FUGRO

FCV® 600

The FCV 600 is the latest iteration of the FCV family and offers all of the potential of its larger siblings in the Fugro Core Vehicle family of 5th Generation Work Class ROV Systems, but in a 600 msw rated compact package for specific applications. It has been designed and built in-house by Fugro, specifically to cater for the rigours of Drilling and Completion Support to the shallow water depth semi submersible and jack up drilling rigs and drill ships, where ability and cost effectiveness in a small package is paramount. However the FCV 600 retains Fugro’s renowned ability for data management, meaning the FCV 600 is equally at home carrying out IRM tasks.

As with all of the FCV Systems, it offers high levels of performance and capability, but in this iteration in a very compact package. It incorporates a host of internally developed, proprietary technologies combined with the “best in class sensors and peripherals” to help us deliver the performance that is necessary for the high levels of service demanded. The FCV 600 System is fitted with explosion protection equipment and is fully compliant for operation in a Zone 2 hazardous environment.

Other key capabilities and sub-systems can be offered with the FCV 600 which are designed to improve the efficiency of the operations and address the need to provide greater spatial awareness to the Operations Team, including but not limited to:

- Mechanical Interface: Fugro Proprietary 4-point
- Through frame lift: 1000 Kg @ 3 g
- Back Pack lift: 500 Kg @ 3 g
- Tooling: up to 217 LPM @ 210 Bar
- IHPU: 90LPM @ 210 Bar
- Bidirectional Solenoid: 15 Solenoid Valves
- Servo Valves: 7, being 6 Thruster + 1 Spare
- Mini IVP: Optional
- High Flow IVP: Optional
- Skid Control IVP: Optional

The FCV 600, market leading capability in a compact package.
Like its in-house built predecessors, the FCV 600 is part of an evolving system design that provides the customers with all of the essential demands of the shallow to medium water depth ROV System such as a 3.2 knot forward speed delivery by its 125 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 600 msw rated FCV 600 will immediately allow the unit to be recognised as a market leading solution to the rigours of shallow to medium water depth intervention and support.

**FCV® 600**

### Technical Specifications

#### Dimensions

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>2.5 m</td>
</tr>
<tr>
<td>Height</td>
<td>1.8 m (excl TMS)</td>
</tr>
<tr>
<td>Width</td>
<td>1.6 m (excl TMS)</td>
</tr>
<tr>
<td>Weight</td>
<td>2,650 Kg (incl 250 Kg Payload)</td>
</tr>
</tbody>
</table>

#### Power

- **Motor**: 1 x 2850 VAC @ 93 kW (125 Hp)
- **Hydraulic Pump Flow**: 217 LPM @ 60 Hz
- **IHPU Flow**: 90 LPM @ 210 Bar
- **Single Phase Electric Supply**: 10 KVA, 24 VDC & 115 VAC

#### Speed

- **Forward / Aft**: 3.2 knots
- **Lateral**: 2.4 knots
- **Vertical up / down**: 2.14 knots

#### Thrusters

- **4 x 12” vectored Horizontal**
  - Fwd/Lateral: 791 Kg
- **2 x 12” vertical**
  - Vertical: 560 Kg

#### Sensors

- **Heading**: TOGSNAV
- **Pitch and Roll**: TOGSNAV
- **Depth**: TOGSNAV
- **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 8b Ethernet
- **Lighting**: 12 x 24 VDC Dimmable LED lights
  - 4 x 110 VAC Flood lights

At the heart of the FCV 600 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 throughout 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 600 can cater for up to 20GB, which is sufficient to run the ROV, the TMS, 3 x HD cameras (Optional), 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.

#### Manipulators

- **Manipulator 1**: Schilling Orion
- **Manipulator 2**: Schilling RigMaster
- **Optional**: Schilling T4
- **Optional**: Schilling ATLAS

#### Control System

- **Vehicle Control**: Fugro Proprietary
- **FO Multiplexer**: 20Gbit
- **ROV DP**: Standard
- **Simulator**: Sim4

#### Tooling

- **Mechanical Interface**: Fugro Proprietary – 4 point
- **Through Frame Lift**: 1,000 Kg
- **Aft Lift**: 500 Kg
- **Tooling IHPU**: 90 LPM @ 210 bar
- **Bi-Directional Solenoid**: 15 x Solenoid Valves
- **Servo Valves**: 7, 6 Thruster +1 spare
- **Intelligent Valve Pack**: Optional
- **High Flow IPV**: Optional

#### 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
- **Tether**: Up to 600 m of 30 mm dia; 200 m fitted
- **Dimensions**: 1.8 m (Dia) x 2 m (H)
- **Weight: In Air/Water**: 2.5 Te / 1.5 Te (inc 200 m tether)