Frequently Asked Questions

How is the Prospect Haemoglobin analyser able to make the measurement so quickly?

The Prospect Haemoglobin analyser measures the absorbance of fresh, unmodified whole blood over a wide spectral range. Therefore, there is no need for time consuming haemolysis and/or cascaded chemical reactions.

How is the measurement made in comparison to existing technologies?

The Prospect Haemoglobin analyser measures all haemoglobin fractions simultaneously and incorporates a patented technology that avoids the destructive effect of light scattering to which other methods are susceptible. Haemoglobin concentration is calculated from a broad spectrum photometric measurement of fresh unaltered whole blood.

Is the analyser affected by any interferences?

The Prospect Haemoglobin analyser is unaffected by any known clinically occurring substances. Turbidity caused by, for instance, lipaemia or an elevated white cell count is compensated for by a background measurement.

Why is the control a dye?

The Prospect Haemoglobin analyser is designed and optimised for the measurement of fresh whole blood and calibrated against the ICSH international reference method. Most whole blood controls need to be modified in some way to provide consistent viscosity, to prevent bacterial degradation, to extend shelf life etc. By so doing, there is always the possibility of producing slightly differing readings. The Prospect Haemoglobin control is dye based and ideal for measuring day to day imprecision. Fresh whole blood controls/EQA materials are in development.

Does the system work with existing EQA samples?

The Prospect Haemoglobin analyser would work extremely well with fresh whole blood EQA samples such as may be circulated within an NHS Trust by the hematology laboratory. Aged or modified EQA samples may give rise to differences in measurement between this and other systems due to additives, preservatives or a high concentration of methaemoglobin.

Why am I getting an E03 error code?

If the cuvette is left in the analyser for any length of time, the analyser will beep, flash, the cuvette sign will blink and shortly after an E03 error will appear. The measured cuvette should be removed from the cuvette holder immediately after the result has been displayed.

How do you reset the analyser?

Simply remove the cuvette and press down the empty cuvette holder. The analyser will beep, flash and the ✓will reappear, confirming the analyser is ready for the next measurement.

What types of samples are suitable for use with the Prospect Haemoglobin analyser?

Capillary, venous and arterial samples are all suitable for use with the Prospect Haemoglobin analyser. Anti-coagulated samples using EDTA or heparin in dried form present no difficulties.

Is it correct that you can take a second measurement from the same capillary incision?

Slight deviation from some of the pre-analytical considerations of capillary sampling can sometimes lead to an unexpectedly high or low reading. In this circumstance, because the Prospect Haemoglobin analyser takes just one second to perform the analysis it is possible to use the same incision to perform a second confirmatory measurement. Repeated samples from the same incision must be classed as separate samples. Two consecutive samples may or may not provide the same reading. This is due to the fact that the first sample taken from the incision may be more diluted than the subsequent samples due to the presence of tissue fluid and plasma. Later measurements may become more concentrated due to the Rouleaux effect in which RBCs stack up, or also may be due to squeezing.

How does the analyser 'self-check' and calibrate?

Prospect Haemoglobin analysers are factory calibrated to the HiCN reference method as recommended by ICSH and require no further calibration. The analyser performs a self-check after each measurement, and providing everything is in order, the ✓ will be displayed. During this process the sensor system assesses the intensity of transmitted light across the complete spectral range. If something in the system has changed causing the reading to be different from the original calibration data then an error code will be displayed preventing further measurement.

How do you clean the Prospect Haemoglobin analyser?

The only part of the analyser that requires cleaning is the cuvette holder that can be rinsed with water. If necessary, a cotton bud with IPA (isopropyl alcohol) as a disinfectant can be used to clean the inside surfaces. The outside case of the analyser can be easily cleaned with an alcohol wipe or damp cloth.

How should the Prospect Haemoglobin cuvettes be stored and what is their shelf life?

The Prospect Haemoglobin cuvettes have a shelf life of 2.5 years from the date of manufacture. They are supplied in a resealable foil pouch that serves as an ideal storage container. The cuvettes are not affected by moisture or temperature and storage conditions are therefore not critical.
The pouch can be resealed or left open as convenient and cuvettes poured out as necessary.

Why is there no on/off switch?

The Prospect Haemoglobin analyser is designed to remain switched on all the time and therefore immediately available to make a measurement. Extremely low power consumption means that a fully charged battery will last for several months or approximately 10,000 measurements.

How often does the analyser need to be recharged?

The Prospect Haemoglobin analyser requires charging when the battery symbol on the display indicates a low charge. Full recharge takes a couple of hours either from a computer or mains supply.

When performing a comparison with existing technologies, why are some results different? How can I avoid this?

When comparing a number of different methods or even a number of devices from the same manufacturer, experience highlights the importance of consideration of all pre-analytical factors.
Capillary sampling, being minimally invasive is usually the preferred method for sample access, although differences can arise between consecutive samples from the same incision.
These differences may be due to haemodilution or haemoconcentration, emphasize the importance of a free-flowing sample and remind us that each sample should be treated separately.
If venesection is the preferred method of access, the sequestrated sample should be thoroughly mixed before analysis.

In both instances, the best recommendation is that the drop of blood for analysis should be dispensed onto a hydrophobic surface (a ProWipe for example) and simultaneously aspirated into the relevant cuvettes for the comparative systems. In this way, identical samples will be presented to each device, minimising any potential pre-analytical discrepancies.