The FCV 3000 is designed and built in-house by Fugro and offers the next generation of performance and capability to our world-wide customer base. The FCV 3000 reflects the Fugro commitment to Remote Technology Solutions and incorporates a range of internally developed expertise to help us deliver information from collected data, faster, better and with enhanced accuracy.

Over the years Fugro has developed a wide range of innovative technology and solutions to better address our customers’ needs, so it is logical that when we turn our attention to the objectives of our ROV Business Line, we build the new generation of capability on a stable platform of field proven components and include our own particular brand of innovation.

Key capabilities that are incorporated into the FCV 3000 is designed to improve the efficiency of the operations and address the need to provide greater spatial awareness to the Operations Team.

Together with its console installed Simulator the FCV 3000 offers:
- Real time visualisation of the local subsea environment – helicopter view
- Mission rehearsal tools – Simulation and Planning
- Semi autonomous functionality
- 3 Dimensional Dynamic Positioning
- Pilot Training whilst ROV is on deck

In addition to its ability to carry a full instrumentation package, the FCV 3000 has class leading mechanical / hydraulic tooling interfaces that include:
- Mechanical Interface: Fugro proprietary 4-point
- Through Frame Lift: 3,000 Kg at 3 g
- Tooling: up to 217 LPM @ 210 bar
- IHPU: 70 LPM @ 225 bar
- Bi-directional Solenoid: 15 Solenoid Valves
- Servo Valves: 8, being 7 Thruster + 1 spare
- Remote Control IVP : (Optional)
- High Flow IVP: (Optional)
- Skid Control IVP: 10 x NG3 + 1 x NG6

FCV 3000 (150HP) being launched.
Like its in-house built predecessors, the FCV 3000 is part of an evolving system design that provides the customers with all of the essential demands of the deep water ROV System such as a 3.2 knot forward speed delivery by its 150 Hp hydraulic power system and high power vectored thrust design. This base level of standard capability, combined with the industry leading Sonar, Camera and Manipulator Systems of the 3,000 msw rated FCV 3000 will immediately allow the unit to be recognised as a market leading solution to the rigours of deep water intervention and support.

At the heart of the FCV 3000 is Fugro’s proven control & communications system based on single-mode fibre-optic technology including Fugro’s own design / build SMFO multiplexer, giving an exceptionally high data throughput and features switching in the event of failure of a fibre. The high end multiplexer handles up to 3 HD cameras and 12 conventional cameras (8 simultaneously) and provides a wide range of data communications protocols facilitating efficient integration of add-on tools and sensors.

The data highway of the FCV 3000 can cater for up to 20GB, which is sufficient to run the ROV, the TMS, 3 x HD cameras, full survey data suite including dual MBES (such as Reson 7125) and still have sufficient headroom to allow a range of other specialist sensors to be operated simultaneously.

### FCV® 3000 (150HP)

#### Technical Specifications

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>3.3 m</td>
</tr>
<tr>
<td>Height (excl TMS)</td>
<td>1.7 m</td>
</tr>
<tr>
<td>Width (excl TMS)</td>
<td>1.7 m</td>
</tr>
<tr>
<td>Weight (incl 400 Kg payload)</td>
<td>4.1 Te</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Power</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor</td>
<td>1 x 2850 VAC @ 112 kW (150 Hp)</td>
</tr>
<tr>
<td>Hydraulic Pump Flow</td>
<td>217 LPM +70 LPM @ 60 Hz</td>
</tr>
<tr>
<td>Hydraulic Pressure</td>
<td>225 bar (main)</td>
</tr>
<tr>
<td>Single Phase Electric Supply</td>
<td>10 KWA , 24 VDC &amp; 115 VAC up to 217 LPM @ 60 Hz</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Speed</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Forward / Aft</td>
<td>3.2 knots</td>
</tr>
<tr>
<td>Lateral</td>
<td>2.4 knots</td>
</tr>
<tr>
<td>Vertical up / down</td>
<td>2.4 knots</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Thrusters</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>4 x 15” vectored Horizontal</td>
<td>Fwd/Lateral: 806 Kgf</td>
</tr>
<tr>
<td>3 x 15” vectored Vertical</td>
<td>826 Kgf</td>
</tr>
</tbody>
</table>

### Sensors

- **Heading**: FOG / OCTANS
- **Pitch and Roll**: FOG / OCTANS
- **Depth**: DigiQuartz 8CB4000-1
- **Altimeter**: Simrad 1007 Digital Altimeter
- **Sonar**: Simrad MS1071 6000 m digital
- **Cameras**: 12 x SD Cameras, 8 at any one time, 3 x HD Cameras (Optional)
- **Data**: RS232, RS485 TTL Ethernet and Gb Ethernet
- **Lighting**: 8 x 110 VAC 600W Dimmable lights, 2 x 24 VDC Dimmable LED lights

### Manipulators

- **Manipulator 1**: Schilling TITAN 4
- **Manipulator 2**: Schilling RigMaster

### Control System

- **Vehicle Control**: Fugro Proprietary ERA-004
- **FO Multiplexer**: Fugro Proprietary SM 20GBit Bandwidth
- **Survey Module**: Fugro Proprietary StarPort

### Tooling

- **Mechanical Interface**: Fugro Proprietary – 4 point
- **Through Frame Lift**: 3,000 Kg
- **Tooling IPU**: 70 LPM @ 210 bar
- **Bi-Directional Solenoid**: 15 x Solenoid Valves
- **Servo Valves**: 8, being 7 Thruster + 1 spare
- **Mini IVP**: Optional
- **High Flow IVP**: Optional
- **Skid Control IVP**: 10 x NG3 + 1NG6 (proportional)

### Power Requirements

- **System (typical)**: 350 KVA, 380-500 VAC, 3-ph supply 50/60 Hz, 60 Hz for optimum performance

### Main Lifting Umbilical

- **37 mm Ø double armoured Optimised design with single mode fibres in robust steel tube**

### TMS

- **Type**: Top Hat , PSSL Type 4, 11 Te SWL
- **Tether**: 600 m of 30 mm diameter tether
- **Dimensions**: 1.8 m (Dia) x 2.0 m (H)
- **Weight: In Air/Water**: 2.5 Te / 1.5 Te (inc 600 m tether) / Submerged