

Product Fact Sheet

XR-1000

**Manufacturer information**

Sysmex Corporation

Summary

XR-1000 is a fully scalable, single-unit stand-alone haematology analyser. With its reflex sampler, the XR-1000 achieves a throughput of 110 samples/h, making it suitable for laboratories with medium workloads.

The built-in intelligent, automated reflex functionality of the XR-1000 enables streamlining the workflow and a significant decrease in hands-on time.

The modularity of the XR-Series allows the addition of analytical applications that provide more parameters and flags or even allow the measurement of body fluids. Moreover, the XR-1000 offers solutions to organise the workplace, e.g. wagons allow space for all associated components and reagents underneath the system.

The XR IPU software enables easy operation, result analysis, QC management and support of accreditation by ensuring e.g. full reagent traceability.

Workflow automation

- Automated Rerun & Reflex ensures the reproducible quality of results within shortest turnaround times: samples for which the analyses must be repeated or extended don't need to be selected and reloaded manually.
- The built-in intelligent reflex functionality of the XR-1000 allows a streamlined workflow and a significant increase in walk-away time.
- Nucleated red blood cells (NRBC) and Immature granulocytes (IG) counts are available with each default configuration – supporting the reduction of smears.
- Further reduction of smears by using analytical applications that provide more valuable parameters and flags.

Diagnostic support

- Various configurations of XR-1000 offer additional advanced parameters and flags, enhancing its diagnostic support functionalities for laboratories and clinicians alike.
- Customizable 3D scattergrams and density plots in all channels support better identification and differentiation of blood cell populations, especially while revealing potentially abnormal cell populations.
- Reliable NRBC counts for all neonate and adult samples of low and high counting ranges support immediate therapeutic action, e.g. for patients in intensive care units (ICU) [1,2].
- The optional RET application enables the counting of reticulocytes including differentiation into its fractions as well as additional information about the degree of haemoglobinisation of reticulocytes (RET-He) and red blood cells (RBC-He).

- The optional PLT-F channel application offers an automated reflex method with a dedicated platelet channel for samples with either very low impedance platelet (PLT-I) counts or measurement interferences. Plus this channel offers the advanced clinical parameters immature platelets (IPF and IPF#).
- The optional body fluid analysis application allows quick and automated analysis of various body fluids within minutes, without any time-consuming preparation of the sample. Measuring CSF in the BF profile can rapidly support physicians in excluding or confirming meningitis and its possible cause with the help of the white blood cell count (WBC-BF) plus their differentiation into polymorphonuclear (PMN) and mononuclear cells (MN).

Configurations

No	Name	Applications	Description
1	XR-1000 XR-10 (B1-B4)		• 1 XR-10 unit with SA-10 reflex sampler for CBC+DIFF
			• Optional RET, PLT-F channel and BF mode
5	XR-1000 XR-20 (A1-A2)		• 1 XR-20 unit with SA-10 reflex sampler for CBC+DIFF+RET, advanced flagging performance and reflex testing with WPC
			• Optional PLT-F channel and BF mode

Main components

Item code	Item	Description	Qty
CF730361	XR-10 haematology unit	Unit for (reflex) testing for configurations XR-1000 (B1-B4)	0 or 1
BQ559485	XR-20 haematology unit	Unit for (reflex) testing incl. WPC XR-1000 (A1-A2)	0 or 1
CQ265572	Supply parts for XR-1000	XR-1000 Supply parts (AP)	1
CP366273	Sampler for XR-1000	SA-10 /SA10 Supply parts complete (SA-10)	1
BJ161395	Security master for the XR unit	Security master (4) complete	1
01330061	PU-17	Pneumatic unit	1

Product specifications

Feature	Description
Diagnostic parameters	
• CBC+DIFF	• WBC, WBC-N, WBC-D, RBC, HGB, HCT, MCV, MCH, MCHC, PLT, PLT-I, RDW-SD, RDW-CV, MicroR, MacroR, PDW, MPV, P-LCR, PCT, NRBC#, NRBC%, NEUT#, LYMPH#, MONO#, EO#, BASO#, NEUT%, LYMPH%, MONO%, EO%, BASO%, IG#, IG%, AS-LYMP#*, AS-LYMP%*, RE-LYMP#*, RE-LYMP%*, NEUT-GI*, NEUT-RI*
• RET	• PLT-O*, RET#*, RET%*, IRF*, LFR*, MFR*, HFR*, RET-He*, RBC-He*, Delta-He*, HYPO-He*, HYPER-He*
• PLT-F	• PLT-F*, IPF#*, IPF%*
• BF	• WBC-BF*, RBC-BF*, MN#*, MN%*, PMN#*, PMN%*, TC-BF#*
Research parameters	
• CBC+DIFF	• TNC, TNC-N, BA-N#, BA-N%, TNC-D, NEUT#%, NEUT%&, LYMPH#%, LYMPH%&, HFLC#, HFLC%, AS-LYMP%L*, RE-LYMP%L*, BA-D#, BA-D%, NE-SSC, NE-SFL, NE-FSC, LY-X, LY-Y, LY-Z, MO-X, MO-Y, MO-Z, NE-WX, NE-WY, NE-WZ, LY-WX, LY-WY, LY-WZ, MO-WX, MO-WY, MO-WZ
• RET	• RBC-O*, RET-Y*, RET-RBC-Y*, IRF-Y*, FRC#*, FRC%*, RPI*, RET-UPP*, RET-TNC*, HGB-O*, MCHC-O*, Delta-HGB*

• PLT-F • BF	• H-IPF*, PLT-F2* • HF-BF#*, HF-BF%*, NE-BF#*, NE-BF%*, LY-BF#*, LY-BF%*, MO-BF#*, MO-BF%*, EO-BF#*, EO-BF%*, RBC-BF2*		
Scattergrams & histograms	• Up to 23 scattergrams in 2D and 3D views and surface plots • Up to 4 histograms		
Profiles			
XR-10 • Standard • Optional (depending on the configuration)	• CBC • CBC+DIFF • CBC+RET • CBC+DIFF+RET • CBC+DIFF+RET+PLT-F • CBC+RET+PLT-F • CBC+PLT-F • CBC+DIFF+PLT-F • Body fluid	XR-20 • Standard • Optional (depending on the configuration)	• CBC • CBC+DIFF • CBC+RET • CBC+DIFF+RET • CBC+DIFF+RET+WPC • CBC+RET+PLT-F • CBC+DIFF+RET+PLT-F • CBC+DIFF+RET+PLT-F+WPC • CBC+PLT-F • CBC+DIFF+PLT-F • Body fluid
Technologies	• Fluorescence flow cytometry • Hydrodynamically focussed impedance measurement • Cyanide-free SLS haemoglobin		
Throughputs • CBC • CBC+DIFF • CBC+DIFF+WPC • CBC+DIFF+RET • CBC+RET • CBC+DIFF+WPC+RET • CBC+PLT-F • CBC+DIFF+PLT-F • CBC+DIFF+WPC+PLT-F • CBC+DIFF+RET+ PLT-F • CBC+RET+PLT-F • CBC+DIFF+WPC+RET+PLT-F • Body fluid analysis	• Up to 110 samples/hour • Up to 110 samples/hour • Up to 88 samples/hour • Up to 83 samples/hour • Up to 83 samples/hour • Up to 71 samples/hour • Up to 68 samples/hour • Up to 68 samples/hour • Up to 53 samples/hour • Up to 47 samples/hour • Up to 47 samples/hour • Up to 47 samples/hour • Up to 40 samples/hour (BF mode only)		
Sampler unit loading capacity	5 racks (50 samples)		
STAT function	Approx. 1 min by using the manual mode		
Reagent management	• Full traceability • Uniquely barcoded reagents • Reagent replacement history		
Data storage • Analysis registration function • Samples (incl. graphics) • Patient information • Wards registered • Doctor names registered • Selective test orders • Quality control files • Reagent replacement history • Maintenance history	• 2,000 records • 100,000 results (including histograms and scattergrams) • 10,000 records • 200 wards • 200 names • 12 discrete profiles (depending on the configuration) • 99 files • 300 plots x 94 files (L-J control) • 300 plots x 5 files (XbarM control) • 5,000 records • 5,000 records		
QC functions • Xbar and or L-J • Xbar M	• 300 plots x 94 files (L-J control) • 300 plots x 5 files (XbarM control)		
Interface	LP, DP, GP, host computer via LAN		

* The availability of these functions depends on your system configuration.

Technical specifications

Feature	Description
Operating temperature	• 15 to 30 °C
Operating humidity	• 20 to 85 %
Power supply • Main unit • Sampler • Pneumatic unit	• AC 100 to 240 V (50/60 Hz) • AC 100 to 240 V (50/60 Hz) • AC 100 to 117 V (50/60 Hz) • AC 220 to 240 V (50/60 Hz)
Power consumption • Main unit • Sampler • Pneumatic unit	• 270 VA or less • 110 VA or less • 50 Hz: 230 VA or less (100-117 V), 220 VA or less (220-240 V) • 60 Hz: 280 VA or less (100-117 V), 250 VA or less (220-240 V)
Acoustic noise level	• 60 dBA or less
Dimension • Main unit (incl. the sampler) • Pneumatic unit	• 645 x 755 x 855 mm (W x D x H) • 280 x 355 x 400 mm (W x D x H)
Weight • Main unit (incl. the sampler) • Pneumatic unit	• Approx. 78 kg (1 x XR-10/XR-20 + docking base + SA-10) • Approx. 17 kg

References

- [1] Morton SU et al. (2020): Association of nucleated red blood cell count with mortality among neonatal intensive care unit patients. *A Pediatr Neonatol*; 61(6): 592.
- [2] Menk M et al. (2018): Nucleated red blood cells as predictors of mortality in patients with acute respiratory distress syndrome (ARDS): an observational study. *Ann Intensive Care*; 8(1): 42.

For more information on peer-reviewed articles, please reach out to SAP Scientific team at SAP.ScientificAffairs@Sysmex-AP.com

Disclaimer: This product fact sheet does not contain the complete information of the product as described in the 'Instructions for Use', and neither is it intended to replace the 'Instruction for Use'. The required information in the 'Instruction for Use' must be observed at all times.

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