



# Program of loading limits to QUIK Server FillLimits

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User's manual

Version 3.10

The logo for quik, featuring the word "quik" in a white, lowercase, sans-serif font inside a green circle.

quik

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# 1. General information

## 1.1 Purpose

FillLimits program is intended for setting and changing:

- Limits for cash and securities on spot market;
- Positions on FORTS market (set only);
- Limits for client accounts on FORTS market

by means of loading data from a text file. In addition, the Program allows saving the current state of limits, positions and restrictions to a text file.

## 1.2 Operating principles

**FillLimits** is a client application of QUIK system, connected to server in the same way as QUIK Workstation and does not provide a user interface.

To set or change limit for cash or securities (on spot market), position or a client restriction (on derivatives market) the user generates a text file with data. File format is described in [3](#). The file is processed using the following algorithm:

1. File content is processed line by line. Each row of the file is tried to impose or change client's position.
2. In the end of file processing information on the successful and unsuccessful operations to set or change client's position is output to log on the screen.
3. If the initial file was processed with errors (one at least), **error.lim** file that contains all unprocessed commands is created in the Program directory.

If connection with QUIK Server could not be established when importing limits or it was broken when loading limits, error.lim file records all limits not transmitted to server.

**IMPORTANT! For the correct loading of positions to QUIK Server run FillLimits when all gateways are connected to server.**

File for output is created automatically when running the command to export. The file records a list of all available limits for cash and securities (on spot market) positions and restrictions (on derivatives market) received from QUIK Server.

Connection with QUIK Server is established before exporting limits. When the connection is established data on limits is expected to be received until two following conditions are filled:

- Time of delay defined by settings is expired;
- Data on new limits is not received during a second (changes in already existing limits are not considered).

After filling the conditions all received limits are exported. Format of export file is described in [4](#).

The log file contains the following information:

- Messages reflecting the processing of import file.
- Result of the import file processing.
- Report on limits being exported.
- Error messages.

## 2. Before starting

### 2.1 Software requirements

Windows operating systems.

### 2.2 Running the Program

1. Copy the files necessary to work with the Program to a separate directory:

|                   |                |               |
|-------------------|----------------|---------------|
| _ FillLimits.exe; | _ wt_de.dll;   | _ crypto.cfg; |
| _ FillLimits.ini; | _ wt_dtcp.dll; | _ PS.dll.     |
| _ crypto32.dll;   | _ info.ini;    |               |

2. Register a user of QUIK system to be connected to QUIK Server. Rights of firm Manager for classes to set and output limits must be assigned to the user. To load and correct limits for client accounts and set positions on derivatives market assign Manager rights for class to perform loading to the user. For example, to load and correct limits on FORTS market the user must have the Manager rights on SPBFUT class.

3. Configure the operating parameters in FillLimits.ini file (for details, see [2.3](#)).

4. Edit settings of connection with server in **info.ini** file so that values of parameters in sections [connect], [transport] and [proxy] would be equal to those in configuration file of QUIK Workstation. In addition, configure values of the following parameters in section [connect]:

- \_ user\_name – user name in QUIK system;
- \_ user\_password – user password in QUIK system. Password must not begin with symbols \$ and # (if these symbols are used, change them). For security reasons, password can be saved in the configuration file in encrypted form (for details, see [6](#)).

**When using the functional of password encryption info.ini file must be available to be edited.**

- 5.** Files containing user keys must be placed in directory indicated in **qrypto.cfg** file.

For example:

```
Pubring=C:\keys\pubring.txk  
Secring=C:\keys\sekring.txk
```

- 6.** To run loading limits from a file, type the following in the command line (separated by space):

- \_ Name of file with limits;
- \_ Value of delay between times of sending limits to server (in milliseconds, minimum value: 0);
- \_ Name of file with connection settings with server. Value by default: info.ini;
- \_ Code of class for submitting transactions to set restrictions on client accounts. Value by default: SPBFUT. Class code is required only when loading a position or a limit of client.

For example:

```
FillLimits.exe test.lim 20 info.ini SPBFUT
```

**When loading restrictions on the additional FORTS sections, and if the user has rights for a firm different from the FORTS section firm (for example, rights for a firm with unified cash position), the user must have the makler rights assigned (select the Special operations checkbox for a class of FORTS market in QUIK Administrator).**

- 7.** To run unloading of limits to a file, type the following in the command line (separated by space):

- \_ row /export or /export-ext – command to export limits (required parameter). See rules of using the command in [4](#);
- \_ Value of delay before output (in seconds). Value by default: 60;
- \_ Name of file of unloading (if the file is located in current directory) or a complete part to it. If a file name is not specified in the command line, file name selected in the configuration file is used (for details, see [2.3.2](#));
- \_ Name of file with settings for connection to server. Value by default: info.ini.

For example:

```
FillLimits.exe /export 120 D:\Quik\Limits\Test.lim info.ini.
```

Command line parameters must be entered in that order. Allowed to show not all unload parameters. But it is not allowed to pass parameters in the middle of a row. For example, row of the exports run might look like:

```
FillLimits.exe /export 120  
FillLimits.exe /export 120 Test.lim
```

Invalid format:

```
FillLimits.exe /export Test.lim info.ini
```

## 2.3 Format of configuration file FillLimits.ini

### 2.3.1 [General] section

- **SaveUsedLimits** – defines the order of exporting values of opening and current limits for cash and securities on spot market. Valid values:
  - 0 (by default) – value of the current limit is exported from QUIK Server to the opening limit in file;
  - 1 – value of the opening limit is exported from QUIK Server to the opening limit in file, value of the current limit is exported to the current one correspondently. This exporting method can be applied when using the so called 'old' scheme of margin lending and allows to transfer the client's debt (difference between values of current and opening limits) to the following day.
- **LimitKinds** – exported limit kinds. Limit kinds are comma-separated. Valid values: integer numbers beginning with 0. Value by default: 0, 1, 2.

**Value of the parameter must match the list of limit kinds in Limits calculation library: QUIK Administrator, menu item Limits calculation libraries / Common parameters / General settings of the library / Part 5, (for details, see 3.5 of Administrator's manual for Limits calculation library).**

- **ChangeLimitKind** – configure rotation for limit kinds. Valid values:
  - 0 (by default) – rotation is enabled. Limits of all kinds listed in parameter LimitKinds are exported. Other kind limits not specified in the LimitKinds parameter cannot be exported;
  - 1 – rotation enabled. Limits are exported in accordance with the following rules:
    - If a limit kind is in the first place in the parameter LimitKinds or it is the only in the list, it is not exported;
    - If a limit kind is neither in the first nor the last place in the parameter LimitKinds, it is exported with changing limit kind to the previous one in the list;
    - If a limit kind is in the last place in the parameter LimitKinds, position with such limit is exported in two rows: without changing the limit kind and with changing it to the previous one in the list.
    - If a limit kind is excluded from rotation with the help of the NotSaveLimitKind option, then such a limit kind is exported changing the limit kind to the previous one. At this broker should calculate the position at the excluded limit kind on his own.

**The described method is applied for the Tx planned position. At this the latest limit kind before the planned position is specified in the NotSaveLimitKind option. The excluded limit kind is exported changing the limit kind to the previous one. The position at the excluded limit kind is calculated by broker himself.**

- **ExportLimitSpot** – attribute of exporting limits for cash and securities on spot market. Valid values:
  - 0 – do not export;
  - 1 (by default) – export.
- **ExportLimitFutures** – attribute of exporting positions and restrictions on derivatives market. Valid values:
  - 0 (by default) – do not export;
  - 1 – export.
- **CashLimitsWithGO** – attribute of adding a collateral, reserved under open positions of Forts when exporting of cash limits for clients with Unified cash position. Valid values:
  - 0 (by default) – collateral is not added to the current balance;
  - 1 – collateral is added to the current balance.
- **CashLimitsWithVM** – attribute of exporting cash limits accounting the variation margin at all limit kinds. Valid values:

- \_ 0 (by default) – disabled, variation margin is accounted only at the limit kind, to which the derivatives market is linked, and at later limit kinds;
  - \_ 1 – enabled, variation margin is accounted at all limit kinds.
- **DerivativesLimitKind** – limit kind corresponding to the derivatives market cash position. The value is an integer (for example, 0 corresponds to T0 limit kind). Value by default: 0.

**If the CashLimitsWithGO=1 mode is enabled, then for the limit kinds starting from the one specified in the DerivativesLimitKind setting, the Current balance parameter value is summed up with the Collateral parameter value of the same limit kind.**

**If the CashLimitsWithVM=1 mode is enabled, then for the limit kinds starting from T0 to the one specified in the DerivativesLimitKind setting (not including), the Current balance parameter value is summed up with the Variation margin parameter value. At this the Variation margin parameter value is taken from the limit kind, specified in the DerivativesLimitKind setting.**

- **NotSaveLimitKind** – limit kind, for which exporting in the limit rotation mode (ChangeLimitKinds=1) is disabled. The setting can take any of the values specified in the LimitKinds option. The setting is meaningful when ChangeLimitKind=1. Value by default: <empty>.

### 2.3.2 [Files] section

- **LimitExport** – path (absolute, relative or UNC) and name of file where data on limits is exported. If a path is not selected, file is created in the current directory. The following macros can be used in the file name:

- \_ %d – current date in <YYYYMMDD> format;
- \_ %t – current time in <HHMMSS> format.

Value by default: FillLimits\_%d\_%t.lim.

## 3. Format of import file

Data file to be imported has the extension \*.lim and is presented as a set of rows, each of them corresponding a command to set or correct limit for cash or securities, client's restrictions or positions on derivatives market.

Opening balance, opening limit, current balance and limit (on spot market) and cash limit (on derivatives market) change by the specified value when being corrected. They decrease if the value is set with the minus sign, or increase, if the value is set unsigned.

**Command to change the current limit change value of the current limit by the same value. If command to change the current and opening limits is input, the current limit is changed by the both specified values.**

Limit type is indicated in the beginning of row:

- MONEY: – for cash;
- DEPO: – for securities;
- FUT\_DEPO: – positions on derivatives market;
- FUT\_MONEY: – restriction on derivatives market.

Then, a set of parameter indicated in format Name of parameter = value of parameter. The parameters are separated by symbol ';' (semicolon). Sequence of the parameters set and in a row may be arbitrary.

Used parameters are described in table below:

| Parameter         | Purpose                                                                                                                                                                                                                       |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Cash limit</b> |                                                                                                                                                                                                                               |
| FIRM_ID           | Code of trading participant                                                                                                                                                                                                   |
| CURR_CODE         | Code of settlement currency                                                                                                                                                                                                   |
| TAG               | Group                                                                                                                                                                                                                         |
| CLIENT_CODE       | Client code                                                                                                                                                                                                                   |
| OPEN_BALANCE      | Opening balance or amount by which the opening balance value will be increased/decreased when correcting, accurate to random decimal places                                                                                   |
| OPEN_LIMIT        | Opening limit or amount by which the opening limit value will be increased/decreased when correcting, accurate to random decimal places                                                                                       |
| CURRENT_BALANCE * | Amount by which the current balance value will be increased/decreased when correcting, accurate to random decimal places                                                                                                      |
| CURRENT_LIMIT     | Current limit or amount by which the current limit value will be increased/decreased when correcting, accurate to random decimal places                                                                                       |
| LEVERAGE          | Leverage. If leverage value is not selected the parameter is not configured                                                                                                                                                   |
| LIMIT_OPERATION   | Type of operation. Valid values:<br>_ <blank> (by default) – set limit;<br>_ CORRECT_LIMIT – change limit.<br>Any combination of opening balance, opening limit, current balance, current limit and leverage can be corrected |

| Parameter                                | Purpose                                                                                                                                                                                                                                       |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LIMIT_KIND                               | Limit kind. Valid values: integer number beginning with 0                                                                                                                                                                                     |
| <b>Limit for securities</b>              |                                                                                                                                                                                                                                               |
| FIRM_ID                                  | Code of trading participant                                                                                                                                                                                                                   |
| SECCODE                                  | Instrument code                                                                                                                                                                                                                               |
| TRDACCID                                 | Depo account                                                                                                                                                                                                                                  |
| CLIENT_CODE                              | Client code                                                                                                                                                                                                                                   |
| OPEN_BALANCE **                          | Opening balance or amount by which the opening balance value will be increased/decreased when correcting                                                                                                                                      |
| OPEN_LIMIT **                            | Opening limit or amount by which the opening limit value will be increased/decreased when correcting                                                                                                                                          |
| CURRENT_BALANCE *,**                     | Amount by which the current balance value will be increased/decreased when correcting                                                                                                                                                         |
| CURRENT_LIMIT **                         | Current limit or amount by which the current limit value will be increased/decreased when correcting                                                                                                                                          |
| LIMIT_OPERATION                          | Type of operation. Valid values:<br>_ <blank> (by default) – set limit and position;<br>_ CORRECT_LIMIT – change limit and position.<br>Any combination of opening balance, opening limit, current balance and current limit can be corrected |
| LIMIT_KIND                               | Limit kind. Valid values: integer number beginning with 0                                                                                                                                                                                     |
| <b>Position on derivatives market *</b>  |                                                                                                                                                                                                                                               |
| FIRM_ID                                  | Code of trading participant                                                                                                                                                                                                                   |
| SECCODE                                  | Instrument code                                                                                                                                                                                                                               |
| CLIENT_CODE                              | Client's trading account                                                                                                                                                                                                                      |
| OPEN_BALANCE                             | Opening net position                                                                                                                                                                                                                          |
| <b>Restriction on derivatives market</b> |                                                                                                                                                                                                                                               |
| FIRM_ID                                  | Code of trading participant                                                                                                                                                                                                                   |
| ACCOUNT                                  | Trading account                                                                                                                                                                                                                               |
| VOLUMEMN                                 | Cash limit or amount by which the limit value will be increased/decreased when correcting                                                                                                                                                     |
| VOLUMEPL                                 | Limit for deposit funds. Only for setting a restriction                                                                                                                                                                                       |

| Parameter       | Purpose                                                                                                                                                                |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| KFL             | Liquidity coefficient. Only for setting a restriction                                                                                                                  |
| KGO             | Collateral coefficient. Only for setting a restriction                                                                                                                 |
| USE_KGO         | Attribute of using client collateral. Valid values:<br>_ N – do not use (by default);<br>_ Y – use.<br>Only for setting a restriction                                  |
| LIMIT_OPERATION | Type of operation. Valid values:<br>_ <blank> (by default) – set restriction;<br>_ CORRECT_LIMIT – change restriction.<br>Only cash limits (VOLUMEMN) can be corrected |

\* – the parameter is used only in commands to correct limit (LIMIT\_OPERATION=CORRECT\_LIMIT)

\*\* – the value can be fractional. The number of decimals cannot exceed the maximum allowed decimals quantity for the current instrument in all the classes

**Position on derivatives market can be only set for clients with the unified cash position.**

Example of file rows:

```

MONEY: FIRM_ID = NC0038900000; TAG = EQTV; CURR_CODE = SUR; CLIENT_CODE = Q7;
OPEN_BALANCE = -50000,00; OPEN_LIMIT = 50000,00; CURRENT_LIMIT = 60000,00; LEVERAGE =
1; LIMIT_KIND = 1;
DEPO: FIRM_ID = NC0038900000; SECCODE = LKOH; CLIENT_CODE = Q7; OPEN_BALANCE = 2430;
OPEN_LIMIT = 500; CURRENT_LIMIT = 60,00; TRDACCID = L01-00000F00; WA_POSITION_PRICE =
1756,92; LIMIT_KIND = 1; LIMIT_OPERATION = CORRECT_LIMIT;
FUT_DEPO: FIRM_ID=NC0038900000; SECCODE = HYDR; CLIENT_CODE = 389_001; OPEN_BALANCE =
70;
FUT_MONEY: FIRM_ID = SPBFUT389; ACCOUNT = 389_001; VOLUMEMN = 485100; VOLUMEPL =
30000; KFL = 1; KGO = 2; USE_KGO = Y; LIMIT_OPERATION = ;

```

## 4. Format of export file

File that contains a list of limits for cash and securities, positions and restrictions for client accounts is created when making export. A row contains information on one limit, position or restriction.

## 4.1 Export of limits for cash and securities

Rows format of limits for cash and securities (on spot market) depends on the lending scheme used (configured by setting `SaveUsedLimits`, for details, see [2.3.1](#)):

1. When using the new scheme of margin lending (`SaveUsedLimits = 0`) data is transferred as follows:

- \_ Value of the current balance – in `OPEN_BALANCE`;
- \_ Value of the current limit – in `OPEN_LIMIT`;
- \_ Leverage value (cash limits) – in `LEVERAGE`.

When exporting a limit that contains values in `OPEN_BALANCE`, `OPEN_LIMIT`, `LEVERAGE` fields with command `/export`, two following rows are generated in the configuration file: the first one includes parameters `OPEN_BALANCE` and `OPEN_LIMIT`, the second row includes `OPEN_BALANCE` and `LEVERAGE`. When exporting with command `/export-ext` in such situations one row with three parameters is generated in the export file.

2. When using the old scheme of margin lending (`SaveUsedLimits = 1`) data is transferred as follows:

- \_ Value of the current balance – in `OPEN_BALANCE`;
- \_ Value of the opening limit – in `OPEN_LIMIT`;
- \_ Value of the current limit – in `CURRENT_LIMIT`.

Data for leverage is not exported even is available.

One row is generated in the export file regardless the command used (`/export` or `/export-ext`).

The format is analogical to import file rows (for details, see [3](#)).

Rows of cash limits may include parameters: `FIRM_ID`, `TAG`, `CURR_CODE`, `CLIENT_CODE`, `OPEN_BALANCE`, `OPEN_LIMIT`, `CURRENT_LIMIT`, `LEVERAGE` (if leverage is not set, the parameter `LEVERAGE` is not filled), `LIMIT_KIND`.

Rows of limits for securities may include parameters: `FIRM_ID`, `SECCODE`, `CLIENT_CODE`, `OPEN_BALANCE`, `OPEN_LIMIT`, `TRDACCID`, `LIMIT_KIND`.

## 4.2 Export of positions and limits for client accounts

**Export of restrictions on client accounts** (on derivatives market) is available only for restrictions:

- Accounted directly in FORTS trading system;
- Typed as 'Cash funds' or 'Deposit cash funds'.

At that, the primary limits types are 'Cash funds'. A record for each limit is created in the export file (parameter VOLUMEMN). Field VOLUMEPL takes value of open positions limit from restriction of 'Deposit cash funds' type matching the firm and trading account of the primary limit.

The format is analogical to import file rows (for details, see [3](#)).

Rows of restrictions may include parameters: FIRM\_ID, ACCOUNT, VOLUMEMN, VOLUMEPL, KFL, KGO.

**Export of positions on client accounts** (on derivatives market) is available for all positions present on QUIK server, including positions monitored in the trading system. Furthermore, it must be considered that the only positions monitored on QUIK Server can be reimported.

Rows of positions may include parameters: FIRM\_ID, SECCODE, CLIENT\_CODE, OPEN\_BALANCE (Current net position).

## 4.3 Example of export file rows

```
MONEY: FIRM_ID = NC0038900000; TAG = EQTV; CURR_CODE = SUR; CLIENT_CODE = Q7;
OPEN_BALANCE = -18142,40; OPEN_LIMIT = 248383,84; CURRENT_LIMIT = 300000,00;
LIMIT_KIND = 1;
DEPO: FIRM_ID = NC0038900000; SECCODE = LKOH; CLIENT_CODE = Q7; OPEN_BALANCE = 100;
OPEN_LIMIT = 100; TRDACCID = L01-00000F00; WA_POSITION_PRICE = 1756,92; LIMIT_KIND =
1;
FUT_DEPO: FIRM_ID=NC0038900000; SECCODE = HYDR; CLIENT_CODE = 389_001; OPEN_BALANCE
= 70;
FUT_MONEY: FIRM_ID = SPBFUT389; ACCOUNT = 389_001; VOLUMEMN = 485100; VOLUMEPL =
30000; KFL = 1; KGO = 1;
```

## 5. Codes of work termination

| Code | Description                                                                                                                                                             |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0    | No errors. Limits are saved to file or loaded from file                                                                                                                 |
| 1    | Failed connection with QUIK Server                                                                                                                                      |
| 2    | Access error: <ul style="list-style-type: none"><li>_ To import file – when loading limits from file;</li><li>_ To export file – when unloading limit to file</li></ul> |
| 3    | Transaction to work with restrictions on client accounts is not available                                                                                               |
| 4    | Syntax error in the import file                                                                                                                                         |

| Code | Description  |
|------|--------------|
| 5    | Other errors |

## 6. Encrypting passwords

To enable the functional of encrypting passwords add symbol '\$' before value of the password text.

For example:

```
Password=$secret
```

The Program encrypts the password when starting and saves it back to the configuration file in the encrypted form. Encrypted password is marked by '#' symbol at the beginning of row.

**When transferring the Module to another computer, reinstalling the operational system or running it under another Windows user, the encrypted passwords get unavailable for unencrypting. In this case the appropriate passwords must be reset.**