



# FUGRO

## FCV<sup>®</sup> 1000D

**The FCV 1000D 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 1000 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 1000D retains Fugro’s renowned ability for data management, meaning the FCV 1000D 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 1000D 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 1000D 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:

- Real time visualisation of the local subsea environment – helicopter view
- Mission rehearsal tools – Simulation and Planning
- Semi autonomous functionality
- 3 Dimensional Dynamic Positioning

- Mechanical Interface: Fugro Proprietary 4-point
- Through frame lift: 1000 Kg @ 3 g
- Back Pack lift: 500 Kg @ 3g
- Tooling: up to 217 LPM @ 210 Bar
- IHPU: 90 LPM @ 210Bar
- Bidirectional Solenoid: 15 Solenoid Valves
- Servo Valves: 8, being 6 Thruster + 2 Spare
- Mini IVP: Optional
- High Flow IVP: Optional
- Skid Control IVP: Optional



*The FCV 1000D, market leading capability in a compact package.*



Like its in-house built predecessors, the FCV 1000D 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 1000 msw rated FCV 1000D 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® 1000D

### Technical Specifications

#### Dimensions

Length	2.5 m
Height	1.8 m (excl TMS)
Width	1.6 m (excl TMS)
Weight	2,650 Kg (incl 250 Kg Payload)

#### 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 HD 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

At the heart of the FCV 1000D 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 1000D can cater for up to 20 GB, 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	8, 6 Thruster + 2 spare
Intelligent Valve Pack	Optional
High Flow IVP	Optional

#### 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 , PSSSL Type 4, 11 Te SWL
Tether	Up to 600 m of 30 mm diameter tether (200 m standard)
Dimensions	1.8 m (Dia) x 2.0 m (H)
Weight: In Air/Water	2.5 Te / 1.5 Te (inc 600 m tether)