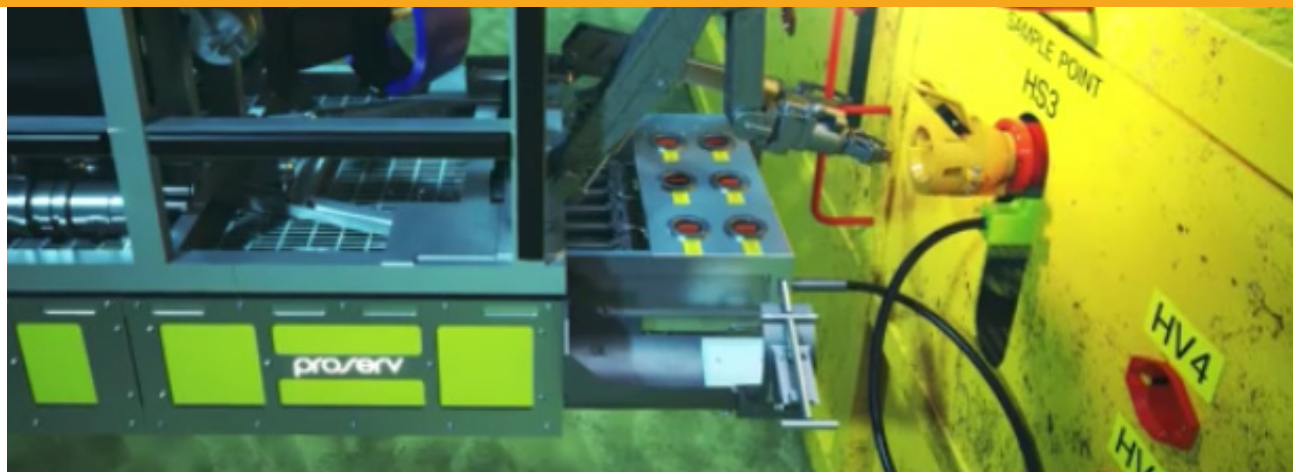


Subsea Sampling

Production Maximisation

proserv

A key objective for any operator is ensuring production maximisation is achieved with as little upset as possible. Subsea sampling supports this by providing accurate, at source, production chemistry.

Knowing the chemistry of fluids and solids inside the pipeline allows you to calibrate subsea multi-phase flow meters, assists in efforts to reduce production losses and supports the unrestricted flow of fluids from reservoir to refinery.

Proserv has been engineering and designing equipment for subsea sampling for over 15 years.

- 500+ samples safely captured and contained
- Suitable for up to 2,500 metres water depth
- Can withstand up to 20,000 psi
- DOT/PED certified cylinders

40+ years' experience providing sampling solutions

Proserv works in partnership with clients to design, build, maintain and operate a range of subsea sampling systems to allow for representative subsea sampling.

Designed to meet the stringent requirements of NACE, API-6A and API-17D, Proserv's subsea sampling system specification can be customised according to the client's specific needs.

Rented or purchased solutions

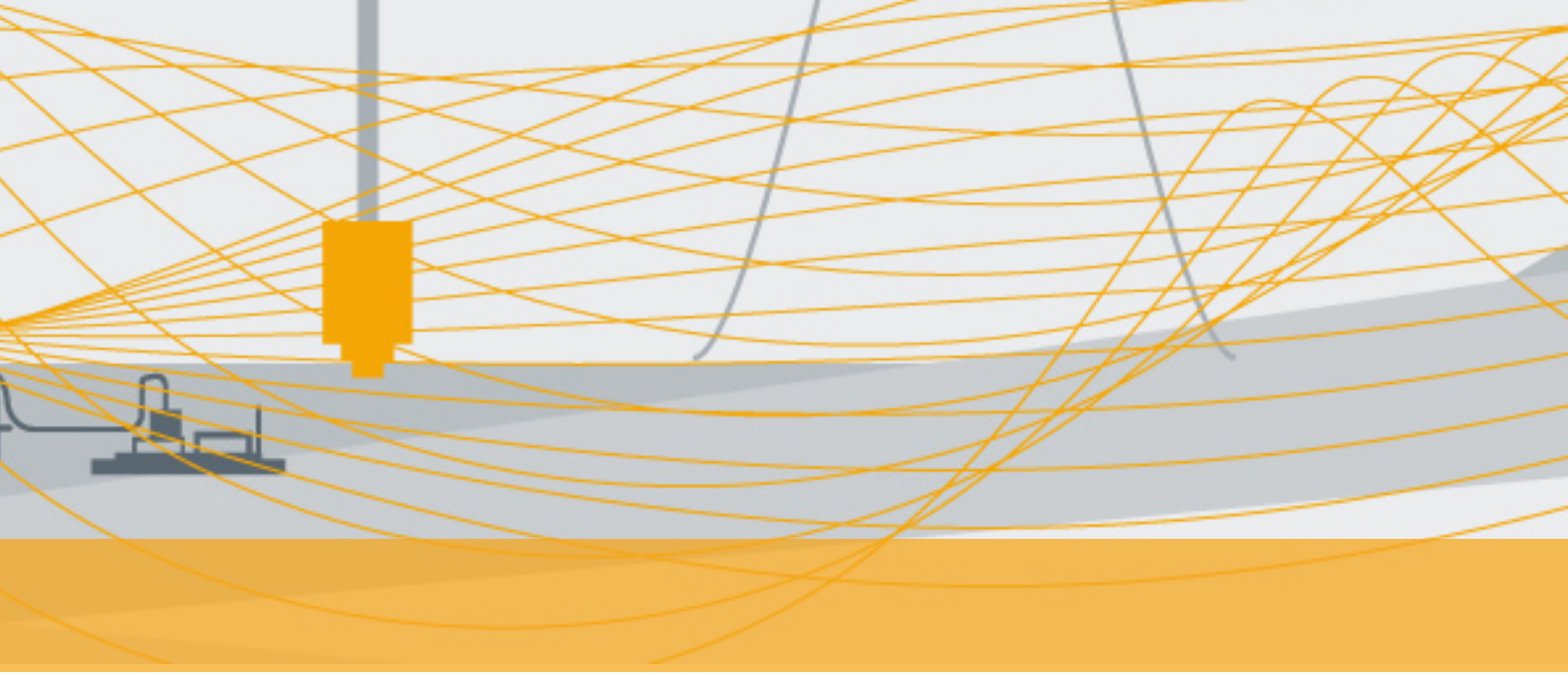
Our subsea sampling rental units are available for rapid deployment. We ensure you get the right sample from the right place with the right equipment. Subsea sampling systems support:

- Integrity
- Umbilical controls
- Decommissioning
- Chemical injection
- Flow assurance issues
- Metering and allocation
- Minimising production deferment
- Maximising economic recovery

With expertise in engineering and production chemistry, we understand all aspects of subsea sampling.

- Slops handling
- Sample collection cylinders
- System control and sensors
- Isothermal and isobaric sampling
- Phase biased sampling and enrichment
- System deployment, connection and disconnection

Wired sampling system



Proserv's subsea sampling cylinder offering includes	
Volume	up to 2 litres
Design pressure	1,379 bar
Design temperature	-29ºC to 177ºC
Single phase	Yes
Multi-phase	Yes
Sour service	Yes
Certification	PED / DOT
API 17D hyperbaric test	3,000 m

Proserv's ROV and diver subsea offerings include		
Specification	ROV	Diver
Volume (per run)	12 litres	12 litres
Design pressure	1,379 bar	690 bar
Design temperature	-20ºC to 110ºC	-20ºC to 110ºC
Isothermal	Yes	Yes
Isobaric	Yes	Yes
Chemical injection	Yes	Yes
Slops containment	Yes	Yes
Sour service	Yes	Yes
Connection	Hot stab	Any

Subsea cylinder,
20,000 psi, PED, DOT

ROV operated system
w/interfaces ISO 13628-8

Operational benefits of subsea sampling

Benefits upstream of manifold

- Easier to obtain a chemical free sample
- Improved modelling of system dynamics
- Eradicates necessity for production losses
- Nearer to source of fluids without expense of well intervention
- Undiluted, a more representative sample, less doubt over validity of results
- Reduces the need for back-out calculations and second-guessing flow rates
- Potentially upstream of deposition, therefore provides a sample in ideal condition

Cleanliness benefits at point of source

- Reduces environmental risks of release to sea
- Provides reassurance regarding monitoring of system condition
- Increases confidence in control fluid and umbilical condition

Maximise economic recovery

- Removes the potential of working on the wrong solution
- Production uptime is sustained for longer, resulting in increased revenue
- Better data - leads to improved reservoir management and production maximisation

We improve the reliability, integrity, efficiency and productivity of critical infrastructure with industry leading controls technology.

CONTROL | MONITORING | INTELLIGENCE | OPTIMISATION

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