



FUGRO

FCV[®] 1000 (100HP)

The FCV 1000 is the 1,000 msw rated iteration in the Fugro Core Vehicle family of 5th Generation Work Class ROV Systems. It has been designed and built in-house by Fugro to offer the highest levels of performance and capability to our world-wide customer base. The FCV family caters for all working water depths and task environments. All share a common technology platform, making it simpler to move them from Region to Region and to support the Operations Teams on a worldwide scale.

As with all of the FCV Systems, the FCV 1000 offers high levels of performance and capability, but in this iteration in a 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.

Other key capabilities and sub-systems can be offered with the FCV 1000 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: 3,000 Kg
- Back Pack lift: 500 Kg @ 3 g

- Tooling: up to 157 LPM @ 255 Bar
- IHPU: 70 LPM @ 210 Bar
- Bidirectional Solenoid: 15 Solenoid Valves
- Servo Valves: 8, 7 being thruster + 1 Spare
- Mini IVP: Optional
- High Flow IVP: Optional
- Skid Control IVP: Optional



The FCV 1000, high level performance in a compact package.



Like its in-house built predecessors, the FCV 1000 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 100 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 1000 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® 1000

Technical Specifications

Dimensions

Length	3 m
Height	1.8 m (excl TMS)
Width	1.5 m (excl TMS)
Weight	3,200 Kg (incl 400 Kg payload)

Power

Motor	1 x 2850 VAC @ 100 Hp
Hydraulic pump flow	157 LPM @ 60 Hz
IHPU flow	70 LPM @ 60 Hz
Single phase electric supply	10 KVA , 24 VDC & 110 VAC

Speed

Forward / Aft	3.2 knots
Lateral	2.2 knots

Thrusters

4 x 12" vectored Horizontal	Fwd/Lateral: 764 Kg
3 x 12" vertical	Vertical: 782 Kg

Sensors

Heading	Octans
Pitch and roll	Octans
Depth	Digiquartz 8CB4000-I
Altimeter	Kongsberg 1007 digital altimeter
Sonar	Kongsberg 1071 Sonar
Cameras	12 cameras, 8 at any one time 3 x HD Cameras (Optional)
Data	RS232, RS485 TTL Ethernet and Gb Ethernet
Lights	8 x 110 VAC 600W Dimmable 2 x 24 VDC Dimmable LED lights

At the heart of the FCV 1000 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 1000 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 7P
Manipulator 2	Schilling RigMaster
Option	Schilling TITAN 4

Control System

Vehicle control	Fugro Proprietary
FO multiplexer	20 GBPS capable CWDM Based
Survey module	Fugro proprietary Starport

Tooling

Mechanical interface	Fugro Proprietary – 4 point
Through frame lift	3,000 Kg
Bi-directional solenoid	15 x Solenoid Valves
Servo valves	8, being 7 thruster + 1 spare

Power Requirements

System (typical)	300 KVA, 380 – 500 Vac 3-ph 50/60 Hz
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Main Lifting Umbilical

33.5 mm diameter free swimming Kevlar (soft) armoured design
Alternative 37 mm diameter steel armoured design where appropriate

Launch and Recovery System

A-Frame or Crane launch
TMS deployed or free-swimming options available

TMS (Optional)

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)