USER MANUAL FOR SUBSEA GAS SAMPLING UNIT

Document title	:	*UMA-6949-001 Subsea Gas Sampling Unit*
IKM TECHNOLOGY AS ref.	:	*P6949*
Customer ref.	:	*Subsea Tool*

IKM Technology AS

Rev.	Date	Reason For Issue	Prepared	Checked	Approved
01	17.08.2014	Issued for use	KF	RH	KF
02	27.06.2017	Issued for use	KF		
03	04.05.2018	Issued for use	OG		

1 GENERAL INFORMATION

This manual describes how to handle, operate and maintain the Subsea Gas Sample Unit. It is intended to be used and handled by an ROV.

1.1 Abbreviations

Req.	Requirement
ROV	Remotely Operated Vehicle
BSP	British standard pipe
JIC	Joint industry council
Nm	Newton meter
LPM	Liter per minute
CCM	Cubic centi meter
mm	Milli meter
kg	Kilo gram
Ø	Diameter

1.2 References

Doc nr	Description	Rev.	Issued	Can be found
6949-001	Drawing Subsea Gas Sample Unit	03	25.11.13	Appendix A

2 TECHNICAL SPESIFICATION

The Gas Sample Unit has ROV friendly grabbing bars and valve handles.

Main components are frame with grabber bars, valves and sample tank.

Dimensions:
Length: 1657 mm.
Width: Ø400 mm.

Weight:
In air: 51 kg.
In water: 32 kg.

Sampling volume: 12 liter.
Max pressure: 150 bar.

3 SAFETY

3.1 General - Operations

Only authorised people and qualified personnel should work on the system, and take suitable precautions to prevent any potential injuries. Always adhere to authorised working practices, and use the correct tools for the job. To facilitate this, make sure that these are available before commencing the test.

Ensure that the working area is kept clear and uncluttered.

3.2 General – Mechanical

Ensure that all load bearing components are adequately and regularly inspected. If damage is found the component must be repaired/replaced as necessary. Do not allow damaged components to remain in service.

Always ensure that items are correctly and adequately supported before removal, and that authorised lifting equipment and procedures are used.

Note: trying to lift heavy components in an awkward position by hand without the assistance of correct lifting equipment, or lifting any component without adopting the correct stance, can lead to serious injury.

4 OPERATIONAL DESCRIPTION

- Secure tool in basket.
- Dive with both valves closed and empty tank.

To measure leaking rate, do the following:

- Have a stopwatch available and ready.
- The valves should be in closed position the entire time.
- Place the cone over the leaking area which it is meant to measure. Make sure to have the Gas Sampling Unit in an upwards position for the most accurate reading.
- Start clocking the time at the very moment the cone of the Gas Sampling Unit is placed over the leaking gas.
- Observe closely the bottom skirt of the cone and stop clocking the time as soon as gas appears/escapes from underneath the cone skirt.
- Divide cone volume 14,2 liters by elapsed time to find flow rate.

  NB! This is a rough estimate of the leaking rate.

  The cone volume is 14,2 liter.
  Exampel:
  If it takes 4 minutes and 45 seconds until the cone is full. This equals 4,75 minutes.
  Then: 14,2 L / 4,75 min = 3,0 L/min.
  Meaning that the leaking rate is 3,0 liter per minute.

To secure a gas sample, do this:

- Place the sampling unit (cone) on collection point and open both valves to take sample.
- The tank is filled when gas is exiting the lower valve.
- Close both valves to maintain the sample.
- Secure tool for transportation.

To Transfer collected gas sample to 500 cc test sample tank, IKM-1048787:

- Connect the sampler tank at the bottom valve and the 500 cc test sample tank by means of the supplied ¼'' hose. Ensure both ends of hose are tightened.
- Open the sampler bottom valve and the 500 cc test sample tank valve.
- Close both valves and disconnect hose.

- Secure 500 cc test sample bottle by installing and tightening the blind cap provided with the sampler.

5 MAINTENANCE

- Clean the whole tool with fresh water, remember to clean inside of tank.
- Dry tool and apply a light layer with corrosion protective coating.
- Place tool in a proper storage box or room.

6 SPARE PART LIST

- Tank.
- Valves.
- Nuts and bolts.

7 REVISION CHANGES

Revision	Procedure change	Author
01	*Original version*	KF
02	*How to measure gas leaking rate*	KF

8 CONTACT INFORMATION

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9 APPENDIX

	Doc number	Description	Rev
Appendix A	*6949-001 rev-03*	*Drawings of Gas Sampling Unit*	03