



FUGRO

FCV[®] 3000 (150HP)

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.

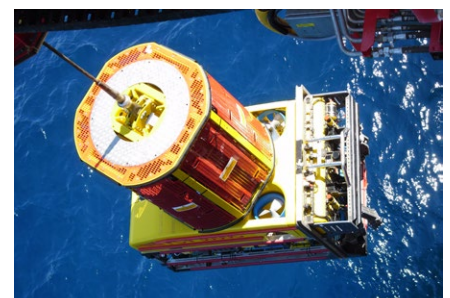
Key capabilities that are incorporated into the FCV 3000 is designed to improve the efficiency of the operations and address the need to provide greater spatial awareness to the Operations Team.

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.

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Technical Specifications

Dimensions

Length	3.3 m
Height	1.7 m (excl TMS)
Width	1.7 m (excl TMS)
Weight	4.1 Te (incl 400 Kg payload)

Power

Motor	1 x 2850 VAC @ 112 kW (150 Hp)
Hydraulic Pump Flow	217 LPM +70 LPM @ 60 Hz
Hydraulic Pump Pressure	225 bar (main)
Single Phase Electric Supply	10 KVA , 24 VDC & 115 VAC
Tooling	up to 217 LPM @ 60 Hz

Speed

Forward / Aft	3.2 knots
Lateral	2.4 knots
Vertical up / down	2.4 knots

Thrusters

4 x 15" vectored Horizontal	Fwd/Lateral: 806 Kgf
3 x 15" vectored	Vertical: 826 Kgf

Sensors

Heading	FOG / OCTANS
Pitch and Roll	FOG / OCTANS
Depth	Digiquartz 8CB4000-I
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 IHPU	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
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Main Lifting Umbilical

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