

# Testing of banknote handling machines

By virtue of its right to issue currency, the MNB places great emphasis on ensuring the authenticity and fitness of banknotes in circulation. To this end, the MNB regulates the conditions of distributing and processing banknotes in its Decree No 1/2023 (I. 17.) on the processing and distribution of banknotes and on technical tasks relating to the protection of banknotes against counterfeiting (hereinafter: the Decree).

Professionals handling banknotes (cash-in-transit companies, cash distributing institutions) may re-issue banknotes into circulation only after checking the authenticity and fitness of banknotes and qualifying them as genuine and fit for circulation. The authenticity and fitness checks of banknotes must be conducted on banknote handling machines tested by the MNB and listed in the register made public on the MNB's website.

## Testing procedure

### Condition

The testing procedure may be carried out only on types of banknote handling machines complying with the provisions provided in Article 16 of the Decree. The MNB will conduct testing procedures only on complete banknote handling machines.

The testing procedure of a banknote handling machine may be requested by the manufacturer, distributor or operator (hereinafter together: the Applicant). The MNB shall refuse the request for testing if it is for a banknote handling machine type with a hardware and software version that has already been tested earlier.

### Requesting the testing procedure

The Applicant shall submit the form 'Application for testing and registration of a banknote handling machine by the MNB' (hereinafter: Application form), as provided in Annex 3 to the Decree, using the form and content specified in the Annex. The following documents, preferably in Hungarian or, in absence of such version, in English, must be attached to the application, as listed in Article 17 (3) of the Decree:

- a) all the settings of a banknote handling machine that can be set by the operator (such as the sorting levels or limits, authentication levels or limits),
- b) description of the features of the banknote handling machine, in other words the options and use for sorting methods [such as the mode of inserting the banknotes (orientation), sorting methods: by denomination, currency, fitness for circulation],
- c) description of the maintenance and cleaning tasks to be performed by the operator to ensure the banknote handling machine's appropriate and reliable operation,
- d) in order to ensure the appropriate and reliable operation of the banknote handling machine, the description of the method and frequency of the maintenance specified by the manufacturer and to be performed by the contracted maintenance provider shall be provided (such as checking, cleaning, calibration and the replacement of wearing parts),
- e) a declaration from the distributor about undertaking to continuously maintain and restore the ability of the type of the banknote handling machine to be tested to recognise counterfeits, with the provision that the distributor shall initiate and support the implementation of the necessary measures at the manufacturer without delay.

If the user's manual submitted does not contain the information listed in points (a) to (d), it shall be made available on the information sheet provided and sent to the applicant on an individual basis by the MNB.

Manufacturers, distributors or operators are entitled to request the testing and registration of banknote handling machines on the Application form. The Application form must be sent together with the documents

- by email to [bevizsgalas@mnbb.hu](mailto:bevizsgalas@mnbb.hu) or
- by mail to the Magyar Nemzeti Bank Directorate Cash Logistics, 1850 Budapest address.

## **Contact, consultation**

The Applicant may contact the MNB before requesting the test and may consult the MNB thereafter in order to clarify issues related to the testing procedure.

After successful submission of the application consultation is necessary in respect of the date and place, and, based on the choice of location, the issues related to it as well as other matters.

The location is important because the MNB will test only complete equipment, and therefore it is necessary to clarify in advance whether or not the equipment can be transported to the MNB.

Information on the regulatory issues and matters related to the interpretation of law is provided by Judit Ferincz (email: [ferinczi@mnbb.hu](mailto:ferinczi@mnbb.hu)), and on technical matters related to the conduct of the testing procedure by Gellért István Stoffán (tel.: +36 30 550 2015) (email: [bevizsgalas@mnbb.hu](mailto:bevizsgalas@mnbb.hu)).

**We are available to answer questions related to the above on working days  
between 8 a.m. and 4 p.m.**

## **Testing in the MNB**

In case of transportability of the type of equipment the test location will be the Logistics Centre of the MNB. Before the conduct of the test the Applicant must provide the data, necessary for entry, on the transport vehicle, its driver and on the staff accompanying the equipment (e.g. registration number, personal data etc.).

Testing in the MNB's facilities will be free of charge for the Applicant.

## **Testing outside the MNB**

If the type of equipment cannot be transported the test location will be another place in Hungary designated by the Applicant. The conditions necessary for the testing procedure must be ensured by the Applicant, in particular that no other persons stay at the test location except the persons participating in the testing procedure and that the separate treatment of the test package is feasible during the test procedure.

For testing on an external location the Applicant must provide the following

- a declaration of liability duly signed by the Applicant and sent in advance to the MNB,
- submission in advance of a banking letter of guarantee for the amount equal to the value of the test package, and
- transportation to and from of the necessary test package by a cash-in-transit company.

The necessary documents will be provided by the MNB.

Transportation of the test package from the test site may take place only after the submission and acceptance of the letter of guarantee. The costs of transportation will be borne by the Applicant.

## **Brief description of the testing procedure**

The test will start with a short presentation of the type of machinery; in the event of a specific need a preliminary trial run may be allowed.

Subsequently, the individual tests will take place in the order indicated in the 'Steps of the testing', which the representative of the Applicant will carry out by using the test package provided by the MNB.

A major requirement is that, except for the test of the retrieval system, the tests must be conducted for all denomination versions and image positions supported by the equipment and, furthermore, in testing the ability to detect counterfeits only one completed run will be permitted by each image position.

The MNB will document in detail the results of the test of the banknote handling machine in the testing process and it establishes the result after the test has been completed.

### **Steps of the testing**

The aim of the test is to ascertain whether the given type of equipment

- a) is capable of recognising denominations of genuine banknotes correctly,
- b) is capable of detecting counterfeit or not clearly genuine banknotes,
- c) is capable of sorting banknotes according to fitness for circulation,
- d) is capable of maintaining information on counterfeit banknotes paid in or on the account holder in the case of a customer machine, and whether the equipment is capable of providing correct information for the assignment of data on counterfeits to the account holder.

### **Individual tests**

#### *Testing the ability to recognise forint banknotes*

The representative of the Applicant will feed the banknotes in into the equipment in all image positions and denominations that the equipment is capable of recognising. If the equipment does not support all denomination versions, the MNB will ascertain by feeding additional banknotes (3-4 pieces) that the equipment indeed rejects them. Tests will be carried with a test package consisting of genuine, legal and fit banknotes.

Assessment of the test:

- The equipment must accept correctly as genuine forint banknotes at least 90% of banknotes by each denomination.
- The remaining 10% or less, cannot include any banknotes identified as other denominations. The customer operated equipment may group at most 1% of the banknotes into the suspect counterfeit (2.) category.

#### *Testing the ability to detect counterfeits*

Each piece of the test package must be fed by the equipment in all image positions the equipment is capable of handling. The test will be carried out with a test package consisting of counterfeit banknotes relevant from an equipment point of view.

Assessment of the test:

- The equipment will comply with the requirements of the test for detecting counterfeits if it does not classify counterfeits as genuine banknotes (into categories 4a/4b or B1/B2).
- The customer operated equipment must store at least 90% of the tested counterfeits into category 2. or 3. (i.e. the banknote is suspect counterfeit or not clearly genuine) and the 10%, at the most, not stored here shall be classified into category 1.
- In the case of using genuine banknotes the equipment will classify at least 90% of genuine banknotes into category 4a/4b or B1/B2 (i.e. as genuine).

#### *Testing the ability to recognise fitness for circulation*

The banknotes in the test package must be fed by the equipment in all denomination versions and image positions supported by the equipment.

The test will be carried out by using a test package consisting of damaged, worn-out banknotes and banknotes being withdrawn.

Assessment of the test:

- The equipment will classify a maximum of 10% of all soiled, worn banknotes (100 per denomination) as fit for circulation (categories 4a or B1).
- The equipment will classify at least 20 banknotes from each damage category (40 per damage type) into category 1, 2, 3 or 4b and into category A or B2.
- The equipment will classify each version withdrawn from circulation outside of categories 4a and B1.

#### *Testing the retrieval system*

This test will be carried out exclusively in the case of customer operated equipment, except for automated teller machines.

During the testing procedure a combination of genuine and counterfeit banknotes (3 to 3 per transaction) from the machine-supported denominations must be fed into the machine, on behalf of five different (imitated) account holders.

Prior to the transaction, the deposit number of the counterfeits used for the transaction with the unique identifier of the payer will be documented together by the MNB. The test will be carried out by using genuine, fit and counterfeit banknotes.

Assessment of the test:

- In the case of all banknotes classified into category 2. (suspect counterfeit) and all banknotes classified into category 3. (not clearly genuine) which it withdraws, the equipment tested will be capable of providing correct information for the identification of the account holder.

#### **Completion of the test**

The MNB will draw up minutes on the basis of the continuously recorded test results, which will be signed by the participants of the testing procedure.

#### **Publication on the MNB's website**

After the test, the MNB will publish on its website the data of the type of equipment meeting the specific requirements, in accordance with the function of the banknote handling machine, in the *register of Successfully tested, staff operated equipment or Successfully tested, customer operated equipment (hereinafter: MNB register)*.

In addition to the type of equipment tested, one or more equipment belonging to the same type of machine may be recorded in the MNB register without testing, if the manufacturer has declared in writing that the equipment operates with the same hardware and software as the equipment tested.

The MNB will add a clause to all types of equipment entered into the MNB register, if the given type of equipment does not handle a denomination or a denomination version.

The result of the test conducted by the MNB will be valid exclusively in respect of the type of equipment tested by the MNB as well as its hardware and software version, and in respect of the test package of a given version number used in the test procedure.

The MNB will delete from the MNB register data for the tested type of equipment after one year following the last day of the month in which the equipment was entered into the MNB register, except if the Applicant requests with priority before the year elapses or, if its authenticity checking hardware has been modified in any way, requests with priority a re-test of the equipment, and the type of equipment has met the requirements at the testing procedure.

Pursuant to Article 21(4) of the Decree, the MNB may delete the tested type of equipment even before the expiry of the aforementioned deadline.

