



High accurate in situ mud density measurement system

The **DensX** measures mud densities between 1.0 T/m³ and 1.5 T/m³ with an accuracy of 0.25 %. The technology is based on X-ray and is a direct measurement method. With a sampling speed of 10 Hz the system supports fast profiling. The X-ray technology does not suffer from strong legislation restrictions like radioactive density measurement systems. The system weighs 70 kg and is able to deeply intrude into soft sediment layers.

Along with the **DensX** comes a user friendly software that controls a fully automated winch*.

The software visualizes the density profile, the winch speed, the winch torque and the tilt of the **DensX**. When several density profiles are taken, the software generates a mud grid and interpolated dredging volume.

Today the **DensX** is applied in ports and access channels to characterize mud layers, to measure density based nautical bottom criteria and to prepare and evaluate dredging works. The accurate density measurement capability allows to determine precisely the ton dry weight of dredging material.

Live visualisation of density profile, depth, inclination, winch speed and cable tension



Applications

Density based nautical depth criteria

Follow-up dredging depth, thickness, resedimentation and consolidation of sediment layers

Precise determination of ton dry weight of dredging material

Benefits

Fully integrated and automated fast profiling system

Interpolated mud grid and dredging volume

Live visualisation of density profile, depth, inclination, winch speed and cable tension

User friendly software

Features

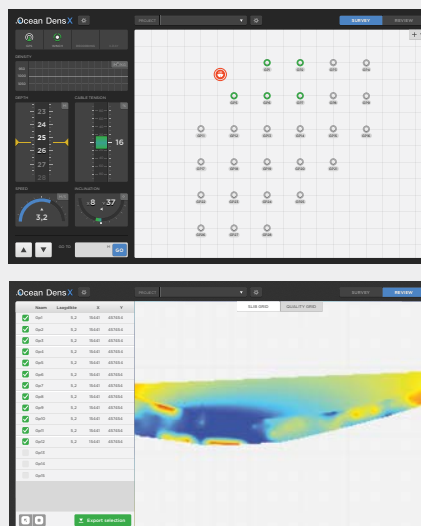
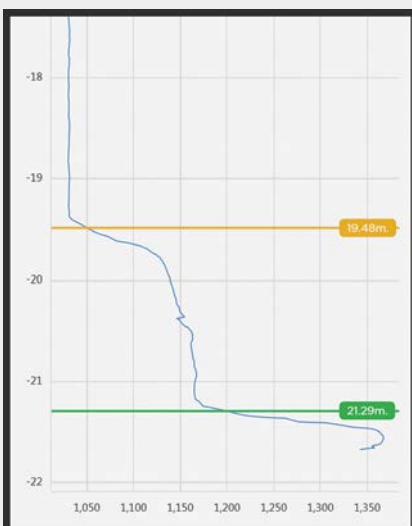
X-ray based, direct measurement system

High accuracy (0.25 %)

Fast sampling (10 Hz)

Standard ethernet communication

Software controlled ethernet winch with variable speeds



Software

Real-time data visualisation

Fully automated control of DensX and winch

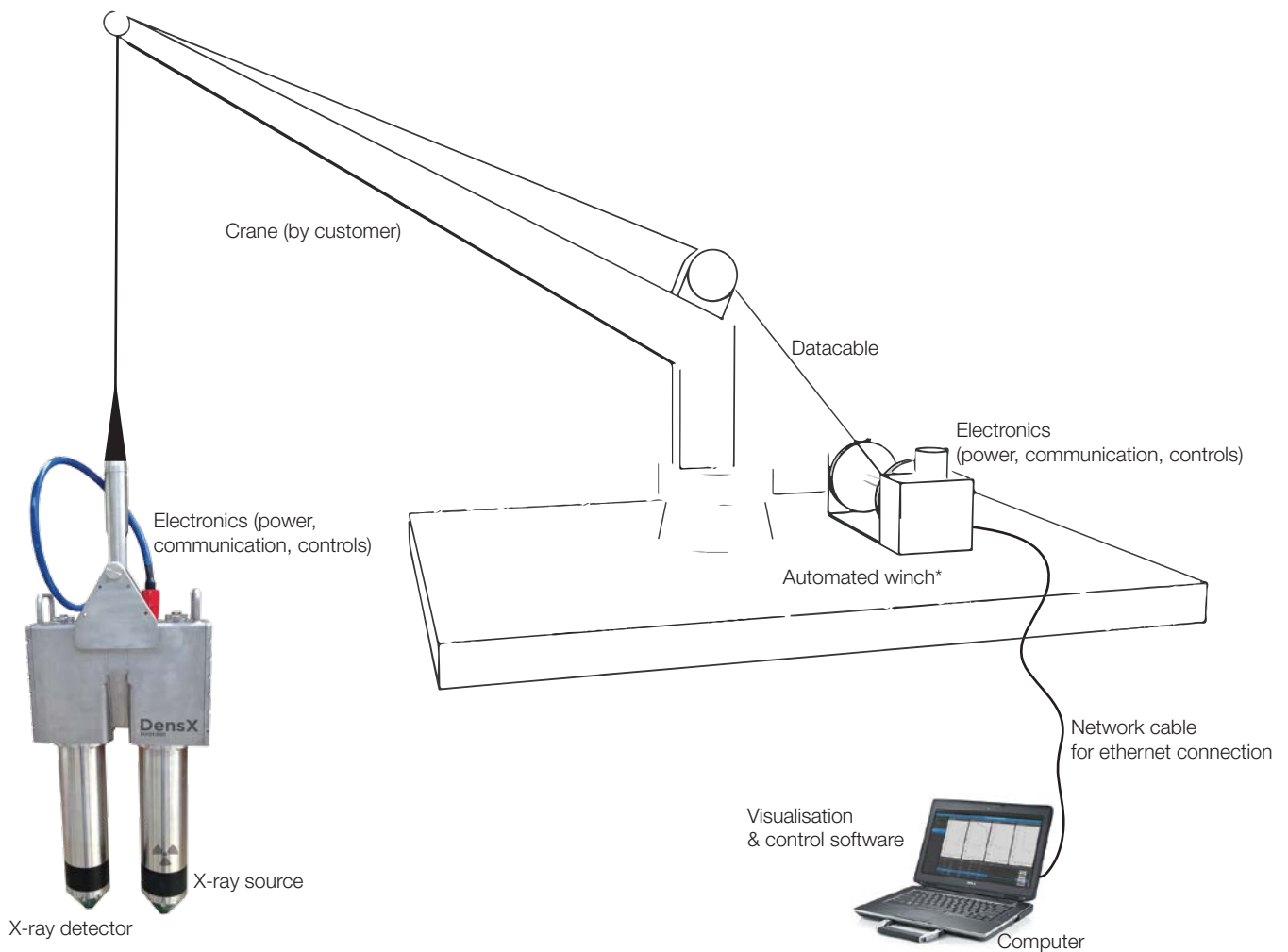
User friendly interface

Import/export data

DensX configuration interface

Interpolated grids

Client customisations possible



* sold separately

Specifications

Density	Range (1 s measurement time)	1 – 1.5	kg/l
	Accuracy (1 s measurement time)	-2.5 +2.5	%
	Stability (5 – 40 °C)	< 0.1	%
X-ray system	Radiation (< 10 cm distance)	1	uSv/h
	X-ray voltage	< 30	kV
	Power consumption	< 20	W
Security	Activation depth	1	m
	Conductivity security switch		
Pressure	Range (others on request)	0 – 3.5	bar
	Resolution	0.00014	bar

Data

Communication	Ethernet
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Physical

Size	Width	30	cm
	Depth	10	cm
	Length	80	cm
	Weight	70	kg
Material	Stainless Steel (type 316)		

Software

Desktop software	supplied with Windows® based software
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