EURONEXT CLEARING

EQUITIES & EQUITY DERIVATIVES RISK ENGINE

File set for margin calculation replication

Content and format specifications

EURONEXT CLEARING

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1 Introduction

The present document contains the content and format specifications of the public risk data files which can be employed to replicate Equities/Equity derivatives EOD margins.

It includes:

- the current file set for Euronext legacy markets, described in Section 4;
- the current file set for Borsa Italiana market, described in Section 5;
- the file set which will be adopted for Euronext legacy markets in view of the migration of the Borsa Italiana market to the Euronext legacy clearing system (this event causing the discontinuation of the current file set for Borsa Italiana market), described in Section 6. This new file set is mainly needed to handle multi-listed products. The file set also takes into account the impacts of the future launch of fixed income derivative products, which will be part of the Equities/Equity derivatives asset class. Finally, the scope of file set was broadened to allow the replication of some of the margin add-ons and to include a file reporting the *Initial Margins* computed at instrument level.

2 What's new

REVISION NO./ VERSION NO.	DATE	CHANGE DESCRIPTION
1.0	26/05/2023 (Borsa Italiana), 30/06/2023 (Euronext legacy)	Publication of the first version of the specifications of the public margin replication (risk data) files (two distinct specifications for Borsa Italiana and Euronext legacy markets)
2.0	22/11/2023	• Merge of the specifications into a unique specification • Review of the format of the 'RF01' (model parameters) file and simplification • Optimization of the 'RF02' (instrument scenario prices) file (moving of static data to the dedicated 'RF04' file and reworking) • Reworking of the 'RF03' (FX scenario values) file • Addition of a 'RF04' (instrument static data) file for Borsa Italiana markets • Reworking of such 'RF04' file • Addition of the Euronext legacy contract code information ('RF04' file) • Addition of a new *und_instr_id_deco* field for grouping for *Decorrelation risk add-on* calculation purposes (in place of *und_instr_id*) ('RF04' file) • Addition of three new files for Euronext legacy markets only (containing information not needed for margin replication- 'RF05', 'RF06', 'RF07' files)

3.0	01/02/2024	Typo correction: removal of *und_curcy_deco* field from 'RF04' file
4.0	23/02/2024	• Changing of structure of the specifications: addition of the current Euronext legacy markets and Borsa Italiana market file sets • Addition of the file naming conventions • Addition of the *und_price* field to the 'RF05F' file • Introduction of some refinements to the specifications
5.0	05/04/2024	• Adding of more details in the Description for *value* field of the 'RF02F' file
6.0	24/06/2024	• Removal of 'Euronext legacy markets – Current file set' Section and renaming of 'Euronext legacy markets – Enhanced file set' Section into 'Euronext legacy markets – Current file set' (removing also the 'Status and potential changes description' sub-Sections and the 'Notes on the enhancement' inserted for multiple files) • Adding of notes for *symbol_code* and *price* fields of the 'RF04F' file
7.0	13/12/2024	Introduction of a new Section containing the specifications of the public margin replication (risk data) files which will be adopted for Euronext legacy markets in view of the migration of the Borsa Italiana market to the Euronext legacy clearing system (named 'Euronext legacy markets –

		Forthcoming file set'). With respect to the current file set for Euronext legacy markets, the changes are: • Adoption of the *enx_id* (or equivalently of the *instr_id-instr_curcy-instr_mic* combination) as instrument identifier • Addition of a new 'RF01' file to handle fixed income derivatives • Amendment of the 'RF02' file: addition of *enx_id* and *instr_mic* fields • Amendment of 'RF04' file: addition of a new possible *asset_class* value for fixed income derivatives and of *enx_id*, *instr_mic*, *und_enx_id* and *und_mic* fields • Amendment of 'RF05' file: addition of *enx_id*, *instr_mic* and *und_enx_id* fields • Adoption of a new file naming convention to take into account the fact a new 'RF01' file is introduced
7.1	10/01/2025	'Euronext legacy markets – Forthcoming file set': • Clarification on the new possible *asset_class* value in 'RF04' file • Amendment of 'RF07' file: addition of *enx_id* field

8.0	31/01/2025	'Euronext legacy markets – Forthcoming file set': • Addition of a new file to replicate the *Liquidity risk add-on* ('RF09') • Addition of new files to replicate the *Concentration risk add-on* ('RF10', 'RF11', 'RF12', 'RF13', 'RF14', 'RF15', 'RF16') • Addition of a new file reporting *Initial Margins* computed at instrument level ('RF00')
8.1	25/03/2025	'Euronext legacy markets – Forthcoming file set': • Typo correction on 'RF10' and 'RF11' files (field type)

3 Scope of replicable margin components

- *Mark-to-market/Premium Margins*;
- *Variation Margins*;
- *Initial Margins*;
- *Decorrelation risk add-on*;
- *Liquidity risk add-on* ('Euronext legacy markets – Forthcoming file set' only);
- *Concentration risk add-on* ('Euronext legacy markets – Forthcoming file set' only).

4 Euronext legacy markets – Current file set

4.1 Model parameters ('RF01F')

4.1.1 Content

Model parameters for the calculation of the *Initial Margins* and of the *Decorrelation risk add-on*.

.csv file composed by a first header row + *1* value row (delimiter: comma; decimal separator: dot):

Field name	Field type	Possible field values	Field description
ord_cl	Float	∈ (0, 1)	Ordinary *Initial Margins* confidence level
stress_cl	Float	∈ (0, 1)	Stressed *Initial Margins* confidence level
deco	Float	∈ [0, 1]	*Decorrelation risk add-on* parameter
ord_w	Float	∈ [0, 1]	Ordinary weight
stress_w	Float	∈ [0, 1]	Stressed weight

4.2 Instrument scenario prices ('RF02F')

4.2.1 Content

Instrument scenario prices (including current scenario, which must be employed to compute instrument scenario profits/losses) for the calculation of the *Initial Margins* and of the *Decorrelation risk add-on*.

A product is represented by the **instr_id-instr_curcy** combination.

.csv file composed by a first header row + *n* value rows (delimiter: comma; decimal separator: dot):

Field name	Field type	Possible field values	Field description
scenario	String	'C', 'S', 'U'	Scenario type, current ('C' – single record per product), ordinary (scaled, 'S' – multiple records per product) or stressed (unscaled, 'U' – multiple records per product)
instr_id	String		Product ISIN code
instr_curcy	String		Product denomination currency code (ISO 4217, 3 chars)
ref_dt	Integer		Evaluation date YYYYMMDD for (current) **scenario** = 'C' (single record)/scenario date YYYYMMDD for both **scenario** = 'S' and **scenario** = 'U' (multiple records each – the number of ordinary and stressed scenarios may differ)
value	Float		Product scenario value (dirty / 100 for bonds)

File will be produced even if empty.

4.2.2 Minimum scope of instruments contained in the file

Instruments with non-0 EOD O/I. Also underlyings of physical delivery futures expired and unsettled and of exercised/assigned options will be included.

4.3 FX scenario values ('RF03F')

4.3.1 Content

Exchange rate scenario values (including current scenario) for the calculation of the *Initial Margins* and of the *Decorrelation risk add-on*.
Current scenario exchange rates can be employed to compute *Mark-to-market/Premium Margins*.

A FX is represented by the **base_curcy**-**counter_curcy** combination.

.csv file composed by a first header row + *n* value rows (delimiter: comma; decimal separator: dot):

Field name	Field type	Possible field values	Field description
scenario	String	'C', 'S', 'U'	Scenario type, current ('C' – single record per FX), ordinary (scaled, 'S' – multiple records per FX) or stressed (unscaled, 'U' – multiple records per FX)
base_curcy	String		Product currency code (ISO 4217, 3 chars, e.g. 'USD')
counter_curcy	String	'EUR'	Clearing currency code (ISO 4217, 3 chars, i.e. 'EUR')
ref_dt	Integer		Evaluation date YYYYMMDD for (current) **scenario** = 'C' (single record)/scenario date YYYYMMDD for both **scenario** = 'S' and **scenario** = 'U' (multiple records each – the number

			of ordinary and stressed scenarios may differ)
value	Float		FX scenario value

File will be produced even if empty.

4.3.1 Minimum scope of FXs contained in the file

Based on RF02F's **instr_curcy** list (RF03F's **base_curcy** – RF03F's **counter_curcy** will always equal 'EUR').

4.4 Instrument prices & referential data ('RF04F')

4.4.1 Content

Instrument price and referential (static) data.

A product is represented by the **instr_id**-**instr_curcy** combination.

.csv file composed by a first header row + *n* value rows (delimiter: comma; decimal separator: dot):

Field name	Field type	Possible field values	Field description	Notes
instr_id	String		Product ISIN code	
instr_curcy	String		Product denomination currency code (ISO 4217, 3 chars)	
symbol_code	String		Euronext contract code	Possibility of missing values (instruments listed without a reference contract code)
asset_type	String	'C', 'F', 'O', 'B'	Product type, cash ('C'), futures ('F'), option ('O'), bond ('B')	
mat_dt	Integer		Product expiry/maturity date	

			YYYYMMDD (0 for non-bond cash products)	
mult	Float		Product multiplier	
settl_type	String	'C', 'P'	Product settlement type, cash settlement ('C') or physical delivery ('P')	
option_type	String	'C', 'P', 'N'	Option type, call ('C') or put ('P') ('N' for cash, bond and futures products)	
strike	Float		Option strike price (0.0 for cash, bond and futures products)	
und_instr_id	String		Underlying product ISIN code	
und_curcy	String		Underlying product currency code (ISO 4217, 3 chars)	
und_instr_id_deco	String		Underlying product ISIN code for *Decorrelation risk add-on* grouping	
price	Float		Product settlement/closing price (dirty / 100 for bonds)	Possibility of missing values for particular cases (e.g. 'synthetic' underlyings of derivatives like dividend futures)

File will be produced even if empty.

4.4.2 Minimum scope of instruments contained in the file

Based on RF02F's instrument list, plus underlyings of derivatives which are included in that file. Also physical delivery futures expired and unsettled and exercised/assigned options (expired or not) will be included.

4.5 Derivative instrument expiry prices ('RF05F')

4.5.1 Content

Final settlement price and underlying price (taken as reference for option exercise) of derivative instruments expiring on evaluation date.

.csv file composed by a first header row + *n* value rows (delimiter: comma; decimal separator: dot):

Field name	Field type	Possible field values	Field description
instr_id	String		Product ISIN code
instr_curcy	String		Product denomination currency code (ISO 4217, 3 chars)
price	Float		Product final settlement price
und_price	Float		Product underlying price (taken as reference for option exercise)

File will be produced even if empty

4.5.2 Minimum scope of instruments contained in the file

All derivative instruments expired on evaluation date.

4.6 Stock index values ('RF06F')

4.6.1 Content

Closing value of stock indices.

.csv file composed by a first header row + *n* value rows (delimiter: comma; decimal separator: dot):

Field name	Field type	Possible field values	Field description
index_id	String		Stock index ISIN code
index_curcy	String		Stock index denomination currency code (ISO 4217, 3 chars)
value	Float		Stock index closing value

File will be produced even if empty.

4.6.2 Minimum scope of stock indices contained in the file

Stock indices underlying derivative instruments with non-0 EOD O/I.

4.7 Option deltas ('RF07F')

4.7.1 Content

Delta of options.

.csv file composed by a first header row + *n* value rows (delimiter: comma; decimal separator: dot):

Field name	Field type	Possible field values	Field description
instr_id	String		Product ISIN code
instr_curcy	String		Product denomination currency code (ISO 4217, 3 chars)
delta	Float		Option delta

File will be produced even if empty.

4.7.2 Minimum scope of instruments contained in the file

Options with non-0 EOD O/I.

4.8 File naming convention

Archive file: 'EQDER_<yyyymmddhhmmss>.zip'

Data files: 'EQDER_<yyyymmdd>_rf<id>_STD.csv', with:

- <id> ∈ ['01', '02', '03', '04', '05', '06', '07'].

Example:
'EQDER_20240223233015.zip'\'EQDER_20240223_rf02_STD.csv'

5 Borsa Italiana markets – Current file set

The current file set is adopted to replicate margins on Borsa Italiana market's equity/equity derivatives portfolios. Any potential enhancement will be communicated in due time.

5.1 Model parameters ('RF01')

5.1.1 Content

Model parameters for the calculation of the *Initial Margins* and of the *Decorrelation risk add-on*.

.txt file composed by 8 rows containing the model parameter name followed by its value:

```
holding_period: 2
scaling_window: 60
lambda: 0.98
ordinary_confidence_level: 0.995
stressed_confidence_level: 0.995
decorrelation_parameter: 0.8
ordinary_weight: 0.75
stressed_weight: 0.25
```

holding_period, *scaling_window* and *lambda* model parameters are already 'embedded' into the prices of the instrument scenario price file.

5.2 Instrument scenario prices ('RF02')

5.2.1 Content

Instrument scenario prices (including current scenario, which must be employed to compute instrument scenario profits/losses) for the calculation of the *Initial Margins* and of the *Decorrelation risk add-on*.

A product is represented by the **instr_id**-**settl_curcy** combination.

.csv file composed by a first header row + *n* value rows (delimiter: comma; decimal separator: dot):

Field name	Field type	Possible field values	Field description
eval_dt	Integer		Evaluation date YYYYMMDD
scenario	String	'S', 'U'	Scenario type, ordinary (scaled) 'S' or stressed (unscaled) 'U'
instr_id	String		Product ISIN code
asset_type	String	'C', 'F', 'O'	Product type, cash ('C'), futures ('F') or option ('O')
option_type	String	'C', 'P', 'N'	Option type, call ('C') or put ('P') ('N' for cash and futures products)
class_code	String		Borsa Italiana class code
und_instr_id	String		Underlying product ISIN code
mat_dt	Integer		Product expiry date YYYYMMDD (0 for cash products)
mult	Float		Product multiplier
strike	Float		Option strike price (0.0 for cash and futures products)
settl_curcy	String		Product denomination currency
ref_dt	Integer		Scenario date YYYYMMDD (= **eval_dt** for current scenario)
value	Float		Scenario value

File will be produced even if empty.

5.2.2 Minimum scope of instruments contained in the file

Instruments with non-0 EOD O/I. Also underlyings of physical delivery futures expired and unsettled and of exercised/assigned options will be included.

5.3 FX scenario values ('RF03')

5.3.1 Content

Exchange rate scenario values (including current scenario) for the calculation of the *Initial Margins* and of the *Decorrelation risk add-on*.
Current scenario exchange rates can be employed to compute *Mark-to-market/Premium Margins*.

An FX is represented by the **base_curcy-counter_curcy** combination.

.csv file composed by a first header row + *n* value rows (delimiter: comma; decimal separator: dot):

Field name	Field type	Possible field values	Field description
eval_dt	Integer		Evaluation date YYYYMMDD
base_curcy	String		ISO product currency code (e.g. 'USD')
counter_curcy	String		ISO clearing currency code (i.e. 'EUR')
scenario	String	'S', 'U'	Scenario type, ordinary (scaled) 'S' or stressed (unscaled) 'U'
ref_dt	Integer		Scenario date YYYYMMDD (= **eval_dt** for current scenario)
value	Float		Scenario value

File will be produced even if empty.

5.3.2 Minimum scope of FXs contained in the file

Based on RF02's **settl_curcy** list (RF03's **base_curcy** – RF03's **counter_curcy** will always equal 'EUR').

5.4 Instrument prices & referential data ('RF04')

Instrument prices and referential (static) data can be found in the s.c. 'Risk Array' **.zip** file at Risk Array | euronext.com ('YYMMDD.zip'), containing **.txt**/**.xml** files such as e.g. **SERINF** and **CLASSFILE** files.

Details on the structure of the files in the 'Risk Array' .zip file can be retrieved at Operations | euronext.com, *Manuals*, *Public Data Service* **.pdf** file.

5.5 File naming convention

Archive file: '<yyyymmdd>.zip', e.g. '20230223.zip' ('VAR<yyyymmdd>.zip', e.g. 'VAR20230223.zip', for the publication at Risk Array | euronext.com)

Data files:

- 'RF01': 'RF01.txt';
- 'RF02': '<yyyymmdd>_rf02.csv', e.g. '20230223_rf02.csv';
- 'RF03': '<yyyymmdd>_rf03.csv', e.g. '20230223_rf03.csv'.

6 Euronext legacy markets – Forthcoming file set

6.1 Unitary margins ('RF00F')

6.1.1 Content

Initial Margins (a.k.a. 'what-if' margins - *Decorrelation risk add-on* is obviously equal to 0) on portfolios consisting of a long/short one-contract position in the instrument at the evaluation date (EOD).

An instrument is represented by the **enx_id** field, or equivalently by the **instr_id**-**instr_curcy**-**instr_mic** combination.

Only unexpired non-option products available in the 'RF02F' and 'RF04F' public risk data files published at the same evaluation date are included.

.csv file composed by a first header row + *1* value row (delimiter: comma; decimal separator: dot):

Field name	Field type	Possible field values	Field description
instr_id	String		Product ISIN code
instr_curcy	String		Product denomination currency code (ISO 4217, 3 chars)
instr_mic	String		Product market venue code
enx_id	Integer		Euronext product identifier (i.e. symbol index)
mult	Float		Product multiplier
long_margin_pct	Float		Margin amount on a long position expressed as percentage of price (e.g. 10% expressed as 0.1). -1 fallback value in case of impossible/meaningless ratios (e.g. division by a price <=0)
long_margin_amount	Float		Margin amount on a long position, including multiplier, expressed in EUR
short_margin_pct	Float		Margin amount on a short position expressed as percentage of price (e.g. 10% expressed as 0.1). -1 fallback value in case of

			impossible/meaningless ratios (e.g. division by a price <=0)
short_margin_amount	Float		Margin amount on a short position, including multiplier, expressed in EUR

6.2 Model parameters ('RF01F1')

6.2.1 Content

Model parameters for the calculation of the *Initial Margins* and the *Decorrelation risk add-on*.

.csv file composed by a first header row + *1* value row (delimiter: comma; decimal separator: dot):

Field name	Field type	Possible field values	Field description
ord_cl	Float	∈ (0, 1)	Ordinary *Initial Margins* confidence level
stress_cl	Float	∈ (0, 1)	Stressed *Initial Margins* confidence level
deco	Float	∈ [0, 1]	*Decorrelation risk add-on* parameter
ord_w	Float	∈ [0, 1]	Ordinary weight
stress_w	Float	∈ [0, 1]	Stressed weight

6.3 Enhanced model parameters ('RF01F2')

6.3.1 Content

Model parameters for the calculation of the *Initial Margins* and the *Decorrelation risk add-on* for those willing to replicate margins on portfolios also containing positions in fixed income derivatives.

.csv file composed by a first header row + *1* value row (delimiter: comma; decimal separator: dot):

Field name	Field type	Possible field values	Field description
ord_cl	Float	∈ (0, 1)	Ordinary *Initial Margins* confidence level
stress_cl	Float	∈ (0, 1)	Stressed *Initial Margins* confidence level
deco	Float	∈ [0, 1]	*Decorrelation risk add-on* parameter

ord_w	Float	∈ [0, 1]	Ordinary weight
stress_w	Float	∈ [0, 1]	Stressed weight
adj_fact	Float		Adjustment factor to apply to fixed income derivatives' profits/losses

6.4 Instrument scenario prices ('RF02F')

6.4.1 Content

Instrument scenario prices (including current scenario, which must be employed to compute instrument scenario profits/losses) for the calculation of the *Initial Margins* and the *Decorrelation risk add-on*.

An instrument is represented by the **enx_id** field, or equivalently by the **instr_id**-**instr_curcy**-**instr_mic** combination.

.csv file composed by a first header row + *n* value rows (delimiter: comma; decimal separator: dot):

Field name	Field type	Possible field values	Field description
scenario	String	'C', 'S', 'U'	Scenario type, current ('C' – single record per product), ordinary (scaled, 'S' – multiple records per product) or stressed (unscaled, 'U' – multiple records per product)
instr_id	String		Product ISIN code
instr_curcy	String		Product denomination currency code (ISO 4217, 3 chars)
ref_dt	Integer		Evaluation date YYYYMMDD for (current) **scenario** = 'C' (single record)/scenario date YYYYMMDD for both **scenario** = 'S' and **scenario** = 'U' (multiple records each – the number of ordinary and stressed scenarios may differ)
value	Float		Product scenario value (dirty / 100 for bonds)
enx_id	Integer		Euronext product identifier (i.e. symbol index)
instr_mic	String		Product market venue code

File will be produced even if empty.

6.4.2 Minimum scope of instruments contained in the file

Instruments with non-0 EOD O/I (at margin account level). Also underlyings of physical delivery futures expired and unsettled and of exercised/assigned options will be included.

6.5 FX scenario values ('RF03F')

6.5.1 Content

Exchange rate scenario values (including current scenario) for the calculation of the *Initial Margins* and the *Decorrelation risk add-on*.
Current scenario exchange rates can be employed to compute *Mark-to-market Margins*.

A FX is represented by the **base_curcy-counter_curcy** combination.

.csv file composed by a first header row + *n* value rows (delimiter: comma; decimal separator: dot):

Field name	Field type	Possible field values	Field description
scenario	String	'C', 'S', 'U'	Scenario type, current ('C' – single record per FX), ordinary (scaled, 'S' – multiple records per FX) or stressed (unscaled, 'U' – multiple records per FX)
base_curcy	String		Product currency code (ISO 4217, 3 chars, e.g. 'USD')
counter_curcy	String	'EUR'	Clearing currency code (ISO 4217, 3 chars, i.e. 'EUR')
ref_dt	Integer		Evaluation date YYYYMMDD for (current) **scenario** = 'C' (single record)/scenario date YYYYMMDD for both **scenario** = 'S' and **scenario** = 'U' (multiple records each – the number of ordinary and stressed scenarios may differ)
value	Float		FX scenario value

File will be produced even if empty.

6.5.2 Minimum scope of FXs contained in the file

Based on RF02F's **instr_curcy** list (RF03F's **base_curcy** – RF03F's **counter_curcy** will always equal 'EUR').

6.6 Instrument prices & referential data ('RF04F')

6.6.1 Content

Instrument price and referential (static) data.

An instrument is represented by the **enx_id** field, or equivalently by the **instr_id**-**instr_curcy**-**instr_mic** combination.

.csv file composed by a first header row + *n* value rows (delimiter: comma; decimal separator: dot):

Field name	Field type	Possible field values	Field description	Notes
instr_id	String		Product ISIN code	
instr_curcy	String		Product denomination currency code (ISO 4217, 3 chars)	
symbol_code	String		Euronext contract code	Possibility of missing values (instruments listed without a reference contract code)
asset_type	String	'C', 'F', 'O', 'B', 'Z'	Product type, cash ('C'), futures ('F'), option ('O'), bond ('B'), fixed income futures ('Z')	
mat_dt	Integer		Product expiry/maturity date YYYYMMDD (0 for non-bond cash products)	
mult	Float		Product multiplier	
settl_type	String	'C', 'P'	Product settlement type, cash settlement ('C') or physical delivery ('P')	

option_type	String	'C', 'P', 'N'	Option type, call ('C') or put ('P') ('N' for cash, bond and futures products)	
strike	Float		Option strike price (0.0 for cash, bond and futures products)	
und_instr_id	String		Underlying product ISIN code	
und_curcy	String		Underlying product currency code (ISO 4217, 3 chars)	
und_instr_id_deco	String		Underlying product ISIN code for *Decorrelation risk add-on* grouping	
price	Float		Product settlement/closing price (dirty / 100 for bonds)	Possibility of missing values for particular cases (e.g. 'synthetic' underlyings of derivatives like dividend futures)
enx_id	Integer		Euronext product identifier (i.e. symbol index)	
instr_mic	String		Product market venue code	
und_enx_id	Integer		Euronext underlying product identifier (i.e. symbol index)	
und_mic	String		Underlying product market venue code	

File will be produced even if empty.

6.6.2 Minimum scope of instruments contained in the file

Based on RF02F's instrument list, plus underlyings of derivatives which are included in that file. Also physical delivery futures expired and unsettled and exercised/assigned options (expired or not) will be included.

6.7 Derivative instrument expiry prices ('RF05F')

6.7.1 Content

Final settlement price and underlying price (taken as reference for option exercise) of derivative instruments expiring on evaluation date.

An instrument is represented by the **enx_id** field, or equivalently by the **instr_id-instr_curcy-instr_mic** combination.

.csv file composed by a first header row + *n* value rows (delimiter: comma; decimal separator: dot):

Field name	Field type	Possible field values	Field description
instr_id	String		Product ISIN code
instr_curcy	String		Product denomination currency code (ISO 4217, 3 chars)
price	Float		Product final settlement price
und_price	Float		Product underlying price (taken as reference for option exercise)
enx_id	Integer		Euronext product identifier (i.e. symbol index)
instr_mic	String		Product market venue code
und_enx_id	Integer		Euronext underlying product identifier (i.e. symbol index)

File will be produced even if empty

6.7.2 Minimum scope of instruments contained in the file

All derivative instruments expired on evaluation date.

6.8 Stock index values ('RF06F')

6.8.1 Content

Closing value of stock indices.

An index is represented by the **index_id-index_curcy** combination.

.csv file composed by a first header row + *n* value rows (delimiter: comma; decimal separator: dot):

Field name	Field type	Possible field values	Field description
index_id	String		Stock index ISIN code
index_curcy	String		Stock index denomination currency code (ISO 4217, 3 chars)
value	Float		Stock index closing value

File will be produced even if empty.

6.8.2 Minimum scope of stock indices contained in the file

Stock indices underlying derivative instruments with non-0 EOD O/I (at margin account level).

6.9 Option deltas ('RF07F')

6.9.1 Content

Delta of options.

An option is represented by the **enx_id** field.

.csv file composed by a first header row + *n* value rows (delimiter: comma; decimal separator: dot):

Field name	Field type	Possible field values	Field description
instr_id	String		Product ISIN code
instr_curcy	String		Product denomination currency code (ISO 4217, 3 chars)
delta	Float		Option delta
enx_id	Integer		Euronext product identifier (i.e. symbol index)

File will be produced even if empty.

6.9.2 Minimum scope of instruments contained in the file

Options with non-0 EOD O/I (at margin account level).

6.10 Liquidity risk add-on - spreads ('RF09F')

6.10.1 Content

Instrument bid-ask spreads for *Liquidity risk add-on* calculation purposes.

An instrument is represented by the **enx_id** field, or equivalently by the **instr_id**-**instr_curcy**-**instr_mic** combination.

.csv file composed by a first header row + *n* value rows (delimiter: comma; decimal separator: dot):

Field name	Field type	Possible field values	Field description
instr_id	String		Product ISIN code
instr_curcy	String		Product denomination currency code (ISO 4217, 3 chars)
instr_mic	String		Product market venue code
enx_id	Integer		Euronext product identifier (i.e. symbol index)
spread	Float		Bid-ask spread
spread_mult	Float		Bid-ask spread multiplier

6.10.2 Minimum scope of instruments contained in the file

Based on RF02F's instrument list.

6.11 Concentration risk add-on – delta concentration bands ('RF10F')

6.11.1 Content

Stressed holding periods associated to the concentration ratio bands under *delta* approach for *Concentration risk add-on* calculation purposes.

.csv file composed by a first header row + *n* value rows (delimiter: comma; decimal separator: dot):

Field name	Field type	Possible field values	Field description
cr_down_delta	Float		Percentage representing the lower bound of the concentration ratio

			associated to the stressed holding period (included; the following stressed holding period's **cr_down_delta** will represent its upper bound – excluded)
hp_conc_delta	Float		Stressed holding period
hp	Integer	1, 2, 3, …	(Model) Holding period

6.12 Concentration risk add-on – vega concentration bands ('RF11F')

6.12.1 Content

Stressed holding periods associated to the concentration ratio bands under *vega* approach for *Concentration risk add-on* calculation purposes.

.csv file composed by a first header row + *n* value rows (delimiter: comma; decimal separator: dot):

Field name	Field type	Possible field values	Field description
cr_down_vega	Float		Percentage representing the lower bound of the concentration ratio associated to the stressed holding period (included; the following stressed holding period's **cr_down_vega** will represent its upper bound – excluded)
hp_conc_vega	Float		Stressed holding period
hp	Integer	1, 2, 3, …	(Model) Holding period

6.13 Concentration risk add-on – underlying assets ('RF12F')

6.13.1 Content

Underlying asset for *Concentration risk add-on* calculation purposes.

An instrument is represented by the **enx_id** field, or equivalently by the **instr_id**-**instr_curcy**-**instr_mic** combination.

.csv file composed by a first header row + *n* value rows (delimiter: comma; decimal separator: dot):

Field name	Field type	Possible field values	Field description
instr_id	String		Product ISIN code
instr_curcy	String		Product denomination currency code (ISO 4217, 3 chars)
instr_mic	String		Product market venue code
enx_id	Integer		Euronext product identifier (i.e. symbol index)
conc_und	Integer		Underlying asset identifier for *Concentration risk add-on*
und_mult	Float		Multiplier of the underlying asset for *Concentration risk add-on*

6.13.2 Minimum scope of instruments contained in the file

Based on RF02F's instrument list.

6.14 Concentration risk add-on – underlying assets' trading volumes ('RF13F')

6.14.1 Content

Average daily trading volumes associated to the underlying assets under both *delta* and *vega* approaches for *Concentration risk add-on* calculation purposes.

.csv file composed by a first header row + *n* value rows (delimiter: comma; decimal separator: dot):

Field name	Field type	Possible field values	Field description
conc_und	Integer		Underlying asset identifier for *Concentration risk add-on*
trade_vols_delta	Float		Cluster average daily trading volume under *delta* approach
trade_vols_vega	Float		Cluster average daily trading volume under *vega* approach

6.14.2 Minimum scope of underlying assets contained in the file

Based on RF12F's underlying asset list.

6.15 Concentration risk add-on – option greeks ('RF14F')

6.15.1 Content

Delta and *vega* of options at evaluation date for *Concentration risk add-on* calculation purposes.

An option is represented by the **enx_id** field, or equivalently by the **instr_id**-**instr_curcy**-**instr_mic** combination.

.csv file composed by a first header row + *n* value rows (delimiter: comma; decimal separator: dot):

Field name	Field type	Possible field values	Field description
instr_id	String		Product ISIN code
instr_curcy	String		Product denomination currency code (ISO 4217, 3 chars)
instr_mic	String		Product market venue code
enx_id	Integer		Euronext product identifier (i.e. symbol index)
delta_conc	Float		*Delta*
vega_conc	Float		*Vega*

6.15.2 Minimum scope of options contained in the file

Based on RF02F's instrument list.

6.16 Concentration risk add-on – sectors ('RF15F')

6.16.1 Content

Sectors for (Sector) *Concentration risk add-on* calculation purposes.

.csv file composed by a first header row + *n* value rows (delimiter: comma; decimal separator: dot):

Field name	Field type	Possible field values	Field description
conc_und	Integer		Underlying asset identifier for *Concentration risk add-on*

sector	Integer		Sector identifier for (Sector) *Concentration risk add-on* (0 for underlying assets not associated to any sector – such value must not be considered as a sector itself)

6.16.2 Minimum scope of underlying assets contained in the file

Based on RF12F's underlying asset list.

6.17 Concentration risk add-on – sectors' trading volumes ('RF16F')

6.17.1 Content

Average daily trading volumes associated to the sectors under both *delta* and *vega* approaches for (*Sector*) *Concentration risk add-on* calculation purposes.

.csv file composed by a first header row + *n* value rows (delimiter: comma; decimal separator: dot):

Field name	Field type	Possible field values	Field description
sector	Integer		Sector identifier for (Sector) *Concentration risk add-on* (0 value excluded)
sector_trade_vols_delta	Float		Sector average daily trading volume under *delta* approach
sector_trade_vols_vega	Float		Sector average daily trading volume under *vega* approach

6.17.2 Minimum scope of sectors contained in the file

Based on RF15F's sector list (0 value excluded).

6.18 File naming convention

Archive file: 'EQDER_<yyyymmddhhmmss>.zip'

Data files: 'EQDER_<yyyymmdd>_rf<id>_<subtype>.csv', with:

- <id> ∈ ['00', '01', '02', '03', '04', '05', '06', '07', '09', 10', '11', '12', '13', '14', '15', '16'];
- <subtype> ∈ ['STD', 'FID'] so that:
  - 'RF00F': 'rf00_STD';
  - 'RF01F1': 'rf01_STD';
  - 'RF01F2': 'rf01_FID';
  - 'RF02F': 'rf02_STD';
  - 'RF03F': 'rf03_STD';
  - 'RF04F': 'rf04_STD';
  - 'RF05F': 'rf05_STD';
  - 'RF06F': 'rf06_STD';
  - 'RF07F': 'rf07_STD';
  - 'RF09F': 'rf09_STD';
  - 'RF09F': 'rf10_STD';
  - 'RF09F': 'rf11_STD';
  - 'RF09F': 'rf12_STD';
  - 'RF09F': 'rf13_STD';
  - 'RF09F': 'rf14_STD';
  - 'RF09F': 'rf15_STD';
  - 'RF09F': 'rf16_STD'.

Example:
'EQDER_20240223233015.zip'\'EQDER_20240223_rf02_STD.csv'