

Circular C-EX-DF- 03/2023

Filters and treatment of erroneous entries

MEFF

September 2024

Segment: Financial derivatives

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Replaces: C-EX-DF-12/2022

This Circular describes the maximum price and volume filters, HFT and IFTL filter parameters and the criteria for the treatment of miss trades. It is modified by the inclusion of orders or trading periods in which the self match prevention functionality is not available

FILTERS FOR MARKET PROTECTION

1. Price Filter

A Price Filter in the MEFF S/MART system is the maximum distance in points allowed by the system between the order price and the *Base Filter Price* of the contract. A 1.5% filter means that the maximum price to enter in a buy order shall be 1.5% above the *Base Filter Price* of the contract and the minimum price in a sell order shall be 1.5% below the *Base Filter Price*.

Base Filter Price is defined as the price on which the price filter is applied, and depending on the product family will be:

- **IBEX 35 Futures and BONO 10 Future contracts:** In the first maturity always will be the last traded price. In maturities different to the front one, the order's price is compared to the first maturity *Base Filter Price* plus the corresponding Time Spread Closing Price.
- **Stock Future contracts and IBEX 35 Sector Future Contracts:** For all maturities will be the theoretical price calculated at the moment of the introduction of the order.
- **Stock Dividend Future, Single Stock Dividend Futures Plus and IBEX 35 IMPACTO DIV Futures:** For all maturities will be the last traded at that maturity. If it does not exist, it would be the closing price of the previous session.
- **In all Time Spread contracts:** the Base Filter Price will be the last traded price. If it does not exist, it would be the closing price of the previous session.
- **xRolling FX Futures Contracts:** For all maturities will be the theoretical price calculated at the moment of the introduction of the order.

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- **Option contracts:** For all maturities will be the theoretical price calculated at the moment of the introduction of the order.

The price filter is defined in this circular and is configured in the trading system. It is performed at the level of the underlying asset / product family and it will be developed by Operative Instruction. Three sets of parameters are defined:

- Maximum variation with respect to the Base Filter Price in normal situations.
- Maximum variance with respect to the Base Filter Price in a "Fast Market" situation (Double from above).
- Minimum Variation. It defines the minimum variation in ticks applicable if it is greater than the configured filter in percentage.

The "Fast Market" situation shall be activated by Market Supervisor decision and will be at the underlying level.

Each member may define a more restrictive filter for all of its users, or individualize it for each one of them, with the setting function being protected by permissions. Filters assigned to a concrete user can be modified in real time.

In the case of GTD orders, the system will automatically cancel the orders in the next session after any price filter change, when these orders are left out of ranges established by the new filter

1.1 Fluctuation Limit

A static price range of maximum daily price change is established. This maximum change will be calculated against the previous session close. The range will be set depending on the volatility of the underlying and periodically reviewed. Depending on market conditions, MEFF may increase the static range during the trading session.

These limits will only be applied to futures and Time Spread contracts and will cancel any order sent with prices outside the static range established.

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Limits will be set by Operative Instruction.

In the case of GTD orders, the system will automatically cancel the orders in the next session after any fluctuation limit change, when these orders are left out of ranges established by the new limits

2. Maximum Value of the order filter

A maximum value is defined per order measured in terms of notional value applicable to all order type included quote orders introduced in each one of the product family group. The notional value will be measured depending on the contract:

- Future Contract: Order price per number of contracts on the order per contract size. If the order was an order with no price (auction order), the price will be considered the Base Filter Price of the contract.
- Option Contract: Strike price of the option per number of contracts on the order per contract size.

Each member may define a more restrictive filter for all of its users, or individualize it for each one of them, with the setting function being protected by permissions. Filters assigned to a concrete user can be modified in real time.

In the case of GTD orders, the system will automatically cancel the orders in the next session after any maximum value filter change, when these orders are left out of ranges established by the new filter

The value of this filter will be defined on the corresponding Operative Instruction.

3. Volume Filter

A maximum volume (in number of contracts) is defined to be applied to all types of orders including quote orders introduced in each of the product families.

Also, a maximum by default value is defined, which will be always lower than the maximum volume, in the event the Member does not set any volume filter.

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The overall volume filter will be defined by Operative Instruction.

MEFF Members having the Clearing Member condition in BME CLEARING or the entities that not being MEFF Members, they are a Clearing Member in BME CLEARING for MEFF Members (hereinafter Clearing Members) may allocate to MEFF Members to whom they clear and settle more restrictive values, being these the ones applied. Both MEFF Members and Clearing Members may provide intermediate values between the maximum by default and the maximum, being these the prevailing ones. If the Clearing Member establishes a filter above the Maximum Volume defined in the MEFF S/MART system (please see the relevant Operative Instruction), the latter would be the one prevailing.

Each Member may define more restrictive values than those defined by the Clearing Member or the established by default in the corresponding Operative Instruction.

In the case of GTD orders, the system will automatically cancel the orders in the next session after any volume filter change, when these orders are left out of ranges established by the new filter

The volume defined in the Operative Instruction may be lower for those Clearing Members who meet the condition described on Paragraph 1.a of the Circular 03/15 of BME CLEARING, or the one that may replace it.

4. HFT Filter

Following FIA recommendations, MEFF offers members this filter which aims to protect the market and High Frequency Traders (HFT) of anomalous behaviour in automatic trading systems.

It is defined as the maximum number of contracts traded on attacking orders in a second, in the same side (buying or selling) for the same Member and trader. It is defined uniquely for IBEX 35 Futures, Mini IBEX 35 and Micro IBEX 35 Futures.

The maximum number of contracts executed by attacking orders, in same side and second will be established by the relevant Operative Instruction. Once this volume is exceeded, the system will suspend the trader, i.e. the system will cancel pending orders and will prevent the entering of new orders. Once the trader fixes the problem that caused the suspension, only the Supervisor will be able to re-activate the trader.

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MEFF will establish this filter to those members who request it and to all members considered as HFTs. The members designed as HFT with proved reasons for any of their users for not being affected by this filter, will be able to ask for an exemption. The reasons to apply for this exemption will be related to the type of algorithmic trading made on the particular user and its attack needs to existing prices on the screen.

5. Filter for HFTs Clearing Members: Intraday Future Trading Limit (IFTL) or Position Maximum Variation

MEFF S/MART system offers HFTs Clearing Members the possibility of setting a maximum open position. It is defined only for IBEX 35 Future contracts, without differentiating between maturities of each contract. Therefore, Time Spread orders are not taken into account.

The IFTL filter monitors maximum open position that a Clearing Member has admitted for its members (only those designated as High Frequency Traders).

This filter counts simultaneously two possible open positions, one long and one short, considering each, the current position and market pending orders of a particular holder of the Non-Clearing Member (HFT). In both values, they are computed together IBEX 35 Futures, Mini IBEX 35 and Micro IBEX 35, in Mini IBEX 35 units (1 IBEX 35 = 10 Mini IBEX 35 = 100 Micro IBEX 35).

In the case that the resulting values exceed the IFTL filter; the system will reject the entry of orders by the holder of the Member (HFT).

The filter also allows setting the starting position. By default, the starting position at the beginning of the session is zero.

The intraday variations will only take into account trades resulting from orders, including quote orders (not cross trades) sent through the trading system.

6. Specific filter of the Prearranged Trades System and Request for Quote System (RFQ)

MEFF will apply, at a group contract level and to each Member, a filter, that will be determined in function of the maximum volume parameters per trade that may be accepted by the Clearing Member in BME CLEARING (being the MEFF Member or the entity doing the clearing to it in BME CLEARING). (Specific Filter) In this regard, BME CLEARING will provide MEFF with these parameters.

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MEFF will supervise the compliance of the Specific Filter. If a trade communicated to the Prearranged Trades System or traded in the RFQ System go above the mentioned Specific Filter, MEFF will not accept the trade and will not figure as traded nor registered in MEFF. MEFF will immediately inform BME CLEARING.

7. Kill Functionality

Through this functionality of the MEFF S/MART system, the MEFF Supervision department will be able to cancel non-executed orders from a member and suspend its access to the market:

- Under a member request when this one is unable due to technical problems.
- When the order book contains erroneous or duplicated orders.
- After a suspension declared by MEFF or by the Competent Authority (CNMV).

In addition, through this functionality, Clearing Members from BME CLEARING will be able to cancel pending orders from its Non-Clearing Members in MEFF and suspend their access to the Trading Systems in MEFF with the following effects:

- Order Electronic System: The pending orders in the book will be cancelled and the introduction of new orders will not be admitted.
- Prearranged Trades System: The pending prearranged trades for registration will not be cancelled but no action will be able to be done over the pending orders for acceptance.
- Request For Quote System (RFQ): Neither the requested nor the received will be cancelled, but no action will be able to be done over the requested or received RFQ.

8. Delta Protection

This is a Functionality designed by MEFF to prevent massive executions.

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This is a filter for those Members that send and maintain a lot of prices at the same time, typically the Market Makers and Liquidity Providers in the Option Contracts, though they could also use it in Futures and xRolling FX.

Functioning: The system counts the number of contracts traded during a defined period of time and when this number exceeds the limit established by the user, the Delta Protection is activated. The activation constitutes the automatic cancellation of all alive orders in the group of contracts under the Delta Protection for the user that asked for it, including the quote orders, as well as the temporary disqualification to send new orders in the said underlying. Once the user re-establishes the configuration, he will be able to start sending again orders in the affected underlying.

Configuration: It is related to the parameter's configuration of the quote order. The order cannot be used unless it has predefined criteria and is in this configuration where the Delta Protection parameters can be set, through the MEFF GUI or Fix protocol.

The parameters to be defined will be:

- The period of time in seconds, , with a maximum of 60 seconds, during which the number of contracts traded is counted.
- The underlying and which type of product on the underlying, and this one must be set at member, user and account level. There are three configurable parameters regarding the volume required for the Delta Protection activation:
 - Maximum number of traded contracts: the Delta Protection will be activated when more than a determined number of contracts of buy, or sell are executed. For example: if a maximum of 50 is established, the Delta Protection will be activated when more than 50 contracts of call or put are bought or sold in the established period.
 - Maximum accumulated Delta: The Delta Protection will be activated when more than a determined maximum number of deltas are executed in absolute value. There must be taken into account that this parameter is established at absolute Delta level and not at real Delta of the contract. Calculation for absolute Delta will be always done in the following way:

$$\text{Abs [Volume of (buy of Calls + sell of Puts + buy of Futures) - (sell of Calls + buy of Puts + sell of Futures)]}.$$

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For example: if a maximum of 50 is established, the Delta Protection will be activated when the absolute Delta exceeds 50, may be: (150 long Calls + 200 short Puts) – (100 short Calls + 190 long Puts) = 60 Delta.

Maximum absolute balance of buys and sells: the Delta Protection will be activated when the volume executed exceeds the total balance of buys and sells. For example: if a maximum of 50 is established, the Delta Protection would be activated if 30 buys and 25 sells were executed.

Contract groups can be defined as follows:

- In derivatives which underlying is a stock or index: There is a contract group for each underlying or contract type (futures or options)
- In xRolling FX Derivatives: All currency pairs constitute a single group.

9. Self Match Prevention (SMP)

It is a functionality that allows preventing orders from the same Member from being executed.

Configuration: To set this functionality, the Member must introduce a numerical value between 1 and 999 in the corresponding field. In case of leaving, it empty or with a value of 0, the functionality will not be activated for that order.

How the system works: If the trading system receives an aggressive order whose counterparty is a passive order from the same member code, the numerical value of the SMP field will be checked, if they coincide the system will not allow the trade execution.

To not execute the trade, the member can set any of the following criteria:

- Cancel the new aggressive order or
- Cancel the passive order that exists in the trading book and leave the new aggressive order or
- Cancel both orders.

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This functionality will not be available on Fill or Kill orders and will not apply to trades resulting from auction resolution.

ERRONEOUS TRANSACTIONS IN FUTURES AND TIME SPREAD

This Circular establishes the rules regarding erroneous transactions in futures and Time Spread traded on MEFF.

1.- CONDITIONS TO CONSIDER A TRADE AS ERRONEOUS

A trade will be considered as an erroneous transaction as long as the following conditions are fulfilled:

- 1.1. In the IBEX 35 Futures, when the price of the transactions generated by the erroneous entry deviates by more than twice the Maximum Price Filter from the Reference Price or Market Price for that contract.

In the IBEX 35 Sector Futures, IBEX 35 IMPACTO DIV Futures, Stock Futures, BONO 10 Futures, xRolling FX Futures, Single Stock Dividend Futures and Single Stock Dividend Futures Plus, when the price of the transactions generated by the erroneous entry deviates by more than the Maximum Price Filter from the Reference Price or Market Price for that contract.

In the IBEX 35 or IBEX 35 IMPACTO DIV Time Spread, when the transactions generated by the erroneous entry deviates by more than 10 points from the Reference Price or Market Price for that contract.

In Stock Futures Time Spread, the BONO 10 Time Spread and the Stock Dividend Futures Time Spread, when the transactions generated by the erroneous entry deviates by more than 25 basis points for the BONO 10 Future Time Spread and 5 cents for the rest from the Reference Price or Market Price for that contract.

- 1.2. After the resulting executions from the erroneous entry and in a short period of time, the contract recovers the level of prices that was crossing previously to the entry of the order. When the erroneous entry occurs at the end of the session with little or no time for futures prices to recover, the Supervisor will decide if this condition is fulfilled based on the underlying prices, other markets evolution and specific characteristics of each case.

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2.- APPLICATION METHOD

- 2.1. The Market price used as Reference Price shall be generally established as the average price of the transaction effected immediately before the entry of the order generating the erroneous trades and the first price, once the market comes back to normality.
- 2.2. If the Reference Price calculated in Paragraph 2.1 does not reflect the market conditions, the Supervisor of the Session will decide the Reference Price to be used, taking into account the underlying other markets evolution and other relevant market benchmarks.
- 2.3. Once the Reference Price has been determined, a Limit Price will be calculated as follows:
 - For IBEX 35 Future trades, adding to the Reference price an amount equal to twice the Maximum Price Filter when the erroneous order was a BUY order and subtracting from the Reference Price an amount equal to twice the Maximum Price Filter when the erroneous order was a SELL order.
 - For Stock futures, Stock Dividend Futures, xRolling FX Futures, IBEX 35 Sector Futures, IBEX 35 IMPACTO DIV Futures or BONO 10 Futures trades, adding to the Reference price an amount equal to the Maximum Price Filter when the erroneous order was a BUY order and subtracting from the Reference Price an amount equal to the Maximum Price Filter when the erroneous order was a SELL order.
 - For Time Spread trades, adding to the Reference price an amount equal to the Maximum Price Filter when the erroneous order was a BUY order and subtracting from the Reference Price an amount equal to the Maximum Price Filter when the erroneous order was a SELL order.

In IBEX 35 Future contracts, BONO 10 Futures and their corresponding Time Spread: all trades between the reference price and the Limit Price (both included) will be maintained at the price they were made and all those above or below, as applicable from the Limit Price, will be restored at the Limit Price.

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In Stock Futures, IBEX 35 Sector Futures, IBEX 35 IMPACT DIV Futures, xRolling FX Futures, Stock Dividend Futures and their corresponding Time Spread: All trades between the reference price and the Limit Price (both included) will be maintained at the price they were made and all those above or below, as applicable from the Limit Price, will be cancelled, leaving it to the consideration of the counterparty that has not committed the error, the decision of whether he wants to replace the trade at the Limit Price decided by Supervision. If this counterparty takes more than half an hour to answer, the erroneous trade will be replaced with the price defined by the Supervisor.

This rule will not be applicable for those orders whose prices were reasonable at the moment they were introduced but then suddenly turned into a miss trade, according to these Circular provisions, due to a quick underlying price movement.

The Member who send the order which caused the erroneous trade, shall claim or confirm to MEFF that point. Those transactions claimed after the market close for the corresponding product, will not be covered by this rule.

MEFF may act on its own to alert Members about the commission of mistakes that have not been claimed yet. To that end, MEFF will use software programmes that compare in real time last prices with theoretical prices (increased or decreased in the same amount as the size of the intervals already described in order to consider a price as erroneous or valid). Nevertheless, lack of action, will not make MEFF responsible towards the Member that made the mistake and did not claim.

ERRONEOUS OPTIONS TRANSACTIONS

This Circular establishes the rules regarding erroneous options transactions traded through the Electronic Trading System.

1.- CONDITIONS TO CONSIDER A TRADE AS ERRONEUS

An options trade will be considered as an erroneous transaction as long as the following conditions are fulfilled:

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- 1.1. The Price of the transactions effected by the erroneous entry deviates from the Reference Price or the Market Price by more than certain amount that is specific by product and expiry. These amounts or intervals are described below:

IBEX 35 Options

- Expiries up to one year: 15% x RP with a minimum of 6 points and a maximum of 25
- Rest of expiries: 20% x RP with a minimum of 8 points and a maximum of 30

Stock options

- **If the LAST price of the underlying at the time the option was traded is over 25 Euros, the amount to add or subtract from the Reference Price will be:**

Expiries up to one year: 17% x RP with a minimum of 10 cents and a maximum of 20

Rest of expiries: 20% x RP with a minimum of 10 cents and a maximum of 25

- **If the LAST price of the underlying at the time the option was traded is equal or under 25 Euros and over 10 Euros, the amount to add or subtract from the Reference Price will be:**

Expiries up to one year: 15% x RP with a minimum of 10 cents and a maximum of 15

Rest of expiries: 17% x RP with a minimum of 10 cents and a maximum of 20

- **If the LAST price of the underlying at the time the option was traded is equal or under 10 Euros, the amount to add or subtract from the Reference Price will be:**

Expiries up to one year: 12% x RP with a minimum of 5 cents and a maximum of 10

Rest of expiries: 15% x RP with a minimum of 5 cents and a maximum of 15

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- 1.2. With regard to strategies, no strategy will be considered an erroneous trade but each option of the strategy.
- 1.3. The Member who send the order which caused the erroneous trade, shall claim or confirm to MEFF that point. Those transactions claimed after the market close for the corresponding product, will not be covered by this rule.

MEFF may act on its own to alert Members about the commission of mistakes that have not been claimed yet. To that end, MEFF will use software programmes that compare in real time last prices with theoretical prices (increased or decreased in the same amount as the size of the intervals already described in order to consider a price as erroneous or valid). Nevertheless, lack of action, will not make MEFF responsible towards the Member that made the mistake and did not claim.

The fact that MEFF detects any supposed error does not automatically mean that they are considered as errors, as prices used to calculate intervals for the control system are Theoretical Prices.

2.- APPLICATION METHOD

2.1. Reference Price calculation:

The Market Price that will be used as Reference Price shall be calculated as follows: MEFF will request firm quotes for the option series where the error has been produced with the underlying level at the trade moment. The Central Price of these quotes will be the Reference Price.

When a Reference Price for an IBEX 35 Option with expiration different than the front month needs to be calculated, the underlying level will be the last price of the front month futures at the moment the option was traded plus the corresponding Time Spread price.

2.2. Limit Price calculation:

If the Reference Price cannot be calculated according to paragraph 2.1 or the price calculated does not reflect the Market conditions, the Session Supervisor will decide the Reference Price to be used.

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Once the Reference Price is determined, a Limit Price will be calculated, as the Reference Price plus the interval applicable to the corresponding product and expiry (according to Paragraph 1.1) if the erroneous entry is a BUY order and the Reference Price minus the corresponding interval if the erroneous entry is a SELL order.

2.3. Trades treatment according to its deviation:

Stock and IBEX 35 Options: All trades between the reference price and the Limit Price (both included) will be maintained at the price they were made and all those above or below, as applicable from the Limit Price, will be cancelled, leaving it to the consideration of the counterparty that has not erred the decision of whether he wants to replace the trade at the Limit Price decided by Supervision. If this counterparty takes more than half an hour to answer, the erroneous trade will be replaced with the price defined by the Supervisor.

This rule will not be applicable for those orders whose prices were reasonable at the moment they were introduced but then suddenly turned into a mistrade, according to these Circular provisions, due to a quick underlying price movement.

PROCEDURE TO CORRECT TRADES CONSIDERED AS ERRONEOUS

The procedure described in this Circular will be launched as long as the difference between the price at which the trade was done and the price of the replacement trade is equal or above the amount of 500 Euros, remaining in the hands of the Supervisor the treatment of massive errors.

If the erroneous trade affects more than 3 Members, once the Session Supervisor determines the Reference Price as well as the trades considered as erroneous, MEFF will proceed as follows:

- IBEX 35 Futures: MEFF will inform through the terminal to all market Members about the Reference Price and the Limit Price (last valid price).
- Rest of the contracts: Every particular Member involved will be directly informed by MEFF about the trades that have been considered erroneous.

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Erroneous trades will be cancelled by means of entering a counter transaction into the system (an X operation type) at the price and volume of the erroneous trade. This type of operation offsets the position and fees generated by the initial trade in BME CLEARING. In appropriate cases, a new trade will be registered (H trade type) or modification (W trade type) with the same sign and volume as the erroneous trade, and with the replacement price defined by Supervision.

All replacing trades correcting miss trades will have as value date the day on which the miss trade has occurred.

ERRONEOUS TRADES DUE TO SYSTEM MALFUNCTIONING

In case of MEFF Trading system malfunction that has as a result the execution of trades, MEFF will be able to declare these as not performed and will proceed to its cancellation

Malfunctioning system, a system failure, crossed prices on the order book, bad functioning of the mechanisms to manage volatility (auction volatility) or any other unusual behaviour of the own system or algorithm of a Market Member, will have to be communicated to the Competent Authority (CNMV) to whom a report will be sent.

Once these technical problems have been identified by MEFF, the Market Supervisor will inform as soon as possible to market participants that there are trades under Supervision, this is to say, that they are susceptible of being modified or cancelled.

Once the problem has been analysed, the Supervisor will decide whether he cancels or modifies to another price the trades generated due to a bad functioning of the system.

The Supervisor will make the decision taking into account the type of issue that originated it, the moment in which it happened in order to delimit the cancellation of trades to the ones that took place as a consequence of a bad functioning of the system or a concrete algorithm, the prices generated by these trades (prices consistent with the market evolution) and the volumes (number of contracts consistent with the usual ones in the order book or Trading System).

Counterparties will accept the decision of the Supervisor.

If the counterparties of a trade susceptible of being cancelled by the reason described on this section, agree in the interest of maintaining the trade, they will communicate to the

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Supervisor during the market session, and this one will be able to decide not to cancel it every time he considers that the price was consistent with the evolution of the market.

The cancellation of trades will carry the corresponding modification of statistics: high, low, last price and traded volume.

In the case of modification of trades, the new registration price will be calculated taking into account the price of the contract before and after the bad functioning of the system (if there was not a suspension of the Trading System) and taking into account the market and the underlying evolution.

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