



NORSOK class: III-B / Certified according to DNV standard for certification No.2.22, Lifting Appliances.

SUPPORTER 4000

Combines flexibility and capacities only matched by larger ROV's

POWER
(Kw / Hp)
115/150

DEPTH RATING
(msw)
4000

DIMENSION
L x W x H (m)
**2,75x1,7x
1,76**

WEIGHT
(kg)
~4000

PAYLOAD
(kg)
350

**THROUGH FRAME
LIFT CAPACITY (kg)**
3000



KYSTDESIGN
SUB - SEA TECHNOLOGY

SUPPORTER 4000

The SUPPORTER technology is refined from years of operational and "hands-on" experience by our designers. The top-side control system for KYSTDESIGN ROV's is designed with focus on providing an ergonomic, intuitive and efficient working environment. Single or dual operation stations can easily be configured to individual needs. Operator task priorities can be switched and shared between stations during operation. The SUPPORTER can accommodate up to 25 hydraulic tooling functions, up to 20 survey sensors and 10 camera connectors. All hydraulic functions are proportionally controlled, and all electrical power supplies are ground fault monitored. The ROV control system offers a variety of auto-functions like AutoPOS and AutoTRACK capabilities.

GENERAL

Power	115 Kw / 150 Hp
Depth rating ROV	4000 (up to 6000 optional) msw
Dimensions (LxBxH)	2,75 m X 1,7 m X 1,76 m
Weight	~4000 kg
Payload	350 kg
Through Frame Lift capacity	3000 kg
Thrusters	7x SA300

MECHANICAL CAPACITY AND INTERFACES

Free space inside ROV for utility equipment:	Open area of approx. 350 L through the entire ROV, right in front of centre of gravity.
Interface for work modules:	Four docking receptacles underneath the ROV. Interface for Sensors and/or modules by threaded inserts on all sides of the buoyancy element.
Manipulators:	Interface for Schilling T4, RigMaster and Atlas

HYDRAULIC CAPACITY AND INTERFACES

Valve Pack No.1	10x Bi-directional Valves with proportional flow control, each with max flow 10 l/min. Pressure on VP controlled by VP No.3.
Valve Pack No.2	10x Bi-directional Valves with proportional flow control, each with max flow 10 l/min. Pressure on VP controlled by VP No.3.
Valve Pack No.3	4x Bi-directional Valves with proportional flow and pressure control, each with max flow 90 l/min.
Manifolds	Pressure and return manifolds mounted in front of the ROV. 1x Pilot operated high flow valve with max flow 200l/min.
Aux System Capacity	220 bar 120 liter per minute

TELEMETRY/SENSOR CAPACITY AND INTERFACES

Telemetry Link	By default the control pod and telemetry system are prepared for survey operations. Up to 6 fibre optic cables are available for communication. Total capacity in a standard system is 8 composite video channels, 36 serial communication channels and expandable to include 4 HD video channels (all in a single optical fibre). Ethernet, gigabit layer 1 (4 ports) with ethernet switch (4 ports) included. Optional Multibeam PECL.
Power Distribution	All power distributed to external users, such as lights, cameras and sensors can be switched on/off from the topside computer and are equipped with individual fuses. When a sensor is switched off, it's corresponding subsea connector is galvanic isolated. Total available power 30A @ 115VAC. Available supplies: 115VAC, 24VDC, 48VDC, others on request.
Tool Interface	Max power consumption available is 20A @ 115VAC. Connector type: Seacon 5506-2008
Sensor Interface	Connectors are prewired for user/survey equipment. <ul style="list-style-type: none"> • 2off Min-m-26 Gyro/Utility JB • 4off Min-k-8 115VAC • 12off Min-k-10 24VDC (48VDC) • 1off Spare SH20 • Built in CP interface

CAMERA AND LIGHTS

Camera Interface	<ul style="list-style-type: none"> • 2 HD video camera input • 8 composite video camera inputs Connector type: Seacon 5506-1508 or MinL-coax. Camera interfaces 1 to 9 are prepared for use with focus & zoom cameras. Camera interface 10 is a combined manipulator communication and camera connector. IP video optional. F/Z lines are bipolar/serial.
Pan/Tilt	Hydraulic and/or electrical
Light Interface	Capacity for ten outputs, maximum total load of 2300W. Each output secured by 6A breakers, other breakers on request. Connector type: Seacon 5506-1503

PERFORMANCE

Bollard Pull FWD/AFT	780/770 kg
Bollard Pull LATERAL	710 kg
Bollard Pull Vertical UP	730 kg
Bollard Pull Vertical DOWN	800 kg
Speed FWD	> 1,6 m/s
Speed LATERAL	> 0,8 m/s

PILOT INTERFACE

- Two identical pilot chairs, where all necessary controls for operating the ROV, TMS and PDU are integrated in the armrests.
- 1 off Multiview Controller
- 2 off 46" Video monitors
- 6 off 22" Monitors
- Clearcom communication system, microphone and channel selectors integrated in pilot chair.

PDU

Description	Two separate cabinets. One containing breakers, contactors, overload relays and signal transformers. The other serving as a termination and isolation point for all high voltage connections.
Input	3 phase 400-420-440VAC, 60 Hz as standard. Other input voltage and frequency can be adapted for on request.
Output	<ul style="list-style-type: none"> • ROV HPU 165 KVA, 4200-4350-4500VAC • ROV Instrument 10 KVA, 3000-3150-3300VAC • TMS HPU 23 KVA, 3000-3150-3300VAC • TMS Instrument 10 KVA, 3000-3150-3300VAC

CONTAINERS (OPTION)

ROV Control Container	<ul style="list-style-type: none"> • 20' Container manufactured in accordance with DNV 2.7-1 Offshore Containers. • Dimensions: 6058 x 2438 x 3000mm (LxWxH) • Air conditioned
ROV Workshop / PDU Container	<ul style="list-style-type: none"> • 20' Container manufactured in accordance with DNV 2.7-1 Offshore Containers. • Dimensions: 6058 x 2438 x 3000mm (LxWxH) • Air conditioned • Contain workshop, PDU and transformers • Optional 10' PDU container on request

TMS (OPTION)

Various options available. Contact Kystdesign for further information.

KYSTDESIGN AS

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