

TECHNICAL SPECIFICATION

Seaeye Tiger 880

INSPECTION CLASS ROV



SEA EYE TIGER 880

INCLUDING LAUNCH & RECOVERY SYSTEM

The following document details the technical specification of the Seaeye Tiger 880 Class Remotely Operated Vehicle (ROV), tether management system (TMS) and its Launch and Recovery System (LARS).

ROV GENERAL

The Seaeye Tiger is widely regarded as the leading observation and inspection vehicle within the oil and gas industry. Increasingly, they are also being taken up as the ROV of choice by military and scientific customers seeking increased capability. The Seaeye Tiger is a very stable platform and is able to perform well in strong currents, providing excellent handling and maneuverability.

Their open frame construction and generous payload offer the possibility of adding a wide range of tools and sensors as well as an optional 4-function undercarriage mounted manipulator skid.

The Seaeye Tiger is typically preferred for offshore platform inspections and other underwater missions such as performing Cathodic Protection (CP) checks, Ultrasonic Thickness (UT) gauging, Flooded Member Detection (FMD) as well as High Pressure Water Jet (HPWJ) / brush cleaning.



**62 KGF
FWD
THRUST**



**4 FUNCTION
MANIPULATOR
(OPTION
AVAILABLE)**



**32KG
PAYLOAD**

OBSERVATION / INSPECTION CLASS ROV

MODEL - Seaeye Tiger 880
MANUFACTURER - Saab

The Seaeye Tiger system is an Inspection Class ROV system, designed to ensure maximum flexibility for configuration to perform work from simple surveying, to demanding platform inspections. The Seaeye Tiger system is designed for performance and reliability.

The open frame construction and payload capability offers the possibility of adding a wide range of survey sensors and equipment. The optional manipulator skid can easily be mounted under the ROV to give it a 4-function manipulator capability.

KEY STANDARD FEATURES

- Electric ROV
- Electric, Brushless DC Thrusters, allowing the system 3 knot forward and vertical speeds (in still water)
- Galvanized steel TMS frame construction

POWER REQUIREMENTS

· ROV Control Van cum Workshop	380 - 440vac	50/60Hz	250KVA	400A (at 440vac)
· LARS HPU	440vac	50/60Hz	190KVA	250A (at 440vac)



The Seaeye Tiger equipped with high pressure water jetter for jacket member cleaning

ROV SPECIFICATION

DESCRIPTION	METRIC
Through-Frame Lift Total Capacity	1,000kg
ROV Weight in Air	150kg
Depth Rating	1,000msw
Payload	32kg
Thrust	Forward: 62kgf Lateral: 43kgf Vertical: 22kgf
Propulsion	4nos Horizontal, 1nos Vertical Brushless DC Thrusters (SM4)

PAYLOAD

The Seaeye Tiger 880 has a payload capability of 32kg in current configuration. This enables a reasonable variety of tooling to be integrated to the ROV without having to add buoyancy. There is a total through frame capacity of up to 1,000kg available as per details above, and this must include any other additional payload carried on the ROV.

FRAME

All frame & lift assembly components are uniquely designed, and materials specifically chosen for use in a harsh offshore environment. The Seaeye Tiger TMS is built of galvanized steel. Frame features are as follows:

- **Moveable lift-point**
- **Corrosion resistant 6061T6 aluminium**

TMS SPECIFICATIONS

MODEL – Seaeye Tiger
MANUFACTURER – Saab

The Seaeye Tiger is deployed from the compact and lightweight galvanized steel cage-type TMS (type 2) which can accommodate up to 200m of tether.

The TMS uses a bail arm mechanism to spool the tether on and off a drum controlled by the ROV crew. The TMS's height can be adjusted to accommodate undercarriage tool skids.

KEY FEATURES



**1000M
DEPTH RATING**



**200M
CAPACITY**

- **Depth rating to 2,000m**
- **Frame material – Galvanized steel**
- **Electric power**
- **1 X Fixed camera**
- **Two 120VAC 250W lights**



FITTED EQUIPMENT

CAMERAS

- 2x SD (Composite)
- CAM1 Interface = Fixed Focus
- CAM2 Interface = Zoom / Focus

OPTIONS

- Most subsea SD cameras can be fitted, PAL or NTSC supported.
- Full HD-SDI video (Optional)
- Full HD over fibre supported
- 4-function manipulator skid

STANDARD INSTRUMENTS

- Tilt: 24VDC, PWM Control, Pressure Compensated
- Lighting: 4x 250VDC PWM LED Lamps,
- Dimmable Daylight White 3520 Lumens
- Depth Sensor 300 Bar, +/-0.01% FS accuracy -
- Sonar: Impact Subsea ISS360 Sonar

AHRS

- Magneto-resistive
- Heading: 1.0° Typical,
- Pitch/Roll 0.4° Typical

SENSOR INTERFACES

- Depth, Compass and Altimeter
- (compass sensor is in an external pod)
- CP Probe (Contact and Proximity Modes Supported)
- Sonar, 24VDC, Twisted Pair comms
- 1x Aux, 24VDC, RS485 twisted pair
- Telemetry- Twisted Pair comms

Surface Equipment

- Standard Surface Control Equipment

PDU with:

- Built in proprietary Overlay
- Control PCBs for ROV/TMS
- Hand Controller, Keyboard
- Telemetry Monitor
- 3x Monitors

MANIPULATOR SPECIFICATION (OPTIONAL SKID)

Hydrolek HLK-4200 (4-Function undercarriage skid)

Control Type: Rate Controlled

Material: 316 Stainless Steel, 6082 Aluminium

The HLK-4200 manipulator is a 4 Function rate controlled manipulator making use of an HLK-25000 jaw rotate offering continuous rotation on the wrist and a jaw opening range of 154mm (6") and a soft line cutting capability of 19mm (3/4") from the back side of the jaw plates.

This manipulator was specifically developed for use on observation to light duty work class vehicles to provide manipulation capabilities and is ideal for applications such as jetting and brushing operations, debris clearance, valve turning and bolt torqueing, rope cutting, cable repair, biological and geological sampling, archaeological work, transponder and probe installation, salvage and recovery.

FEATURES

- 4 degrees of freedom manipulator
- Compact & lightweight @ 11.2kg (24.6lb) in water
- Lift of 40Kg at full reach
- Continuous wrist rotate and a jaw opening of 154mm (6")
- Incorporates 19mm soft rope cutter
- Wrist torque: 60Nm @ 140bar (44lbf.ft @ 2000psi)
- Jaw Force: 690N @ 140bar (155lbf @ 2000psi)



LARS SYSTEM

The LARS is an ROV and umbilical handling system designed to deploy, tend, recover, and store the armoured umbilical. The system performs all pulling and storage functions associated with the umbilical. Principal components in the system include a ROV lift winch, electro-active level-wind system, A-frame, electro-hydraulic power system, and controls.

The Launch and Recovery System has a Safe Working Load (SWL) of 1 MT and is load tested prior to to each mission. The winch is in-built onto the A-Frame as well to keep the system as compact as possible.

When deck space is at a premium, this small footprint Inspection Class ROV is ideal.



CONTROL VAN AND WORKSHOP CONTAINER

This small footprint, high capability ROV has a unique 20'Ft container, incorporating both a Control space as well as an in-built Workshop within the same enclosure.

The container is provided with an air-conditioning system allowing accurate control of the internal temperature whilst ensuring noise levels are reduced to a minimum.

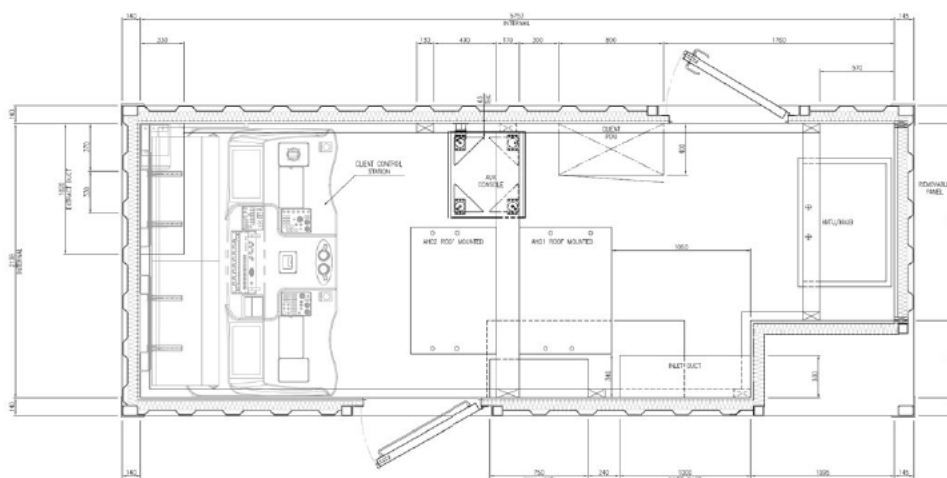
The control container is an area where the pilots work comfortably during the ROV operations. There is an area for administrative tasks with a desk mounted admin PC, wall mounted cupboard, and floor mounted drawer unit. The control container also houses the Power Distribution Unit (PDU) which is located inside a removable end panel of the van improving access for major component replacement if required. The PDU is powered and isolated via the control van Power Distribution Panel (PDP) enabling complete Isolation of the PDU locally if required.

The workshop contains a large workbench with vice, storage racks, tooling cabinets and space for system spares. The tools, spares and consumables are suitable distributed across the following locations.

The container is a standard 20'Ft A60 container form with the following primary dimensions:

- **Length: 6,058mm**
- **Width: 2,438mm**
- **Height: 2,688mm**
- **Weight: 12,000kg (Gross)**

There is an external recessed area containing all electrical and air connection points and the external part of the air-conditioning system.



PACKING LIST

No.	Description	Dimension	Weight (KG)	Quantity
1	Seaeye Tiger 880 Control Van (20'FT Offshore Container)	L: 6,058mm W: 2,438mm H: 2,688mm	12,000	01
3	Seaeye Tiger 880 A-Frame c/w Winch and Seaeye Tiger 880 ROV system	L: 4,200mm W: 2500mm H: 2700mm	10,500	01