

# ROVs SPECIFICATION

## Work Class Remotely Operated Vehicle



ASIA AKAM INDUSTRY CO. is the ownership of three different classes of ROVs for performing any underwater inspection and operation.

ASIA AKAM INDUSTRY is a vigorous company, focused on quality, flexibility and versatility, in order to increase client's satisfaction from our ROV services. Our main goals are to reduce the cost of inspections and mobilizations for our clients without being detrimental to project objectives in addition to maintaining safety as paramount. We also strive in maintaining a zero impact to the surrounding environment.

According to our vehicles facilities we are capable of undertaking a wide range of ROV services.

All our equipment is subject to preventative maintenance schedules to ensure it is fit for purpose when it arrives offshore or on site.

### Our ROV service core strengths are:

- Pipeline and Cable As-Laid / Post Lay and As-Built ROV Survey
- Buoy and Calm System Inspection
- Jacket installation & seabed inspection
- Platform and structural inspection, Contact and Proximity CP readings and fatigue analysis
- Drill support
- Touch down & crossing monitoring
- Diving and ROV assistance
- Debris survey
- Subsea Valve and Flange Inspection

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ROVs Specification

No. 25, Golazin Alley, Blvd  
Paknejad, Sanat Square,  
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Phone: (+98)21 88695949

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## Scorpion 23 ROV

The scorpion 23 ROV system is designed to carry out and deploy standard and custom work packages for subsurface tasks such as structure inspection, optical observation, diver support/monitoring, instrument/hardware installation and recovery, and structure maintenance and repair.

### Depth Rating:

### Dimension:

Length 203 Cm

Width 114 Cm

Height 144 Cm

**Weight:** 1365 Kg

**Trough-Frame lifts:** 454 Kg

**Pay Load:** 205 Kg



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## Max Speed at operating depth:

Lateral Speed:	1.7 Knot
Vertical Speed:	1.0 Knot
Forward Speed:	3 Knot
Reverse Speed:	2.5 Knot
Turning rate:	40° Per Second

## Propulsion system:

75 HP.2400 vac. 3ph, 60 Hz

**Heading Control:** 2° (Automatic or manual)

**Depth Control:** 15 Cm (Automatic)

**Lighting System:** 250-watt lights

## Propulsion system :

75 HP.2400 vac. 3ph, 60 Hz

## Power transformer unit:

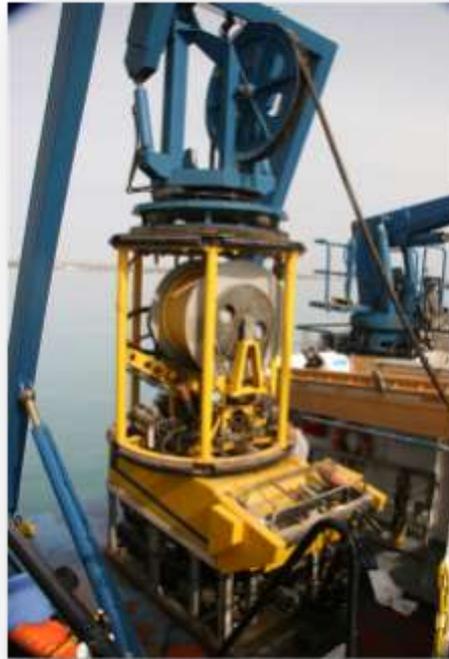
1- 80 kva transformer for vehicle hydraulic

2- 6 kva transformer for vehicle electronic

3- 5 kva transformer for TMS HPU

## Environmental Condition :

2m seax2m swell –1knot current



## Tether management system (TMS):



<b>Depth Rating:</b>	500 m SW
<b>Height :</b>	1.83 m
<b>Diameter :</b>	1.83 m
<b>Weight:</b>	3800 lbs without tether
<b>Hydraulic Power:</b>	3.3 HP-50 RPM nominal
<b>Pay out rate:</b>	80 ft. per min (24.4 meters per min)
<b>Pay in rate:</b>	60 to 100 ft. per min (18.3 to 30.5 meters per min)
<b>Line pull:</b>	250 lbs. with fill drum

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## Vehicle equipment fit as standard:

<b>Manipulator:</b>	1 x shilling 5 functions arm
<b>Camera:</b>	2 x OE14-366A zoom color camera 1 x OE15-102 SIT Equiv Camer
<b>Sonar:</b>	1 x Trittech Super Seaking DFS
<b>Depth:</b>	1 x tritech Seaking 700 series
<b>Heading:</b>	1 x magnetically slaved Gyro compass- 1 x Trittech IGC gyro
<b>Altimeter:</b>	1 x Digital precision altimeters PA200
<b>Bathymetry:</b>	1 x seaking 700 series bathymetric

## Optional sensor & instrument:

heading and motion sensor IGC GYRO, Tss340 pipe tracker and cp probe, digital still camera, dual head profiling sonar, mechanical scanning sonar super seaking, ,torque wrench, leak detection probe, thickness meter probe (NDT equipment).

## Main vehicle manifold:

14 function manifold with (6) 3000 psi, 12.5 GPM servo valves (thruster control). differential pressure transducer and hydraulic fluid temperature probe,2 solenoid valves for pan & tilt control.5 spare solenoid valve ports for 3000 psi,4way 3 position dual-cross over relief and pilot checks.



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## Mohican ROV

The MOHICAN ROV is known for its outstanding performance and reliability in the offshore industry. This ROV can accommodate a range of state of the art sensors; High Definition camera system (with overlay and mpeg4 recording), FMD (flooded member detection), cable and pipe trackers, bathymetric systems and multi beam sonars. It can also install a 3,000 psi High Pressure Water Jet system, or a 6 station general function valve pack and HPU, enabling the use of a range of manipulators and hydraulic tooling.



**Depth rating:** 2000 MSW

**Dimensions:**

Weight: 290 Kg  
Length: 1150 mm  
Width: 770 mm  
Height: 800 mm  
Payload: 30 Kg

**Thrust at 0 Knots (Bollard Pull):**

Forward: 242 lbf (110 kgf)  
Reverse: 242 lbf (110 kgf)  
Lateral: 242 lbf (110 kgf)  
Vertical: 165 lbf (75 kgf)

**Turning rate:** 180° per second

**Communications:**

3 x RS-232  
1 x RS-485  
1 x Single Mode Fiber

**Power Available:**

320 VDC, 24 VDC, 12 VDC

**Camera tilt unit:**

Manufacturer: Sub-Atlantic  
Input Voltage: 24 VDC  
Specific Torque: 13 N.m / Amp  
Nominal Torque: 13 N.m  
Nominal Output Speed: 3.6 RPM  
Stall Torque: 13 N.m



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## Reliable Thrusters:

Mohican uses a 6 thruster configuration to provide maximum horizontal and vertical capability.

- 4 x SPE180 horizontal thrusters in a vectored configuration producing very high all round thrust utilizing Sub-Atlantic's 'Dynamic Vectoring' system.
- 2 x SPE180 vertical thrusters vectored outward to clear the vehicle lower deck leaving it free of cut-outs in way of tools and skids.



## Camera:

### Color Zoom Camera

**Model:** OE 14-366

**Format:** PAL or NTSC available

#### Features:

18:1 Zoom Lens  
Automatic or Manual focus  
63° angle of view in water  
3,000 meter depth rating

### Near SIT Black and White Camera

**Model:** OE 15-100

**Format:** PAL or NTSC available

#### Features:

Near SIT performance  
Automatic or manual focus adjustment  
82° angle of view in water  
3,000 meter depth rating

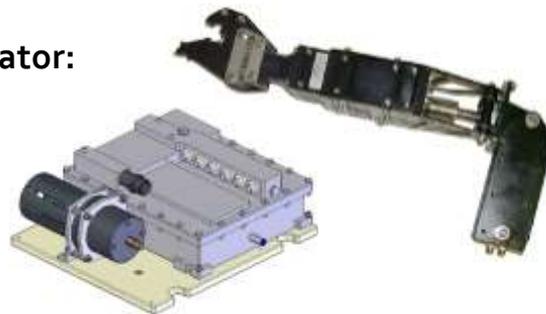


## Lighting:

4 x 250-Watt halogen lamps, dimmer controlled on 2 circuits

## 6 Function Power Pack and Manipulator:

The Mohican is equipped with an interface to drive the Sub-Atlantic 6-station valve/power pack. The power pack is driven by a 320 V brushless DC motor.



## Hydrolek HLK-MB4 Manipulator:

Jaw Rotate (Continuous): 360°  
Jaw Torque at 140 bar: 40 Nm  
Arm lift capacity at 140 bar: 40 Kg

## Surface Control System:

The Mohican is supplied with a Power Distribution Unit (PDU) / Electronics Rack housed in an 8U, 19" rack mount unit. This module is connected to the high voltage transformer and the pilot's remote console.



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## Sensors:

Various sensors are available standard on the Sub-Atlantic Mohican ROV system and the system also has the availability for expansion and integration of many other sensor packages giving it a versatility to insure its place in future projects.

### Trim Potentiometers and Switches

The system is equipped with trims for forward, reverse, and both lateral movements. If a trim is in use, it can be overridden by the joystick or switched off using the trim switches. These trims can be used during surveys to insure constant and steady progression of the ROV on a given path.

### Depth Transducer:

The standard depth sensor is a Scan Sense PS30 0.1% FSD pressure sensor. The sensor is fed from a 5 VDC on the telemetry interface board.

### Compass Pod:

The vehicle uses a TCM-2 magnetic fluxgate compass. The unit is housed in a one atmosphere housing located near the front of the vehicle. This component transfers the compass information– used in the auto-heading functions – as well as heading, pitch and roll information that is transmitted to the surface via the vehicle telemetry system where it can be displayed on the pilot's video monitor.

### Sonar:

1 x Tritech super seaking DST sonar

### Altimeter:

1 x Digital precision altimeters PA200

Altimeter



Sonar



Control Container



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Mohican ROV

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## Comander ROV

This 6 thruster comander ROV is able to perform all kind of tasks for example in the offshore. Dam inspection and diving support.



Depth rating :	120 m
Length :	1300 mm
Width :	800 mm
Height :	800 m
Payload :	30Kg
Weight :	75 kg approximately depending on options
Headlights luxeon dimmable:	4x5 w LED
Front camera:	1/4" ccd 380 tv-lines 0.5 lux
Rear camera:	1/4" ccd 380 tv-lines 0.5 lux
Console:	486x392x192 mm
Compass:	digital
Depth meter:	digital
ROV cable:	130 m
Propulsion:	1200 w horizontal/ diagonal, 600 w vertical
Electric power:	230 v/ac 2.5 kw
Sensor:	tritech micron sonar



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