LIGHT WORK CLASS ROV
OPEN FRAME STRUCTURE
AND MODULAR DESIGN

→ POWERFUL WHILE COMPACT IN SIZE
→ EQUIPPED WITH 2 MANIPULATORS & HYDRAULIC TOOLS
→ HIGH PERFORMANCE VIEWING AND SONAR SYSTEM
→ EASY ACCESS TO ALL SUB-SYSTEMS FOR MAINTENANCE
→ AIR TRANSPORTABLE
→ VALIDATED AND USED BY FRENCH NAVY
→ DEPTH RATED UP TO 2000M

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LIGHT WORK CLASS ROV
OPEN FRAME STRUCTURE AND MODULAR DESIGN

RANGE OF SOLUTIONS
• Well head monitoring
• Riser inspection and cleaning
• Pipeline survey
• Mooring inspection

H1000
rated to 1000m
PERFORMANCE
• Movements: in three axis, plus rotation on its own axis
• Forward speed: 3 knots (in 0 knot current)
• Operating depth: 1000 meters in sea water
• Stability: inherent low center of gravity
• Payload: 15 kg

GENERAL CHARACTERISTICS
• Dimensions (m): 1.34 L x 1.09 W x 1.00 H
• Weight in air: 525 kg excluding optional equipment
• Material: frame and fittings in 316L stainless steel

PROPULSION
• 6x dc thrusters: 4x horizontal (vectored) / 2x vertical
• Forward thrust: 80 kg

TOOLS
• 1x5 function and 1x4 function hydraulic manipulators
• Optional set of hydraulic tools (blade cutter, disc cutter, gripping tool)

H2000
rated to 2000m
PERFORMANCE
• Movements: in three axes, plus rotation on vertical axis
• Forward speed: 3 knots (in zero knot current)
• Operating depth: 2000 meters in sea water
• Stability: inherent, due to low center of gravity
• Payload: 80 kg

GENERAL CHARACTERISTICS
• Dimensions (m): 2.00 L x 1.24 W x 1.15 H
• Weight in air: 99 kg excluding optional equipment
• Material: frame and fittings in 316L stainless steel

PROPULSION
• 6x dc thrusters: 4x horizontal (vectored) / 2x vertical
• Forward thrust: 260 kg
• Vertical thrust: 170kg

TOOLS
• 1x7 function and 1x5 function hydraulic manipulators
• Optional set of hydraulic tools (blade cutter, disc cutter, gripping tool)
**Viewing system**
- Mounted on the hydraulic P/T unit:
  - 1 x zoom colour TV camera and lights
  - 1 x digital still camera with flash gun
- Fixed: 2 x very low light B/W navigation TV cameras and headlights
- Mounted on the manipulator arm:
  - 1 x colour TV camera
- Mounted on rear edges of buoyancy (H2000 only):
  - 2x upwards looking dome colour TV cameras

**Instrumentation**
- Inertial measurement unit for heading (accuracy 0.5° + Auto heading function) and for pitch and roll inclinometer
- Depth: Piezoresistive type sensor - Precision: 0.1% full scale - Auto depth function
- Altimeter: range 0.3 to 50m - accuracy +/-2% - auto-altitude function
- Other sensors: Inside temperature - Water ingress - Amperage feedback
- Dual frequency detection sonar - range 100 or 300m
- Acoustic positioning system
- Target relocation system: ROV homer
- Locating system

**LARS**
- Hydraulic A-Frame and winch
- Electomechanical umbilical
- Equipped with TV cameras

**TMS**
- Remote controlled winch housing a 130m neutral weight tether
- Equipped with TV camera, lights, and depth/altimeter/current meter sensors

**SHELTERS**
- 1 X 10’ container for surface control room
- 1 X 10’ container for maintenance workshop
## Specifications

<table>
<thead>
<tr>
<th>Specifications</th>
<th>H1000</th>
<th>H2000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>System power requirements</strong></td>
<td>Tri Phase 380 to 480 VAC - 25kVA</td>
<td>Tri Phase 380 to 480 VAC - 40kVA</td>
</tr>
<tr>
<td><strong>Maximum umbilical length</strong></td>
<td>1000 m</td>
<td>2000 m</td>
</tr>
<tr>
<td><strong>Depth rating</strong></td>
<td>1000 msw</td>
<td>2000 msw</td>
</tr>
<tr>
<td><strong>Length</strong></td>
<td>992 mm</td>
<td>2000 mm</td>
</tr>
<tr>
<td><strong>Height</strong></td>
<td>551 mm</td>
<td>1150 mm</td>
</tr>
<tr>
<td><strong>Width</strong></td>
<td>720 mm</td>
<td>1240 mm</td>
</tr>
<tr>
<td><strong>Launch weight</strong></td>
<td>340 kg</td>
<td>900 kg</td>
</tr>
<tr>
<td><strong>Forward speed</strong></td>
<td>4 knots</td>
<td>3 knots</td>
</tr>
<tr>
<td><strong>Thrust forward</strong></td>
<td>140 kgf</td>
<td>260 kgf</td>
</tr>
<tr>
<td><strong>Thrust lateral</strong></td>
<td>90 kgf</td>
<td>165 kgf</td>
</tr>
<tr>
<td><strong>Thrust vertical</strong></td>
<td>50 kgf</td>
<td>170 kgf</td>
</tr>
<tr>
<td><strong>Number of thrusters</strong></td>
<td>6 (4 vectored horizontal + 2 vertical)</td>
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</tr>
<tr>
<td><strong>Payload</strong></td>
<td>30 kg + more by adding buoyancy</td>
<td>80 kg + more by adding buoyancy</td>
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<tr>
<td><strong>Number of TV cameras</strong></td>
<td>1 Black &amp; White navigation TV camera 1 Pan &amp; Tilt unit including 1 color zoom TV camera with laser scaling 1 mobile micro TV camera mounted on manipulator arm</td>
<td>1 Black &amp; White rear TV camera 1 Pan &amp; Tilt unit including 1 color zoom TV camera with laser scaling 1 mobile micro TV camera mounted on manipulator arm</td>
</tr>
<tr>
<td><strong>Number of LED lights</strong></td>
<td>6 (3 fixed, 2 moving on Pan &amp; Tilt unit, 1 mounted on manipulator arm)</td>
<td>4 (2 fixed and 2 moving on Pan &amp; Tilt unit)</td>
</tr>
<tr>
<td><strong>Auto functions</strong></td>
<td>Auto heading &amp; auto depth / optional auto altitude</td>
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</tr>
<tr>
<td><strong>Type of manipulator arms compliance</strong></td>
<td>ARM 5E MINI (one or two units)</td>
<td>ARM 5E (one unit)</td>
</tr>
<tr>
<td><strong>Type of sonar compliance</strong></td>
<td>Any type (side scan, scanning single or double frequency, 2D multibeam, 3D imaging, echoscope...)</td>
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