



Resolution No. 2/BETa/2024 of the Budapest Stock Exchange Plc.

Budapest, 27 March 2024

In accordance with the authorization granted in Part II. Chapter 3 Section 2.1. of the General Terms of Service of the BETa Market (hereinafter: Regulations on Trading), The Budapest Stock Exchange Ltd. (hereinafter „Market Operator”) determines the trading parameters effective as of 1 April 2024 as attached hereto.

Attila Varga-Balázs
Director
Trading, Business Development
and Listing Division

Important notice:

All information contained within this material is for information purposes only and shall not be considered as an official translation of the CEO Resolution referred to herein. The original Hungarian language version of the CEO Resolution referred to herein remains to be the solely legally binding material in the subject matter



TRADING PARAMETERS

1. Trading hours of securities

Continuous Trading with Auctions Trading Model		
Trading Phases and Sub-Phases		Trading Time
Pre-Trading Phase(PRETR)		8.15-8.30
Opening Auction Phase	Auction Call Sub-Phase (OCALL)	8.30-9.00
	Price Determination and matching	9.00 + Random End
Continuous Trading Phase (TRADE)		From the end of Opening Auction Phase until 17.00
Closing Auction Phase	Auction Call Sub-Phase (CCALL)	17.00-17.05
	Price Determination and matching	17.05 + Random End
Trade-at-Close phase* (TRDAC)		From the end of Closing Auction Phase until 17:15
Post-Trading Phase (POSTR)		From the end of Closing Auction Phase or Trade-at-Close Phase until 17.20
End-trading (ENDTR)		17:20
Volatility Interruption Phase (VOLA)*		3 min. + Random End
Random End		max. 30 sec.

** Trade-at-Close Phase is not activated if there was no trade execution during Closing Auction Phase or Extended Volatility Interruption after the Closing Auction was not terminated until 17:15.

** During Volatility Interruption Phase the duration of the Call Sub-Phase and the Extended Call Sub-Phase lasts 3 minutes, not including the Random end.

The validity of Orders, which are entered with Good-for-Day Validity Restriction or Good-till-Date Validity Restriction expire on the given Exchange Day after the end of the Post-trading Phase. The end of the Post-trading Phase and the time stamp of the messages sent from the system about the expiration can differ.

On the BETa Market: The maximum length for Random-ends is determined in **30 seconds**.

2. Minimum Order Value of Negotiated Transactions

The minimum value of Negotiated Transactions on the BETa Market are the following:

- For all Securities traded in HUF: 40 000 000 HUF
- For all Securities traded in EUR: 100 000 EUR
- For all Securities traded in USD: 100 000 USD



3. Available Order types in the BETA Trading System

The following Order types are permitted in the BETA Market Trading Systems:

Order types per instrument groups		
Security category	Instrument group*	Order type
BETA shares	BETA	Market, Limit, Stop, Iceberg, Trailing Stop, OCO
BÉTA ETFs	BMFF	Market, Limit, Stop, Iceberg, Trailing Stop, OCO

* Permitted Order types are identical for all Securities in the same Instrument group listed in this table.

4. Order Parameters

The following Order Parameters are permitted on the BETA Market when entering Orders:

Order parameters		
Trading model	Restriction	Order Parameter
Continuous trading with auctions	Execution restrictions	Book or Cancel
	Trading restrictions	Intraday auction only
		Opening auction only
		Closing auction only
		Auction only
	Validity restrictions	Good-for-Day
		Good-till-Date
		Good-till-Cancelled
		Fill or Kill
		Immediate-or-Cancel

5. Maximum Order Value and Quantity

The following standardized Maximum Order Value and Maximum Order Quantity may be given when entering Orders*:

Maximum Order Value	Maximum Order Quantity
HUF 9.900.000.000	999.999.999 pcs

*Note: Members may determine lower values than these standardized values for their traders.

The Budapest Stock Exchange prohibits disabling the above mentioned limits in every connectivity type.



6. Iceberg Order Minimum Peak Quantity and Minimum Overall Volume

The Iceberg Orders minimum overall volume shall be determined in such way that the Iceberg Order value shall exceed EUR 10,000.- when entering Orders, furthermore, the minimum value of the Peak Quantity and Overall Volume of Iceberg Orders are determined as follows:

Minimum Value of the Peak Quantity	Minimum Value of the Overall Volume
HUF 1.500.000	HUF 15.000.000

7. Dynamic and Static Price Range

The percentage values of the Dynamic and Static Price Range for each Security are determined on the BETA Market as follows:

Instrument category	Instrument group code	Dynamic Price Range	Static Price Range
BETA Market	BETA, BMFF	10%	10%

The multiple value of the Dynamic volatility corridor, that is referred to the trigger the Extended Volatility interruption, is the **twice** the Dynamic volatility corridor on the BETA Market.

8. Determination of unexecuted order to transaction ratio (OTR)

In accordance with the authorization granted in Section 10.4.2 of Chapter 6 of the Regulations on Trading, and by the Commission Delegated Regulation (EU) 2017/566, the Market Operator determines the maximum values of the unexecuted order to transaction ratios as follows, separately for the number of orders (hereinafter: „OTR_{no}”) and for the volume of orders (hereinafter: „OTR_{vol}”), jointly: OTR.

In accordance with the authorization granted in Section 10.4.3 of Chapter 6 of the Regulations on Trading, the Market Operator determines different maximum OTR_{no} and OTR_{vol} values for Traders who are willing to take extra trading obligation in order to improve market liquidity based on the fact that this action may coincide with the increase of the OTR indicators (e.g. market makers).

BETA Market						
Instrument Category	Minimum value (OTR _{no})	OTR _{no} max. (non-market makers)	OTR _{no} max. értéke (in case of market makers)	Minimum value (OTR _{vol})	OTR _{vol} max. value (non-market maker)	OTR _{vol} max. value (in case of market maker)
Equities and ETF's	1	20 000	100 000	1 000	100 000	1 000 000

The Market Operator calculates each OTR for each trading day per Trader and per individual instrument using the following formulas for each trading day, taking into account all trading periods of the trading day:



$$OTR_{no} = \frac{\text{Number of orders entered by Exchange Member}}{\text{Number of orders entered and executed by Exchange Member} + \text{minimum value of denominator}} - 1$$

$$OTR_{vol} = \frac{\text{The total value of orders entered by Exchange Member (volume)}}{\text{The total value of entered and executed orders by Exchange Member (volume)} + \text{minimum value of denominator}} - 1$$

In the denominator of OTR formulas contains all executed orders including partially executions and minimum value specified for the given instrument group is also added while in the numerator all orders are aggregated including entered, modified and deleted orders.

Orders that are deleted outside the Trader's intention – e.g. deletion made by the Market Operator, orders not accepted at auction, deletion due to lost connectivity or due to activation of Kill functionality – shall not be taken into account in the calculation OTR indicators.

When calculating the OTR_{vol} for different sections the transaction values (volumes) are determined as follows:

When calculation OTR formulas, type of orders and restrictions are taken into account with the following weighting factors:

Weights according to the type of order and restrictions	
Order type	Weight multiplier
Limit order enter/deletion	1
Limit order modification	2
Market order submission/deletion	1
Market order modification	2
Iceberg order submission/deletion	1
Iceberg order modification	2
Stop, Trailing Stop, OCO order submission/modification	1 (in case of activation 2)
Stop, Trailing Stop, OCO order deletion	1
Quote submission/deletion (Standard Market Maker Order, Matching quote, Price without turnover quote)	2
Quote modification (Standard Market Maker Order, Matching quote, Price without turnover quote)	4
Order restriction	Weight multiplier
Immediate-or-Cancel	1 (in case of withdrawal/deletion 2)
Fill-or-Kill	1
Book or Cancel	1

The Market Operator measures OTR indicators for individual instruments on daily basis and report those formulas to Traders (only the relevant ones) on a monthly basis showing their daily performance and their possible limit exceeds.



If the Market Operator determines that the OTR indicators calculated above exceeds at least one of the predefined maximum value in respect of one or more individual instrument for a given Trader than the Market Operator warns the Exchange Member within 3 trading days and may apply sanctions in accordance with Section 8.10 of the Regulations on Trading as follows:

- In case of first three daily limit exceeds in a given calendar year – regardless the number of instruments and type of OTR formula – the Market Operator shall warn the Trader
- In case of every limit exceed following the first three exceeds in a calendar year - regardless the number of instruments and type of OTR formula – the Market Operator shall apply a fine of 100.000 HUF per day

The Market Operator continuously monitors the OTR indicators per Exchange Member and per individual instruments, and if justified by market conditions the maximum OTR numbers may be modified by the Market Operator.



9. Liquidity Band and Tick Size

<i>Name of Security</i>	<i>Code of Security (ISIN)</i>	<i>Ticker symbol of Security</i>	<i>Currency of trading</i>	<i>Liquidity Band*</i>
Foreign equities				
ADIDAS AG share	DE000A1EWWW0	ADIDAS	HUF	Liquidity band 5
ALLIANZ SE ORD share	DE0008404005	ALLIANZ	HUF	Liquidity band 5
BASF SE ORD share	DE000BASF111	BASF	HUF	Liquidity band 6
BAYER AG ORD share	DE000BAY0017	BAYER	HUF	Liquidity band 6
BMW AG ORD share	DE0005190003	BMW	HUF	Liquidity band 5
COMMERZBANK AG ORD share	DE000CBK1001	COMMERZBANK	HUF	Liquidity band 5
MERCEDES-BENZ GROUP AG share	DE0007100000	MERCEDESSENZ	HUF	Liquidity band 6
DEUTSCHE BANK AG ORD share	DE0005140008	DEUTSCHEBANK	HUF	Liquidity band 6
DEUTSCHE LUFTHANSA AG share	DE0008232125	LUFTHANSA	HUF	Liquidity band 5
DEUTSCHE TELEKOM AG ORD share	DE0005557508	DEUTSCHETEL	HUF	Liquidity band 5
E.ON AG ORD share	DE000ENAG999	EON	HUF	Liquidity band 5
HENKEL AG PREF share	DE0006048432	HENKEL	HUF	Liquidity band 5
INFINEON TECHNOLOGIES AG ORD share	DE0006231004	INFINEON	HUF	Liquidity band 6
MÜNCHENER RÜCKVERSICHERUNG AG ORD share	DE0008430026	MUNICHRE	HUF	Liquidity band 5
SAP AG ORD share	DE0007164600	SAP	HUF	Liquidity band 6
SIEMENS AG ORD share	DE0007236101	SIEMENS	HUF	Liquidity band 6
THYSSENKRUPP AG ORD share	DE0007500001	THYSSENKRUPP	HUF	Liquidity band 5
VOLKSWAGEN PREF share	DE0007664039	VOLKSWAGEN	HUF	Liquidity band 5
WIZZ AIR HOLDINGS PLC ORD share	JE00BN574F90	WIZZAIR	HUF	Liquidity band 4



ETFs					
ISHARES CORE DAX ETF	DE0005933931	DAXEX	HUF	Liquidity band 6	
ISHARES CORE S&P 500 ETF	IE00B5BMR087	SXR8	HUF	Liquidity band 6	
ISHARES EURO STOXX ETF	DE0005933956	SX5EEX	HUF	Liquidity band 6	
ISHARES NASDAQ-100 ETF	DE000A0F5UF5	NDXEX	HUF	Liquidity band 6	
X EURO STOXX 50 SHORT SWAP ETF	LU0292106753	XSSX	HUF	Liquidity band 6	
X S&P 500 INVERSE DAILY SWAP ETF	LU0322251520	DXS3	HUF	Liquidity band 6	
X SHORTDAX DAILY SWAP ETF	LU0292106241	XSDX	HUF	Liquidity band 6	
UBS MSCI EMU SRI ETF	LU0629460675	UBSEMUSRI	HUF	Liquidity band 6	
UBS MSCI USA SRI ETF	LU0629460089	UBSUSASRI	HUF	Liquidity band 6	

*Specified by point 49 of Directive 2014/65 / EU of the European Parliament and of the Council, by Commission Regulation (EU) No 2017/588 referring to that point and on the basis of calculations made by ESMA

Liquidity band	1	2	3	4	5	6
Avg daily number of transactions (ADNT)	$0 \leq \text{ADNT} < 10$	$10 \leq \text{ADNT} < 80$	$80 \leq \text{ADNT} < 600$	$600 \leq \text{ADNT} < 2000$	$2000 \leq \text{ADNT} < 9000$	$9000 \leq \text{ADNT}$

Liquidity band	PRICE					
	$0 \leq \text{price} < 0,1$	$0,1 \leq \text{price} < 0,2$	$0,2 \leq \text{price} < 0,5$	$0,5 \leq \text{price} < 1$	$1 \leq \text{price} < 2$	$2 \leq \text{price} < 5$
Liquidity band 1	0,0005	0,001	0,002	0,005	0,01	0,02
Liquidity band 2	0,0002	0,0005	0,001	0,002	0,005	0,01
Liquidity band 3	0,0001	0,0002	0,0005	0,001	0,002	0,005
Liquidity band 4	0,0001	0,0001	0,0002	0,0005	0,001	0,002
Liquidity band 5	0,0001	0,0001	0,0001	0,0002	0,0005	0,001
Liquidity band 6	0,0001	0,0001	0,0001	0,0001	0,0002	0,0005



Liquidity band	PRICE					
	$5 \leq \text{price} < 10$	$10 \leq \text{price} < 20$	$20 \leq \text{price} < 50$	$50 \leq \text{price} < 100$	$100 \leq \text{price} < 200$	$200 \leq \text{price} < 500$
Liquidity band 1	0,05	0,1	0,2	0,5	1	2
Liquidity band 2	0,02	0,05	0,1	0,2	0,5	1
Liquidity band 3	0,01	0,02	0,05	0,1	0,2	0,5
Liquidity band 4	0,005	0,01	0,02	0,05	0,1	0,2
Liquidity band 5	0,002	0,005	0,01	0,02	0,05	0,1
Liquidity band 6	0,001	0,002	0,005	0,01	0,02	0,05

Liquidity band	PRICE						
	$500 \leq \text{price} < 1000$	$1000 \leq \text{price} < 2000$	$2000 \leq \text{price} < 5000$	$5000 \leq \text{price} < 10000$	$10000 \leq \text{price} < 20000$	$20000 \leq \text{price} < 50000$	$50000 \leq \text{price}$
Liquidity band 1	5	10	20	50	100	200	500
Liquidity band 2	2	5	10	20	50	100	200
Liquidity band 3	1	2	5	10	20	50	100
Liquidity band 4	0,5	1	2	5	10	20	50
Liquidity band 5	0,2	0,5	1	2	5	10	20
Liquidity band 6	0,1	0,2	0,5	1	2	5	10



10. MIFID II – Order Audit Trail fields on the BETA market

In accordance with the authorization granted in Section 12.2.1 of Chapter 6 of the Regulations on trading, BSE requests various pieces of information from its members.

These data and the connected supplementary information have to be given in the order fields of the Xetra trading system, which are the following:

- Client ID
- Executing Trader Indicator
- Executing Trader (can be filled solely on interface)
- Investment Decision Indicator
- Investment Decision Maker
- Liquidity provision

In case of Client ID, Executing Trader, Investment Decision maker a so called short code is applied, because of which, there is no need to fill in the values required by MIFID (National ID, LEI code) in the trading system. On the other hand, members have to assign a numerical code (short code) to the data (considering that, there are fixed codes reserved by the Exchange) and this needs to be supplied during order submission in the trading system.

The data belonging to the short code (long code) must be sent to BSE outside the trading system.

BSE always displays the long code belonging to the short code in the audit trail report.

1. Client ID

The field can be filled with the following values:

- Short code (8 bytes positive integer higher than 9)
- Empty – no client order
- 1 – aggregated orders (AGGR)
- 2 – pending allocation (PNAL)

In case of order submission from Agent role, the field cannot be left empty, in the absence of a value, the order will be rejected.

If it is not a client order, the field must be left empty.

In case of client orders, the field should be filled with the short code, or with the previously specified '1' or '2' values. If the client provides the '1' value in the field, then the order will be shown as aggregated order (AGGR) in the audit trail report. If it is filled with the value '2', then the applicable field of the audit trail report will be shown as pending allocation (PNAL).

Neither the aggregated order, nor the pending allocation status will be modified later on, in the system of BSE, therefore there is no need to record afterwards to who the order belonged to.



2. Executing trader indicator

Possible values of the field:

- 24 or empty – natural person is responsible for execution
- 22 – algorithm is responsible for execution

The appropriate filling of this field is quite important, as it specifies the filling of the „Executing trader” field.

Through Front-end (TraderGUI, CEE Trader) it cannot be amended, in that case the default value is 24.

3. Executing trader (solely through interface)

Possible values of the field:

- Algorithm ID (8 bytes positive integer higher than 9)
- Short code (8 bytes positive integer higher than 9)
- Empty
- 3

If the value '22' is recorded in the “Executing trader indicator” field, then the “Executing trader” field can be filled only with the algorithm ID.

If the value '24' is recorded in the “Executing trader indicator” field or left empty, then members have to record the short code belonging to the natural person responsible for execution in the field.

Member may leave the field empty if the value '24' is recorded in the “Executing trader indicator” field or left empty, in which case the National ID of the trader, who submitted the order, will be recorded in the audit trail report.

BSE requires all members to send the National ID of all traders in advance, which will be assigned to the proper Trader ID, so the National ID of the order submitting trader will be known, without recording it separately during the order submission.

If the client is responsible for execution, the value '3' should be recorded. In this case the long code belonging to the short code (shown in the Client ID) will be recorded in the audit trail report. It is important that the fix value '3' works only in case of client order, where the short code is recorded (it does not work in case of 1- „AGGR” and 2- „PNAL” values). If the Client ID is filled incorrectly, or value '3' is recorded in case of prop trading, then the trader, who submits the order, will be shown as the person responsible for execution.

4. Investment decision indicator

Possible values of the field:

- 22 – algorithm is responsible for the investment decision
- 24 – natural person is responsible for the investment decision
- empty – not applicable (client order)

In case of client order the field needs to be left empty. Only exception if a member within the investment firm is responsible for execution when submitting client order (i.e. Client portfolio management). In this case this field can be filled with value of '22' or '24' as well.

The appropriate filling of this field is quite important, as it specifies the filling of the „Investment decision maker” field.



5. Investment decision maker

Possible values of the field:

- Algorithm ID (8 bytes positive integer higher than 9)
- Short code (8 bytes positive integer higher than 9)
- Empty

If the “investment decision indicator” was recorded with value ‘22’, then this field can be recorded with the algorithmic ID only.

If the “investment decision indicator” was recorded with value ‘24’, then members need to fill the short code, belonging to the natural person responsible for investment decision, in this field. Its function is identical with the function described under Client ID and Execution trader sections. If the investment decision maker field is left empty, then the trader, registered to the order submitting trader ID, is responsible.

If the „Investment decision indicator” was left empty, then there is no need to fill the field, as the investment decision was not made within the organization of the member.

6. Liquidity provision

In case of a market maker order, the field needs to be filled. If the order is not market maker order the field needs to be left empty. Market making is possible solely in case of prop trading.



Possible combination of fields for different order capacities:

Trading Capacity	Investment qualifier	Investment Decision ID		Execution qualifier	Execution ID			Client ID		
Agent	24	empty*	short code	22	mandatory (algo ID)			short code	1- AGGR	2- PNAL
Agent	24	empty*	short code	24	empty*	short code	3 - client is responsible for execution	short code	1- AGGR	2- PNAL
Agent	22	mandatory (algo ID)		22	mandatory (algo ID)			short code	1- AGGR	2- PNAL
Agent	22	mandatory (algo ID)		24	empty*	short code	3 - client is responsible for execution	short code	1- AGGR	2- PNAL
Agent	empty	empty - client is responsible for investment decision		22	mandatory (algo ID)			short code	1- AGGR	2- PNAL
Agent	empty	empty - client is responsible for investment decision		24	empty*	short code	3 - client is responsible for execution	short code	1- AGGR	2- PNAL
Proprietary/MM	24	empty	short code	22	mandatory (algo ID)			must be empty		
Proprietary/MM	24	empty	short code	24	empty*	short code		must be empty		
Proprietary/MM	22	mandatory (algo ID)		22	mandatory (algo ID)			must be empty		
Proprietary/MM	22	mandatory (algo ID)		24	empty*	short code		must be empty		
Proprietary/MM	empty	empty*		22	mandatory (algo ID)			must be empty		
Proprietary/MM	empty	empty*		24	empty*	short code		must be empty		

* Please note, that in case any qualifier field (Execution or Investment) is filled with „24” (human) and the corresponding field is left empty, then the National ID assigned to trader ID will be displayed for the order in the Audit Trail report.