

Metso:Outotec

Automation and Analyzer Services

Courier® Legacy Upgrade



Automation

For process management, monitoring and control of mineral processing plants, Courier slurry analyzer systems offer unrivalled sensitivity and the shortest cycle times available.

Upgrade your system to the latest Courier slurry on-stream analyzer for peak performance.

Introducing the Courier 6G SL upgrade

This upgrade is the latest addition to the Courier® Legacy Upgrade portfolio of XRF analyzers, complementing the existing Courier® 5X/6X SL upgrades. The new analyzer expands upgrade options specifically for direct gold measurement.

The high-power X-ray tube and measurement channels are optimized for direct measurement of gold in low concentrations from slurry streams as low as 0.2 g/t.

The Courier® 6G SL also accurately measures other elements between calcium and uranium as does the Courier® 5X/6X SL.

This is particularly useful in applications where gold is recovered with other valuable metals such as silver or copper.



Increased safety, performance and availability

The new generation Courier® analyzers are based on the same industry-leading WDXRF measurement principles as their predecessors but enable higher analysis accuracy with reduced cycle times. In addition to the WD channels, the new Courier analyzers can also be equipped with ED channels to measure additional elements.

Upgrading results in reduced maintenance with added features such as digitalization tools, an automatic window changer and an enhanced cooling system. Metso Outotec guaranteed spare part availability and service agreements can be included to ensure peace of mind knowing that the analyzer will operate with maximum availability.

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Benefits

- Rapid results from up to 24 sample streams
- Real-time recovery calculation
- Improvements in recovery and minimization of precious metal losses
- Guaranteed spare part availability
- Remote support with condition monitoring

Courier 6G SL on-stream XRF slurry analyzer

The Courier® 6G SL measures solids content in addition to elemental content to compensate for changes in slurry solids content. This information provides improved calculation accuracy of real-time recovery and volumetric flow measurement. The Courier® 6G SL analyzer can be equipped with a mass-balance data reconciliation module.

A unique combination of Wavelength Dispersive X-ray Fluorescence (WDXRF) and Energy Dispersive X-ray Fluorescence (EDXRF) measurement channels with high-power x-ray tube enable unparalleled measurement performance

The fast, accurate assaying allows you to react immediately to changes in the metallurgical performance of the flotation circuit while simultaneously monitoring the effect of your actions in real time.

Our unique Automatic Window Changer (AWC) provides higher analyzer availability and reduces the manual labor and unnecessary downtime required for window changing.

The analyzer's local user interface panel features a high resolution touch screen for setting up functions and parameters which also displays the most recent assays, assay trends, sample line and analyzer status.

Assay results can be transferred to the plant automation system (DCS) via most typical communication interfaces such as OPC, Modbus and Profibus. The Courier® 6G SL is also equipped with a VPN device to enable remote support with fastest possible response time.



Courier 6G SL advantages



Direct measurement of gold from feed, concentrate and tailings streams



Representative and reliable analysis



Rapid real time measurement

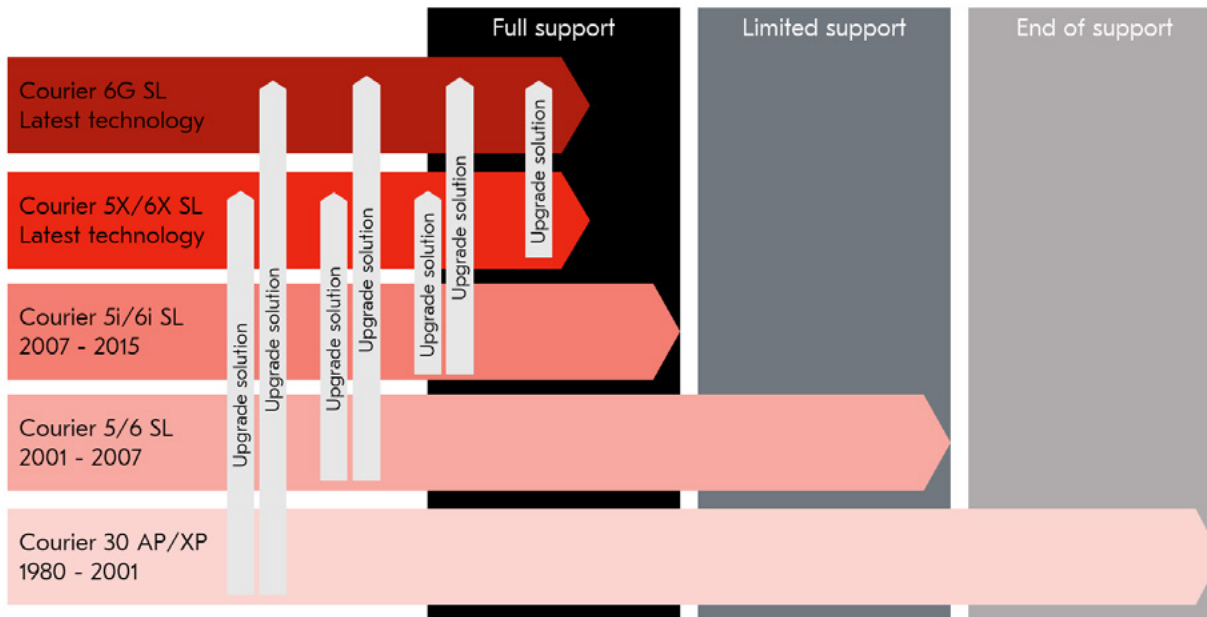


More accurate process control and improved recovery

Courier upgrade path



The Courier upgrade path guarantees a safe investment and support for years to come



Courier upgrade path

The Courier® 6G SL analyzer is an evolution of the market leading Courier® 6X SL. All previous generation Courier® analyzers can be upgraded to the latest Courier® 6G SL or Courier 5X/6X SL, depending on the best solution for your specific application.

The latest generation Courier® 5X and 6X SL analyzers can be upgraded to a Courier 6G with a simple replacement of the measurement probe and the cooling system.

Connected Analytics for Courier

A comprehensive equipment health and asset monitoring solution with a wide range of diagnostic and analytical reporting tools.



Identifying potential equipment problems before equipment failure, minimizes unplanned downtime and productivity losses. Operating costs can be controlled by streamlining service and maintenance schedules.

Overview

The overview feature provides a system overview of your equipment, detailing timelines, equipment measurements and active alarms and warnings. You can also select specific equipment sections for a deeper analysis.

Monitor

The monitor feature provides various equipment trends such as diagnostics, flow rates, temperature and troubleshooting in a graphical format.

Availability

The availability feature displays the history of equipment utilization as well as downtime with reasons, start time, duration and description of the event.

Create view

This feature allows users to create customized views based on their requirements by means of a simple drag and drop function from a menu.

Notification system

This system allows users to decide where alarms, warnings and alerts are sent. User options include platforms such as emails and SMS notifications.

Scalable

Connected Analytics is the foundation of our proactive Performance Center services offering to further improve your analyzer's performance.

Courier® comparison chart

	Courier 30	Courier 5	Courier 6	Courier 5i	Courier 6i	Courier 5X	Courier 6X	Courier 6G
Analysis method	*****	*****	*****	*****	*****	*****	*****	*****
X-ray source	***	***	*****	***	*****	****	*****	*****
Number of streams	***	***	*****	***	*****	****	*****	*****
Integrated sampling control	**	***	***	*****	*****	*****	*****	*****
Jet flow cell	*	****	****	****	****	*****	*****	*****
Automatic window changer	-	*****	*****	*****	*****	*****	*****	*****
Measurement accuracy	***	***	*****	***	*****	****	*****	*****
Cooling system	**	****	****	****	****	*****	*****	*****
User interface	**	***	***	*****	*****	*****	*****	*****
Daily maintenance	**	****	****	*****	*****	*****	*****	*****
Spare part availability	**	**	**	***	***	*****	*****	*****
Safety	****	*****	*****	*****	*****	*****	*****	*****
Connected Analytics	-	-	-	**	***	*****	*****	*****
Machine learning	-	-	-	**	***	*****	*****	*****
Web Outotcal	-	-	-	-	-	*****	*****	*****

- Not available

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Level of implementation