

Automated Haematology Analysers

# XN-3000

Shaping Haematology





## XN-3000-Compact automation

XN-3000 Series comprises of 2 XN modules coupled with an integrated slidemaker and stainer (SP-10). It offers a unique co-primary solution that automates sample processing to slide preparation and staining. XN-3000 has an hourly capability of analysing up to 200 samples and can prepare and stain up to 120 slides. Optional integrated digital morphology solution may be added to increase its productivity as well as provide further standardisation to the laboratory process. XN-3000 Series also offers:

- Integrated reflex sampler and reflex rule set for improved workflow
- Selective preparation of slides based on user defined conditions
- Optional floor standing wagon for systems and reagent storage

XN-3000 is an excellent solution for laboratories with medium workload and a relatively high smear rate catering to the ever evolving clinical needs of the laboratory.





## Unlimited possibilities offered by XN-3000 solution

At Sysmex, we provide solutions that not only matches your current needs but future ones as well. XN-3000 series partners your lab in terms of workflow efficiency, optimisation of performance and also strategise for the future.

### Innovative technology

- Expanded clinical utilities based on renowned fluorescence flow cytometry for better patient management.

### Workflow enhancement and productivity

- With user definable conditions for auto-rerun/reflex and smear staining capabilities, XN-3000 can improve the workflow in the laboratory.

### Catering to future needs

- Clinical applications can be added on the XN analysers to meet the evolving clinical needs of the laboratory.

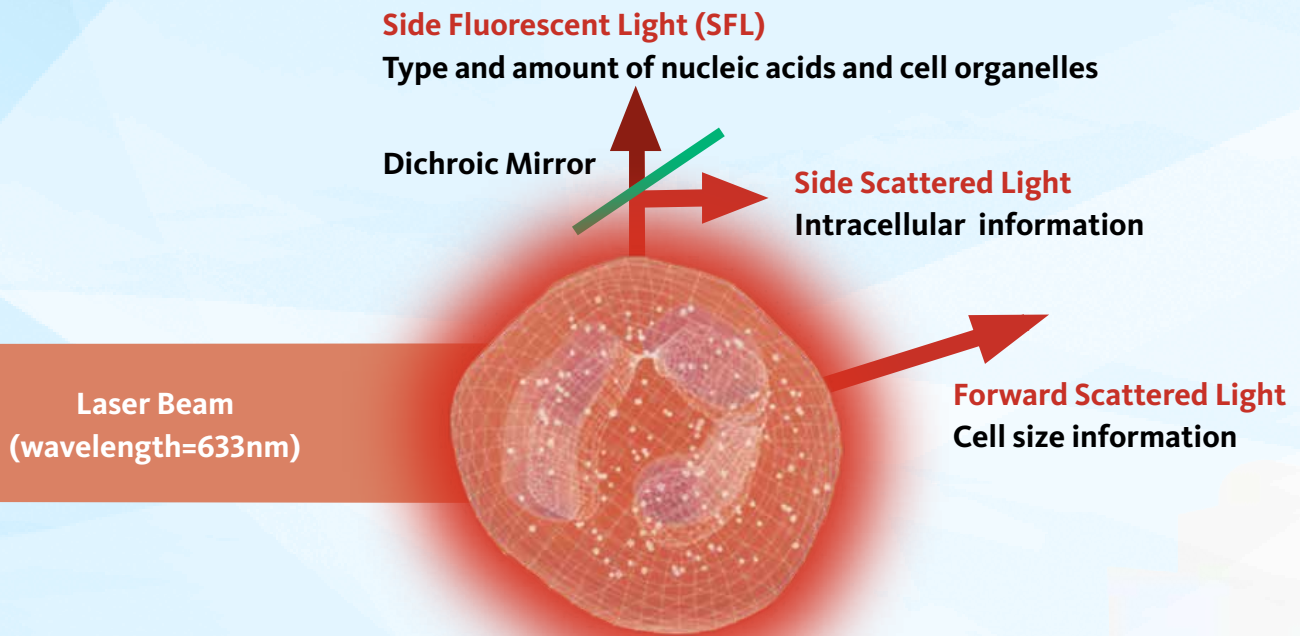
### Integration of digital morphology solution

- XN-3000 can be integrated with a DI-60 for a seamless solution - from sample processing , slide & smear making to cells pre-classification using digital morphology



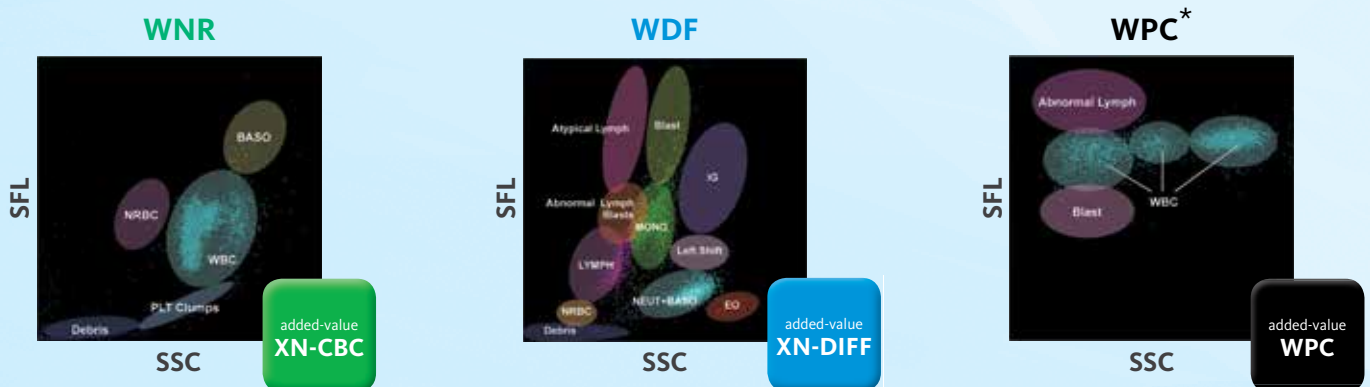
# XN-3000 Core Technology

The XN Series uses the laser flow cytometry for counting of blood cells. Cellular characteristics of the cells are collected. These scattergrams are used for the classification of the WBCs, RBCs, PLTs cells as well as flagging of the abnormal population.



## XN-3000 delivers diagnostic and medical values beyond the CBC

### Standard applications



### The following are available as a standard with every CBC+DIFF analysis:

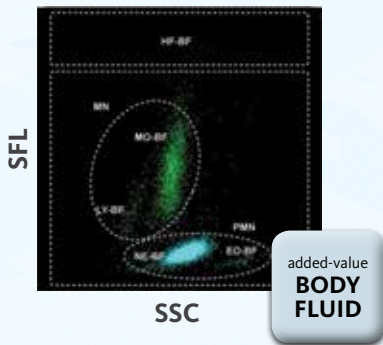
- NRBC: NRBCs are directly measured for every CBC analysis. This improves sample TAT as WBC count is auto-corrected.
- IG: Standard 6<sup>th</sup> part differential including immature IG, aids in the prediction/monitoring of infection and inflammation.
- \* WPC: Reducing smear reviews with highly-specific WBC flags.

\* WPC channel is available only on XN-20

## Optional applications

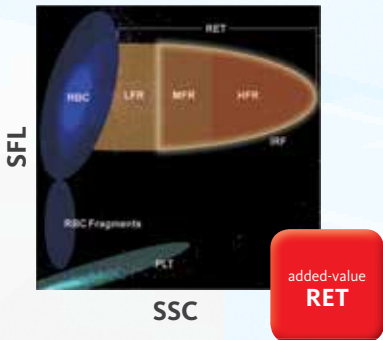
Extension with specific diagnostic functions can be done, providing additional and valuable clinical information. This information does not only give a more complete clinical picture but could be prognostic as well.

### Body Fluid



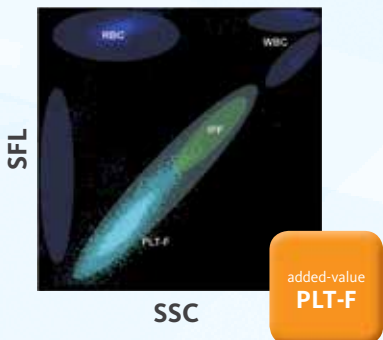
Automated 2-part differential body fluids analysis provides quick distinction between viral and bacterial infection. This allows immediate medical intervention. This dedicated mode of analysis is suitable for synovial, pleural, CAPD and CSF fluids.

### RET\*\*



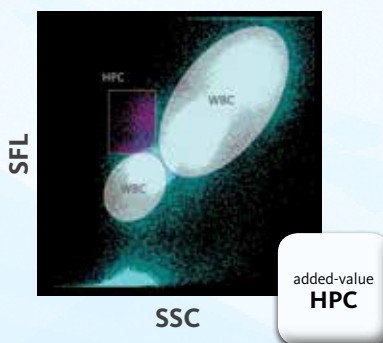
Reticulocyte haemoglobin (RET-He) and immature reticulocyte fraction (IRF) provides a quick snapshot of quality of erythropoiesis. These parameters help to differentiate between the types of anaemia. This allows clinicians to tailor the necessary treatment.

### PLT-F



Fluorescent platelets (PLT-F) demonstrates excellent correlation with CD61/41 alongside with immature platelet fraction (IPF). An increase in IPF signifies platelet recovery. IPF can be used to allow optimal management of platelet transfusion.

### HPC



Inexpensive and rapid quantitation of human progenitor cell (HPC) in peripheral blood. This allows timely evaluation of PBSC harvest following myeloablative therapy in a variety of clinical conditions as well as a predictor of CD34+ stem cell yield.

\*\* Available as a standard on XN-20



## DI-60 - World's first integrated digital morphology solution (Optional)

DI-60, the world's first integrated digital morphology solution can be integrated to XN-3000 series following the SP-10. DI-60 performs WBC pre-classification, RBC pre-characterisation and platelet estimation. DI-60:

- Reduces review time for differentials for higher productivity.
- Standardises your laboratory's differential results by reducing subjectivity.
- Enhances morphology skills with the proficiency software.
- Allows easier collaboration with clinicians with the remote review software application.

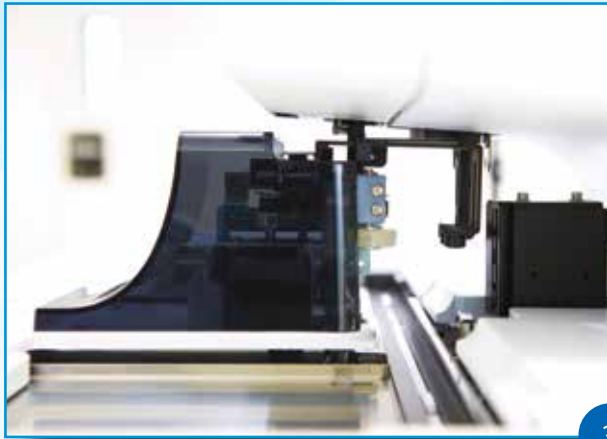


## SP-10 - Fully automated slide maker and stainer

SP-10 is a fully automated slide maker and stainer which can be integrated to XN-3000 series. SP-10 allows:

- Standardisation of smear preparation by wedge method.
- Customisation of staining protocols including single or double stains.
- Preparation and staining up to 120 slides per hour.





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## Smart and Compact Automation

XN-Series provides a comprehensive test menu including all Sysmex's advanced parameters, regardless of test volume or laboratory settings. Combining the analyser modules' broad capabilities in customisable configurations, the needs of both routine and specialised haematology testing are met. Possible extension with additional clinical applications in the future.

### The XN-Series comprise of 2 analyser modules

- **XN-10:**
  - CBC+DIFF+NRBC is a standard.
- **XN-20:**
  - CBC+DIFF+NRBC+RET+WPC is a standard.



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## Optional floor standing wagons

The wagons allow organisation of the reagents for neat and tidiness.



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# Challenging KPIs of the laboratories

Reducing sample turnaround time (TAT) is often a key performance indicator (KPI) for laboratories of all sizes. With faster access to patients' results, physicians are able to have a quick overview of patients' well-being and render necessary treatment without delays.

Having a lean and standardised sample processing workflow not only allows laboratories to meet the challenging TAT but also builds a 'peace of mind' working environment. With XN-3000, there is also greater economical savings since specific reagents and glass slides are only used when necessary.

Workflow comparison between 2 laboratories with different setup			
Setup of laboratory A		Setup of laboratory B	
<ul style="list-style-type: none"> <li>• 2 standalone analysers</li> <li>• Manual smearing and staining</li> </ul>		<ul style="list-style-type: none"> <li>• XN-3000 with integrated SP-10</li> </ul>	
Step		Step	
1	Sample received by laboratory	1	Sample received by laboratory
2	Load samples into analyser 1	2	Single loading of samples onto XN-3000, including auto-reflex of abnormal samples that requires repeated/additional analysis
3	Load samples into analyser 2	3	Smears are prepared and stained automatically on SP-10 based on samples that fulfill the pre-defined smear conditions
4	Collect completed samples from analyser 1		
5	Completed samples from analyser 2	4	Archive completed samples from XN-3000
6	Identify abnormal sample for repeat / additional analysis manually		
7	Identify samples for smearing	5	Manual microscopy
8	Making of manual smears		
9	Staining of slides		
10	Drying of slides		
11	Archive samples from analyser 1		
12	Archive samples from analyser 2		
13	Manual microscopy		
<b>Total steps: 13</b>		<b>Total steps: 5</b>	

With fewer steps involved, the chances of human related errors are significantly reduced. This allows the users to focus abnormal and challenging samples which require detailed data interpretation as well as slide review.



# Specifications

Principles & Technologies	
<b>Fluorescent Flow Cytometry</b>	WBC, Differential, NRBC, RET, IRF, PLT-F, IPF, HPC <sup>2</sup> , 2 part differential for body fluid analysis
<b>Hydrodynamic Focusing (DC Detection)</b>	PLT-I (Impedance), RBC, HCT
<b>Cyanide-free SLS Method</b>	Haemoglobin
30 Standard Parameters	
WBC, NRBC#, NRBC%, RBC, HGB, HCT, MCV, MCH, MCHC, RDW-SD, RDW-CV, MicroR, <sup>1</sup> MacroR, PLT, PDW, MPV, PCT, P-LCR, NEUT#, NEUT%, LYMPH#, LYMPH%, MONO#, MONO%, EOSIN#, EOSIN%, BASO#, BASO%, IG#, IG%	
16 Optional Parameters	
RET#, RET%, IRF, LRF, MFR, HFR, RET-He, RBC-He, Delta-He, HYPO-He, HYPER-He, PLT-O (Optical), PLT-F (Fluorescent), IPF#, IPF%, HPC# <sup>2</sup>	
Body Fluid Analysis	
<b>Sample Type</b>	CSF, CAPD, Synovial and Serous fluids
<b>7 Reportable Parameters</b>	WBC-BF, MN#, MN%, PMN#, PMN%, TC-BF#, RBC-BF

Hourly Throughput	
<b>XN-3000</b>	up to 200 samples
<b>SP-10</b>	up to 120 smears
<b>DI-60</b>	up to 30 smears
Sample Aspiration Volumes	
<b>XN Series</b>	Whole Blood/Body Fluid Mode: 88µL Pre-dilute Mode: 20µL HPC Mode: 190µL
<b>SP-10</b>	Sampler/Manual Closed Mode: 200µL Manual Mode (Micro-collection tube): 60µL
Quality Control	
Tri-level QC material for all parameters Bi-level Body fluid QC materials	
Staining Methods (SP-10)	
Wright single stain, May-Gimesa, Wright-Gimesa	

**Note:**

1. MicroR, MacroR, RBC-He, Delta-He, HYPO-He, HYPER-He are reportable from software version 21.00 onwards.

2. HPC# is available only for XN-20.

# Notes



## Disclaimer

The uses or clinical applications described are based on published scientific and clinical evidences. It is the clinician's responsibility to validate any off-label applications for use in routine clinical practice.

## Notice of Intended Use

The XN-Series modules are quantitative multi-parameter automated haematology analysers intended for in-vitro diagnostic use in screening patient populations found in clinical laboratories.

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