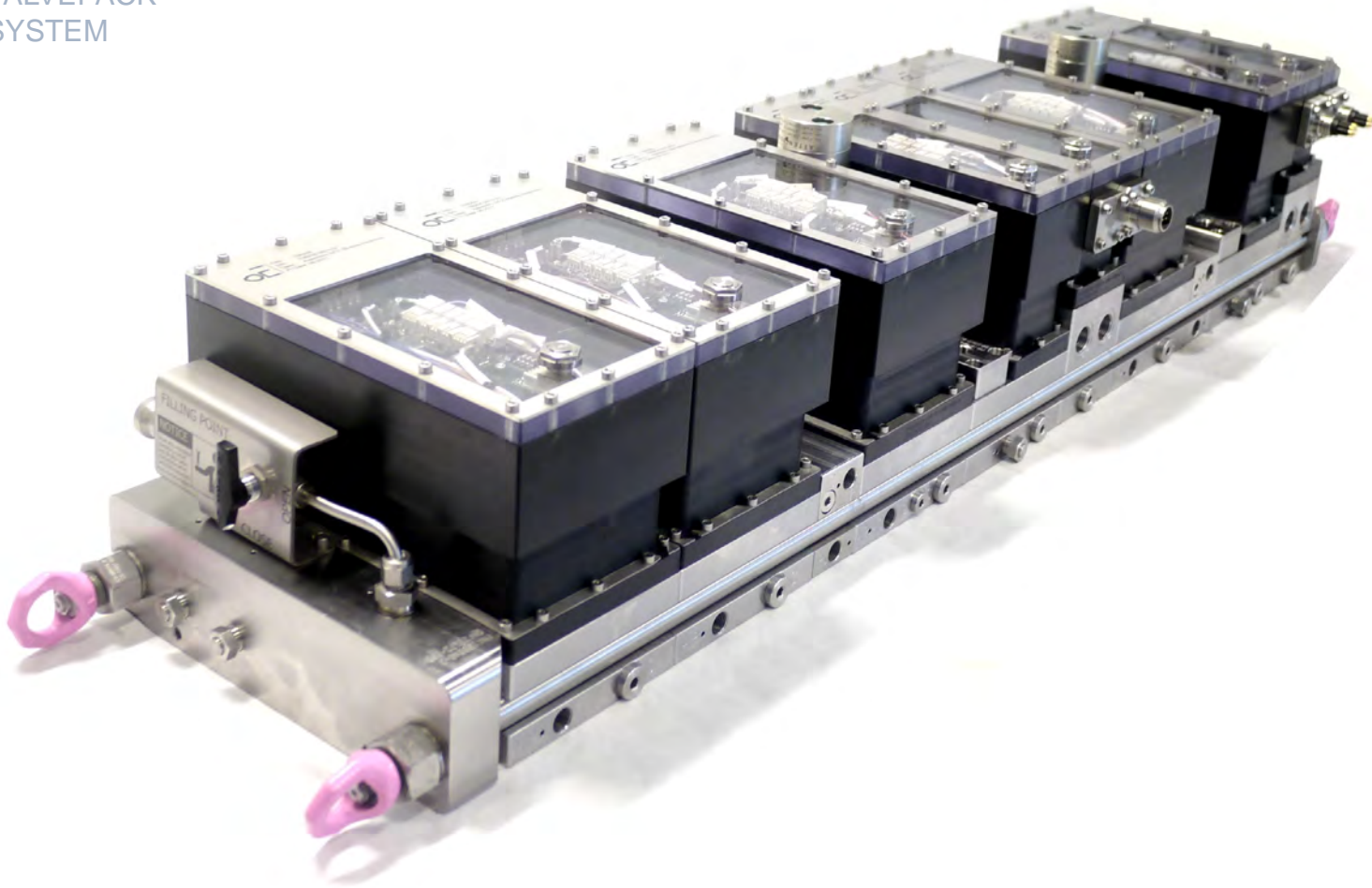


# MODULAR CONTROL SYSTEM

MODULAR  
VALVEPACK  
SYSTEM

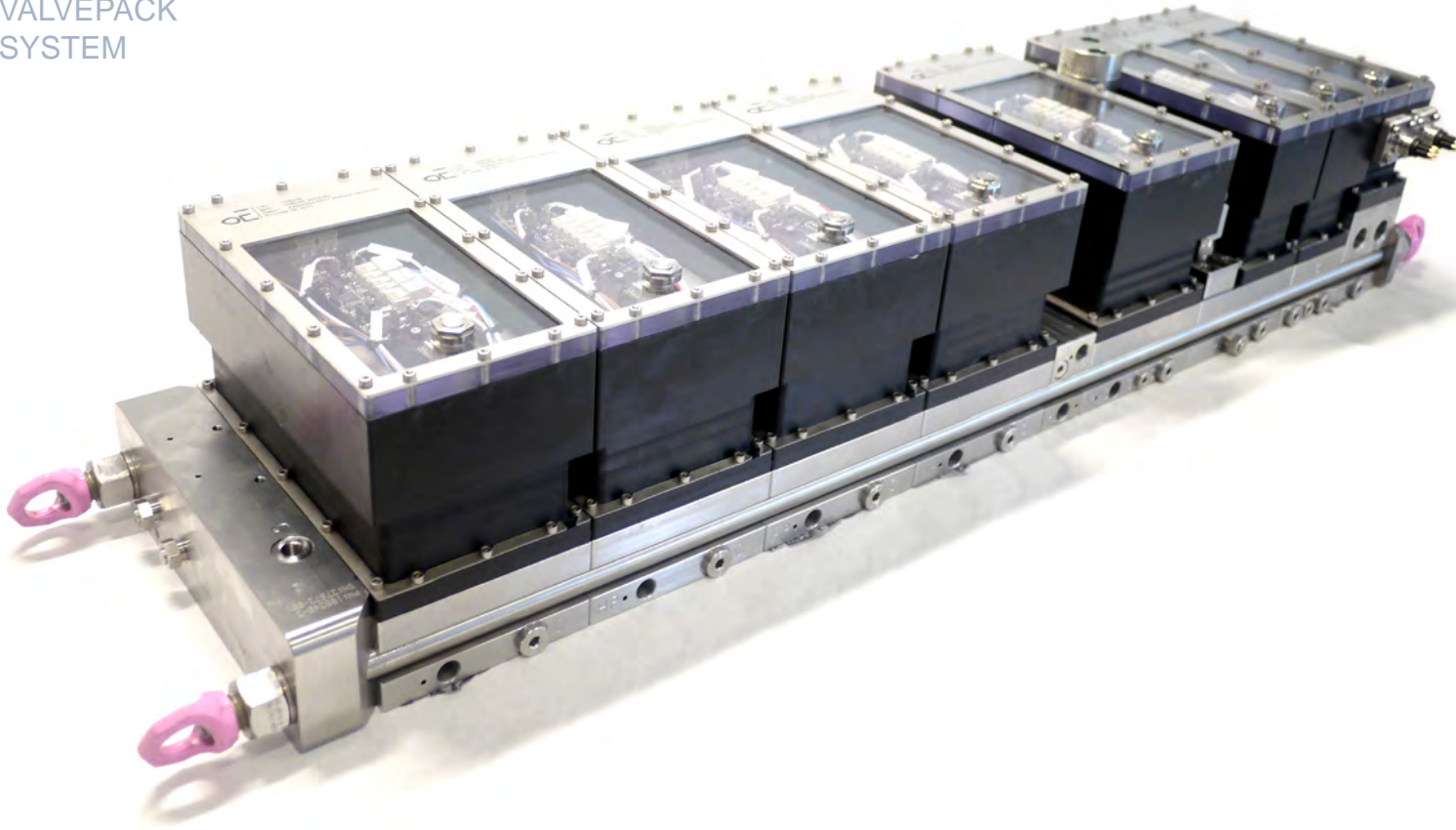


## FEATURES

- Cost Effective
- Remote Operation
- Modular Design
- Field Proven Technology
- Customized Configurations

# MODULAR CONTROL SYSTEM

MODULAR VALVEPACK SYSTEM



## Description

The system is based on a intelligent ValvePack specially designed to handle different control requirements for both simple and complex underwater systems.

The modular concept allows the user to set up the ValvePack to fit several purposes and are cost effective in regards to production, assembly and potential system expansion.

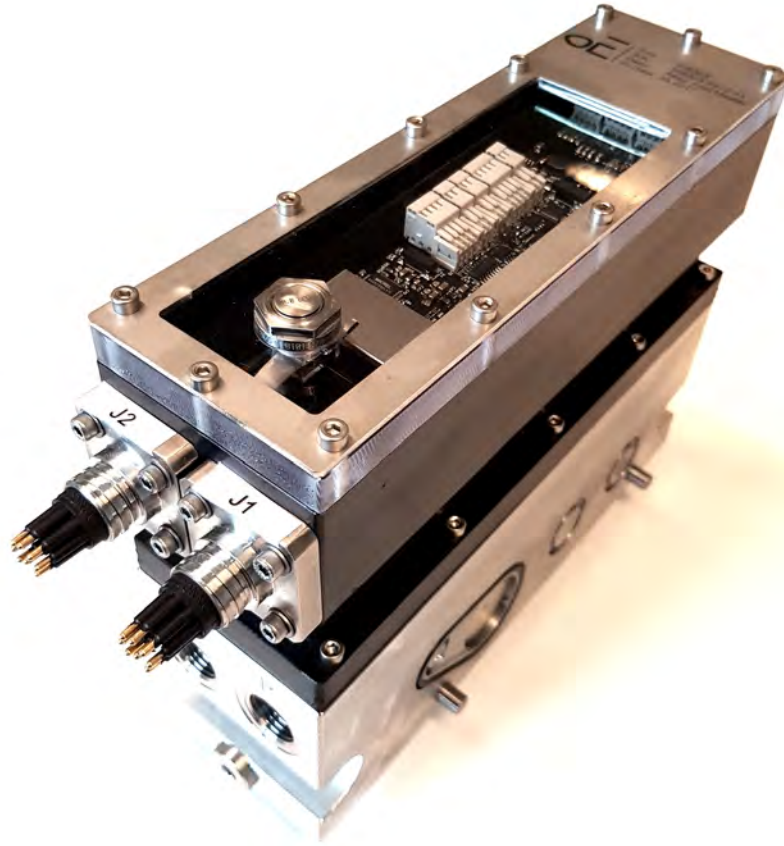
Power and comms link to all extension modules provides a communication link to the surface which allows the system to operate as a self-contained control system

## Features

- Compact and robust design
- Adjustable to customer requirements
- Rated to 3000MSW
- Inputs for auxiliary sensors and equipment
- Integrated comms link
- Service and user friendly
- Customized setup
- Utilizes industry standard parts
- Internal pressure intensifier possibility
- Up to 690 Bar / 10.000PSI output pressure

# INLET MODULE MASTER

MODULAR  
VALVEPACK  
SYSTEM



## Description

**The master inlet module is the hydraulic, power and COMS connection module. The module are fitted with a power and comms link to all extension modules while it also provides a communication link to the surface.**

The main electronic module is also equipped with inputs for external sensors such as flowmeters, pressure sensors and other similar subsea equipment / sensors. This module are equipped with pressure sensors on both pressure inlet and return line.

## Features

- Compact and robust design
- Rated to 3000meter ocean depth
- Inputs for auxiliary sensors and equipment
- Service and user friendly
- Customized setup
- Utilizes industry standard parts

# SPECIFICATIONS

## INLET MODULE MASTER

### General Technical Specifications

Type	Inlet Module Master Hauhinco
Part Number	108303
Body Material	AISI316L
Fluid	Water Glycol and mineral oil based subsea fluids
Weight (in air / submerged)	~16,2Kg / ~12,6Kg
Operating Temperature	-10°C/ + 50°C (14°F / 122°F)

### Materials

Body	AISI316L
Seals	NBR Nitrile as standard (other types available on request)

### Hydraulic

Proof Pressure	695 Bar (10.000PSI)
Supply Pressure	410 Bar (5.945 PSI)
Max. Return Pressure	30 Bar (435 PSI)
Max. Compensator Pressure	1,2 Bar ( 17,4 PSI)
Max. Flow	100 l/min (26 USG)
Port Size (P & T)	BSPP 1/2" Female
Port Size Compensator	BSPP 1/4" Female

### Electrical

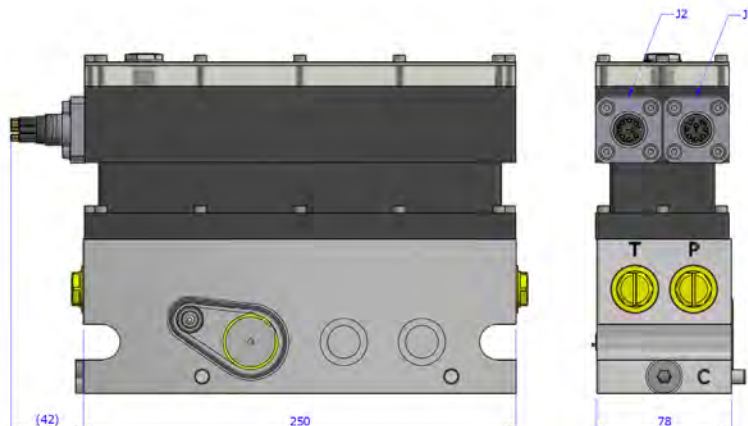
Nominal Voltage	24 VDC
COMS	Ethernet / RS485
Connector	Subconn FCR-15-08-M

### Pin-out

J1- PWR & COMS	J2 - (Option 1)	J2 - (Option 2)
Pin 01 – 0 VDC	Pin 01 – 0VDC	Pin 01 – 0VDC
Pin 02 – 24 VDC	Pin 02 – 24 VDC	Pin 02 – 24 VDC
Pin 03 – RS 485 +	Pin 03 – 4-20 mA	Pin 03 – DIG IN
Pin 04 – RS 485 -	Pin 04 – NC	Pin 04 – DIG IN
Pin 05 – TX+ ORG /WHT	Pin 05 – 0 VDC	Pin 05 – 0 VDC
Pin 06 – TX- ORG	Pin 06 – 24 VDC	Pin 06 – 24 VDC
Pin 07 – RX+ GRN/WHT	Pin 07 – 4-20mA	Pin 07 – DIG IN
Pin 08 – RX- GRN	Pin 08 – NC	Pin 08 – DIG IN

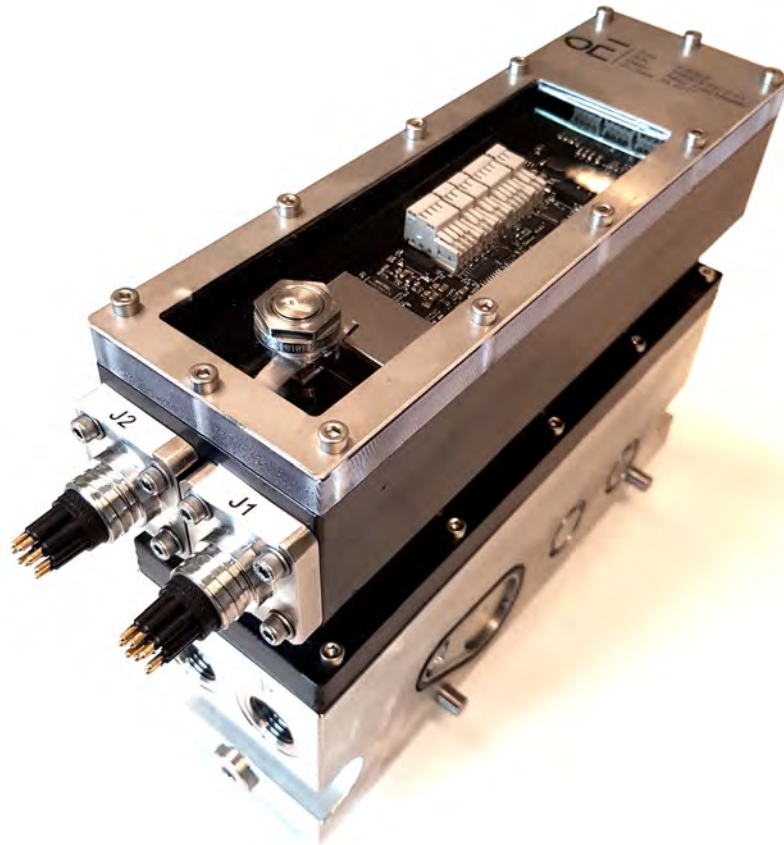
Part Number Rep. Kit	108303-REP-KIT
Part Number Seal Kit	108303-SEAL-KIT

Designed according to NS-EN 13445



# INLET MODULE SLAVE

MODULAR  
VALVEPACK  
SYSTEM



## Description

**The slave inlet module are used in systems where it is need for multiple isolated hydraulic circuits. Power and comms link are provided thru the inlet master module.**

The inlet slave module is also equipped with inputs for external sensors such as flow-meters, pressure sensors and other similar subsea equipment / sensors. This module are equipped with pressure sensors on both pressure inlet and return line.

## Features

- Compact and robust design
- Rated to 3000meter ocean depth
- Inputs for auxiliary sensors and equipment
- Service and user friendly
- Customized setup
- Utilizes industry standard parts

# SPECIFICATIONS INLET MODULE SLAVE

## General Technical Specifications

Type	Inlet Module Master Hauhinco
Part Number	108360
Body Material	AISI316L
Fluid	Water Glycol and mineral oil based subsea fluids
Weight (in air / submerged)	~16,2Kg / ~12,6Kg
Operating Temperature	-10°C/ + 50°C (14°F / 122°F)

## Materials

Body	AISI316L
Seals	NBR Nitrile as standard (other types available on request)

## Hydraulic

Proof Pressure	695 Bar (10.000PSI)
Supply Pressure	410 Bar (5.945 PSI)
Max. Return Pressure	30 Bar (435 PSI)
Max. Compensator Pressure	1,2 Bar ( 17,4 PSI)
Max. Flow	100 l/min (26 USG)
Port Size (P & T)	BSPP 1/2" Female
Port Size Compensator	BSPP 1/4" Female

## Electrical

Nominal Voltage	24 VDC
COMS	Ethernet / RS485
Connector	Subconn FCR-15-08-M

## Pin-out

### J1 - (Option 1)

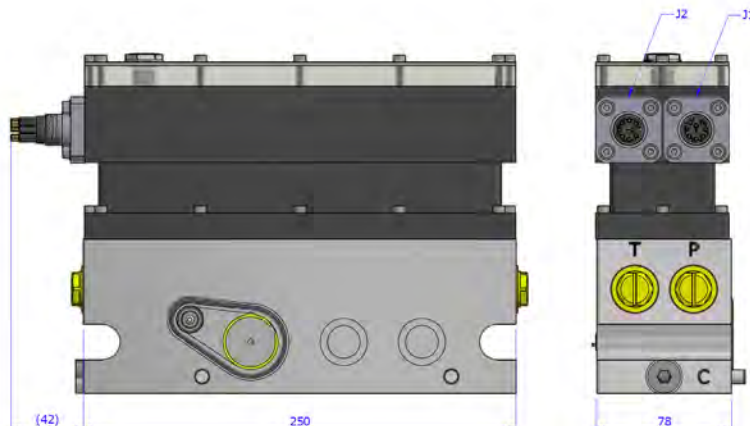
Pin 01 – 0 VDC
Pin 02 – 24 VDC
Pin 03 – 4-20mA
Pin 04 – 0 VDC
Pin 05 – 24 VDC
Pin 06 – 4-20mA
Pin 07 – NC
Pin 08 – NC

### J2 - (Option 1)

Pin 01 – 0 VDC
Pin 02 – 24 VDC
Pin 03 – DIG IN
Pin 04 – DIG IN
Pin 05 – NC
Pin 06 – NC
Pin 07 – NC
Pin 08 – NC

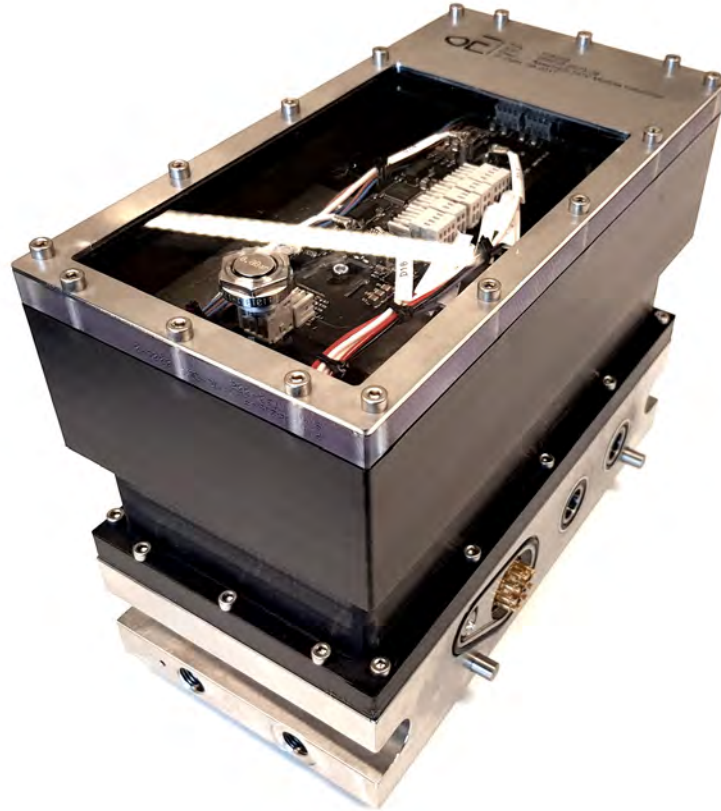
Part Number Rep. Kit	108360-REP-KIT
Part Number Seal Kit	108360-SEAL-KIT

Designed according to NS-EN 13445



# DIRECTIONAL CONTROL VALVE MODULE

MODULAR  
VALVEPACK  
SYSTEM



## Description

**The DCV Module are fitted with hydraulic control valves and pressure sensors which allows the user to maintain full control of the hydraulic system.**

Selected DCVs are suitable for harsh subsea environments and are capable to handle most common water glycol based subsea fluids. The module are also designed to handle local pressure testing and are equipped with pressure sensors on the isolated side of the valve.

## Features

- Compact and robust design
- Rated to 3000meter ocean depth
- Dual pressure sensors
- Service and user friendly
- Utilizes industry standard parts
- 410 Bar pressure rating

# SPECIFICATIONS

## DIRECTIONAL CONTROL VALVE MODULE

### General Technical Specifications

Type	DCV Module Hauhinco
Part Number	108205
Body Material	AISI316L
Fluid	Water Glycol and mineral oil based subsea fluids
Weight (in air / submerged)	~16,2Kg / ~12,6Kg
Operating Temperature	-10°C/ + 50°C (14°F / 122°F)

### Materials

Body	AISI316L
Seals	FKM, PTFE, NBR

### Hydraulic

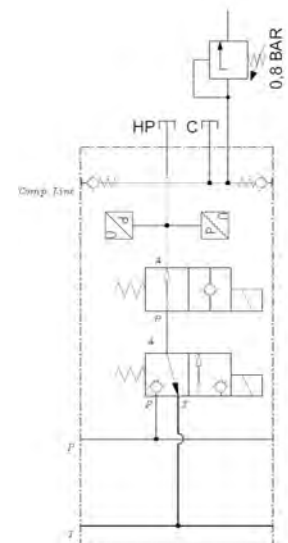
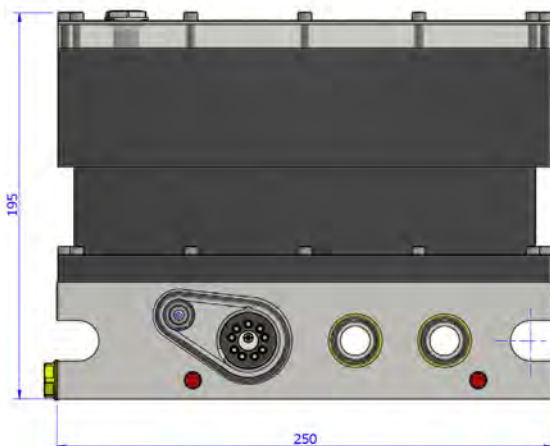
Max. Pressure	695 Bar (10.000PSI)
Max. Return Pressure	30 Bar (435 PSI)
Max. Compensator Pressure	1,2 Bar ( 17,4 PSI)
Max. Flow	15 l/min (7.7 USG)
Cleanliness Class	20/18/15, filter fineness 25 µm
Viscosity	0.6 to 100 mm <sup>2</sup> /s
Port Size	AE 9/16" MP Female (SF562CX)

### Electrical

Nominal Voltage	24 VDC
Power Consumption	2 x 36W
COMS (Local)	CAN-Bus

Part Number Rep. Kit	108205-REP-KIT
Part Number Seal. Kit	108205-SEAL-KIT

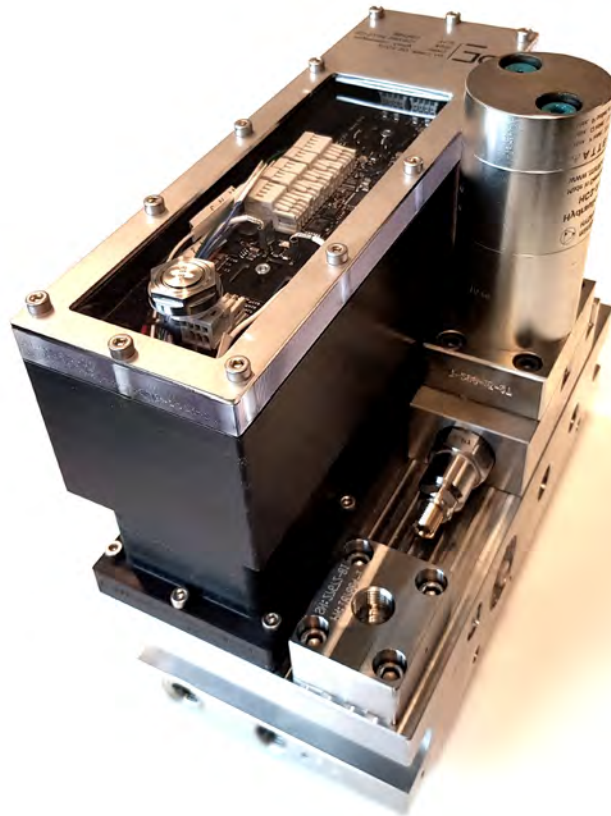
Designed according to NS-EN 13445





# PRESSURE INTENSIFIER MODULE

MODULAR  
VALVEPACK  
SYSTEM



## Description

**The intensifier module are designed to boost the inlet pressure to a higher pressure than supplied inlet pressure. The module are fitted with a directly actuated directional seat valve controlling the booster on/off function, a pressure sensor and a pressure intensifier.**

Selected components are suitable for harsh subsea environments and are capable to handle most common water glycol based subsea fluids.

## Features

- Compact and robust design
- Rated to 3000meter ocean depth
- Service and user friendly
- Utilizes industry standard parts
- Up to 690 Bar / 10.000PSI output pressure

# SPECIFICATIONS

## PRESSURE INTENSIFIER MODULE

### General Technical Specifications

Type	Intensifier Module Hauhinco
Part Number	108266
Body Material	AISI316L
Fluid	Water Glycol and mineral oil based subsea fluids
Weight (in air / submerged)	~11Kg / ~9Kg
Operating Temperature	-10°C/ + 50°C (14°F / 122°F)

### Materials

Body	AISI316L
Seals	FKM, PTFE, NBR

### Hydraulic

Max. Pressure	695 Bar (10.000PSI)
Intensification Factor	1:4 (1:2) *
Max. Return Pressure	30 Bar (435 PSI)
Max. Compensator Pressure	1,2 Bar ( 17,4 PSI)
Max. Flow	15 l/min (7.7 USG)
Cleanliness Class	20/18/15, filter fineness 25 µm
Viscosity	0.6 to 100 mm <sup>2</sup> /s
Port Size	AE 9/16" MP Female (SF562CX)

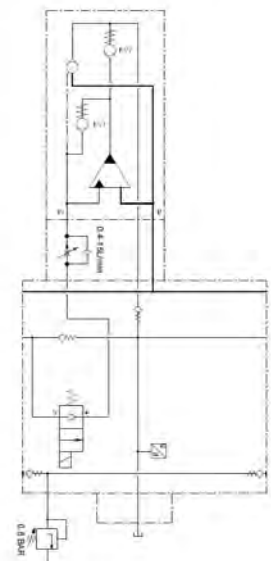
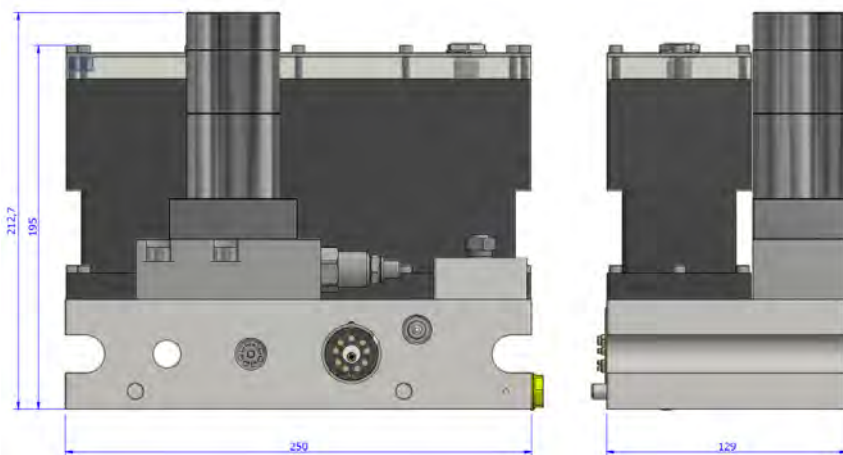
\* Other factors available on request

### Electrical

Nominal Voltage	24 VDC
Power Consumption	36W
COMS (Local)	CAN-Bus

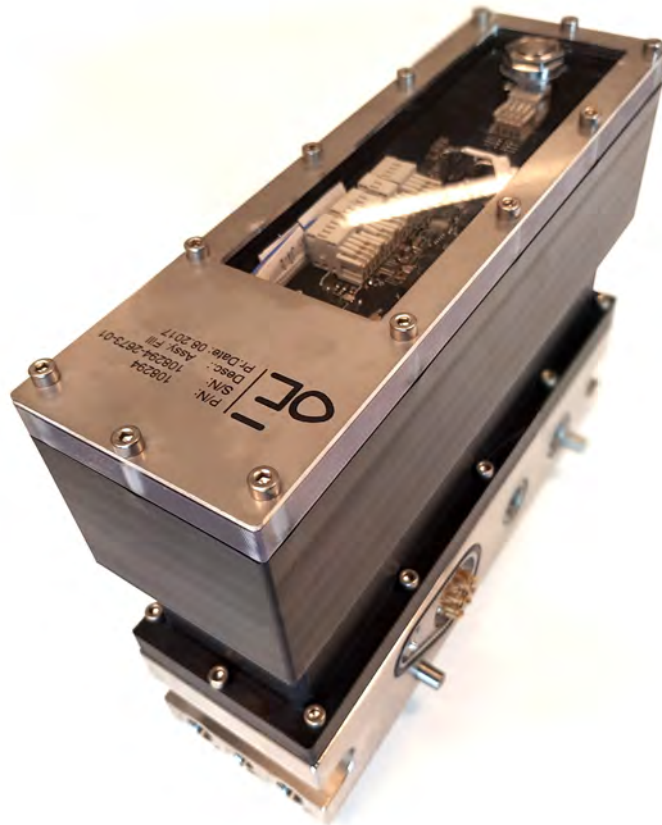
Part Number Rep. Kit	108266-REP-KIT
Part Number Seal Kit	108266-SEAL-KIT

Designed according to NS-EN 13445



# DCV BYPASS MODULE

MODULAR  
VALVEPACK  
SYSTEM



## Description

**The DCV Bypass module are designed to isolate a external fluid pressure source from the rest of the modular valvepack**

This module are typically used where it is need for external fluid supply, shuch as chemicals, external reservoirs and similar.

## Features

- Compact and robust design
- Rated to 3000meter ocean depth
- Service and user friendly
- Utilizes industry standard parts
- Up to 690 Bar / 10.000PSI output pressure

# SPECIFICATIONS FLUID FILL MODULE

## General Technical Specifications

Type	Fill Module Hauhinco
Part Number	108294
Body Material	AISI316L
Fluid	Water Glycol and mineral oil based subsea fluids
Weight (in air / submerged)	~11Kg / ~9Kg
Operating Temperature	-10°C/ + 50°C (14°F / 122°F)

## Materials

Body	AISI316L
Seals	FKM, PTFE, NBR

## Hydraulic

Max. Inlet Pressure	410 Bar (5.945 PSI)
Max, Intensified Pressure	695 Bar (10.000PSI)
Max. Return Pressure	30 Bar (435 PSI)
Max. Compensator Pressure	1,2 Bar ( 17,4 PSI)
Max. Flow	15 l/min (7.7 USG)
Cleanliness Class	20/18/15, filter fineness 25 µm
Viscosity	0.6 to 100 mm <sup>2</sup> /s
Port Size	AE 9/16" MP Female (SF562CX)

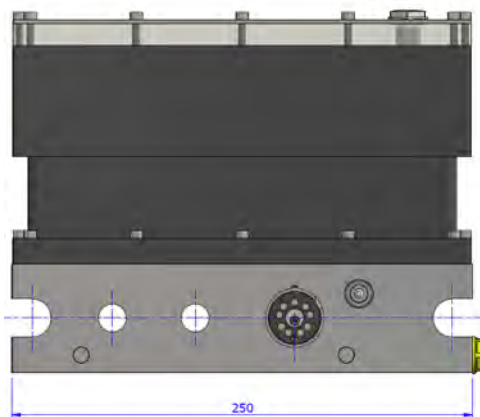
\* Other factors available on request

## Electrical

Nominal Voltage	24 VDC
Power Consumption	36W
COMS (Local)	CAN-Bus

Part Number Rep. Kit	108294-REP-KIT
Part Number Seal Kit	108294-SEAL-KIT

Designed according to NS-EN 13445



# FLOW METERING MODULE

MODULAR  
VALVEPACK  
SYSTEM



## Description

**The flow meter module is a simple module which routes the supplied fluid through a gear flowmeter or similar. The flow meter signals can be hooked directly into the Master Inlet Module and allows the user to read of actual flow and consumed fluid through the graphical user interface.**

Selected components are suitable for harsh subsea environments and are capable to handle most common water glycol based subsea fluids.

## Features

- Compact and robust design
- Rated to 3000meter ocean depth
- Service and user friendly
- Utilizes industry standard parts
- Up to 690 Bar / 10.000PSI pressure rating

# SPECIFICATIONS

## FLOW METERING MODULE

### General Technical Specifications

Type	Flowmetering Module Short
Part Number	108243
Body Material	AISI316L
Fluid	Water Glycol and mineral oil based subsea fluids
Weight (in air / submerged)	~11Kg / ~9Kg
Operating Temperature	-10°C/ + 50°C (14°F / 122°F)

### Materials

Body	AISI316L
Seals	FKM, PTFE, NBR

### Hydraulic

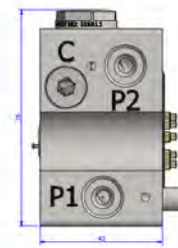
Max. Inlet Pressure	410 Bar (5.945 PSI)
Max. Intensified Pressure	695 Bar (10.000PSI)
Max. Return Pressure	30 Bar (435 PSI)
Max. Compensator Pressure	1,2 Bar ( 17,4 PSI)
Max. Flow	15 l/min (7.7 USG)
Cleanliness Class	20/18/15, filter fineness 25 µm
Viscosity	0.6 to 100 mm <sup>2</sup> /s
Port Size	AE 9/16" MP Female (SF562CX)

### Electrical

Nominal Voltage	24 VDC
Power Consumption	36W
COMS (Local)	CAN-Bus

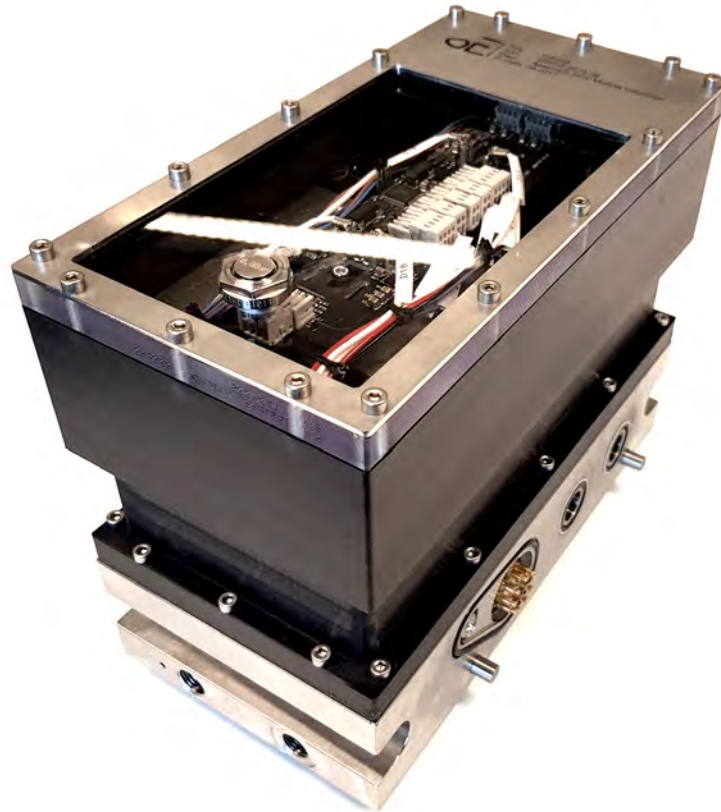
Part Number Rep. Kit	108243-REP-KIT
Part Number Seal Kit	108243-SEAL-KIT

Designed according to NS-EN 13445



# ACCUMULATOR CONTROL MODULE

MODULAR  
VALVEPACK  
SYSTEM



## Description

**The accumulator module allows hook up of and control of a external pressure source. The valve setup are designed to handle a controlled shutdown or for redundancy purposes. The accumulator module are equipped with pressure sensors, both for fluid and N2 pressure read off.**

Selected components are suitable for harsh subsea environments and are capable to handle most common water glycol based subsea fluids.

## Features

- Compact and robust design
- Rated to 3000meter ocean depth
- Service and user friendly
- Utilizes industry standard parts

# SPECIFICATIONS ACCUMULATOR MODULE

## General Technical Specifications

Type	Accumulator Module Hauhinco
Part Number	108254
Body Material	AISI316L
Fluid	Water Glycol and mineral oil based subsea fluids
Weight (in air / submerged)	~13Kg / ~9,5Kg
Operating Temperature	-10°C/ + 50°C (14°F / 122°F)

## Materials

Body	AISI316L
Seals	FKM, PTFE, NBR

## Hydraulic

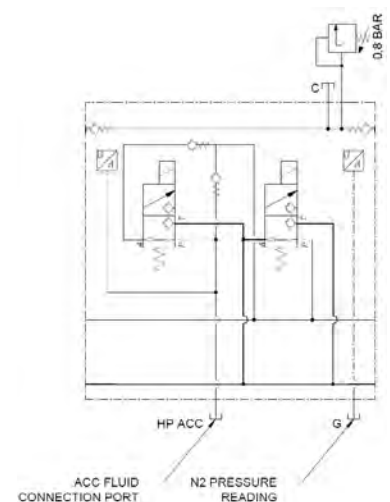
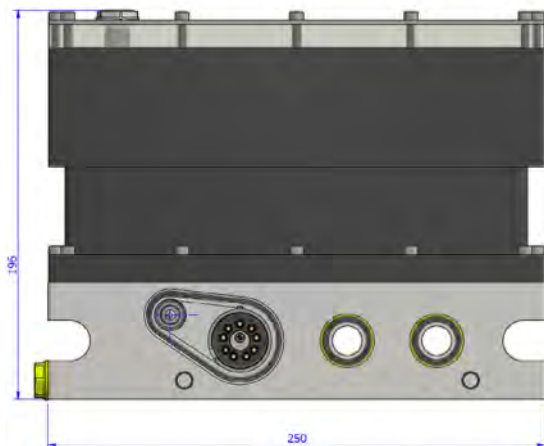
Max. Inlet Pressure	410 Bar (5.945 PSI)
Max, Intensified Pressure	695 Bar (10.000PSI)
Max. Return Pressure	30 Bar (435 PSI)
Max. Compensator Pressure	1,2 Bar ( 17,4 PSI)
Max. Flow	15 l/min (7.7 USG)
Cleanliness Class	20/18/15, filter fineness 25 µm
Viscosity	0.6 to 100 mm <sup>2</sup> /s
Port Size	HP-AC: AE 9/16" MP Female (SF562CX) G: 1/8" BSPP Female C: 1/4" BSPP Female

## Electrical

Nominal Voltage	24 VDC
Power Consumption	36W
COMS (Local)	CAN-Bus

Part Number Rep. Kit	108254-REP-KIT
Part Number Seal Kit	108254-SEAL-KIT

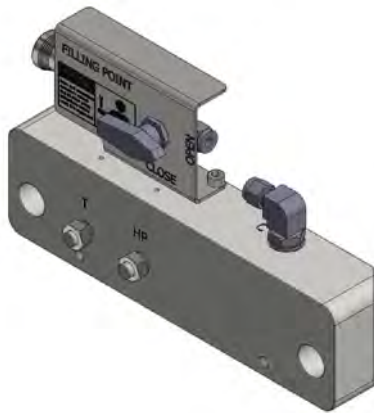
Designed according to NS-EN 13445



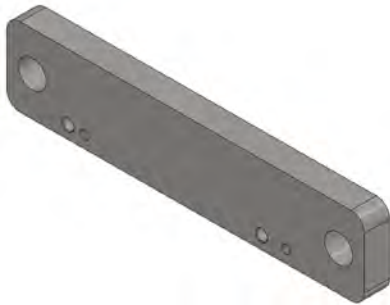


# ACCESSORIES

## MODULAR VALVEPACK SYSTEM



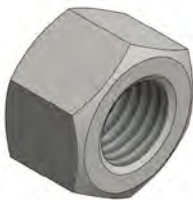
Type	690 End Lid Module
Part Number	108239
Body Material	AISI 316L
Weight (in air / submerged)	~7,5Kg / ~6,5Kg
Port Size	AE 9/16" MP Female (SF562CX)
Compensator QC Type	SWG SS-QC4-B-400



Type	End Support Plate
Part Number	107543
Body Material	AISI 316L
Weight (in air / submerged)	~3,5Kg / ~2,5Kg
Port Size	NC



Type	M20 Rod
Part Number	107039
Body Material	S165M
Weight (in air / submerged)	~1,5Kg / ~1Kg



Type	M20 Nut
Part Number	109724
Body Material	A4-80
Weight (in air / submerged)	~0,3Kg



Type	RUD VRM-M10
Part Number	107056
Nominal WLL	400Kg
Weight	~0,11Kg

# ACCESSORIES

## MODULAR VALVEPACK SYSTEM



Type	Compensator 1,2 Liter
Part Number	104529 (without level sensor) 107725 (with level sensor)
Body Material	POMC Black
Weight	~3,4Kg
Port Size	3/8" BSPP Female



Type	Subsea Gear Flowmeter
Body Material	AISI316L (Alu6082 Housing)
Flow Measurement Range	From 0 to 250 L/Min



Type	Subsea Pressure Sensor
Body Material	AISI316L
Pressure Measurement Range	From 0 to 2200Bar



Type	Pressure Safety Valve (PSV)
Part Number	101749
Body Material	AISI316L
Pressure Range	From 0 to 2200Bar



Type	iCsys Software Suite ®
Part Number	106388

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