



Quantum Fluoscope

Next generation liquid biopsy tests and
advanced Fluorescence Microscopy



At Frontier Diagnostics, we are united by a shared vision, changing the landscape of cancer diagnostics and care. Many of us have been personally touched by cancer — and that drives our determination to apply deep medical and scientific expertise to create solutions that truly make a difference.

Our first major breakthrough is the Quantum FluoScope: an AI-powered, clinical-grade platform that detects Circulating Tumor Cells (CTCs) with exceptional precision. Using next-generation fluorescence microscopy, it enables earlier detection, improved treatment decisions, and ongoing monitoring — all through a highly sensitive, easy-to-use system.

What sets us apart? The Quantum FluoScope combines powerful imaging capabilities with robust AI-driven analysis. Its high sensitivity and repeatability empower clinicians to detect CTCs at the earliest stages of disease, supporting:

- Timely diagnosis
- More personalized treatment decisions
- Post-treatment surveillance for recurrence



Key features for clinical use:

- **Highly sensitive and accurate** – detects Circulating Tumour Cells for advanced clinical applications
- **High definition fluorescence imaging** – provides high resolution (quantification needed here) visuals of CTCs and their cell surface characteristics.



Advanced German engineering has designed an easy-to-use platform for seamless integration with Frontier Diagnostics' assays focusing on CTC analytics.

Technical specification

Microscope type: Fluorescence based, high resolution imaging system (needs quantifying)

Sensitivity: Detects single CTCs with exceptional accuracy

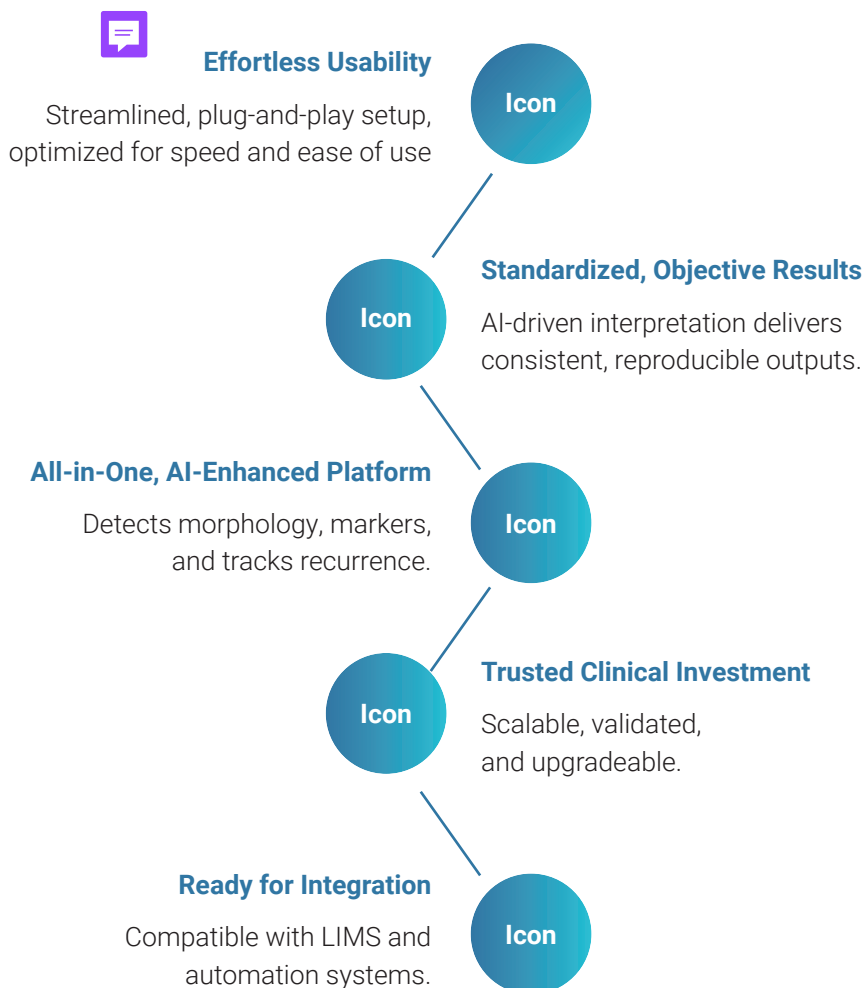
Imaging resolution: clear, precise imaging

Light source: LED fluorescence excitation system

Why choose the Frontier Diagnostics Sentinel qCTC platform?

The Quantum FluoScope, integrated with the Sentinel qCTC platform, is a next-generation solution built to meet the complex demands of modern oncology. Combining high-resolution fluorescence imaging, AI-powered analytics, and intuitive controls, it sets a new benchmark for CTC detection.

System Advantages



Summary of Clinical Benefits

AI-driven CTC analysis	➡	✓ Enhances reproducibility
Fluorescence imaging	➡	✓ Marker-specific diagnostics
Plug-and-play	➡	✓ Fast implementation
LIMS integration	➡	✓ Workflow efficiency
Upgrade-ready	➡	✓ Futureproof system

What's included?

- **Software optimised for CTC testing**
- **Easy to use controls** – specifically designed for clinical environments and oncology settings
- **Fluorescent microscope unit**
- **Screen** – high definition monitor for viewing and analysing results
- **Keyboard and mouse** – for system control and operation
- **Microscope** – high-precision fluorescence optics with motorised stage
- **2 “XY” interface plugs** – for connecting devices such as LIMs systems
- **Calibration kit** – Is this included as the other brochure just mentions it as being available from FD?
- **User manual** – step by step guide for set-up and usage



Power requirements – 110-240V, 50/60Hz


Connectivity – Includes a USB, Ethernet and HDMI outputs for easy data integration

Specification

Working principle camera	Inverse fluorescence microscope 2,3 MP; CMOS automatic 3
Objective	Objective nose piece, selectable magnification (10x, 20x, 40x) Microwell plate automatic or manual automatic contrast-based
Sample formats	Autofocus routine up to 4 fluorescence channels with LED-excitation e.g. DAPI (Ex. 385 nm)
Fluorescence	FITC (Ex. 470 nm)
Channels	Cy (Ex. 633 nm)
User	External monitor and keyboard
Interface	Automatic and device operation Sample position and focusing
Software	Image acquisition in all fluorescence channels Frontier Diagnostics specific protocol creation application specific functionalities
Power supply	external power supply 24V / 200W
Dimensions	39cm x 49cm x 32cm (w/d/h)
Total weight	ca.18kg



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or your local distributor for details.