

DLR[®]7000 QC

A new approach to banknote
quality inspection



THE IMPORTANCE OF QUALITY CONTROL

Cash Processing Solutions Innovation You Can Trust

Cash Processing Solutions Ltd (CPS) is a global provider of an integrated range of hardware and software solutions, consultancy and support services to the cash processing industry, designing bespoke solutions that truly enable our customers to:

- Safeguard their **REPUTATION**
- Optimise their **EFFICIENCY**
- Protect their **INVESTMENT**

Working with 230 customers across 106 countries, CPS provides a range of high-speed cash sorting and authentication systems alongside Enterprise Cash Management software which gives our customers control of cash through its entire lifecycle from production and issue to circulation processing and destruction. For banknote printers, our single note inspection systems enable new notes to be quality assured prior to issue.

With sixty years experience, our specialist knowledge of global cash cycle trends and currency management techniques ensure our customers' solutions are tailored to meet their specific cash processing objectives. Our on-going support and flexible service packages provide truly future-proofed solutions, enabled through our local presence, global knowledge and a proven ability to deliver bespoke requirements.

CPS is a strategic partner of De La Rue.

Guaranteeing the quality of banknotes before they enter circulation is essential to ensure they meet the expectations of the central bank, both in terms of production quality and performance in circulation.

The reality is that the production process of banknotes is not perfect and there is the potential for errors going undetected. Examples of this could include missing foils, missing or duplicate serial numbers or printing errors.

Quality inspection, whether by single note inspection, for example the DLR®9000, or manual sheet inspection, currently takes place in the printworks. These inspection methods are not independent of the printworks, meaning the central bank is reliant on the quality process within the printworks, with no means of auditing it independently. However, it is the central bank that is ultimately responsible for issuing the notes into circulation and it is their reputation that will be damaged should any of these notes be defective.

DLR®7000 QC is a unique new concept which safeguards the reputation of central banks by combining the ability to sort used banknotes in circulation and quality control (QC) new banknotes prior to issue.

				
Guaranteed banknote authenticity and production quality	The maintained desired condition of banknotes in circulation and ensured regulatory compliance	Improved operational security	Increased operational control and flexibility	Lowered cost of ownership and increased efficiency

DLR®7000 QC



DLR®7000 QC technical specification includes

The presence and quality of the following security features:

- Watermarks
- Threads
- Foils
- Iridescent stripe
- SPARK®/OVI
- Ultra-violet (UV)
- Phosphorescence ink
- Magnetics
- SICPATALK®
- Infra-red (IR)
- Position and character verification of serial numbers

It can also check for printing and general note defects including:

- Banknote size, margin thickness and cutting tolerances
- Print defects such as missing ink, graffiti, wiping errors, under/over inking, set off, portrait defects
- Print position of litho and intaglio
- Litho print position to:
 - Intaglio
 - Watermark
 - Security thread
 - Iridescent ink
 - SPARK®
- Serial number position
- Colour correctness

For central banks, the focus of investment in cash processing machines is in used note sorting. By adding additional functionality to the existing DLR®7000 high speed used note sorter, DLR®7000 QC is a cost effective solution, essentially providing two machines in one, allowing central banks to conduct QC on new banknotes and the authentication and fitness sorting of used notes on one machine. The machine operator is able to switch between the QC and used note sorting modes at the touch of a button. The additional functionality can be added to an existing DLR®7000 or provided as part of a new machine.

DLR®7000 QC is not designed to replace quality inspection completed by the printworks, but is a complementary approach, independent to the printer, that reassures central banks and provides them with confidence.

This solution is not intended to check every single banknote, but is a sampling tool to check for gross errors that will cause reputational damage if not found. By checking sample banknotes or batches received from the printworks, errors can be identified.

A wide range of data can be collected and analysed by the central bank. In the case of gross errors being detected, the central bank can use the banknote serial numbers to identify the batch of notes affected for the printworks to replace.



User interface

Simple and intuitive user interface manages system set-up, performance, maintenance and diagnostics.

1

Feeder

Standard feeder up to 4,000 notes.
Optional extended feeder up to 6,000 notes.
Optional High Capacity Feeder (HCF) up to 8,000 notes

2

Dual detection capability

The same detectors are used for both used note fitness and authentication sorting as well as new note quality control. The operator can switch between modes at the touch of a button.

3

Reject pocket

Configurable reject pocket to separate defect banknotes.

4

Output pockets

The optimum pocket configuration for DLR®7000 QC uses 2 manual pockets and 2 strapper pockets. Option to add 2 additional pockets for separation of authentication and inspection defects.

When added as an upgrade to an existing DLR®7000 used note sorter, DLR®7000 QC can adapt to the existing machine configuration.

5

Shredder

A fully integrated, on-line shredder securely destroys unfit notes.

6



DLR®7000 QC gives control to the central bank, to inspect their new banknotes upon receipt from the printer before they are issued into circulation.

Control

DLR®7000 QC gives back control to the central bank by enabling them to inspect the quality of new banknotes prior to issue, to mitigate against any potential reputational damage or loss in confidence in the currency.

This approach also allows central banks to have a dual supply of high speed sorting machines if they wish to, using this DLR®7000 machine as an audit tool to check the consistency of fitness sorting and authentication decisions being made by the fleet of high speed sorters.

Confidence

This solution provides central banks with independent confidence in the banknotes they are receiving from their printer as well as real data to present to their printer in the case of errors being found, making the printer work to guarantee the production quality of the banknotes they are producing for their customers.

Value for money

A cost effective solution, DLR®7000 QC allows central banks to continue focusing their financial resource on used note sorting machines while providing them with this additional new note QC capability on the same machine.

Heritage & expertise

Our heritage means we understand how banknotes are printed, packaged and delivered to the central bank. This means the DLR®7000 QC solution is designed to integrate easily into existing cash operations and the processes used by both printers and central banks in the packaging, storage and issuance of new banknotes.

CPS is now independent of any banknote printer. That means we can now truly focus on the needs of the central bank and ensure the printers work to guarantee that every banknote they produce is manufactured to the correct print specification and quality standards, thereby safeguarding the reputation of the central bank.

GIVING CENTRAL BANKS CONTROL

PRODUCT SPECIFICATION



Processing capability	Four model speeds available Up to 72000 notes per hour (1200 notes per minute) Up to 90000 notes per hour (1500 notes per minute) Up to 108000 notes per hour (1800 notes per minute) Up to 120000 notes per hour (2000 notes per minute)
Feeder	Standard feeder up to 4000 notes Optional extended feeder/cassette feeder up to 6000 notes Optional High Capacity Feeder (HCF) up to 8000 notes Vacuum design Continuous feeder
Pocket capacity	Loose stack pocket 1000 banknotes Cassette pocket 2500 banknotes Strapper pocket 100 banknotes
Note size range	Width: 57-100mm Length: 100-185mm
Banknote material	Paper and polymer substrate including mixed mode
Output options	Up to 19 pockets plus 1 reject Combination of loose notes/strapper/cassette pockets
Reject pocket	One standard, up to 2000 notes capacity Configurable reject pocket to separate suspects from mechanical rejects
Operating modes	Single denomination (with and without shredding) Mixed denomination (with and without shredding) Automated Commercial Deposit Processing (ACDP) and Quick Deposit Processing (QDP™) with Enterprise Cash Management (ECM™) software Multiple user defined sort modes
User interface	Full colour Graphical User Interface (GUI)
Security access control	Multi-level user level role set-up Optional Smart Card Optional biometric access control
Connectivity	Ethernet, XML data protocol
Language	Multiple, selected from user profile

Operating Conditions

Power	Voltage: 120v/208v. 230v/400v Frequency: 50/60Hz
Power rating	9KW
Operating ambient temperature	15-30°C
Humidity	30-80% RH non-condensing
Dimensions and weights (mm)	DLR®7000 QC 5 pocket: 3810(L) x 910(W) x 1610(H) / 1497kg

Banknote destruction

Type	On-line cross-cut shredder (optional)
Shred size	1mm x 10mm nominal
Security	Dual key interlock, independent shred counter

Detectors

Imaging detection system	High-resolution reflective and transmissive cameras Sequit™ multi-spectral, multi-mode imaging Colour cameras - up to 200 dpi Mechanical fitness Soil, graffiti, stains Serial number reading
Authenticity detectors	Magnetics, infrared, fluorescence, phosphorescence, conductivity
Special detectors	Bank-supplied detectors

For further information please contact your regional account manager

www.cashprocessingsolutions.com

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