BEYOND A BETTER BOX™

XN-SERIES™ AUTOMATED HEMATOLOGY ANALYZERS

XN Technology and Advanced Clinical Parameters
New fluorescent dyes increase the specificity of cell analysis.

- Get the precision and accuracy you expect from Sysmex:
  - Identifies NRBCs directly in the white blood cell channel and eliminates the need for WBC count corrections
  - Enhances and optimizes flagging for abnormal cells, which increases the number of reportable automated differentials
  - Provides body fluid counts, including a two-part differential

- Leverage a second method of platelet analysis in the new PLT-F channel:
  - Improves platelet analysis on challenging specimens by using a platelet-specific fluorescent dye
  - Provides Immature Platelet Fraction (IPF) results for investigation of thrombocytopenia in conjunction with other available clinical information
  - Reduces manual intervention through user-definable rerun and reflex decision rules
CELL ANALYSIS IN HEMATOLOGY IS DIFFERENT NOW

The XN-Series Hematology Systems are advancing hematology technology with the introduction of new cell analysis channels. A robust system of new cell-specific lyses and fluorescent dyes evaluates cells more thoroughly than ever before.

The XN-Series analyzers are designed to be a step above hematology analyzers of the past. Areas of enhancement include:

• Accuracy and precision of low WBC counts
• Accuracy and precision of low platelet counts
• Direct counting and reporting of NRBCs
• Increased reportability of WBC differentials at very low counts

The New WNR Channel

Nucleated Red Blood Cell Assessment is Standard with Every CBC

It’s the height of efficiency. Nucleated red cells are identified and counted in this new channel along with white cells. No need for a special reagent or sample prep, and no mathematical corrections. Virtually eliminates interference from lipids or lyse-resistant RBCs. Now you can have accurate WBC counts the first time — even in the presence of NRBCs.

In the WNR Channel, the analyzer measures side fluorescence and forward scatter. Side fluorescence measures the nucleic acid content to identify NRBCs in the same channel in which white cells are counted. Forward scatter measures cell size.

TECHNOLOGY:
Fluorescent Flow Cytometry with polymethine dye for nucleic acids, cell-specific lye

PARAMETERS REPORTED:
WBC count, BASO#, BASO%, NRBC#, NRBC%

REAGENTS:
Lysercell® WNR and Fluorocell® WNR
THE NEW WDF CHANNEL

Immature Granulocytes (IG) are Standard with Every WBC Diff

The new WDF channel improves reporting accuracy and precision for low WBC counts. That’s because the XN-Series WDF channel includes a Low WBC mode which triples the number of cells counted, giving you a differential even on low WBC counts. In short, the WDF channel increases the number of reportable WBC and differential results.

Fewer vote-outs means more reportable diffs. Sysmex has improved the sensitivity and specificity of the six-part diff by developing a new method for discriminating monocytes, lymphocytes, atypical lymphocytes and blasts. Sysmex Adaptive FLagging Algorithm based on Shape-recognition (SAFLAS) is based on linear discrimination of cell clusters in the WDF scattergram using shape and positioning of different mononuclear cell populations.

**Technology:**
Fluorescent Flow Cytometry, SAFLAS

**Parameters reported:**
NEUT%, NEUT#, LYMPH%, LYMPH#, MONO%, MONO#, EO%, EO#, IG%, IG#

**Reagents:**
Lysercell® WDF and Fluorocell® WDF

This graphic demonstrates how different cell populations, particularly monos and lymphs, can be separated using population density readings and side scatter vs. fluorescent analysis.

Targeting lymphocytes and monocytes, SAFLAS recognizes not only the numbers of cells but also the shape of each cluster’s position, angle, size, length, etc.
THE NEW PLATELET-F CHANNEL FOR LOW PLATELET COUNTS

The XN-Series uses impedance as the primary method for most platelet counts. When platelet accuracy cannot be guaranteed via impedance, the count is flagged. The XN automatically reflexes to a new fluorescent channel and increases the counting time six-fold.

In the new Platelet-F channel, platelets are identified and counted using a platelet-specific, fluorescent dye, Oxazine, which stains the rough-surface endoplasmic reticulum and mitochondria. This staining has excellent correlation with CD41/CD61 stained platelets and minimizes RBC fragment, microcytic RBC and WBC fragment interference.

The Immature Platelet Fraction (IPF)

Just as we can analyze reticulocytes and other immature cells, the XN-Series brings similar capabilities to platelet analysis. The IPF is a direct cellular measurement of thrombopoiesis and can be used with other available clinical information to help determine the pathophysiological mechanism of thrombocytopenia.

Technology:
Fluorescent Flow Cytometry with platelet-specific dyes

Parameters Reported:
Platelet-F Count, Immature Platelet Fraction (IPF)

Reagents:
CELLPACK® DFL, Fluorocell® PLT

FSC = Forward Scattered Light, SFL = Side Fluorescent Light
The time-proven parameters reported by the Reticulocyte Channel give clinicians a complete cellular assessment of erythropoiesis. These measurements are performed automatically on the XN-Series with no offline sample preparation.

Red cells circulating in the peripheral blood are classified and differentiated based on size and maturation state. This provides both quantitative and qualitative information and is a direct cellular measurement for erythropoiesis. It has been found to be useful for providing improved anemia screening and monitoring of iron therapy when used in conjunction with other available clinical information.

**Technology:**
Forward Scatter and Side Fluorescence

**Parameters reported:**
RET#, RET%, IRF (Immature Reticulocyte Fraction) and RET-He (Reticulocyte Hemoglobin)

**Reagents:**
CELLPACK® DFL, Fluorocell® RET
Two-Part Differential Standard with Every Body Fluid Analysis

It’s never been easier or faster to analyze body fluids than on the XN-Series. We’ve even eliminated most offline sample preparation and the need for additional reagents. Your lab can produce highly accurate results with less manual effort.

**TECHNOLOGY:**
Fluorescent Flow Cytometry

**PARAMETERS REPORTED:**
WBC-BF, TC-BF, RBC-BF*, PMN%, PMN#, MN%, MN#

**REAGENTS:**
Lysercell® WDF and Fluorocell® WDF

*Impedance measurement using CELLPACK DCL
BEYOND A BETTER BOX™
Sysmex delivers a comprehensive and intuitive ecosystem that improves performance with next generation diagnostics, advanced tools and technologies, process optimization and BeyondCare™ harmonized support.