



Trading Manual

Zagreb, December 2018

DISCLAIMER:

Please note that this is a convenience translation of the Trading Manual which serves for information purposes only.

The original Croatian text is binding in all respects.

Contents:

- 1 Introduction..... 1**
- 2 Trading hours and duration of individual trading sessions 1**
 - 2.1 Continuous trading 1
 - 2.2 Auction..... 2
 - 2.3 Continuous Auction 2
 - 2.4 Block trades 2
 - 2.5 The duration of the volatility interruption and extended volatility 2
- 3 Liquidity criteria for share classification in Continuous Trading and Auctions 3**
 - 3.1 Newly listed shares or shares included in trading on the Progress Market 3
 - 3.2 Periodic review of liquidity criteria..... 3
 - 3.3 Fast transition to trading procedure Continuous Trading 3
- 4 Volatility interruption 4**
 - 4.1 Liquidity criterion..... 4
 - 4.2 Limits 5
 - 4.2.1.1 Continuous trading procedure 5
 - 4.2.1.2 Auction trading procedure 5
 - 4.2.2 Debt securities 5
 - 4.3 Limit suspension 5
 - 4.4 Reference price..... 6
- 5 Iceberg orders..... 6**
- 6 Tick size regime..... 6**
- 7 Short selling..... 7**
- 8 Account type and settlement account designation 7**
 - 8.1 Account type and settlement account designation entry 7
 - 8.2 Data correction 8
- 9 Provision of member short codes 8**
- 10 Pre-trade Controls 8**
- 11 Provision of information on the Cross Request orders..... 9**
- 12 Block trades..... 9**
 - 12.1 Negotiated trades..... 9
 - 12.2 Minimum block trade size 9
 - 12.3 Settlement date..... 9
- 13 Transitional and final provisions 10**

14 Annex I: The procedure for the collection of member short code..... 11
Identification of the entity which submitted the order 11
Client identification code 11
Client identification short codes..... 12
Investment decision within firm..... 12
Execution within firm..... 13
Investment/Execution decision short codes 13
Short codes provision deadline 13

1 Introduction

According to Article 5(1) of the Rules of the Zagreb Stock Exchange Inc. (hereinafter: Rules), this manual regulates the following:

- Trading hours and duration of individual trading sessions
- Duration of the volatility interruption
- Liquidity criteria for share classification in continuous trading and auctions
- Price corridors for triggering volatility interruption
- Account type and investor account designation entry
- Block trade size

2 Trading hours and duration of individual trading sessions

According to Article 149(1), Article 152(3) and Article 187(2) of the Rules, the Exchange determines trading hours and the manner of trading as well as the duration of trading sessions in continuous trading and auctions.

2.1 Continuous trading

Table 1. The duration of different trading sessions in trading procedure Continuous Trading

Session	Duration
Pre-Trading	08:00 - 09:00
Main-Trading:	
Opening Auction	09:00 - 09:30 ¹
Continuous Trading	09:30 ² - 12:00
Intraday Auction	12:00 -12:10 ¹
Continuous Trading	12:10 ² - 15:55
Closing Auction	15:55 - 16:00 ¹
Post-Trading	16:00 ² - 16:15

1---the earliest ending (due to the variable ending of Opening Auction, Intraday Auction or Closing Auction, which may last up to 15 seconds. The variable ending is determined separately for each instrument using a random number generator)

2---earliest beginning

2.2 Auction

Table 2. The duration of different trading sessions in trading procedure Auction

Session	Duration
Pre-Trading	08:00 - 11:00
Main-Trading:- auction	11:00 - 13:00 ¹
Post-Trading	13:00 ² - 16:15

1---the earliest ending (due to the variable ending of Opening Auction, or Closing Auction, which may last up to 15 seconds. The variable ending is determined separately for each instrument using a random number generator)

2---earliest beginning

2.3 Continuous Auction

Table 3. The duration of different trading sessions in trading procedure Continuous Auction

Session	Duration
Pre-Trading	08:00 - 09:00
Main-Trading	09:00 - 16:00
Post-Trading	16:00 - 16:15

The maximum duration of the bidding phase is 30 seconds from the time when Market Maker places his offer.

2.4 Block trades

Block trades may be executed every trading day between 08:00 - 16:00.

2.5 The duration of the volatility interruption and extended volatility

According to Article 198(3) of the Rules, the Exchange determines the duration of volatility interruption and extended volatility.

Table 4. The duration of volatility interruption and extended volatility for different categories of financial instrument

Financial instrument	Volatility interruption	Extended volatility
Shares	5 min + variable ending (max. 15 seconds)	Between 5 and 10 min
ETF's		
Bonds, rights and commercial papers		

In case the volatility interruption is triggered immediately before intraday auction or closing auction, volatility interruption will be automatically discontinued when an intraday auction or closing auction finishes and it will be continued after the end of the intraday auction or closing auction if the indicative price is outside the predefined limits.

3 Liquidity criteria for share classification in Continuous Trading and Auctions

Further to Article 195(3) of the Rules, the Exchange sets numerical criteria for classification of shares to be traded in continuous trading and auction, as well as numerical criteria for a fast transition to trading procedure Continuous Trading.

Order book continuous trading always involves the shares listed on the Prime market or Official market, as well as the shares in respect of which there is a Market Maker contract concluded between the Exchange and a member firm and the shares included in the CROBEX® or another Exchange index.

Order book auctions may involve trading in shares only.

3.1 Newly listed shares or shares included in trading on the Progress Market

For the purposes of this Manual, the first admission for trading of a share on a regulated market shall be considered to take place at a time when one of the following conditions applies:

- (a) the share has not previously been admitted for trading on a regulated market;
- (b) the share has previously been admitted for trading on a regulated market but it is removed from trading on every regulated market which has so admitted it.

Any shares being listed on the regulated market for the first time or included in trading on the Progress Market are subject to trading procedure Continuous Trading.

3.2 Periodic review of liquidity criteria

Any shares with at least 1 (one) transaction a day or an average daily turnover of at least HRK 15,000.00 over a period of three months are traded in Continuous Trading.

All other shares are considered less liquid and are subject to trading via Auction.

During the calculation of the average daily turnover and number of transactions from the calculation are excluded block and OTC trades.

On the first Friday of each quarter, the Exchange will publish on its website a list of shares to be traded via Auction. Auction trading in such shares will begin on the following trading day.

3.3 Fast transition to trading procedure Continuous Trading

Any shares with an average daily turnover of at least HRK 500,000.00 in the course of a trading week, and at least one transaction a day and at least 15 transactions a week, will transition from trading procedure Auction to Continuous Trading.

During the calculation of the average daily turnover and number of transactions from the calculation are excluded block and OTC trades.

At the end of the trading week, after the close of trading, the Exchange will post a notification on its website in case any shares have met the criteria for a fast transition to Continuous Trading. Continuous Trading in such shares will begin on the following trading day after the notification has been posted on the Exchange website.

4 Volatility interruption

The volatility interruption mechanism is used when trading with shares, ETF units and debt securities.

In relation to Article 198(3) of the Rules, the Exchange sets dynamic and static limits in relation to volatility interruption mechanism activation based on liquidity criterion and/or market on which shares, or ETF units are listed.

4.1 Liquidity criterion

When defining the criteria for applying volatility interruption mechanism shares and ETF units which are traded in procedure Continuous Trading are divided into three classes according to the liquidity criteria taking into account the number of trading days and the average daily turnover in the last 6 (six) months.

During the calculation of the average daily turnover from the calculation are excluded block and OTC trades.

The liquidity classes are the following:

Class 1 –in respect to any shares and ETF units traded on 75% of trading days for an average daily turnover in excess of HRK 100,000.00;

Class 2 – in respect to any shares and ETF units traded on 50% of trading days for an average daily turnover in excess of HRK 50,000.00;

Class 3 – other shares and ETF units.

If any share or ETF unit meets the criterion of the required number of trading days without meeting the average turnover criterion, it will be allocated to the lower class than that in which it would be on the basis of the number of trading days.

In exceptional cases, the Exchange may decide to classify a particular share or ETF unit into a higher or a lower class than that in which it would be allocated according to the mentioned criteria for a maximum period of 10 (ten) trading days. Such a decision is posted on the Exchange website.

4.2 Limits

4.2.1 Shares and ETF units

4.2.1.1 Continuous trading procedure

For the determination of price change limits, shares and ETF units, which are traded in procedure Continuous Trading, are divided into 3 (three) classes according to the liquidity criteria.

Table 5. Limits for individual liquidity classes of shares and ETF units in Continuous Trading procedure.

Liquidity class	Dynamic limit	Static limit	Limit for Extended volatility
1. class	5%	10%	20%
2. class	7,5%	15%	30%
3. class	10%	20%	40%

4.2.1.2 Auction trading procedure

Table 6.. Limits for individual liquidity classes in Auction trading procedure

Liquidity class	Dynamic limit	Static limit	Limit for Extended volatility
4. class	30%	30%	60%

4.2.2 Debt securities

Table 7. Limits for debt securities

	Dynamic limit	Static limit	Limit for Extended volatility
Government bonds	3%	6%	9%
Corporate bonds, rights and commercial bills	15%	30%	45%
RHMF Global Bonds Anuity	10%	20%	40%

4.3 Limit suspension

When publishing ordinary and/or extraordinary information that can influence the price movement of a share or ETF unit, price change limits are suspended until the end of the trading day on which the issuer has published the information that can influence the price movement. Price change limits are active and used the next trading day according to the liquidity criterion.

4.4 Reference price

The reference price for dynamic limits is the price of the last transaction, whether it was formed through Auction or Continuous Trading procedure.

The reference price for static limits is the price of the last transaction formed through an auction (Auction trading procedure, Opening auction, Closing auction or Volatility interruption). During a trading day, if there were no transactions formed through an auction, the reference price is the closing price of the previous trading day.

5 Iceberg orders

On entering iceberg orders, the total order value must be greater than 10,000.00 Euro (EUR) in accordance with the middle exchange rate of the Croatian National Bank.

On entering iceberg orders, the displayed volume (*peak size*) must amount to at least 5% of the overall volume in the order.

Iceberg orders are not supported in trading with structured products and rights.

6 Tick size regime

In relation to Article 157(2) of the Rules, the Exchange sets the tick size regime for shares, depositary receipts and exchange-traded funds in accordance to the provisions of the Commission Delegated Regulation (EU) 2017/588 of 14 July 2016 supplementing Directive 2014/65/EU of the European Parliament and of the Council with regard to regulatory technical standards on the tick size regime for shares, depositary receipts and exchange-traded funds.

Price ranges	Liquidity bands					
	0 ≤ Average daily number of transactions < 10	10 ≤ Average daily number of transactions < 80	80 ≤ Average daily number of transactions < 600	600 ≤ Average daily number of transactions < 2 000	2 000 ≤ Average daily number of transactions < 9 000	9 000 ≤ Average daily number of transactions
Liquidity band	1	2	3	4	5	6
0 ≤ price < 0,1	0,0005	0,0002	0,0001	0,0001	0,0001	0,0001
0,1 ≤ price < 0,2	0,001	0,0005	0,0002	0,0001	0,0001	0,0001
0,2 ≤ price < 0,5	0,002	0,001	0,0005	0,0002	0,0001	0,0001
0,5 ≤ price < 1	0,005	0,002	0,001	0,0005	0,0002	0,0001
1 ≤ price < 2	0,01	0,005	0,002	0,001	0,0005	0,0002
2 ≤ price < 5	0,02	0,01	0,005	0,002	0,001	0,0005
5 ≤ price < 10	0,05	0,02	0,01	0,005	0,002	0,001
10 ≤ price < 20	0,1	0,05	0,02	0,01	0,005	0,002
20 ≤ price < 50	0,2	0,1	0,05	0,02	0,01	0,005

Price ranges	Liquidity bands					
	0 ≤ Average daily number of transactions < 10	10 ≤ Average daily number of transactions < 80	80 ≤ Average daily number of transactions < 600	600 ≤ Average daily number of transactions < 2 000	2 000 ≤ Average daily number of transactions < 9 000	9 000 ≤ Average daily number of transactions
Liquidity band	1	2	3	4	5	6
50 ≤ price < 100	0,5	0,2	0,1	0,05	0,02	0,01
100 ≤ price < 200	1	0,5	0,2	0,1	0,05	0,02
200 ≤ price < 500	2	1	0,5	0,2	0,1	0,05
500 ≤ price < 1 000	5	2	1	0,5	0,2	0,1
1 000 ≤ price < 2 000	10	5	2	1	0,5	0,2
2 000 ≤ price < 5 000	20	10	5	2	1	0,5
5 000 ≤ price < 10 000	50	20	10	5	2	1
10 000 ≤ price < 20 000	100	50	20	10	5	2
20 000 ≤ price < 50 000	200	100	50	20	10	5
50 000 ≤ price	500	200	100	50	20	10

7 Short selling

The member is obligated to deliver to the Exchange the notice of executed sell transactions with borrowed financial instruments or the notice of buying in relation to the repayment of the loan from Article 224(2) of the Rules in the form of the Excel file which is available on the website of the Exchange.

The related notice is delivered to the Exchange not later than 15:00 o'clock of the next trading day via e-mail nadzor@zse.hr.

8 Account type and settlement account designation

Further to Article 184. and 185. of the Rules, The Exchange defines the manner in which a designation of the account type and settlement account designation in SKDD-CCP Smart Clear d.d. (hereinafter: SKDD-CCP) are to be entered in the order.

8.1 Account type and settlement account designation entry

During an order entry in the trading system, a member is obligated to choose the type of the account and write in the settlement account in SKDD-CCP as follows:

1. in case of placing an order on behalf of an investor who is not a segregated client, the member is obligated to choose the predefined account client type (A)
2. in case of placing an order on behalf of an investor who is a segregated client, the member is obligated to choose the predefined account client type (A) and write in the settlement account for the isolated client in the text field
3. in case of placing an order on one's own behalf, the member is obligated to choose the predefined account client type (P), which designation may only be used in case of proprietary trading
4. in case of placing a Market Maker offer, the member is obligated to choose the predefined account client type (D)

8.2 Data correction

The member firm is required to send a request for amending an erroneously entered investor account number and/or settlement account designation as soon as it sees the error. Along with the request, it is required to submit a copy of the printout from the order book against which the order was entered in the trading system.

The request to amend the data is to be send to the Exchange e-mail nadzor@zse.hr.

The Exchange will amend the account number and/or settlement account designation in the transaction database at the request of the member firm.

9 Provision of member short codes

Further to the Article 193(3) of the Rules, the Exchange sets the procedure for the collection of the information needed for the identification of the relevant parties who submitted order and in accordance to the provisions of the Commission Delegated Regulation (EU) 2017/580 of 24 June 2016 supplementing Regulation (EU) No 600/2014 of the European Parliament and of the Council with regard to regulatory technical standards for the maintenance of relevant data relating to orders in financial instruments. The procedure for the collection of member short codes is described in Annex I of this Manual.

The procedure of delivering the identifiers of the relevant parties is applied appropriately to block transactions.

10 Pre-trade Controls

Further to the Article 203 of the Rules, the Exchange sets the maximum order value and maximum order volume as follows:

- maximum order value: 3.000.000,00 euro
- maximum order volume: 150.000.000 pieces.

The trading system automatically prevent order entry in the order book when the maximum order value or maximum order volume is exceeded. In a case there is a need for member to place an order above

before mentioned thresholds, the member may contact the Exchange by phone (+385 1 4686-839 or +385 1 4686-838) and request the Exchange to temporarily lift pre-trade controls.

11 Provision of information on the Cross Request orders

Further to the Article 219a. of the Rules, the Exchange sets the procedure for the collection of the information needed for the identification of the relevant parties who submitted Cross request order.

A trading member must specify Xetra®-Order number of the order which was entered upon Cross Request. A trading member can fulfill the obligation to deliver this information by entering a special two-character "+ x" tag into the text field of the given order. The field may contain additional characters before the above tag.

If a trading member does not have the technical ability to designate the order as stated above, the Xetra®-Order number is to be send to the Exchange e-mail nadzor@zse.hr with the subject "CROSS REQUEST Order". This information has to be delivered to the Exchange no later than 16:30 CET.

12 Block trades

Further to Article 221(2) of the Rules, the Exchange sets the minimum size and other parameters of block trades in certain financial instruments.

12.1 Negotiated trades

Block trade is a transaction in a financial instrument listed on the regulated market or included in Progress Market which involves one or more member firms, which is pre-arranged privately and conducted via the Exchange trading system. In conducting such transactions, the Exchange member undertakes one of the following:

- a) proprietary trading with another member firm which acts for the account of a client;
- b) trading with another member firm, where both execute own orders in proprietary trading;
- c) acting for the account of both a buyer and a seller;
- d) acting for the account of the buyer while another firm acts for the account of the seller;
- e) proprietary trading while executing a client order.

12.2 Minimum block trade size

The minimum size of block trade in bonds depends on the bond type:

- For sovereign bond is HRK 45,000,000.00;
- For corporate bond is HRK 7,500,000.00;
- For public bond is HRK 27,000,000.00.

The minimum size of block trades in shares is HRK 2,000,000.00.

Executing the block trades below above mentioned limits is not permitted.

12.3 Settlement date

Settlement date for block transactions can be between T + 1 and T + 90.

13 Transitional and final provisions

This Manual shall enter into force on the 1 January 2019.

On the entry into force of this Manual, the Trading Manual of 5 October 2018 shall cease to have effect.

14 Annex I: The procedure for the collection of member short code

In order to comply with Commission Delegated Regulation (EU) 2017/580 which relates to the record keeping requirements for trading venues, Zagreb Stock Exchange needs to obtain additional data from its trading members.

As a trading venue, Zagreb Stock Exchange is required to store and keep at the disposal of the National Competent Authority (NCA) the following data (among others required by RTS 24, Table 2):

Field	Field	Short description
1	Identification of the entity which submitted the order	Legal Entity Identifier of the member of the trading venue
3	Client identification code	Identification of the client of the member
4	Investment decision within firm	Code used to identify the person or the algorithm within the member who is primarily responsible for the investment decision
5	Execution within firm	Identification of the person or algorithm within the member who is responsible for the execution of the order; or if determined by the client of the member

Zagreb Stock Exchange follows the EU-wide industry “short code solution”. Trading members must insert short code values into ClientID, Execution and Investment Decision fields.

Identification of the entity which submitted the order

The entity which submitted the order is identified by **member’s legal entity identifier (LEI)**.

Trading members must have a validated, issued and duly renewed ISO 17442 legal entity identifier code. Trading members must ensure that the reference data related to its legal entity identifier is renewed according to the terms of any of the accredited Local Operating Units of the Global Legal Entity Identifier System.

Client identification code

Under Art. 25(2) of MiFIR and Art. 2 of Commission Delegated Regulation (EU) 2017/580, Zagreb Stock Exchange shall keep at the disposal of the competent authority the relevant data to identify the client of the member of the trading venue.

There are five possibilities for the provision of Field 3 “**Client identification code**” of Table 2 of the delegated regulation:

1. When the client is a legal entity, the LEI code of the client;
2. When the client is not a legal entity, the National ID of the client;
3. In case of an aggregated order, the flag AGGR;
4. In case of pending allocations, the flag PNAL;
5. This field shall be left blank only if the member is trading on its own account.

The client identification code refers to the immediate client of the members. Members shall provide only LEI or National ID of their immediate clients.

Flags AGGR and PNAL are specified in Art. 2 (3) and 2 (2) of Commission Delegated Regulation (EU) 2017/580 on maintenance of relevant data relating to orders in financial instruments under Art. 25 (2) of Regulation (EU) No 600/2014.

Client identification short codes

Trading members must specify *client identification code* by entering a short code into ClientID Xetra® field during order entry/modification. The format of short code is 8-byte integer (0 - 18446744073709551614).

The following standard short codes are reserved and must be used to identify:

- **0** – No client for this order;
- **1** – Aggregated order flag “AGGR”;
- **2** – Pending allocations flag “PNAL”.

Members have to assign short codes for the identification codes required to identify their immediate clients. Each short code must end with a check digit according to the Damm algorithm.

Members have to upload a data-file containing the mapping between short codes and according National IDs or LEIs via ZSE Member Short Code service.

Investment decision within firm

As set out in Article 8(1) of Commission Delegated Regulation (EU) 2017/590, the field “**Investment decision within firm**” must be populated when the Member is dealing on own account since it is putting its books at risk and is therefore deemed to be making an investment decision. If the investment decision was primarily made:

- by a person within the member firm, the National ID of the person must be provided,
- by an algorithm, the Algorithm ID must be provided.

If member is not dealing on own account (acting on *matched principal* basis or *any other capacity*), the investment decision is deemed to be made by the client regardless of whether the member has recommended the financial instrument to the client as ultimately the client has made the investment decision. In such cases, the field “**Investment decision within firm**” should not be populated.

If required, trading members must set the *Investment decision indicator* Xetra® field and should provide the investment decision identifier by entering a short code into *Investment decision* Xetra® field during order entry/modification. *Investment decision indicator* field must indicate whether the short code or Xetra® trading account represents a human or an algorithm. If not required, both *Investment decision indicator* and *Investment decision* fields should be empty.

In cases where the investment decision is taken by a person or algorithm within the member which is using a dedicated Xetra® trading account for order execution (i.e. CEE Trader, J-Trader, dedicated account for an algorithm) the provision of short code for investment decision may be omitted. In that case, it is implied that investment decision was made by the same person or algorithm which made the execution decision.

Execution within firm

The “**Execution within firm**” field must be populated in every transaction report. If the decision about the execution was primarily made:

- by a client (e.g. if the client instructs the details of the trade including the venue of execution), value “CLIENT” must be used,
- by a person from outside the member (e.g. an employee of a company within the same group), value “CLIENT” must be used,
- by a person within the member firm, the National ID of the person must be used,
- by an algorithm, the Algorithm ID must be used.

Trading members must set *Execution decision indicator* Xetra® field (human or algorithm) and should provide the information for execution decision by entering a short code into *Execution decision* Xetra® field during order entry/modification.

The following standard short code is reserved and must be used to identify:

- **3** – CLIENT.

In cases where the execution decision is taken by a person or algorithm within the member which is using a dedicated Xetra® trading account for order execution (i.e. CEE Trader, J-Trader, dedicated account for an algorithm) the provision of short code may be omitted. In that case, it is implied that execution decision was made by the user of the trading account. Members must provide mapping between such trading accounts (Xetra® Trader IDs) and according National IDs or Algorithm IDs via ZSE Member Short Code service.

Investment/Execution decision short codes

Members have to assign short codes for National IDs of persons within member firm and Algorithm IDs for algorithms. Each short code must end with a check digit according to the Damm algorithm.

Members have to upload a data-file containing the mapping between short codes and according National IDs and Algorithm IDs via ZSE Member Short Code service.

Short codes provision deadline

The deadline for complete provision of short codes is 15 minutes after the end of post-trading phase on respective trading day.

Members can query the status of their short code provision completeness at any moment via ZSE Member Short Code service.

If a member fails to provide all long codes for short codes submitted into Xetra® at deadline, Zagreb Stock Exchange will inform the member about incomplete data. Members have to ensure completing the missing data until 17:00 CET at the latest.