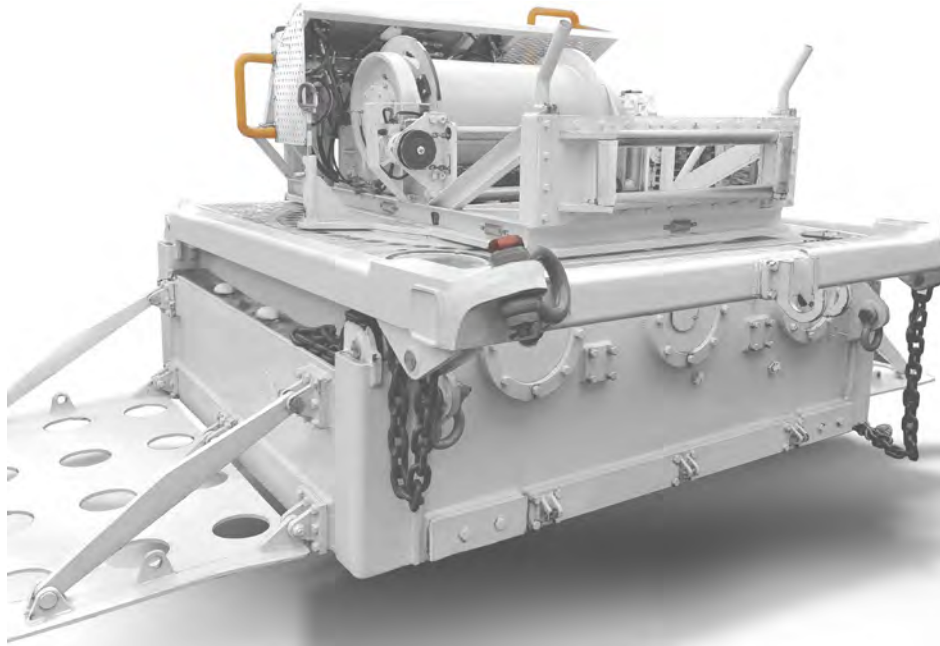
The Subsea Basket can easily be configured between a single center pole lift or 4 point lifting sling. ROV friendly hatch with ROV lock mechanism as standard, can be removed if needed as an open basket setup.

## Features

- Weight in air 1226 kg
- Weight in water 951 kg
- Payload 7000 kg
- MGW 8226 kg
- Inside dia 1950 x 1950 x 990 mm
- Outside dia 2488 x 2256 x 1290 (2384) mm

# SUBSEA WINCH 15T 360° SWIVEL

SUCTION ANCHOR  
360° SWIVEL PLATE  
ROV OPERATED



## Description

**The 15 Ton high-quality subsea winch and associated equipment are designed for use during installation and retrieval of riser and flowlines, and other relevant subsea operations requiring pull- and realignment support.**

The modular 15 Ton subsea winch is designed to be used in multipurpose configurations. Switchable between suction anchor system (suction pump integrated) and mud-mat setup. The winch frame weight act as a clump weigh for the equipment to keep it in position in mud-mat setup. A Hot stab 3-port connection for hydraulic supply from ROV HPU.

## Features

- Horizontal pulling force 15 Ton
- Maximum speed 9 meter/min
- Maximum water depth 500 meter
- Hotstab Ø43 3-port system for ROV Connection
- Frame act as clump weight
- Front and side mud mats
- Available with suction anchor
- 360° subsea swivel plate

# SPECIFICATIONS

## 15 TON SUBSEA WINCH

### General Technical Specifications

Type	15 Ton Subsea Winch
Part Number	
Dimensions	4575 x 3320 x 2230 mm
Weight (in air / submerged)	~24 700 / ~18 500 kg

### Hydraulic

Max. Input Pressure	207 Bar
Pull force at 207 Bar	15 Ton
Max. Input Flow	30 L/min
Speed at 30 L/min	9 M/min
Connection ROV pressure	4m Hotstab Ø43 3-port (Port1)
Connection ROV return	4m Hotstab Ø43 3-port (Port2)
Connection ROV drain	4m Hotstab Ø43 3-port (Port3)

### General Features

Depth rating	500 MSW
--------------	---------



# ■ Manipulators



- Atlas Manipulator 7F
- Rigmaster Manipulator 5F
- Schilling T4 Advanced Control
- TitanRob 5 Function Grabber
- TitanRob 5 Function Manipulator
- TitanRob 7 Function Manipulator



# ATLAS MANIPULATOR 7F

ENVIRONMENTLY FRIENDLY  
NO HYDRAULIC SLIP-RING  
CAN BE OPERATED AS A RATE MANIPULATOR



## Description

**The Atlas series of manipulators is suited to work with the highest performing vehicles under the most demanding conditions.**

The Atlas manipulator is known as a strong and reliable manipulator which is a perfect alternative where you need strength, perfection, range, and not at least a low operation cost.

It is possible to setup the manipulator with several types of grippers. (7.8-in Four Finger / 11.2-in Four Finger / 6-in Parallel & 3 Finger Imenco Jaw)

## Typical Operations

- ▣ ROV
- ▣ Subsea Wire handling
- ▣ Rough operations

## Features

- ▣ Tough and Durable
- ▣ Environmentally friendly
- ▣ Compact Design
- ▣ Service & User Friendly
- ▣ Low operating cost
- ▣ Left-Hand & Right-Hand configurable options

# SPECIFICATIONS

## Atlas Manipulator 7F

### Arm Specification

Type	Atlas Manipulator 7F
Part number	ARM-ATLAS
Materials	Anodized Aluminum, Titanium, Stainless Steel
Fluid	Mineral / Glycol, or Synthetic
Weight	In Air: 73Kg / In Water: 50Kg
Standard Dept	6,500 msw
Reach	1.675 m
Lift at Full Extension	250 Kg
Maximum Lift, Nominal	500 Kg
Standard Gripper Opening	198 mm
Grip Force, Nominal	205 Nm
Wrist Rotate, Continuous	6-35 rpm

### Actuator Function

Azimuth	Linear, 120°
Shoulder Pitch	Linear, 135°
Elbow Pitch	Linear, 135°
Wrist Pitch	Linear, 120°
Wrist Yaw	Linear, 120°
Wrist Rotate	Gerotor, 360°
Gripper, Standard	Linear, 198 mm

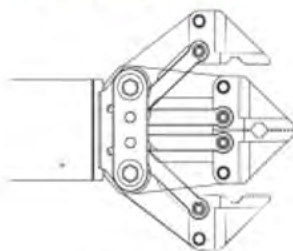
### Hydraulic Specifications

Max Pressure	207 Bar / 3000 PSI
Available Flow	5.7 - 19 lpm
Max. Fluid Temperature	54°C
Fuid Cleanliness	ISO 4406 14/11

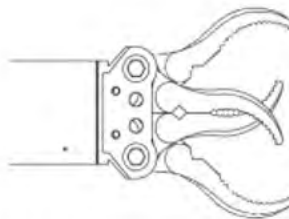
### Hydraulic Connections

Line 1-15	15x JIC 04 Male
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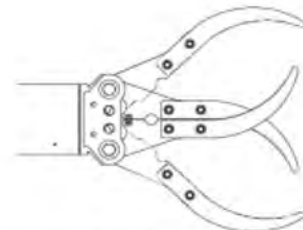
### Gripper Options



6-in Parallel



7.8-in Four Finger Intermeshing

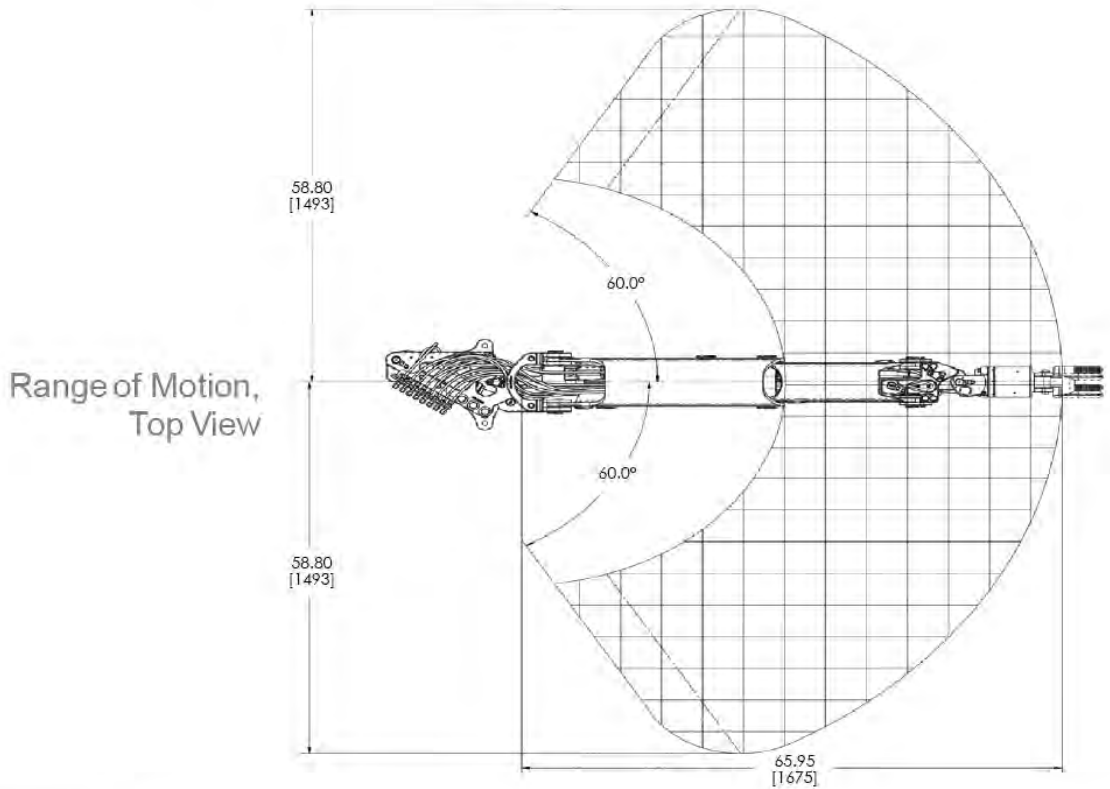
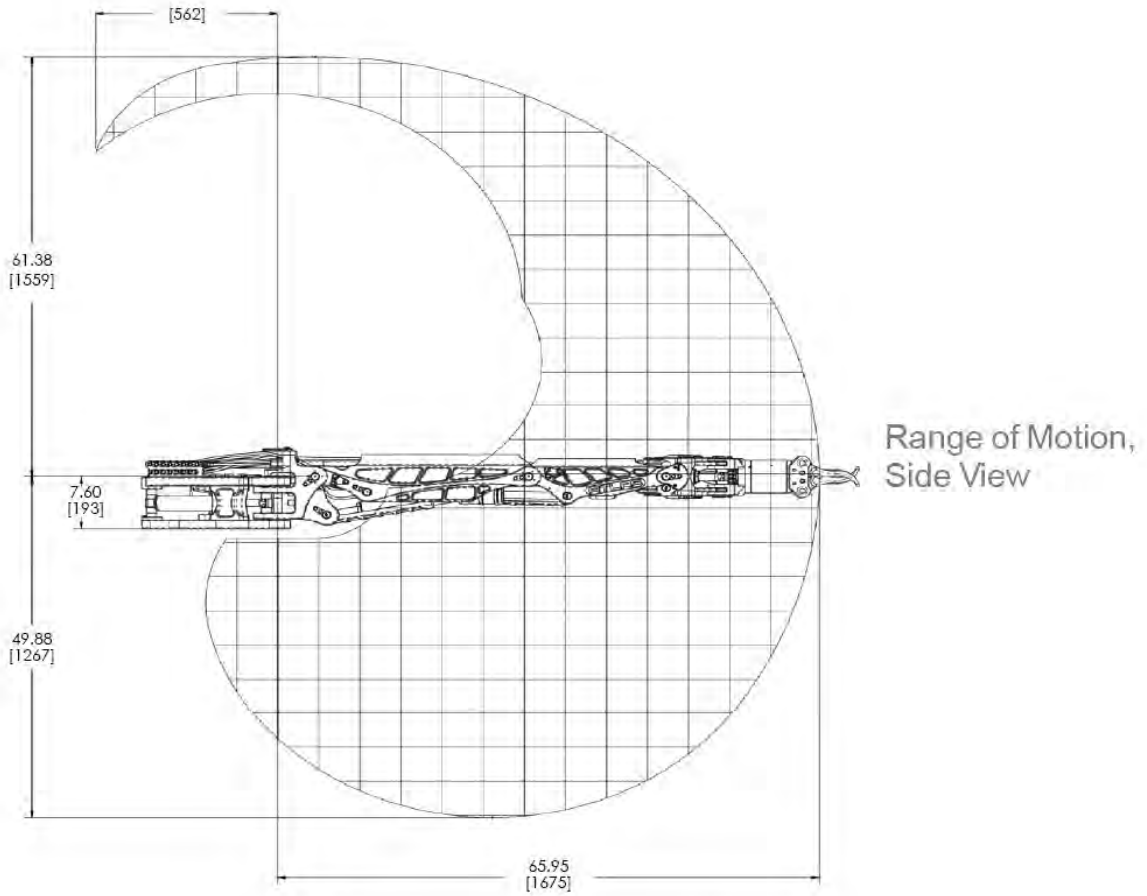


11.2-in Four Finger Intermeshing



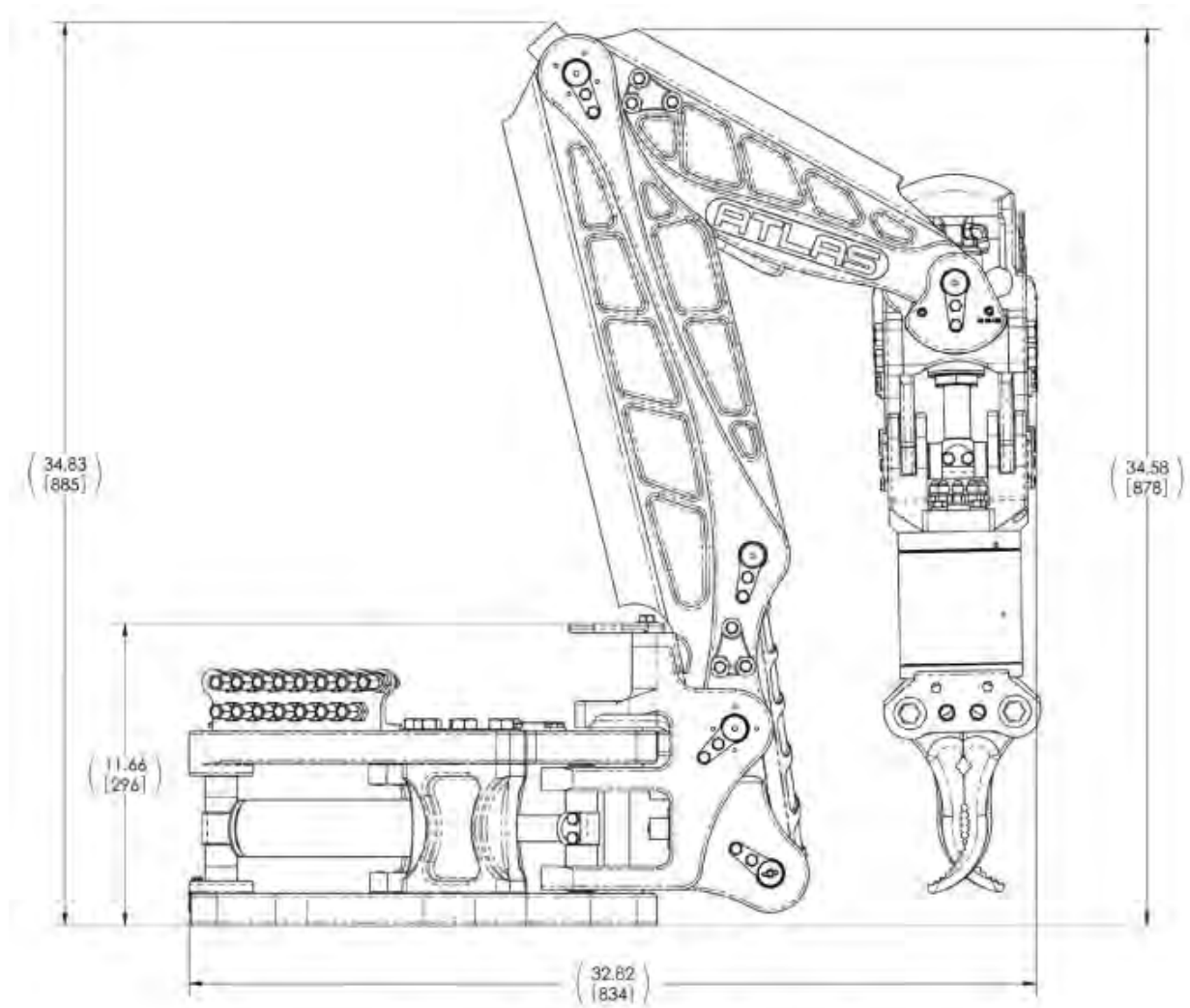
IMENCO 3-Finger Jaw

SPECIFICATIONS  
Atlas Manipulator 7F



# SPECIFICATIONS

## Atlas Manipulator 7F



Dimensions with Arm Stowed

# RIGMASTER MANIPULATOR 5F

ENVIRONMENTALLY FRIENDLY  
NO HYDRAULIC SLIP-RING



## Description

**The Rigmaster series of manipulators is suited to work with the highest performing vehicles under the most demanding conditions.** The Rigmaster manipulator is known as a heavy lift grabber arm that can be mounted on a wide range of subsea ROVs. The Rigmaster arm is a reliable manipulator which is a perfect alternative where you need strength. It also has a low operation cost.

## Typical Operations

- ▣ ROV
- ▣ Subsea grip and handling
- ▣ Rough operations

## Features

- ▣ Tough and Durable
- ▣ Environmentally Friendly
- ▣ Compact Design
- ▣ Service & User Friendly
- ▣ Low operational Cost
- ▣ Left-Hand & Right-Hand operational

# SPECIFICATIONS

## Rigmaster Manipulator 5F

### Arm Specification

Type	Rigmaster Manipulator 5F
Part number	ARM-RIG
Materials	Anodized aluminium, stainless steel, titanium

Weight	In Air: 64Kg / In Water: 48Kg
Standard Dept	6,500 msw
Reach	1,372mm
Lift at Full Extension	181 Kg
Maximum Lift, Nominal	270 Kg
Standard Gripper Opening	289mm
Grip Force, Nominal	205 Nm
Wrist Rotate, Continuous	6-35rpm

### Actuator Function

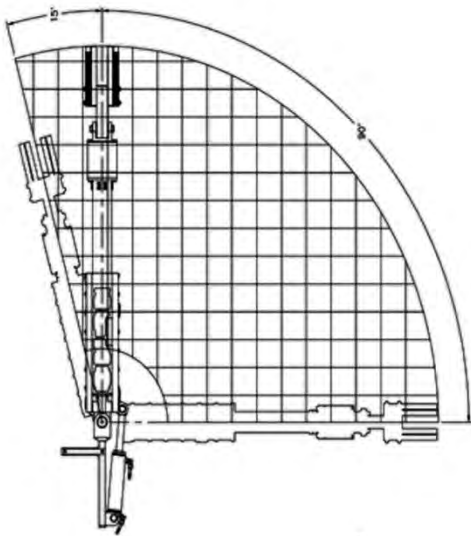
Base Yaw	Linear, 105°
Shoulder Pitch	Linear, 105°
Boom, extend / retract	Linear, 305mm
Wrist Pitch	Linear, 120°
Wrist Rotate	Gerotor, 360°
Gripper, standard	Linear, 284mm

### Hydraulic Specifications

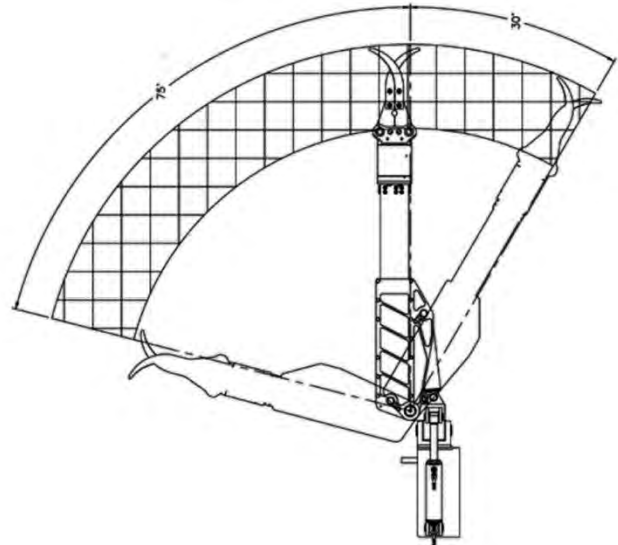
Fluid	Mineral, Glycol, or Synthetic
Viscosity	10-200 cSt
Available flow	5.7 – 19 lpm
Max Pressure	207 Bar / 3000 PSI
Max. Fluid Temperature	54°C
Fluid Cleanliness	ISO 4406 14/11
Filtration	10 microns

### Hydraulic Connections

JIC 04 Female



Range of motion, top view



Range of motion, side view



# SCHILLING T4 ADVANCED CONTROL

GEN 2 ELECTRONICS



## Description

**The Schilling TITAN 4 is widely regarded as the world's premier manipulator system.**

Schilling Titan systems has been the industry standard for over 35 years and has become the ROV crew's top choice for dexterous manipulator usage in subsea applications and are extensively used on ultra-heavy work class ROVs.

This arm has the dexterity and accuracy necessary to perform the fine movements needed for complex tasks. When this ability is combined with the manipulator's reach (1,922mm), payload capacity (122kg at full extension), and large operating envelope, the TITAN 4 offers unequalled performance in a wide range of subsea applications.

## Features

- Accurate Position Control
- Advanced Master Controller
- Compact Design
- High Lift-to-Weight Ratio
- Titanium Construction
- Large Operating Envelope
- Wrist Camera Available
- Interchangeable Jaws Available

# SPECIFICATIONS

## Schilling T4 Manipulator

### General Technical Specification

Type Schilling TITAN 4  
Part Number ARM-T4

Dimensions, shipping (L x W x H) mm 1250 x 830 x 710  
Weight (air / water) kg 100 / 78

### Hydraulic Specifications

Max. Input Pressure PSI 3000  
Max. Input Flow L/min 19  
Fluid Mineral Oil Tellus 32 or similar  
Viscosity cSt 10-200  
Max Fluid Temperature °C (°F) 54 (129)

\* Please contact us for questions or more information regarding fluid compatibility

### ROV Hydraulic Interface

Pressure JIC 4  
Return JIC 6

### Electrical Data

Input Power, Controller VAC 90-260  
Input Power, Manipulator VDC 24

### Communication

RS232 & RS485 8PIN Glen Air 55A1-2008 Pigtail 1,5 meter  
*(Factory-set telemetry protocol is RS232)*

### General Features

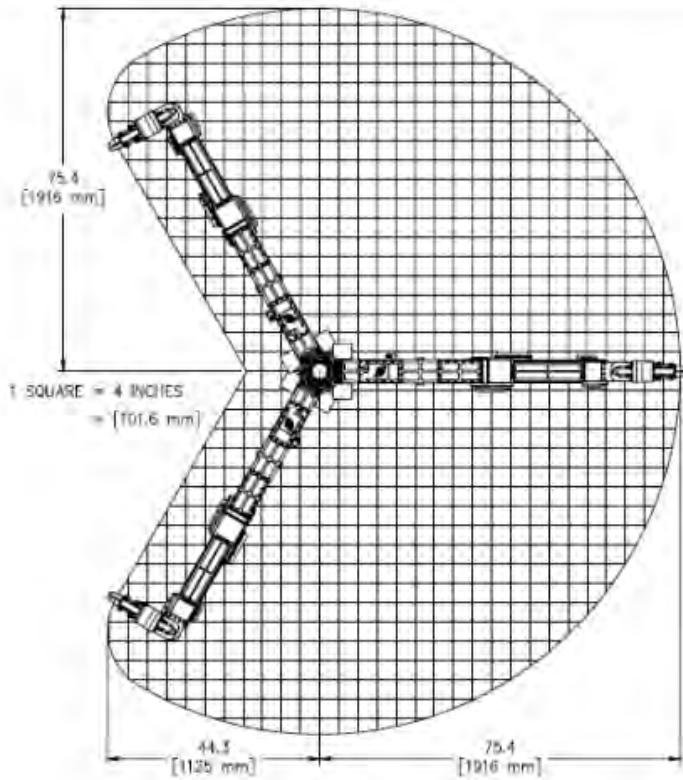
Depth Rating MSW 4000  
Lift (at full extension) Kg 122  
Wrist Torque (nominal) Nm 170  
Wrist Rotate (nominal) RPM 6 – 35  
Grip Force (nominal) N 4,092

### Available per Request

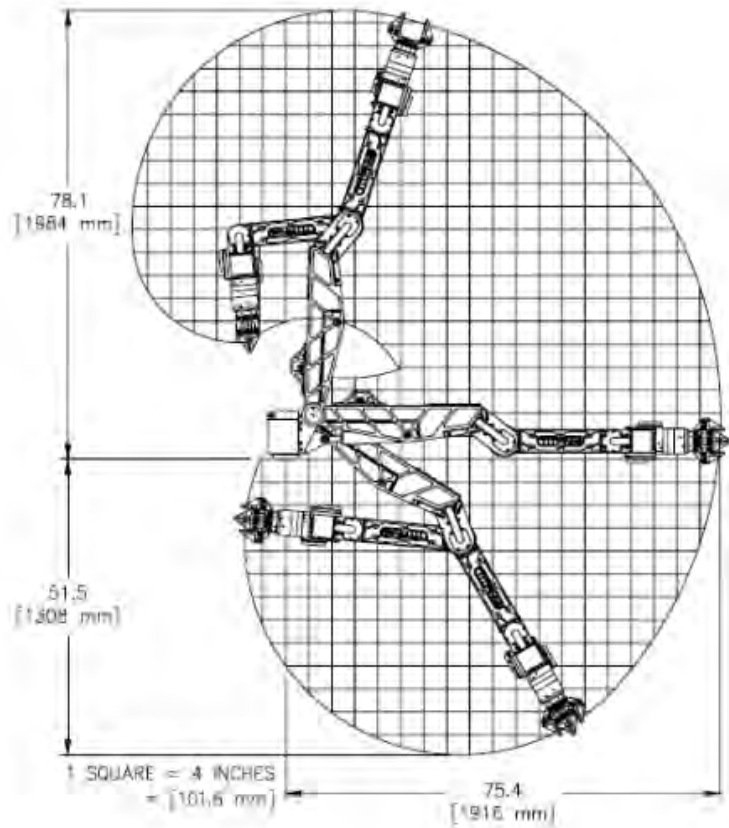
Wrist Camera 1/3 Colour Super HAD CCD Camera  
Interchangeable Jaws 3-finger, 4-finger & Parallel Jaws



SPECIFICATIONS  
Schilling T4 Manipulator



Range of Motion, Top View



Range of Motion, Top View

# TITANROB G501 5-F MINI GRABBER

LOW WEIGHT  
HIGH FORCE  
RELIABLE



**The TitanRob G501 is a five-function hydraulic grabber manipulator made of titanium and developed for Observation- and Light Work Class ROVs. It is a manipulator with enhanced characteristics of weight/power ratio and capabilities: by using titanium as main material, lower weight and more mechanical characteristics are achieved which allows for improved dimensioning.**

Resistant, lightweight, and reliable; it's designed for heavy duty ROV works and robotics which require manipulation operations.

The grabber can be operated by any low power (1kW) HPU and solenoids(x5) valve pack fitted in the ROV vehicle.

## Typical Operations

- ▣ Observation - & Light Weight Work ROV
- ▣ Fish Farming
- ▣ Seabed exploration
- ▣ Seabed mining
- ▣ Robotics

## Features

- ▣ Robust construction
- ▣ Low weight – 13 kg submerged
- ▣ Corrosion resistant materials
- ▣ High force
- ▣ Submersible to 3 000m seawater
- ▣ Service- and user friendly
- ▣ Cost effective
- ▣ Left and right hand configuration
- ▣ Low power consumption

# SPECIFICATIONS

## TITANROB G501 5-F MINI GRABBER

### General technical specification

Type		TitanRob G501 5-F Mini Grabber
OEM		TianRob
Envirex part no		2214910 (left hand)
Depth rating	M	3 000
Weight (in air / Submerged)	kg	15 / 13
Max reach	mm	800
Lift at full extension	kg	80 @ 150bar
Max lift	kg	100 @ 150bar
Yaw grip	kgf	250
Yaw torque	Nm	80
Dimension stowed - LxWxH	mm	290 x 230 x 783
Operation temperature	°C	-5 to 55
Construction main materials		Ti6Al4V Titanium AISI 316 SS

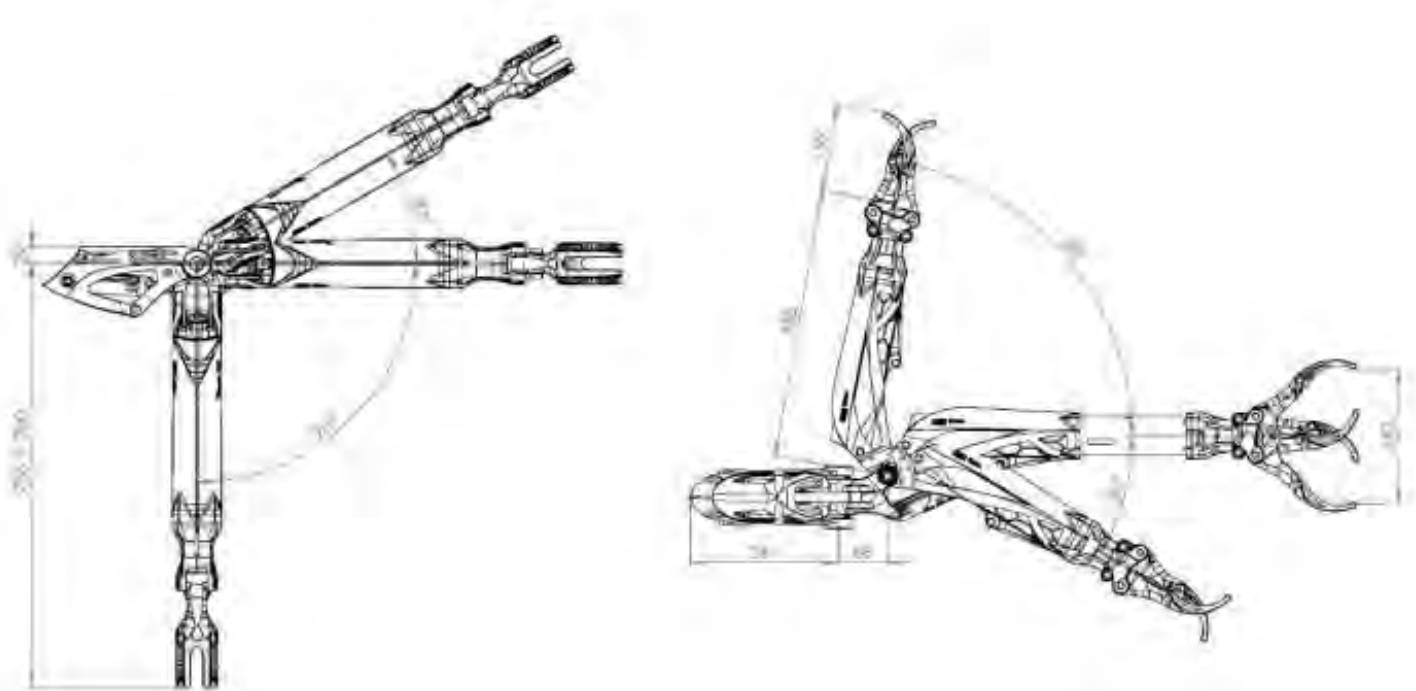
### Functions

Shoulder Azimuth (yaw)	°	120 (+90 / -30)
Shoulder Pitch	°	110 (+80 / -30)
Shoulder Extension	mm	180
Jaw Rotate	°	360 continuous
Jaw Opening	mm	255

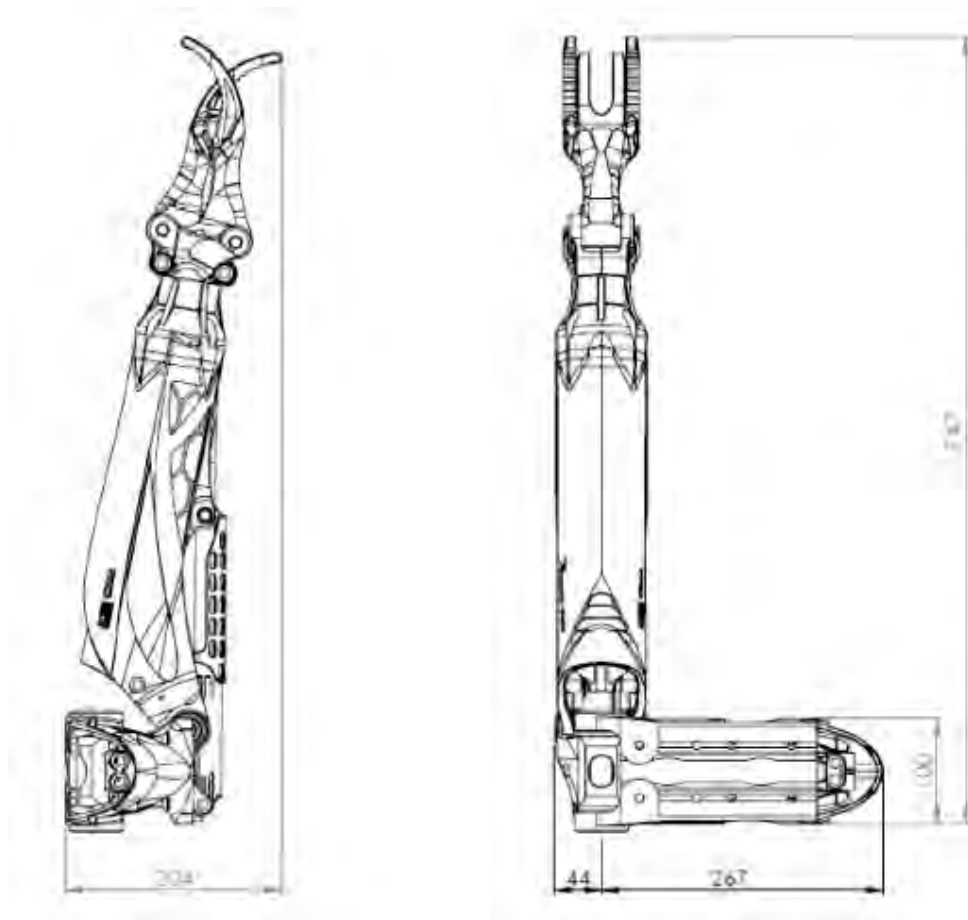
### Hydraulic requirements

Max WP	bar	160
Test pressure	bar	200
Min Flow	l/min	1,5
Max fluid temp.	°C	55
Fluids		Mineral based oils (ISO 32, etc) ** HF-Fluids on request / consult supplier.

### Dimensions



SPECIFICATIONS  
TITANROB G501 5-F MINI GRABBER



# TITANROB M501 5-F MINI MANIPULATOR

LOW WEIGHT  
HIGH FORCE  
RELIABLE



**The TitanRob M501 is a five-function hydraulic manipulator made of titanium and developed for Observation- and Light Work Class ROVs. It is a manipulator with enhanced characteristics of weight/power ratio and capabilities: by using titanium as main material, lower weight and more mechanical characteristics are achieved which allows for improved dimensioning.**

Resistant, lightweight, and reliable; it's designed for heavy duty ROV works and robotics which require manipulation operations.

The grabber can be operated by any low power (1kW) HPU and solenoids(x5) valve pack fitted in the ROV vehicle.

## Typical Operations

- ▣ Observation - & Light Weight Work ROV
- ▣ Fish Farming
- ▣ Seabed exploration
- ▣ Seabed mining
- ▣ Robotics

## Features

- ▣ Robust construction
- ▣ Low weight – 11 kg submerged
- ▣ Corrosion resistant materials
- ▣ High force
- ▣ Submersible to 3 000m seawater
- ▣ Service- and user friendly
- ▣ Cost effective
- ▣ Left and right hand configuration
- ▣ Low power consumption

# SPECIFICATIONS

## TITANROB M501 5-F MINI MANIPLULATOR

### General technical specification

Type		TitanRob M-501 5-F Mini Manipulator
OEM		TianRob
Envirex part no		2214908 (left hand)
Depth rating	m	3 000
Weight (in air / Submerged)	kg	14 / 11
Max reach	mm	950
Lift at full extension	kg	40 @ 140bar
Max lift	kg	50 @ 140bar
Yaw grip	kgf	80
Yaw torque	Nm	45
Dimension stowed - LxWxH	mm	300 x 512 x 450
Operation temperature	°C	-5 to 55
Construction main materials		Ti6Al4V Titanium AISI 316 SS

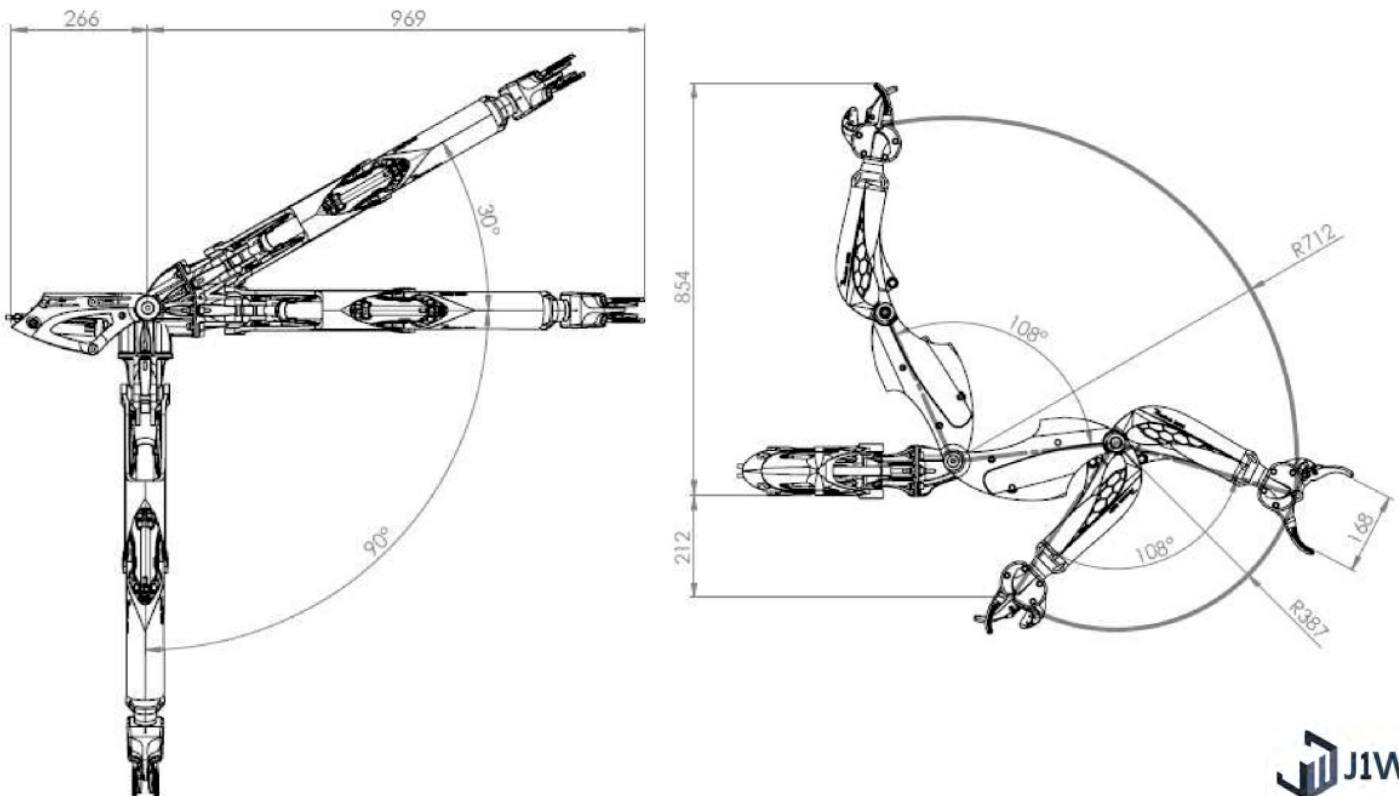
### Functions

Shoulder Azimuth (yaw)	°	120 (+90 / -30)
Shoulder Pitch	°	108
Elbow Pitch	°	108
Jaw Rotate	°	360 continuous
Jaw Opening	mm	168

### Hydraulic requirements

Max WP	bar	140
Test pressure	bar	200
Min Flow	l/min	1,5
Max fluid temp.	°C	55
Fluids		Mineral based oils (ISO 32, etc) ** HF-Fluids on request / consult supplier.

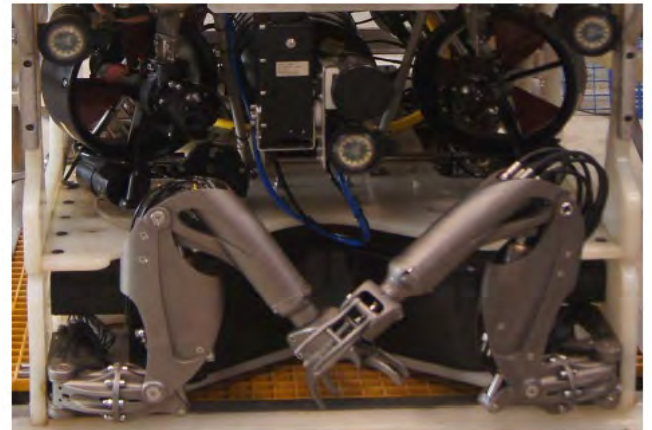
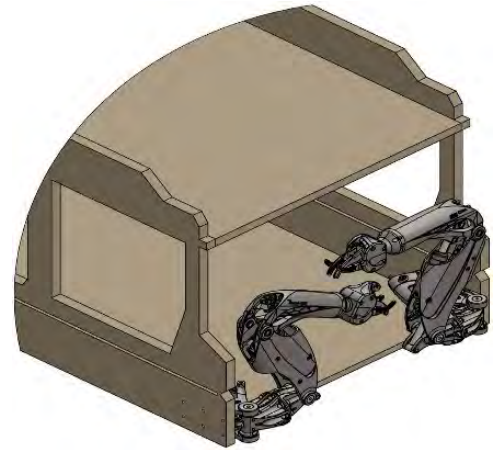
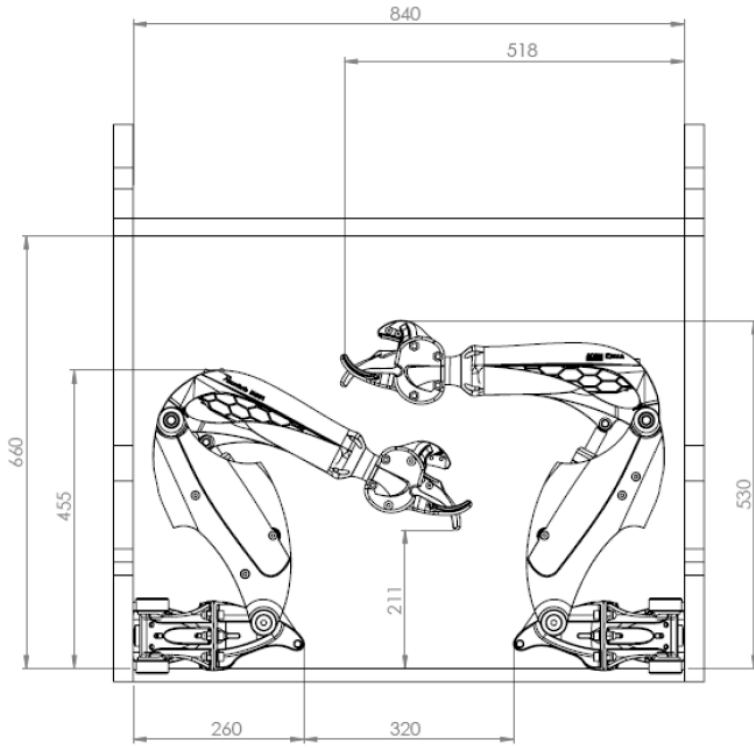
### Dimensions



Document No.: -xxxxxx © Envirex Group AS, 2017. Note: The specification details are illustrative for marketing purposes only. Actual equipment may be different as a result of product improvement or other reasons. Specific interface and performance information should be reconfirmed at time of order placement.

# SPECIFICATIONS

## TITANROB M501 5-F MINI MANIPULAOTR



# TITANROB M701 7-F MINI MANIPULATOR

LOW WEIGHT  
HIGH FORCE  
RELIABLE



**The TitanRob M701 is a seven-function hydraulic manipulator made of titanium and developed for Observation- and Light Work Class ROVs. It is a manipulator with enhanced characteristics of weight/power ratio and capabilities: by using titanium as main material, lower weight and more mechanical characteristics are achieved which allows for improved dimensioning.**

Resistant, lightweight, and reliable; it's designed for heavy duty ROV works and robotics which require manipulation operations.

The manipulator can be operated by any low power (1kW) HPU and solenoids (x7) valve pack fitted in the ROV vehicle.

## Typical Operations

- ▣ Observation - & Light Weight Work ROV
- ▣ Fish Farming
- ▣ Seabed exploration
- ▣ Seabed mining
- ▣ Robotics

## Features

- ▣ Robust construction
- ▣ Low weight – 14 kg submerged
- ▣ Corrosion resistant materials
- ▣ High force
- ▣ Submersible to 3 000m seawater
- ▣ Service- and user friendly
- ▣ Cost effective
- ▣ Left and right hand configuration
- ▣ Low power consumption



# SPECIFICATIONS

## TITANROB M701 7F MINI MANIPULATOR

### General technical specification

Type		TitanRob M701 7F Mini Manipulator
OEM		TitanRob
Envirex part no		2214906 (left hand)
Depth rating	M	3 000
Weight (in air / Submerged)	kg	17 / 14
Max reach	mm	1200
Lift at full extension	kg	40 @ 140bar
Max lift	kg	50 @ 140bar
Yaw grip	kgf	80
Yaw torque	Nm	30
Dimension stowed - LxWxH	mm	330 x 375 x 518
Operation temperature	°C	-5 to 55
Construction main materials		Ti6Al4V Titanium AISI 316 SS

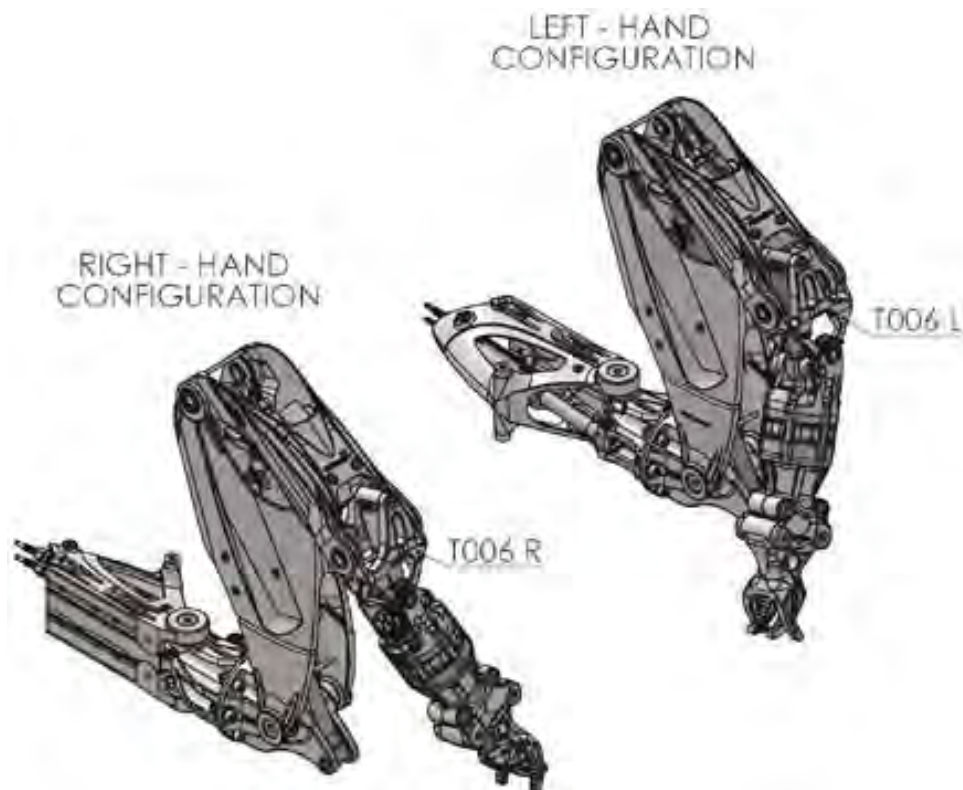
### Functions

Shoulder Azimuth (yaw)	°	120 (+90 / -30)
Shoulder Pitch	°	105
Elbow Pitch	°	110
Wrist Pitch	°	120
Wrist Yaw	°	120
Jaw Rotate	°	360 continuous
Jaw Opening	mm	150

### Hydraulic requirements

Working Pressure	bar	140 – 180
Test pressure	bar	240
Min Flow	l/min	1,5
Max fluid temp.	°C	55
Fluids		Mineral based oils (ISO 32, etc) ** HF-Fluids on request / consult supplier.

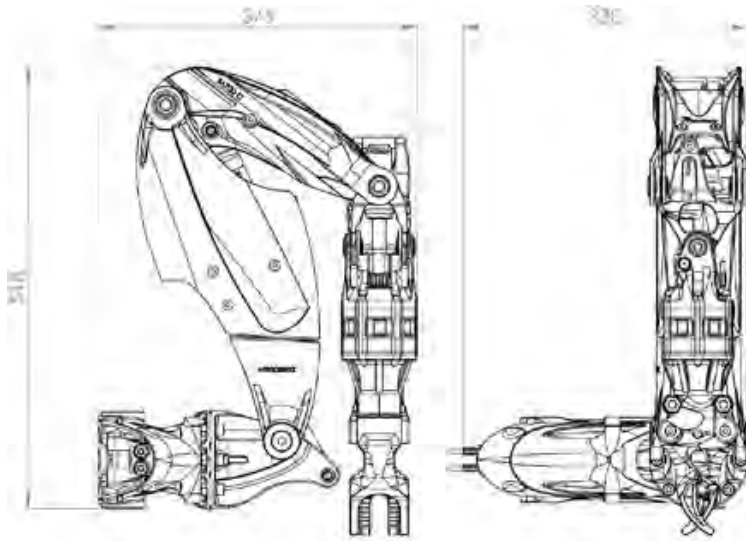
### Configurations



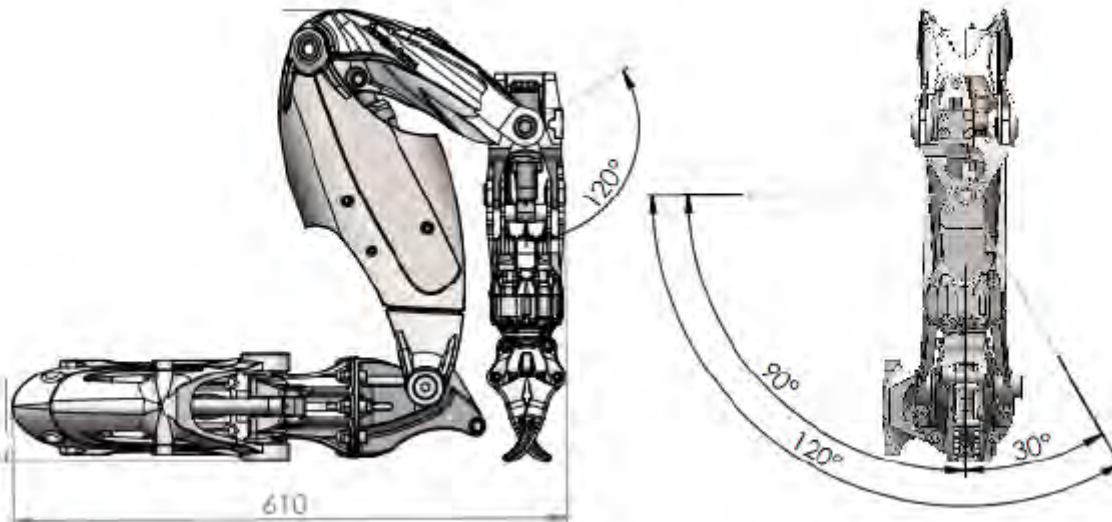
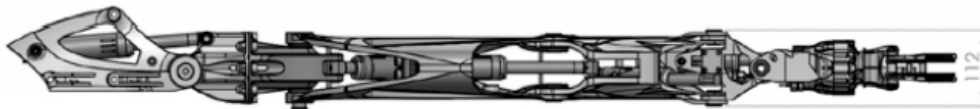
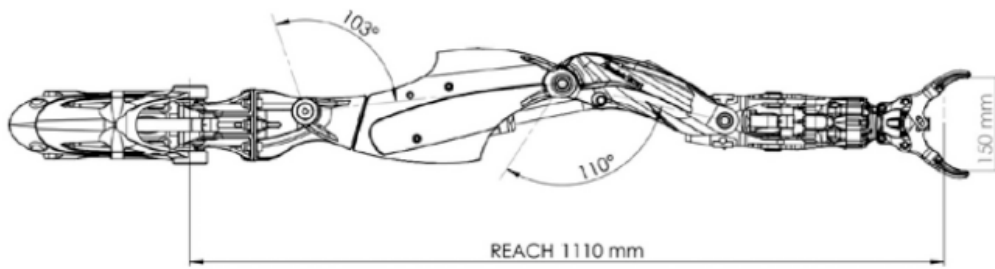
# SPECIFICATIONS

## TITANROB M701 7F MINI MANIPULATOR

### Dimensions



STOWED DIMENSIONS



# ■ Manipulator Accessories



- Atlas & Rigmaster Spares Kit
- Atlas Positioning Control System
- Imenco 3 Finger Jaw
- Manipulator Intelligent Valve Pack
- Schilling Master Control Unit
- Schilling T4 Wrist Camera Kit
- T4 Spares Kit

# ATLAS & RIGMASTER SPARES KIT

Manipulator Accessories



## Description

**J1W enhanced Atlas & Rigmaster manipulator spares package.**

- ▣ Wrist Assembly
- ▣ Wrist Seal Kit
- ▣ Linear Actuator Kit
- ▣ Hardware kit
- ▣ Hose Kit

## Features

- ▣ Enhanced Spares Package
- ▣ Reduces Downtime

# ATLAS POSITIONING CONTROL SYSTEM

ECO-FRIENDLY  
HIGH PRECISION  
MANIPULATOR



## Descriptions

The Envirex Atlas PCS upgrade kit enables the operator to use an Atlas Manipulator with a Master Arm to operate with full position control. This upgrade ensures great manipulator control by combining servo hydraulics, sensor feedback and a manipulator master controller. The PCS kit increases the performance of the Atlas 7F to the same or higher level than competitive manipulator arms, as i.e. the T4 Manipulator Arm. The magnetic sensors offer a live position feedback to maximize precision and speed control.

The Kit is easily installed on any standard Atlas 7F and does not require any further adjustments or equipment for operation. All joints are operated by servo valves, while jaw and jaw rotation are proportionally controlled.

The system includes position visualization for the operator and the functionality of route planning, set limits and set speed/torque for increase operational security.

Critical operational performance such as load capacities, equipment reliability and easy maintenance procedures are not reduced or changed.

The system can be remotely operated from any onshore location and combines software features as A-B distance measures, auto functions and vibration feedback to support the operator.

## Features

### PCS Upgrade Kit:

- ▣ Height precision
- ▣ Feedback from joints / rotation
- ▣ Gamepad and pendant arm controller
- ▣ Master controller w/ large display and visualizing
- ▣ Master Arm can control both Atlas and T4 Manipulator
- ▣ Easily disassembled after work
- ▣ A – B distance measure
- ▣ Possible to expand functionality/library

## Features

### Atlas 7F Manipulator:

- ▣ High force, lift capacity - 250Kg
- ▣ Robust and reliable
- ▣ Cost efficient
- ▣ Low downtime
- ▣ Low leakage
- ▣ Unlimited tooling choice
- ▣ Maintenance friendly
- ▣ Low maintenance time and cost

# SPECIFICATIONS

## ATLAS POSITIONING CONTROL SYSTEM

### General technical specification

Type	PCS V2
Part number	2202995
Weight PCS (in air / Submerged)	8 / 6 Kg
Weight Atlas arm (in air / Submerged)	73/ 50 Kg
Dimensions (L x W x H)	306 x 174 x 205mm

### Environmental data

Design Lifetime	
Depth Rating	3000msw
Operating Temperature	-10°C - +60°C
Storage Temperature	-30°C - +70°C

### Electrical data

Supply Voltage	24VDC
COMS	Ethernet-Modbus UDP/TCP

### Electrical interface

COM1	Glenair FCR 5506-2008 Shell 20
COM2	Burton Shell 15 daisy chain for light/camera
COM3-7	CRE BCR

### Hydraulic data

Supply pressure (from ROV)	210 Bar
Supply flow (from ROV)	5-19 L/min
Fluid compatibility Supply (from ROV)	Mineral Oil VG 22/32 (10 - 200 cSt / optimal 25 - 35 cSt)

### ROV Hydraulic Interface

ROV Supply with On/Off in PCS	1/4" BSP
ROV Return	3/8" BSP
ROV Compensator	1/4" BSP

### Kit Includes

Servo Valve Pack  
Master controller w/Pendant arm  
Sensor package w/magnets  
Cables and brackets

Option – Atlas T4 Manipulator arm



# IMENCO 3 FINGER JAW

FIT ALL SCHILLING MANIPULATORS  
IN STAINLESS STEEL  
EASY TO MAINTAIN



## Description

**The Imenco 3 Finger Claw is designed for operating of D-Handle and X-Handle.**

The Imenco 3 Finger jaw is a unique product that is robust, easy to maintain and fits all Schilling manipulators.

Imenco 3 Finger Claw is designed to fit directly to the Titan 3 and 4 manipulators, and to the Orion, Conan and Atals manipulators with an adaptor plate.

## Typical Operations

- D-Handle
- X-Handle

## Features

- Fit all Schilling Manipulators
- All parts in Stainless steel
- Compact Design
- Service & User Friendly

## Specification

<b>Type</b>	IMENCO 3 F JAW
<b>Part Number</b>	JAW-3F
<b>Weight</b>	7.5Kg (inc Pelicase)
<b>Maximum finger Opening Dimensions</b>	165 mm
<b>Maximum Length</b>	200 mm
<b>Diameter of adapter</b>	115 mm
<b>Finger Width</b>	37 mm

■ The specification details are illustrative for marketing purposes only. Actual equipment may be different as a result of product improvement or other reasons. Specific interface and performance information should be reconfirmed at time of order placement.  
Envirent AS, Robotvegen 16, 4340 Bryne, +47 477 77 500 post@envirent.no

# MANIPULATOR INTELLIGENT VALVE PACK

MANIPULATOR  
ACCESSORIES



## Description

**Manipulator intelligent valve pack has been designed to enable fully proportional control of manipulator arms.**

Supplied with touchscreen control box the inbuilt software allows fine control of various manipulator arms without the need for electric sensors.

Controlled with wireless gamepad the system is intuitive and easy to operate.

## Typical Operations

- Atlas Manipulator
- Orion Manipulator
- Titan 4 Manipulator

## Features

- Enables Fully Proportional Control
- Rate Control of All Joints on Software
- Gamepad control
- Custom GUI
- Close Fitted IVP
- 2 Hoses and 1 Cable to Connect
- Compact
- No Electric Sensors Required with Arm





# Specifications

## Manipulator Intelligent Valve Pack

### General Technical Specifications

Type Manipulator Intelligent Valve Pack  
Part Number 3365.9331

### Hydraulic

Max Input Pressure 250 Bar  
Max Comp Pressure 1.5 Bar  
Output Flow 8 L/min

Connection ROV Pressure JIC #4  
Connection ROV Return JIC #6

### Technical

Depth Rating MSW 3000

### Communication

Connector RS232  
8 Pin Burton

## Typical Operations

- Compact, lightweight, durable
- Cost effective
- User friendly, easy to navigate GUI
- Pressure tolerant electronics
- Uses proven Wandfluh NG3 vales
- Serial control
- Software diagnostics
- Phoenix connectors mounted on top of the valves facilitate the ease of removing the valves from the pack without disturbing the harness also when the need arises to change over from the on/off valves to proportional valves
- 2 x manual pressure reducing valves
- Externally adjustable SS flow control valves
- Externally adjustable pressure line relief valve
- Removable PO check valve on stations when not required
- 8 x Digital inputs
- 16 x Analogue inputs
- Full certification
- Pressure tested
- Flushing tested
- Electrically tested earth leakage test
- Mounting plate adaptor



# SCHILLING MASTER CONTROL UNIT

USED WITH TITAN 4, ORION 7P,  
CONAN 7P, AND ROV  
SIMULATORS.



## Description

The master controller is preloaded with software for all standard manipulators (no EPROM required) and the software is selected by Rotary Switch. It operates on either RS-232 or RS-485 communications as standard.

The master controller is available for TITAN 4, ORION 7P, and CONAN 7P manipulators and there is also a dual-arm version available.

Input is standard 90-260VAC and the standard power consumption is 6 W start, 3 W run.

## Typical Operations

- Titan 4 Manipulator
- Orion 7P Manipulator
- Conan 7P Manipulator



# Specifications

## Schilling Master Control Unit

### General Technical Specifications

Type	Schilling Master Control Unit
Part Number	N/A
Dimensions L x W x H	470 mm x 177 mm x 67 mm
Weight in air	4 kg

### Communication

RS-232 or RS-485



# SCHILLING T4 WRIST CAMERA KIT

Manipulator Accessories



## Description

**The wrist camera features an integrated titanium camera housing and internal cabling, offering superior protection and eliminating cable snags and abrasion.**

The wrist-mounted TITAN integrated camera provides operators with an exceptional view of tasks being performed. The high-resolution camera and two bright LED lights are contained in an integrated titanium housing for maximum protection. Since signals and power are routed through the manipulator arm, there is no external cabling that can be snagged or abraded. Both NTSC and PAL cameras are available

## Features

- High Resolution Colour Camera
- Integrated Titanium Housing
- Includes Two Bright LED Lights with Two Illumination Levels
- No External Cables
- NTSC or PAL
- Lights and Camera managed by the Master Controller

## General Technical Specifications

Type

Schilling T4 Wrist Camera

## Camera Specifications

Image Sensor

1/3 Colour Super HAD CCD

Horizontal Resolution

480 TV Lines

Lens

3.6mm (39 Degrees)

Video Output

1.0 Vp-p Composite 75Ohms

Effective Pixels

NTSC: 752 x 582

PAL: 768 x 484

## Power Consumption

In Arm Electronics

0.75A at 24VDC

## Technical

Depth Rating

MSW 4000

Operating Temperature

-10C to +50C

# T4 SPARES KIT

MANIPULATOR ACCESSORIES



## Description

**J1W Enhanced manipulator spares package.**

- ▣ Bumper Kit
- ▣ NAS Bolt Kit
- ▣ PCB Telemetry Board
- ▣ Complete Linear Actuator
- ▣ Resolver Kit
- ▣ Hose Kit
- ▣ HAWE Valve Assembly
- ▣ GEC Servo
- ▣ T4 Servo C/W Base Plate
- ▣ Shoulder Clevis Kit
- ▣ Linear Actuator Guard
- ▣ Shoulder/Azimuth Seal Kit
- ▣ Pitch/Yaw Seal Kit
- ▣ Elbow Side Plate Seal Kit
- ▣ Cover Seal Kit
- ▣ Actuator Seal Kit
- ▣ Wrist Assembly Seal Kit
- ▣ Nose Block Seal Kit (Pin Type)

## Features

- ▣ Enhanced Spares Package
- ▣ Reduces Downtime



# ■ Miscellaneous Equipment



- 6 & 8 Digital Subsea Display
- Digital CP Probe System
- Pressure Relief Valve
- Seagnet Junction Box
- Subsea Battery Canister
- Subsea Flowmeter 0,5-25 LPM
- Subsea Flowmeter 15-150 LPM
- Subsea Load Monitor
- Surface Minicord Inspection Camera

# 6 & 8 DIGIT SUBSEA DISPLAY

INTELLIGENT  
CONTROL  
SYSTEM



## Description

**The 6 & 8 Digit Subsea Display is a standalone product for showcasing information from subsea equipment.**

The Display can be connected to battery pack and external smart sensors, making a complete standalone monitoring system.

An ambient light sensor is integrated into the display. This can be used to wake the display from sleep by light from an ROV. An adjustable timeout will turn the Display off when no light is present.

## Features

- Standalone
- LED Indicators for Diagnostics
- 3000m depth rating
- Various communication protocols
- Light sensor for wake-up
- Adjustable time-out
- Bi-color digits, adjustable (red, green)
- Brightness can be dimmed
- Standard connector input
- Mounting bracket included
- AddonPCB for logging and Wi-Fi extraction available



# SPECIFICATIONS

## 6 & 8 DIGIT SUBSEA DISPLAY

### General Technical Specifications

Type	
Part Number	100963
Dimensions	mm 311x100x108 or 381x100x108
Weight	kg ~4
Temperature Operational (ambient)	°C -20 to +40
Temperature Storage	°C -20 to +60

### Electrical

Supply Voltage	VDC 10-30
Power Consumption	W ~2

### Communication

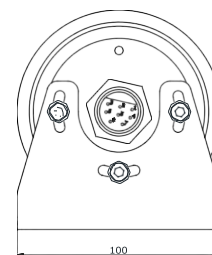
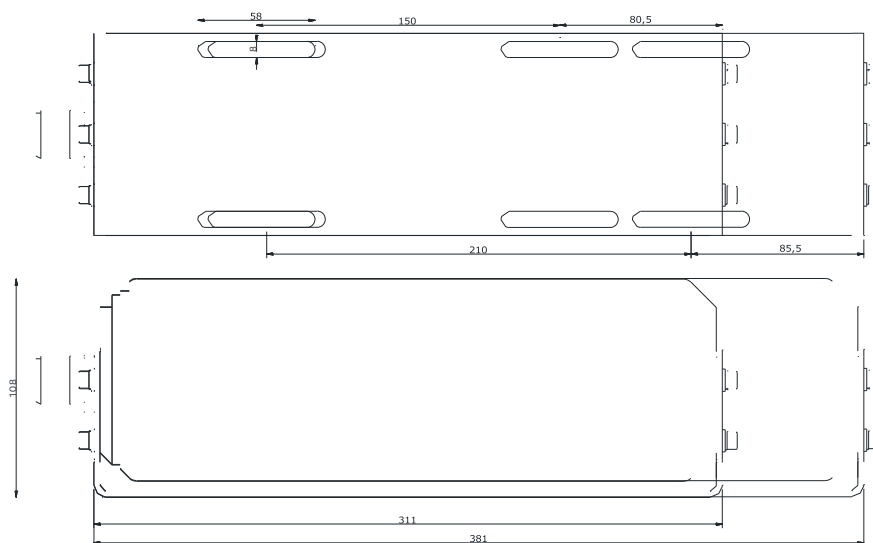
Ethernet	Mbps 10-100
RS232	
CAN-bus	

### Ordering Part Numbers

Description	Part Number
Subsea Display 6 Digit RS232	105381
Subsea Display 6 Digit CAN-bus	100963
Subsea Display 6 Digit Ethernet	105380
Subsea Display 8 Digit RS232	105382
Subsea Display 8 Digit CAN-bus	105379
Subsea Display 8 Digit Ethernet	101933

### Accessories

PCB Logging Wi-Fi	112674
MiniCan Battery 26VDC 31.2Ah	110829
MiniCan Battery 26VDC 46.8Ah	107376
MidiCan+ Battery 26VDC 78Ah	110154



# DIGITAL CP PROBE SYSTEM

ROV INSPECTION  
CONTACT PROBE  
ICSYS GUI



## Description

**The iCsys Digital CP System connects to standard CP sensors and converts the analog signal locally to a digital RS232 or CAN-Bus communication.**

This solution minimizes noise and interference to the signal because of the short analog signal path. It simplifies integration into existing systems by eliminating the need for specialized CP sensor inputs. A windows based graphical user interface application displays the readings and also displays a one minute history on a graph. It is possible to log the reading and add notes to be able to print or archive the readings for later lookup.

## Features

- Type Contact probe system
- Automatic comport selection
- Local isolated analog to digital conversation
- ROV friendly interface
- Communication RS232/CAN-Bus
- Calibration kit included
- Depth rating 3000m

# SPECIFICATIONS

## DIGITAL CP PROBE SYSTEM

### General Technical Specifications

Type	Digital CP Probe System
Part Number	108113
Dimensions	mm 126 x 39
Weight (in air / submerged)	kg ~2

### Electrical

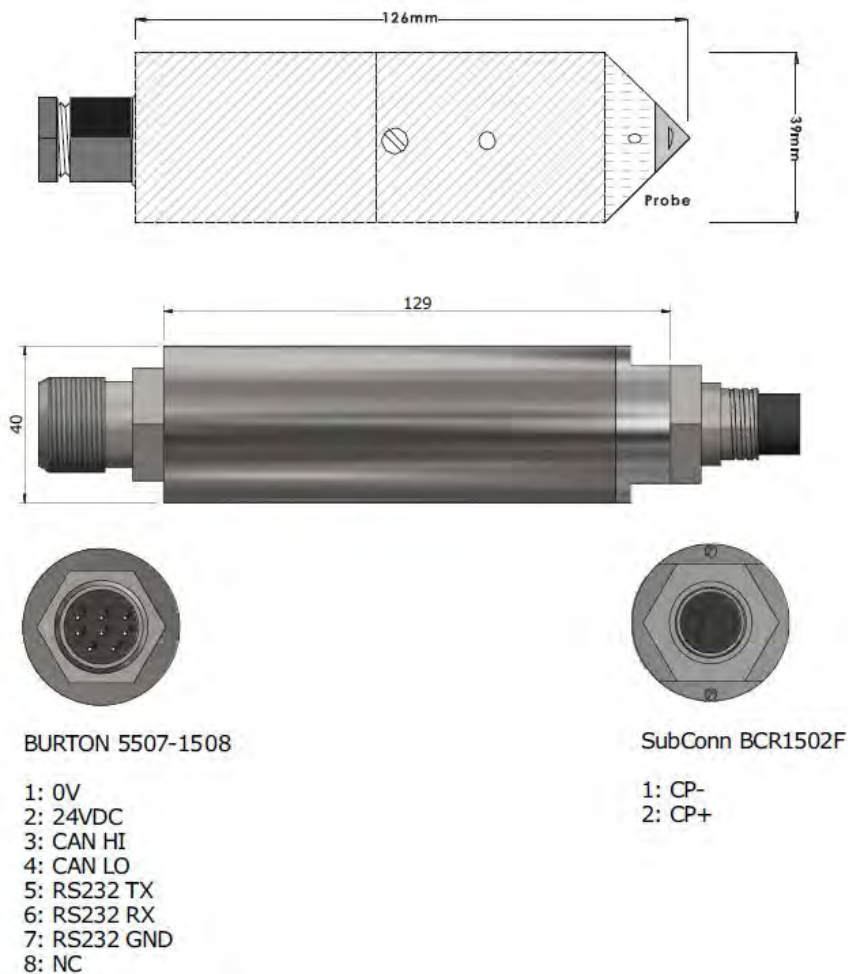
Supply Voltage	VDC 24VDC
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### Communication

RS 232 or CAN-Bus	8PIN GlenAir G5506-1508-0004 Pigtail 1 meter
-------------------	--

### General Features

Depth rating	MSW 3000
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# PRESSURE RELIEF VALVE

PRV  
VALVE  
SERIES



## Description

A compact, highly accurate, direct acting pressure relief valve. Factory preset to 0.8 Bar or 1,5 Bar crack pressure. Internal adjustments provides tamper proof safety against inadvertent pressure changes.

## Features

- ▣ Accurate and repeatable crack pressure
- ▣ 100% Factory and preset testing
- ▣ Wide Range of fluid compatibility
- ▣ Zero leakage to 95-98% of set pressure
- ▣ Excellent re-seal performance
- ▣ Compact size
- ▣ Custom pressure setting on request

## General Technical Specifications

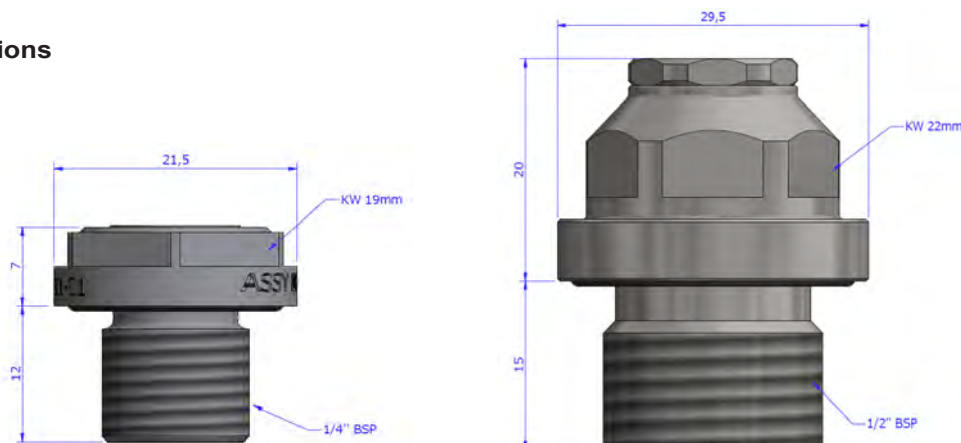
Type	Pressure Relief Valve
Part Number	Various, see table below
Body Material	AISI316L / NBR
Fluid Compatibility	Mineral Oil, Water Based Glycol and Seawater
Operating Temperature	-10°C/ + 60°C (14°F / 122°F)
Cracking pressure	0,8 or 1,5 Bar

## Ordering Codes

PRV 1/4" BSP - 0,8 Bar Crack Pressure  
 PRV 1/4" BSP - 1,5 Bar Crack Pressure  
 PRV 1/2" BSP - 0,8 Bar Crack Pressure  
 PRV 1/2" BSP - 1,5 Bar Crack Pressure

Part Number: V100382  
 Part Number: V100559  
 Part Number: V100391  
 Part Number: V100383

## Dimensions



# SEANET JUNCTION BOX

GLENAIR CABLE  
TO SEANET CABLE  
CONVERTER



## Description

The Seanet Junction Box is used to make it simple and easy to use as an interface from Glenair Cables to Seanet Cables.

With a Glenair G5506-2008 male connector in one end and Seanet Connector in the other end.

Designed with the see-through glass to easily check the wiring inside.

## Typical Operations

- Converter from Glenair to Seanet

## Features

- Compact Design
- Compensated through Seanet connector
- Ports for optional external compensation
- Fill and bleed ports
- POM housing
- See through polycarbonate lid
- Terminal block for easier pin reconfiguration

# SPECIFICATIONS

## SEANET JUNCTION BOX

### General Technical Specifications

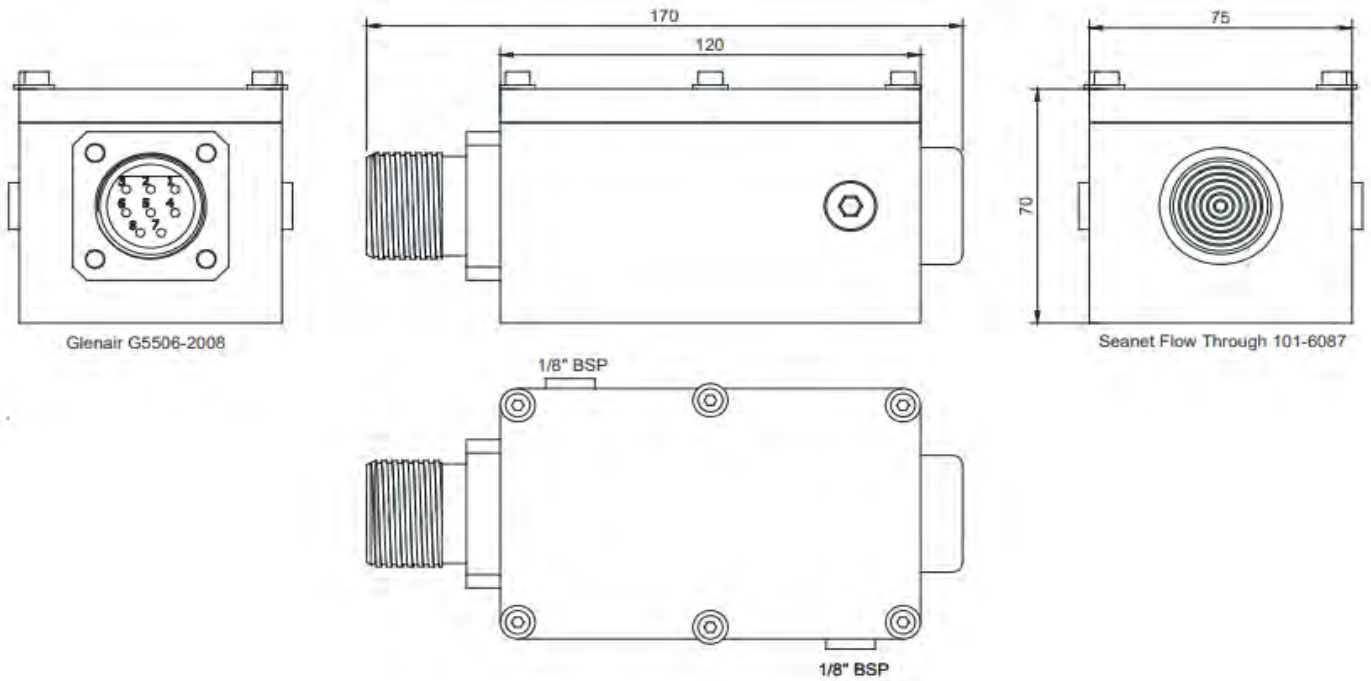
Type	Junction Box
Part Number	117683
Dimensions L x W x H	170 mm x 75 mm x 75 mm
Weight	750 g

### Hydraulic

Bleed and fill port dimension	1/8" BSP
-------------------------------	----------

### Technical

Glenair connector PN	G5506-2008
Seanet connector PN	101-6087



# SUBSEA BATTERY CANISTER

SUBSEA BATTERY  
CANISTER



## Description

**The subsea battery canister is a standalone product for power storage and distribution.**

The canister is the same size as other standard Ixys tubes, thus making it easy to fit in existing designs.

Easy hook-up and activated with an included switch plug.

A simple 12A charger is included.

## Typical Operations

- ▣ ROV Operations
- ▣ Power storage
- ▣ Power distribution

## Features

- ▣ Internal BMS with balancing and safety functions
- ▣ Passive cell balancing
- ▣ Undervoltage protection
- ▣ Overvoltage protection
- ▣ Charging overcurrent protection
- ▣ Discharging overcurrent protection

# SPECIFICATIONS

## SUBSEA BATTERY CANISTER

### General Technical Specifications

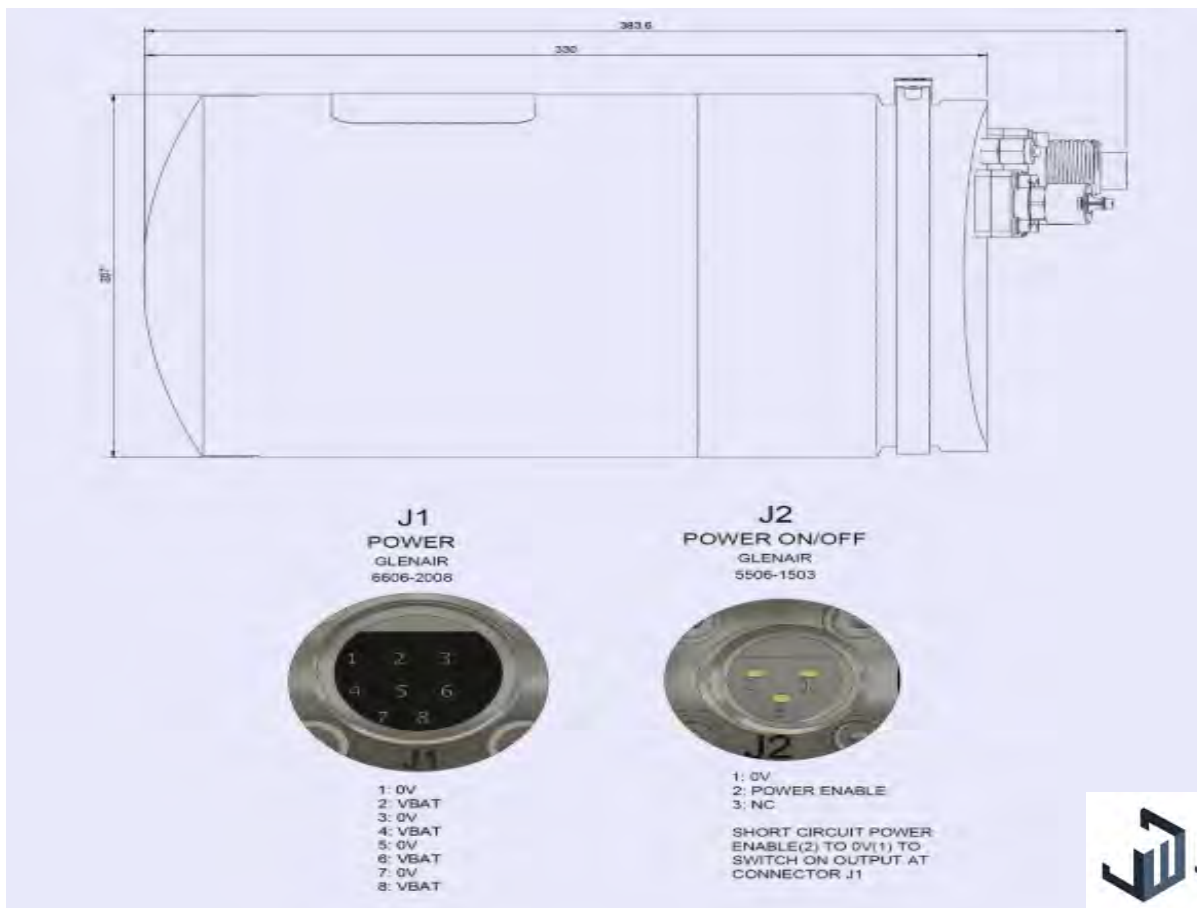
Type	Subsea Battery Cannister
Part Number	107376
Dimensions L x W x H	207 mm x 207 mm x 330 mm
Weight in air / submerged	~ 16 kg / ~ 9 kg
Discharge temperature range	-20 °C to +60 °C
Charge temperature range	0°C to +45 °C
Storage temperature range (1 month)	-20°C to +60°C
Storage temperature range (3 months)	-20°C to +45°C
Storage temperature range (1 year)	-20°C to +25°C

### Electrical

Voltage output nominal	21-29,4 VDC
Charging voltage (CC-CV)	29,4 VDC
Continuous discharge current (max)	30 A
Continuous charge current (max)	15 A
Capacity (@25°C)	63 Ah
Optimal storage voltage	25 – 26 VDC
Activation connector	Glenair G5506-1503
Power connector	Glenair G6606-2008
Battery Cell Type	Panasonic Li-ion NCR18650GA

### Technical

Depth Rating	MSW 4000
--------------	----------





# SUBSEA FLOWMETER 0,5-25 LPM

ROV TOOLING  
FLOW MEASURING  
EQUIPMENT



## Description

**Our Subsea Flow Meters are available in a wide variety of flow ranges and electrical outputs, as well as a variety of exotic materials for highest corrosion resistance and material compatibility. Electronics are integrated and sealed to withstand external pressures and temperatures.**

Gear Flow Meters are positive displacement meters, similar in design to a gear pump. The measuring medium rotates two gears, which are engaged with minimum play. The medium is forced along through closed measuring chambers between gears and housing. The gears, which run idle, lose no power in the medium stream. The rotational speed is proportional to the flow and is tapped from pickups from the housing wall.

## Features

- Field proven design
- Very high output frequency
- Short response time
- RS232 Communication to ROV
- Flow rating 0,5 - 25 LPM
- 1/4" BSP Female threads
- Max working pressure 690 Bar
- Compact en small design

# SUBSEA FLOWMETER 15-150 LPM

ROV TOOLING  
FLOW MEASURING  
EQUIPMENT



## Description

**The ETL range of subsea flowmeter, all stainless threaded. Flowmeter allows measurement between 15 and 150 L/min.**

Our subsea flowmeters are available in a wide variety of flow and pressure ranges. Flowmeters comes with 1.1/4" BSP female threads as standard but can be configured on client requirements. Max working pressure on flowmeter is 690 Bar. Flowmeter is turbin style.

Laptop with user-friendly software for monitoring and logging of flow is included in kit.

## Features

- RS232 Communication to ROV
- User-friendly software and laptop included
- Flow rating 15 - 150 LPM
- 1.1/4" BSP female threads
- Calculated weight in water 8 kg
- Calculated weight storage box 20 kg
- Dimensions 582 x 382 x 240 mm

# SUBSEA LOAD MONITOR

DEVELOPED WITH A ROV  
TRIGGER HANDLE



## Description

The SLM has a maximum working depth of 500m and a magnetic trigger for reed switch operation. The readability is 1kg. 7-segment LED monitor.

The refresh rate is 16MHz. With the SLM you have approx. 500 hours of operation.

The SLM is constructed using 316 steel.

## Applications

- ROV Operation

## Features

- Max. working depth 500m
- 3.6V Lithium Thionyl Chloride D Batteries
- Magnetic trigger for reed switch operation

# SPECIFICATIONS

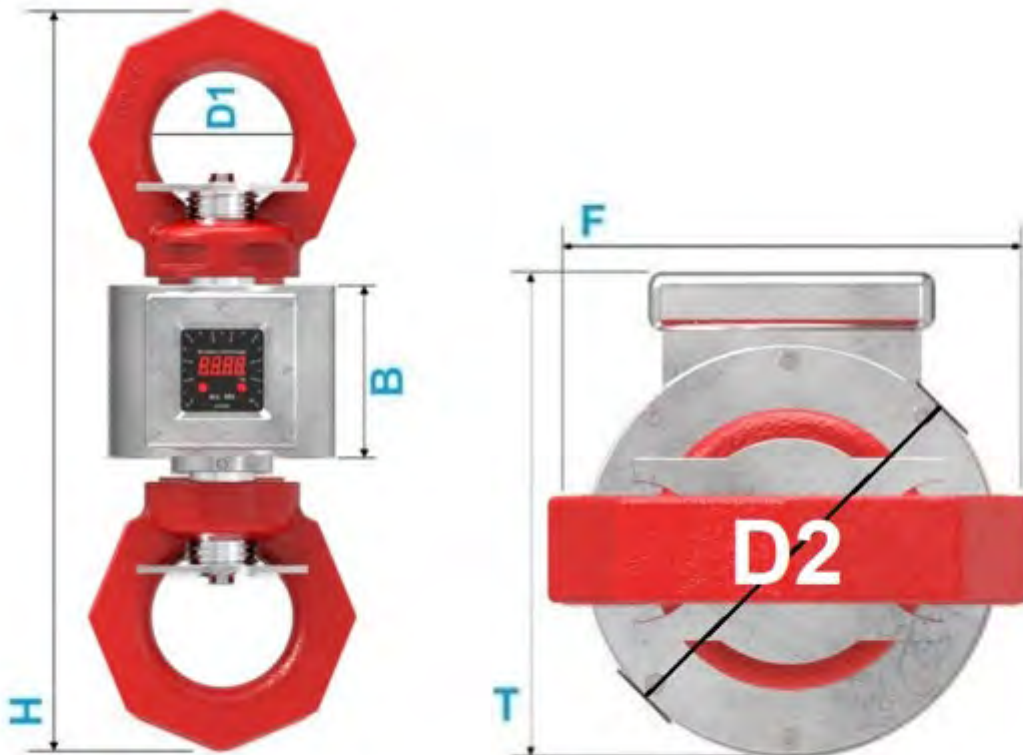
## SUBSEA LOAD MONITOR

### General Technical Specifications

Type	Subsea Load Monitor (SLM)
Materials	316 steel
O/A length H	466 mm
Length B	110 mm
O/A height T	170 mm
O/A width F	170 mm
D1 RUD M-48	Ø90
D2	Ø125
Max Workload	10 000 kg

### Specific

Lifting eye lock x 2	L110 x W80 x H5 mm (0,4 kg)
Lifting eye x 2	L173 x W170 mm (10,6 kg)
Main body	W Ø145 x H120 (12 kg)
Full assembly	L466 x W Ø145 (23 kg)



# SURFACE MINCORD CAMERA

INSPECTION CAM  
COMPACT DESIGN  
USER FRIENDLY



## Description

**Small and compact: The minCord cameras are designed to reach even the most difficult-to-reach places.**

The non-destructively inspection enables you to inspect even the tightest spaces and saving costly disassemblies. Tubes, cavities, welding seams, turbines, hollow profiles and castings: The camera head with only 13mm diameter inspects these easily. At the same time, the cameras are so robust that they can easily withstand the harsh field conditions. In this way you locate all surface damages, cracks, sediments and deteriorations with minimal effort.

## Features

- ▣ Pipe diameter between 15 up to 80 mm
- ▣ 30m push-pull cable
- ▣ Colour camera head with 13mm diameter
- ▣ Axial camera, angle view 84°
- ▣ 1 bar waterproof
- ▣ Control unit with function keys to control camera
- ▣ Light regulation
- ▣ Wall power supply with battery

## ■ Pumps & Jetters



- Dynaset 220 Bar Jetting
- Dynaset 520 Bar Jetting
- Super Zip Jetting Pump
- Triple Head Nozzle
- Dynaset 90 Bar HPW
- 0858 Cavitation Nozzle
- 6" ROV Subsea Dredger
- 8" ROV Subsea Dredger
- 10" ROV Subsea Dredger

# DYNASET 220 BAR JETTING

HIGH PRESSURE  
JETTING NOZZLE  
220 BAR



## Descriptions

**Dynaset 220 Bar Jetting pump is used as a field proven, user friendly and highly effective tool for subsea cleaning from ROV.**

The High pressure jetter is based around the Dynaset HPW pump and is capable of jetting at 220 bar with the standard nozzle fitted. The system is supplied with all necessary components, hoses for connection to ROV, lance hose, manipulator handle and turbo nozzle.

## Features

- Max pump pressure 220 Bar
- Max pump flow 70 L/min
- Jetting gun included
- Round and Flat nozzle included
- Compact and low weight

# SPECIFICATIONS

## DYNASET 220 BAR JETTING KIT

### General technical specification

Type		Dynaset 220 Bar Jetting Kit
Part number		HPW-220
Weight (in air / submerged)	kg	~35 / ~30
Dimensions (L x W x H)	mm	575 x 570 x 540

### Hydraulic

Max. Input Pressure	Bar	207
Max. Output Pressure	Bar	220
Max. Input Flow	L/min	50
Max. Output Flow	L/min	70

Connection ROV pressure	JIC	#12
Connection ROV return	JIC	#12

### General Features

Depth rating	MSW	3000
--------------	-----	------



# DYNASET 520 BAR JETTING

HIGH PRESSURE  
JETTING NOZZLE  
520 BAR  
Rotor Nozzle  
Straight Nozzle



## Description

**Dynaset 520 Bar Jetting pump is used as a field proven, user friendly and highly effective tool for subsea cleaning from ROV.**

The High pressure jetter is based around the Dynaset HPW pump and is capable of jetting at 520 bar with the standard nozzle fitted. The system is supplied with all necessary components, hoses for connection to ROV, lance hose, manipulator handle and turbo nozzle.

## Features

- Max pump pressure 520 Bar
- Max pump flow 30 L/min
- Jetting gun included
- Round and Flat nozzle included
- Compact and low weight
- Two types of Nozzles
- Acid injection possibilities

# SPECIFICATIONS

## DYNASET 520 BAR JETTING KIT

### General Technical Specifications

Type	Dynaset 520 Bar Jetting Kit
Part Number	103326
Dimensions	mm 575 x 570 x 540
Weight (in air / submerged)	kg ~35 / ~30

### Hydraulic

Max. Input Pressure	Bar 207
Max. Output Pressure	Bar 520
Max. Input Flow	L/min 85
Max. Output Flow	L/min 30

Connection ROV pressure	JIC #12
Connection ROV return	JIC #12

### General Features

Depth rating	MSW 3000
--------------	----------

### Nozzles

Rotor Nozzle w/D-Handle	Jic 06
Nozzle Straight w/acid injection w/D-Handle	Water Connection: Jic 06 Acid Connection: Jic 04

Nozzle Rotor:



Nozzle Straight:



# ROV SUPER ZIP JETTING PUMP

REMOVAL OF DRILL CUTTINGS  
WORK CLASS ROV'S  
SMALL AND COMPACT DESIGN



## Description

**The Super ZipJet will not block or jam because there are no moving parts on the dredging side of the system. Power is derived from a stream of high velocity fluid creating a low-pressure region behind the suction nozzle. The pump may be rapidly switched from suction to jetting mode.**

The Super ZipJet incorporates many technical advances over the previous generation of ROV suction and jetting systems. These advances are a direct result of customer feedback. Considerable emphasis has been placed on increasing efficiency in both the suction and jetting modes. The Super ZipJet incorporates several design features, which improve its reliability and substantially reduce its maintenance costs.

## Applications

- Work-class ROVs
- Break up of seabed muds and sands
- Removal of drill cuttings

## Features

- ROV Mounting system
- Modular pump core
- Multiple mounting configurations
- Robust and compact design
- Will not block or jam
- Easy in-field maintenance

■ The specification details are illustrative for marketing purposes only. Actual equipment may be different as a result of product improvement or other reasons. Specific interface and performance information should be reconfirmed at time of order placement.  
Envirent AS, Robotvegen 16, 4340 Bryne, +47 477 77 500 post@envirent.no

# SPECIFICATIONS

## ROV SUPER ZIP JETTING PUMP

### General Technical Specifications

Type Super Zip ROV Dredge Pump  
 Part number SUPER-ZIP

### Weight and Materials

Materials Nylacast, UHMWPE  
 Weight in air 25kg (55lb)  
 Weight in water 11Kg (24lb)

### Hydraulic Motor Input

Pressure 150 to 220 Bar (2200 to 3200 psi)  
 Flow 40 to 60 l/min (11 to 16 USgpm)

### Actuator

Minimum pressure 110 Bar (1595 psi)  
 Maximum pressure 240 Bar (3480 psi)

### Pump Performance / Output

Jetting performance 1000 l/min @ 2 Bar (270 USgpm)  
 Suction flow 500-1000 l/min (132 – 270 USgpm)  
 Solids removal rate 5-10 tonnes per hour (184 – 368 lb per minute)

### Hydraulic Connections

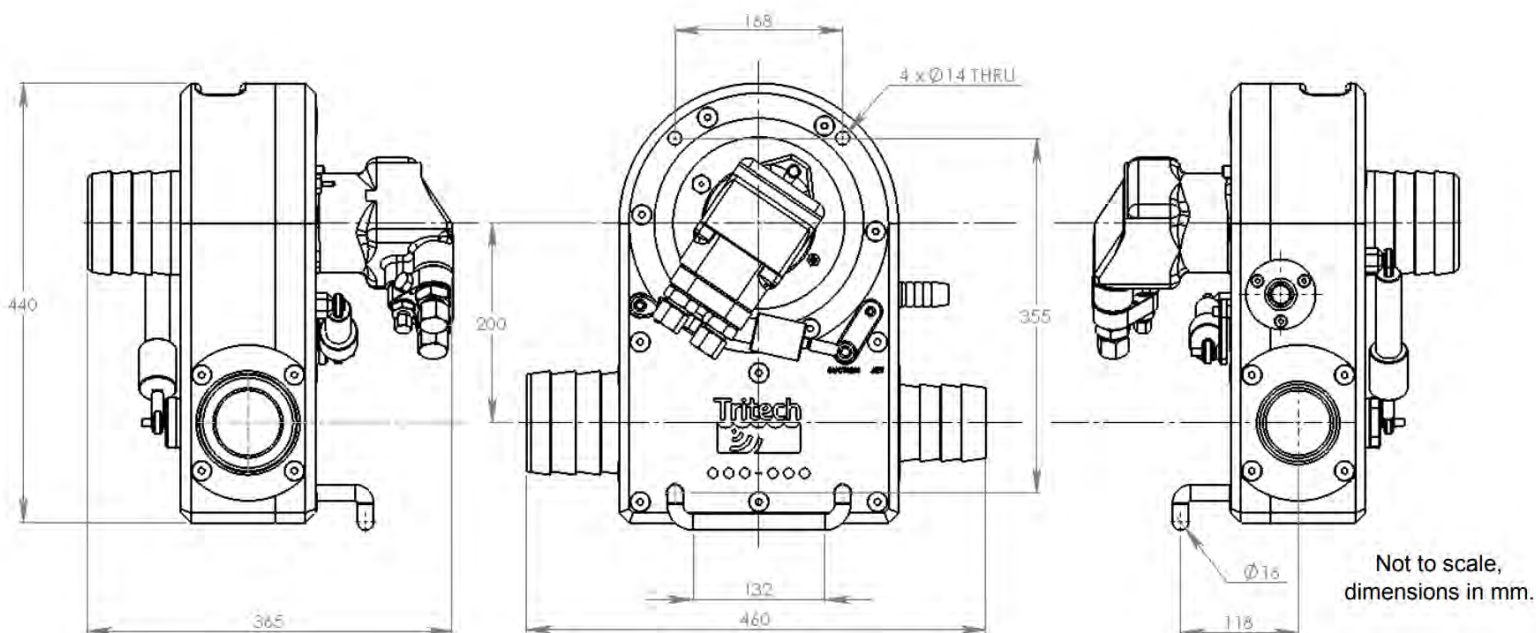
Motor A & B No. 12 JIC male  
 Motor case drain No. 06 JIC male  
 Actuator connection No. 04 JIC male

### Check Valve

Normal Tritech Volvo Protector Assembly  
 Alternative Integrated Hydraulics FPR-1/22-0.5 (cracking pressure 0.5 bar)

### Hose Dimensions (internal diameter)

Jetting 25.4mm ID (1in)  
 Discharge 100mm ID (4in)  
 Suction 75mm ID (3in)  
 Clean Water Inlet 100mm ID (4in)



■ The specification details are illustrative for marketing purposes only. Actual equipment may be different as a result of product improvement or other reasons. Specific interface and performance information should be reconfirmed at time of order placement.  
 Envirent AS, Robotvegen 16, 4340 Bryne, +47 477 77 500 post@envirent.no

# TRIPLE HEAD NOZZLE

PUMPS & JETTERS



## Description

**The triple rotating nozzles can work with pressures up to 600 bar and with flow rates up to 45 l/min.**

The rotating nozzles are made with a stainless steel body and internal tungsten carbide parts that ensure a long lifespan.

The 20° angle created by the jet cone is made uniform by careful design and accurate construction details.

Perfect for mud cleaning pre trenching.

## Features

- Triple Head Nozzle
- Minimum WP 180 Bar
- Minimum flow rate 6.2 Lpm
- Stainless Steel Construction
- Tungsten Carbide Internals
- 20 Degree Jet Cone Angle



# DYNASET HPW 90 JETTING

HIGH FLOW WATER PUMP  
FLOW UP TO 150 L/MIN



## Description

**Dynaset HPW 90 convert the hydraulic power of a mobile machine into high flow. The design is reliable and compact piston-to-piston structure with no rotating parts unlike traditional water pumps.**

The HPW 90 gives out 150 L/min. It can be used with sea water, natural water resources and a large variety of chemicals.

It can even dry run. If high flow is required, this pump is a very good option.

## Typical Operations

- High Flow Water Pumping

## Features

- Max pump flow 150 L/min
- Compact and low weight
- Can dry run
- Can run with numerous different fluids
- Adjustable output flow

# SPECIFICATIONS

## DYNASET HPW 90

### General Technical Specifications

Type	Dynaset HPW 90
Part Number	HPW-090
Dimensions L x W x H	175 mm x 345 mm x 250 mm
Weight in air / submerged	~31 kg / ~25 kg

### Hydraulic

Max Input Pressure	250 Bar
Max Output Pressure	90 Bar
Max Input Flow	85 L/min
Max Output Flow	150 L/min

Connection ROV Pressure	JIC #12
Connection ROV Return	JIC #12

### Technical

Depth Rating	MSW 3000
--------------	----------

# 0858 CAVITATION NOZZLE

PUMPS & JETTERS



## Description

The **0858 Cavitation Nozzle** is an industrial marvel for serious cleaning, it effectively cleans all types of marine fouling without damaging the coatings

The cavitation nozzles are made with a stainless steel parts that ensure a long lifespan.

## Features

- 0858 Cavitation Nozzle
- Stainless Steel Construction
- Weight: 1.25kg
- Minimum WP 400 Bar
- Supplied With X Bar Handle





# 6" ROV SUBSEA DREDGER



## Description

**The SS 6" ROV Dredger is a field proved ROV Dredger, build in Stainless Steel**

The system can be used on any type of WROV.

By using optional Slip-on flanges can suction or exhaust hose be mounted and disassembled in a subsea environment.

Optional Shut-off valve will enable the flow direction to be changed, avoiding potential clogging issues.

## Features

- High Efficiency
- Complete Delivery
- Compact, Field Proven Design
- Service & User Friendly
- Easy Connection & Interface

# Specifications

## 6" ROV SUBSEA DREDGER

### General Technical Specifications

Type	Subsea Dredger
Dimensions L x W x H	1100 x 270 x 515mm
Weight in air / submerged	65 kg / 55 kg
Operating Temperature	-25°C / + 70°C
Dredging Orifice Diameter	6 inch
Material Dredger	Stainless Steel 316L
Material Water Pump	Stainless Steel 316L
Material Hydraulic Motor	Coated Cast Steel

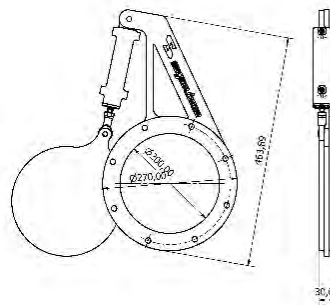
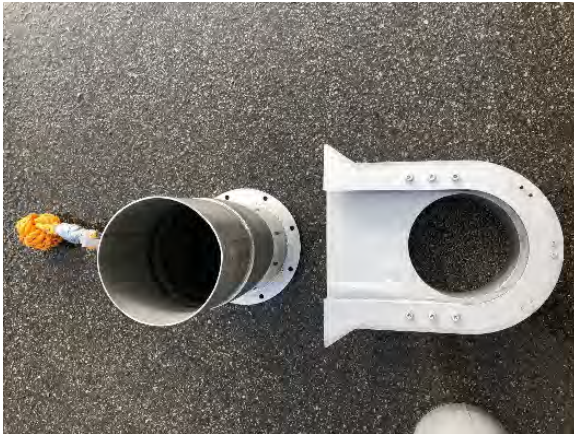
### Hydraulic Specifications

Max. Operating Pressure	200 Bar
Flow Rate	60 L/min
Viscosity Range	12...320 mm <sup>2</sup> /s
Fluid Contamination Grade	ISO 4406 – Class 18/16/13

Connection Motor Pressure	JIC #12
Connection Motor Return	JIC #16
Connection Motor Drain	JIC #8

**Slip-on Flange for ROV friendly hose connection.**

**Shut-off valve for flow direction control.  
Used in case of clogging.**



# 8" ROV SUBSEA DREDGER



## Description

**The SS 8" ROV Dredger is a field proved ROV Dredger, build in Stainless Steel**

The system can be used on any type of WROV.

By using optional Slip-on flanges can suction or exhaust hose be mounted and disassembled in a subsea environment.

Optional Shut-off valve will enable the flow direction to be changed, avoiding potential clogging issues.

## Features

- High Efficiency
- Complete Delivery
- Compact, Field Proven Design
- Service & User Friendly
- Easy Connection & Interface

# Specifications

## 8" ROV SUBSEA DREDGER

### General Technical Specifications

Type	Subsea Dredger
Dimensions L x W x H	1200 x 270 x 515mm
Weight in air / submerged	90 kg / 75 kg
Operating Temperature	-25°C / + 70°C
Dredging Orifice Diameter	8 inch
Material Dredger	Stainless Steel 316L
Material Water Pump	Stainless Steel 316L
Material Hydraulic Motor	Coated Cast Steel

### Hydraulic Specifications

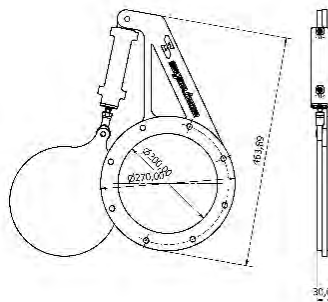
Max. Operating Pressure	200 Bar
Flow Rate	70 L/min
Viscosity Range	12...320 mm <sup>2</sup> /s
Fluid Contamination Grade	ISO 4406 – Class 18/16/13

Connection Motor Pressure	JIC #12
Connection Motor Return	JIC #16
Connection Motor Drain	JIC #8

Slip-on Flange for ROV friendly hose connection.



Shut-off valve for flow direction control.  
Used in case of clogging.



# 10" ROV SUBSEA DREDGER



## Description

**The SS 10" ROV Dredger is a field proved ROV Dredger, build in Stainless Steel**

The system can be used on any type of WROV.

By using optional Slip-on flanges can suction or exhaust hose be mounted and disassembled in a subsea environment.

Optional Shut-off valve will enable the flow direction to be changed, avoiding potential clogging issues.

## Features

- High Efficiency
- Complete Delivery
- Compact, Field Proven Design
- Service & User Friendly
- Easy Connection & Interface

# Specifications

## 10" ROV SUBSEA DREDGER

### General Technical Specifications

Type	Subsea Dredger
Dimensions L x W x H	1354 x 383 x 720mm
Weight in air / submerged	90 kg / 75 kg
Operating Temperature	-25°C / + 70°C
Dredging Orifice Diameter	10 inch
Material Dredger	Stainless Steel 316L
Material Water Pump	Stainless Steel 316L
Material Hydraulic Motor	Coated Cast Steel

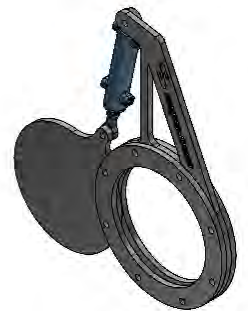
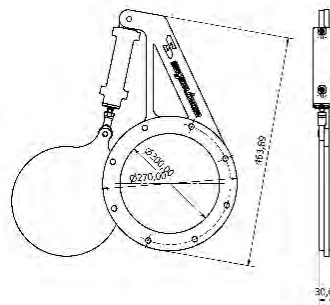
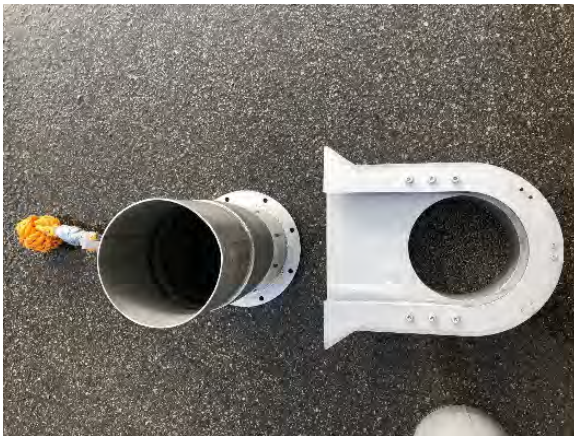
### Hydraulic Specifications

Max. Operating Pressure	220 Bar
Flow Rate	70 L/min
Viscosity Range	12...320 mm <sup>2</sup> /s
Fluid Contamination Grade	ISO 4406 – Class 18/16/13

Connection Motor Pressure	JIC #12
Connection Motor Return	JIC #16
Connection Motor Drain	JIC #8

Slip-on Flange for ROV friendly hose connection.

Shut-off valve for flow direction control.  
Used in case of clogging.



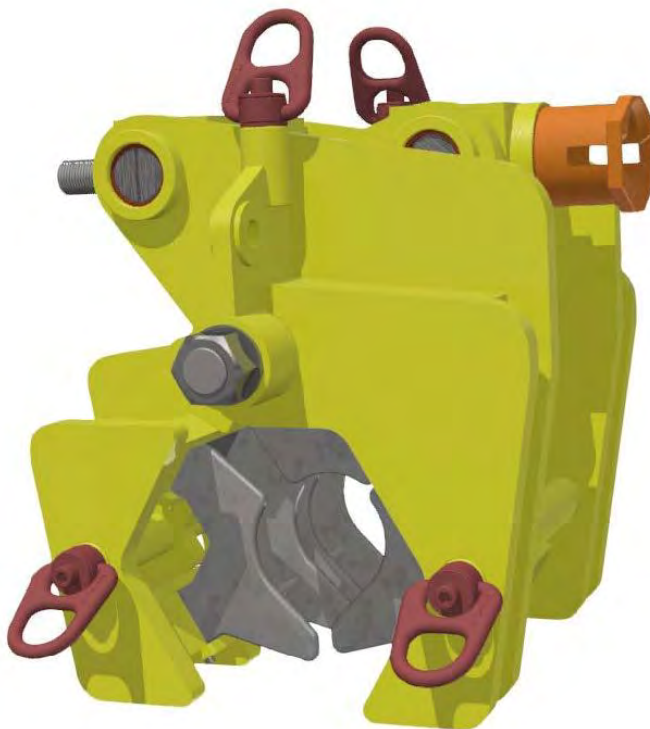
# ■ Recovery Clamp



- Recovery Clamp

# RECOVERY CLAMP

RECOVERY CLAMP



## Description

**Robust fabricated steel design c/w integral padeye sat both ends for Recovery operations.**

Profiled design to provide a saddle on the upper side of the clamp ID allowing easy seating on the recoverable product.

Shaped clamp ends (and inserts) to provide a scooping style arrangement, which allows the product to be collected from the seabed and drawn into the clamp ID during activation.

Fully mechanical design operated by ROV class 4 torque tool.

## Features

- ▣ Suitable for:  
Flexible Riser / Cable / Umbilical
- ▣ OD Range 50-400mm  
(interchangeable inserts)
- ▣ Design load: Up to 20t Wll
- ▣ Activation: ROV / Diver / Topside
- ▣ Installation: Vertical or Horizontal

Available for rental exclusively via



SPECIALISTS IN MARINE TECHNOLOGY



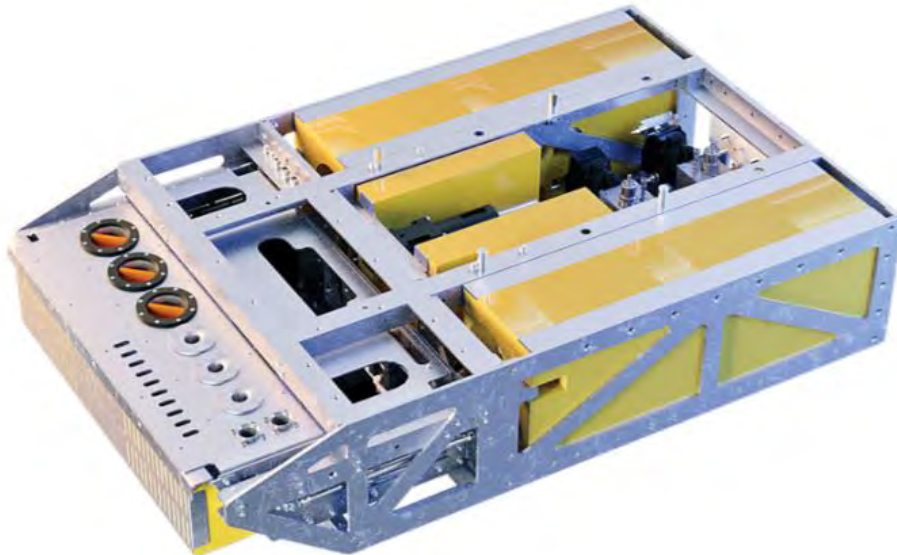
## ■ ROV Skids



- Octopoda GEN-1 Injection & Test Skid (ITS)
- Octopoda GEN-2 BOP Shutdown Skid
- Octopoda GEN-2 High-Flow Dirty Work Pack Skid
- Octopoda GEN-2 ROV Tooling Skid

# OCTOPODA INJECTION & TEST SKID

ROV INTERVENTION  
INJECTION AND RESSURE  
TESTING SKID



## Description

**The Injection & Testing Skid (ITS) is designed to reduce cost in subsea operations related to completion, installation, maintenance and other activities related to underwater operations.**

ITS comes with two separate reservoirs- and pump circuits for dual media handling without mixing the two types of fluids. All components are field proven and qualified for 690 Bar pumping pressure. A Control Unit (Valve pack) will allow the operator to start and stop the pumps independently and sustain maximum control on both pressure regulation and flow adjustment. Pressure Safety Valves are installed as over-pressure protection on all outlets. ITS comes with digital data logging on each outlet and subsea pressure gauges for visual readout. Bleed-pressure feature on all lines.

## Features

- Integrated Control System
- Digital flowmeter circuit 1
- Digital pressure sensors
- Print of pressure test certification
- 160L Reservoir circuit 1
- 200L Reservoir circuit 2
- Dual media booster pumps
- LP 345 Bar outlet
- HP 690 Bar outlet
- Coms. RS 232, 485 and Ethernet
- Light weight in water
- DNV 2.7-3 Lifting certified

# SPECIFICATIONS INJECTION & TEST SKID

## General Technical Specifications

Type	Injection & Test Skid
Part Number	103266-03
Dimensions	mm 2332 x 1449 x 476
Weight (in air / submerged)	kg ~1000 / ~TBC

## Electrical

Supply Voltage	VDC 24VDC
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## Communication

RS 232, RS 485 and Ethernet	8PIN Glen Air G5506-1508-0004 Pigtail 1 meter
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## Hydraulic

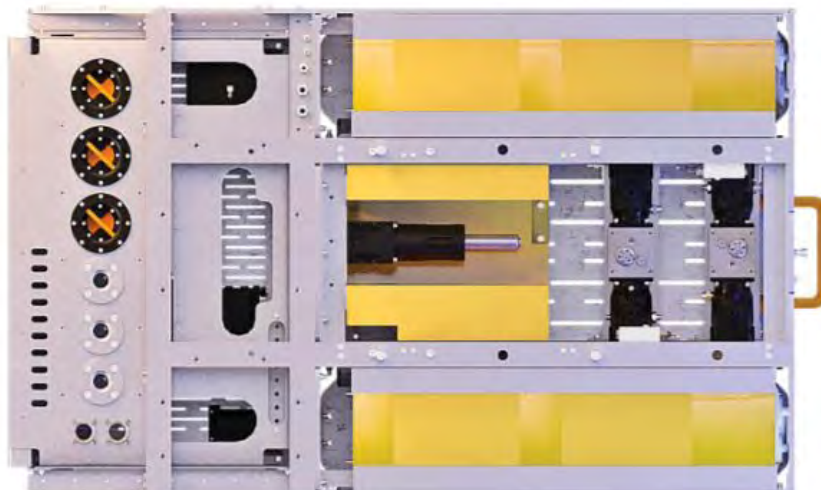
Max. Input Pressure	Bar 207
Max. Input Flow	L/min 20
Circuit 1 Fluid tank size	Liter 160
Max Output Pressure LP Line 1	Bar 345 @ 2 L/min
Max Output Pressure HP Line 2	Bar 690 @ 2 L/min

Circuit 2 Fluid tank size	Liter 200
Max Output Pressure HP Line 3	Bar 690 @ 2 L/min

Connection ROV pressure	JIC #8
Connection ROV return	JIC #8
Connection output pressure	JIC #4
Connection fill / circulation ports	QC Swagelok H-series QC female

## General Features

Depth rating	MSW 3000
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# BOP SHUTDOWN SKID

HIGH FLOW / HIGH PRESSURE  
TWO STAGE PUMP  
API 53S COMPLIANCE



## Descriptions

**To meet a secondary intervention emergency and the API S53 standards, the BOP Shutdown Skid is designed and built to operate the BOP's rams with a maximum pressure of 345 Bar and 300 LPM, using a field proven two stages pump technology.**

The BOP Shutdown Skid is a 2 stage high pressure / high flow pump designed in conjunction with Dynaset. Utilizing two HPW90/150 pumps, two HPW460/50 pumps and a manifold frame to allow 345 Bar and 100 LPM simultaneously.

The system pressure is built up in two separate stages. The system is started by piloting supply valve which starts the 2 x LP pumps running at 300 LPM, when pressure builds up to 90 Bar the 2<sup>nd</sup> stage automatically starts the 2 x HP pumps which are pressurized up to a maximum of 345 Bar at a flow rate of 100 LPM.

## Typical Operations

- BOP emergency shut down
- Secondary BOP stack control
- Fluid injection & pressure testing

## Features

- Max output pressure 345 Bar
- Max output flow 300 LPM
- Field proven pump technology
- Digital flowmeter and pressure
- Software with logging / chart
- RS232 24VDC Interface
- 325L Bladder reservoir
- Compact and low weight design
- Rated to 3,000 MSW

# SPECIFICATIONS

## BOP SHUTDOWN SKID

### General technical specification

Type	BOP Shutdown & Intervention Skid
Weight (in air / Submerged)	780 / 58 KG
Dimensions (L x W x H)	3400 x 1486 x 597 mm
Reservoir Capacity	325 L

### Environmental data

Depth Rating	3000 MSW
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### Electrical data

Supply Voltage	24 VDC
COMS	RS 232 / Ethernet
Interface connector	GlenAir G5506-1508

### Hydraulic input data

Supply pressure (from ROV)	207 Bar
Supply flow (from ROV)	230 LPM
Fluid compatibility Supply (from ROV)	Mineral Oil (10 - 200 cSt / optimal 25 - 35 cSt)

### Hydraulic output data (BOP)

1 <sup>st</sup> stage Outlet pressure	90 Bar
1 <sup>st</sup> stage Outlet flow	300 LPM
2 <sup>nd</sup> stage Outlet pressure	345 Bar
2 <sup>nd</sup> stage Outlet flow	100 LPM
Suitable Media	Mineral Oil, Sea Water, Water-based Glycol, Methanol (optional)
Turbin Flowmeter	45-400 LPM
Pressure Sensor	Yes, logging and chart in software

### ROV Control Valve

4/2-valve ROV operated pressure	Yes, A+B function, output lines
4/2-valve ROV operated suction	Yes, switch from reservoir to sea water suction



# OCTOPODA HIGH FLOW DWP SKID

ROV INTERVENTION  
HIGH FLOW PUMPING SKID  
165 LPM



## Description

**The High Flow DWP Skid is designed to reduce cost in subsea operations related to completion, P&A, maintenance and other activities related to underwater operations.**

HF DWP Skid comes with 48 liter compensated reservoir, a modular subsea valve pack and a high flow proportional directional control valve rated to 165 LPM. Subsea valve pack allow individual adjustment of pressure and flow on all outputs. A water jetting pump is used to functioning of pilot lines, pressurization & testing and water jetting applications, controlled by the Subsea Valve Pack.

## Features

- Integrated Control System
- High Flow Pump 165 LPM @ 207 Bar
- Water Jetting Pump 50 LPM @ 207 Bar
- 50 liter compensated fluid reservoir
- Directional Control Valve on all outlets
- Pressure and Flow adjustment on all outlets
- Submerged weight 0 kg
- Coms. RS 232, 485 and Ethernet

# SPECIFICATIONS HIGH FLOW DWP SKID

## General Technical Specifications

Type		HF DWP Skid
Part Number		SKID-OCT-004
Dimensions	mm	3000 x 1520 x 620
Weight (in air / submerged)	kg	~960 / ~0

## Electrical

Supply Voltage	VDC	24VDC
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## Communication

RS 232, RS 485 and Ethernet	8PIN	Glen Air G5506-1508-0004 Pigtail 1 meter
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## Hydraulic

Max. Input Pressure	Bar	207
Max. Output Pressure	Bar	207 (345 optional)
Max. Input Flow	L/min	262
Max. Output Flow Mineral Oil	L/min	165
Max. Output Flow Water Pump	L/min	50

Fluid tank size	Liter	48
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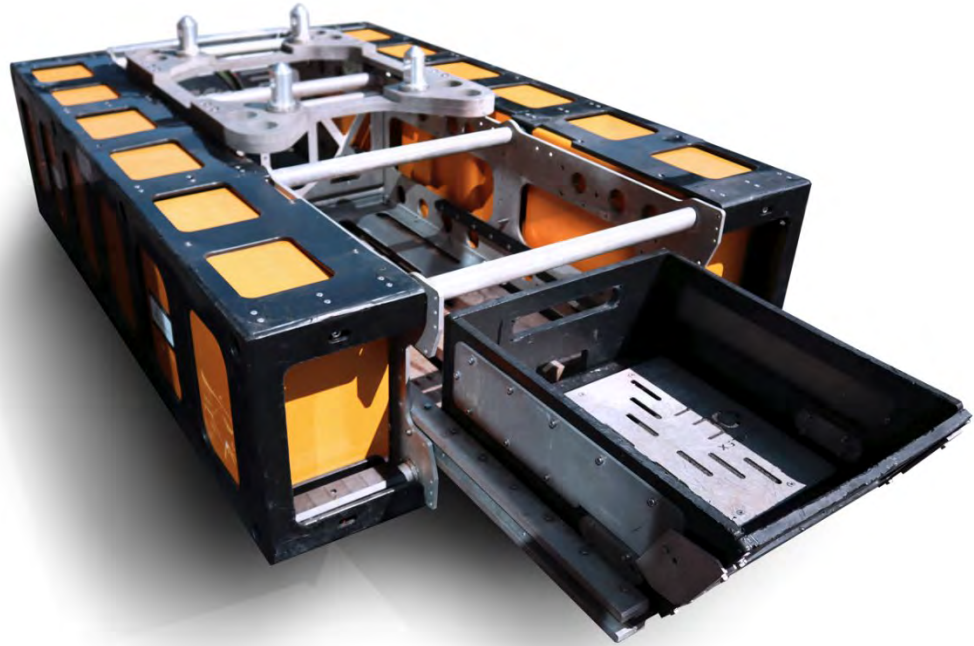
Connection ROV pressure	JIC	#16
Connection ROV return	JIC	#16
Connection ROV drain	JIC	#8
Connection ROV pilot start/stop	JIC	#4
Connection output high flow A & B	JIC	#6
Connection output low flow A & B	JIC	#6
Connection output water pump	JIC	#8

## General Features

Depth rating	MSW	3000
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# OCTOPODA GEN2 ROV TOOLING SKID

INTERCHANGEABLE ROV INTERFACE  
DRAWER AND FIXED FRONT OPTIONS  
LOW WEIGHT



**The Octopoda GEN2 ROV Tooling skid is designed to reduce cost in subsea operations related to installation, maintenance and other activities performed with an ROV.**

The Octopoda GEN2 ROV Skid is equipped with interchangeable interface frame, there are 3 different setups where we have chosen the most standard ROV types.

You can easily choose between drawer or fixed front. For the fixed front solutions there are possibilities to customize, or you can use it as it is, see page 2 for fixed front layout.

The skid can be equipped and designed for all type of ROV operations such as DWP, Fluid pumping, Torque Tools, Dredger`s, Pressure Testing equipment, Cutting tools and more.

## Typical Operations

- ▣ Tooling Operations
- ▣ Fluid Operations
- ▣ Pressure Testing
- ▣ Transport Purposes

## Features

- ▣ Low weight
- ▣ Modular Design
- ▣ Multi ROV interface
- ▣ Service & User Friendly



# SPECIFICATIONS

## Octopoda GEN2 ROV Tooling Skid

### General Technical Specification

Type		Octopoda GEN2 ROV Tooling Skid
Part number		SKID-OCT
Depth Rating	msw	3000
Weight in air / water (empty)	kg	465 / 0 kg
Dimensions (L x W x H)	mm	2400 x 1500 x 850

### Hydraulic Specifications

Hyd Cylinder for drawer, max pressure:	Bar	100
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### Hydraulic Connections

Extend	JIC	4
Retract	JIC	4



Skid with fixed front

# ■ Stabs & Receptacles



- Receptacle Ø35MM SP-10K Interv W/CV BSP 1/2" ID 8MM
- Receptacle Ø35MM DP-10K Interv W/CV BSP 1/2" ID 8MM
- Receptacle Ø35MM QP-10K Interv W/CV BSP 1/2" ID 8MM
- Receptacle Ø43MM SP-10K Interv W/CV BSP 1/2"
- Receptacle Ø43MM DP-10K Interv W/CV BSP 1/2"
- Receptacle Ø43MM TP-10K Interv W/CV BSP 1/2"
- Receptacle Ø43MM QP-10K Interv W/CV BSP 1/2"
- Stab Ø35MM SP-10K Interv V/CV BSP 3/8"
- Stab Ø35MM DP-10K Interv W/CV BSP 3/8"
- Stab Ø35MM QP-10K Interv W/CV BSP 3/8"
- Stab Ø43MM SP-10K Interv V/CV BSP 3/8"
- Stab Ø43MM DP-5K Interv W/CV BSP 1/2"
- Stab Ø43MM DP-10K Interv W/CV BSP 1/2"
- Stab Ø43MM DP-20K Interv W/CV
- Stab Ø43MM TP-5K Interv W/CV BSP 3/8"
- Stab Ø43MM QP-4K Interv W/CV BSP 3/8"
- Stab Ø80MM SP-10K Interv Weco 1502 2"
- Valve Stab Ø55MM 250 Bar Interv BSP 1/2"

# RECEPTACLE Ø35MM SP- 10K-INTERV W/CV BSP 1/2" ID 8MM

PRESSURE RATED TO 690 BAR (10K)  
FIELD PROVEN  
WITH CHECK VALVES



## Description

Receptacle and hot stabs come with integrated check valves as a default for minimum fluid spill and water ingress during operations.

The Receptacle and Hot Stabs are designed to maximize the flow capacity and minimum pressure drop.

Built after API17H, Type 1 design. Available in 1,2,3 and 4-port configurations for maximum flexibility. 1-4 Ports Hot Stabs, Dummy Stabs and Parking Receptacles are available. The Hot Stab/Receptacle system can also be fitted with a lock-system.

## Typical Operations

- Topside Tooling Applications
- Subsea Operations
- Function Testing
- Flushing

## Features

- Field Proven
- Integrated with Check Valves
- Compact Design
- Service and User Friendly
- Robust



# Specifications

Ø35 ROV RECEPTACLE SP-10K-INTERV W/CV 1/2" BSP ID 8MM

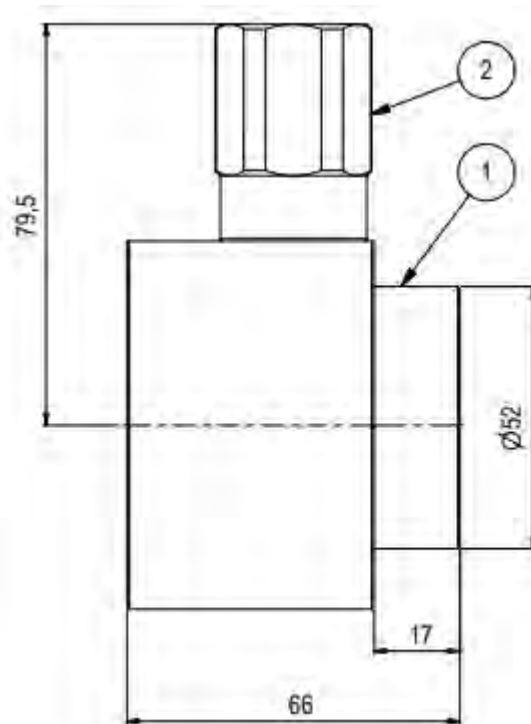
## General Technical Specifications

Type	ROV Receptacle
Part Number	N/A
Dimensions L x W x H	66 mm x 79,5 mm x 79,5 mm
Weight in air	1,6 kg

## Hydraulic

Max Input Pressure	690 Bar
Max Output Pressure	690 Bar
Max Input Flow	25 L/min
Max Output Flow	25 L/min

Connection Port 1	1/2" BSP
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# RECEPTACLE Ø35MM DP- 10K-INTERV W/CV BSP 1/2" ID 8MM

PRESSURE RATED TO 690 BAR (10K)  
FIELD PROVEN  
WITH CHECK VALVES



## Description

Receptacle and hot stabs come with integrated check valves as a default for minimum fluid spill and water ingress during operations.

The Receptacle and Hot Stabs are designed to maximize the flow capacity and minimum pressure drop.

Built after API17H, Type 1 design. Available in 1,2,3 and 4-port configurations for maximum flexibility. 1-4 Ports Hot Stabs, Dummy Stabs and Parking Receptacles are available. The Hot Stab/Receptacle system can also be fitted with a lock-system.

## Typical Operations

- ▣ Topside Tooling Applications
- ▣ Subsea Operations
- ▣ Function Testing
- ▣ Flushing

## Features

- ▣ Field Proven
- ▣ Integrated with Check Valves
- ▣ Compact Design
- ▣ Service and User Friendly
- ▣ Robust



# Specifications

Ø35 ROV RECEPTACLE DP-10K-INTERV W/CV 1/2" BSP ID 8MM

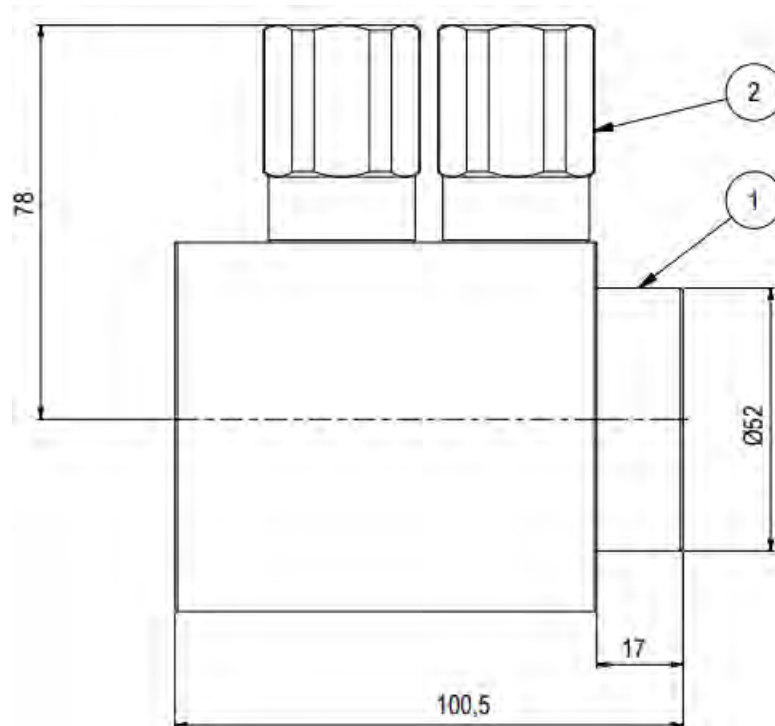
## General Technical Specifications

Type	ROV Receptacle
Part Number	N/A
Dimensions L x W x H	100,5 mm x 78 mm x 78 mm
Weight in air	2,7 kg

## Hydraulic

Max Input Pressure	690 Bar
Max Output Pressure	690 Bar
Max Input Flow	25 L/min
Max Output Flow	25 L/min

Connection Port 1	1/2" BSP
Connection Port 2	1/2" BSP



# RECEPTACLE Ø35MM QP- 10K-INTERV W/CV BSP 1/2" ID 8MM

PRESSURE RATED TO 690 BAR (10K)  
FIELD PROVEN  
WITH CHECK VALVES



## Description

Receptacle and hot stabs come with integrated check valves as a default for minimum fluid spill and water ingress during operations.

The Receptacle and Hot Stabs are designed to maximize the flow capacity and minimum pressure drop.

Built after API17H, Type 1 design. Available in 1,2,3 and 4-port configurations for maximum flexibility. 1-4 Ports Hot Stabs, Dummy Stabs and Parking Receptacles are available. The Hot Stab/Receptacle system can also be fitted with a lock-system.

## Typical Operations

- ▣ Topside Tooling Applications
- ▣ Subsea Operations
- ▣ Function Testing
- ▣ Flushing

## Features

- ▣ Field Proven
- ▣ Integrated with Check Valves
- ▣ Compact Design
- ▣ Service and User Friendly
- ▣ Robust

# Specifications

Ø35 ROV RECEPTACLE QP-10K-INTERV W/CV 1/2" BSP

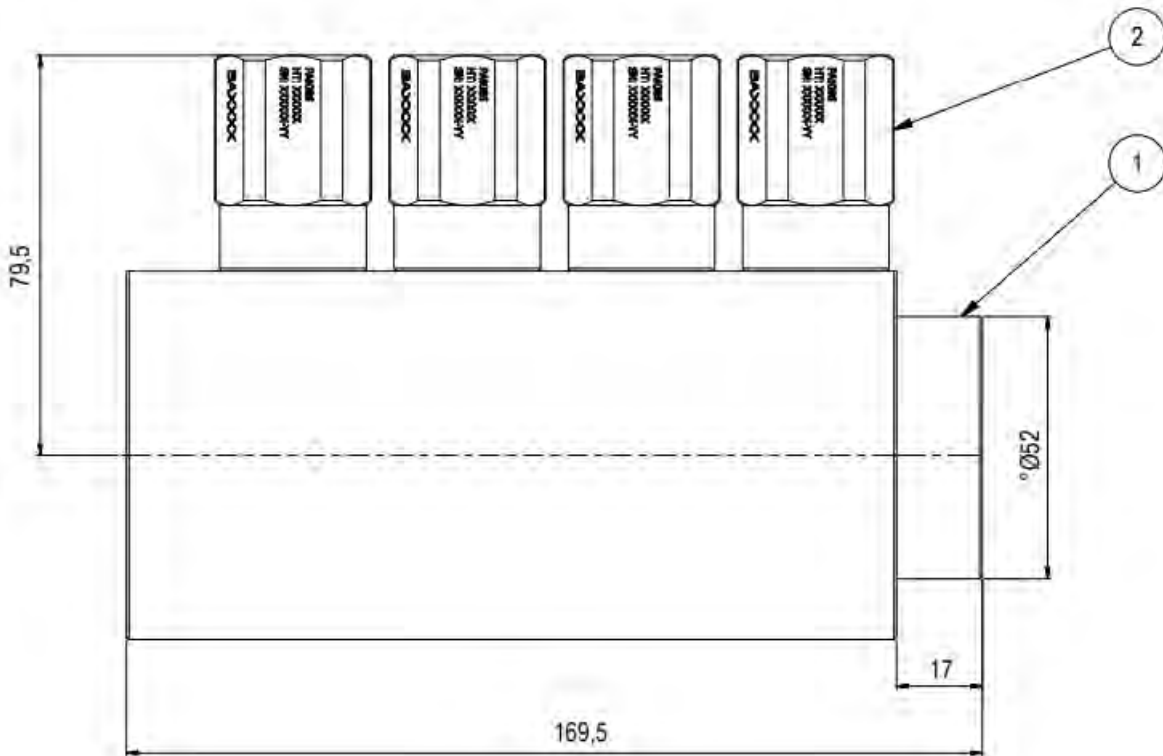
## General Technical Specifications

Type	ROV Receptacle
Part Number	N/A
Dimensions L x W x H	169.5 mm x 79,5 mm x 79,5 mm
Weight in air	4,8 kg

## Hydraulic

Max Input Pressure	690 Bar
Max Output Pressure	690 Bar
Max Input Flow	25 L/min
Max Output Flow	25 L/min

Connection Port 1	1/2" BSP
Connection Port 2	1/2" BSP
Connection Port 3	1/2" BSP
Connection Port 4	1/2" BSP





# RECEPTACLE Ø43MM SP- 10K-INTERV W/CV BSP 1/2"

PRESSURE RATED TO 690 BAR (10K)  
FIELD PROVEN  
WITH CHECK VALVES



## Description

Receptacle and hot stabs come with integrated check valves as a default for minimum fluid spill and water ingress during operations.

The Receptacle and Hot Stabs are designed to maximize the flow capacity and minimum pressure drop.

Built after API17H, Type 1 design. Available in 1,2,3 and 4-port configurations for maximum flexibility. 1-4 Ports Hot Stabs, Dummy Stabs and Parking Receptacles are available. The Hot Stab/Receptacle system can also be fitted with a lock-system.

## Typical Operations

- ▣ Topside Tooling Applications
- ▣ Subsea Operations
- ▣ Function Testing
- ▣ Flushing

## Features

- ▣ Field Proven
- ▣ Integrated with Check Valves
- ▣ Compact Design
- ▣ Service and User Friendly
- ▣ Robust



# Specifications

Ø43 ROV RECEPTACLE SP-10K-INTERV W/CV 1/2" BSP

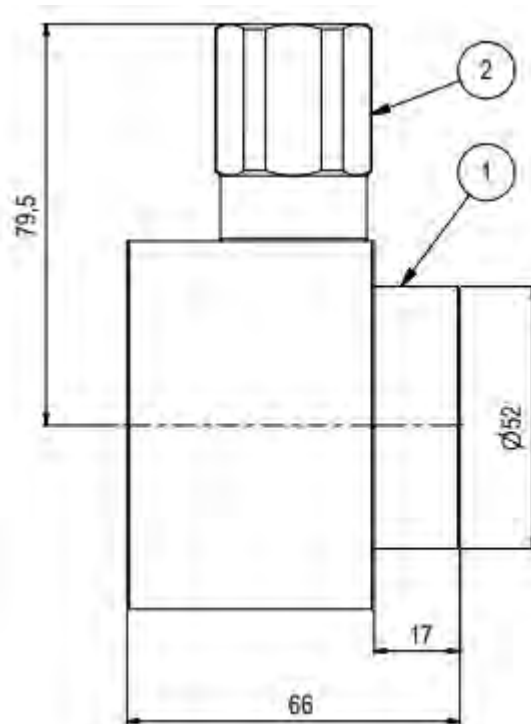
## General Technical Specifications

Type	ROV Receptacle
Part Number	N/A
Dimensions L x W x H	66 mm x 79,5 mm x 79,5 mm
Weight in air	1,6 kg

## Hydraulic

Max Input Pressure	690 Bar
Max Output Pressure	690 Bar
Max Input Flow	25 L/min
Max Output Flow	25 L/min

Connection Port 1	1/2" BSP
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# RECEPTACLE Ø43MM DP- 10K-INTERV W/CV BSP 1/2"

PRESSURE RATED TO 690 BAR (10K)  
FIELD PROVEN  
WITH CHECK VALVES



## Description

Receptacle and hot stabs come with integrated check valves as a default for minimum fluid spill and water ingress during operations.

The Receptacle and Hot Stabs are designed to maximize the flow capacity and minimum pressure drop.

Built after API17H, Type 1 design. Available in 1,2,3 and 4-port configurations for maximum flexibility. 1-4 Ports Hot Stabs, Dummy Stabs and Parking Receptacles are available. The Hot Stab/Receptacle system can also be fitted with a lock-system.

## Typical Operations

- ▣ Topside Tooling Applications
- ▣ Subsea Operations
- ▣ Function Testing
- ▣ Flushing

## Features

- ▣ Field Proven
- ▣ Integrated with Check Valves
- ▣ Compact Design
- ▣ Service and User Friendly
- ▣ Robust

# Specifications

Ø43 ROV RECEPTACLE DP-10K-INTERV W/CV 1/2" BSP

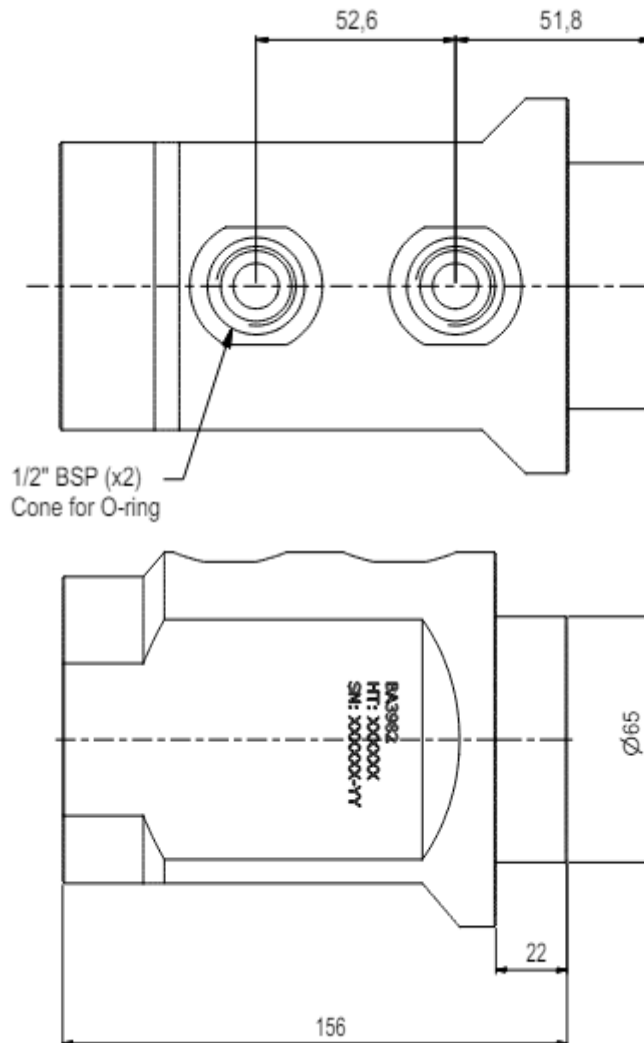
## General Technical Specifications

Type	ROV Receptacle
Part Number	N/A
Dimensions L x W x H	156 mm x Ø65 mm x Ø65 mm
Weight in air	4,4 kg

## Hydraulic

Max Input Pressure	690 Bar
Max Output Pressure	690 Bar
Max Input Flow	25 L/min
Max Output Flow	25 L/min

Connection Port 1	1/2" BSP
Connection Port 2	1/2" BSP



# RECEPTACLE Ø43MM TP- 10K-INTERV W/CV BSP 1/2"

PRESSURE RATED TO 690 BAR (10K)  
FIELD PROVEN  
WITH CHECK VALVES



## Description

Receptacle and hot stabs come with integrated check valves as a default for minimum fluid spill and water ingress during operations.

The Receptacle and Hot Stabs are designed to maximize the flow capacity and minimum pressure drop.

Built after API17H, Type 1 design. Available in 1,2,3 and 4-port configurations for maximum flexibility. 1-4 Ports Hot Stabs, Dummy Stabs and Parking Receptacles are available. The Hot Stab/Receptacle system can also be fitted with a lock-system.

## Typical Operations

- ▣ Topside Tooling Applications
- ▣ Subsea Operations
- ▣ Function Testing
- ▣ Flushing

## Features

- ▣ Field Proven
- ▣ Integrated with Check Valves
- ▣ Compact Design
- ▣ Service and User Friendly
- ▣ Robust



# Specifications

Ø43 ROV RECEPTACLE TP-10K-INTERV W/CV ½" BSP

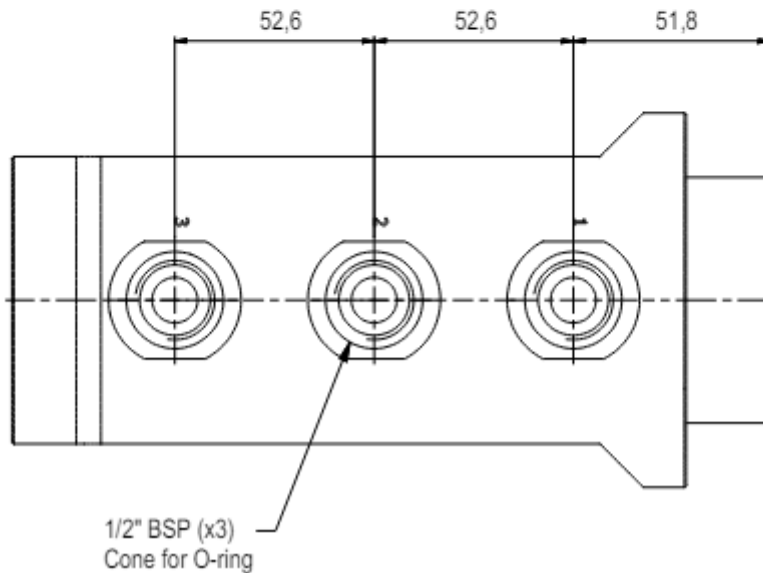
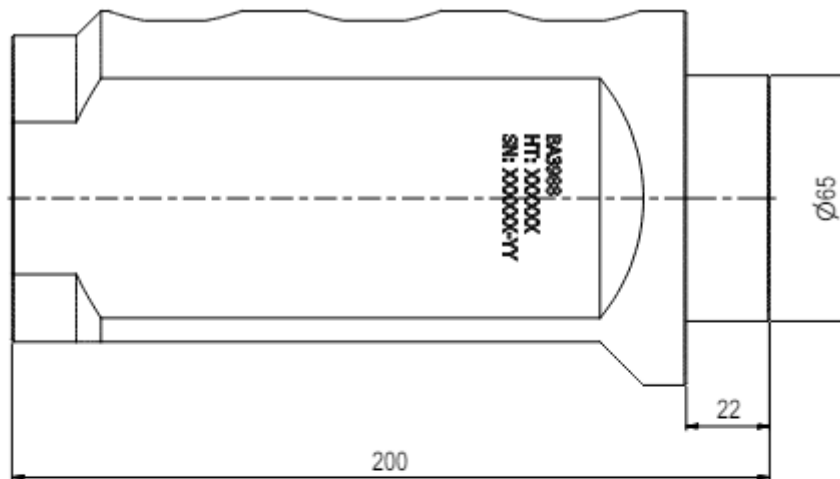
## General Technical Specifications

Type	ROV Receptacle
Part Number	N/A
Dimensions L x W x H	200 mm x Ø65 mm x Ø65 mm
Weight in air	6,6 kg

## Hydraulic

Max Input Pressure	690 Bar
Max Output Pressure	690 Bar
Max Input Flow	25 L/min
Max Output Flow	25 L/min

Connection Port 1	½" BSP
Connection Port 2	½" BSP
Connection Port 3	½" BSP



■ The specification details are illustrative for marketing purpose only. Actual equipment may be different as a result of product improvement or other reasons. Specific interface and performance information should be reconfirmed at time of order placement.  
 Envirent AS, Robotvegen 16, 4340 Bryne, +47 477 77 500, post@envirent.no

# RECEPTACLE Ø43MM QP- 10K-INTERV W/CV BSP 1/2"

PRESSURE RATED TO 690 BAR (10K)  
FIELD PROVEN  
WITH CHECK VALVES



## Description

Receptacle and hot stabs come with integrated check valves as a default for minimum fluid spill and water ingress during operations.

The Receptacle and Hot Stabs are designed to maximize the flow capacity and minimum pressure drop.

Built after API17H, Type 1 design. Available in 1,2,3 and 4-port configurations for maximum flexibility. 1-4 Ports Hot Stabs, Dummy Stabs and Parking Receptacles are available. The Hot Stab/Receptacle system can also be fitted with a lock-system.

## Typical Operations

- ▣ Topside Tooling Applications
- ▣ Subsea Operations
- ▣ Function Testing
- ▣ Flushing

## Features

- ▣ Field Proven
- ▣ Integrated with Check Valves
- ▣ Compact Design
- ▣ Service and User Friendly
- ▣ Robust

# Specifications

Ø43 ROV RECEPTACLE QP-10K-INTERV W/CV 1/2" BSP

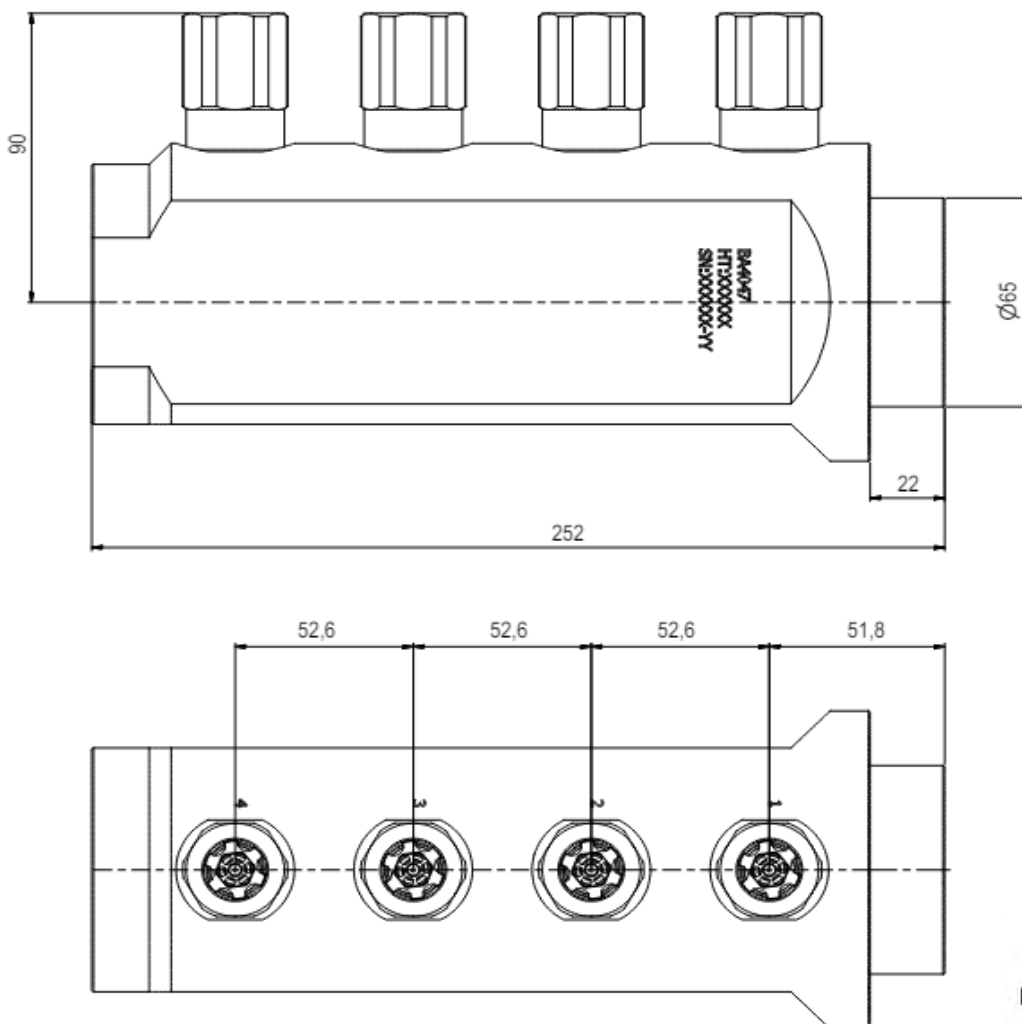
## General Technical Specifications

Type	ROV Receptacle
Part Number	N/A
Dimensions L x W x H	252 mm x Ø65 mm x 90 mm
Weight in air	9,3 kg

## Hydraulic

Max Input Pressure	690 Bar
Max Output Pressure	690 Bar
Max Input Flow	25 L/min
Max Output Flow	25 L/min

Connection Port 1	1/2" BSP
Connection Port 2	1/2" BSP
Connection Port 3	1/2" BSP
Connection Port 4	1/2" BSP





# STAB Ø35MM SP-10K INTERV V/CV BSP 3/8"

PRESSURE RATED TO 690 BAR

FIELD PROVEN

WITH CHECK VALVE



## Description

The Ø35mm Hot Stab is made according to API 17D. This Hot Stab is general designed for flow up to approx. 25 liters pr. minute.

## Typical Operations

- Topside Tooling applications
- Subsea Operations
- Function Testing
- Flushing

## Features

- Field Proven
- Integrated check valves
- Compact Design
- Service & User Friendly
- Massive and robust

# SPECIFICATIONS

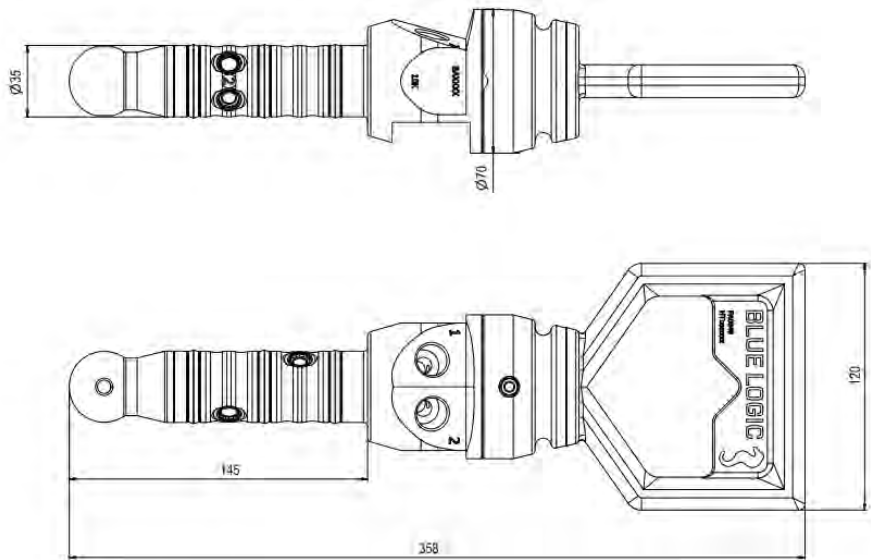
Stab Ø35 - SP

## General Technical Specification

Type	Ø35 QP Stab, 10K interv w/check valve BSP 3/8"
ID	6mm
Hydraulic Input	BSP 3/8"
Weight	3 Kg
Dimensions (L x W x H) [mm]	322 x 120 x 120

## Hydraulic Specifications

Pressure Rated	690 bar
Max. Output Flow	25 l/min



# STAB Ø35MM DP-10K INTERV V/CV BSP 3/8"

PRESSURE RATED TO 690 BAR

FIELD PROVEN

WITH CHECK VALVE



## Description

The Ø35mm Hot Stab is made according to API 17D. This Hot Stab is general designed for flow up to approx. 25 liters pr. minute.

## Typical Operations

- Topside Tooling applications
- Subsea Operations
- Function Testing
- Flushing

## Features

- Field Proven
- Integrated check valves
- Compact Design
- Service & User Friendly
- Massive and robust

# SPECIFICATIONS

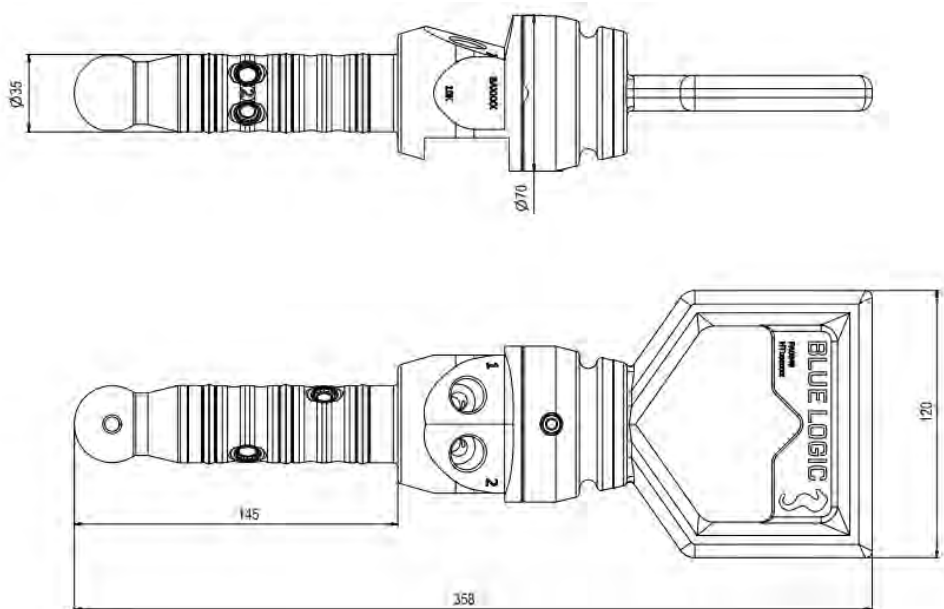
Stab Ø35 - DP

## General Technical Specification

Type	Ø35 QP Stab, 10K interv w/check valve BSP 3/8"
ID	6mm
Hydraulic Input	BSP 3/8"
Weight	3.1 Kg
Dimensions (L x W x H) [mm]	358 x 120 x 120

## Hydraulic Specifications

Pressure Rated	690 bar
Max. Output Flow	25 l/min



# STAB Ø35MM QP-10K INTERV V/CV BSP 3/8"

PRESSURE RATED TO 690 BAR

FIELD PROVEN

WITH CHECK VALVE



## Description

The Ø35mm Hot Stab is made according to API 17D. This Hot Stab is general designed for flow up to approx. 25 liters pr. minute.

## Typical Operations

- Topside Tooling applications
- Subsea Operations
- Function Testing
- Flushing

## Features

- Field Proven
- Integrated check valves
- Compact Design
- Service & User Friendly
- Massive and robust

# SPECIFICATIONS

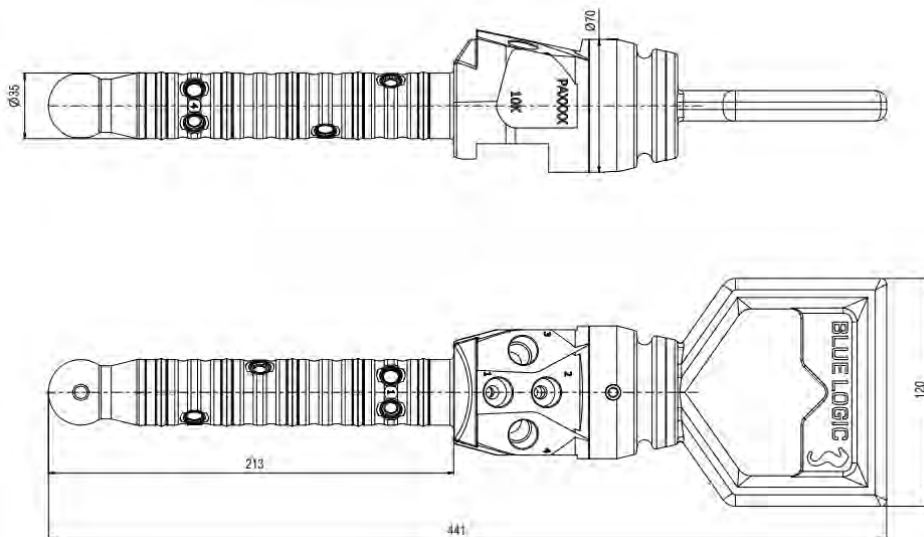
Stab Ø35 - QP

## General Technical Specification

Type	Ø35 QP Stab, 10K interv w/check valve BSP 3/8"
ID	5,5mm
Hydraulic Input	BSP 3/8"
Weight	4.2 Kg
Dimensions (L x W x H) [mm]	441 x 120 x 120

## Hydraulic Specifications

Pressure Rated	690 bar
Max. Output Flow	25 l/min



# STAB Ø43MM SP-10K INTERV V/CV BSP 3/8"

PRESSURE RATED TO 690 BAR

FIELD PROVEN

WITH CHECK VALVE



## Description

The Ø35mm Hot Stab is made according to API 17D.

## Typical Operations

- Topside Tooling applications
- Subsea Operations
- Function Testing
- Flushing

## Features

- Field Proven
- Integrated check valves
- Compact Design
- Service & User Friendly
- Massive and robust

# SPECIFICATIONS

Stab Ø43 - SP

## General Technical Specification

Type	Ø35 QP Stab, 10K interv w/check valve BSP 3/8"
ID	6mm
Hydraulic Input	BSP 3/8"
Weight	3.1 Kg
Dimensions (L x W x H) [mm]	358 x 120 x 120

## Hydraulic Specifications

Pressure Rated	690 bar
Max. Output Flow	NA



# STAB Ø43MM DP-5K- INTERV W/CV BSP 1/2

PRESSURE RATED TO 345 BAR(5K)  
FIELD PROVEN  
WITH CHECK VALVES



## Description

The Ø43mm Hot Stab is made accordingly to API 17H Type 1 and comes in different types and configurations to suit a wide range of applications.

Ø8 bores for maximum flow and minimum pressure drop. Pressure tested to 1.5 x design pressure.

Typical pressure drop: 15 bar @50 L/min.

ROV or diver operated. Low mating force and easy entering, integrated flexjoint between stab and D-handle. Locking mechanism for stab available for critical applications.

Available in 1,2,3 and 4-port configurations for maximum flexibility. 1-4 ports receptacles, pressure stabs, dummy stabs and parking receptacles available.

## Typical Operations

- ▣ Topside Tooling Applications
- ▣ Subsea Operations
- ▣ Function Testing
- ▣ Flushing

## Features

- ▣ Field Proven
- ▣ Integrated with Check Valves
- ▣ Compact Design
- ▣ Service and User Friendly
- ▣ Robust

# Specifications

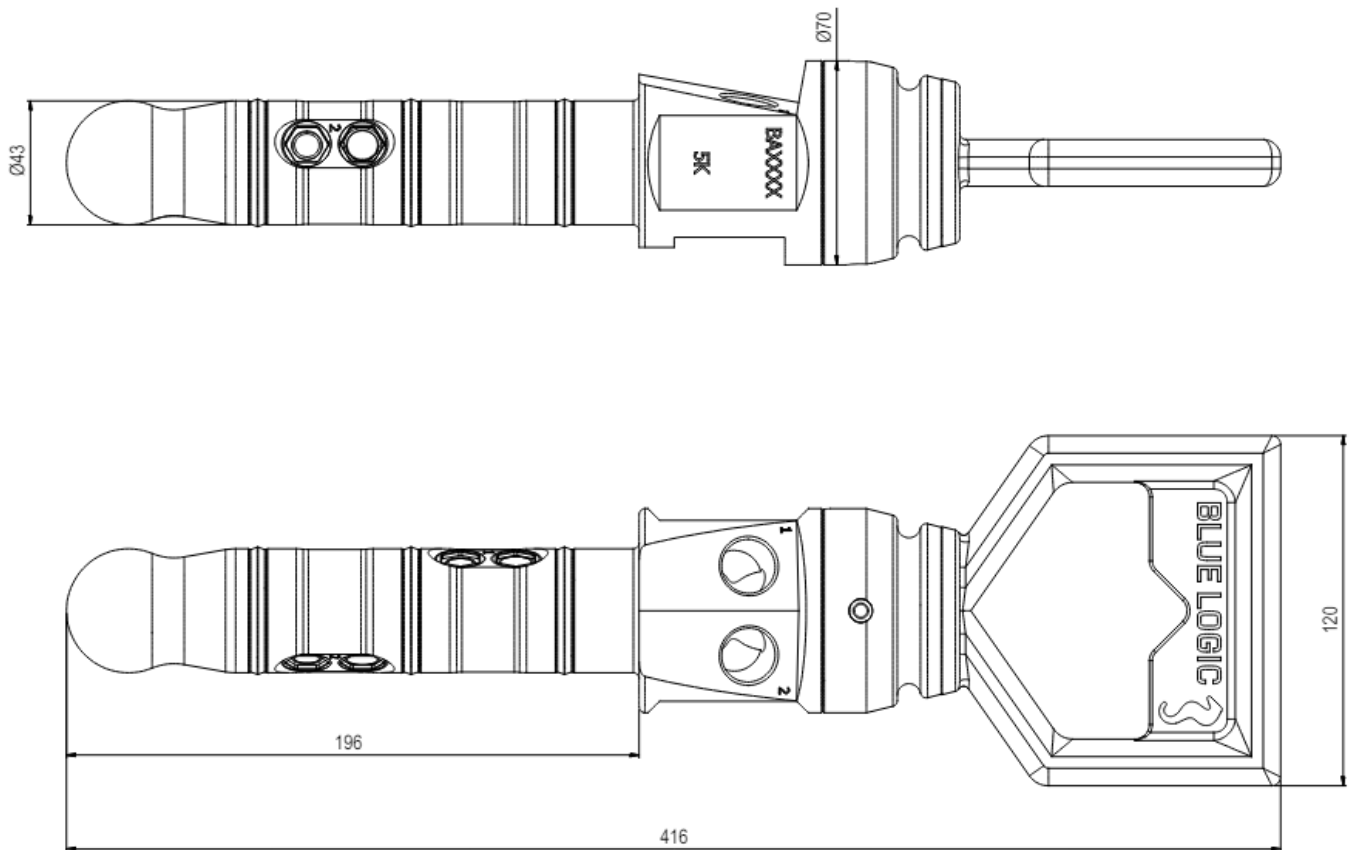
STAB Ø43 DP 5K INTERV W/CV

## General Technical Specifications

Type	Hot Stab Ø43 DP 5K w/cv
Part No	N/A
Dimensions L x W x H	416 mm x 70 mm x 120 mm
Design Standard	4,2 kg

## Hydraulic

Pressure Rated	345 Bar
Hydraulic Input #1	BSP 1/2"
Hydraulic Input #2	BSP 1/2"



# STAB Ø43MM DP-10K- INTERV W/CV BSP 1/2"

PRESSURE RATED TO 690 BAR(10K)  
FIELD PROVEN  
WITH CHECK VALVES



## Description

The Ø43mm Hot Stab is made accordingly to API 17H Type 1 and comes in different types and configurations to suit a wide range of applications.

Ø8 bores for maximum flow and minimum pressure drop. Pressure tested to 1.5 x design pressure.

Typical pressure drop: 15 bar @50 L/min.

ROV or diver operated. Low mating force and easy entering, integrated flexjoint between stab and D-handle. Locking mechanism for stab available for critical applications.

Available in 1,2,3 and 4-port configurations for maximum flexibility. 1-4 ports receptacles, pressure stabs, dummy stabs and parking receptacles available.

## Typical Operations

- ▣ Topside Tooling Applications
- ▣ Subsea Operations
- ▣ Function Testing
- ▣ Flushing

## Features

- ▣ Field Proven
- ▣ Integrated with Check Valves
- ▣ Compact Design
- ▣ Service and User Friendly
- ▣ Robust

# Specifications

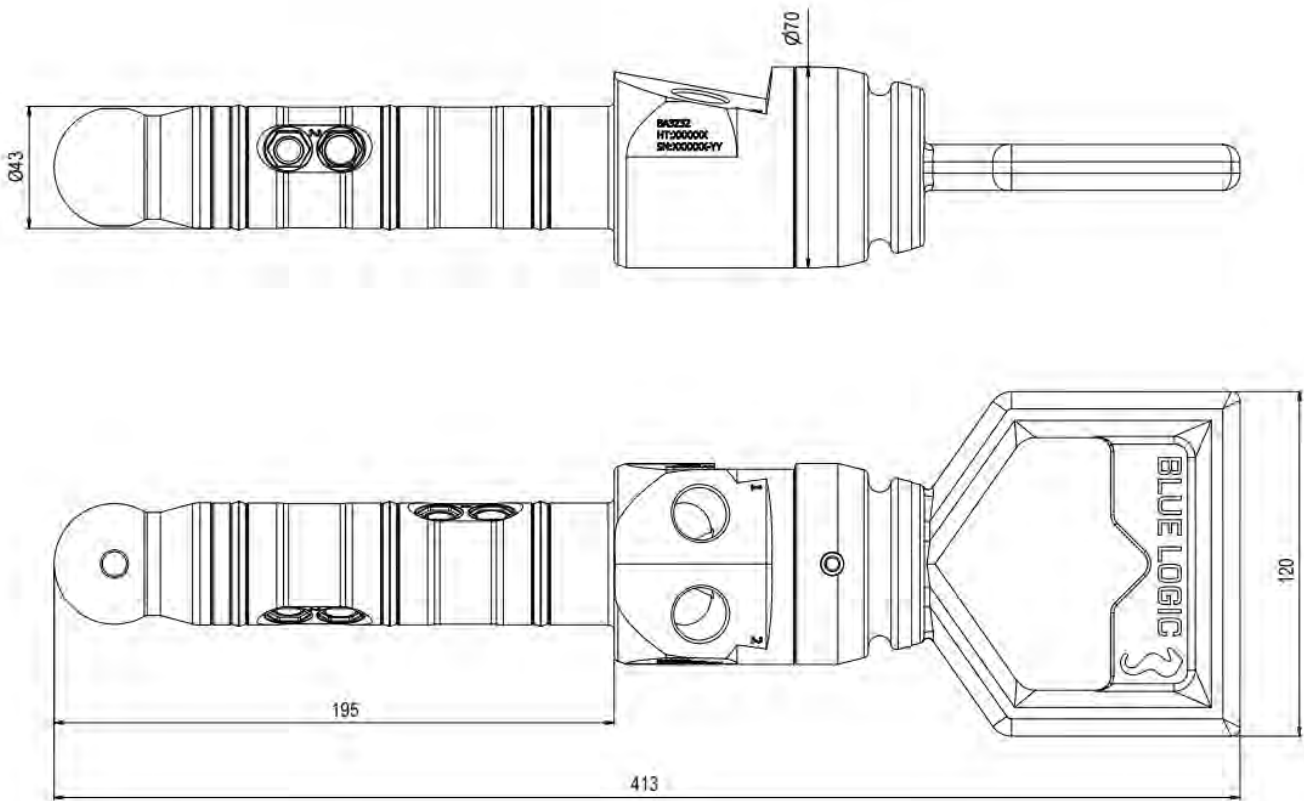
STAB Ø43 DP 10K INTERV W/CV 1/2" BSP

## General Technical Specifications

Type	Hot Stab Ø43 DP 10K w/cv
Part No	N/A
Dimensions L x W x H	413 mm x 70 mm x 120 mm
Design Standard	4,6 kg

## Hydraulic

Pressure Rated	690 Bar
Hydraulic Input #1	1/2" BSP
Hydraulic Input #2	1/2" BSP



# STAB Ø43MM DP-20K- INTERV W/CV

PRESSURE RATED TO 1379 BAR(20K)  
FIELD PROVEN  
WITH CHECK VALVES



## Description

The Ø43mm Hot Stab is made accordingly to API 17H Type 1 and comes in different types and configurations to suit a wide range of applications.

Ø8 bores for maximum flow and minimum pressure drop. Pressure tested to 1.5 x design pressure.

Typical pressure drop: 15 bar @50 L/min.

ROV or diver operated. Low mating force and easy entering, integrated flexjoint between stab and D-handle. Locking mechanism for stab available for critical applications.

Available in 1,2,3 and 4-port configurations for maximum flexibility. 1-4 ports receptacles, pressure stabs, dummy stabs and parking receptacles available.

## Typical Operations

- ▣ Topside Tooling Applications
- ▣ Subsea Operations
- ▣ Function Testing
- ▣ Flushing

## Features

- ▣ Field Proven
- ▣ Integrated with Check Valves
- ▣ Compact Design
- ▣ Service and User Friendly
- ▣ Robust

# Specifications

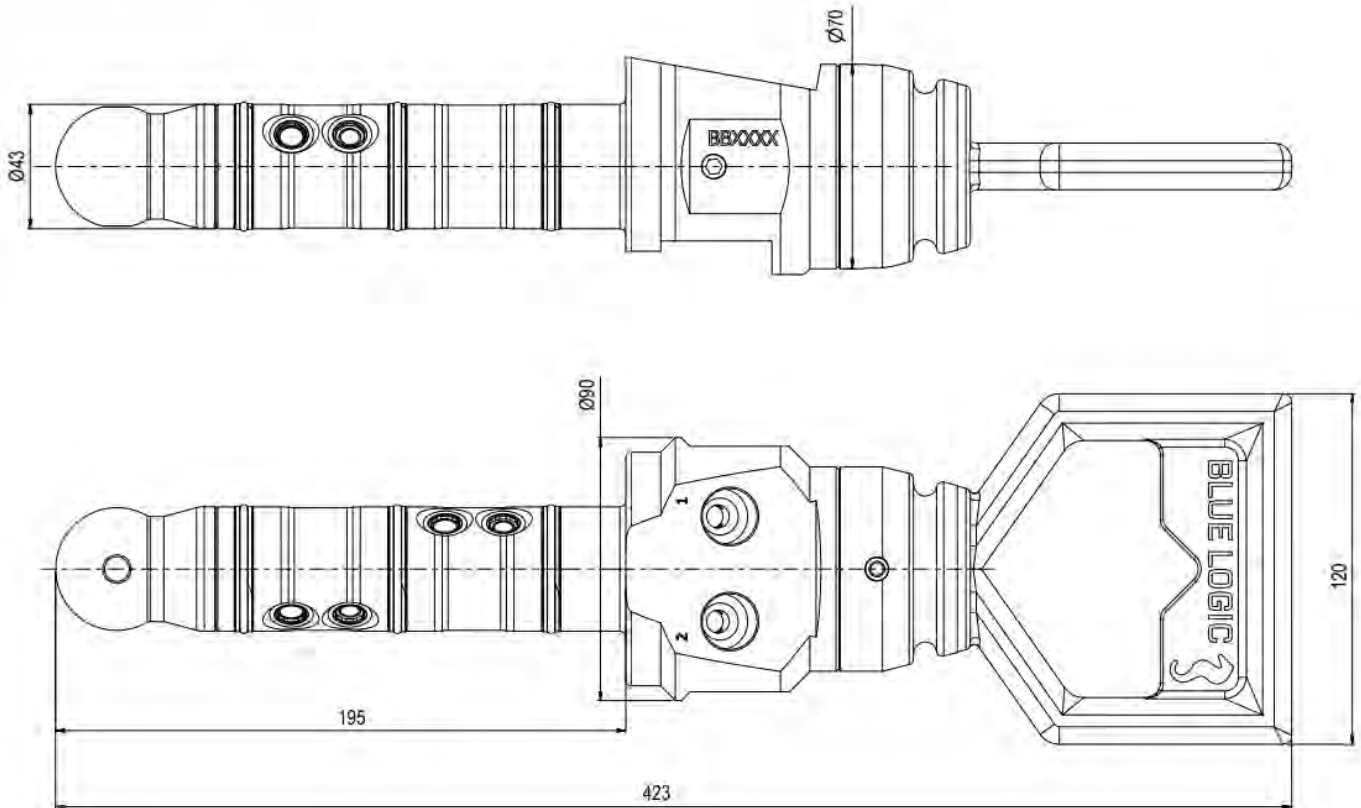
STAB Ø43 DP 20K INTERV W/CV

## General Technical Specifications

Type	Hot Stab Ø43 DP 20K w/cv
Part No	N/A
Dimensions L x W x H	423 mm x 90 mm x 120 mm
Design Standard	5,5 kg

## Hydraulic

Pressure Rated	1379 Bar
Hydraulic Input #1	MP 9/16"
Hydraulic Input #2	MP 9/16"



# STAB Ø43MM TP-5K- INTERV W/CV BSP 3/8

PRESSURE RATED TO 345 BAR(5K)  
FIELD PROVEN  
WITH CHECK VALVES



## Description

The Ø43mm Hot Stab is made accordingly to API 17H Type 1 and comes in different types and configurations to suit a wide range of applications.

Ø8 bores for maximum flow and minimum pressure drop. Pressure tested to 1.5 x design pressure.

ROV or diver operated. Low mating force and easy entering, integrated flexjoint between stab and D-handle. Locking mechanism for stab available for critical applications.

Available in 1,2,3 and 4-port configurations for maximum flexibility. 1-4 ports receptacles, pressure stabs, dummy stabs and parking receptacles available.

## Typical Operations

- ▣ Topside Tooling Applications
- ▣ Subsea Operations
- ▣ Function Testing
- ▣ Flushing

## Features

- ▣ Field Proven
- ▣ Integrated with Check Valves
- ▣ Compact Design
- ▣ Service and User Friendly
- ▣ Robust



# Specifications

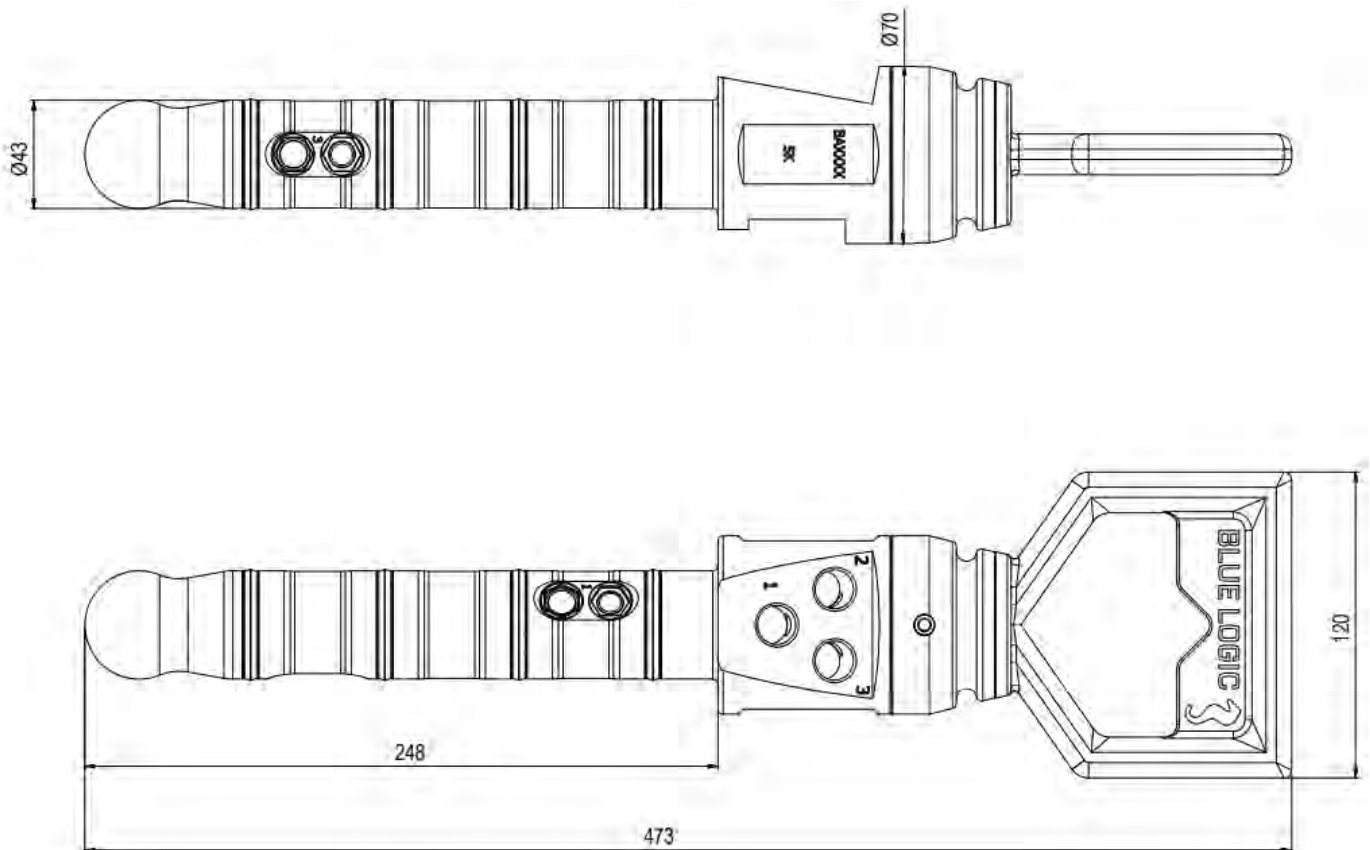
STAB Ø43 DP 5K INTERV W/CV BSP 3/8"

## General Technical Specifications

Type	Hot Stab Ø43 DP 5K w/cv
Part No	N/A
Dimensions L x W x H	473 mm x 70 mm x 120 mm
Design Standard	4,9 kg

## Hydraulic

Pressure Rated	345 Bar
Hydraulic Input #1	3/8" BSP
Hydraulic Input #2	3/8" BSP
Hydraulic Input #3	3/8" BSP





# STAB Ø43MM QP-4K- INTERV W/CV BSP 3/8"

PRESSURE RATED TO 276 BAR(4K)  
FIELD PROVEN  
WITH CHECK VALVES



## Description

The Ø43mm Hot Stab is made accordingly to API 17H Type 1 and comes in different types and configurations to suit a wide range of applications.

Ø8 bores for maximum flow and minimum pressure drop. Pressure tested to 1.5 x design pressure.

ROV or diver operated. Low mating force and easy entering, integrated flexjoint between stab and D-handle. Locking mechanism for stab available for critical applications.

Available in 1,2,3 and 4-port configurations for maximum flexibility. 1-4 ports receptacles, pressure stabs, dummy stabs and parking receptacles available.

## Typical Operations

- ▣ Topside Tooling Applications
- ▣ Subsea Operations
- ▣ Function Testing
- ▣ Flushing

## Features

- ▣ Field Proven
- ▣ Integrated with Check Valves
- ▣ Compact Design
- ▣ Service and User Friendly
- ▣ Robust

# Specifications

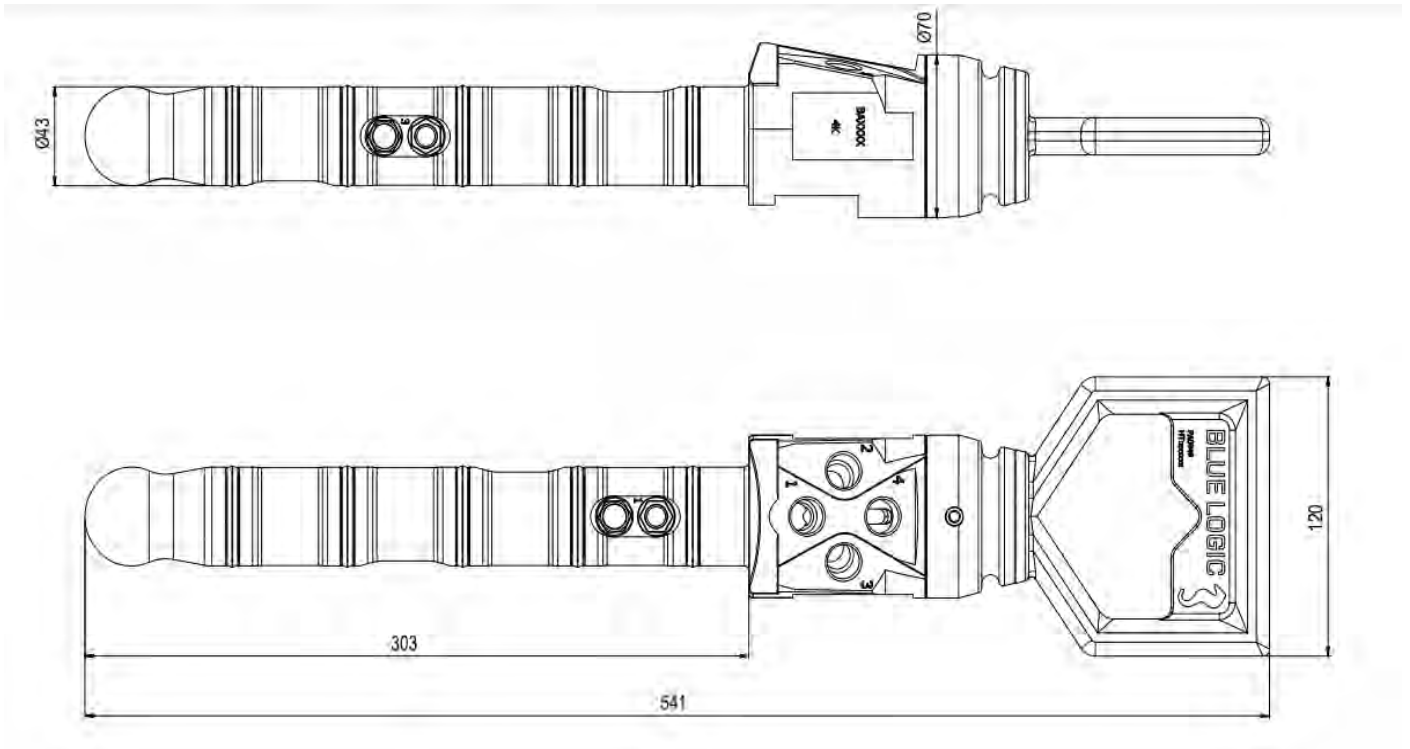
STAB Ø43MM QP 4K INTERV W/CV BSP 3/8"

## General Technical Specifications

Type	Hot Stab Ø43 QP 4K w/cv
Part No	N/A
Dimensions L x W x H	541 mm x 70 mm x 120 mm
Design Standard	6 kg

## Hydraulic

Pressure Rated	276 Bar
Hydraulic Input #1	3/8" BSP
Hydraulic Input #2	3/8" BSP
Hydraulic Input #3	3/8" BSP
Hydraulic Input #4	3/8" BSP



# STAB Ø80MM SP-10K- INTERV WECO 1502 2"

PRESSURE RATED TO 690 BAR(10K)  
FIELD PROVEN  
WITH CHECK VALVES



## Description

The Ø80mm Hot Stab program is optimized with respect to maximum flow and designed for RFO activities and well intervention. Combining high flow and high pressure makes it perfect for activities related to pigging and testing. Designed after API 17H ISO13628-8 and comes in different types and configurations to suit a wide range of applications.

Ø8 bores for maximum flow and minimum pressure drop. Pressure tested to 1.5 x design pressure.

ROV or diver operated. Low mating force and easy entering. Integrated handle and integrated for 2" 1502 Weco connector. Integrated with swivel and J-lock.

## Typical Operations

- ▣ Topside Tooling Applications
- ▣ Subsea Operations
- ▣ Function Testing
- ▣ Flushing

## Features

- ▣ Field Proven
- ▣ Integrated with Check Valves
- ▣ Compact Design
- ▣ Service and User Friendly
- ▣ Robust

# Specifications

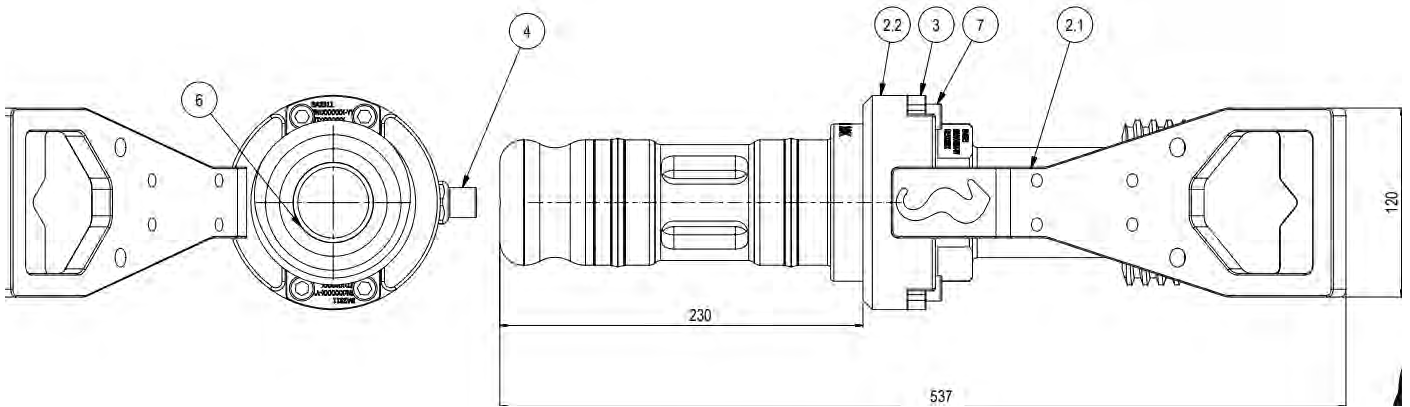
STAB Ø80 SP-10K-INTERV WECO 2"

## General Technical Specifications

Type	Hot Stab Ø80 SP-10K-Interv WECO 1502 2"
Part No	N/A
Dimensions L x W x H	537 mm x 136 mm x 136 mm
Design Standard	15,7 kg

## Hydraulic

Pressure Rated	690 Bar
Hydraulic Input #1	2" 1502 WECO Female



# VALVE STAB Ø55MM 250 BAR INTERV BSP 1/2"

PRESSURE RATED TO 250 BAR

FIELD PROVEN

WITH CHECK VALVES



## Typical Operations

- ▣ Topside Tooling applications
- ▣ Subsea Operations
- ▣ Function Testing
- ▣ Flushing

## Features

- ▣ Field Proven
- ▣ Compact Design
- ▣ Service & User Friendly
- ▣ Massive and robust

# SPECIFICATIONS

Stab Ø55 - TP

## General Technical Specification

Type	Ø55 TP VStab 250 Bar, BSP 3/8"
Hydraulic Input	BSP 1/2"
Weight	6,7 Kg
Material	Intervention

## Hydraulic Specifications

Pressure Rated	250 Bar
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# ■ Survey & Inspection Equipment



- Front Mounted Pipe Tracker Deployment Frame
- Hydro-Lek Camera Boom
- Ixys Camera Ethernet 500M
- Ixys LED Light
- ROV NAV Extender
- SILVERTIP Shark Camera
- SPT-115 Rugged Pan & Tilt
- Subsea Ethernet Camera Aleutian
- Tonga Subsea Camera

# FRONT MOUNTED PIPE TRACKER DEPLOYMENT FRAME

Survey & Inspection Equipment



## Description

**The front mounted, retractable pipe tracker frame is suitable for fitment onto a range of vehicles. Designed to take the TSS 440 array of coils and mounted in accordance with the manufacturer's recommendations.**

The pipe tracker frame has been specifically designed to allow the ROV to retract a pipe tracker to a vertical position making launch and recovery easier.

The supplied hydraulic control panel ensures a smooth synchronized extend and retract movement.

## Features

- Fully retractable for safe ROV deployment & recovery
- Lightweight to ensure no additional buoyancy requirement
- Fully configurable to different vehicles
- Completely non-magnetic materials used within the critical range of the coils
- Adjustable framework to allow the coil distance from the ROV to be increased
- Securely mounts to vehicle on multiple points
- Easily dissembled to achieve small shipping footprint





# Specifications

## Front Mounted Pipe Tracker Deployment Frame

### General Technical Specifications

Type Front Mounted Pipe Tracker Frame  
Part Number N/A

### Hydraulic

Max Input Pressure 210 Bar  
Max Input Flow 40 L/min

Connection ROV Extend JIC #4  
Connection ROV Retract JIC #4

### Technical

Depth Rating MSW 4000



# HYDRO-LEK CAMERA BOOM

HLK-4600PT

USES HLK-2150 PAN & TILT UNIT

INSPECTION OF PIPELINES UP TO 1MTR IN DIAMETER



## Description

**The Envirent HLK-4600PT is a 4-function arm that is designed for inspection of pipelines with diameter up to 1mtr.**

The camera boom can be fitted with customer specified cameras and lightning.

Camera boom manipulator can be deployed on medium to large sized work class ROV's.

## Typical Operations

- ▣ Survey of Pipelines
- ▣ Inspection

## Features

- ▣ Designed for inspection of pipeline up to 1mtr in diameter
- ▣ Camera position stable throughout 120° angular movement of arm
- ▣ Camera mount can be tilted through 120° and rotated through 360°
- ▣ Uses HLK-2150 pan & tilt unit

# SPECIFICATIONS

HLK-4600pt

## General

Degrees of Freedom	4
Materials	316 Stainless Steel, 6082 Aluminum, HDPE
Product Finish	Hard Anodised, Painted
Dimensions	Refer to Drawing
Weight in Air	31,6Kg (69,5lb)
Weight in Water	19,6Kg (43lb)
Maximum Reach	1300mm (51")
Pan Travel	360 Degrees
Tilt Travel	120 Degrees

## Hydraulic Performance

Max. Working Pressure	207bar (3000psi)
Flow	0.5lpm to 6lpm (0.13gpm to 1.58gpm)
Fluid Type	<b>Mineral:</b> DIN 51524, ISO 11158, ISO 6743-4 <b>Synthetic:</b> Panolin Atlantis, HLP-Synth
Viscosity	16cSt to 220cSt. VG 22-32 Recommended
Fluid Temperature	5-60°C (41-140°F)
Cleanliness Requirements	ISO 4406:19/17/14, NAS 1638:8, AS4059:9A/8B/8C

## Performances

Pan Torque	38Nm @ 140bar (28lb.ft @ 2000psi)
Maximum Payload	12kgs (26.4lb)

## Environmental

Operational Depth	6000msw (19,680ft)
Operational Temperature	5-60°C (41-140°F)
Storage Temperature	0-70°C (32-158°F)
Humidity	0% to 100% Condensing

# ICSYS CAMERA ETHERNET 500M

ROV INSPECTION  
ETHERNET  
500M



## Description

**The Subsea Ethernet Camera is a standalone unit for capturing video and streaming it through Ethernet.**

The Subsea Ethernet Camera is a standalone unit for capturing video and streaming it through Ethernet. Intuitive web based user interface for configuration via web browser. Web-interface is accessed by entering the IP address directly into the web browser. Live stream is available in the web browser. Multi-cast video stream is available for simultaneously streaming to several monitors/destinations.

## Features

- Standalone
- Encoding latency ~130ms
- Default IP 192.168.24.53
- Web browser configuration interface
- Compression: H264 HP@L3, MPEG-4, MJPEG
- Output Stream: MPEG-TS, H264 VES, MJPEG
- Streams via: HTTP, RTP, RTSP, UDP
- 500m and 4000m depth rating options

# ICSYS LED LIGHT

ROV INSPECTION  
LED LIGHT  
3150 LUMEN



## Description

**The iCsys Subsea Light is a standalone product for our subsea equipment range.**

The iCsys Subsea Light consist of an acrylic dome for spreading the light and an aluminum base for heat transportation.

The Subsea Light has an impressive illumination of 3150lumens at 24Vdc @ 1.1A. It fits to a variety of subsea applications, from small ROV's to large well intervention packages.

## Features

- High Power LEDs
- Auto temperature control
- Compact and low weight
- Color temperature 4100K
- 3150 Lumen @ 24VDC (1.1A)
- 80° width angle for Beam of Light
- Dimmable

# SPECIFICATIONS

## ICSYS LED LIGHT

### General Technical Specifications

Type	iCsys LED Light
Part Number	114558
Dimensions	mm 94 x 94 x 72
Weight (in air / submerged)	kg ~1

### Electrical

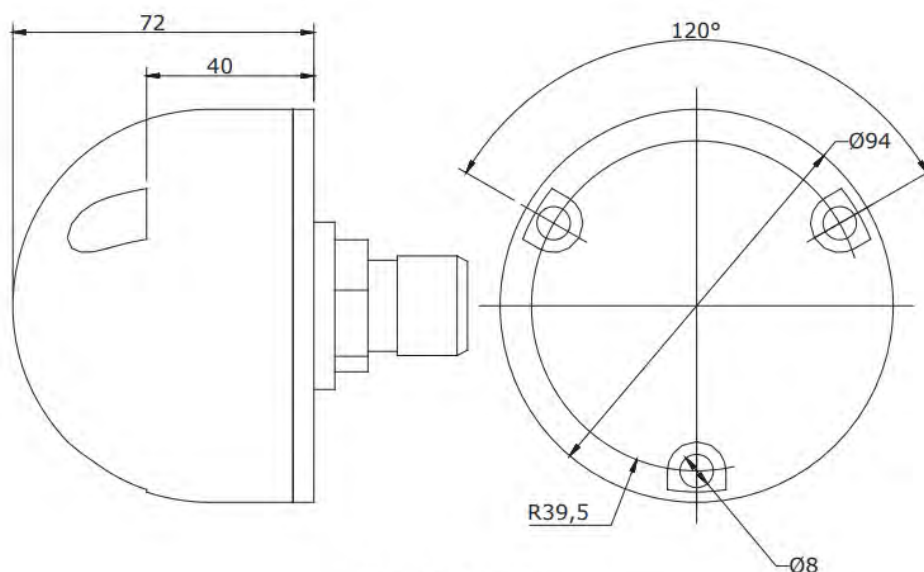
Supply Voltage	VDC 22-30VDC
Power Consumption	W ~30

### Communication

Voltage dimming 0-5VDC	Standard
Connector	GlenAir G5507-1508 Pinout

### General Features

Depth rating	MSW 3000
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Standard config  
GlenAir G5507-1508 Pinout

- 1: 0V
- 2: 24VDC
- 3: 0-5VDC
- 4: NC
- 5: NC
- 6: NC
- 7: NC
- 8: NC

# ROV NAV EXTENDER

Extender for use with USBL  
responder or transponder



## Description

**The ROV NAV extender is designed for use with USBL responders and transponders.**

Single acting actuator capable of 300mm extension allowing the ROV NAV to be extended above the vehicle.

Spring return allowing full retraction in a dead sub scenario.

Supplied with 4 Jic hydraulic hose and jubilee clips.

## Features

- 300mm extension
- Single acting
- Spring return
- Easy mounting

# Specifications

## ROV NAV Extender

### General Technical Specifications

Type	ROV NAV Extender
Part Number	N/A
Dimensions L x W x H	1000 mm x 90 mm x 100 mm
Weight in air	9.5 kg

### Hydraulic

Max Input Pressure	210 Bar
Max Input Flow	40 L/min
Connection ROV Pressure	JIC #4

### Technical

Depth Rating	MSW 3000
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# SILVERTIP SHARK CAMERA

ROV INSPECTION  
ROV CAMERA  
LED LIGHT



## Description

**The Silvertip is a small, user friendly camera with LED lights, high quality colour video and up to 90° angle of view. The camera is fitted with duplex steel housing capable of depths of 6,000MSW.**

Rated to 6000 msw and fitted with a wide-angle lens and 4 high intensity LED lights this colour video is ideal when great scene illumination is an imperative. Available in Duplex Stainless Steel. The camera comes with a three (3) year warranty.

## Features

- 1/3 Super HAD CCD II Sensor
- Resolution 600 TVL
- Lens 3.6mm/ F2.0
- Sensitivity 0.0001 Lux
- LED dimmable
- 24V/ 5W
- 5507-1508 Connector

# SPT-115 RUGGED PAN & TILT



## Description

**The SPT-115 Pan & Tilt unit is special design for continuous and hard use down to 6000 meters. The rugged design makes it possible to use the P&T unit close to thrusters and the ROV's**

## Features

- ▣ Rugged construction
- ▣ 6000 Meter
- ▣ Absolute position sensor
- ▣ RS232 or RS485
- ▣ No rotating connector
- ▣ Precision gear
- ▣ External compensator

# SPECIFICATIONS

## SPT – 115 Pan & Tilt Unit

### Mechanical

Angular Limits	Pan and tilt range +/- 175 deg
Angular Speed	Up to 30 deg/sec
Single Step angle	0,018 deg
Position Feedback	12-bit resolution absolute
Gears	Precision strain wave
Backlash	< 3 arc minutes (approx. 0,05*)
Material	Hard anodized Aluminum

### Electrical

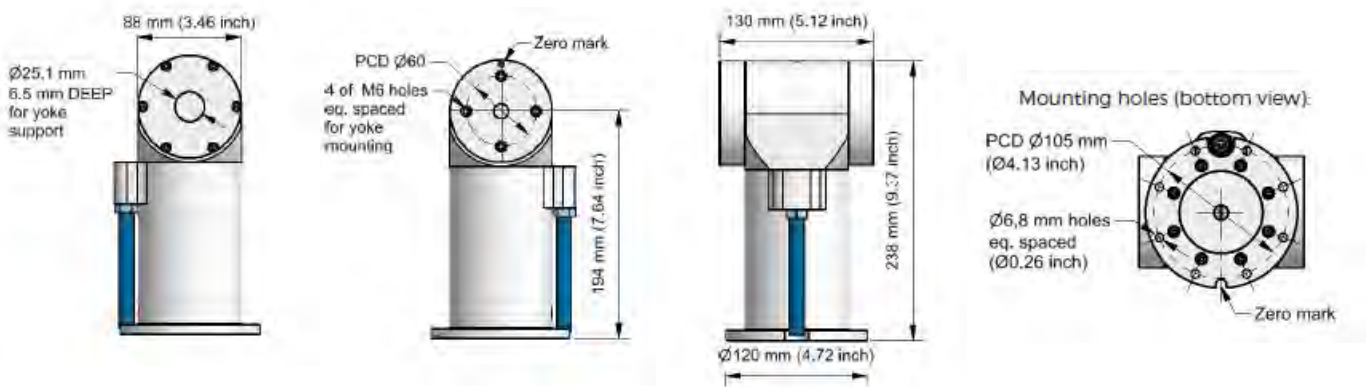
Input Voltage	10-48 VCD (10-30)
Driven Current	500mA – 2,5 A axis
Connector	

### Environmental

Depth rating	6000M
Temperature	-20°C to +50°C

### Others

Average Torque	15 Nm
Max payload dual yoke	20 Kg
Max payload single yoke	10Kg
Size (H/W/D)	238 x 130 x 88 mm ( Flange Ø120 mm)



# ALEUTIAN SUBSEA ZOOM CAMERA

INTELLIGENT  
CONTROL  
SYSTEM



## Description

**The Subsea Ethernet Zoom Camera is a standalone unit for capturing video and streaming it through Ethernet.**

Intuitive web based user interface for configuration via web browser.

Web-interface is accessed by entering the IP address directly into the web browser.

Multi-cast video stream is available for simultaneously streaming to several monitors/destinations.

## Features

- Compact design
- Encoding latency ~80ms
- Web browser configuration interface
- Titanium housing
- Adjustable Bandwidth
- Output Stream: H264
- Streams via: Unicast or Multicast
- 3000m depth rating
- 30x Optical Zoom
- Low light mode
- Open API for external control

# SPECIFICATIONS

## ALEUTIAN SUBSEA CAMERA

### General Technical Specifications

Type	Subsea Ethernet Camera
Dimensions w/connector	mm 244x110
Weight in air	g 4900
Weight in water	g 3000
Temperature Operational (ambient)	°C 0 to +40
Temperature Storage	°C -30 to +70

### Electrical

Supply Voltage	VDC 24 (10-30)
Power Consumption	W ~8.9

### Performance

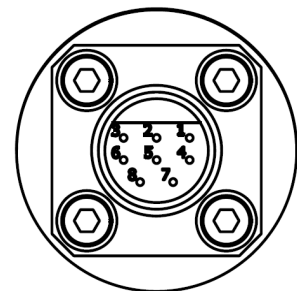
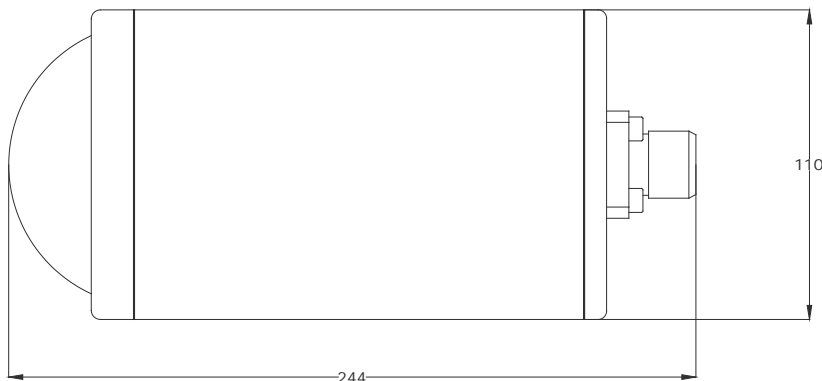
Benchmark latency	ms ~80 (from captured picture to presented on monitor)
Depth rating	m 3000
Field of view	° ~88 in water
Resolution	1080P
Bit rate	Mbps 0,5-40
Video compression	H264
Zoom	30x

### Communication

Ethernet	Mbps 10/100
Deafult IP	10.13.37.243

### Ordering Part Numbers

Description	Part Number
Subsea Camera Ethernet HD Zoom Aleutian	115329



Glenair 5506-1508  
Connector Pinout

1:	0V	_____
2:	24VDC	_____
3:	NC	
4:	NC	
5:	Eth Tx+	_____
6:	Eth Tx-	_____
7:	Eth Rx+	_____
8:	Eth Rx-	_____

# TONGA SUBSEA CAMERA

INTELLIGENT  
CONTROL  
SYSTEM



## Description

**The Subsea Ethernet Camera is a standalone unit for capturing video and streaming it through Ethernet.**

Intuitive web-based user interface for configuration via web browser. Web-interface is accessed by entering the IP address directly into the web browser

Multi-cast video stream is available for simultaneously streaming to several monitors/destinations.

## Features

- Compact design
- Encoding Latency~80ms
- Web browser configuration interface
- Titanium housing
- Adjustable Bandwidth Resolution
- Output Stream: H264
- Stream via: Unicast or Multicast
- 4000m depth rating
- Output Stream: H264
- Default IP 10.13.37.243

# SPECIFICATIONS

## TONGA SUBSEA CAMERA

### General Technical Specification

Type	Subsea Ethernet Camera
Dimensions w/Connector	178x51 mm
Weight in Air	500g
Weight in water	300g
Temperature Operational (ambient)	0 to +40°C
Temperature Storage	-30 to +70 °C

### Electrical

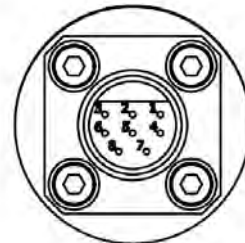
Supply Voltage	24 VCD (10-30)
Power Consumption	~4 W

### Performance

Benchmark latency	~80ms (from capture picture to presented on monitor)
Depth rating	4000M
Field of view	~ 100* in water
Resolution	720P
Bit rate	0,5-40 Mbps
Video compression	H264

### Communication

Ethernet	10/100 Mbps
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Glenair 5506-1508

**Connector Pinout**

1:	0V	_____
2:	24VDC	_____
3:	NC	_____
4:	NC	_____
5:	Eth Tx+	_____
6:	Eth Tx-	_____
7:	Eth Rx+	_____
8:	Eth Rx-	_____

# ■ Topside Equipment



- Hydraulic Power Unit 22KW
- Hydraulic Power Unit 275KW
- Hydraulic Power Unit 30/34.5KW
- Hydraulic Power Unit 4KW
- Hydraulic Power Unit 55/63KW
- Hydraulic Power Unit 9KW



# HYDRAULIC POWER UNIT

22kW  
HPU  
SYSTEM



## Description

The DNV 2.7-3 certified design features a robust stainless steel frame. The HPU are fitted with a 3-section PVG which is used to test various subsea tooling prior to subsea deployment. The unit is intended for on-deck use and testing at the SIT, flushing and function testing.

The HPU includes both pressure and return filters including electrical indicators. The unit is also equipped with ports for external cardev filtration.

A built-in auto phase shifter ensures correct pump rotation and the pump's filters provide distribution of clean oil to external equipment.

## Features

- Simple Connection Interface
- Integrated Transport Skid
- Compact Design
- Service & User Friendly
- Integrated Oil Cooler

## Typical Operations

- Testing of subsea tooling
- Deck Testing
- Function Testing
- Flushing

# SPECIFICATIONS

## 22KW HPU SYSTEM

### General Technical Specifications

Type	Assembly HPU 22kW SS
Part Number	107946
Frame Material	AISI316L
Lifting Certification	Acc. to DNV 2.7-3
Fluid	Mineral Oil Based Fluids

\* Please contact us for questions or more information regarding fluid compatibility

Weight	~1000Kg
Dimensions ( L x W x H ) [mm]	1300 x 900 x 1380
Operating Temperature	-10°C/ + 60°C (14°F / 122°F)

### Hydraulic

Max. Output Pressure	345Bar (5.000 PSI)
Max. Output Flow	~ 50 L/Min
Pump Type	Parker PV 46CCM
Pressure Filter Element	108256
Return Filter Element	108232
Pressure Adjustments	Main and individual for PVG outputs
Reservoir Capacity	200L
Oil Level Indicator	Yes, visual
Oil Level Guard	Yes
Temperature Guard	Yes
Oil Cooler	Yes (no external water supply needed)
Pressure Gauge	Yes (on both pressure and return line)

### Hydraulic Connections

Pressure	1/2 NV QC Male (1/2" BSP Female)						
Tank	3/4 NV QC Male (3/4" BSP Female)						
Leak Line	1/2	NV	QC	Male	(1/2"	BSP	Female)
PVG Outlet 1A / 1B	1/2	NV	QC	Male	(1/2"	BSP	Female)
PVG Outlet 2A / 2B	1/2	NV	QC	Male	(1/2"	BSP	Female)
PVG Outlet 3A / 3B	1/2	NV	QC	Male	(1/2"	BSP	Female)

### Electrical

Nominal Voltage	400 VAC 3-Phase
Electrical Motor	3-Phase, 22kW, 400V, 50/60Hz, 32 Amp
Power Cable	25meter H07-RNF 5G16mm2
Power Socket	63Amp, 400V, 5-Pin (other sockets available on request)

### Document References

Document No.:	Revision	Description
107946-EVX-MC-DWG-0001	A	General Assembly Drawing
107946-EVX-HY-SCH-0001	A	Hydraulic Schematic
P2748-EVX-EL-SCH-0001	A	Electrical Schematic
107946-EVX-PD-UMN-0001	A	User Manual

# HYDRAULIC POWER UNIT

275 KW  
DNV 2.7.1  
NONE ATEX



## Description

The Envirent 275 kW HPU is designed for high flow applications both offshore and onshore. The unit is intended for deck test use at the safety zone, flushing and function testing.

The HPU is only approved for use in Safety Zone and the HPU is built in offshore container according to DNV 2.7.1. The HPU is driven by a Cummins NT855 diesel motor and is equipped with a 600L fuel tank.

With a pressure of 350 Bar and flow rate of 950 L/min, the HPU is suitable for a wide range of task requiring high power.

## Typical Operations

- Function Testing
- Deck Testing
- Flushing Operations

## Features

- For usage in Safety Zone
- Variable pressure compensated pumps with LS and power limiter
- Constant pressure or load-sense system selectable
- Air oil cooler
- 10-200 my filtration
- Built in offshore container according to DNV 2.7.1

# SPECIFICATIONS

## HYDRAULIC POWER UNIT 275 KW

### General Technical Specifications

Type	Hydraulic Power Unit 275 kW
Part Number	4697
Dimensions L x W x H	4874 mm x 2436 mm x 2740 mm
Weight in air	11,2 Tonn
Capacity	275 kW

### Hydraulic

Max Output Pressure	350 Bar
Flow @ 1800 rpm	950 L/min

Diesel Motor	Cummins NT855
Bunkers Pump	Yes
Oil Cooler	Air

### Connection Main Pressure

2 x 1 1/4" FM Snap-tite 71

### Connection Return

2 x 1 1/4" M Snap-tite 71

### Connection Drain

2 x 3/4" FM Snap-tite 71

### Connection Load sensing

2 x 1/4" M Snap-tite 71

### Technical Data

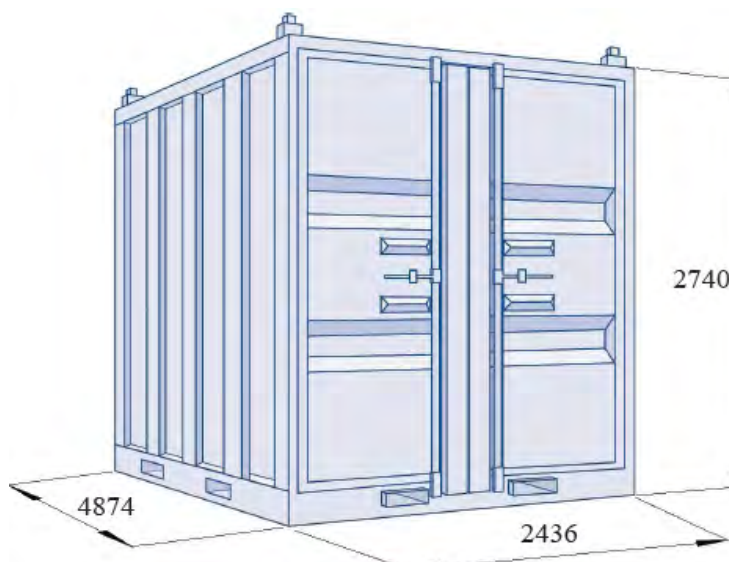
Fuel Tank	600 L
Hydraulic Reservoir	1900 L
Hazardous Area	

Pressure Filter	10 my abs
Return Filter	10 my abs
Circulation Filter	10 my abs

### Power Data

Voltage	230 V 1 phase for charger
Current	16 A
Electrical Panel	IP 66

Z015	Yes
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# HYDRAULIC POWER UNIT

COMPACT DESIGN

30/34.5 KW

DNV 2.7-1

ATEX ZONE II



## Description

**The Envirent 30/34.5kW HPU is designed for High Flow applications both Offshore and Onshore.**

The unit is intended for on-deck use and testing at the SIT, flushing and function testing.

The HPU feature a compact design which is DNV 2.7-1 certified and ATEX Zone II approved. Multi voltage selection, 400 – 690V, make the HPU very adaptable to meet the client' needs.

## Typical Operations

- ▣ Topside Tooling applications
- ▣ Hose Reel Operations
- ▣ Deck Testing
- ▣ Function Testing
- ▣ Flushing

## Features

- ▣ ATEX Zone II approved
- ▣ Integrated Forklift Pocket
- ▣ Compact Design
- ▣ Service & User Friendly
- ▣ Integrated Oil Cooler
- ▣ Easy Connection Interface

# SPECIFICATIONS

## HPU 30/34.5kW

### General Technical Specification

Type	- HPU 30/34.5kW
Part number	- HPU-MN-30/34.5KW
Lifting Certification	- Acc. to DNV 2.7-1
Fluid	- Mineral Oil Based Fluids
* Please contact us for questions or more information regarding fluid compatibility	
Weight	- 1700 kg
Dimensions (L x W x H) [mm]	- 1500 x 1000 x 1850
Operating Temperature	- -10°C / + 60°C (14°F / 122°F)

### Hydraulic Specifications

Max. Output Pressure	- 350 Bar
Max. Output Flow	- 230 l/min @ 60 Hz / 180 l/min @ 50 Hz
Pump Type	- Volvo V30-128 RK P1 (Variable adjustable w/press reg)
Return Filter Element	- I-0036-MF 400.3.A03.H.BP01
Return Filter Housing	- I-0022-MPF 400.3.A.G3.A03.H.BP01
Reservoir Capacity	- 500L
Oil Level Indicator	- Yes, visual
Oil Level Guard	- Yes
Temperature Guard	- Yes
Oil Cooler	- I-0080-Bowman Oil Cooler (for Seawater)
Pressure Gauge	- Yes

### Hydraulic Connections

Pressure	- 3/4" Tema
Leak Line	- 1/2" Tema
Return	- 1" Tema
Load Sense	- 1/4" BSP (M)
Cooler inlet/outlet	- 1" Offshore Claw Coupling

### Electrical data

Electrical Motor	- Type: ATB, IP56, BD200M-4, EEx de, ATEX, 400-690V, 50/60 Hz, 55 Amp
	- Serial No: 451411-001
	- 400V (D), 30 kW, 1460 rpm, 53 A, 50 Hz
	- 690V (Y), 30 kW, 1460 rpm, 31 A, 50 Hz
	- 440-480V (D), 34,5 kW, 1750 rpm, 55-51 A, 60 Hz
	- 660-690V (Y), 30 kW, 1475 rpm, 33-30 A, 60 Hz
	- 400V (D), 30 kW, 1760 rpm, 52 A, 60 Hz
Start Cabinet	- EEx de IIC T6
Power Cable	- 35 meters
Power Socket	- Available on request.

# HYDRAULIC POWER UNIT

4kW  
MAX PRESSURE 240 BAR  
MAX. FLOW 11,6 L/MIN



## Description

**The 4kW HPU is a small and compact hydraulic power unit. It is built with an external air-oil heat exchanger, to cool down the oil.**

This unit is intended for onshore use only. Its small and lightweighted for an HPU, and easy to move around.

## Typical Operations

- ▣ Topside tooling applications
- ▣ Pressure testing
- ▣ Flushing
- ▣ Function testing

## Features

- ▣ Service and User Friendly
- ▣ Lightweight
- ▣ Oil cooling
- ▣ Oil-level gauge
- ▣ 40L reservoir

# Specifications

## Hydraulic Power Unit 4kW

### General Technical Specifications

Type	HPU 4kW
Part Number	N/A
Dimensions L x W x H	520 mm x 390 mm x 690 mm
Weight (in air / submerged)	120 kg
Fluid	Mineral Oil Based Fluids
Minimum Fluid Cleanliness	Class 18/16/13 according to ISO 4406: 1999
Operational Temperature Range	-10°C and 60°C

### Hydraulic

Max. Output Pressure	240 Bar
Recommended Max. Working Pressure	200 Bar
Max. Output Flow	11,6 L/min
Reservoir Capacity	40 L
Oil level indicator	Yes

### Hydraulic Connections

Pressure	1/2" BSP – JIC 6
Drain	1/2" BSP – JIC 6
Return	1/2" BSP – JIC 6

### Electrical Data

Electrical Motor:	
BUSCK 3-phase IE3, T3A 112M-4	- 400V (Δ), 4 kW, 1450 rpm, 7,95 A, 50 Hz
	- 690V (Y), 4 kW, 1450 rpm, 4,59 A, 50 Hz
	- 440-480V (Δ), 4,6 kW, 1740 rpm, 7,95 A, 60 Hz



# HYDRAULIC POWER UNIT

55/63 KW

DNV 2.7-1

ATEX ZONE II



## Description

**The Envirent 55/63kW HPU is designed for High Flow applications both Offshore and Onshore.**

The unit is intended for on-deck use and testing at the SIT, flushing and function testing.

The HPU feature a compact design which is DNV 2.7-1 certified and ATEX Zone II approved. Multi voltage selection, 400 – 690V, make the HPU very adaptable to meet the client' needs.

The 500L reservoir has a built-in radiator for hydraulic cooling.

## Typical Operations

- Topside Tooling applications
- Deck Testing
- Function Testing
- Flushing

## Features

- ATEX Zone II approved
- Integrated Transport Skid
- Compact Design
- Service & User Friendly
- Integrated Oil Cooler
- Easy Connection Interface

# SPECIFICATIONS

## HPU 55/63kW

### General Technical Specification

Type	High Flow HPU 55/63kW
Part number	HPU-MN
Lifting Certification	Acc. to DNV 2.7-1
Fluid	Mineral Oil Based Fluids
* Please contact us for questions or more information regarding fluid compatibility	
Weight	2200 kg
Dimensions (L x W x H) [mm]	2300 x 1300 x 1950
Operating Temperature	-10°C/ + 60°C (14°F / 122°F)

### Hydraulic Specifications

Max. Output Pressure	350 bar
Max. Output Flow	320 l/min @ 60 Hz (265 l/min @ 50 Hz)
Pump Type	KPM Axial Piston Pump, B Series K3VL
Return Filter Element	
Reservoir Capacity	500L
Oil Level Indicator	Yes, visual
Oil Level Guard	Yes
Temperature Guard	Yes
Oil Cooler	Built in radiator for hydraulic cooling
Pressure Gauge	Yes (on both pressure and return line)

### Hydraulic Connections

Pressure	¾" Tema
Leak Line	½" Tema
Return	1" Tema

### Electrical data

Electrical Motor	<b>ATB, IP56, EEx de, ATEX, 400-690V, 50/60 Hz, 125 Amp</b> <ul style="list-style-type: none"><li>- 400V (D), 55 kW, 1470 rpm, 95 A, 50 Hz</li><li>- 690V (Y), 55 kW, 1475 rpm, 55 A, 50 Hz</li><li>- 440-480V (D), 63 kW, 1770 rpm, 100-92 A, 60 Hz</li><li>- 660-690V (Y), 63 kW, 1770 rpm, 59-56 A, 60 Hz</li><li>- 400V (D), 63 kW, 1770 rpm, 97 A, 60 Hz</li></ul>
Start Cabinet	Apply Oil & Gas Electro, EEx de IIC T6
Power Cable	35 meter
Power Socket	Available on request.

# HYDRAULIC POWER UNIT

9kW  
HPU  
SYSTEM



## Description

**The DNV 2.7-3 certified design features a lightweighted steel frame. The HPU are fitted with a 2-section PVG which is used to test various subsea tooling prior to subsea deployment.**

The unit is intended for on-deck use and testing at the SIT, flushing and function testing. With its 2-section PVG it can also run functions like cylinders and winches.

The HPU includes both pressure and return filters. The reservoir is also equipped with two ports for filling, flushing and emptying.

## Typical Operations

- ▣ Topside tooling applications
- ▣ Deck Testing
- ▣ Function Testing
- ▣ Flushing

## Features

- ▣ Service & User Friendly
- ▣ Lightweight
- ▣ Wires for lifting
- ▣ Eye Pads on both sides



# Specifications

## HPU 9kW

### General Technical Specifications

Type	- High Flow HPU 9kW
Part Number	- HPU-MN
Frame Material	- S355
Lifting Certification	- Acc. To DNV 2.7-3
Fluid	- Mineral Oil Based Fluids
*Please contact us for questions or more information regarding fluid compatibility	
Weight	- 370 kg
Dimensions (L x W x H) [mm]	- 1391 x 785 x 675
Operating Temperature	- 10°C / + 60°C (14°F / 122°F)

### Hydraulic

Max. Output Pressure	- 210 Bar
Max. Output Flow	- 25 L/min
Pump Type	- Sauer Danfoss LRR25C
Pressure Filter Element	- V3.0520-06
Return Filter Element	- TXWL3E-10
Reservoir Capacity	- 100L
Oil Level Indicator	- Yes, Visual
Oil Level Guard	- No
Temperature Guard	- No
Oil Cooler	- 300/144/586/1 (VDMA24561)
Pressure Gauge	- Yes

### Hydraulic Connections

Pressure	- 3/8 QC Male (3/8" BSP Female)
Tank	- 3/8 QC Male (3/8" BSP Female)
Leak Line	- 1/2 QC Male (1/2" BSP Female)
PVG Outlet 1A / 1B	- 3/8 QC Male (3/8" BSP Female)
PVG Outlet 2A / 2B	- 3/8 QC Male (3/8" BSP Female)

### Electrical Data

Electrical Motor	- Bevi IE2 – 4AL2 132M-4, 400/960V, 50/60Hz
	- Serial No: 1109BV230308
	- 400V (D), 7,5 kW, 1450 rpm, 14,6 A, 50 Hz
	- 690V (Y), 7,5 kW, 1450 rpm, 8,46 A, 50 Hz
	- 460V (D), 9 kW, 1740 rpm, 15,2 A, 60 Hz
	- 35 meter
Power Cable	- Available on request
Power Socket	- Available on request



# ■ Torque Tools



- Clutch Tool Paddle/17D 40-100NM 80-200NM
- Electric Torque Tool Class 1-4
- Flying Lead Orientation Tool
- Manipulator Torque Multiplier Tool
- ROV/Diver Torque Multiplier GEN-2
- Test Jig Class 1-4 Transducer System
- Test Jig Class 6-7 Transducer System
- Torque Gearbox Class 6-7
- Torque Limiter Tool
- Torque Tool Class 1-4 Feedback
- Torque Tool Class 1-4 Standard
- Torque Tool Class 6-7 Feedback
- Torque Wrench Syclone 1
- Torque Wrench Syclone 2
- Torque Wrench Syclone 3

# CLUTCH TOOL PADDLE/17D 40-100NM 80-200NM

TORQUE TOOLS



## Description

**The Clutch Tool has been designed to allow the manipulator to operate low torque valves without the need for a hydraulic/electric torque tool.**

The Clutch Tool assembly limits the torque that can be applied to the valve stem from the ROV manipulator, ensuring damage to the valve does not occur.

Supplied with 40-100NM and 80-200NM SS Clutch assemblies the operator can quickly and easily set the tool to the required max torque prior to deployment.

## Features

- Quick and easy torque adjustment
- Adjustable maximum torque setting from 40-200NM.
- Quick and easy interface changeout
- Lightweight
- Compact
- Requires low maintenance
- Plastic guidance nosecone for easy location in torque bucket



# Specifications

Clutch Tool Paddle/17D 40-100NM 80-200NM

## General Technical Specifications

Type	Clutch Tool Paddle/17D 40-100NM 80-200NM
Part Number	N/A
Weight in air	15 kg

## Specifications

Torque Range	40-100NM & 80-200NM
Interface Type	Paddle, 17D Class 1-4



# ELECTRIC TORQUE TOOL

ROV INTERVENTION  
CLASS 1-4 (API 17D)  
HIGH PRECISION



## Description

**The Electric Torque Tool is a module based, compact, flexible and robust precision tool for operation and use in all subsea and ROV applications. Delivered with the new generation software control system (iCsys Suite) for maximum utilization.**

The system combines all known advantages from a hydraulic torque tool system with the technology and advantages available from a modern servo based electrical controlled drive system.

Interface sockets are replaceable on both deck and subsea (optional) to interface ISO Class 1-4 interfaces. The different sockets will automatically interface the gear system to utilise the optimal gear ration and power/speed capacity. The control system automatically detects socket and gear ratio and will automatically switch between low torque and high torque mode.

## Features Torque Tool

- Compact and low weight tool
- Min torque output 20 Nm
- Max torque output 2711 Nm
- Subsea socket changeout jig (optional)
- Low voltage 5A 110VAC circuit
- iCsys Suite Control System
- Low torque at 350 Nm and 30 RPM
- High torque at 2711 Nm and 6 RPM
- Mechanical latching wings
- Mechanical turn indicator (backup)

## Features Control System

- iCsys Suite modular Control System™
- Automatically as found / as left still pictures
- Supports IP camera connection
- Torque and Turns recording chart
- Gearbox Class 5/6/7 indicator in GUI
- \*Cloud based Valve Management System™

\*In development

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# SPECIFICATIONS

## ELECTRIC TORQUE TOOL

### General Technical Specifications

Type	Electric Torque Tool
Part Number	ETT
Dimensions Pod Canister	mm Ø185 L=325
Dimensions ETT Tool	mm Ø190 L=367
ETT Pod Canister	kg ~13 / ~5
ETT Tool Weight (in air / submerged)	kg ~34 / ~26

### Specifications

Max. output Torque	Nm 2711
Max. speed	RPM 30

### Electrical interface

Power	kW 2 (to achieve 2700 Nm @ 6 RPM 2 kW is required)
Input	110-230 VAC 50/60Hz or 160-320 VDC +10/-15%
Communication	Standard RS 232 (RS 485 and Ethernet upon request)

### Interface description

- Burton connector 5507 2008 8 pin connector
- 1 110-230 VAC / 160-320 VDC
  - 2 110-230 VAC / 0 VDC
  - 3 Chassis
  - 4 N.C.
  - 5 RX RS 232
  - 6 TX RS 232
  - 7 N.C.
  - 8 Com./GND

### General Features

Depth rating	MSW 3000
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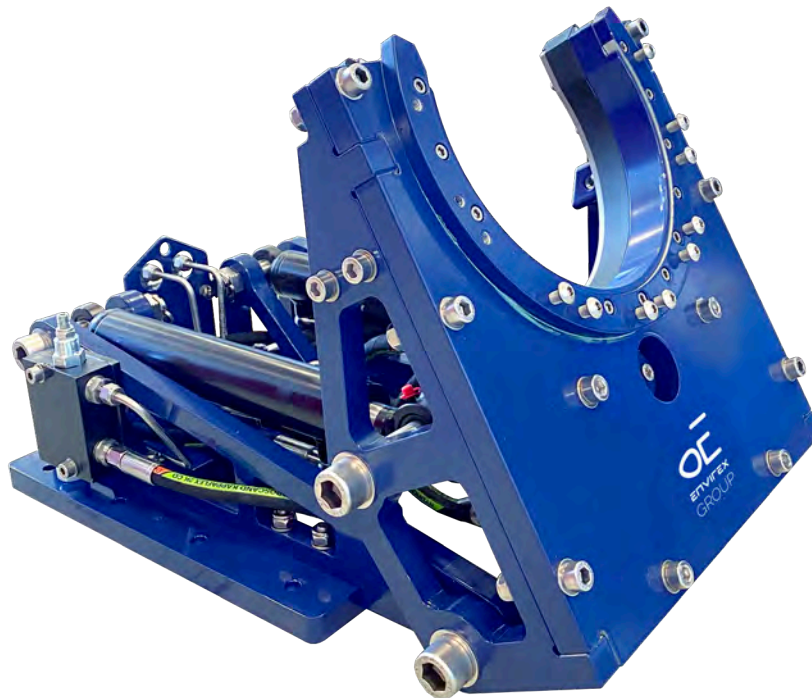
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# FLYING LEAD ORIENTATION TOOL

ROV INTERVENTION  
FLYING LEAD ORIENTATION  
TOOL FOR DEPRO TT



## Description

**FLOT is designed to operate as a ROV mounted simplification tool to allow heavy applications such as torque tools, MQC plate and Flying Leads to be operated by ROV.**

The Flying Lead Orientation Tool, or FLOT, is designed and built for ease of operation and maintenance. The tool allows for angular and rotational orientation of a Class 4 torque tool to aid in connection of flying leads subsea.

## Features

- +/- 15 deg roll angle
- Plus 60 minus 90 deg pitch
- Fits both Envirent standard TT and feedback TT
- Payload 250 kg
- Compact and robust design

# SPECIFICATIONS

## FLYING LEAD ORIENTATION TOOL

### General Technical Specifications

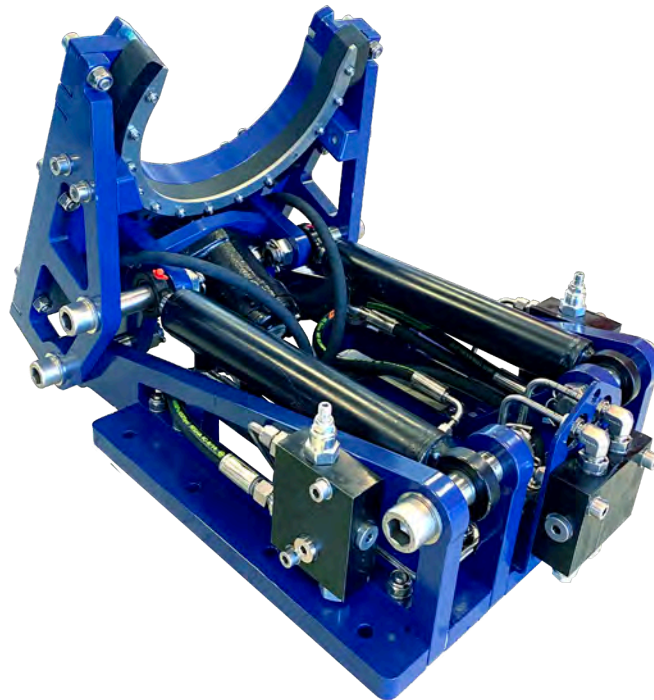
Type	Flying Lead Orientation Tool
Part Number	116676
Dimensions	mm 656 x 408 x 426
Weight (in air / submerged)	kg ~45 / ~23

### Hydraulic

Max. Input Pressure	Bar 207
Load weight	Kg 250
Roll angle	+/- 15%
Tilt alignment	+ 60 degrees - 90 degrees
Connection tilt forward	BSP 1/4"
Connection tilt backwards	BSP 1/4"
Connection rotate CW	BSP 1/4"
Connection rotate CCW	BSP 1/4"

### General Features

Depth rating	MSW 3000
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# TORQUE MULTIPLIER TOOL

ROV INTERVENTION  
500 NM TORQUE  
CLASS 1-4



## Description

**Located on subsea structures and tooling all over the world, there are need-  
le valves or other valves that are sensi-  
tive to over torque.**

To prevent damaging valves by over torque, Envirex have designed a ROV manip. operated torque tool for such applications. The tool can be adjusted to a maximum output torque setting to avoid damaging subsea valves caused by over torque. The torque limiter is highly accurate for both clockwise and counter clockwise turns.

## Features

- Turn counter on subsea display
- Torque range from 50 Nm to 500 Nm
- Adjustable maximum output torque
- Mechanically operated by ROV
- Accurate torque adjustment
- Low weight
- No hydraulic/electric ROV interface

# SPECIFICATIONS

## TORQUE MULTIPLIER TOOL

### General Technical Specifications

Type	Torque Multiplier Tool
Part Number	111709
Dimensions	mm L250 x Ø151
Weight (in air / submerged)	kg ~22 / ~18

### Torque Features

Max. Inlet Torque	Nm 170
Max. Output Torque	Nm 500
Gear ratio	4.5 : 1
Interface	ISO 13628-8 Class1-4 end effectors

### Torque Multiplier Ranges

Configuration #1	Nm 50 - 155
Configuration #2	Nm 135 - 360
Configuration #3	Nm 180 - 500

### General Features

Depth rating	MSW 3000
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# ROV / DIVER TORQUE MULTIPLIER GEN-2

TORQUE & TURNS FEEDBACK  
MULTICLASS END EFFECTOR  
SUBSEA TORQUE ADJUSTMENT



## Descriptions

**The Torque Multiplier Tool Gen-2 is a compact and ROV friendly multiclass torque tool designed for operating Class 1-4 subsea valves and MQC plates up to 1200 Nm torque applications.**

The Torque Multiplier Tool (TMT) is a fully mechanical ROV manipulator/diver torque tool that require no hydraulic or electric power- and communication. Reducing the risk of hydraulic fluid spill, hose management and electrical cables.

The tool comes with a mechanical latch system for standard API 17D bucket.

Torque & Turns display is powered by batteries and is turned on/off or reset using flashing illumination.

The Torque Setting System (calibration/operation) enables the operator to both adjust and verify torque output when subsea.

The Torque Multiplier Tool has a built-in memory function that enables logging of valve operations when required. The logging files is transferred to laptop thru USB adaptor cable.

Other end effector available upon request (paddle valves)

## Typical Operations

- ▣ Class 1-4 valve operations up to 1200 Nm
- ▣ Paddle valve operations
- ▣ MQC plate latch / de-latch
- ▣ ROV / Diver Intervention works

## Features

- ▣ Mechanical torque Tool.
- ▣ Class 1 – 4 multiclass end effector.
- ▣ No hydraulic power required (No leakage).
- ▣ No electric power & communication required.
- ▣ Torque and Turns feedback display.
- ▣ ROV adjustable clutch for safe valve operations.
- ▣ Mechanical latch mechanism.
- ▣ ROV and diver operable.
- ▣ Environmental Friendly compensation fluid.

# SPECIFICATIONS

## INTERVENTION TORQUE MULTIPLIER

### General technical specification

Type	ROV TOOLING
Part number	2203099
Weight (in air / Submerged)	40 kg / 30 kg
Dimensions (L x H)	780 x 310 (incl. grabber bar, flex joint and fishtail)
Running torque	1000 Nm
Breakout torque	1200 Nm
Output interface	API Class 1 - 4
Latch Mechanism	Spring Force
Gear Ratio	1:5,29

### Environmental data

Design Lifetime	25 Years
Depth Rating	ROV Working Depth
Operating Temperature	-15 / +50 °C
Storage Temperature	-15 / +70 °C
Compensation Fluid	Panolin Atlantis
Compensation Volume	0,995 ml

### Design codes and standards

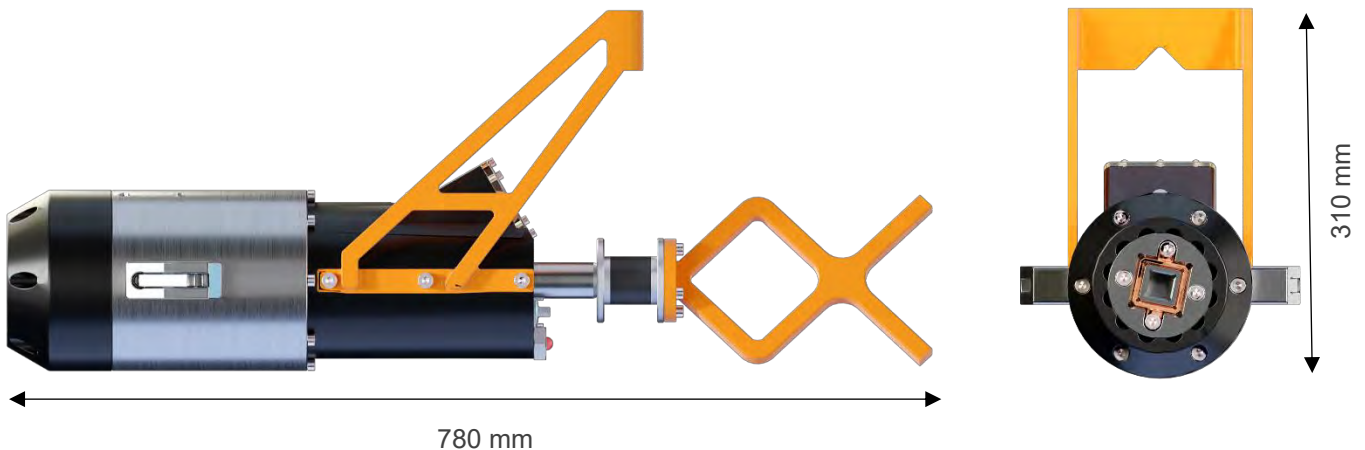
ISO	ISO13628-1.....
NORSOK	NORSOK E-001/M-001/R-002...
API	API 17D

### Display

Supply Voltage	AA Battery
COMS - (transferring log) Optional	USB

### ROV interface

Operation & handling	ROV / Diver
	Fish tail / D handle
	API Class 1 - 4



# TEST JIG CLASS 1-4 TRANSDUCER SYSTEM

TORQUE RANGE: 0-5000NM  
ISO CLASS 4 INPUT  
WATERTIGHT CARRY CASE



## Description

**The Class 1-4 Test Jig is a Norbar designed torque verification unit.**

This unit is used to give pre-dive surface confirmation of the torque tool calibration. It consists of a standard ISO class 1-4 torque reaction bucket with study base and built-in torque sensor.

The Test Jig Transducer system is delivered as a complete kit. (Instrument / Load cell + Test Jig)

The verification unit are calibrated once a year. The accuracy is class one. (+/-0,5% of reading from 20 to 100% of full scale)

## Typical Operations

- Torque Tool Class 1-4 Operations
- Deck Testing

## Features

- Stainless steel transducer with "SMART" intelligence
- Battery power for use in harsh environments
- Accuracy +/-0,5% of reading from 20-100% of full scale
- Limit indication for up to 8 user defined target values
- Analog input
- Torque verification of all kind of equipment



# SPECIFICATIONS

## Class 1-4 Test Jig Transducer System

### General Technical Specification

Type	Norbar Class 1-4 Test Jig / Norbar TTL-HE Instrument
Part number	TT-TJ
Torque range	0-5000Nm
Torque Cell	Torque Cell Class 4 Square Male-Female

Weight	39 kg
Dimensions (L x W x H) [mm]	800 x 600 x 420

### Electrical data

Power Supply	230V EU Plug
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5000 N.m Static Transducer



# TEST JIG CLASS 6-7 TRANSDUCER SYSTEM

MAX TORQUE: 40 000 NM

ISO CLASS 7 INPUT

WATERTIGHT CARRY CASE



## Description

**The Class 6-7 Test Jig is a Norbar designed torque verification unit.**

This unit is used to give pre-dive surface confirmation of the torque tool calibration. It consists of a standard ISO class 6-7 torque reaction bucket with study base and built-in torque sensor.

The Test Jig Transducer system is delivered as a complete kit. (Instrument / Load cell + Test Jig)

The verification unit are calibrated once a year. The accuracy is class one. (+/-0,5% of reading from 20 to 100% of full scale)

## Typical Operations

- ▣ Torque Tool Class 6-7 Operations
- ▣ Deck Testing

## Features

- ▣ Stainless steel transducer with “SMART” intelligence
- ▣ Battery power for use in harsh environments
- ▣ Accuracy +/-0,5% of reading from 20-100% of full scale
- ▣ Limit indication for up to 8 user defined target values
- ▣ Analog input.
- ▣ Torque verification of all kinds of equipment

# SPECIFICATIONS

## Class 6-7 Test Jig Transducer System

### General Technical Specification

Type	Norbar Class 6-7 Test Jig / Norbar TTL-HE Instrument
Part number	TT-TJ
Max Torque	40 000 Nm
Torque Cell	Torque Cell Class 6-7 Square Male-Female

Weight	95 kg
Dimensions (L x W x H) [mm]	510 x 510 x 520

### Electrical data

Power Supply	230V EU Plug
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# TORQUE GEARBOX CLASS 6-7

ISO CLASS 4 INPUT  
CLASS 6-7 OUTPUT  
40 KNM TORQUE OUTPUT



## Description

**The Class 6-7 Gearbox is designed to enable operation of Class 6 and Class 7 interfaces using a Class 4 torque tool for maximum flexibility at minimum cost.**

The Gearbox can be configured for both short- and long Class 7 interface, in addition to Class 6 using a square insert.

The Gearbox is delivered as a complete kit including required components to adapt the tool to the interfaces as described above. Maximum output is 40 kNm.

## Features

- Compact design
- Low weight, 57 kg in water
- Maximum water depth 3000 meter
- Modular gear to fit different output ranges
- 10 kNm Gear ratio 1:3,78
- 15 kNm Gear ratio 1:6
- 40 kNm Gear ratio 1:14

# SPECIFICATIONS

## CLASS 6-7 GEARBOX

### General Technical Specifications

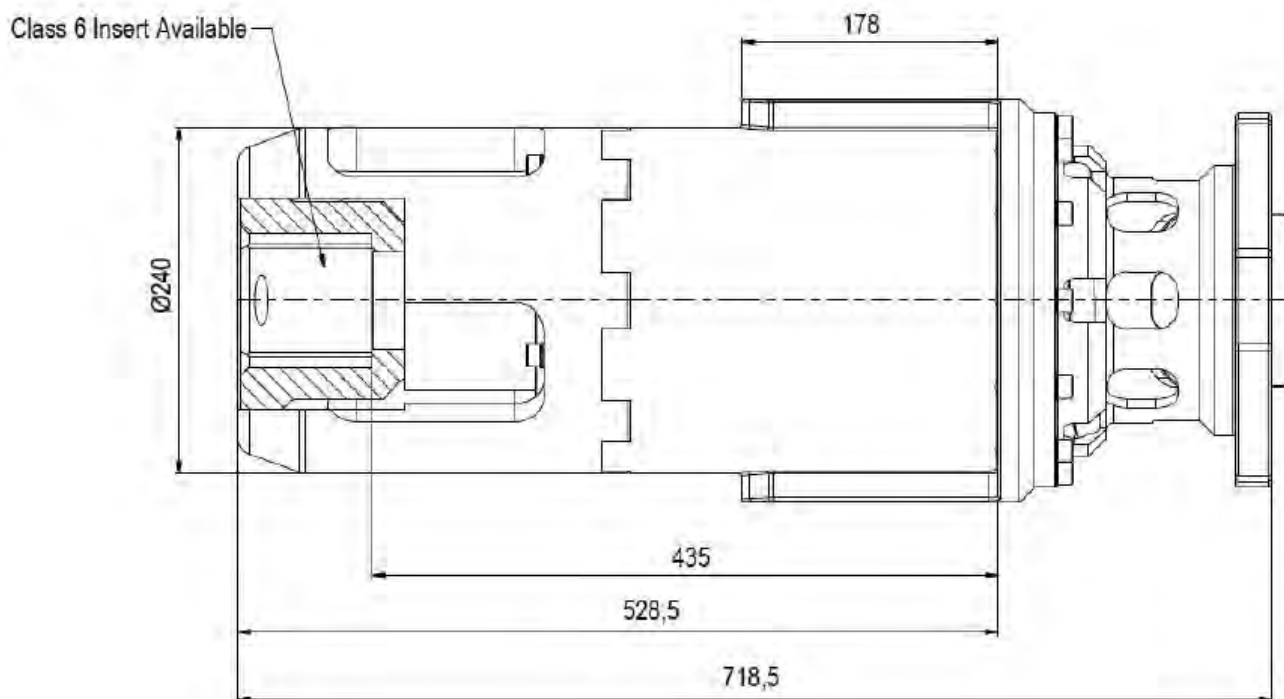
Type	Class 6-7 Gearbox
Part Number	
Dimensions	mm Ø280 x L718 mm
Weight (in air / submerged)	kg ~71 / ~57

### Torque

Max. Input torque	Nm 2700
Max. Output torque	Nm 40.000

### General Features

Depth rating	MSW 3000
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# TORQUE LIMITER TOOL

ROV Tooling



## Description

**Located on subsea structures and tooling all over the world, there are need-le valves or other valves that are sensitive to over torque.**

To prevent damaging valves by over torque, Envirex have designed a ROV manip. operated torque tool for such applications. The tool can be adjusted to a maximum output torque setting to avoid damaging subsea valves caused by over torque. The torque limiter is highly accurate for both clockwise and counter clockwise turns.

## Features

- Torque range from 10 to 135 Nm
- Adjustable maximum output torque
- Mechanically operated by ROV
- Accurate torque adjustment
- Low weight

# SPECIFICATIONS

## TORQUE LIMITER TOOL

### General Technical Specifications

Type	Torque Limiter Tool
Part Number	103304
Dimensions	mm L546 x Ø95
Weight (in air / submerged)	kg ~15 / ~12

### Hydraulic

Max. Inlet Torque	Nm 170
Max. Output Torque	Nm 135
Interface	Paddle valve, Class 1-2, Class 3 and Class 4 end effector

### Torque Limiter Ranges

Configuration #1	Nm 10 - 35
Configuration #2	Nm 30 - 80
Configuration #3	Nm 40 - 135

### General Features

Depth rating	MSW 3000
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# FEEDBACK TORQUE TOOL

ROV INTERVENTION  
CLASS 1-4  
TORQUE FEEDBACK



## Description

**The hydraulic Class 1-4 feedback torque tool has been designed in tradition of providing our customers a simple, rugged and reliable product.**

The feedback Class 1-4 Torque Tool comes with an integral torque and turns display for visual read-out of torque and turns feedback. The display does also have a memory recording date, time, torque and turns to be used as documentation for the valve operation (optional).

The Torque Tool can be supplied with a surface Test Jig for calibration prior to subsea operation. The read-out unit provides a torque display in either Nm or ft-lbs.

## Features

- Max torque output 2700 Nm
- ISO 13628-8 API 17D
- Max hydraulic pressure 150 bar
- Max flow 20 L/min
- Torque readout on subsea display
- Turns counter on subsea display
- Hydraulic latches
- Long life battery system



# SPECIFICATIONS

## FEEDBACK TORQUE TOOL

### General Technical Specifications

Type	Feedback Torque Tool
Part Number	103296
Dimensions	mm 840 x 700 x 600
Weight (in air / submerged)	kg ~100 / ~85

### Hydraulic

Max. Input Pressure	Bar 150
Max. Input Flow	L/min 20

Connection ROV pressure	JIC #8
Connection ROV return	JIC #8
Connection ROV drain	JIC #6

### General Features

Depth rating	MSW 3000
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# STANDARD TORQUE TOOL

ROV INTERVENTION  
CLASS 1-4  
2700 NM



## Description

**The hydraulic Class 1-4 torque tool has been designed in tradition of providing our customers a simple, rugged and reliable product.**

The standard Class 1-4 Torque Tool comes with an integral turns display counter for visual read-out of turns feedback.

The Torque Tool can be supplied with a surface Test Jig for calibration prior to sub-sea operation. The read-out unit provides a torque display in either Nm or ft-lbs.

## Features

- Max torque output 2700 Nm
- ISO 13628-8 & API 17D
- Max hydraulic pressure 170 bar
- Max flow 20 L/min
- Spring latches
- Turn counter

# SPECIFICATIONS

## STANDARD TORQUE TOOL

### General Technical Specifications

Type	Standard Torque Tool Class 1-4
Part Number	103295
Dimensions	mm L670 x 200 x 369
Weight (in air / submerged)	kg ~42 / ~36

### Hydraulic

Max. Input Pressure	Bar 170
Max. Input Flow	L/min 20

Connection ROV pressure A	JIC #8
Connection ROV pressure B	JIC #8
Connection ROV drain	JIC #6

### General Features

Depth rating	MSW 3000
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# FEEDBACK TORQUE TOOL

ROV INTERVENTION  
CLASS 6-7  
34000 NM



## Description

**The hydraulic Class 6-7 torque tool has been designed in tradition of providing our customers a simple, rugged and reliable product.**

The torque tool give the operator full control on torque and turns, allowing the operator to set correct torque and turns to avoid over torque of the object. Subsea display shows exact torque and turn feedback with an accuracy of +/- 3,5% at max torque. Display data can be transferred visually through the ROV camera or electronically through an additional control system to the operator.

## Features

- Torque output 1800 - 34000 Nm
- Class 7 - API 17D interface (short type)
- Max pressure 207 Bar
- Max flow 60 L/min for 3 RPM
- Torque- and Turn subsea display read-out
- Depth rating 3000m
- Calculated dry Weight 82 kg
- Calculated water Weight 60 kg

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# SPECIFICATIONS

## FEEDBACK TORQUE TOOL

### General Technical Specifications

Type	Feedback Torque Tool Class 7 (Class 6 optional)
Part Number	113969
Dimensions	mm 718 x 436 x 322
Weight (in air / submerged)	kg ~82 / ~60

### Hydraulic

Max. Input Pressure	Bar 207
Max. Input Flow	L/min 60
Max. Output Flow	L/min 4

Connection ROV pressure A	JIC #8
Connection ROV pressure B	JIC #8
Connection ROV drain	JIC #6

### General Features

Depth rating	MSW 3000
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# SYCLONE 1 TORQUE TOOL

ROV OPERATED  
50-550 NM  
20-100 BAR



## Description

The Syclone 1 is a ROV operated torque tool with a lot of force. It can rotate both ways with high precision and speed.

Torque is fully adjustable and with a precision of  $\pm 3\%$ . Can be ordered with a standard reaction arm, or you can get one custom made.

## Typical Operations

- Tighten bolts
- Loosen bolts

## Features

- 50-550 Nm
- $\pm 3\%$  torque precision
- $\frac{3}{4}$ " square drive
- Custom reaction arm.



# Specifications

## Syclone 1 Torque Tool

### Description

Type	Subsea Torque Tool
Model	Syclone 1
Dimensions L x W x H	250 mm x 180 mm x 120 mm
Weight	4 kg

### Technical

Work Pressure (Continuous)	20-100 Bar
Peak Pressure (Max 6 seconds)	140 Bar
Torque Range	50-550 Nm
Drive Size	3/4" Square
Max rpm	42 rpm @ 20 l/min
Max Flow	20 l/min
Torque Precision	± 3%

### Hydraulic

Connection Pressure	JIC #6
Connection Return	JIC #6
Hose Dimension	3/8"
Hose Length	4 meter



# SYCLONE 2 TORQUE TOOL

ROV OPERATED  
400-1800 NM  
20-100 BAR



## Description

The **Syclone 2** is a ROV operated torque tool with a lot of force. It can rotate both ways with high precision and speed.

Torque is fully adjustable and with a precision of  $\pm 3\%$ . Can be ordered with a standard reaction arm, or you can get one custom made.

## Typical Operations

- Tighten bolts
- Untighten bolts

## Features

- 400-1800 Nm
- $\pm 3\%$  torque precision
- $\frac{3}{4}$ " square drive
- Custom reaction arm.
- Fishtail as standard



# Specifications

## Syclone 2 Torque Tool

### Description

Type	Subsea Torque Tool
Model	Syclone 2
Dimensions L x W	226 mm x 70,4 mm
Weight	3,4 kg

### Technical

Work Pressure	20-100 Bar
Torque Range	400-1800 Nm
Drive Size	3/4" Square
Max rpm	10 rpm @ 20 l/min
Max Flow	20 l/min
Torque Precision	± 3%

### Hydraulic

Connection Pressure	JIC #6
Connection Return	JIC #6
Hose Dimension	3/8"
Hose Length	4 meter



# SYCLONE 3 TORQUE TOOL

ROV OPERATED  
1000-4400 NM  
20-170 BAR



## Description

The Syclone 3 is a ROV operated torque tool with a lot of force. It can rotate both ways with high precision and speed.

Torque is fully adjustable and with a precision of  $\pm 3\%$ . Can be ordered with a standard reaction arm, or you can get one custom made.

## Typical Operations

- Tighten bolts
- Untighten bolts

## Features

- 1000-4400 Nm
- $\pm 3\%$  torque precision
- 1" square drive
- Custom reaction arm
- Fishtail handle as standard
- Max 20 rpm @ 40 L/min



# Specifications

## Syclone 3 Torque Tool

### Description

Type	Subsea Torque Tool
Model	Syclone 3
Dimensions L x W	550 mm x 200 mm
Weight	12 kg

### Technical

Work Pressure	20-170 Bar
Torque Range	1000-4400 Nm
Drive Size	1" Square
Max rpm	20 rpm @ 40 l/min
Max Flow	40 l/min
Torque Precision	± 3%

### Hydraulic

Pressure Connection	JIC #8
Return Connection	JIC #8
Hose Dimension	½"
Hose Length	4 meter

### General Features

Depth Rating	MSW 3000
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# ■ Valve Packs



- 4-Function High Flow Valve Pack PVG 128
- 4-Station High Flow Valve Pack
- 4-Station Small Valve Pack
- 8-Station Valve Pack
- DCV Pilot Valve Panel High Flow
- Modular Valve Pack System 2 Function
- Modular Valve Pack System 3 Function
- Modular Valve Pack System 4 Function
- Valve Pack 8-Function
- Valve Pack High-Flow 130 LPM Danfoss PVG32

# 4-FUNCTION HIGH FLOW VALVE PACK **PVG 128**

FLOW 240 L/MIN

PRESSURE 345 BAR

WATER DEPTH 3000 METER



## Description

**The 4-Station High Flow Valve Pack is designed and developed to achieve a cost-effective valve pack with high flow capabilities for subsea use. This valve pack allows short delivery time with proven concepts.**

The 4-Station High Flow Valve Pack is a universal remotely operated control unit which consists of 4 x directional control valves with individual pressure and flow control, allowing high flow of up to 240l/min in the output lines.

The valve pack use our well known and proven PCB board to operate the hydraulic control valves which give pilot pressure to each PVG valve to control flow and pressure. Each valve group has pressure sensors for monitoring input- and output pressure. Auxiliary signal input is also achieved through a dedicated connector.

## Typical Operations

- Subsea Tooling
- High Flow operations
- ROV operations

## Features

- Field proven
- Individual pressure and flow control
- High flow outputs
- Auxiliary signal input
- Water ingress alarm
- Compensation fluid filling and air bleed
- Ethernet and serial comms
- Pressure monitoring

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# SPECIFICATIONS

## 4- FUNCTION VALVEPACK

### General technical specifications

Type	4- Function Valve pack PVG128/32
Part number	PVG128-4F
Weight in air/submerged	103 Kg
Dimensions (L x W x H)	723 x 409 x 336 mm

### Environmental data

Design Lifetime	25 Years with normal maintenance
Depth Rating	3000 m
Operating Temperature	-5° + 60°
Storage Temperature	-18° + 50°

### Electrical data

Supply Voltage	20....30 VDC
Supply Max Current	10 A
COMS	Ethernet / RS232 / 485 optional
Earthing / Ground Connection Size	Threaded M10

### Electrical interface

Connection J1 Pin-out	Connector Glen Air G5506-1508-0004 Pin 1 – 0V / RS232 GND Pin 2 – 24 VDC Pin 3 – RS232 TX / RS485 D+ Pin 4 – RS232 RX / RS485 D- Pin 5 – TX+ Pin 6 – TX- Pin 7 – RX+ Pin 8 – RX-
Connection J2 Pin-out	Pin 1 – 0V Pin 2 – 24 VDC Pin 3 – NC Pin 4 – NC Pin 5 – TX+ Pin 6 – YX- Pin 7 – RX+ Pin 8 – RX-
Connection J3 Pin-out	Pin 1 – GND Pin 2 – 24 VDC Pin 3 – NC Pin 4 – NC Pin 5 – 4 – 20 mA Pin 6 – 4 – 20 mA Pin 7 – NC Pin 8 – NC
Connection J4 Pin-out	Pin 1 – GND Pin 2 – 24 VDC Pin 3 – NC Pin 4 – NC Pin 5 – DIG IN Pin 6 – DIG IN Pin 7 – NC Pin 8 – NC

# SPECIFICATIONS

## 4- FUNCTION VALVEPACK

### Hydraulic data

Number of function lines	4 x
Supply pressure (from ROV)	345 Bar
Supply flow (from ROV)	240 L/min
Fluid compatibility supply (from ROV)	Hydraulic oils of power classes (HL, HLP) to DIN 51524. Water Glycol fluid; HFC Fluids (consult with OEM)
Fluid compensation	Shell Tellus T or compatible type

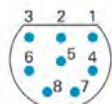
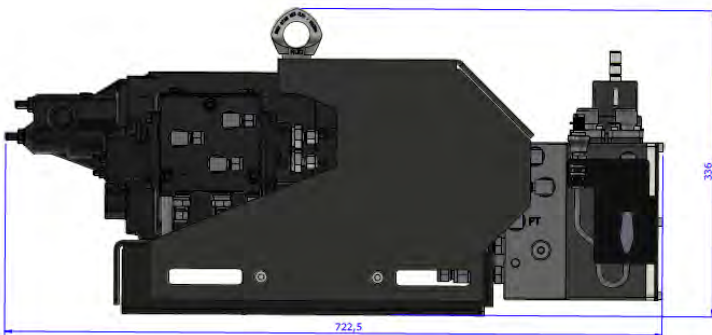
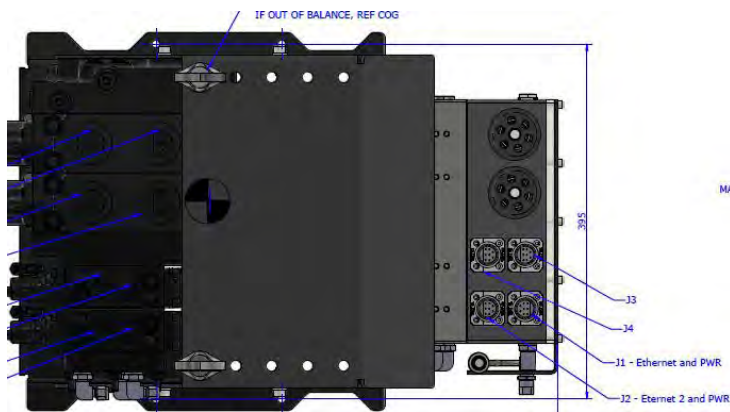
### ROV Hydraulic interface

ROV Supply	1 ½ inch BSP
ROV Return	1 ½ inch BSP

### Hydraulic interface

Port 1a/b	½ inch BSP – 40 l/min
Port 2a/b	½ inch BSP – 40 l/min
Port 3a/b	1 inch BSP – 240 l/min
Port 4a/b	1 inch BSP – 240 l/min

## DIMENSIONS

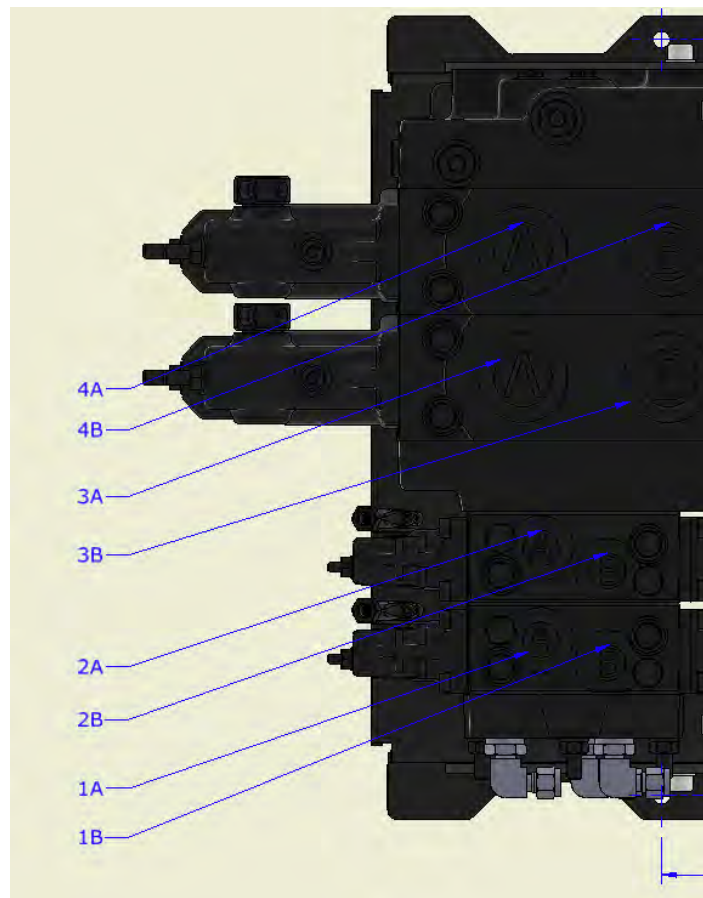
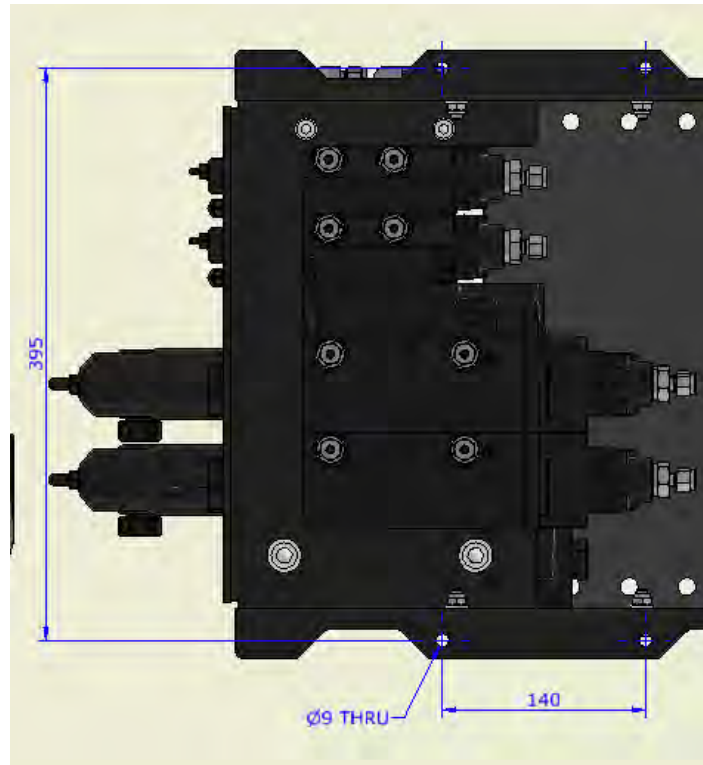


5507-1508 Face view

■ The specification details are illustrative for marketing purposes only. Actual equipment may be different as a result of product improvement or other reasons. Specific interface and performance information should be reconfirmed at time of order placement.  
 Envirent AS, Robotvegen 16, 4340 Bryne, +47 477 77 500 post@envirent.no

# SPECIFICATIONS

## 4- FUNCTION VALVEPACK



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# 4-STATION HIGH FLOW VALVE PACK

FLOW 120 L/MIN

PRESSURE 210 BAR

WATERDEPTH 3000 METER



## Descriptions

**The 4-Station High Flow Valve Pack is designed and developed to achieve a cost effective valve pack with high flow capabilities for subsea use. This valve pack allows short delivery time with proven concepts.**

The 4-Station High Flow Valve Pack is an universal remotely operated control unit which consists of 4 x directional control valves with individual pressure and flow control, allowing high flow of up to 120l/min in the output lines.

The valve pack use our well known and proven PCB board to operate the hydraulic control valves which give pilot pressure to each PVG valve to control flow and pressure. Each valve group has pressure sensors for monitoring input- and output pressure. Auxiliary signal input is also achieved through a dedicated connector.

## Typical Operations

- Subsea Tooling
- High Flow operations
- ROV operations

## Features

- Field proven
- Individual pressure and flow control
- High flow outputs
- Auxiliary signal input
- Water ingress alarm
- Compensation fluid filling and air bleed
- Ethernet and serial comms
- Pressure monitoring

# SPECIFICATIONS

## 4-STATION VALVEPACK PVG

### General technical specification

Type	4 Station Valvepack PVG
Part number	116716-EVX-MC-DWG-001
Weight (in air / Submerged)	30 Kg
Dimensions (L x W x H)	433 x 349 x 273 mm

### Environmental data

Design Lifetime	25 Years with normal maintenance
Depth Rating	3000 meter
Operating Temperature	-10 + 70 deg C
Storage Temperature	-20 + 50 deg C

### Electrical data

Supply Voltage	20...30 VDC
Supply max current	10 A
COMS	Ethernet / RS232
Earthing / Ground Connection size	Threaded M10

### ROV Electrical interface

Connection J1	Connector Glen Air G5506-1508-0004
Input 01	Connector Glen Air G5506-1508-0004
Connection J1 Pin-out	Pin 1 - 0V Pin 2 - 24 VDC Pin 3 - RS485 D- Pin 4 - RS485 D+ Pin 5 - TX+ Pin 6 - TX- Pin 7 - RX+ Pin 8 - RX-

Connection Input 1 Pin-out	Pin 1 - 0V Pin 2 - 24 VDC Pin 3 - 4-20 mA Pin 4 - NC Pin 5 - NC Pin 6 - NC Pin 7 - NC Pin 8 - NC
----------------------------	---

### Hydraulic data

Number of function lines	4 x
Supply pressure (from ROV)	207 Bar
Supply flow (from ROV)	200 L/min
Fluid compatibility Supply (from ROV)	Hydraulic oils of power classes (HL, HLP) to DIN 51524. Water Glycol fluid; HFC Fluids (consult with OEM).
Fluid Compensation	Shell Tellus T or compatible type

### ROV Hydraulic Interface

ROV Supply	1 inch BSP
ROV Return	1 inch BSP

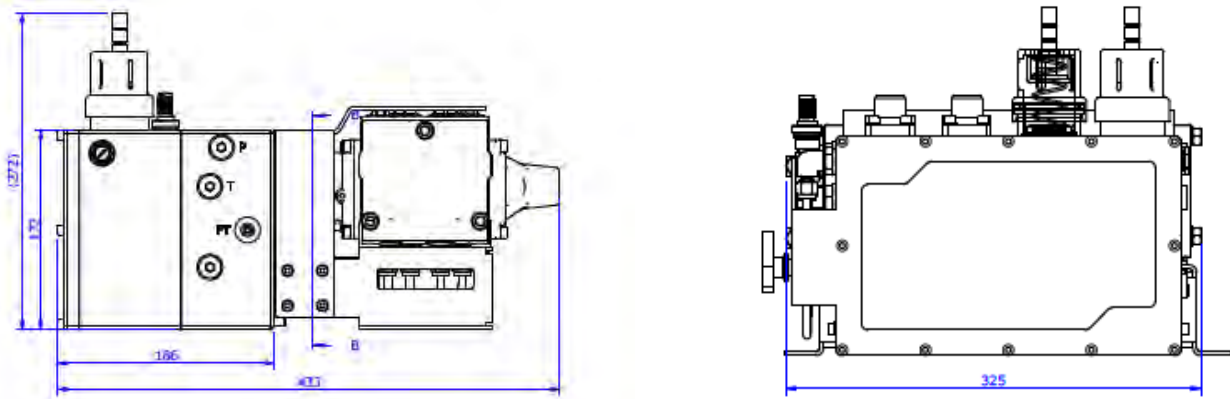
### Hydraulic interface

Port 1a/b	½ inch BSP - 25l/min
Port 2a/b	½ inch BSP - 120l/min
Port 3a/b	½ inch BSP - 120l/min
Port 4a/b	½ inch BSP - 25 l/min

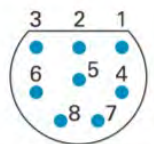
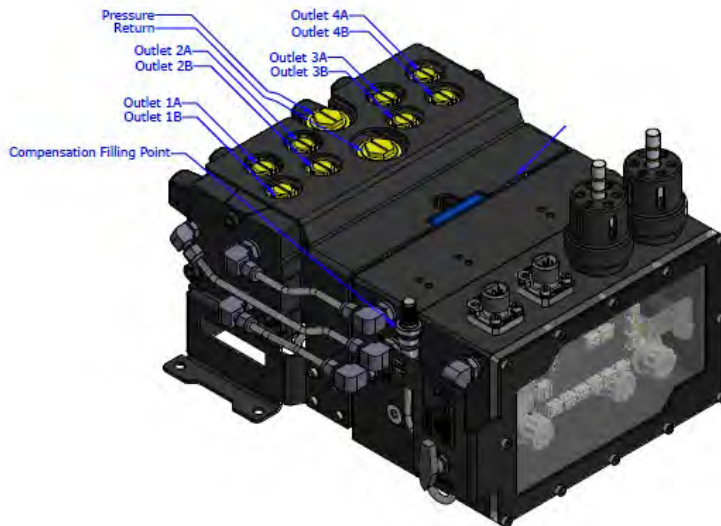
# SPECIFICATIONS

## 4-STATION VALVEPACK PVG

### Dimensions



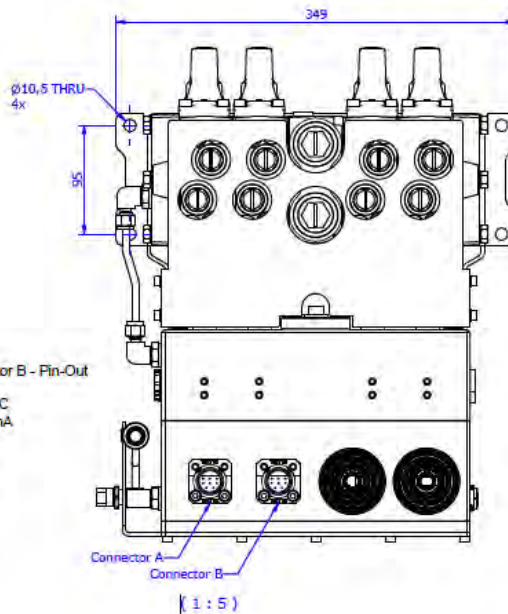
### Hydraulic ports and connector pin-out



5507-1508 Face view

- Connector A - Pin-Out
1. 0 V
  2. 24 VDC
  3. RS485 D-
  4. RS485 D+
  5. Eth TX +
  6. Eth TX -
  7. Eth RX+
  8. Eth RX -

- Connector B - Pin-Out
1. NC
  2. 24VDC
  3. 4-20mA
  4. NC
  5. NC
  6. NC
  7. NC
  8. NC



# SMALL VALVE PACK

ROV TOOLING  
REMOTE CONTROL  
VALVE PACK



## Description

**Small Valve Pack is a 4-Station remotely operated control unit. Consist of 3x NG4 and 1x NG6 directional control valves and Pressure regulation with feedback on each function.**

The Small Valve Pack is designed with purpose of being a low cost valve pack, with all features needed to operate subsea tooling. The design is compact and user-friendly and fits to most standard WROVs.

## Features

- iCsys Suite Software
- Proportional flow control
- Pressure regulation with feedback
- Working pressure 207 Bar
- Temperature sensor
- Coms. RS 232, 485 and Ethernet
- Light weight and compact design

# SPECIFICATIONS

## SMALL VALVE PACK 4-FUNCTION

### General Technical Specifications

Type	Small Valve Pack 4-function
Part Number	103292
Dimensions	mm 354 x 298 x 340
Weight (in air)	kg ~42

### Electrical

Supply Voltage	VDC 24VDC
----------------	-----------

### Communication

RS 232, RS 485 and Ethernet	8PIN Glen Air G5506-1508-0004 Pigtail 1 meter
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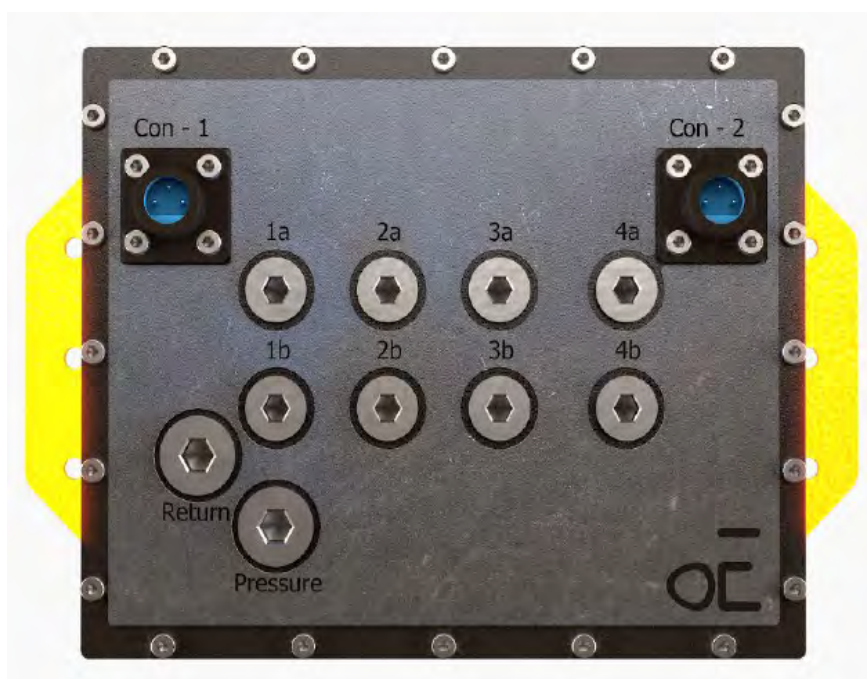
### Hydraulic

Max. Input Pressure	Bar 207
Max. Output Pressure	Bar 207
Max. Flow NG4 Proportional Valve	L/min 20 - 3 off
Max. Flow NG6 Proportional Valve	L/min 40 - 1 off

Connection ROV pressure	JIC #8
Connection ROV return	JIC #8
Connection output lines	JIC #6

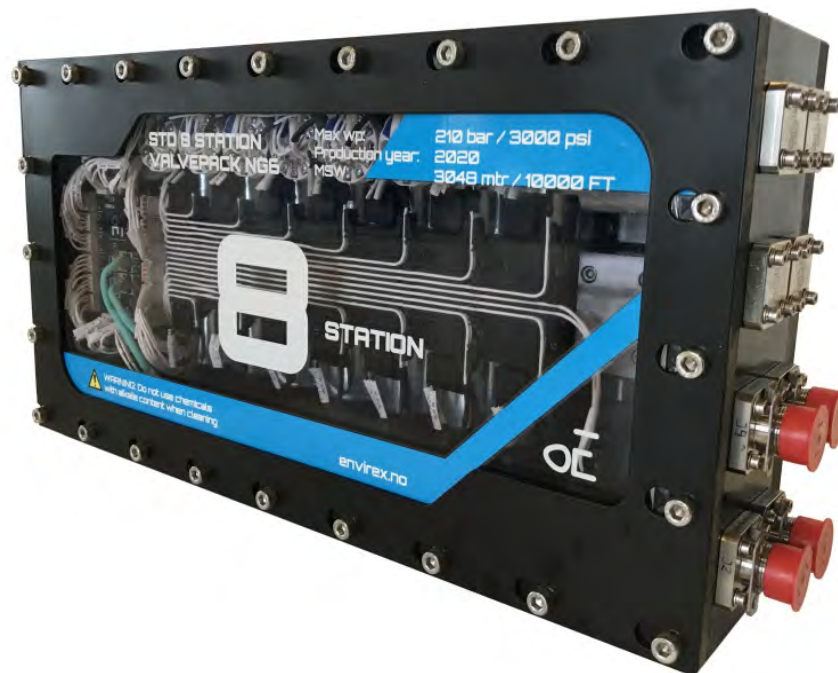
### General Features

Depth rating	MSW 5000
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# VALVE PACK 8 STATION

ROV TOOLING  
REMOTE CONTROL  
VALVE PACK



## Description

**The 8-Station Valve Pack is a universal remotely operated control unit. Consist of 8 x NG6 directional control valves and Pressure regulation with feedback on each function. Compact and cost efficient design.**

The 8-Station Valve Pack is designed with purpose of being a low cost valve pack with large number of hydraulic valves to control larger requirements and tooling operations. The design is compact and user-friendly and fits to most standard WROVs.

## Features

- iCsys Suite Software
- Proportional flow control
- Pressure egulation with feedback
- Working pressure 207 Bar
- Temperature sensor
- Coms. Ethernet
- Light weight and compact design

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Envirent AS, Hattelandsveien 92, 4353 Klepp Stasjon, +47 477 77 500 post@envirent.no

# SPECIFICATIONS

## VALVE PACK 8 STATION

### General Technical Specifications

Type	Valve Pack 8 Station
Part Number	VP-8F-02
Dimensions	mm Approx. 560 x 278 x 204 (TBC)
Weight (in air)	kg ~70

### Electrical

Supply Voltage	VDC 24VDC
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### Communication

RS 232, RS 485 and Ethernet	8PIN Glen Air G5506-1508-0004 Pigtail 1 meter
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### Hydraulic

Max. Input Pressure	Bar 207
Max. Output Pressure	Bar 207
Max. Flow NG6 Proportional Valve	L/min 40 - 8 off

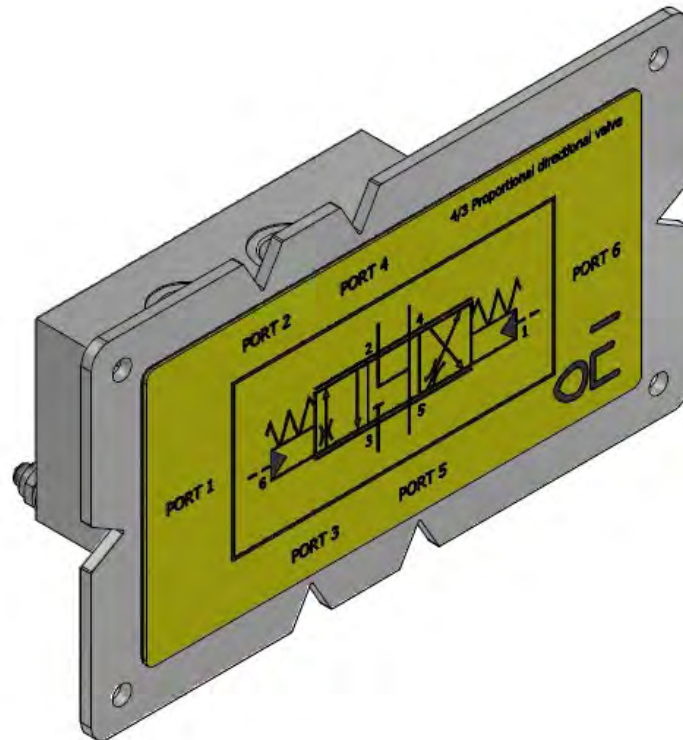
Connection ROV pressure	JIC #8
Connection ROV return	JIC #8
Connection output pressure	JIC #6

### General Features

Depth rating	MSW 5000
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# DCV PANEL PILOT VALVE HIGH FLOW

ROV INTERVENTION  
HIGH FLOW DCV  
PILOT OPERATED



## Description

**Compact and user friendly pilot operated proportional directional control valve mounted on a aluminium steel plate.**

This valve is a 4-way, 3-position proportional directional valve. Work ports 2 and 4 are drained to 5 in the center position and port 3 is closed. Pilot pressure at port 1 opposes the spring and creates a variable metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

## Features

- Compact and user friendly design
- Proportional Directional Control Valve
- High flow 140 LPM



# SPECIFICATIONS

## PILOT 4-WAY PROP. DCV PANEL

### General Technical Specifications

Type	Pilot 4-way prop. DCV Panel
Part Number	110171
Dimensions	mm 350 x 164 x 102
Weight (in air / submerged)	kg ~8 / ~6

### Hydraulic

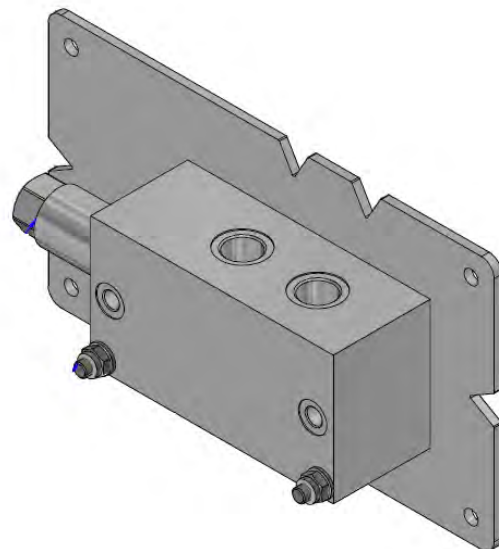
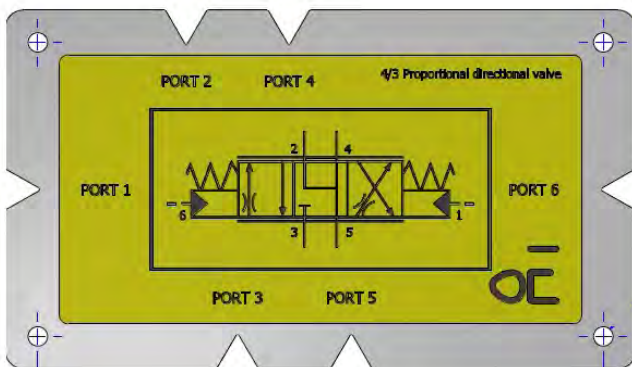
Max. Operating Pressure	Bar 345
Pilot Pressure Required to shift	Bar 4 to 9 (accept 345 Bar)
Pilot Pressure Required for full shift at rated flow	Bar 20 to 25

DCV Valve type Sun Hydraulics FTFC-XYN

Connection Pressure inlet	BSP 3/4"
Connection Return outlet	BSP 3/4"
Connection Pressure outlet A	BSP 3/4"
Connection Pressure outlet B	BSP 3/4"
Connection Pilot A	BSP 1/4"
Connection Pilot B	BSP 1/4"

### General Features

Depth rating MSW 3000



# VALVE PACK MODULAR

ROV TOOLING  
REMOTE CONTROL  
2-FUNCTION VALVE PACK



## Description

**Modular Valve Pack system based on intelligent firmware, specially designed to handle different hydraulic control requirements for both simple and complex underwater system and tooling applications.**

The 2-function Modular Valve Pack is designed with purpose of being a low cost valve pack, with all features needed to operate subsea tooling. The design is compact and user-friendly "plug and play" of valve modules. The 2-function Valve Pack can easily be increased with additional valve modules as extension to existing setup.

## Features

- iCsys Suite Software
- Simple and cost efficient changeout of spares
- Modular Valve Design
- Proportional flow control
- Pressure regulation with feedback
- Working pressure 207 Bar
- Temperature sensor
- Coms. RS 232, 485 and Ethernet
- Light weight and compact design

# SPECIFICATIONS

## VALVE PACK MODULAR

### General Technical Specifications

Type	Valve Pack Modular 2-function
Part Number	111300
Dimensions	mm 390 x 300 x 190
Weight (in air)	kg ~30

### Electrical

Supply Voltage	VDC 24VDC
----------------	-----------

### Communication

RS 232, RS 485 and Ethernet	8PIN Glen Air G5506-1508-0004 Pigtail 1 meter
-----------------------------	---

### Hydraulic

Max. Input Pressure	Bar 207
Max. Output Pressure	Bar 207
Max. Flow NG6 Proportional Valve	L/min 40

Connection ROV pressure	JIC #8
Connection ROV return	JIC #8
Connection output pressure	JIC #6

### General Features

Depth rating	MSW 5000
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# VALVE PACK MODULAR

ROV TOOLING  
REMOTE CONTROL  
3-FUNCTION VALVE PACK



## Description

**Modular Valve Pack system based on intelligent firmware, specially designed to handle different hydraulic control requirements for both simple and complex underwater system and tooling applications.**

The 3-function Modular Valve Pack is designed with purpose of being a low cost valve pack, with all features needed to operate subsea tooling. The design is compact and user-friendly "plug and play" of valve modules. The 3-function Valve Pack can easily be increased with additional valve modules as extension to existing setup.

## Features

- iCsys Suite Software
- 3 off NG6 Proportional DCV
- Modular Valve Design
- Proportional flow control
- Pressure regulation with feedback
- Working pressure 207 Bar
- Temperature sensor
- Coms. RS 232, 485 and Ethernet
- Light weight and compact design

# SPECIFICATIONS

## VALVE PACK MODULAR

### General Technical Specifications

Type	Valve Pack Modular 3-function
Part Number	111300
Dimensions	mm 390 x 300 x 190
Weight (in air)	kg ~30

### Electrical

Supply Voltage	VDC 24VDC
----------------	-----------

### Communication

RS 232, RS 485 and Ethernet	8PIN Glen Air G5506-1508-0004 Pigtail 1 meter
-----------------------------	---

### Hydraulic

Max. Input Pressure	Bar 207
Max. Output Pressure	Bar 207
Max. Flow NG6 Proportional Valve	L/min 40

Connection ROV pressure	JIC #8
Connection ROV return	JIC #8
Connection output pressure	JIC #6

### General Features

Depth rating	MSW 5000
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# VALVE PACK MODULAR

ROV TOOLING  
REMOTE CONTROL  
4-FUNCTION VALVE PACK



## Description

**Modular Valve Pack system based on intelligent firmware, specially designed to handle different hydraulic control requirements for both simple and complex underwater system and tooling applications.**

The 4-function Modular Valve Pack is designed with purpose of being a low cost valve pack, with all features needed to operate subsea tooling. The design is compact and user-friendly "plug and play" of valve modules. The 4-function Valve Pack can easily be increased with additional valve modules as extension to existing setup.

## Features

- iCsys Suite Software
- Simple and cost efficient changeout of spares
- Modular Valve Design
- Proportional flow control
- Pressure regulation with feedback
- Working pressure 207 Bar
- Temperature sensor
- Coms. RS 232, 485 and Ethernet
- Light weight and compact design

# SPECIFICATIONS

## VALVE PACK MODULAR

### General Technical Specifications

Type	Valve Pack Modular 4-function
Part Number	14592
Dimensions	mm 475 x 329 x 187
Weight (in air )	kg ~45

### Electrical

Supply Voltage	VDC 24VDC
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### Communication

RS 232, RS 485 and Ethernet	8PIN Glen Air G5506-1508-0004 Pigtail 1 meter
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### Hydraulic

Max. Input Pressure	Bar 207
Max. Output Pressure	Bar 207
Max. Flow NG6 Proportional Valve	L/min 40

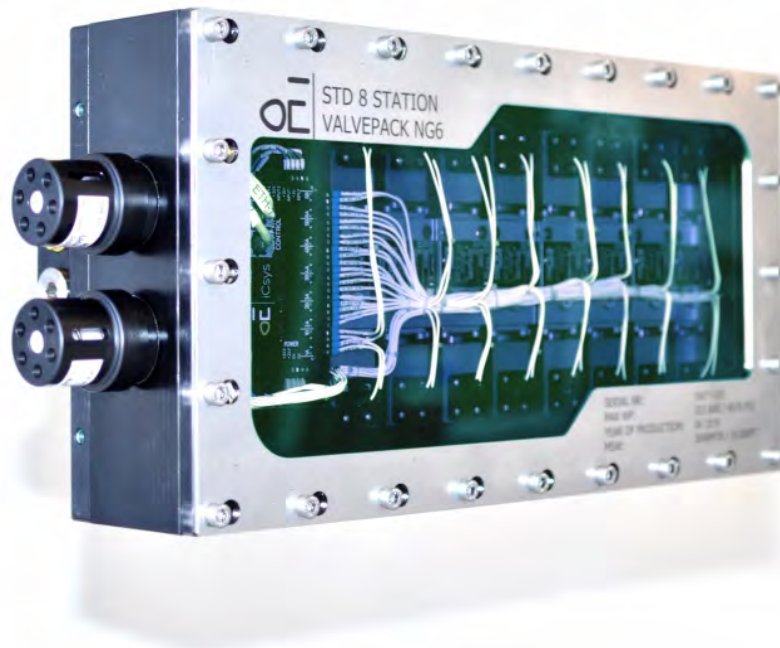
Connection ROV pressure	JIC #8
Connection ROV return	JIC #8
Connection output pressure	JIC #6

### General Features

Depth rating	MSW 3000
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# VALVE PACK 8x FUNCTION W/ON-OFF VALVES

ROV TOOLING  
REMOTE CONTROL  
VALVE PACK



## Description

**The 8-function Valve Pack is a universal remotely operated control unit. Consist of 8 x NG6 directional control valves and Pressure regulation with feedback on each function. Compact and cost efficient design.**

The 8-function Valve Pack is designed with purpose of being a low cost valve pack with large number of hydraulic valves to control larger requirements and tooling operations. The design is compact and user-friendly and fits to most standard WROVs.

## Features

- iCsys Suite Software
- On / Off directional control valves
- Pressure sensors on all outlets
- Working pressure 207 Bar
- Temperature sensor
- Coms. RS 232, 485 and Ethernet
- Light weight and compact design



# SPECIFICATIONS

## VALVE PACK 8 FUNCTION

### General Technical Specifications

Type	Valve Pack 8 Function
Part Number	VP-8F-01
Dimensions	mm Approx. 560 x 278 x 204 (TBC)
Weight (in air)	kg ~55

### Electrical

Supply Voltage	VDC 24VDC
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### Communication

RS 232, RS 485 and Ethernet	8PIN Glen Air G5506-1508-0004 Pigtail 1 meter
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### Hydraulic

Max. Input Pressure	Bar 207
Max. Output Pressure	Bar 207
Max. Flow NG6 Proportional Valve	L/min 40 - 8 off

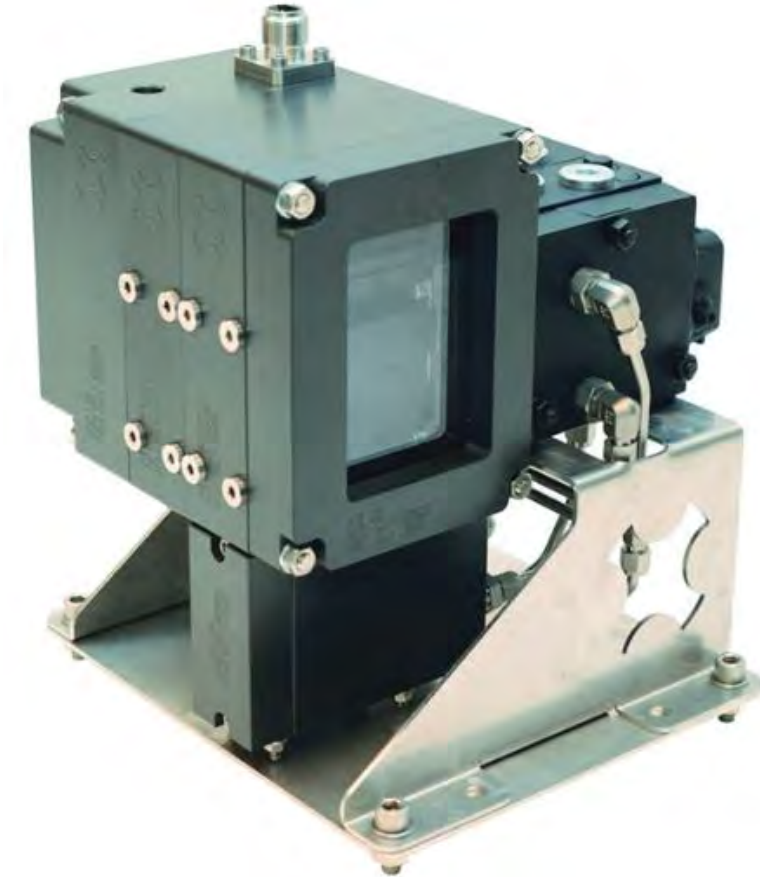
Connection ROV pressure	JIC #8
Connection ROV return	JIC #8
Connection output pressure	JIC #6

### General Features

Depth rating	MSW 5000
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# HIGH FLOW VALVE PACK

ROV TOOLING  
REMOTE CONTROL  
VALVE PACK



## Description

**Danfoss PVG32 Subsea Valve Pack is a 3-function remotely operated control unit. Consist of 1x High-Flow (100LPM) valve and 2x Low-Flow (16LPM) valves and pressure regulation with feedback on each function.**

The Danfoss PVG32 Valve Pack is designed with purpose of being a low cost valve pack, with all features needed to operate subsea tooling and high-flow applications. The compact modular design provide a wide range of configuration possibilities.

## Features

- iCsys Suite Software
- Proportional flow control
- Pressure regulation with feedback
- Working pressure 345 Bar
- Coms. RS232 and RS485
- Compact modular design

# SPECIFICATIONS

## HIGH-FLOW VALVE PACK

### General Technical Specifications

Type	High-Flow Valve Pack
Part Number	115700
Dimensions	mm 340 x 340 x 260
Weight (in air / submerged)	kg 32

### Electrical

Supply Voltage	VDC 24VDC
----------------	-----------

### Communication

RS 232 and RS 485	8PIN Glen Air G5506-1508-0004 Pigtail 1 meter
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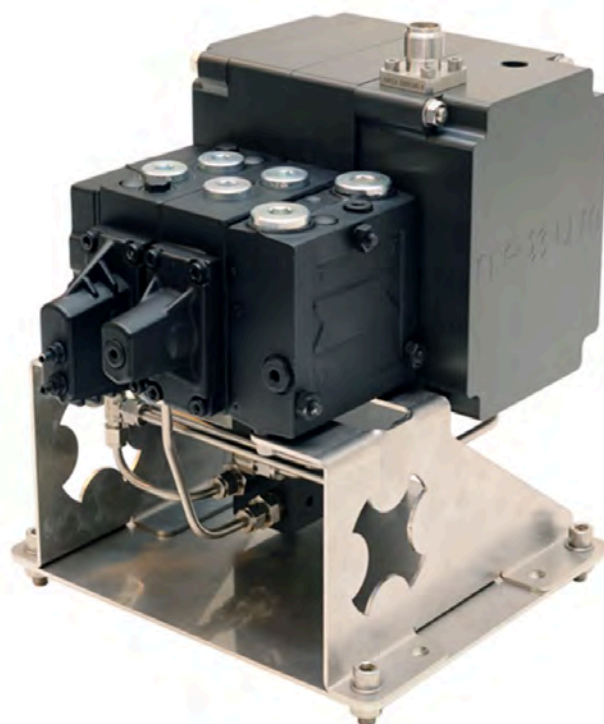
### Hydraulic

Max. Input Pressure	Bar 345
Max. Output Pressure	Bar 345
Max. Flow high-flow spool	L/min 100 - 1 off
Max. Flow low-flow spool	L/min 16 - 2 off

Connection ROV pressure	JIC #8
Connection ROV return	JIC #8
Connection output pressure	JIC #6

### General Features

Depth rating	MSW 3000
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