

Market Model

Nasdaq Nordic

INET Nordic

Nasdaq Nordic Market Model 2024:07

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Definitions

The official definitions are in the Nasdaq Nordic Member Rules (NMR) and the definitions listed here supplement the official definitions.

BBO	Best Bid Offer of an Order Book.
Call	Auction process to facilitate price formation with two distinct parts: the first part is an Order management phase and the second part is a matching process for all eligible Orders. The matching process is called an uncross (as it removes all Orders with crossing prices).
Call, closing	The Closing Call is the last Call of the day and produces the last auto matched Trades of the Order Book (if there are eligible Orders available for matching).
Call, opening	The Opening Call is the first Call of the day and produces the first auto matched Trades of the Order Book (if there are eligible Orders available for matching).
Call, Scheduled Intraday	The Scheduled Intraday Call is an intraday call at specific times on each Exchange Day for certain Market Segments and/or Instruments, see Appendix S.
Limit Order	A Limit Order stipulates a maximum purchase price or minimum selling price.
Market Order	A Market Order is an Order to sell or buy an Instrument at the current market price.
Market Segment	Grouping of Order Books with common characteristics, for example Order Books traded in the same way or Order Books having the same opening hours.
MiFID	Markets in Financial Instruments Directive (2014/65/EU), as amended, and any national legislation and regulation transposing MiFID. As required by the context, it shall include any Level 2 measures adopted hereunder and for the guidance how to interpret MiFID, Level 3 measures apply.
MiFIR	Regulation (EU) No 600/2014 of 15 May 2014 on markets in financial instruments and amending Regulation (EU) No 648/2012, as amended. As required by the context, it shall include any Level 2 measures adopted hereunder and for the guidance how to interpret MiFIR, Level 3 measures apply.
NMR	Nasdaq Nordic Member Rules.
Nordic@Mid Order	Mid-price Order as defined in Nasdaq Nordic Member Rules and used in trading functionality Nordic@Mid.

On-exchange Trade	A Trade that is automatically matched in the Order Book in accordance with the NMR or executed outside the Order Book but in accordance with the NMR and reported to the Nasdaq Nordic as a Manual Trade.
On Open, On Scheduled Intraday, On Close, Orders	An On Open, an On Scheduled Intraday and/or an On Close Order can be specifically requested for execution at the opening price, the scheduled intraday price, or the closing price of the call. They can be specified as market priced or limit priced Orders.
Pegged Order	A Pegged Order allows to price Orders relative to the current market price for an Instrument.
Post-Trading/ Post-Trading Phase	The period during the Trading Session after the Trading Hours and in which changes to and cancellation of Orders and Trades are permitted and Manual Trades may be reported.
Pre-Close	Order Book state in the first phase of Closing Call, preceding the Uncross, when Order Management is allowed.
Pre-Open/Pre-Open Phase	The period during the Trading Session that is prior to the Trading Hours and in which Orders and Interests may be placed in the Order Book and Manual Trades may or must be reported.
Pre-Scheduled Intraday	The period during the Trading Session where Orders and Interests may be placed in order books comprising the Scheduled Intraday call, and manual trades may or must be reported.
Pre-Trade Controls	Control mechanisms set by Nasdaq Nordic for price, volume and value of Order to prevent potentially disorderly trading.
Reserve Order	An order in accordance with the order management facility waiver specified in Articles 4 and 9 of Regulation (EU) No 600/2014 of the European Parliament and of the Council and further detailed in Delegated Regulation (EU) 2017/587 and (EU) 2017/583 (a.k.a. Iceberg order).
Round Lot	The minimum number or the minimum nominal value of an Instrument.
Time of the Trade	The time, at which an Automatically Matched Trade is matched or a Manual Trade has been entered into.
Trading Hours	Trading Hours for each Market Segment are found in Chapter 3 of this document. Trading Hours start from the Uncross of the opening call and include the Uncross of the closing call.
Trading Session	The period during an Exchange Day, which includes the Pre-Open Phase, the Trading Hours and the Post-Trading Phase.
Uncross	A call ends with an Uncross where price determination and share allocation together with Order and Trade information dissemination take place. An Uncross lasts a short time, usually a fraction of a second.

Volatility Guard	Volatility Guard is a trading pause and resumption process triggered by an aggressive single Order that deviates too much in percentage from the last sale price (Dynamic Volatility Guard) or from the reference price, which is normally the day's opening price (Static Volatility Guard). When the Volatility Guard is triggered, continuous trading is halted followed by an auction period after which the Order Book moves back to continuous trading.
VWAP	VWAP means volume weighted average price of all trades that have updated latest paid price in a particular orderbook.

1 Introduction

This document describes the functionalities for trading of Equities, Securitized Derivatives, Exchange Traded Notes and Exchange Traded Commodities on the regulated Market Segments and First North on Nasdaq Nordic and Nasdaq Baltic¹, including Nasdaq First North Growth Market segments on First North Denmark, Finland and Sweden, as well as segments traded at First North Trading List. Therefore, this document covers functionalities that apply to Copenhagen, Stockholm, Helsinki, Iceland, Tallinn, Riga and Vilnius. Fixed Income is not covered by this document with the exception of Bond subtypes Exchange Traded Notes (ETNs) and Exchange Traded Commodities (ETCs).

Chapter 2 describes the market structure, while Chapter 3 presents an overview of the trading day. In Chapter 4, the Trading Phases during the trading day are described and Chapter 5 outlines the registration of Manual Trades.

Chapter 6 presents the Order types available and discusses the Order modification. Smart Order Routing on Nasdaq Nordic is described in Chapter 7. Chapter 8 describes Cancel On Disconnect (COD) service.

While the document has been prepared on the basis of the best information available, Nasdaq Nordic accepts no liability for decisions taken, or systems work carried out by any party, based on this document. Content of this document may also be subject to discussions and in some cases approval from relevant authorities.

While the Nasdaq Nordic Member Rules (NMR) is a legally binding document between Members and Nasdaq Nordic, the purpose of this Market Model document is to provide additional guiding information for trading Members. For the sake of clarity, any additional and/or optional services provided by Nasdaq Nordic without separate written agreement are governed also for the relevant parts by the Nasdaq Nordic Member Rules.

Additional documents referenced in this documentation can be found at Nasdaq Nordic's official website.

¹ For the purpose of this document Nasdaq Nordic refers to, either each individually or all together, Nasdaq Copenhagen A/S, Nasdaq Helsinki Ltd, Nasdaq Iceland hf. and Nasdaq Stockholm AB. Nasdaq Nordic may also include Nasdaq Baltic that respectively refers to Nasdaq Riga AS, Nasdaq Tallinn AS and AB Nasdaq Vilnius. Nasdaq Copenhagen, Nasdaq Helsinki, Nasdaq Iceland, Nasdaq Riga, Nasdaq Stockholm, Nasdaq Tallinn and Nasdaq Vilnius are respectively brand names for Nasdaq Copenhagen A/S, Nasdaq Helsinki Ltd, Nasdaq Iceland hf., Nasdaq Riga AS, Nasdaq Stockholm AB, Nasdaq Tallinn AS and AB Nasdaq Vilnius.

2 Overview of Market

2.1 Market Structure

The hierarchy of markets is based on different Market Segments which group Instruments into relevant collections for various trading, administrative and regulatory purposes. The following structure is applied within Nasdaq Nordic market.

Market Segments

Nasdaq Nordic is divided into a set of Market Segments under each Exchange individual MIC-code (E.g. XSTO). The complete and accurate list of Markets segments can be found in Nasdaq Nordic market data protocols, or via European Market Operations (<mailto:EMO@Nasdaq.com>).

The following Instrument types are supported within Nasdaq Nordic:

	Main markets					First North markets				
	STO	HEL	CPH	ICE	Riga/ Tallinn/ Vilnius	First North Sweden	First North Finland	First North Denmark	First North Iceland	First North Latvia/ Estonia/ Lithuania
Shares and depository receipts on shares	X	X	X	X	X	X	X*	X	X	X
Warrants, Certificates, Tracker Certificates, Leverage Certificates						X	X	X		
Equity Rights	X	X	X	X	X	X	X	X	X	
Investment Fund Units and ETFs	X	X	X	X	X					
Exchange Traded Notes (ETNs), Exchange Traded Commodities (ETCs)	X	X	X							
Other Collective Investment Schemes				X						
Alternative Investment Funds	X		X	X						

* Including Cooperative Instruments classified as Other Equity-like Instruments

2.2 Lists

While the list structure at Nasdaq Nordic has no impact on the market model, it may be useful to be aware of the lists for the main equity market. Details regarding all available lists are provided at Nasdaq Nordic website.

The Nordic List

The list structure for main markets at Nasdaq Nordic is based on the Nordic List concept:

1. Large Cap
2. Mid Cap
3. Small Cap

Companies on the Nordic List are presented in a common manner and divided into segments. Companies are presented first by market capitalization and then by industry sector, following the international ICB Company classification standard. There are three market capitalization segments: Nordic Small Cap, Nordic Mid Cap and Nordic Large Cap.

Nordic Large Cap segment includes companies with a market capitalization equivalent to EUR 1 billion or more, Nordic Mid Cap segment includes companies with a market capitalization of EUR 150 million or more, but less than EUR 1 billion. Nordic Small Cap segment includes companies worth a market capitalization of less than EUR 150 million. All classes of the listed share in the company are included in the market capitalization calculation.

Companies listed in multiple Nasdaq Nordic markets are placed in the same segment on all applicable Nasdaq Nordic markets, based on the highest market capitalization for the company.

Other Lists

In addition to the Nordic List concept, there are additional lists for special circumstances like:

Stockholm:

- When Issued
- Xternal list for foreign companies
- SPAC List

Helsinki:

- Prelist
- Other Securities
- SPAC List

Copenhagen:

- Investment Funds
- SPAC List

Iceland:

- SPAC List

Baltic List

Structure of lists of Instruments traded on the Tallinn, Riga and Vilnius:

- Baltic Main List
- Baltic Secondary List
- Baltic SPAC List

The Baltic Main List is a line-up of all blue-chip companies listed on the Tallinn, Riga and Vilnius. To be eligible for inclusion, a company must have 3 years of operating history, an established financial position, market cap of not less than EUR 4 million, with reporting according to the International Financial Reporting Standards, and a free float of 25% or worth at least EUR 10 million. The Baltic Secondary List comprises companies that do not meet quantitative admission requirements (free float, capitalization). The admission requirements are not as strict compared with those of the Baltic Main List.

2.3 Trading Rights

Trading rights are given to the following user categories²:

1. Trading right is given to the Members' Exchange Traders.
All trading personnel must be authorized to trade. The authorization and the trading rights are according to special agreements on the financial market when applicable.
2. Automated Order Routing (AOR) Electronic transmission of client orders that does not fall within the definition of DMA or Sponsored Access in section 4.9 or NMR 4.10 of NMR or any other definition of DEA in accordance with MiFID.
3. Algorithmic trading: Orders executed by a computer algorithm as defined in section 4.11 of NMR.
4. Sponsored Access: Orders entered by a client directly to any of the exchange's trading systems, not involving the Member's infrastructure or connecting systems, as defined in section 4.10 of NMR.
5. Direct Market Access (DMA) Electronic transmission of client orders in accordance with section 4.9 of NMR.

Trading rights are set on market level for each Member. This means that the Exchange Trader automatically can Trade in all Order Books at the applicable Nasdaq Nordic markets to which membership is established.

Notes:

- Although the Orders can be entered/routed automatically to the Trading System, there are always authorized personnel at the Member responsible for all Orders.
- Membership needs to be applied separately for each of the markets within Nasdaq Nordic, in order for the Member to start trading on each of the markets.

In order to be able to trade on Market Segment US Shares, the Member shall enter into a written agreement with Nasdaq Stockholm regarding the terms and conditions for trading in US shares. The Access Request to Market Segment US Shares may be found in the Member Portal and the current version of the terms and conditions is available on the Nasdaq Nordic website.

² [For more information, see NMR.](#)

3 Trading Phases and holiday schedules

Please note that deviations from the regular Trading Phases set out below can exceptionally occur in specific cases. However, where this occurs, the Nasdaq Nordic Exchange in question will notify the market.

3.1 Regular Trading Phases for regulated markets (times in CET)

The complete configuration is available via Nasdaq reference data services.

Market	Opening Call		Continuous Trading	Closing Call		After Market	
	Pre-open	Un-cross ³		Pre-close	Un-cross ⁴	Post-Trade	Closed
Stockholm Equities	08:00	09:00	09:00-17:25	17:25	17:30	17:30	18:00-08:00
Helsinki Equities	08:00	09:00	09:00-17:25	17:25	17:30	17:30	18:00-08:00
Stockholm and Helsinki Equity rights, subscr.opt	08:00	09:00:25	09:00:25-17:25	-	-	17:25	18:00-08:00
Stockholm and Helsinki Fund Units, Stockholm and Helsinki ETNs, Stockholm and Helsinki ETCs	08:00	09:00:25	09:00:25-17:25	-	-	17:25	18:00-08:00
Market Segment OMX STO Fund Units NOK Follows Norwegian Holiday schedules	08:00	09:00:25	09:00:25-16:20	-	-	16:20	18:00-08:00
Market Segments OMX STO Actively-Managed Funds; OMX STO Alternative Investment Funds; and OMX HEL Actively-Managed Funds	08:00	09:29:55	09:29:55-17:25	-	-	17:25	18:00-08:00
Copenhagen Equities	08:00	09:00	09:00-16:55*	16:55	17:00	17:10*	17:20-08:00

³ The Uncross in the Opening Call is subject to a 5 second randomization among the Order books. For example, if the Opening Call Uncross takes place at 09:00 according to the table, the individual Order books open randomly between 09:00:00 – 09:00:05. The closing call is, however, subject to a 30 second randomization, meaning the individual Order books close randomly between 17:29:30 – 17:30:00.

Copenhagen Fund Units (ETFs); Copenhagen ETNs; Copenhagen ETCs	08:00	09:00:25	09:00:25-16:55	-	-	16:55	17:20-08:00
Copenhagen Equity Rights	08:00	09:00:25	09:00:25-16:55	16:55	17:00	17:00	17:20-08:00
Copenhagen Investment Funds - non-MMF	08:00	09:44:55	09:44:55-16:55	-	-	16:55	17:20-08:00
Copenhagen Investment Funds - MMF	8:00	-	09:44:55-16:55	-	-	16:55	17:20-08:00
Copenhagen Alternative Investment Funds	08:00	09:44:55	09:44:55-16:55	16:55	17:00	17:00	17:20-08:00
Iceland Equities	09:00 **	10:30**	10:30**-16:25	16:25 **	16:30 **	16:40 *, **	17:00-09:00**
Iceland Equity Rights, Unit Trust Certificates (Collective Investment Undertakings), Fund Units, Alternative Investment Funds	09:00 **	10:30**	10:30**-16:25	16:25 **	16:30 **	16:30 **	17:00-09:00**
Tallinn/ Riga/ Vilnius Equities, Fund Units	08:00	09:00	09:00-14:55	14:55	15:00	15:00	15:30-08:00

3.1.1 Regular Trading Phases for Auction Trading on regulated markets (times in CET)

Market	Opening Call		Scheduled Intraday Call		Closing Call		After Market	
	Pre-open	Un-cross ⁴	Pre-scheduled intra-day	Un-cross ⁵	Pre-close	Un-cross ⁶	Post-Trade	Closed
STO Equities Auction	08:00	09:00	09:00	11:00	15:00	17:30	17:30	18:00-08:00
			11:00	13:00				
			13:00	15:00				

Please see chapter 3.6 Schedule for Holidays for half trading days on Nasdaq Stockholm.

Auction Trading is described in Appendix AA.

3.2 Regular Trading Phases for First North markets (times in CET)

The complete configuration is available via Nasdaq reference data services.

Market	Opening Call		Continuous Trading	Closing Call		After Market	
	Pre-open	Un-cross ⁷		Pre-close	Un-cross ⁵	Post-Trade	Closed
First North Denmark	08:00	09:00	09:00–16:55*	16:55	17:00	17:10*	17:20-08:00
First North Finland incl Equity Warrants	08:00	09:00	09:00-17:25	17:25	17:30	17:30	18:00-08:00
First North Sweden	08:00	09:00	09:00-17:25	17:25	17:30	17:30	18:00-08:00
First North Trading List Sweden	08:00	09:00	09:00-17:25	17:25	17:30	17:30	18:00-08:00

4 The Uncross in the Opening and Scheduled Intra Day Call is subject to a 5 second randomization among the Order books. For example, if the Opening Call Uncross takes place at 09:00 according to the table, the individual Order books open randomly between 09:00:00 – 09:00:05.

5 For a Scheduled Intraday call, if the uncross takes place at 13:00, the individual Order books uncross randomly between 13:00:00-13:00:05.

6 The closing call is, however, subject to a 30 second randomization, meaning the individual Order books close randomly between 17:29:30 – 17:30:00.

7 See footnote 4.

First North Trading List Norway***	-	-	9:00-16:30	-	-	16:30	18:00-08:00
First North Iceland incl Equity Rights	09:00**	10:30**	10:30**-16:25	16:25**	16:30**	16:40*,**	17:00-09:00**
First North Baltic	08:00	09:00	09:00-14:55	14:55	15:00	15:00	15:30-08:00

Regular Trading Phases for Securitized Derivatives on First North markets (times in CET)

Market	Opening Call		Continuous Trading	Closing Call		After Market	
	Pre-Open	Uncross ⁸		Pre-close	Uncross ⁵	Post-Trade	Closed
First North Denmark Warrants	08:00	-	09:00:05-16:55	-	-	16:55	17:20-08:00
First North Denmark Certificates, Leverage Certificates, Tracker Certificates	08:00	-	09:00:30 - 16:55	-	-	16:55	17:20-08:00
First North Finland Warrants (excl Equity Warrants), and First North Sweden Warrants	08:00	-	09:00:05-17:25	-	-	17:25	18:00-08:00
First North Finland and First North Sweden Certificates, Leverage Certificates, Tracker Certificates	08:00	-	09:00:30-17:25	-	-	17:25	18:00-08:00
First North Sweden Warrants NOK ***	08:00	-	09:00:05-16:20	-	-	16:20	18:00-08:00
First North Sweden Leverage Certificates NOK ***, First North Sweden Tracker Certificates NOK ***	08:00	-	09:00:30-16:20	-	-	16:20	18:00-08:00
First North Sweden Tracker Certificates – non-MMO	08:00	09:00:25	09:00:25 - 17:25	-	-	17:25	18:00-08:00
Extended morning trading: First North Denmark Warrants, Certificates, Leverage Certificates, Tracker Certificates	08:00	-	08:15-16:55	-	-	16:55	17:20-08:00

Extended morning trading: First North Finland Warrants (excl Equity Warrants) and First North Sweden Warrants, First North Finland and First North Sweden Certificates, Leverage Certificates, Tracker Certificates	08:00	-	08:15 - 17:25	-	-	17:25	18:00 - 08:00
Extended morning trading: First North Sweden Warrants NOK ***	08:00	-	08:15 - 16:20	-	-	16:20	18:00 - 08:00
Extended morning and evening trading: First North Denmark, First North Sweden and First North Finland Warrants (excl Equity Warrants), Leverage Certificates and Tracker Certificates. First North Sweden Warrants NOK***, First North Sweden Leverage Certificates NOK*** and First North Sweden Tracker Certificates NOK ***	08:00	-	08:15 - 21:55****	-	-	21:55* ***	22:25- 08:00
Extended evening trading: Leverage Certificates and Tracker Certificates on First North Denmark, First North Finland and First North Sweden. First North Sweden Leverage Certificates NOK *** and First North Sweden Tracker Certificates NOK ***	08:00	-	09:00:30 - 21:55****	-	-	21:55* ***	22:25- 08:00
Extended evening trading: First North Denmark Warrants, First North Finland Warrants (excl Equity Warrants) and First North Sweden Warrants and First North Sweden Warrants NOK***	08:00	-	09:00:05 - 21:55****	-	-	21:55* ***	22:25- 08:00

Extended afternoon/evening trading: First North Denmark Warrants, Leverage Certificates and Tracker Certificates, First North Finland Warrants (excl Equity Warrants), Leverage Certificates and Tracker Certificates, First North Sweden Warrants, Leverage Certificates and Tracker Certificates and First North Sweden Warrants NOK***, Leverage Certificates NOK*** and Tracker Certificates NOK***	08:00	-	15:30 *****_ 21:55****	-	-	21:55* ***	22:25 - 08:00
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*For shares traded on Nasdaq Copenhagen, Nasdaq Iceland, First North Denmark and First North Iceland, Trading@Closing price is a 10-minute continuous trading period. The period takes place at 17:00-17:10 CET for Nasdaq Copenhagen and First North Denmark and at 16:30-16:40 (CET standard) for Nasdaq Iceland and First North Iceland for shares which have a closing price generated in the closing auction. In case there is no closing auction price, the Trading@Closing price period will not occur, and the instrument will enter to Post-Trading phase directly after the closing auction at 17:00 CET for Nasdaq Copenhagen and First North Denmark and at 16:30 (CET Standard) for Nasdaq Iceland and First North Iceland. Please find more information regarding Trading@Closing price in Appendix AB.

**Times stated in box are CET standard time. During CET daylight savings time, the opening time and closing hours are an hour later in CET (because Iceland has not adopted the daylight savings time). Pre-Open starts at 10:00 CET, Opening Uncross at 11:30 CET and Closing Uncross at 17:30 CET.

*** Follows Norwegian Holiday schedules

**** Temporary trading schedule with 1 hour earlier end of Continuous Trading and start of Post-Trade will be applied each autumn and spring for the days when Europe and US are out of sync due to different start dates for wintertime and summertime

***** Temporary trading schedule with 1 hour earlier start of Continuous Trading will be applied each autumn and spring for the days when Europe and US are out of sync due to different start dates for wintertime and summertime. The earlier start of continuous trading for these segments is combined with the change described in **** above

3.2.1 Regular Trading Phases for Auction Trading on First North markets (times in CET)

Market	Opening Call		Scheduled Intraday Call		Closing Call		After Market	
	Pre-open	Un-cross ⁸	Pre-scheduled intra-day	Un-cross ⁹	Pre-close	Un-cross ¹⁰	Post-Trade	Closed
First North Sweden Auction and First North Finland Auction	08:00	09:00	09:00	11:00	15:00	17:30	17:30	18:00-08:00
			11:00	13:00				
			13:00	15:00				

Please see chapter 3.6 Schedule for Holidays for half trading days on First North Sweden.

Auction Trading is described in Appendix AA.

3.3 Normal Trading Hours (local time)

The trading hours for Nasdaq Nordic are as follows:

Market	Copenhagen	Stockholm	Helsinki	Iceland	Riga/Tallinn/Vilnius
Equities	09:00–17:10****	09:00–17:30*	10:00–18:30	09:30–15:40****	10:00–16:00
Equity rights	09:00:25–17:00	09:00:25–17:25***	10:00:25–18:25	09:30–15:30	10:00–16:00
Investment Funds, and Other Collective Investment Schemes	09:44:55–16:55	09:00:25–17:25***	10:00:25–18:25	09:30–15:30	
ETFs	09:00:25–16:55	09:00:25–17:25***	10:00:25–18:25	09:30–15:30	10:00–16:00
ETNs and ETCs	09:00:25–16:55	09:00:25–17:25***	10:00:25–18:25		
Actively-Managed Funds		09:29:55–17:25***	10:29:55–18:25		
Alternative Investment Funds	09:44:55–17:00	09:29:55–17:25***		09:30–15:30	
Norwegian ETFs		9:00:25 – 16:20*			

8 The Uncross in the Opening and Scheduled Intra Day Call is subject to a 5 second randomization among the Order books. For example, if the Opening Call Uncross takes place at 09:00 according to the table, the individual Order books open randomly between 09:00:00 – 09:00:05.

9 For a Scheduled Intraday call, if the uncross takes place at 13:00, the individual Order books uncross randomly between 13:00:00–13:00:05.

10 The closing call is, however, subject to a 30 second randomization, meaning the individual Order books close randomly between 17:29:30 – 17:30:00.

First North	Copenhagen	Stockholm	Helsinki	Iceland	Riga/Tallinn/ Vilnius
Equities and Equity Warrants	09:00- 17:10****	09:00- 17:30*	10:00-18:30	09.30- 15.40****	10:00-16:00
Norwegian equities		9:00- 16:30**			
<p>During half days, the Post-Trading Phase: * starts at 13:00 CET and closes at 13:30 CET ** starts at 13:10 CET and closes at 13:30 CET *** starts at 12:55 CET and closes at 13:30 CET</p> <p>Trading@Closing Price: **** For shares traded on Nasdaq Copenhagen, Nasdaq Iceland, First North Denmark and First North Iceland, Trading@Closing price is a 10-minute continuous trading period. The period takes place at 17:00-17:10 CET for shares traded on the Nasdaq Copenhagen and First North Denmark markets and at 15:30-15:40 GMT for shares traded on the Nasdaq Iceland and First North Iceland markets which have a closing price generated in the closing auction. In case there is no closing auction price, the Trading@Closing price period will not occur, and the Normal Trading Hours will end directly after the closing auction at 17:00 CET for Nasdaq Copenhagen and First North Denmark and at 15:30 GMT for Nasdaq Iceland and First North Iceland. Please find more information regarding Trading@Closing price in Appendix AB.</p>					

First North (Local Time)	Copenhagen (CET)	Stockholm (CET)	Stockholm non-MMO instruments¹¹ (CET)	Stockholm NOK instruments (CET)	Helsinki (EET)
Warrants					
Normal hours	09:00:05-16:55	09:00:05-17:25*		09:00:05-16:20*	10:00:05-18:25
Extended Morning hours	08:15-16:55	08:15-17:25*		08:15-16:20*	09:15-18:25
Extended Morning and Evening hours****	08:15 – 21:55	08:15 – 21:55**		08:15-21:55***	09:15 – 22:55
Extended Evening hours****	09:00:05 – 21:55	09:00:05 – 21:55**		09:00:05-21:55***	10:00:05 – 22:55
Extended Afternoon/Evening hours*****	15:30-21:55	15:30-21:55**		15:30-21:55***	16:30- 22:55
Certificates					
Normal hours	09:00:30-16:55	09:00:30-17:25*			10:00:30-18:25
Extended Morning hours	08:15-16:55	08:15-17:25*			09:15-18:25
Tracker Certificates and Leverage Certificates					
Normal hours	09:00:30-16:55	09:00:30-17:25*	09:00:25-17:25* (Tracker Certificates)	09:00:30 – 16:20*	10:00:30-18:25
Extended Morning hours	08:15-16:55	08:15-17:25*			09:15-18:25
Extended Morning and Evening hours****	08:15 – 21:55	08:15 – 21:55**		08:15-21:55***	09:15 – 22:55
Extended Evening hours****	09:00:30-21:55	09:00:30 – 21:55**		09:00:30-21:55***	10:00:30 – 22:55
Extended Afternoon/Evening hours*****	15:30-21:55	15:30-21:55**		15:30-21:55***	16:30- 22:55
<p>During half days, the Post-Trading Phase:</p> <p>* starts at 12:55 CET and closes at 13:30 CET</p> <p>** starts at usual time of 21:55 CET and closes at 22:25 CET, provided trading is open on Nasdaq Copenhagen and/or Nasdaq Helsinki on those half days</p> <p>*** starts at 21:55 CET and closes at 22:25 CET provided trading is open on Nasdaq Stockholm on those Norwegian half days</p> <p>**** Temporary trading schedule with 1 hour earlier end of Normal hours will be applied each autumn and spring for the days when Europe and US are out of sync due to different start dates for wintertime and summertime</p> <p>***** Temporary trading schedule with 1 hour earlier start of Normal hours will be applied each autumn and spring for the days when Europe and US are out of sync due to different start dates for wintertime and summertime. The earlier start of Normal hours for these segments is combined with the change described in **** above, i.e. the Extended Afternoon/Evening hours are also subject to 1 hour earlier end of Normal hours during this period</p>					

11 The Uncross in the Opening Call is subject to a 5 second randomization among the Order books. For example, if the Opening Call Uncross takes place at 09:00:25 according to the table, the individual Order books open randomly between 09:00:25 – 09:00:30.

3.4 Concept of calls

Opening, closing, scheduled intraday and non-scheduled intraday calls are formed by two sub phases: Auction period Order management and uncross.

1. Auction period Order management
During the auction period Order management Orders will enter the auction Order book. Orders can be sent as Limit Orders or Market Orders with Time In Force (TIF) conditions. There are also possibilities to tie an Order to a specific auction by submitting special auction Order types utilizing the Cross trade flags. Limit On Close (LOC) is such an example that will be activated automatically in the closing auction.
2. Price determination and share allocation takes place in uncross. The time of the uncross is randomized among Order books with a short period at the end of the order management stage.

Individual orders are not visible during auction periods.

3.5 Schedule for Manual Trades

Manual Trades (Trade reporting) is allowed from Pre-Open Phase up until Closed on all markets. Please refer to chapter 4.3, 4.5 and Appendix Z for more information.

3.6 Schedule for Holidays

An Excel file containing all non-trading days and half days for current and next year is available at [Nasdaq Nordic website](http://www.nasdaqomxnordic.com/tradinghours) (<http://www.nasdaqomxnordic.com/tradinghours>)

First North follows the main market non-trading days in respective country.

Half days example: Pre-close CET 12.55, Closing auction at CET 13.00. On half days, the Scheduled Intraday Auction uncross takes place at CET 11 but not at CET 13 and 15 on the Nasdaq Stockholm and First North Sweden market segments comprising these auctions.

4 Phases during the trading day

4.1 Pre-open Phase

During the Pre-open Phase, Order and Trade management including Order entry for opening call, scheduled intraday call, and closing call are allowed.

For Public Market Information during Pre-Open Phase, please see Appendix I for details.

In the examples below, Nasdaq Stockholm and Nasdaq Helsinki schedules are described.

4.2 Calls

The Call procedure (auction) starts in all Order Books of the Market Segment virtually at the same time. A Call consists of two phases: Auction period Order management and uncross. The uncross lasts a short time and a random uncross sequence for the Order Books will be applied.

During Calls individual orders are not displayed in the public data feed and “Pre-trade transparency” is available via real time Net Order Imbalance Indicator (NOII) described in 4.2.5. For Public Market Information available during any Call at any Trading Phase, please see Appendix I for details.

The uncross phase includes price determination, share allocation, and delivery of Equilibrium price information.

4.2.1 Opening call

Order entry and full Order management is available through the ~09:00:05 opening auction uncross (and after). The uncross takes place randomly during 5 seconds between 09:00:00 and 09:00:05. Orders with time-in-force conditions Day, Good-Till-Cancel, Immediate-Or-Cancel (IOC) and Good-Till-Time as well as On-open Orders (Market-On-Open (MOO) and Limit-On-Open (LOO)) become eligible interest for the opening auction. An IOC Order is eligible for execution in the opening auction and will be cancelled after the completion of the opening auction if it is not fully executed. On-scheduled intraday orders (Market-on-scheduled intraday orders (MOS) and Limit-on-scheduled intraday orders (LOScan be entered but are effective for the scheduled intraday auction only. On-close Orders (Market-On-Close Orders (MOC), Limit-On-Close Orders (LOC) and Imbalance On-Close Orders (IOOC)) can be entered, but are effective for closing auction only.

Orders entered during Pre-open are assigned time priority. No matching until ~09:00:05. Net Order Imbalance Indicator (NOII) dissemination begins about 15 minutes before opening call and is updated in real time if information is changed. The uncross takes place during a 5 second random period at the end of the opening call, which may be subject to auction extension, see chapter 4.11 and Appendix U. Unexecuted Orders (non-IOC and non-on open Orders) remaining after the uncross will transition into the continuous market with retained time-priority.

		Pre-Open	
		08:00 – 08:45	08:45 – ~ 09:00:05
Order Management	Full Order management Order entry: DAY, GTT, GTC, IOC, On-open orders, On-scheduled intraday orders, and On-close Orders Reducing volume maintains priority, other amendments through cancel/replace		
Auto matching	No		
Market by Order transparency	No Market By Order transparency.		
Equilibrium data (Net Order Imbalance Indicator - NOII)	No	Equilibrium price (EP) with indicative traded volume based on all Orders. Imbalance volume and direction. Best Bid and Offer volumes and prices, excluding non-display Orders, are disseminated for un-crossed Order books. Disseminated from 08:45 and then in real time if information is changed	

Figure 2 Schedule for a typical Pre-Open Phase in Stockholm/Helsinki

4.2.2 Order entry during call

Time priority for Orders entered prior to the uncross and during Continuous Trading is based on the Order entry time. Orders (with time-in-force condition GTC) entered prior to the current trading day will keep their time priority.

4.2.3 Scheduled Intraday Call

Scheduled Intraday Calls are intraday calls at specific times on the relevant Market Segments and /or Instruments, see Appendix S. The first Scheduled Intraday Call starts directly after opening call uncross and ends with an uncross that takes place randomly during the last 5 seconds between 11:00:00 and 11:00:05 CET. The uncross is followed by the second Scheduled Intraday Call with uncross at 13:00 CET and the third at 15:00 CET with a 5 second random period at the end of each call.

Uncross in Instrument may be subject to auction extension, see chapter 4.11 and Appendix U. Right after the uncross, Instrument moves to Closing Call.

Order entry and full order management are available during the scheduled intraday call period.

Orders with time-in-force conditions Day, GTC, and GTT are transitioned automatically into the Pre-intraday. Pegged orders are transitioned at their last limit price. MOS, LOS, and IOSI can be entered until the scheduled intraday call uncross. An IOC order entered during the Pre-intraday is eligible for execution in the scheduled intraday call uncross and will be canceled after completion of the uncross if not fully executed. MOC, LOC, and IOOC orders can be entered, but are effective for the closing auction only.

Orders entered are assigned time priority. The Net Order Imbalance Indicator dissemination begins exactly at 9:00:06 CET with updates in real time if information is changed.

4.2.4 Closing call

Continuous Trading ends at 17:25 followed by a Pre-close period¹² with no auto matching. The Pre-close period lasts approximately for 5 minutes and ends with the closing call uncross which takes place randomly among the Order Books between 17:29:30 and 17:30. The Pre-close period may be subject to auction extension, see chapter 4.11 and Appendix U. Order entry and full Order management is available during the Pre-close with the exception for Pegged Orders that cannot be entered.

Orders with time-in-force conditions Day, Good-Till-Cancel and Good-Till-Time are transitioned automatically into the Pre-close and are eligible interest for the closing auction. Pegged Orders are transitioned at their last limit price. On-close Orders, i.e. Market-on-close Orders (MOC) and Limit-on-close Orders (LOC) can be entered until the closing call uncross. An IOC Order entered during Pre-close is eligible for execution in the closing call uncross.

Orders entered are assigned time priority. The Net Order Imbalance Indicator dissemination begins exactly 17:25 and is updated in real time if information is changed.

	Continuous Trading	Pre-Close
	9:00 – 17:25	17:25 - ~17:30
Order management	Full Order management Order entry: DAY, GTT, GTC, IOC, and On-close Orders Order cancel and cancel/replace allowed	Full Order management Order entry: DAY, GTT, GTC, IOC and On-close Orders Order cancel and cancel/replace allowed Pegged Orders remain with their last limit price. New pegged Orders cannot be entered
Auto matching	Yes	No
Market by Order transparency	Unexecuted DAY, GTC, GTT Orders from the opening uncross enter continuous market, IOC and On-open Orders are cancelled Continuous book display Orders are disseminated. On-close Orders non-displayed and non-displayed Reserve (Hidden iceberg) volumes are not disseminated	No Market By Order transparency.
Equilibrium data (Net Order Imbalance Indicator - NOII)	No	Equilibrium price (EP) with indicative traded volume based on all Orders. Imbalance volume and direction. Best Bid and Offer volumes and prices, excluding non-display Orders, are

¹² On Auction Trading Market Segments, Pre-close period starts directly after the last Scheduled Intraday Call uncross.

		<p>disseminated for un-crossed Order books.</p> <p>Disseminated from 17:25 and then in real time if information is changed</p>
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Figure 3 Schedule for market closing with Call Auction at CET 17:30 in Stockholm/Helsinki

4.2.5 Net Order Imbalance Indicator

During Calls individual orders are not displayed in the public data feed and “Pre-trade transparency” is available via real time Net Order Imbalance Indicator (NOII) with the following indicative information provided:

- Equilibrium price
- Indicative Traded volume
- Imbalance volume
- Imbalance direction (Buy/Sell)
- Best Bid price (will be set to zero if the book is crossed)
- Best Ask price (will be set to zero if the book is crossed)
- Bid volume at best price level (or set to zero if the book is crossed)
- Ask volume at best price level (or set to zero if the book is crossed)

Best Bid and Ask prices and volumes are defined based on all Orders except Market and Non-displayed.

The Equilibrium Opening Price is based on all Orders (Day, GTC, GTT, IOC, LOO, MOO, Non-displayed) and includes all Order volumes. The Equilibrium Price is disseminated in valid prices (i.e. using the relevant tick size table).

The Equilibrium Scheduled Intraday Price is based on all Orders (Day, GTC, GTT, IOC, LOS, MOS, Non-displayed) and includes all Order volumes. The Equilibrium Price is disseminated in valid prices (i.e. using the relevant tick size table).

The Equilibrium Closing Price is based on all Orders (Day, GTC, GTT, IOC, LOC, MOC, Non-displayed) and includes all volume. The Equilibrium Price is disseminated in valid prices (i.e. using the relevant tick size table).

4.2.6 Price determination

In the opening uncross, all Orders except On-scheduled intraday and On-close Orders are eligible. In the scheduled intraday uncross, all resting Orders and all On-scheduled intraday orders are eligible. In the closing uncross, all resting Orders and all On-close Orders are eligible. An uncross will only take place if there are crossing prices in the total Order Book. That is, if the best bid price is equal to or higher than the best (lowest) ask price. If so, an equilibrium price using the relevant tick size table will be determined according to the following criteria:

The price that maximizes the number of shares at the time of the uncross to be executed.

If more than one price exists under (1), the uncross shall occur at the price that minimizes any imbalance.

If more than one price exists under (2), the uncross shall occur at the price with the highest market pressure (i.e. shares will remain unexecuted in the cross).

If more than one price exists under (3), the uncross shall occur at a price that is the average price between the highest price with positive imbalance and the lowest price with negative unbalance. If this price is off tick it will be rounded to nearest tick. In the case of equal distance it will be rounded down.

When the equilibrium price has been determined, all Orders that are more generous than this price are filled, or partially filled based on the available volumes on the opposite side.

Intraday calls follow the above given principles. Orders designated for intraday calls do not participate in other auctions.

4.2.7 Share allocation

Share allocation follows price-internal-display-time priority. NB. Nasdaq Baltic use price-display-time priority.

In the allocation:

1. Orders on the deficit side which are better priced than the equilibrium price are always filled.
2. In case of imbalance, Orders at the equilibrium price eligible for matching are filled first by using internal priority¹³. The Order on deficit side with the best price and time priority defines the first 'preferred party'. Then possible Orders of the preferred party on the surplus side are first matched against the Orders of the preferred party on the deficit side. If the deficit side is not fully matched, the following preferred party is defined, and Orders are matched according to the same principles.
3. Orders at the equilibrium price eligible for matching are filled secondly by using time priority, if there are still Orders on deficit side after internal priority allocation.

As the meaning of Market Orders implies a more aggressive price than any limit order, it means that Market Orders have the highest priority. In the auctions, Market Orders can be MOO/MOS/MOC Orders, or regular Market Orders entered in Pre-Open/Pre-intraday/Pre-Close with time-in-force IOC. Those Orders will in effect have the highest priority of all Orders. The ranking between these two flavors of Market Orders is based on time of entry.

Volume with any Non-displayed attribute has lower priority than corresponding volume without non-displayed attribute. After the uncross, unexecuted MOO/MOS/MOC, LOO/LOS/LOC, and IOOP/IOSI/IOOC Orders will be cancelled.

A cross Trade message will be published in real time after the cross with aggregated auction information. Individual Trades executed in the calls will however be publicly published right after a cross and later at the end of the trading day according to

¹³ Internal priority is applied in two dimensions in auctions; among orders entered during (or destined for) the auction and among other orders participating to the auction (for example among such orders that have been executable in the continuous trading phase preceding the auction in question).

specifications available on the Nasdaq Nordic website. NB. The trading participants always receive their individual Trades in their private data.

4.3 Manual Trades in the Pre-Open Phase

Manual Trades made during the Pre-Open Phase must be reported before the execution of the uncross.

4.4 Continuous Trading

Trading in the Order Book in accordance with the NMR results in On-exchange Trades. During Continuous Trading, Manual Trades can be registered with the Trade types specified in chapter 5.

Nordic@Mid offers a separate continuous crossing of reference price pegged Non-displayed Orders as a complement to the central Order Book. See Appendix N.

In Continuous Trading, each new incoming Order is immediately checked for execution against Orders on the opposite side of the Order Book. Orders can be executed in full or partially in one or more steps.

Orders in the Order Book will be matched according to the priority:
1=price; 2=internal; 3=displayed; 4=time.

A Member may opt out on user level from having Orders benefitting from the internal priority at order entry. If a Member opts out, aggressive Orders will be automatically matched in accordance with following priority; 1=price; 2=displayed; 3=time; hence no internal Member priority. Note that it is not possible to opt out in calls or in trading taking place in Nordic@Mid or Auction On Demand.

NB. In Nasdaq Baltic, the priority is: 1=price; 2=display; 3=time.

Buy or sell Orders entered with the same price as a corresponding buy or sell Order in the Order Book will be matched into a Trade.

Buy Orders entered into the Order Book with a higher buy price than the sell Order with the lowest price (crossing prices), will be matched into one or more Trades depending on the volume of the incoming Order and the volume and the price of the sell order(s). The matching process will try to fill as much as possible of the volume in the incoming buy Order until the limit of the crossing prices is passed.

Sell Orders entered into the Order Book with a lower sell price than the buy Order with the highest price (crossing prices), will be matched into one or more Trades depending on the volume of the incoming Order and the volume and the price of the buy order(s). The matching process will try to fill as much as possible of the volume in the incoming sell Order until the limit of the crossing prices is passed.

The priority Order in the same price level is first internal (where the incoming Order is executed against the Member’s own Orders¹⁴), then displayed volume over non-displayed volume, and then the time when the Order was sent to the Order Book.

Non-displayed Volume may either be part of a Reserve Order (“iceberg order”, chapter 6 for Order types and attributes) or a fully Non-displayed Order.

For Public Market Information during Continuous Trading Phase, please see Appendix I for details.

4.5 Post-Trading

	Post-trading
	17:30-18:00
Order management	Order cancel
Auto matching	No
Market by Order transparency	No Market By Order transparency
Equilibrium data (Net Order Imbalance information)	No

Figure 4 Schedule for a typical Post-Trading Phase on Nasdaq Stockholm/Helsinki

During the Post-Trading Phase the following actions are allowed:

- Order cancellation
- Off hours transactions
- Limited Order update (reduce volume on GTC Orders)

Trade cancellations are made in accordance with NMR.

Manual Trades during the Post-Trading Phase can be reported in the Post-Trading Phase (up until Closed) or at the latest in the Pre-Open Phase the next trading day.

On entering the Post-trading phase, expired Orders are deleted.

For Public Market Information during Post-Trading Phase, please see Appendix I for details.

4.6 Closing

Trades for deferred publication (depending on the allowable defer time) are published. No information or functions are accessible, but logons and database queries are allowed.

¹⁴ Member’s own Orders include Orders introduced under the Member’s Market Participant ID (MPID), excluding Member’s Sponsored Access Client’s Orders, which will not be considered as Member’s own Orders.

4.7 Trade publication

These rules apply to central Order Book trading and Manual Trades in all trading phases. For Public Market Information, see Appendix I.

Nordic@Mid and Auction On Demand trade publication and counterparty information are detailed in Appendix N and Y.

Trades are published in real-time. Deferred trade publication is available for Manual Trades as detailed in Appendix Z. Counterparty information is provided according to the following:

Post-trade anonymity

- Nasdaq Iceland and First North Iceland: all Instruments
- Nasdaq Copenhagen, Helsinki and Stockholm and respective First North markets: trading in shares¹⁵ in the Order Book
- Nasdaq Stockholm: Norwegian ETFs admitted to trading on segment OMX STO Fund units NOK, Exchange Traded Notes (ETNs) and Exchange Traded Commodities (ETCs)
- Nasdaq Copenhagen and Nasdaq Helsinki: Exchange Traded Notes (ETNs) and Exchange Traded Commodities (ETCs)
- First North Sweden: Norwegian equities admitted to trading on First North Trading List Norway

In Instruments with post-trade anonymity, the counterparties are not disclosed in real time public feed, nor end of day depending on configuration.

Voluntary post-trade anonymity

- Nasdaq Helsinki, Stockholm and Copenhagen: Exchange Traded Funds (ETFs)¹⁶
- Nasdaq Copenhagen, Helsinki and Stockholm and respective First North markets: Manual Trades¹⁷ in shares¹⁸

In Instruments with voluntary post-trade anonymity, a Member may choose whether its counterparty information is disclosed or not. The choice on post-trade anonymity may be made separately for ETFs and Manual Trades in shares on Member level per exchange. Default set-up for Member is post-trade counterparty visibility, where the Member's counterparty information is published real-time. If a Member has chosen the voluntary post-trade anonymity, its counterparty information is not disclosed in real time public feed nor end of day. Voluntary post-trade anonymity will be applied to the Member based on the Member's notification that can be found in the [Member Portal](#).

¹⁵ Including depositary receipts on shares and cooperative shares classified as Other Equity-like Instruments.

¹⁶ Excluding Danish Investment Funds and Alternative Investment Funds.

¹⁷ Excluding Trade Type 'Standard Routed Trade' that the INET trading system automatically creates based on Away Market Trade executed in Nasdaq Nordic Smart Order Routing service. In these trades, counterparty visibility follows the logic of Order Book trading.

¹⁸ Including depositary receipts on shares and cooperative shares classified as Other Equity-like Instruments.

Counterparty information published real-time

- Nasdaq Tallinn, Vilnius and Riga: all Instruments
- First North Baltic: all Instruments
- Nasdaq Copenhagen, Helsinki and Stockholm: all other Instruments
- First North Sweden, Denmark and Finland: all other Instruments

4.8 Trading halts and resumption of trading

Trading may be suspended by Nasdaq Nordic either due to technical reasons or regulatory reasons. Suspensions are regulated in NMR.

Technical suspension means that trading is suspended when the Order Book(s) become inaccessible for technical reasons. It may be decided that a Technical suspension of the Order book, followed by an auction, shall be used for listings when the initial trading of the share does not utilize the opening call mechanism.

Regulatory suspension means that the Order Book(s) are suspended due to rules and regulations. A regulatory suspension may affect one or several markets, Segments or Order Books.

4.8.1 Stop codes

The stop codes listed below are used on Nasdaq Nordic:

- RH – Regulatory Halt
- TH – Trading Halt
- KO – Trading Halt – Knock-Out
- TS – Technical Stop
- VHD – Volatility Halt – Dynamic
- VHS – Volatility Halt – Static

Stop codes explained in further detail in the paragraphs below (with the exception of Volatility Halts which are explained in a separate section on Volatility Guards) prohibit Order entries and Order amendments as well as Trade reporting¹⁹. All stop reasons with the exception of Volatility Halts are also published as Exchange Notices in close connection to the event.

Suspension due to technical reasons (manual or automatic) (TS)

Used when the system is restarted (by the technical operations personnel) after a fatal technical error. All Order Books are set in a stop state. Technical disruptions are regulated in NMR. Trading must be suspended if a technical disturbance causes a major part of the Members (market shares) to lose connection to the markets.

¹⁹ Trade reporting is permitted during Trading Halts triggered by a lack of valid Market Maker spread in Market Maker Order (MMO and MMF) enabled Warrants and Certificates and Danish Investment Funds. Such Trading Halts have reason code "MMM" (Market Maker Missing) or "UNQ" (Underlying Not Quoted). More details about "MMM" and "UNQ" can be found in Appendix P.

Suspensions due to regulatory reasons (manual)

On Nasdaq Nordic, a trading halt is imposed when there is an obvious risk that trading will no longer be carried out on equal terms or will not be based upon sufficient information (unfair market conditions). All investors must have equal access to information about the Instruments traded. Whenever Nasdaq Nordic encounters a situation of 'unfair market conditions' a trading halt is considered.

There are several variants of Trade halt due to regulatory reasons: Suspension of trading (Trading halt (TH)), Trading halt – Knock-Out (KO) and Regulatory halt (RH):

- **Suspension of trading (Trading halt (TH))**

The trading halt is used as a regular procedure that temporarily halts trading when trading cannot take place in an orderly fashion. The duration of the trading halt continues until trading can take place in an orderly fashion again. The following applies to Instruments covered by a trading halt:

- Automatic Order Matching ceases
- Placement of new Orders is not permitted
- Orders placed on a Nasdaq Baltic order book may be cancelled from the order book prior to the trading halt
- Orders placed on a Nasdaq Copenhagen, Nasdaq Helsinki, Nasdaq Iceland, and Nasdaq Stockholm order book prior to the trading halt will or may be cancelled
- Manual Trades entered into prior to the trading halt shall be reported immediately as soon as trading has resumed
- Manual trades may not be reported²⁰

- **Trading halt - Knock-Out (KO)**

Trading halt - Knock-Out is used where an Instrument is placed in Trading halt due to a knock-out event. Trading halt – Knock-Out exists for informative purposes and is identical in functionality to the Suspension of Trading (Trading halt (TH)).

- **Regulatory halt (RH)**

The regulatory halt was introduced in connection to the introduction of MiFID. In Stockholm, Finansinspektionen (the Swedish Financial Supervisory Authority) decides whether such trading halt shall prevail.

The following applies to Instruments covered by a trading halt:

- Automatic Order Matching ceases
- Placement of new Orders or changes in Orders are not permitted, however an Order may be cancelled from the Order Book
- Manual Trades may not be reported

²⁰ Trade reporting is permitted during Trading Halts triggered by a lack of valid Market Maker spread in Market Maker Order (MMO and MMF) enabled Warrants and Certificates and Danish Investment Funds. Such Trading Halts have reason code "MMM" (Market Maker Missing) or "UNQ" (Underlying Not Quoted). More details about "MMM" and "UNQ" can be found in Appendix P.

4.8.2 Resuming trading after a halt

When a halt ceases, trading is resumed and the restrictions on Order entry and changes to Orders cease. The Members are again committed by Orders placed in the Order Book. It may be decided that trading after a halt should be resumed with a price-discovery process (call auction) equal to the opening call (including the On-open Order Conditions). It is also possible to “flush” the Order Book before resuming trading according to NMR.

All active orders in a suspended (halted) order book will be cancelled. However, if the reason for a short-term suspension (halt) is technical or administrative the respective Nasdaq Nordic exchange may decide that the order books will not be flushed.

If resuming trading after a suspension with an auction, the pre-call state will last 10 minutes. Following the auction cross, the order book will enter the Continuous Trading state.

In case there is less than 10 minutes to the next auction (e.g. closing auction) the pre-call state will be less than 10 minutes, uncrossing the Order book, without any Continuous Trading in-between.

4.9 Flushing of Order Books (removal of Orders)

“Good-till-Cancelled” (GTC) Orders entered in an Order Book on Nasdaq Nordic and First North equity markets in Copenhagen, Helsinki, Iceland, Stockholm, Riga, Tallinn and Vilnius may be cancelled in the event of corporate actions/dividends.

Corporate actions (such as Stock splits and Bonus issues) or dividends in listed companies, causing the market price to be adjusted significantly when taking effect on ex-date, are often subject to fluctuations in the Order Book during the Pre-opening Phase, as GTT Orders are entered into the Order Book at old market price. This can lead to Trades being executed at price levels deviating from the current market price.

To minimize the impact of Orders that reflect the old price level, Nasdaq Nordic will flush all Orders during the Post-Trading Phase the trading day before a corporate action or dividend with a significant price impact is to take place. The flushing procedures are intended to protect investors from trading on obsolete terms and to offer security to investors who use the GTC Order functionality.

The INET Nordic system will also support a supervisory cancel message at Order Book expiration. This means that the GTC Orders residing in an expiring Order Book will be canceled automatically and a supervisory cancel message will be sent out at the end of the trading day.

- **Flushing criteria**

Nasdaq Nordic can take actions if Orders are entered into the Order Book at prices reflecting the market price before a corporate action or dividend, and when the prices meet the criteria for flushing.

In general, corporate actions and dividends qualify for flushing where:

A corporate action or dividend is expected to have an impact on the price of the Instrument of at least 10% in either direction on ex-date, based on the closing price the previous trading day.

- **Flushing procedure**

Nasdaq Nordic intervene in a swift and consistent manner based on the given criteria and make a decision as to whether Orders are to be flushed, to ensure that the integrity of the market remains intact and that the risk of Trades being executed at erroneous prices is minimized.

Nasdaq Nordic will act according to the following flushing procedure:

All Orders in Order Books qualifying for flushing will be flushed during the Post-Trading Phase the trading day before the corporate action or dividend applies (ex-date).

If there is uncertainty regarding the level of expected theoretical price impact or if it cannot be objectively estimated, Nasdaq Nordic reserves the right not to flush Order Books.

The flushing procedure is applicable for equities listed on Nasdaq Nordic and First North equity markets in Copenhagen, Helsinki, Iceland, Stockholm, Riga, Tallinn and Vilnius.

4.10 Volatility Guards

Nasdaq Nordic Volatility Guards are to manage volatility and reduce the likelihood of trading incidents during Continuous Trading.

The Volatility Guard is a trading pause and resumption process designed to restore an orderly market in a single Order Book.

The Volatility Guards will be utilized if a proposed Trade deviates too much in percentage from the last sale price (Dynamic Volatility Guard) or from the reference price, which is normally the day's opening price (Static Volatility Guard).

When the Volatility Guard is triggered, continuous trading is halted followed by an auction period, after which the Order Book moves back to continuous trading.

See Appendix M for more details and configuration for Volatility Guards.

For a subset of Securitized Derivatives in INET (warrants and certificates) and Danish Investment Funds, Market Maker Order (MMO or MMF) functionality is used as a mechanism to manage volatility. For details, please see Appendix P and P1.

4.11 Safeguards in opening, Scheduled Intraday and closing auctions

Auction safeguards are means to manage volatility to limit unexpected impact to opening or closing prices due to erroneous or extraordinary order entries during opening, Scheduled Intraday and closing auctions. The auction safeguards will trigger an extension period to the auctions in a single Order Book, if the proposed auction price of that Order Book deviates too much in percentage from a reference price at the time of the uncross.

The safeguards in auctions will add time to the auction and provide a validation layer for the price determination, which will ultimately take place at the end of the extension period.

See Appendix U for more details on respective Nasdaq Nordic markets regarding safeguards configuration.

4.12 Pre-Trade Risk Management services (PRM)

Nasdaq Nordic Pre-Trade Risk Management is an optional service providing Members with pre-trade protection.

By using the PRM members can set various constraints on Orders and control their trading activity and the trading activity of their clients, including prevention of potentially erroneous transactions.

For a complete description of the PRM service please refer to the PRM Service Guide available at the Nasdaq Nordic website.

4.13 Throttling limits

In order to protect the Trading System, and the Member in event of excessive messaging over a single connection, system wide limitations will be applied per port.

The limitation in number of messages per/s per port can be obtained from the European Market Operations (EMO@Nasdaq.com).

The limitation is set to prevent abnormal messaging rates. If the threshold is reached orders may be rejected.

4.14 Sponsored Access

Nasdaq Nordic PRM module and its PRM administration interface are particularly suited for Members who offer clients Sponsored Access and it fulfills the requirements for pre-trade control towards their sponsored clients.

For Sponsored Access setup, the PRM service can be combined with the FIX DROP on-disconnect safeguards, where the host would automatically cancel open Orders and reject new ones for individual sponsored clients, if the sponsoring Member disconnects the drop feed used to monitor the client.

4.15 Self-Trade Prevention

Self-Trade Prevention is an optional functionality for the Member. The functionality may be used by Members to avoid unintentional internal trading by preventing certain Member Orders from executing against each other. The functionality may be activated on Order instruction level without any configuration. The aim with the functionality is to facilitate Members' compliance and risk management duties and needs.

Please note that the Member is in all situations, even when and if the functionality is applied, responsible for all its Trades and Orders, including not violating the Nasdaq Nordic Member Rules as applicable from time to time and/or applicable legislation.

Please refer to Appendix Q for further information.

4.16 Sold-Out Buy-Back

Sold-Out Buy-Back is an optional functionality for Market Makers in Warrants, Certificates, Leverage Certificates and Tracker Certificates. The aim of the functionality is to protect investors in situations where the Market Maker is no longer able to maintain orders on the sell side due to the instrument being sold out.

Please refer to Appendix T for further information.

4.17 Market conditions

Stressed Market Conditions

Trading following a resumption after an auction caused by a Volatility Guard will always be considered as taking place under Stressed Market Conditions. In these events, Stressed Market Conditions will automatically apply for 2 minutes.

Additionally, where so required to ensure the integrity of the market, Nasdaq Nordic may decide that Stressed Market Conditions shall be declared. In these events, Stressed Market Conditions may apply up until the end of trading day.

A note code will be used for informing market participants of Stressed Market Conditions in the Order Book and for Nasdaq Nordic monitoring of Market Maker performance. For list of note codes, please see Appendix G.

Exceptional Circumstances

Exceptional Circumstances means conditions covered in exhaustive list of Commission Delegated Regulation (EU) 2017/578.

These conditions may be related to the functioning of the market (market-wide) or may be Market Maker specific in an Order Book.

Resumption of normal trading after Exceptional Circumstances have ceased to exist will take place in accordance with Chapter 4.8.2.

Note codes will be used for informing market participants of the existence of market-wide and Market Maker specific Exceptional Circumstances. For list of note codes, please see Appendix G.

Normal Trading Conditions

Normal Trading Conditions exist whenever Stressed Market Conditions or Exceptional Circumstances related note codes are not applied for Order Book. For list of note codes, please see Appendix G.

4.18 Measures related to the double volume cap mechanism

MiFID double volume cap (DVC)²¹ mechanism imposes a cap on Nordic@Mid trading²² on Instrument, and in case Instrument is liquid share or ETF, reporting of certain Manual Trades²³.

Regulatory DVC suspension

In case the DVC is exceeded and thereby the use of the pre-trade transparency waivers for particular Instrument are suspended, entering Nordic@Mid Orders below large in scale thresholds and in case Instrument is liquid share or ETF, reporting of Manual Trades below large in scale thresholds using Trade Types Standard Trade and Non-Standard Settlement Trade is not allowed.

As a consequence,

- Nordic@Mid Orders below LIS will be rejected.;
- all routing strategies where routed order below LIS threshold either pings or is being posted to Nordic@Mid will skip Nordic@Mid in the routing logic; and
- any Manual Trade report described above will be rejected.

DVC suspension does not have impact on non-displayed LIS Orders and reporting of LIS Trades i.e. Manual Trades that are at or greater than large in scale thresholds. For LIS thresholds, please see Appendix I.

Regulatory DVC suspension will be effective for six months after it has been enforced.

Nasdaq Nordic suspension relating to DVC

Nasdaq Nordic may also by its own decision to cease offering trading Nordic@Mid trading and reporting of Trade Types Standard Trade and Non-Standard Settlement Trade in Instrument subject to DVC in order not to breach the DVC. Suspension is lifted once Nasdaq Nordic decides it is reasonable to do so.

Information about DVC suspensions

Both Regulatory DVC suspension and Nasdaq Nordic suspensions relating to DVC, as well as lifting of such suspensions related to DVC are expected to happen from one day to another, but not intraday.

After each trading day, Nasdaq Nordic will on best effort basis estimate if the trading venue specific 4% cap is getting close for Instrument. In case the estimate is 3,75% or more, Nasdaq Nordic informs Members via a note code in market data feed. Note code CC will not be applied for Instrument until 11 months' trading data is available. This concerns both new listings and change of ISIN code.

²¹ In accordance with MiFIR Article 5 and further specified in Commission Delegated Regulation (EU) 2017/577

²² In accordance with MiFIR Article 4(1)(a). For detailed information on Nordic@Mid, please see Appendix N.

²³ In accordance with MiFIR Article 4(1)(b)(i). For detailed information on Manual Trades, please see Appendix Z.

Nasdaq Nordic will inform of both regulatory and its own-initiative suspensions related to DVC via note codes in market data feed as well as via Exchange Notice. Indication on cap being close is informed only as note code.

Below table explains the note codes used for informing measures related to DVC.

Note code	Name	Description
CC	Cap Close	Nasdaq Nordic estimates that 4% cap is near, but Nordic@Mid trading and reporting of Manual Trades in scope of DVC is still possible. 3,75% is used as a threshold for this indication.
CN	Capped by Nasdaq	Nasdaq Nordic has decided to stop offering Nordic@Mid trading and reporting of Manual Trades in scope of DVC in order not to breach the 4% cap.
CR	Capped by regulator	National competent authority has enforced suspension due to 4% cap being breached.
CE	Capped by ESMA	ESMA has enforced EU wide suspension due to 8% cap being breached.

For list including also other note codes, please see Appendix G.

4.19 Kill functionality

Members shall set out policies and arrangements to operate their own kill functionality via their own trading systems and procedures in accordance with MiFID.

Upon request, Member can instruct Nasdaq Nordic to manually cancel one or more Orders according to specifications set by Member. All communications are done via recorded phone calls or via e-mails. Members need to provide their Member ID and Trader ID and in which instrument Orders are to be cancelled. Requests to cancel Orders can be made during Trading Session via European Market Operations (EMO@Nasdaq.com).

5 Registration of Manual Trades

For trading on-exchange, the Member can either make Trades in the Order Book or outside the Order Book. In both these cases, the Trades must be made in accordance with the NMR. Manual Trades are Trades which are made outside the Order Book and reported in accordance with NMR to Nasdaq Nordic.

Manual Trades benefit from MiFID pre-trade transparency waivers for negotiated transactions, from waiver for large in scale (LIS) orders or additionally in case of Exchange Traded Notes (ETNs) and Exchange Traded Commodities (ETC) waiver for illiquid. Manual Trades where trade size is at or greater than the LIS threshold are automatically considered as LIS Trade, benefitting from LIS waiver. Manual Trades where trade size is below LIS threshold benefit from negotiated transaction waiver or in case of ETNs and ETCs, the illiquid waiver (illiquid waiver not applicable for Nasdaq Copenhagen ETNs and ETCs).

In Securitized Derivatives, reporting of Manual Trades is not allowed if the trade size is below the LIS threshold. Only reporting of LIS Trades is allowed.

Manual Trades will be made public with the same post trade transparency rules as trades matched in the continuous Order Book.

For a full description and for details of Trade reporting, please refer to the Appendix Z Manual Trades.

6 Orders

6.1 Order types, Order attributes, validity and priority

The following Order types, Order attributes, validity types (together in NMR also as Order Conditions) and priority orders are available in INET Nordic Trading system. Information on how different protocol versions support Orders can be obtained from the Nasdaq European Market Operations (EMO@Nasdaq.com).

Order Types

1. Limit Order

A Limit Order stipulates a maximum purchase price or minimum selling price. If not fully matched, it is logged in the Order Book in descending buy-price Order or ascending sell-price Order and joins the queue of Orders having the same price according to time priority.

If the price specified by a limit price is not valid according to the allowed tick sizes, it will be rounded to a less aggressive price (default) or rejected if that is preferred by the Member. It will only execute at prices equal to or more generous than its specified limit price.

2. Market Order

A Market Order is an Order to sell or buy an Instrument at the current market price during Continuous Trading (Trading Hours) with Time-in-Force condition Immediate-or-Cancel (IOC). If used in the auction phase, it ensures participation in the uncross. However, it may not match (partially or fully) in the uncross depending on the market pressure of the Order Book.

The matching logic of the Market Order is that it will hit the opposite side of the book and fill as much as possible at the best price level. Remaining volume will be cancelled, even though more volume is available at less favorable price levels.

To sweep through multiple price levels, a Limit Order can be used, where the limit price crosses the Best Bid Offer of an Order Book (BBO).

Market on Open and Market on Close are examples of Market Orders used to designate Market Orders to a specific call (see section "Other conditions" below).

Information on how protocol versions support Market Orders can be obtained from the European Market Operations (EMO@Nasdaq.com).

Behavior for Routable Market Orders, see Appendix O.

Order Attributes

1. Reserve Order (Iceberg order)

In a Reserve Order, a certain portion of the total volume of an Order is displayed in the Order Book (peak). The displayed and non-displayed portion are included in the Order Book dissemination of Net Order Imbalance during the imbalance dissemination preceding the auction, however individual Orders are never published during an auction.

A Reserve Order needs to have a minimum value of 10 000 EUR or equivalent in local currency at order entry, or after any modification by Member. Entering a Reserve Order below minimum value criteria will automatically be converted to an IOC, default, or rejected if that is preferred by the Member. A Reserve Order is allowed to be traded below 10 000 EUR or equivalent in local currency, without being converted to IOC or rejected.

The peak volume is the same when the order is initialized and later being replenished, unless the peak volume is randomized. The volume will be replenished when the peak is fully filled. It is possible to randomize the initial and subsequent peak volumes by submitting an optional range. If the range is set to 200 and the peak volume is set to 1000, the displayed portion will randomly shift between 800 and 1200. E.g. 851, 936, 1156, 1000 etc.

When the displayable portion of the Order is completely executed within the Order Book, the non-displayable portion of the Order is decremented and a new displayable Order is sent to the Order Book (with new time priority). In case volume is cancelled below 10 000 EUR or equivalent in local currency, the Order will be converted to IOC or rejected.

All Reserve Order updates are always executed via Order cancel/insert, thus creating a new time priority. However, it is possible to partially cancel volume yet keeping the time priority of the Order if the residual value of the Order is minimum 10 000 EUR or equivalent in local currency. A new timestamp is created for the replenished portion of the Order each time it is replenished from reserve, while the reserve portion retains the timestamp of its original entry.

Executions may be subject to so called 'race conditions' and that the outcome may be impacted by other (incoming) Orders. E.g. the updating of open or displayed volume of a Reserve Order is done at a time when other Orders may be entering the Order Book, thus leaving the Order priority of the update non-deterministic.

A partially matched Reserve Order that is carried over (Time In force = Good till Cancelled (GTC)) will automatically get its original displayed quantity (or new random peak volume) when re-entering the Trading System the next trading day. Further information about GTC management can be found in section Time in Force (Validity types).

2. Pegged Order

Pegged Orders allow clients to price Orders relative to the current market price for an Instrument.

Offsets allow a client to peg an Order with an incremental difference (tick) from the Best Bid Offer of an Order Book (BBO) and can be either positive (higher price) or negative (lower price).

There are three types of Pegged Orders:

- Primary Peg: Peg an Order to the same side of the BBO.
- Market Peg: Peg an Order to the opposite side of the BBO.
- Mid-point Peg: Peg an Order to the mid-point of the BBO.

Pegged Orders have their price automatically adjusted by the Trading System in response to changes in BBO prices. A Pegged Order may specify a limit price beyond which the Order shall not be executed (protection price). Mid-point Pegged Orders can never be displayed, hence need to follow the rules for a Non-displayed Order fulfilling the Large In Scale (Hidden order) criteria – see the section below. They will normally use prices available in the relevant tick size table. In cases where the Mid-point falls on a non-tick price, the mid-tick price will be used. A new timestamp is created for a Pegged Order each time it is automatically adjusted.

Pegged Order updates creates a new time priority each time a Pegged Order is automatically adjusted in price. This means that the execution may be subject to so called 'race conditions' where original Order time priority cannot be guaranteed.

In order to secure that a Pegged Order do not peg towards other Pegged Orders the Trading System automatically assures that Pegged Orders are only priced based on the displayed Orders (non-Pegged Orders) constituting the BBO seen in the public data.

The types of pegging and the incremental difference from the BBO may be used in the following fashion for Bids and Offers.

Pegged Orders	Bids: Negative price difference Offers: Positive price difference	Zero difference	Bids: Positive price difference Offers: Negative price difference
Primary Peg	Displayed and Non-displayed Orders	Displayed and Non-displayed Orders	Non-displayed Order
Market Peg	Displayed and Non-displayed Orders For displayed Orders, price will be capped by the current BBO*	Available, but converted to an IOC	Available, but converted to an IOC

Mid-point Peg	Non-displayed Order	Non-displayed Order	Available, but converted to an IOC
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*Capped by the current BBO means that if a displayed Market Peg would end up inside the spread it will be automatically adjusted to the best bid or offer. This means that the actual peg-difference may be larger than what was sent in originally. This applies both when the Order is first submitted and when the BBO changes.

For example, a bid with a Market Peg and a negative price difference of 1 tick (i.e. -1), can either be displayed or non-displayed and will be entered into the Order Book at one tick below the current best offer.

Another example is a Pegged Order that is pegged to a price less aggressive than the BBO. This means that if the BBO is 100-102, a primary Pegged bid Order can put itself on best bid minus X ticks. In this example say 4 ticks, resulting in a Pegged Order with a price of 99 in this case (tick size in this example is 0,25).

Pegged Orders are not allowed to be entered during any call (rejected). Information on use of Market Orders in calls may be found in section "Other conditions" below.

A Non-displayed Pegged Order must meet the large in scale criteria as any other Non-displayed Order. See below. With any price or volume update the Order will be validated accordingly. Non-displayed Pegged Orders that do not meet the criteria will automatically be converted to an IOC (default behavior), or rejected if that is preferred by the Member.

In Order Books where Market Maker Order for Warrants and Certificates (MMO) and Market Maker Order for Danish Investment Funds (MMF) are enabled, Pegged Orders will not be allowed, except for IOC Market Pegged Orders with zero difference (a.k.a. Market Order).

3. Minimum Quantity Order

Orders can be entered for execution with a minimum share quantity. Minimum Acceptable Quantity (MAQ) Orders are only accepted during Continuous Trading with a time-in-force IOC (no other Time in Force will be allowed). Adding Minimum Quantity condition to an Order and setting this to equal the volume gives the equivalent of a Fill-or-Kill (FOK). Minimum quantity cannot be combined with any other Order attribute.

MAQ Orders can participate in the auctions with the MAQ requirement temporarily Waived. That is, MAQ Orders can participate in both auctions and the continuous market; however, the "MAQ requirement" will only be enforced during the continuous market.

MAQ Orders can match against resting orders provided that the net volume executed surpasses the MAQ condition. This means that a MAQ Order can be executed against one or several Orders.

MAQ is also allowed on Non-displayed Orders. Here the Non-displayed Order would still need to meet large in scale (LIS) criteria, but the participant would be able to state that the Order should only match if the MAQ criteria is met or exceeded. An Order will not

execute during Continuous Trading unless the MAQ criteria is met. Participants would still be able to enter a Non-displayed Order without a MAQ if desired. See Appendix L for more details.

4. Large in Scale Non-displayed Order (Hidden order)

Large in Scale (LIS) Non-displayed Limit Orders are hidden from other participants than the participant entering it. The Order stipulates a maximum purchase price or minimum selling price. If not fully matched, it is logged in the Order Book in descending buy-price Order or ascending sell-price Order and joins the queue of Orders having the same price according to time priority. Visibility is ranked ahead of time priority. A displayed Order entered at a later time is ranked ahead of an earlier Non-displayed Order (assuming both Orders entered at the same price).

Non-displayed Order has to be large in scale (LIS) at the time of entry or after user modification. Pegged LIS Orders use the first Pegged price, and Limit LIS Orders use the Limit price on the Order as basis for the LIS validation. If the volume was reduced due to a partial execution, the Order remains non-displayed even when smaller than LIS.

Large in scale (LIS) thresholds for different Instruments can be seen in Appendix E.

Non-displayed Orders that do not meet the large in scale (LIS) criteria will automatically be converted to an IOC (default behavior) or rejected (optional behavior) if that is preferred by the Member. The preferred handling may be set individually on port level. However, for Pegged Orders the behavior is configured on MPID level. This validation will also be done when performing a Cancel/Replace on the Order.

The only other attribute that can be used in combination with the Non-displayed attribute is pegging. In case the volume of a pegged Non-displayed Order is reduced due to a partial execution, the Order remains non-displayed even when the remaining volume is smaller than LIS.

In general, the following combinations of Order attributes are possible.

	Reserve	Pegged	Minimum qty	Non-displayed
Reserve	-	x		
Pegged	x	-	x	X
Minimum qty		x	-	X
Non-displayed		x	x	-

5. Nordic@Mid Order

Nordic@Mid is a separate continuous crossing for non-displayed mid-point pegged Orders and should be viewed as a complement to the central Order Book in Nasdaq Nordic cash equities.

For more information on the service, please refer to Appendix N.

6. Market Maker Order

A Market Maker Order (MMO) cannot be matched, and create a Trade, unless certain conditions are fulfilled. MMOs will be offered to Market Makers on warrants and certificates. A variant of MMO, an MMF, is offered for Market Makers in Danish Investment Funds.

For more information on the services, please refer to Appendix P and Appendix P1.

7. Top Of Book Order

Top Of Book ("TOP") Order is an order condition the Member can use in case certain conditions are fulfilled. TOP Order shall be accepted and added to the Order Book if its limit price is narrowing but not crossing the current Order Book spread. The TOP Order may also be accepted when its limit price is equal to the current Order Book spread if certain criterias are met.

For more information on the service, please refer to Appendix R.

8. Auction on Demand Order

Auction on Demand (AOD) is a functionality that offers participants the ability to enter into separate periodic auctions. It should be viewed as a complement to the central Order Book in Nasdaq Nordic cash equities.

For more information on the service, please refer to Appendix Y.

9. Trading@Closing Price order condition

Trading@Closing price order is an order condition which enables the eligible orders to participate in Trading@Closing Price phase, which is an optional continuous trading phase taking place after the closing auction where a member who has opted in can trade at the closing auction price.

For more information on the service, please refer to Appendix AB.

10. Retail Indicator

The retail indicator may be used for Member's direct client orders, when the Member has sufficient reason to believe that the order originates from a retail customer who is not considered to be a "professional client" according to MiFID, as amended and applicable, or equivalent definition.

The Member shall maintain procedures reasonably designed to assure that it will only designate orders with retail indicator if the above requirements are met.

The retail indicator will be used by Nasdaq Nordic to calculate certain retail fee incentives according to the valid Nordic Cash Market fee list.

Time in Force (Validity types)

1. Immediate-or-cancel (IOC)

If an IOC (also known as Fill and Kill (FAK)) Order is not matched immediately into Trade(s) in full or in part upon entry, the remaining part of the Order is cancelled. IOC Orders can be used during Continuous Trading and auctions. If Minimum Acceptable Quantity (MAQ) is specified at a level equal to the total Order quantity within an IOC order, the Order is effectively handled as a Fill-or-Kill (FOK) Order.

Nasdaq offers a Member level optional configuration allowing IOC orders to be rejected by the system during calls, more precisely during the auction period when NOII is sent out, instead of participating in the auctions.

An IOC Order may also be eligible for execution in an AOD auction if the auction is ongoing or if the Order initiates the auction. The Order will be cancelled after the completion of the auction if it is not fully executed. If the IOC is not participating in the auction, the Order is cancelled immediately.

2. Good-till-cancelled (GTC)

Order is valid until it is cancelled. If the Order is left overnight, it will be inserted again in the Order Book the next morning at open. The GTC Orders will retain their original chronological order based on original entry time into the Trading System. If the Order is left for several days, the Orders will retain their original chronological order.

The non-displayed portion of the Reserve Order that is carried over to the next trading day, will retain its time priority based on its original time of entry, and the peak volume time priority will be the time when it is placed to the Order book, which takes place immediately after the Reserve Order has been placed to the order management facility.

Information on how protocol versions support GTC can be obtained from the Nasdaq European Market Operations (EMO@Nasdaq.com).

3. Good-till-time (GTT)

The Order is valid until a specified time of current day.

4. Day Order

A Day Order is active for the trading day and any unexecuted portion will be cancelled immediately after the closing cross, when the respective segment moves into Post-trade.

For those issues that have no closing auction, any unexecuted portion will be cancelled immediately after the move to Closed.

5. Call only/Good for Auction (GFA)

A GFA Order is only applicable for AOD. A GFA Order is added in the AOD Order book until cancelled by the submitter, or automatically after the next auction in the AOD Order book.

Other conditions

On-open Orders

On-open Orders specifically request execution at the opening price of the opening call. New on-open Orders can also be submitted during an auction extension period. They can be specified as market priced (MOO) or limit priced (LOO) Orders. MOO and LOO Orders can be entered during possible intra-day halt actions as well.

"Limit On Open Order" or "LOO" shall mean an Order to buy or sell at a specified price or better that is to be executed only during the Opening Call. LOO Orders will execute only at the price determined by the Opening Call.

"Market on Open Order" or "MOO" shall mean an Order to buy or sell at the market that is to be executed only during the Opening Call. MOO Orders will execute only at the price determined by the Opening Call.

As the definition of a Market Order is to price itself aggressively enough to put itself ahead of any competing limit order, the result is that the Market Order will always have the highest priority when allocating matched shares in the uncross of the call.

On-scheduled intraday Orders

On-scheduled intraday Orders are relevant only for market segments comprising the Scheduled Intraday Auction, see Appendix S. Such orders specifically request execution at the price determined in the scheduled intraday call. They can be specified as market priced (MOS) or limit priced (LOS) Orders.

"Limit On Scheduled Intraday Order" or "LOS" shall mean an Order to buy or sell at a specified price or better that is to be executed only during the Scheduled Intraday Call. LOS Orders will execute only at the price determined by the Scheduled Intraday Call.

"Market on Scheduled Intraday Order" or "MOS" shall mean an Order to buy or sell at the market that is to be executed only during the Scheduled Intraday Call. MOS Orders will execute only at the price determined by the scheduled Intraday Call.

As the definition of a Market Order is to price itself aggressively enough to put itself ahead of any competing limit order, the result is that the Market Order will always have the highest priority when allocating matched shares in the uncross of the call.

Imbalance on scheduled intraday Orders, see section 6.1.

On-close Orders

On-close Orders specifically request execution at the closing price of the closing call. New on-close Orders can also be submitted during an auction extension period. They can be specified as market priced (MOC) or limit priced (LOC) Orders.

"Limit On Close Order" or "LOC" shall mean an Order to buy or sell at a specified price or better that is to be executed only during the Closing Call. LOC Orders will execute only at the price determined by the Closing Call.

"Market on Close Order" or "MOC" shall mean an Order to buy or sell at the market that is to be executed only during the Closing Call. MOC Orders will execute only at the price determined by the Closing Call.

As the definition of a Market Order is to price itself aggressively enough to put itself ahead of any competing limit order, the result is that the Market Order will always have the highest priority when allocating matched shares in the uncross of the call.

6.2 Order volume modification

The priority of an Order is retained if the volume is reduced. Existing Orders cannot be increased in volume without losing time priority but can of course be cancelled and replaced with a new Order with new time priority.

Information on protocol support to Order volume modification may be obtained from European Market Operations (EMO@Nasdaq.com) and information is available in protocol specifications available on Nasdaq Nordic website.

6.3 Order price

If a price is needed, it is expressed in monetary amount e.g. SEK, EUR. Pegged Orders and Market Orders do not include a numeric price value.

Limit prices may have a minimum numeric value of 0.0002 and the maximum numeric value of 199 999.9900.

6.4 Tick sizes

Tick size is the smallest allowed price movement and is thereby also the smallest possible difference between the buy and sell price in a share, "minimum spread". Only very liquid shares are usually traded on the minimum spread.

The applicable tick sizes can be found in Appendix F. MiFID Table²⁴ is applied for all Instruments within the MiFID tick size regime, i.e., for Instruments classified by MiFID as shares, depositary receipts and ETFs with underlying comprising only instrument(s) subject to MiFID tick size regime.

²⁴ As specified in Commission Delegated Regulation (EU) 2017/588.

MiFID Table defines which of the six liquidity bands in the MiFID Table shares and depositary receipts follow. Liquidity bands are based on the Average daily number of transactions (ADNT) on most relevant market in terms of liquidity, calculated and published by ESMA. ADNT values are generally calculated on a yearly basis, and following a change in ADNT, the liquidity band may change for an Instrument from one day to another.

In case of ADNT update leading to a change in liquidity band, Nasdaq Nordic will automatically apply the correct liquidity band from the next trading day after the ADNT publication by ESMA, without informing of such change via Exchange Notice. In case of ADNT is not published by ESMA for a new Instrument or in connection with corporate action, or when the ADNT validity period has expired, the highest liquidity band which is presented in the right-most column in MiFID Table will be applied temporarily until valid ADNT for Instrument is available.

A static tick size table (highest liquidity band which is presented in the right-most column in MiFID Table) will be applied for ETFs where the underlying is solely equities subject to the MiFID tick size regime, or a basket of such equities.

Other Instruments not in the scope of MiFID tick size regime follow the given tick sizes in accordance to Appendix F.

Please refer to the Nasdaq Nordic reference data services for current tables in electronic format.

Given the tick size specifications, it is worth noting that Trades will be displayed with four decimals (five is possible on Manual Trades).

If the price specified by a limit price is not valid according to the allowed tick sizes, it will be rounded to a less aggressive price (default) or rejected if that is preferred by the Member.

6.4.1 Tick size pilot on First North Markets

Nasdaq Copenhagen, Nasdaq Helsinki and Nasdaq Stockholm will run a Tick size pilot (Pilot) on its respective First North Denmark, First North Finland, and First North Sweden equity markets as of June 3, 2024, until March 31, 2025 (Pilot period).

The aim with the Pilot is to investigate expected positive liquidity effects of applying the highest allowed tick sizes for shares according to the MiFID Table in Appendix F.

A new static tick size table (lowest liquidity band which is presented in the left-most column in the MiFID Table) will therefore be added and applied for a selection / Treatment group of shares as well as any rights and interim instruments associated with those shares (see Appendix F).

Shares participating in the Pilot (see 6.4.1.1 for details on criteria) and using the new tick size table will be selected based on statistical methods to create a robust Treatment group out of a group of shares that meet certain criteria. The liquidity effects of the

treated shares will then be compared to the residual Control group of shares throughout the Pilot period.

Nasdaq Copenhagen, Nasdaq Helsinki, and Nasdaq Stockholm will communicate the shares participating in the Pilot latest May 3, 2024, via IT Notices and/or via other means. Any remarks, by issuers whose shares are participating in the Pilot, to the announced Treatment group of shares (such as a proposal to withdraw or add a share to the Treatment group) must be reported to European Market Operations (EMO@Nasdaq.com) latest May 10, 2024 to be considered for a change.

During the Pilot period, shares that are part of the Treatment group will automatically be moved back to their standard tick size band based on ADNT in case the shares are subject to corporate actions resulting in an ISIN change. Any other changes in the Pilot and the constituents of the Treatment group will be communicated via IT notices and/or via other means. Information on the shares that are part of the Treatment group can also be obtained from the European Market Operations (EMO@Nasdaq.com).

The Pilot will be evaluated and changes to Tick size regimes may become permanent after the Pilot period. Such decision will be communicated via IT notices and/or via other means and in such case an update of the Market Model with a Regulatory Notice will follow.

Nasdaq Copenhagen, Nasdaq Helsinki, and Nasdaq Stockholm also reserve the right to terminate the Pilot in part, or in full, before the Pilot period ends. Such decision will be announced via IT notices and/or via other means and shares will return to their standard tick size liquidity band based on their ADNT as of the next trading day.

6.4.1.1 Criteria for shares to be part of the Pilot

The following step by step selection criteria will be used to define shares that will participate in the Pilot, and to be included in either the Treatment or Control group:

1. First North shares listed on First North Denmark, Finland, or Sweden before June 30, 2023, are in scope for the Pilot.
2. From the above group the following shares have been excluded, hence will not participate in the Pilot, if at least one of the filter conditions are met:
 - a. Norwegian equities,
 - b. Shares on Auction Trading segment,
 - c. Shares on First North Premier segment,
 - d. Shares that meet a set of criteria relating to spread and tick constraints,
 - e. Shares already trading in the Lowest ANDT band (highest tick),Shares that have gotten a new ISIN after June 30, 2023.
3. The Treatment group is then selected on the residual shares after Step 1 and Step 2 of above based on a random stratified selection. The remaining shares, non-Treatment shares, will stipulate the Control group.

Further details regarding the selection criteria may be requested from the European Market Operations (EMO@Nasdaq.com).

6.5 Trading capacity information and Order Record Keeping

When a Member enters an order, it must also indicate the party on whose behalf such Order is given. The trading capacity is expressed with an owner category. Owner category must also be given when reporting Manual Trades.

Capacity	Maps to	Description
Client	AOTC	Orders placed and Trades conducted on behalf of one or more clients.
Own Account	DEAL	Orders placed and Trades executed against proprietary capital. The capacity code should be used if the member has an actual and real price risk, but not when the price risk is deemed to be theoretical.
Market Maker	DEAL	When trading takes place under a market making undertaking against proprietary capital.
Issuer Holding	AOTC	When the client for whom trading takes place under issuer holding program is the issuer of the financial instruments.
Issuer Holding	DEAL	When trading takes place against proprietary capital under issuer holding program on instructions of the issuer of the financial instrument.
Issue Price Stabilization	AOTC	Trades executed on behalf of the issuer of the financial instrument in the context of initial public offerings in order to support the market price for a predetermined time.
Issue Price Stabilization	DEAL	Trades executed against proprietary capital in the context of initial public offerings in order to support the market price for a predetermined time.
Riskless principal	MTCH	Orders entered and trades executed where the facilitator interposes itself between the buyer and the seller to the transaction in such a way that it is never exposed to market risk throughout the execution of the transaction, with both sides executed simultaneously, and where the transaction is concluded at a price where the facilitator makes no profit or loss, other than a

		previously disclosed commission, fee or charge for the transaction.
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In addition, the following Order Record Keeping fields are required according to current INET Nordic Order entry Protocol specifications and Order Record Keeping Guideline available at Nasdaq Nordic website.

- Client identification code
- Investment decision within firm
- Execution within firm

Client ID, Investment decision within firm and Execution within firm will each have one respective PartyRoleQualifier field which needs to be populated, when mandatory. The Client ID, Investment decision within firm and Execution within firm fields should be populated with a short code. Short codes are created by each member and shall be mapped up with an LongCode via Member Portal GUI, Member Portal Rest API or Member Portal file upload. Short codes will be saved for a minimum of 5 years and upon request from National Competent Authority, Nasdaq will send over a report in a predefined format.

The fields are only mandatory on order entries. Short codes 0, 1, 2 and 3 are reserved values, and can only be used in combinations as per defined validations below.

Party Role (FIX Value)	Order Capacity	Short code				
		0 (NONE or Blank)	1 (AGGR)	2 (PNAL)	3 (NORE)	4 or greater
Client (3)	MTCH	Reject	Accept	Accept	Reject	Member assigned short code
	AOTC	Reject	Accept	Accept	Reject	Member assigned short code
	DEAL	Accept	Accept	Accept	Reject	Member assigned short code
Investment Decision Within Firm (122)	MTCH	Accept	Reject	Reject	Reject	Member assigned short code
	AOTC	Accept	Reject	Reject	Reject	Member assigned short code
	DEAL	Reject	Reject	Reject	Reject	Member assigned short code
Execution Decision Within Firm (12)	MTCH	Reject	Reject	Reject	Accept	Member assigned short code
	AOTC	Reject	Reject	Reject	Accept	Member assigned short code
	DEAL	Reject	Reject	Reject	Accept	Member assigned short code

The mandatory Order capacity field may also be used to validate when, and if, the Client ID, Investment Decision Maker and Execution Decision Maker field are mandatory.

6.6 Pre-Trade Controls

Nasdaq Nordic applies Pre-Trade Controls on price, volume and value of Orders. These control mechanisms automatically prevent Orders with an uncommonly large value or size or if price deviates more than a certain percentage from Last Paid from entering the

Order Book. Order will be rejected if it does not meet the pre-set criteria. Pre-Trade Controls are applied during all Trading Phases when Order entry is possible.

Orders are validated upon Order entry. Pegged Orders are validated upon every re-peg. For Orders with Good-till-cancelled (GTC), validation is performed upon Order entry and start of each subsequent trading day.

Individual thresholds for Instrument are displayed in reference data. Intraday updates adjusting the thresholds may occur when normal trading in Instrument is hindered by the general percentages, but also in rare situations when there is a natural and for the market well-known movement in the Instrument leading to a situation where Nasdaq Nordic decides to update the thresholds. Intraday updates of the thresholds will not be made available via the public data feeds.

Pre-Trade Control values

Actual Pre-Trade Control values are disseminated in the Symbol reference data available via GCF-TIP (Basic Data Tradable Supplementary). Price collars are typically based on the Static Volatility Guards; and set to 3 times Static Volatility Guard threshold, these typical values by instrument group can be found in the below table. Maximum Order Value and Maximum Order Volume are typically based on the Market Cap and the number of outstanding instruments. Market Cap and the number of outstanding instruments are not real-time figures, but based on the date when the limit values were set. In case of an IPO, reference values are used. Nasdaq Nordic holds the right to review and reconfigure the threshold values.

Order entry is allowed up and including the threshold value applied for both aggressive and passive Orders. Based on Member request, Nasdaq Nordic Trading Surveillance may authorize Order(s) outside the thresholds. Such requests should be made to EMO@Nasdaq.com.

Instrument group	Order Price Collar, %	Max Order Value, local currency	Max Order Volume
Index shares (OMXS30/OMXH25/OMXC25)	30	5% of Market Cap	5% of outstanding instruments
Other shares ²⁵ or depositary receipts (including AIFs classified as depositary receipts) or equity rights on main markets	45	5% of Market Cap	5% of outstanding instruments
ETFs, ETNs and ETCs ²⁶ or Danish Investment Funds ²⁷	45	EUR 20,000,000 SEK 200,000,000 DKK 150,000,000 NOK 200,000,000	1,000,000

²⁵ Including Alternative Investment Funds classified as Shares

²⁶ For ETFs, ETNs and ETCs with Round Lot equal to or higher than 10,000, the Max Order Value and Max Order Volume will be set to 2 times the Max Order Values and to 2 times the Max Order Volume shown above for ETFs, ETNs and ETCs.

²⁷ Applicable for Order books not configured for Market Maker Order for Danish Investment Funds (MMF). For details relating to Order books configured for MMFs, please see Appendix P1: Market Maker Order for Danish Investment Funds.

First North instruments ²⁸ or Other Equity-like Instruments or Liquidity Group C ²⁹ or spread $\geq 3\%$	45	5% of Market Cap	5% of outstanding instruments
Penny instruments 0.25-5 (SEK,DKK,NOK), 0.025-0.5 (EUR) 0.1-0.25 (SEK,DKK,NOK), 0.01-0.025 (EUR) 0.05-0.1 (SEK,DKK,NOK), 0.005-0.01 (EUR) 0-0.05 (SEK,DKK,NOK), 0.0-0.005 (EUR)	1000	5% of Market Cap	5% of outstanding instruments
Tracker Certificates Non-MMO on First North	2,000 ³⁰	EUR 20,000,000 SEK 200,000,000 DKK 150,000,000 NOK 200,000,000	10,000,000
Baltic markets, including First North Baltic: Baltic shares and Fund units	45	5% of Market Cap	5% of outstanding instruments
Icelandic markets Icelandic index shares (OMXI15) Other Icelandic shares (including Alternative Investment Funds classified as Shares) and ETFs ³¹	30 45 / 75 depending on liquidity	5% of Market Cap	5% of outstanding instruments
Icelandic markets Penny instruments: 0.00-1.00 (ISK)	1000	5% of Market Cap	5% of outstanding instruments

The Order Price Collar for the shares traded on Auction Trading segments based on criteria A described in Appendix AA: Auction Trading will reference the price of its corresponding main share. The shares will also inherit the percentage collar thresholds from the main share.

7 Smart Order Routing

Nasdaq Nordic offers Smart Order Routing to Away Markets trading Nordic shares. The objective is to provide Smart Order Routing to access the Away Markets while mitigating both transaction and post-Trade costs to the Member.

The requirements for Smart Order Routing (membership, technology and infrastructure) are all part of the offering. When a Routable Order is sent to Nasdaq Nordic, it will be managed according to the submitted Smart Order Routing strategy.

Smart Order Routing is optional and a separate Application form may need to be signed by the Member. For further details, please refer to Appendix O.

²⁸ Order price collar of 50% from Euronext Oslo Börs Last Paid price may additionally be applied for Norwegian shares.

²⁹ Days with Trades < 50%. Average Daily Turnover SEK < 200 000 SEK/DKK / EUR 20 000. Spread > 5%. Evaluation based on the last trading month.

³⁰ Applicable for Order books not configured for Market Maker Order (MMO). For details relating to Order books configured for Market Maker Order (MMO), please see Appendix P: Market Maker Order.

³¹ Static volatility guard thresholds, which determine order price collars, for individual instruments on Nasdaq Iceland are published in exchange notices.

8 Cancel On Disconnect (COD)

The Cancel On Disconnect (COD) is a subscription based service that monitors the loss of connections between the Member and the INET Nordic trading system (Host). If a lost connection is detected by the Host, the COD service may, based on configuration, cancel all resting Orders for the disconnected connector. In the event of a severe failure on the Host side, COD will also be applied. For further details, please refer to Appendix X.

Revision History

Date	Revision	Change Description
October 3, 2008	1.0	Initial version for Nasdaq Nordic
November 17, 2008	1.0.1	New opening and closing call design
December 23	1.0.2	Minor updates and clarifications
February 13, 2009	1.0.3	Discretionary Orders to be implemented in a later phase ETC currently has no active Order Books
March 12, 2009	1.0.4	OMX STO Equities NOK added in schedule Detail in Appendix D corrected Discretionary Order removed completely since they are not allowed by the authorities
May 19, 2009	1.0.5	Minor updates and clarifications. Pegging logics further described
June 1, 2009	1.0.6	Market Order logics explained. Icelandic times updated.
September 7, 2009	1.0.7	Norwegian schedule updated. All IOCs are not displayed in market by Order in pre-open and pre-close Non-displayed Orders that do not meet the LIS criteria will automatically be converted to an IOC or rejected Price validation updated. Pegged and Reserve Orders clarified Other minor updates in text and examples
November 2, 2009	1.0.8	Helsinki convertibles not to migrate Clarification that Imbalance Orders not to participate in forming the equilibrium price Pegged Orders clarified that a displayed Market Peg would end up inside the spread it will be automatically adjusted to the best bid or offer Off tick size priced Orders can be rounded or rejected Call only Orders not available as a specific condition. It is however possible to enter On-open, On-close and in case of an halt auction Orders only eligible for that event Tick size tables updated to reflect latest changes Other minor updates in text and examples
January 21, 2010	1.1	Icelandic trading schedule updated. Closing auction at CET 16:30. Other minor clarifications and editorial in text and examples:

Date	Revision	Change Description
		<ul style="list-style-type: none"> - At closing auction, un-cross will take place randomly among Order Books the last 30 seconds before moving into Post-Trade - Expired Orders are deleted when entering Post-Trade - Deferred Trade reports cannot be released in post Trade - Imbalance Orders are not allowed during intra-day calls - A partially matched Reserve Order that is carried over will get its original displayed quantity when re-entered the next trading day - Tick sizes updates to reflect current setup in SAXESS - Baltic non-trading days for 2010 updated - Information on logics for setting closing prices and Trade statistics
February 17, 2010	1.2	Clarifications: <ul style="list-style-type: none"> - Stockholm and Helsinki Warrants, Stockholm and Helsinki Equity rights, subscr.opt, Convertibles, Fund Units moves into Post-Trade at CET 17:25 (no auction) - Remaining Day Orders in Order Books without closing auction are being cancelled when the Market Segment moves into closed
April 20, 2010	1.3	<ul style="list-style-type: none"> - Change of Tick size table for Danish Certificates (effective by March 22, 2010) - Support for Minimum Acceptable Quantity (MAQ) on Non-displayed Orders - Support for supervisory cancel message at Order Book expiration
May 31, 2010	1.4	Clarification on Pre-Trade Risk Management services and Smart Order Routing New TZ table for large cap
June 10, 2010	1.5	Removal of closing auction for Danish warrants and certificates
August 16, 2010	1.6	Updates to the chapter on Pre-Trade Risk Management (PRM) and a new section on Volatility Guards. References to ATP listen removed.
October 11, 2010	1.7	Updates on <ul style="list-style-type: none"> - Nordic@Mid order - Smart Order Routing - Trading calendar for 2011-2012 - Baltic Tick size updated - First North Tick size tables added

Date	Revision	Change Description
November 11, 2010	1.7	Clarifications on Nordic@Mid and pegged Orders functionality regarding automatic Order price update.
November 19, 2010	1.8	Update to Appendix N on post-Trade transparency for Nordic@Mid. OMXC20 will have post-Trade transparency.
January 24, 2011	1.9	Clarification in section 4.5 about the Post-Trading Session. Updates and clarifications on Appendix F and I on tick sizes for Equities SEK, Most Liquid, XHEL Equities EUR, FESE2 and XCSE Equities DKK, FESE2 and on non-trading days.
January 24, 2011	1.9	Nordic Order Routing is approved by the Authorities and earlier disclaimer removed.
February 28, 2011	2.0	Nordic Order Routing clarifications like information on valid Order types and time in force. New order type Market Maker Order is introduced with an associated Appendix P. Updated tick size table for OMX HEL Equity Subscriptions rights.
March 21, 2011	2.1	Updates to Smart Order Routing on the new strategy "STGY" and GTC support. New trading schedule for warrants trading in the Baltics (from April 4). Updates to the PRM service.
April 1, 2011	2.2	Updates to Tick sizes FESE 2 effective April 1, 2011 New Tick size for currency based ETFs effective April 4, 2011 New First North Finland effective April 4, 2011
May 23, 2011	2.3	Updates to Nordic @Mid and trading in Norwegian shares. New Nordic Order Routing strategies. Added information on Sponsored access in the PRM section Updated TZ tables
June 20, 2011	2.4	New Trade type for routed Trades
June 30, 2011	2.5	Correction of TZ table for UTC, DKK that was missing Clarifications
August 22, 2011	2.6	Clarifications in certain definitions. Changed behavior of a Routable Market Order.

February 1, 2012	2.7	Updated trading calendar for Latvia. E.g. 2012-11-19 will be a non-trading day. Official closing price in Copenhagen to be aligned with other markets. Minor clarifications on TIF combinations. ICB Company classification standard.
March 5, 2012	2.8	Updates to Nordic @ Mid and trading statistics.
April 2, 2012	2.9	Self-Match Prevention Clarification on Nordic@Mid
June 4, 2012	2.10	New TZ table for Tallinn, Riga and Vilnius equities. New Trade type for Riga Updates to matching logics for Nordic@Mid Appendix I: Removal of 2011 non-trading days
October 15, 2012	2.11	New order routing strategy "PDLE" allowing participation in Oslo Börs auctions. Price thresholds on Oslo. Holiday schedule for 2013.
November 12, 2012	2.12	Updated Tick size table for Norwegian index Funds. Top Of Book order condition.
December 10, 2012	2.13	Update to Market Maker Orders.
February 1, 2012	2.14	NMID routing strategy
February 18, 2013	2.15	Enhancements to the TOP Order
March 19, 2013	2.16	Updates to tick size table Index funds, NOK Other minor clarifications
May 6, 2013	2.16b	Change in trading sessions for Norwegian shares and ETFs. Additional tick size table for Nasdaq Stockholm Certificates and ETNs
June 10, 2013	2.17	Routing to multiple Away markets in parallel Default routing strategy Minor general clarifications
September 26, 2013	2.18	Actively-Managed Funds: addition of market segments within Trading session and Trading hours tables and amendment to tick size table naming.
December 2, 2013	2.19	Updated with the new auction Scheduled Intraday Auction. Trading Capacities explained.
December 17, 2013	2.20	Updated Non-Standard Settlement trade type for Nasdaq Iceland
January 9, 2014	2.21	Change in Member's own Orders definition

January 27, 2014	2.22	Updates to Nordic@Mid on minimum order values
February 17, 2014	2.23	Clarifications on Cancel of Trade reports. Update on Nordic @Mid covering First North markets
March 10, 2014	2.24	New order routing strategy "DCAP" Changes to DNGY logics
March 24, 2014	2.25	Changes to the post-trade counterparty visibility
May 5, 2014	2.26	Note Codes are updated. Changes to reactive routing strategy logics.
June 2, 2014	2.27	Updates to Nordic Order Routing reject handling and Introducing Brokers risk checks.
June 9, 2014	2.28	New tick size tables for shares trading below 1 EUR/SEK/ISK and name changes for two existing tables
June 16, 2014	2.29	Update to the voluntary post-trade anonymity
July 8, 2014	2.30	Update to "DCAP" routing strategy to cover all Nasdaq Nordic markets
September 1, 2014	2.31	Updates to thresholds for Icelandic Volatility Guards. Clarification on FE note code.
September 22, 2014	2.32	Update to Note Codes, maximum Order value allowed by Introducing broker and Sold-Out Buy-Back description added.
September 29, 2014	2.33	Update to MAQ and tick size table for shares trading below 1 DKK and name change for one existing table.
December 1, 2014	2.34	<ul style="list-style-type: none"> • Added new sections: <ul style="list-style-type: none"> - Settlement schedule - Safeguards in opening and closing auctions and Appendix U • Trade reporting of manual on-exchange trades: <ul style="list-style-type: none"> ○ Accept settlement dates in the past ○ Accept trade type Non-standard Settlement on all markets • Removed STGV routing strategy.
December 8, 2014	2.35	<ul style="list-style-type: none"> • Introduction of Self-Trade Prevention • Randomization of the peak volume on order condition Reserve Order (a.k.a. Iceberg order)
January 19, 2015	2015:01	<ul style="list-style-type: none"> • Addition of Stop code content for Trading Halt- Knock-Out and clarifications to Trading Halt section

February 16, 2015	2015:02	Appendix S updated due to Danish and Swedish Mid Cap shares being CCP cleared
March 09, 2015	2015:03	Trading Schedule adjustment for Copenhagen Certificates and ETNs
April 27, 2015	2015:04	Closing Auction added for Exchange Traded Funds. Description of Indicative Close Price for Exchange Traded Funds and Danish Investment Funds added. Retirement of Self Match Prevention since it is replaced by the new Self Trade Prevention. Burgundy is removed as a routing destination.
May 4, 2015	2015:05	Stop code "Matching Halt" no longer applies to Denmark, Finland, and Iceland – only to the Baltic. MMO protection extended to aggressive orders.
July 20, 2015	2015:06	Appendix G updated due to introduction of new Note Code. Description of Soft Knock added to Appendix T.
November 16, 2015	2015:07	INET auction updates on pre-trade transparency, randomization, and Net Order Imbalance Indicator (NOII). Removal of unused Tick size table. End of day trade counterparty information not to be published for Nordic@Mid executions. Removal of "PDLE" routing strategy and update to "DCAP" routing strategy logic to cover Norwegian shares also on First North Sweden. Clarifications on procedures at suspension of trading, and resuming trading after a halt.
November 30, 2015	2015:08	Reference to Nasdaq Stockholm removed from functionalities related to Norwegian shares admitted to trading. Clarifications on Official closing prices and Trading statistics.
December 14, 2015	2015:09	Updated legal names of Nasdaq Nordic and Baltic markets.
January 18, 2016	2016:01	Updated to enable Soft Knock to start and end within the same trading day. Added Indicative Close Price calculation for Warrants and Certificates. Do not publish the order triggering a VG.
February 22, 2016	2016:02	Removal of ETF Closing Auction. Enabling Sold-Out Buy-Back to be used for instruments close to maturity where equivalent instruments have been listed. Enabling Large In Scale (LIS) pegged non-display Orders (with Limit price) to remain

		hidden even if remaining volume falls below LIS. Allowing Nordic@Mid Orders to be managed during a Scheduled intraday auction. Adding information about current Cancel On Disconnect services.
April 25, 2016	2016:03	Allowing Mid-point pegged LIS orders to be priced at off-tick prices. Addition of two note codes and description of the related functionality. Aligning Order validation rules for Smart Order Routing.
July 4, 2016	2016:04	Additional, optional tick size table for Warrants, Certificates and ETNs on XSTO. Removal of reference to MiFID database. Sold-Out Buy-Back and Buy-Back description updated to allow additional uses of the functionality. Change to description of Knock-Out Buy-Back.
September 5, 2016	2016:05	Changes related to Alternative Investment Funds on Nasdaq Copenhagen reflected in the trading schedules and lists.
December 1, 2016	2016:06	New market segment Alternative Investment Funds on Nasdaq Stockholm reflected in the trading schedules and tick size tables. Update to TOP order minimum value threshold for DKK.
February 20, 2017	2017:01	New market segment for Exchange Traded Funds on Nasdaq Copenhagen reflected in the market model. New optional tick size table for Warrants, Certificates and ETNs on XSTO added to Appendix F. VWAP definition added.
May 3, 2017	2017:02	Two additional, optional tick size tables for Warrants on Nasdaq Copenhagen.
June 7, 2017	2017:03	Auction on Demand. Opt-out on user level from having Orders benefitting from the internal priority in continuous trading session.
June 19, 2017	2017:04	Indicative Close Price calculation for Alternative Investment Funds in Appendix V. Clarifications in the Auction on Demand section.
September 18, 2017	2017:05	Introducing Throttling limits against excessive messaging over a single connection. Allowing passive TOP orders to be converted to Limit Order when not fulfilling TOP criteria.

		New note code for Stressed Market. Clarifications in Auction On Demand (AOD).
2017-10-30	2017:06	Removal of Convertibles from INET Nordic to be traded in Genium INET system. Clarifications in the Auction On Demand section regarding valid prices on AOD Orders. Clarifications on risk limits for Orders subject for Smart Order Routing. Clarifications on TOP Orders and TOC C configuration.
2017-11-15	2017:07	Changes reflecting the transfer of Warrants, Certificates and ETN Market Segments to First North. Clarifications on Order Record Keeping fields mandatory to populate from November 20, 2017.
2017-12-01	2017:08	Introduction of MMO enhancements. Removal of Opening auction for Securitized Derivates on First North market segments configured for Market Maker Order (MMO). Introduction of Volatility Guards and Auction extension for Tracker Certificates on First North market segment not configured for MMO. Added tick size table for Warrants and Certificates on First North Finland. Removal of Time In Force Good Till Time on TOP. Clarifications on Order Record Keeping. Introduction of Static Volatility Guards for Icelandic shares.
2017-12-18	2017:09	Main Danish index changes from OMXC20 to OMXC25.
2018-01-02	2018:01	Introduction of MiFID tick size tables.
2018-01-03	2018:01	Introduction of MiFID changes: Updates to Volatility Guards in 4.10 and Appendix M Updates to Safeguards in opening and closing auctions in 4.11. and Appendix U Added Market Conditions, 4.17 and related note codes to Appendix G Added Measures related to the double volume cap mechanism, 4.18 and related note code to Appendix G Added Kill functionality, 4.19 Updates to Registration of Manual Trades in 5 and a new Appendix Z Updates to Reserve Order in 6.1 Updates to Trading capacities in 6.5 Added Pre-Trade Controls, 6.6

		<p>Added LIS and deferred publication tables to Appendix E</p> <p>Updates to Nordic@Mid in Appendix N</p> <p>Updates to Smart Order Routing in Appendix O</p> <p>Updates to Trading Rights in 2.3</p> <p>Matching Halt removed from 4.8</p> <p>Added Public Market Information, Appendix I</p> <p>Other changes: Change to use cases of Sold Out and Buy Back note codes in Appendix T.</p>
2018-01-11	2018:02	<p>Updates to Order Price Collar % and Max Order Volume for Securitized Derivatives.</p> <p>Two new optional tick size tables for Warrants and Certificates for First North Finland.</p> <p>Adjustment of Maximum MMO spread table for the lowest price level. Further clarifications on the MMO Pause and MMO Queue.</p> <p>Deletion of one of the specific cases under general authorizations for reporting Manual Trades in Equity Instruments in Appendix Z.</p>
2018-01-22	2018:03	<p>Updates to Scheduled Intraday Call where Mid-Cap Index shares shall be exempted.</p> <p>Auction Only Trading and associated Appendix AA.</p>
2018-02-19	2018:04	<p>Updates to Market Maker Order including introduction of dynamic MMO maximum spread.</p> <p>Updates to Auction Only Trading.</p> <p>Clarification of Order Price Collars for Warrants and Certificates.</p>
2018-04-03	2018:05	<p>Clarifications when Sold-Out Buy-Back may be requested.</p> <p>Updates to Pre- trade Controls for Warrants and Certificates.</p> <p>Clarification that Tracker Certificates Non-MMO segment on First North will remain (was introduced as a transitional setup scheduled to end Q1, 2018).</p> <p>Clarifications in appendix Market Maker Order on Valid spread.</p> <p>Updates and clarifications to appendix Top Of Book, allowing a TOP C Order to be converted if it does not fulfil minimum value criteria.</p> <p>Updates to STP allowing STP across a SA and DMA account.</p> <p>Clarifications on Manual Trades.</p>
2018-04-16	2018:06	<p>Enhancements to Volatility Guards (VG) allowing VGs to be triggered up until the next scheduled event, hence the current</p>

		<p>restriction not to trigger them during the last 240 seconds before a state change will be removed.</p> <p>Changes to auction safeguards thresholds for the opening auction in case of a large known dividend payment, preventing unnecessary auction extensions.</p>
2018-06-18	2018:07	<p>Changes to Trading Capacities 'Issuer Holding' and 'Issue Price Stabilization' to allow mapping to 'DEAL'</p> <p>Changes due to Equity Warrants transfer from Nasdaq Helsinki Regulated Market to First North Finland</p> <p>Changes reflecting the introduction of Tracker Certificates, Leverage Certificates and Warrants traded in NOK</p> <p>Changes on hidden mid-point pegged Orders to be rounded down to less aggressive in case of off-tick mid</p> <p>Clarifications in Appendix O on venue priority for the SOR</p> <p>Clarifications in Appendix T, Buy-Back</p> <p>Additions to Pre-Trade Control parameters for ETF Max Order Value and Max Order Volume due to higher allowable Round Lot</p>
2018-08-27	2018:08	<p>Changes related to reclassification of some Danish Investment Funds from Other Equity-like Instruments to ETFs and some Danish Alternative Investment Funds from Other equity instruments to Shares from the MiFID II transparency perspective.</p> <p>Updates to Appendix AA on the routine for adding shares to Auction Only Trading.</p> <p>Requirements needs to be fulfilled two consecutive quarters in a row to be moved.</p>
2018-09-24	2018:09	<p>In case of regulatory DVC suspension, the option to have sub-LIS Orders converted to an AOD Order is removed.</p> <p>Introduction of new Manual Trade Types in Appendix Z and changes reflected in Trading Statistics Appendix K.</p>
2018-12-06	2018:10	<p>Enhancements to AOD, in terms of new Time In Force values, IOC and GFA.</p> <p>New SOR strategies that are including AOD.</p>
2019-01-28	2019:01	<p>TOP orders to be allowed on non-CCP stocks.</p> <p>Enhancements to MMO Halt and Release process. Addition of extended morning trading for warrants and certificates related trading schedules and normal trading hours.</p> <p>Addition related to requesting deferred</p>

		publication of warrants and certificates on Nasdaq Stockholm operated markets.
2019-04-08	2019:02	Enhancements of the Self Trade Prevention service between groups of Member ID's. Changes to the post-trade counterparty visibility in Trade Publication. Clarification to Appendix Z trading capacity in internal Manual Trades. Amendment related to deferred publication of warrants and certificates on Nasdaq Stockholm operated markets. Change in Dynamic Volatility Guard parameter for Danish Investment Funds in Appendix M.
2019-05-01	2019:03	Introduction of the Trading@Closing price phase for shares traded on markets operated by Nasdaq Copenhagen AS (Appendix AB).
2019-06-10	2019:03 Errata	Clarification relating to Trading@Closing price phase. GTC is not allowed to be sent in during the session.
2019-09-02	2019:04	Addition of SME Growth Market segments to Introduction. Additions to the tables for trading phases and trading hours in relation to introduction of evening trading hours for warrants and certificates. First North Sweden OSL warrants and certificates aligned with First North Sweden warrants and certificates half day timing. Minor clarifications on the use of Trading halts, distribution of Pre-Trade Control values, measures related to DVC, tick size tables and manual trades for Securitized Derivatives concluded during extended evening trading hours.
2020-02-17	2020:01	Enhancements to the Smart Order Routing service: - Additions in the Instrument scope, - Introduction of Aquis Exchange as an Away Market, Changes of Pre-Trade Control values for Penny shares Clarifications on TOP order condition.
2020-03-02	2020:02	Enhancements to the Cancel On Disconnect service
2020-03-16	2020:03	Introduction of a new time-spray routing strategy.
2020-04-01	2020:04	Clarification on Introducing Broker price validations for routed orders. Changes to the post-trade counterparty visibility in Trade Publication.

2020-04-20	2020:05	<p>Allowing mid-point pegged hidden orders to trade at mid-tick prices.</p> <p>Activation of time-spray routing strategy.</p> <p>Clarification that trade reporting is possible during Trading Halts triggered by lack of valid Market Maker spread in MMO enabled warrants and certificates.</p>
2020-06-15	2020:06	<p>Clarification relating to Pre-Trade Control values.</p> <p>Introduction of a messaging rate control for MMO Order books for Warrants and Certificates.</p>
2020-08-24	2020:07	<p>Addition of Note Code "UN" and Trading Halt Reason Code "UNQ" for Warrants and Certificates.</p> <p>Clarifications on Buy-back duration and Soft Knock for Warrants and Certificates.</p>
2020-09-28	2020:08	<p>Extended evening trading on evening segments for Warrants and Certificates on Swedish and Norwegian half days.</p> <p>Updates related to removal of Scheduled Intraday Calls for markets with Continuous Trading.</p>
2020-10-22	2020:09	<p>Change to trading schedule for Norwegian Tracker Certificates and Norwegian Leverage Certificates on First North Sweden.</p>
2020-11-09	2020:10	<p>Introduction of Market Maker Orders for Danish Investment Funds (MMF).</p> <p>Introduction of a new routing strategy (QTSP) (<i>Effective in the trading system as of 2020-11-16</i>).</p>
2020-12-01	2020:11	<p>Formatting/structure changes to table on Regular Trading Phases and Normal Trading Hours.</p> <p>Clarifications relating to Introducing Broker for the Smart Order Routing service.</p> <p>Change to tick size table for XICE Equities, ISK.</p> <p>Pre-trade controls and volatility guards thresholds for Icelandic penny instruments added</p>

2021-01-01	2021:01	<p>Addition of Exchange Traded Notes (ETNs) and Exchange Traded Commodities (ETCs) subject to Regulatory Approval.</p> <p>Reduction in the post-trade transparency reporting time for Securitized Derivatives, Exchange Traded Notes and Exchange Traded Commodities from 15 minutes to five minutes based on the transitional provision in the Commission Delegated Regulation (EU) 2017/583.</p> <p>Removal of Oslo as routing destination.</p>
2021-01-25	2021:02	<p>Additional market segments for OSL Tracker Certificates and OSL Leverage Certificates on First North Sweden.</p> <p>Enhancement to MMO and MMF functionality whereby MMO/MMF will set price when matching with resting non-MMO/non-MMF order.</p>
2021-02-15	2021:03	<p>Addition of SPAC Lists to List structure.</p> <p>Clarifications relating to Routable Instruments scope traded on Away Markets.</p> <p>Clarification relating to Order price collar additionally applied for Norwegian shares.</p>
2021-03-22	2021:04	<p>Introduction of auction extensions to Opening and Scheduled Intra-day Calls on Auction Only Trading segments.</p> <p>Clarification to AOD instrument scope.</p> <p>Removal of Buy Back functionality related to MMF order type.</p>
2021-05-31	2021:05	<p>Allowing GTC order entry during Trading at Closing Price phase.</p> <p>Enhancement to the Order Price Collar for shares traded on Auction Only Trading segments.</p> <p>Enhancement to Buy-Back and Sold-Out Buy-Back functionalities.</p> <p>Update to Indicative Close Price calculation during Buy-Back and Sold-Out periods.</p>
2021-09-01	2021:06	<p>MiFID II changes for Nasdaq Iceland (<i>pending regulatory approval</i>):</p> <ul style="list-style-type: none"> -References to MiFID I replaced with applicable references to MiFID II -Measures related to the double volume cap mechanism now apply to Nasdaq Iceland -MiFID II tick size table now applies to Nasdaq Iceland

		<ul style="list-style-type: none"> -Removal of exemption for Order record keeping -Updates to deferred publication thresholds for Nasdaq Iceland
2021-10-04	2021:07	<p>Clarification relating on opting out from having Orders benefitting from the internal priority.</p> <p>Change of MMO Message rate control and applying the same controls for MMF Order updates.</p>
2021-11-08	2021:08	<p>Changes on order management for Nordic@Mid orders.</p> <p>Additional market segments for warrants and certificates.</p>
2021-12-07	2021:09	<p>Clarification relating when the Cancel On disconnect (COD) service is triggered for a FIX connection.</p> <p>Additional volatility guard parameters for Exchange Traded Notes.</p>
2022-04-01	2022:01	<p>Clarification relating tick size band allocation when valid ADNT is not available.</p> <p>Clarification relating to Self Trade Prevention (STP) Actions.</p> <p>Changes for Top Of Book (TOP) Order thresholds.</p>
2022-06-01	2022:02	<p>Addition of Baltic SPAC List to List structure.</p> <p>Addition of pre-conditions for trading on Market Segment US Shares to Trading Rights.</p> <p>Clarification relating to Self Trade Prevention (STP) where N@M and AOD orders are not included.</p>
2022-06-07	2022:03	<p>Addition on First North Trading List Sweden.</p> <p>First North Sweden NOK market segment re-named as First North Trading List Norway.</p> <p>Minor clarification in Chapter 2.2 Lists and Appendix N Nordic@Mid.</p>
2022-09-12	2022:04	<p>Introduction of Trading@Closing Price for shares traded on Nasdaq Iceland and First North Iceland.</p>

2022-10-19	2022:05	Clarifications related to parameters for Alternative Investment Funds. Addition of Cooperative Instruments on First North Finland in Chapter 2.1 Market Structure.
2022-12-01	2022:06	Changes to post-trade counterparty visibility in Mid and Small Cap and First North shares (chapter 4.7 effective 2022-12-01) Changes related to implementation of OUCH5 (effective 2022-12-05)
2022-12-19	2022:07	Introduction of Momentum Preserving Static Volatility Guards for First North Iceland (Appendix M: Volatility Guards).
2023-02-01	2023:01	Clarification relating share allocation in auctions. Clarification relating to MMO and MMF order messaging related to implementation of OUCH5. Clarification that First North Iceland includes Equity Rights. Introduction of Momentum Preserving Static Volatility Guards for First North Denmark, First North Finland and First North Sweden (Appendix M: Volatility Guards).
2023-03-06	2023:02	Introduction of Alternative Investment Funds market segment on Nasdaq Iceland.
2023-04-14	2023:03	Removal of Imbalance orders Clarification related to implementation of GTC on OUCH5 and FIX 5.0 (effective 2023-04-17). Removal of DAAN, DANY, and NAOD routing strategies (effective 2023-04-17). Additional Cancel On Disconnect configuration options for OUCH (effective 2023-04-17).

2023-05-12	2023:04	<p>Clarification on Top Of Book orders crossing spread are cancelled.</p> <p>Evening trading hours extension to 21:55 CET for Warrants and Certificates within existing evening trading market segments.</p>
2023-06-12	2023:05	<p>Disallowing certain variants of Pegged Orders in Order Books where Market Maker Order for Warrants and Certificates (MMO) and Market Maker Order for Danish Investment Funds (MMF) are enabled.</p> <p>Clarification on time priority for a Reserve Order that is carried over to the next trading day.</p>
2023-07-03	2023:06	<p>Auction Only Trading renamed to Auction Trading. Appendix AA Auction Trading updated to include a new separate criteria B for allocating certain First North Instruments to Auction Trading.</p> <p>Clarification to Nordic@Mid and AOD instrument scope to include depository receipts on shares and cooperative shares classified as Other Equity-like Instruments.</p> <p>Changes of pre-trade LIS threshold and deferred publication threshold for ETFs and Danish Investment Funds classified as ETFs.</p>
2023-10-19	2023:07	<p>Changes to trading phases on Auction Trading Market Segments: number of Scheduled Intraday Calls increased from one to three.</p> <p>Correction to Market Segment Copenhagen Investment Funds – MMF trading schedule: Time of Pre-open added.</p> <p>Temporary trading schedules for Extended Evening Trading and Extended Afternoon/Evening Trading Market Segments in Warrants and Certificates to cater for periods when US and Europe move to Wintertime and Summertime at different dates</p>
2023-11-09	2023:08	<p>Introduction of the internal routing strategy Dark-Lit Sweep on the FIX protocol.</p>

2024-01-02	2024:01	<p>Definition for Nordic@Mid Order added to clarify relation with NMR definition for Mid-price Order.</p> <p>MiFID RTS 1 and 2 revisions reflected within Appendix Z Manual Trades and related Appendix K Trading Statistics.</p> <p>Update to volatility guard and auction safeguard parameters for crypto based Instruments in Appendix M and U.</p>
2024-02-01	2024:02	<p>Introduction of Exchange Traded Notes and Exchange Traded Commodities on Nasdaq Copenhagen.</p> <p>Clarification on numbers of daily auctions in section Appendix AA: Auction Trading</p>
2024-02-19	2024:03	<p>Changes of the naming of the Icelandic index shares from OMXI10 to OMXI15.</p> <p>Adding Nasdaq Helsinki, Nasdaq Iceland and Nasdaq Stockholm ETF markets to the scope Auction On Demand instruments.</p> <p>Enhancing Self-Trade Prevention (STP) functionality across multiple MPIDs's.</p>
2024-04-22	2024:04	<p>Updates in Appendix O: Smart Order Routing:</p> <ul style="list-style-type: none"> - Introduction of the DLTS, Dark Lit Time Spray Strategy - Removal of the DIVE Strategy. <p>Introduction of a Tick size pilot on First North Markets (effective as of 2024-06-03).</p>
2024-09-02	2024:05	<p>Introduction of retail indicator.</p> <p>Clarification on Appendix AA: Auction Trading regarding new equity rights and equity warrants.</p>
2024-11-01 ³²	2024:06	<p>Operational contact details changed to: European Market Operations (EMO@Nasdaq.com)</p> <p>Description of note code OB changed to observation status</p> <p>Introduction of Exchange Traded Notes and Exchange Traded Commodities on Nasdaq Helsinki</p> <p>Prolongment of the Tick size pilot on First North Markets.</p>

³² The effective date for all changes is November 1, 2024, except for Introduction of Exchange Traded Notes and Exchange Traded Commodities on Nasdaq Helsinki which will be effective during November 2024 and for which the date will be communicated via IT Notice.

2024-11-14	2024:07	Changes of TOP Order minimum order values (equal to or larger than EUR 4000, SEK 47 000 or DKK 30 000).

Appendix A: Call examples

Rule 1. Maximum tradable quantity

The following examples illustrate the case when the maximum tradable quantity principle is used in price determination.

Example 1:

Assume Stock E has the following characteristics:

Price tick: 0.10

Assume the following aggregated book (Order information is provided only in example, no Market by Order dissemination of the Order book):

Buy								Ask	Paired	Imbalance
Cum	IO	OC / OO	Limit Qty	Price	Limit Qty	OC / OO	IO	Cum	All	All
-				MP				116,000	0	-116000
-				54.5	100000			116,000	0	-116000
-				54.40	10000			16,000	0	-16000
5,000		5000		54.30	3000			6,000	5000	-1000
5,000				54.20		1000		3,000	3000	2000
5,000				54.10		1000		2,000	2000	3000
5,000				54.00				1,000	1000	4000
9,000		4000		53.90				1,000	1000	8000
12,000		3000		53.80		1000		1,000	1000	11000
14,000			2000	53.70				-	0	14000
24,000			10000	53.60				-	0	24000
124,000			100000	53.50				-	0	124000
124,000				MP				-	0	124000

OC / OO are On-Close or On-Open conditioned Orders.

Limit Qty is the regular Limit Order that will be part of calls and the continuous matching.

In this example the maximum tradable volume is at 54.30 which is selected as Equilibrium Price (EP)

Net order Imbalance Indicator

Net Order Imbalance Indicator (NOII) is disseminated during all Calls containing the following information:

Field	Value	Comment
Paired Quantity	5 000	Total paired Qty at Equilibrium Price, including all orders and hidden qty.
Imbalance Quantity	1 000	Imbalance Qty at Equilibrium Price, including all orders and hidden qty.
Imbalance Direction	Sell	
Equilibrium Price (EP)	54.30	
Best Bid Price	0	
Best Ask Price	0	
Best Bid Qty	0	
Best Ask Qty	0	

Order transfer

Unmatched On-Open Orders will not enter the Continuous Trading.

Rule 2. Minimum imbalance (The following examples illustrate the case when the minimum imbalance principle is used in price determination (rule 2)).

Example 2 (Order information is provided only in example, no Market by Order dissemination of the Order book):

Buy Cum	IO	OC / OO	Limit Qty	Price	Limit Qty	OC / OO	IO	Ask Cum	Paired All	Imbalance All
-				MP				116,500	0	-116500
-				54.5	100000			116,500	0	-116500
-				54.40	10000			16,500	0	-16500
-				54.30	3000			6,500	0	-6500
5,000		5000		54.20				3,500	3500	1500
10,000		5000		54.10	1000	1500		3,500	3500	6500
10,000				54.00				1,000	1000	9000
14,000		4000		53.90				1,000	1000	13000
17,000		3000		53.80		1000		1,000	1000	16000
19,000			2000	53.70				-	0	19000
29,000			10000	53.60				-	0	29000
129,000			100000	53.50				-	0	129000
129,000				MP				-	0	129000

The tradable volume is equal on 54.20 and 54.10 but the imbalance smaller at 54.20.

Net Order Imbalance Indicator:

Field	Value	Comment
Paired Quantity	3 500	Total paired Qty at Equilibrium Price, including all orders and hidden qty.
Imbalance Quantity	1 500	Imbalance Qty at Equilibrium Price, including all orders and hidden qty.
Imbalance Direction	Buy	
Equilibrium Price (EP)	54.20	
Best Bid Price	0	
Best Ask Price	0	
Best Bid Qty	0	
Best Ask Qty	0	

Rule 3. Market pressure principle

The following example illustrates the case when there are several price levels that fulfill the maximum volume and minimum imbalance criteria and the surpluses are the same. In this case, the price level that would leave volume is the equilibrium price - market pressure.

Example 3 (Order information is provided only in example, no Market by Order dissemination of the Order book):

Buy Cum	IO	OC / OO	Limit Qty	Price	Limit Qty	OC / OO	IO	Ask Cum	Paired All	Imbalance All
-				MP				116,500	0	-116500
-				54.5	100000			116,500	0	-116500
-				54.40	10000			16,500	0	-16500
-				54.30	3000			6,500	0	-6500
5,000		5000		54.20				3,500	3500	1500
5,000				54.10	1000	1500		3,500	3500	1500
10,000		5000		54.00				1,000	1000	9000
14,000		4000		53.90				1,000	1000	13000
17,000		3000		53.80		1000		1,000	1000	16000
19,000			2000	53.70				-	0	19000
29,000			10000	53.60				-	0	29000
129,000			100000	53.50				-	0	129000
129,000				MP				-	0	129000

Both maximum tradable volume and imbalance is equal for 54.20 and 54.10, as there is a bid market pressure the highest price will be selected.

Net Order Imbalance Indicator:

Field	Value	Comment
Paired Quantity	3 500	Total paired Qty at Equilibrium Price, including all orders and hidden qty.
Imbalance Quantity	1 500	Imbalance Qty at Equilibrium Price, including all orders and hidden qty.
Imbalance Direction	Buy	
Equilibrium Price (EP)	54.20	
Best Bid Price	0	
Best Ask Price	0	
Best Bid Qty	0	
Best Ask Qty	0	

Rule 4. Prices that are equally close to zero imbalance

If there are several price levels that fulfill the maximum tradable and minimum imbalance criteria and

- the surpluses have different signs (positive and negative) or,
- there is more than one price level that have 0 imbalance,

The equilibrium price is chosen to be the mean price between the highest price level lowest price level from step 3. If price is off-tick it will be rounded to the closest tick, if the price is equally close to 2 ticks then it will be rounded down.

Example 4a – Imbalance shift signs (Order information is provided only in example, no Market by Order dissemination of the Order book):

Buy Cum	IO	OC / OO	Limit Qty	Price	Limit Qty	OC / OO	IO	Ask Cum	Paired All	Imbalance All
-				MP				117,000	0	-117000
-				54.5	100000			117,000	0	-117000
-				54.40	10000			17,000	0	-17000
-				54.30	3000			7,000	0	-7000
-				54.20				4,000	0	-4000
1,500		1500		54.10	1000			4,000	1500	-2500
2,000		500		54.00		1000		3,000	2000	-1000
3,000		1000		53.90				2,000	2000	1000
6,000		3000		53.80		2000		2,000	2000	4000
8,000			2000	53.70				-	0	8000
18,000			10000	53.60				-	0	18000
118,000			100000	53.50				-	0	118000
118,000				MP				-	0	118000

In this case the uncross price is the mean 54.00 and 53.90 which is equal to 53.95, since this equally close valid ticks it will be rounded down to 53.90

Net Order Imbalance Indicator:

Field	Value	Comment
Paired Quantity	2 000	Total paired Qty at Equilibrium Price, including all orders and hidden qty.
Imbalance Quantity	1 000	Imbalance Qty at Equilibrium Price, including all orders and hidden qty.
Imbalance Direction	Buy	
Equilibrium Price (EP)	53.90	
Best Bid Price	0	
Best Ask Price	0	
Best Bid Qty	0	
Best Ask Qty	0	

Example 4b– Range of zero imbalances (Order information is provided only in example, no Market by Order dissemination of the Order book):

Buy Cum	IO	OC / OO	Limit Qty	Price	Limit Qty	OC / OO	IO	Ask Cum	Paired All	Imbalance All
-				MP				118,000	0	-118000
-				54.5	100000			118,000	0	-118000
-				54.40	10000			18,000	0	-18000
-				54.30	3000			8,000	0	-8000
1,500		1500		54.20	1000			5,000	1500	-3500
2,000		500		54.10	1000	1000		4,000	2000	-2000
2,000				54.00				2,000	2000	0
2,000				53.90				2,000	2000	0
2,000				53.80				2,000	2000	0
3,000			1000	53.70				2,000	2000	1000
6,000			3000	53.60		2000		2,000	2000	4000
106,000			100000	53.50				-	0	106000
106,000				MP				-	0	106000

In this case the uncross price is the mean 54.00 and 53.80 which is equal to 53.90, since this on tick EP will be 53.90

Net Order Imbalance Indicator:

Field	Value	Comment
Paired Quantity	2 000	Total paired Qty at Equilibrium Price, including all orders and hidden qty.
Imbalance Quantity	0	Imbalance Qty at Equilibrium Price, including all orders and hidden qty.
Imbalance Direction	No imbalance	
Equilibrium Price (EP)	53.90	
Best Bid Price	0	
Best Ask Price	0	
Best Bid Qty	0	
Best Ask Qty	0	

Example 5 –NOII in an uncrossed market:

Assume the following book (Order information is provided only in example, no Market by Order dissemination of the Order book):

Buy								Ask	Paired	Imbalance
Cum	IO	OC / OO	Limit Qty	Price	Limit Qty	OC / OO	IO	Cum	All	All
-				MP				116,000	0	-116000
-				54.5	100000			116,000	0	-116000
-				54.40	10000			16,000	0	-16000
-				54.30	3000			6,000	0	-6000
-				54.20	1000			3,000	0	-3000
-				54.10	1000	1000		2,000	0	-2000
-				54.00				-	0	0
-				53.90				-	0	0
-				53.80				-	0	0
6,000		5000	1000	53.70				-	0	6000
9,000			3000	53.60				-	0	9000
109,000			100000	53.50				-	0	109000
109,000				MP				-	0	109000

Net Order Imbalance Indicator:

Field	Value	Comment
Paired Quantity	0	Total paired Qty at Equilibrium Price, including all orders and hidden qty.
Imbalance Quantity	0	Imbalance Qty at Equilibrium Price, including all orders and hidden qty.
Imbalance Direction	N/A	
Equilibrium Price (EP)	N/A	
Best Bid Price	53.70	In case the market is not crossed this will show the spread.
Best Ask Price	54.10	In case the market is not crossed this will show the spread
Best Bid Qty	6 000	Aggregated volume at Best Bid
Best Ask Qty	2 000	Aggregated volume at Best Ask

The NOII information then indicates the spread in the market including hidden volume.

Example 6 - Share allocation

Similar to example 1 the aggregated book is based on the following Order Book (Order information is provided only in example, no Market by Order dissemination of the Order book):

Order Book

Bid				Ask			
Order#	Time	Volume	Price	Price	Volume	Time	Order#
1	b1	0(3000)	54.30	53.80	0(1000)	a4	11
5	b5	0(2000)	54.30	54.10	0(500)	a1	8
2	b2	0(1500)	53.90	54.10	0(500)	a3	10
4	b4	0(2500)	53.90	54.20	0(1000)	a2	9
3	b3	0(500)	53.80	54.30	350	a5	12
6	B6	0(2500)	53.80	54.30	2650	a6	13
7	B7	2000	53.70				

This will create the following aggregated quantities (Order information is provided only in example, no Market by Order dissemination of the Order book):

Buy Cum	IO	OC / OO	Limit Qty	Price	Limit Qty	OC / OO	IO	Ask Cum	Paired All	Imbalance All
-				MP				6,000	0	-6000
-				54.5				6,000	0	-6000
-				54.40				6,000	0	-6000
5,000		5000		54.30	3000			6,000	5000	-1000
5,000				54.20		1000		3,000	3000	2000
5,000				54.10		1000		2,000	2000	3000
5,000				54.00				1,000	1000	4000
9,000		4000		53.90				1,000	1000	8000
12,000		3000		53.80		1000		1,000	1000	11000
14,000			2000	53.70				-	0	14000
14,000				53.60				-	0	14000
14,000				53.50				-	0	14000
14,000				MP				-	0	14000

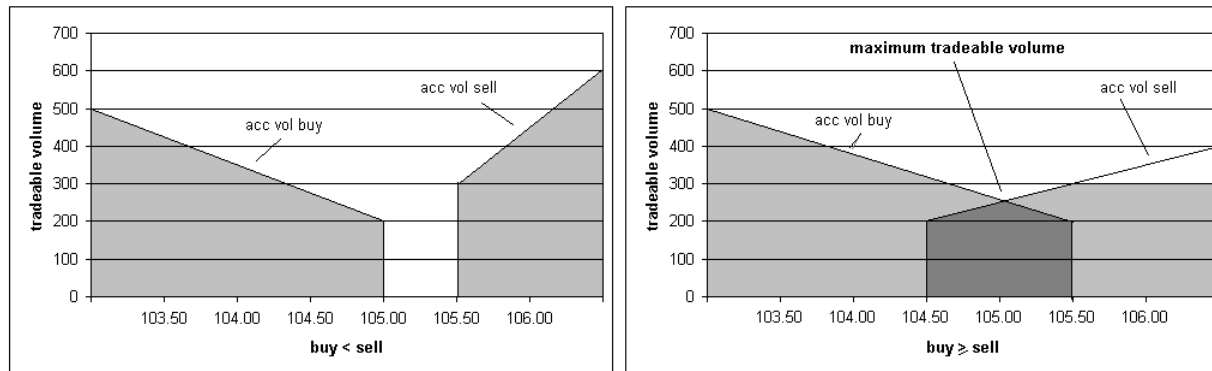
Matching will start from the deficit side, in this case the bid side. In case of internal matching these will be sought out first, however in this example we assume no internal matches.

The following Trades will be generated:

Order #	Price	Qty
1 - 11	54.30	1 000
1 - 8	54.30	500
1 - 10	54.30	500
1 - 9	54.30	1 000
5- 12	54.30	350

Equilibrium Price Determination – graphical example

The figure below shows supply (turn-S) and demand curves (turn-B) for two different cases. In one case (left), the best buy price is less than ($<$) the best sell price. In the other case (right), the buy price is higher than ($>$) the best sell price.



The equilibrium price is set to the price where the biggest volume can be traded i.e. where both curves meet (in the right-hand example above). If the curves do not meet (as in the left-hand example above), there is no equilibrium price.

Appendix B: Matching examples, price-internal-displayed-time priority and Market Orders

1. Internal priority without Reserve Orders

The following buy Orders are entered into the Order Book in the following sequence.

Bid						Ask					
Order#	Time	Member	Display volume	Reserve volume	Price	Price	Reserve volume	Display volume	Member	Time	Order#
1	1	AAA	75000		15,00						
2	2	BBB	15000		15,00						
3	3	AAA	35000		14,90						

An ask Order is entered by Member BBB. Order #4, 50000@14,90.

The following Trades are matched according to price-internal-time priority.

Order #2/4 - 15000@15,00

Order #1/4 - 35000@15,00

The following Orders remain in the Order Book.

Bid						Ask					
Order#	Time	Member	Display volume	Reserve volume	Price	Price	Reserve volume	Display volume	Member	Time	Order#
1	1	AAA	40000		15,00						
3	3	AAA	35000		14,90						

2. Internal priority with Reserve Orders

Remarks: When Reserve Order is matched with another order, each new open quantity has a new timestamp.

The following buy Orders are entered into the Order Book. Order #2 is a Reserve Order with total volume of 50000 shares and instructions to display (d) 15000 shares and hidden (h) 35000 shares

Bid						Ask					
Order#	Time	Member	Display volume	Reserve volume	Price	Price	Reserve volume	Display volume	Member	Time	Order#
1	1	AAA	40000		15,00						
2d	2	BBB	15000		15,00						
3	3	AAA	5000		15,00						
2h	2	BBB		35000							
4	4	CCC	35000		14,90						

An ask Order is entered by Member BBB. Order #5, 45000@14,90.

The following Trades are matched according to price-internal-time priority.

Order #2/5 - 15000@15,00

Order #2/5 - 30000@15,00

The following Orders remain in the Order Book.

Bid						Ask					
Order#	Time	Member	Display volume	Reserve volume	Price	Price	Reserve volume	Display volume	Member	Time	Order#
1	1	AAA	40000		15,00						
3	2	AAA	5000		15,00						
2	3	BBB	5000		15,00						
4	4	CCC	35000		14,90						

An ask Order is entered by Member CCC. Order #6, 50000@14,90.

The following Trades are matched according to price-internal-time priority.

Order #1/6 - 40000@15,00

Order #3/6 - 5000@15,00

Order #2/6 - 5000@15,00

And finally, the following buy Order is remaining after matching.

Bid						Ask					
Order#	Time	Member	Display volume	Reserve volume	Price	Price	Reserve volume	Display volume	Member	Time	Order#
4	4	CCC	35000		14,90						

3. Market Orders

A. Market Order logics

Current Order Book, Continuous Trading, BBO = 9,00-9,03

Bid					Ask				
Order#	Time	Non- displayed volume	Display volume	Price	Price	Non- Display volume	Non- displayed volume	Time	Order#
1	1		200	9,00	9,03	300		6	6
2	2		300	8,98	9,04	500		7	7
3	3		200	8,98	9,05	1000		8	8
4	4		200	8,90					
5	5		100	8,70					

A Bid Market Order #9 2000@MP is entered

Order Book after event

Bid					Ask				
Order#	Time	Non- displayed volume	Display volume	Price	Price	Non- Display volume	Non- displayed volume	Time	Order#
1	1		200	9,00	9,04	500		7	7
2	2		300	8,98	9,05	1000		8	8
3	3		200	8,98					
4	4		200	8,90					
5	5		100	8,70					

Trades: Order #9/6 – 300@9,03

B. Limit IOC

To sweep through multiple price levels, a Limit IOC Order can be used, where the limit price is crosses the BBO.

Current Order Book, Continuous Trading, BBO = 9,00-9,03

Bid					Ask				
Order#	Time	Non-displayed volume	Display volume	Price	Price	Non-Display volume	Display volume	Time	Order#
1	1		200	9,00	9,03	300		6	6
2	2		300	8,98	9,04	500		7	7
3	3		200	8,98	9,05	1000		8	8
4	4		200	8,90					
5	5		100	8,70					

A Limit IOC Order #9 1000@10,00 is entered

Order Book after event

Bid					Ask				
Order#	Time	Non-displayed volume	Display volume	Price	Price	Non-Display volume	Display volume	Time	Order#
1	1		200	9,00	9,05	800		8	8
2	2		300	8,98					
3	3		200	8,98					
4	4		200	8,90					
5	5		100	8,70					

Trades: Order #9/6 – 300@9,03
 Order #9/7 – 500@9,04
 Order #9/8 – 200@9,05

Appendix C: Matching examples, Reserve and Hidden Orders

Building Order Book on ask side

All Orders entered during Continuous Trading in the following order

1. Sell 1000 at 9.00 SEK, 100 displayed
2. Sell 200 @ 9.00 SEK
3. Sell 200 @ 9.00 SEK, all hidden
4. Sell 400 @ 9.00 SEK, 100 displayed

Order Book after event:

Bid						Ask					
Order#	Reserve /hidden time	Reserve /hidden Time	Display volume	Display volume	Price	Price	Display volume	Reserve /hidden volume	Time	Reserve /hidden time	Order#
						9,00	100	900 R	1a	1b	1
						9,00	200		2		2
						9,00		200 H		3	3
						9,00	100	300 R	4a	4b	4

Please note that Reserve Orders are assigned two time priorities when they are entered into the book – one for the displayed portion and one for the hidden quantity. In the tables above, this is indicated using (a) and (b).

Please also note that hidden Orders have to be large in scale (LIS) at the time of entry. This is not the case in the examples.

Example 1:

State of the Order Book on the ask side

At price level 9.00 SEK we have the following:

- 400 display,
- 1,200 reserve, and
- 200 hidden

Bid						Ask					
Order#	Reserve /hidden time	Reserve /hidden Time	Display volume	Display volume	Price	Price	Display volume	Reserve /hidden volume	Time	Reserve /hidden time	Order#
						9,00	100	900 R	1a	1b	1
						9,00	200		2		2
						9,00		200 H		3	3
						9,00	100	300 R	4a	4b	4

Assume a bid Order comes in for 1,800 shares @ 9.00 SEK

Allocation

First from displayed volumes

- 1) 100 shares from Order number 1a
- 2) 200 shares from Order number 2
- 3) 100 shares from Order number 4a

Then from Reserved / Hidden quantity

- 4) 900 shares from Order number 1b
- 5) 200 shares from Order number 3
- 6) 300 shares from Order number 4b

Trades

Takes place in following Order (same as allocation)

- 1) 100 shares from Order number 1a
- 2) 200 shares from Order number 2
- 3) 100 shares from Order number 4a
- 4) 900 shares from Order number 1b
- 5) 200 shares from Order number 3
- 6) 300 shares from Order number 4b

The remaining book will be empty since all volume, displayed and hidden, been matched.

Example 2:

State of the Order Book on the ask side

At price level 9.00 SEK we have the following:

- 400 display,
- 1,200 reserve, and
- 200 hidden

Bid						Ask					
Order#	Reserve /hidden time	Reserve /hidden Time	Display volume	Display volume	Price	Price	Display volume	Reserve /hidden volume	Reserve /hidden Time	Reserve /hidden time	Order#
						9,00	100	900 R	1a	1b	1
						9,00	200		2		2
						9,00		200 H		3	3
						9,00	100	300 R	4a	4b	4

Assume a bid Order comes in for 250 shares at 9 SEK

Allocation

First from displayed volumes

- 1) 100 shares from Order number 1
- 2) 150 shares from Order number 2

Order #1 will be refreshed with 100 shares from reserve

Trades

Takes place in following order

- 1) 100 shares from Order number 1
- 2) 150 shares from Order number 2

Book will now look like this:

Bid						Ask					
Order#	Reserve /hidden time	Reserve /hidden Time	Display volume	Display volume	Price	Price	Display volume	Reserve /hidden volume	Reserve /hidden Time	Reserve /hidden time	Order#
						9,00	50		2		2
						9,00		200 H		3	3
						9,00	100	300 R	4a	4b	4
						9,00	100	800 R	5	1b	1

Detail:

- The reserve element of Order #1 retains time priority. The iceberg refresh is entered as a new Order #5.
- The remaining quantity of Order #2 retains time priority
- No change to the completely hidden Order priority

Example 3:

State of the Order Book on the ask side

At price level 9.00 SEK we have the following:

- 400 display,
- 1,200 reserve, and
- 200 hidden

Bid						Ask					
Order#	Reserve /hidden		Reserve /hidden		Price	Price	Reserve /hidden		Reserve /hidden		Order#
	time	Time	volume	volume			Display volume	Time	time	Time	
						9,00	100	900 R	1a	1b	1
						9,00	200		2		2
						9,00		200 H		3	3
						9,00	100	300 R	4a	4b	4

Assume a bid Order comes in for 1200 shares at 9.00 SEK

Allocation

First from display

- 1) 100 shares from Order number 1a
- 2) 200 shares from Order number 2
- 3) 100 shares from Order number 4a

Then from Reserved / Hidden quantity

- 4) 800 shares from Order number 1's reserve pool (1b)

Trades

Take place in following order

- 1) 100 shares from Order number 1a
- 2) 200 shares from Order number 2
- 3) 100 shares from Order number 4a
- 4) 800 shares from Order number 1's reserve pool (1b)

Book will now look like this:

Bid						Ask					
Order#	Reserve /hidden time	Time	Reserve /hidden volume	Display volume	Price	Price	Reserve Display volume	/hidden volume	Time	Reserve /hidden time	Order#
						9,00	100		5		1
						9,00	100	200 R	6	4b	4
						9,00		200 H		3	3

Detail:

- Order #1 will be refreshed with remaining 100 shares from reserve. The reserve is now depleted and the refresh is given priority "5" in the book.
- Order #2 has been fully executed.
- Order #3 retains priority
- The displayed element of Order #4 was matched, the reserve element maintains priority, the refreshed display Order is given priority "6"

Appendix D: Pegged Orders

Pegged Orders allow a pricing of the Orders relative to the current market price defined as Best Bid Offer (BBO). NB. Non-displayed must meet Large in scale criteria except Nordic@Mid Orders. This is not reflected in the examples below.

Tick size is 0,01 in the following examples.

1. Current Order Book, Continuous Trading, BBO = 9,00-9,03

Bid					Ask				
Order#	Time	Non-displayed volume	Display volume	Price	Price	Non-Display volume	Display volume	Time	Order#
1	1		200	9,00	9,03	300		6	6
2	2		300	8,98	9,04	500		7	7
3	3		200	8,98	9,05	1000		8	8
4	4		200	8,90					
5	5		100	8,70					

2. A bid primary non-displayed peg Order #9 200@Best Bid + 0,02 (2 ticks) is entered, meaning actively trading @9,02, BBO = 9,00-9,03

Order Book after event:

Bid					Ask				
Order#	Time	Non-displayed volume	Display volume	Price	Price	Non-Display volume	Display volume	Time	Order#
				9,02 (Primary + 0,02)					
9	9	200		9,02	9,03	300		6	6
1	1		200	9,00	9,04	500		7	7
2	2		300	8,98	9,05	1000		8	8
3	3		200	8,98					
4	4		200	8,90					
5	5		100	8,70					

3. An ask is entered, Order #10, 100@9,00, BBO = 9,00-9,03

Order #10, 100@9,00 hits the best price, which is the Non-displayed Order #9

Order Book after event:

Bid					Ask				
Order#	Time	Non- displayed volume	Display volume	Price	Price	Non- Display volume	displayed volume	Time	Order#
				9,02 (Primary + 0,02)					
9	9	100			9,03	300		6	6
1	1		200	9,00	9,04	500		7	7
2	2		300	8,98	9,05	1000		8	8
3	3		200	8,98					
4	4		200	8,90					
5	5		100	8,70					

Trades: Order #10/9 – 100@9,02

4. A new ask is entered, Order #11, 50@9,01 which is within the price range, BBO = 9,00-9,03

Order #9 is partially filled

Order Book after event:

Bid					Ask				
Order#	Time	Non- displayed volume	Display volume	Price	Price	Non- Display volume	displayed volume	Time	Order#
				9,02 (Primary + 0,02)					
9	9	50			9,03	300		6	6
1	1		200	9,00	9,04	500		7	7
2	2		300	8,98	9,05	1000		8	8
3	3		200	8,98					
4	4		200	8,90					
5	5		100	8,70					

Trades: Order #11/9 – 50@9,02

5. Order #1 is cancelled, new bid is entered, Order #12, 100@9,01, BBO = 9,01-9,03

This means that Order #9 is cancelled and a new Pegged Order is sent in based on the new best bid. Order #13, 50@ Best bid + 0,02 (9,03 and within the price range of Order #6)

Order #13 will match with Order #6

Order Book after event:

Bid					Ask				
Order#	Time	Non-displayed volume	Display volume	Price	Price	Non-Display volume	Display volume	Time	Order#
12	12		100	9,01	9,03	250		6	6
2	2		300	8,98	9,04	500		7	7
3	3		200	8,98	9,05	1000		8	8
4	4		200	8,90					
5	5		100	8,70					

Trades: Order #13/6 – 50@9,03

6. Other pegging scenarios

1. A bid Market Peg Order #12 100@Best Offer - 0,02 is entered meaning actively trading @ 9,01 (non-displayed)

2. A bid Market Peg Order #13 200@Best Offer - 0,03 is entered meaning actively trading @9,00 (displayed)

3. A bid mid-point peg Order #14 500 @ - 0,00 is entered meaning actively trading @9,02 (non-displayed)

Order Book after event: BBO = 9.01-9,03

Bid					Ask				
Order#	Time	Non-displayed volume	Display volume	Price	Price	Non-Display volume	Display volume	Time	Order#
				9,02 (Midpoint)					
14	14	500		9,02 (Midpoint)	9,03	200		6	6
1	1		100	9,01	9,04	500		7	7
				9,01 (Market - 0,02)					
12	12	100		9,01 (Market - 0,02)	9,05	1000		8	8
				9,00 (Market - 0,03)					
13	13		200	9,00 (Market - 0,03)					
2	2		300	8,98					
3	3		200	8,98					

Order #1 is removed. Order #14 is now trading at mid tick price with a new timestamp.

Order Book after event:

Bid					Ask				
Order#	Time	Non- displayed volume	Display volume	Price	Price	Non- Display volume	Non- Display volume	Time	Order#
				9,01 (Market -					
12	12	100		0,02)	9,03	200		6	6
				9,005					
14	15	500		(Midpoint)	9,04	500		7	7
				9,00					
				(Market -					
13	13	200		0,03)	9,05	1000		8	8
2	2		300	8,98					
3	3		200	8,98					

Appendix E: LIS and deferred publication tables

LIS and deferred publication tables exist in EUR and are converted to local trading currency of an Instrument.

LIS thresholds tables

LIS thresholds for shares and depositary receipts³³:

Average daily turnover (ADT) in EUR	ADT < 50 000	50 000 ≤ ADT < 100 000	100 000 ≤ ADT < 500 000	500 000 ≤ ADT < 1 000 000	1 000 000 ≤ ADT < 5 000 000	5 000 000 ≤ ADT < 25 000 000	25 000 000 ≤ ADT < 50 000 000	50 000 000 ≤ ADT < 100 000 000	ADT ≥ 100 000 000
Minimum size of orders qualifying as large in scale compared with normal market size in EUR	15 000	30 000	60 000	100 000	200 000	300 000	400 000	500 000	650 000

Table 1 LIS thresholds - shares and depositary receipts (including Alternative Investment Funds classified as depositary receipts)

LIS threshold for ETFs and Danish Investment Funds classified as ETFs:

Minimum size of orders qualifying as large in scale compared with normal market size in EUR	3 000 000
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Table 3 LIS thresholds - ETFs

LIS thresholds for Other Equity-like Instruments:

Average daily turnover (ADT) in EUR	ADT < 50 000	ADT ≥ 50 000
Minimum size of orders qualifying as large in scale compared with normal market size in EUR	15 000	30 000

Table 4 LIS thresholds - Other Equity-like Instruments

LIS threshold for Securitized Derivatives:

³³ Including Alternative Investment Funds classified as Shares and Alternative Investment Funds classified as Depositary Receipts

Minimum size of orders qualifying as large in scale compared with normal market size in EUR	60 000
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Table 5 LIS thresholds – Securitized Derivatives

LIS thresholds for ETNs and ETCs:

	Instrument determined to have a liquid market	Instrument determined not to have a liquid market
Minimum size of orders qualifying as large in scale compared with normal market size in EUR	1 000 000	900 000

Table 6 LIS thresholds – ETNs and ETCs

Deferred publication tables³⁴

Deferred publication thresholds and delays for shares and depositary receipts:

Average daily turnover (ADT) in EUR	Minimum qualifying size of transaction for permitted delay in EUR	Timing of publication after the transaction
> 100m	10 000 000	60 minutes
	20 000 000	120 minutes
	35 000 000	End of the trading day
50m – 100m	7 000 000	60 minutes
	15 000 000	120 minutes
	25 000 000	End of the trading day
25m – 50m	5 000 000	60 minutes
	10 000 000	120 minutes
	12 000 000	End of the trading day
5m – 25m	2 500 000	60 minutes
	4 000 000	120 minutes
	5 000 000	End of the trading day
1m – 5m	450 000	60 minutes
	750 000	120 minutes
	1 000 000	End of the trading day
500 000 – 1m	75 000	60 minutes
	150 000	120 minutes
	225 000	End of the trading day
100 000 – 500 000	30 000	60 minutes
	80 000	120 minutes
	120 000	End of the trading day
50 000 – 100 000	15 000	60 minutes
	30 000	120 minutes
	50 000	End of the trading day
< 50 000	7 500	60 minutes
	15 000	120 minutes
	25 000	End of the next trading day

³⁴ Deferred publication is applicable for Manual Trades only.

Table 7 Deferred publication thresholds - shares and depositary receipts (including Alternative Investment Funds classified as depositary receipts)

Deferred publication thresholds and delays for ETFs:

Minimum qualifying size of transaction for permitted delay in EUR	Timing of publication after the transaction
15 000 000	60 minutes
50 000 000	End of the trading day

Table 9 Deferred publication thresholds – ETFs

Deferred publication thresholds and delays for Other Equity-like Instruments:

Average daily turnover (ADT) in EUR	Minimum qualifying size of transaction for permitted delay in EUR	Timing of publication after the transaction
ADT < 50 000	15 000	120 minutes
	30 000	End of the trading day
ADT ≥ 50 000	30 000	120 minutes
	60 000	End of the trading day

Table 10 Deferred publication thresholds – Other Equity-like Instruments

Deferred publication thresholds and delays for Securitized Derivatives*:

Minimum qualifying size of transaction for permitted delay in EUR	Timing of publication after the transaction
100 000	No later than 19:00 local time on second working day after the date of the transaction

Table 11 Deferred publication thresholds – Securitized Derivatives

Deferred publication thresholds and delays for Exchange Traded Notes and Exchange Traded Commodities*:

Minimum qualifying size of transaction for permitted delay in EUR	Timing of publication after the transaction
Liquid ETN/ETC 50,000,000	No later than 19:00 local time on second working day after the date of the transaction
Not liquid ETN/ETC 45,000,000	No later than 19:00 local time on second working day after the date of the transaction

Table 11 Deferred publication thresholds – Exchange Traded Notes and Exchange Traded Commodities

*Deferred publication is not available on Nasdaq Stockholm for non-equity instruments

Appendix F: Tick size tables

The tick sizes for Instruments on the main market within Nasdaq Nordic and on First North in respective country follow MiFID Table as described below³⁵:

Liquidity band						
Price ranges	0 ≤ ADNT < 10	10 ≤ ADNT < 80	80 ≤ ADNT < 600	600 ≤ ADNT < 2000	2000 ≤ ADNT < 9000	9000 ≤ ADNT
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
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

³⁵ For ETFs in scope of MiFID table (Equity based ETFs), the liquidity band 9000 ≤ ADNT is applied with the exception of Danish Investment Funds classified as ETFs. See separate tick size table under Nasdaq Copenhagen entitled "CPH Inv Funds, AIF".

For Treatment instruments participating in the Tick size pilot (following provision in section 6.4.1) the left-most band is used in the MiFID Table.

High tick

Valid for First North Denmark, Helsinki and Sweden Treated equities.

Liquidity band	
Price ranges	
$0 \leq \text{price} < 0.1$	0.0005
$0.1 \leq \text{price} < 0.2$	0.001
$0.2 \leq \text{price} < 0.5$	0.002
$0.5 \leq \text{price} < 1$	0.005
$1 \leq \text{price} < 2$	0.01
$2 \leq \text{price} < 5$	0.02
$5 \leq \text{price} < 10$	0.05
$10 \leq \text{price} < 20$	0.1
$20 \leq \text{price} < 50$	0.2
$50 \leq \text{price} < 100$	0.5
$100 \leq \text{price} < 200$	1
$200 \leq \text{price} < 500$	2
$500 \leq \text{price} < 1\ 000$	5
$1\ 000 \leq \text{price} < 2\ 000$	10
$2\ 000 \leq \text{price} < 5\ 000$	20
$5\ 000 \leq \text{price} < 10\ 000$	50
$10\ 000 \leq \text{price} < 20\ 000$	100
$20\ 000 \leq \text{price} < 50\ 000$	200
$50\ 000 \leq \text{price}$	500

The tick sizes for Instruments listed on the main market within Nasdaq Nordic that are not comprised by the MiFID Table are as described below:

Market	Category	Tick size	
Nasdaq Copenhagen	<i>XCSE Other Equities</i>		
	0.00 - 0.499	0.001	
	0.50 - 0.995	0.005	
	1.00 - 4.99	0.01	
	5.00 - 9.95	0.05	
	10.00 - 49.90	0.10	
	50.00 - 499.50	0.50	
	500.00 - 4,999.00	1.00	
	5,000.00 - 19,999.00	10.00	
	20,000.00 -	100.00	
		<i>XCSE Inv Funds, AIF (Danish Investment Funds, Collective Investment Schemes and Alternative Investment Funds³⁶)</i>	
		0.00 - 49.99	0.01
		50.00 - 99.98	0.02
		100.00 - 199.95	0.05
		200.00 - 999.90	0.10
		1,000.00 - 1,999.80	0.20
		2,000.00 - 4,999.50	0.50
		5,000.00 - 9,999.00	1.00
		10,000.00 - 19,998.00	2.00
		20,000.00 - 49,995.00	5.00
		50,000.00 -	10.00
		<i>XCSE ETFs (Fund Units, ETNs, ETCs)</i>	
		0.00 - 4.99	0.01
		5.00 - 499.95	0.05
		500.00 - 4,999.90	0.10
		5,000.00 -	1.00
		<i>or;</i>	
		0.00 -	0.01

³⁶ Danish AIFs classified as shares will use the below table until such time this would be in conflict with the MiFID II ADNT based liquidity band minimum tick sizes.

Nasdaq Stockholm	Other Equities	
	(Equity Warrants)	
	0.00 - 0.499	0.001
	0.50 - 0.995	0.005
	1.00 - 4.99	0.01
	5.00 - 14.95	0.05
	15.00 - 49.90	0.10
	50.00 - 149.75	0.25
	150.00 - 499.50	0.50
	500.00 - 4,999.00	1.00
	5,000.00 -	5.00
	Index funds, SEK	
	(Units in Funds, ETNs, ETCs)	
	0.00 - 4.99	0.01
	5.00 - 499.95	0.05
	500.00 - 4,999.90	0.10
	5,000.00 -	1.00
	Or;	
	0.00 -	0.01
Index funds, NOK		
(Units in Funds Norwegian)		
0.01 - 49.99	0.01	
50.00 - 249.95	0.05	
250.00 - 999.90	0.10	
1000.00 -	0.50	
Alternative Investment Funds³⁷		
0.00 -	0.01	
Nasdaq Iceland	XICE Other Equities	
	0.00 - 0.499	0.001
	0.5 - 0.998	0.002
	1.00 - 1.995	0.005
	2.00 - 14.99	0.01
	15.00 - 49.95	0.05
	50.00 - 99.90	0.10
	100.00 - 499.50	0.50
	500.00 - 4,999.00	1.00
	5,000.00 -	5.00

³⁷ Any AIFs classified as depositary receipts follow the MiFID II ADNT based liquidity band minimum tick sizes.

Nasdaq Helsinki	<i>XHEL Other Equities</i>	
	0.00 - 0.499	0.001
	0.50 - 0.995	0.005
	1.00 -	0.01
	<i>XHEL Other Instruments (ETFs, ETNs, ETCs)</i>	
	0.00 -	0.01
Nasdaq Tallinn	<i>Baltic Equities (including First North)</i>	
	0.000 - 0.999	0.001
	1.00 - 9.99	0.01
	10.00 -	0.1
Nasdaq Tallinn	<i>Funds</i>	
	0.00 -	0.0001
Nasdaq Riga	<i>Baltic Equities (including First North)</i>	
	0.000 - 0.999	0.001
	1.00 - 9.99	0.01
	10.00 -	0.1
	<i>Funds</i>	
	0.00 -	0.0001
Nasdaq Vilnius	<i>Baltic Equities (including First North)</i>	
	0.000 - 0.999	0.001
	1.00 - 9.99	0.01
	10.00 -	0.1
	<i>Funds</i>	
	0.00 -	0.0001

The tick sizes for Instruments listed on First North in respective country that are not comprised by the MiFID Table are as follows:

Market	Category	Tick size
First North Denmark	<i>XCSE Other Equities</i>	
	0.00 – 0.499	0.001
	0.50 – 0.995	0.005
	1.00 - 4.99	0.01
	5.00 - 9.95	0.05
	10.00 – 49.90	0.10
	50.00 – 499.50	0.50
	500.00 – 4,999.00	1.00
	5,000.00 – 19,990.00	10.00
	20,000.00 -	100.00

	XCSE Warrants and Certificates	
	(Warrants; Certificates; Tracker Certificates; Leverage Certificates)	
	0.00 - 4.99	0.01
	5.00 - 9.95	0.05
	10.00 - 49.90	0.10
	50.00 - 499.50	0.50
	500.00 - 4,999.00	1.00
	5,000.00 - 19,990.00	10.00
	20,000.00 -	100.00
	or, optionally for Warrants	
	0.00 -	0.01
	or, optionally for Warrants	
	0.00 - 4.99	0.01
	5.00 - 14.95	0.05
	15.00 - 49.90	0.10
	50.00 - 149.75	0.25
	150.00 - 499.50	0.50
	500.00 - 4,999.00	1.00
	5,000.00 -	5.00
	Certificates, DKK	
	(optional for Certificates; Tracker Certificates; Leverage Certificates)	
	0.00 - 99.99	0.01
	100.00 - 499.95	0.05
	500.00 -	0.10
First North Sweden	Other Equities	
	(First North STO)	
	0.00 - 0.499	0.001
	0.50 - 0.995	0.005
	1.00 - 4.99	0.01
	5.00 - 14.95	0.05
	15.00 - 49.90	0.10
	50.00 - 149.75	0.25
	150.00 - 499.50	0.50
	500.00 - 4,999.00	1.00
	5,000.00 -	5.00

Warrants and Certificates**(Warrants; Certificates; Tracker Certificates; Leverage Certificates)**

0.00 - 4.99	0.01
5.00 - 14.95	0.05
15.00 - 49.90	0.10
50.00 - 149.75	0.25
150.00 - 499.50	0.50
500.00 - 4,999.00	1.00
5,000.00 -	5.00

or, optionally

0.00 -	0.01
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or, optionally

0.00 -	0.001
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or, optionally

0.00 - 0.999	0.001
1.00 -	0.01

or, optionally for Certificates; Tracker Certificates; Leverage Certificates

0.00 - 99.99	0.01
100.00 - 499.95	0.05
500.00 -	0.10

Or;

0.00 - 9.99	0.01
10.00 - 49.95	0.05
50.00 - 499.90	0.10
500.00	0.50

or, optionally for Warrants NOK; Tracker Certificates NOK; Leverage Certificates NOK

0.00 - 4.99	0.01
5.00 - 9.95	0.05
10.00 - 49.90	0.10
50.00 - 499.50	0.50
500.00 - 4,999.00	1.00
5,000.00 - 19,990.00	10.00
20,000.00 -	100.00

First North Finland**XHEL Other Equities****(First North Finland Equity Warrants)**

0.00 - 0.499	0.001
0.50 - 0.995	0.005
1.00 -	0.01

	Other Instruments (Warrants; Certificates; Tracker Certificates; Leverage Certificates)	
	0.00 -	0.01
	or, optionally	
	0.00 - 0.999	0.001
	1.00 -	0.01
	or, optionally	
	0.00 - 0.019	0.001
	0.02 -	0.01
	or, optionally	
	0.00 - 0.059	0.001
	0.06 -	0.01
First North Iceland	Other Equities	
	0.00 - 0.499	0.001
	0.50 - 0.995	0.005
	1.00 - 4.99	0.01
	5.00 - 14.95	0.05
	15.00 - 49.90	0.10
	50.00 - 149.75	0.25
	150.00 - 499.50	0.50
	500.00 - 4,999.00	1.00
	5,000.00 -	5.00

Appendix G: Note Codes

Note-Codes mark the Order Book to indicate that special conditions occur:

Code Name

BB	Buy-Back
BR	Company Bankruptcy
BS	Excluding comb. Bonus & Split
CC	Cap Close
CE	Capped by ESMA
CN	Capped by Nasdaq
CR	Capped by regulator
CS	Cent shares
EM	Exceptional circumstance, relating to Market Maker
EW	Exceptional circumstance, Market-wide
FE	Foreign non-EU/EEA Entity, excluding the Faroe Islands and Greenland
FN	First North Company
KB	Knock-Out Buy-Back
NM	New Market Company
OB	Observation status
PO	Company subject to public offer
RL	Removal from listing in process
RS	Reversed Split
SK	Soft Knock
SL	Other surveillance list reason
SM	Stressed Market
SO	Sold-Out Buy-Back
SP	Excluding participating in split
SR	Excluding comb. split and issue right/s
SS	Excluding comb. Split & Redemption share
SU	Suspension
TO	A significant reverse take-over pending
UD	Under drawing
UN	Underlying Not Quoted
UL	Unlisted
WI	When Issued
XD	Excluding dividend
XR	Excluding participating in right/s

Appendix H: Combinations of Order Types, attributes, Trading Phase and time-in-force

The following tables show the non-exhaustive combinations of Order types, attributes and time-in-force conditions. They should be read in combination with the Order descriptions in Chapter 6.

NB. Where Types are shown with Time criteria, the table indicates whether the order types will participate in the Call or Continuous Trading (i.e. not whether the order types are available to be entered in Call or Continuous Trading).

All attributes are available for Limit priced Orders.

Attribute/Limit price	With Limit price	Without Limit price
Reserve	x	
Pegged	x	x
Minimum quantity	x	x
Non-displayed	x	x
N@M	x	x
Market Maker	x	
Top Of Book	x	
AOD	x	x
T@CP	x	

All Order types are possible in Calls. In Continuous Trading only Limit, Market and Nordic@Mid Orders are possible. Nordic@Mid Orders can be submitted during non-scheduled calls, but are not effective in the calls.

Types and Trading Phase

	Call	Continuous Trading
Limit	x	x
Market	x	x
Nordic@Mid		x
Market Maker		x

All time-in-force conditions are available for both Calls and Continuous Trading except Good-For-Auction only applicable for AOD auctions. The time-in-force condition will be activated when matching is active, i.e. in the call it is during the uncross and in Continuous Trading is it for the duration of the Trading Phase except in the case of a halt.

Time-in-force and Trading Phase

	Call	Continuous Trading
Immediate or Cancel	x	x
Good-till-market close	x	x
Good-till-cancelled	x	x
Good-till-time	x	x
Good-For-Auction (AOD only)	x	

Only the Reserve and Non-displayed attributes are available in calls. During Continuous Trading, all attributes may be used.

Attribute and Trading Phase

	Call	Continuous Trading
Reserve	x	x
Pegged		x
Minimum quantity		x
Non-displayed	x	x

Minimum Acceptable Quantity (MAQ) is the only attribute allowed with the Time-in-force condition IOC for displayed orders. MAQ is however allowed on Non-displayed Orders. Here the Non-displayed Order would still need to meet LIS criteria, but the Trader would be able to state that the Order should only match if the MAQ criteria is met or exceeded. MAQ is also an available attribute on the Nordic@Mid order. Allowed attributes and Time-in-force combinations are presented in the table below.

Attribute and Time-in-force

	Immediate or Cancel	Good-till-market close	Good-till-cancelled	Good-till-time	Good-For-Auction
Reserve		x	x	x	
Pegged	x	x		x	
Minimum quantity	x				
Non-displayed		x	x	x	
N@M	x	x		x	
Market Maker		x		x	
Top Of Book		x		x	
AOD	x	x		x	x
T@CP	x	x	x	x	

All time-in-force conditions are allowed for Limit Orders. Market Orders must be IOC.

Time-in-force and Type

	Limit	Market	Market Maker
Immediate or Cancel	x	x	
Good-till-market close	x		x
Good-till-cancelled	x		
Good-till-time	x		x

In the tables above, 'x' indicates that the combination is allowed, blanks indicate that the combination is not allowed or that the combination is immediately cancelled without noting the validity condition.

The time-in-force criterion only has an effect when the matching process is active. During a call, this means that the time-in-force criterion will be applied during the uncross, not during pre-open. E.g. if an Order is entered during the pre-open with good-till-time X and the uncross happens after X, the Order will be cancelled before the uncross. If an Order is entered during the pre-open with time-in-force immediate-or-cancel, the Order will participate in the uncross and any unfilled part of it will be cancelled after the uncross.

Appendix I: Public Market Information

Following information on Orders in Equity Instruments, Exchange Traded Notes, Exchange Traded Commodities and Securitized Derivatives is considered Public Market Information on Nasdaq Nordic including the respective First North markets in accordance to NMR 3.3.3:

Pre-Trading Phase	Pre-open	None
	Opening Call	Indicative auction price (Equilibrium price) Indicative Tradable volume at Equilibrium price Imbalance volume Imbalance direction (Buy/ Sell) Best Bid price Best Ask price Bid volume at best price level Ask volume at best price level
Trading Hours	Automatic Order Matching	The aggregate number of Orders at five best bid and offer price levels
	Scheduled Intraday Call, Volatility Halt auction, Closing Call	Indicative auction price (Equilibrium price) Indicative Tradable volume at Equilibrium price Imbalance volume Imbalance direction (Buy/ Sell) Best Bid price Best Ask price Bid volume at best price level Ask volume at best price level
	Auction on Demand (AOD)	Indicative auction price (Equilibrium price) Indicative Tradable volume at Equilibrium price
Post-Trading Phase	Post-trade	None

Following information on Trades in Equity Instruments, Exchange Traded Notes, Exchange Traded Commodities and Securitized Derivatives is considered Public Market Information on Nasdaq Nordic including the respective First North markets in accordance to NMR 3.3.3:

Equity Instruments	Securitized Derivatives, ETNs, ETCs
Trading date and time	Trading date and time
Instrument identification code	Instrument identification code type
Price	Instrument identification code
Price currency	Price
Quantity	Venue of execution
Venue of execution	Price notation
Publication date and time	Price currency
Transaction identification code	Notation of the quantity in measurement unit
Flags for post-trade transparency ³⁸	Quantity in measurement unit
	Quantity

³⁸ In accordance to Commission Delegated Regulation (EU) 2017/587

	Notional amount Notional currency Publication date and time Transaction identification code Transaction to be cleared Flags for post-trade transparency ³⁹
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Counterparty information (Member ID) is published in accordance to Chapter 4.7

³⁹ In accordance to Commission Delegated Regulation (EU) 2017/583

Appendix J: Official closing prices

The official closing prices and turnover figures are distributed via Genium Consolidated Feed (GCF). Information, in the form of an Order Book summary message is sent out at one or two distinct market state changes on INET depending on configuration.

Official closing price: Official closing price = Last price. Last price is normally the closing auction price. In event of no closing auction price the official closing price is the latest Trade that updated Last price, cf. Appendix K.

Turnover: Turnover including Manual Trades.

Best Bid / Ask: Latest Bid / Ask from the Continuous Trading prior to the Closing Call auction.

Trade reporting can be done during Post-Trade up until state closed. Those volumes will update Turnover but not last price.

Configuration in GCF:

	Official closing price and Best Bid / Ask sent out at state change to	Turnover sent out at state change to
Copenhagen	Post-Trade*	Closed
Helsinki	Post-Trade*	Closed
Iceland	Post-Trade*	Closed
Riga	Post-Trade*	Closed
Stockholm	Post-Trade*	Closed
Tallinn	Post-Trade*	Closed
Vilnius	Post-Trade*	Closed

* Trade cancellations done after moving into Post-Trade will not be taken into consideration. A cancellation of an entire auction is unlikely. It is also very unlikely that a cancel of the last Trade during Continuous Trading happens in combination with no auction.

On all markets, two Order Book summary messages will be sent out, the first one when moving into Post-Trade with the information on closing price, and a second when moving into Closed where Turnover is presented. Note that the market state changes to Post-trade only after all Order Books in that market segment have moved to Post-trade.

Appendix K: Trading statistics

Automatically matched Trades updates:

- Turnover
- Average price
- Last price
- High/low

Reported Trade⁴⁰ with Trade Type "Standard Trade", "Non-Standard Settlement" and "Standard Routed Trade" updates:

- Turnover
- Average price (if date of agreement is the current day and if the Order Book is in Continuous Trading state and price is at or within the current public BBO available within the Genium Market Information (GMI) system)⁴¹
- Last paid price and High/Low price if date of agreement is the current day and if Order Book is in Continuous Trading and price is at or within the current BBO available within the GMI system, and the Trade is the most recent Trade

In case of a one-sided market, the trade report will update according to the above if the price is at or more generous than the best bid / offer.

Reported Trades with Trade Type "Contingent Trade", "Portfolio Trade", "Volume Weighted Average Price Trade", "Exchange Granted Trade", "Pre-Opening Trade" and "Non-Price Forming Trade" update:

- Turnover

OTC and SI Trades of Trade Type "OTC Trade", "OTC Non-Standard", "SI Standard" and "SI Non-Standard" updates:

- No Trade statistics

Nordic@Mid and Auction on Demand Trades:

- Executed Trades do not update the Last price, High/low, Average price, VWAP or have any effect on BBO in the central Order Book.
- Executed Trades update Turnover.

Trading@Closing Price Trades:

Executed trades update Turnover, but do not update the Last price, High/low, Average price or VWAP.

⁴⁰ Deferred publication follows the same logics.

⁴¹ GMI provides VWAP price information with and without reported trades.

Appendix L: MAQ on Non-displayed Orders

MAQ Definition

The MAQ shall be defined as the actual quantity that needs to be met. There is no connection or restriction with regards to the value of the LIS criteria and what value can be set as the MAQ.

MAQ is also possible to add as an attribute to the Nordic@Mid order.

Trading Phases and Validity

MAQ Orders can participate in the auctions with the MAQ requirement temporarily waived. That is, MAQ Orders can participate in both auctions and the continuous market; however, the "MAQ requirement" will be enforced only during the continuous market.

Pre-Open

Non-displayed Orders with a MAQ can be entered during the pre-opening phase, prior to the opening auction, but MAQ will not be honored. Only Limit Non-displayed Orders can be entered during the pre-open phase.

Continuous Trading

During Continuous Trading, Non-displayed Orders with a MAQ can be entered as:

- Limit Orders, or
- Pegged Orders

Non-scheduled Intraday Auction

A non-scheduled intraday auction after volatility guards or trading/matching halt, Non-displayed Orders with a MAQ will participate in the auction but MAQ will not be honored.

Scheduled Intraday Auction

Non-displayed Orders with an MAQ will participate in the scheduled intraday auction but MAQ will not be honored.

Closing Auction

Non-displayed Orders with a MAQ will participate in the closing auction but MAQ will not be honored.

Time Validity

Non-displayed Orders with MAQs can be entered with the following time validity:

- GTT (Good Till Time)
- Day
- GTC (Good Till Cancel)

Appendix M: Volatility Guards

Volatility Guards definition

A Volatility Guard is a trading pause and resumption process designed to restore an orderly market in a single Order Book. The Volatility Guards will be utilized if a proposed Trade deviates too much in percentage from the latest paid price (Dynamic Volatility Guard) or from the reference price, which is normally the day's opening price (Static Volatility Guard).

When the Volatility Guard is triggered, Continuous Trading is halted followed by an auction period, after which the Order Book moves back to Continuous Trading.

Dynamic Volatility Guard

The Dynamic Volatility Guard is based on the latest paid price from Automatch. It is only applicable during Continuous Trading. A breach will lead to a trading interruption and call auction, where a new Reference price (Auction price) for the Static Volatility Guard will be formed.

Figure: Dynamic Volatility Guard



Static Volatility Guard

The Static Volatility Guard is based on a reference price which normally is the price from last auction. If there has been no opening auction, previous day's closing price will be used. It is only applicable during Continuous Trading. A breach of a Static Volatility Guard will lead to a trading interruption and a call auction where a new reference price will be formed.

and Nordic Workstation. The order triggering a Volatility Guard will not be published. If the order remains after the auction, and is a displayed order, it will be published at that time.

Configuration

The following configuration will apply. The configuration is set on Order Book level and the following thresholds are normally applied. Nasdaq Nordic holds the right to apply deviating thresholds on individual Order Books. Individual Order Book configuration is displayed in the reference data. Intraday updates widening the thresholds may occur when normal trading in an illiquid Instrument is hindered by the general percentages set at start of day, but also in rare situations when there is a natural and for the market well known movement in the Instrument leading to a situation where Nasdaq Nordic decides to widen the thresholds in order to avoid unnecessary trading halts. Intraday updates of the thresholds will not be made available via the public data feeds.

Trading is allowed up and including the edge value.

Figure: Configuration guideline

Instrument group	Dynamic	Static
Index shares (OMXS30/OMXH25/OMXC25) ⁴²	3%	10%
Other shares or ETFs or ETNs, ETCs	5%	15%
ETNs with crypto underlying	5%	15%
Other Equity-like Instruments or First North instruments or Liquidity Group C or spread $\geq 3\%$	10%	15%
Penny instruments (applied to above Instrument Groups): 0.25-5 (SEK,DKK), 0.025-0.5 (EUR) 0.1-0.25 (SEK,DKK), 0.01-0.025 (EUR) 0.05-0.1 (SEK,DKK), 0.005-0.01 (EUR) 0-0.05 (SEK,DKK), 0.0-0.005 (EUR)	25% 40% 50% 100%	50% 75% 100% 200%
Danish Investment Funds	2%	15%
Norwegian shares on First North Sweden Norwegian ETFs	50%	100%
Tracker Certificates Non-MMO on First North	5%	15%
Baltic markets including First North: Baltic shares and Fund units	10%	15%
Icelandic markets ⁴³ Icelandic index shares (OMXI15) Other Icelandic shares and ETFs	3% 3%, 5% or 10% depending on liquidity	10% 15% or 25% depending on liquidity

⁴² In order to safeguard that Volatility guards are not being unnecessary triggered in the Index shares segment (OMXS30/OMXH25/OMXC25), Nasdaq Nordic will on best effort basis apply a special routine on select shares to increase the thresholds to 5% for dynamic, and 15% for static in certain situations. This routine will be used when the issuer has a planned company announcement of a quarterly or yearly result that will be published during Continuous Trading. The wider thresholds will be used for the whole trading day on such days. The next trading day the normal thresholds will be used. Select ETFs tied to index shares are also in this group.

⁴³ The threshold levels for individual shares are published in market notices.

Icelandic markets Penny instruments: 0.00-1.00 (ISK)	25%, 50% or 100% depending on liquidity	50%, 100% or 200% depending on liquidity
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Special cases

If a Fill-or-Kill (IOC + Min Quantity = Total volume) Order would lead to a Trade outside the range, the entire Order will be cancelled without executing any Trades. This will never lead to any trading interruptions. Fill-and-Kill Orders can Trade in part within the range, but as soon as a proposed Trade is outside the range the volatility guard will activate. The remainder volume of the Order will be entered into the auction as regular "IOC" and participate with the remaining volume.

Routed Orders will participate in an auction caused by a Volatility Guard. At the end of the auction, the Smart Order Routing would continue as normal on any remaining shares.

The thresholds for the Dynamic Volatility Guard may temporarily be widened in event of a known dividend payment according to Appendix U.

Momentum Preserving Static Volatility Guards for shares

A deviating auction duration for Static Volatility Guards may apply to provide additional time to restore an orderly market in a single Order Book on the following markets:

- All shares on First North Denmark, First North Finland, First North Iceland and First North Sweden.

In the case the share has been subject for multiple Static Volatility Guards triggered in the same direction (price up or down), the duration of the halt auction will be prolonged according to the following table below.

Note: The trading day always starts with Net Trigger counter set to Zero and the counter can be increased/decreased after each successful auction (with uncrossed shares). The Trigger Counter sets the duration of the next auction.

Net Trigger Counter	SVG Duration (in minutes)
-9	180
-8	160
-7	80
-6	40
-5	20
-4	10
-3	10
-2	3

-1	3
0	3
1	3
2	3
3	10
4	10
5	20
6	40
7	80
8	160
9	180

Example: If a share is trading at increasing prices, and it already triggered a third Static Volatility Guard in the same direction (all those auctions are running for 3 minutes) then at the end of the third auction, the Net Trigger counter is set to 3 for the next auction leading to a 10-minute auction. If the price in that 10-minute Static Volatility Auction moves in the opposite direction the auction after that will run for 3 minutes. If the price increases again, the auction after that will move to the next tier and again run for 10-minutes.

Nasdaq Nordic Trading Surveillance may decide in unforeseen circumstances to authorize a release of the Order book into continuous trading during a prolonged auction, or to adjust the Net trigger counter at their own discretion.

Affected shares will also be communicated via IT-notices and information can be obtained from the European Market Operations (EMO@Nasdaq.com).

Appendix N: Nordic@Mid

Nordic@Mid definition

Nordic@Mid offers separate continuous crossing of mid-point pegged non-displayed Orders as a complement to the central Order Book. Nordic@Mid trading is offered in accordance with MiFID pre-trade transparency waiver.

Nordic@Mid enables automatic execution for Orders that do not meet the MiFID Large in Scale criteria.

Nordic@Mid Orders are non-displayed, and they are executed solely against other Nordic@Mid Orders at the midpoint of the reference prices. Reference price is obtained from Nasdaq Nordic central Order Book published visible Best Bid and Offer (BBO) or in case Nasdaq Nordic is not the most relevant market in terms of liquidity or first trading venue where the Instrument was admitted to trading, from such Away Market central order book BBO. In case either Nasdaq Nordic or any Away Market is not the most relevant market in terms of liquidity or first trading venue where the Instrument was admitted to trading, Nordic@Mid trading is not offered for such Instrument. If Away Market BBO is used as reference price and BBO is not available, Nordic@Mid trading for Instrument is ceased for such period of time.

Nordic@Mid is offered for shares⁴⁴ on Nasdaq Nordic cash equity markets, including First North markets, in Stockholm, Helsinki, Copenhagen and Iceland as well as Norwegian shares admitted to trading on First North Sweden. Nordic@Mid is not offered for First North Trading List Sweden shares.

Trading Phases and Validity

Matching takes place during Continuous Trading.

Order entry and modification is possible during Continuous Trading. Order entry or modification is possible⁴⁵ during opening call and during non-scheduled intra-day calls (i.e. volatility halts and trading/matching halts), no matching however occurs. Order cancellation is possible until end of pre-close phase. Order price is automatically re-priced by the system when the reference price changes.

Supported optional Order attributes: MAQ and Limit price.

TIF attributes supported are Day, IOC, GTT, Good-till-market close. Any open Orders will be cancelled by the system after market close.

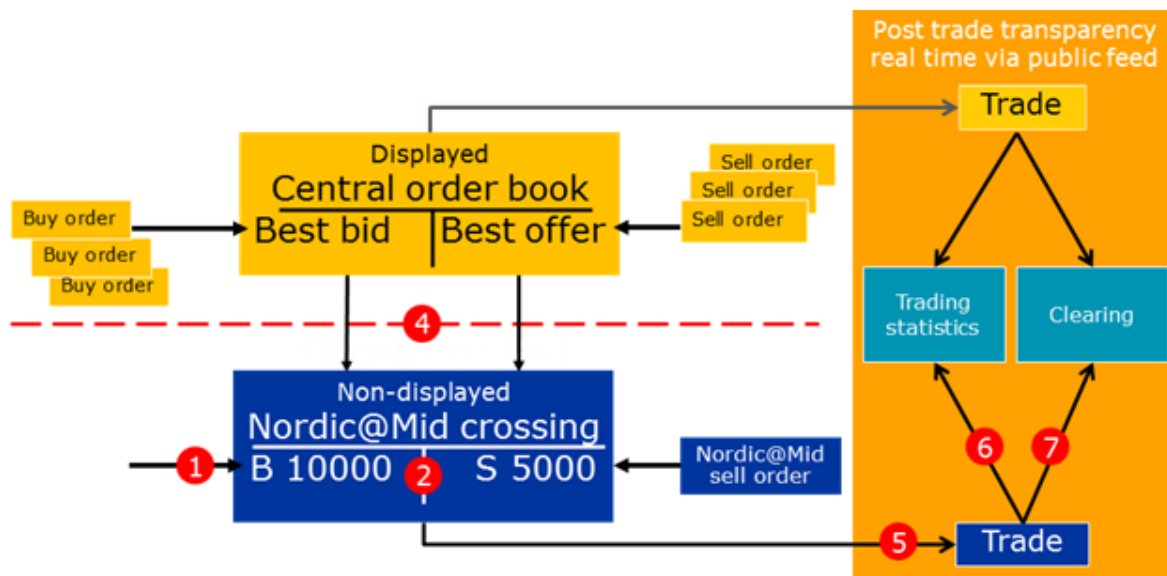
Orders are non-displayed and no prices or volumes or any information of the Orders will be displayed in public feed.

⁴⁴ Including depositary receipts on shares and cooperative shares classified as Other Equity-like Instruments.

⁴⁵ Possible deviations per market segment level will be communicated via IT-notices.

Workflow

See picture below.



1. Order entry, validation and modification

Order entry to Nordic@Mid crossing requires that

- Order Book is Nordic@Mid eligible,
- participant sends the Order to Nordic@Mid execution,
- Order size \geq the minimum Order size,
- Order is inserted as a Nordic@Mid Order with peg type midpoint, without any offset.

If the requirements are not met, the Order is rejected. Size of an Order is validated using previous closing price of the Order Book. Order modification by a user results in the same validation whereas partial execution of the Order resulting unfilled part being below the minimum does not.

Nordic@Mid Orders have their price automatically adjusted by the Trading System in response to changes in BBO prices.

Nasdaq Nordic may restrict the number of open orders active per Member connection and per orderbook. Details of such restrictions can be obtained from the European Market Operations (EMO@Nasdaq.com).

2. Matching

All Orders are matched at the midpoint of BBO. Matching rules: internal-quantity-time. An Order with larger quantity will be given priority over Orders with less quantity. Partial fill, or cancel down quantity of an Order, will result in an Order losing its priority. Where two Orders share the same quantity, Time priority will apply.

Matching takes place during Continuous Trading. Unfilled Orders can remain in system.

Matching can result in execution prices being at half tick size levels as actual midpoint is always used. There will be no rounding of Order price to a less aggressive price.

3. Abnormal market conditions

Order price is automatically re-priced by the system when the reference price changes. If reference price is not available, Nordic@Mid Orders are suspended from matching. Orders are suspended by the system if:

- central Order Book goes into intra-day auction, or
- the reference price doesn't exist due to abnormal market conditions (e.g. one-sided markets), or
- midpoint of reference price is with more than 4 decimals.
- external market data is not available from Away Market.

Suspended Orders remain in the Order Book and are unsuspending by the system at the moment the reason of suspension is over.

MiFID double volume cap mechanism (DVC) imposes a cap on Nordic@Mid trading on Instrument.

In case there is a regulatory DVC suspension in an Instrument, entering Nordic@Mid Orders below large in scale thresholds is not allowed and the Order will be rejected, unless the Member has opted in on having the Order sent to the Auction On Demand instead. For full details on DVC related measures, see Chapter 4.18 Measures related to double volume cap mechanism.

4. Total separation of Nordic@Mid and central Order Book matching

Nordic@Mid Orders cannot interact with central Order Book Orders: Orders are executed solely against other Nordic@Mid Orders.

5. Post-Trade transparency

Executed Trades are published in real time via the public Nasdaq Nordic feed without counterparty information.

6. Trading statistics

Executed Trades do not update the Last price, High/low, Average price, VWAP or have any effect on BBO in the central Order Book.

Trade execution does not trigger a Volatility Guard halt.

Executed Trades update Turnover.

7. Clearing

Clearing follows the clearing model of the Order Book/participant: CCP/bilateral and self-clearing.

Comparison matrix to Non-displayed Orders in central Order Book

	Nordic@Mid non-displayed Orders	Non-displayed Orders in central Order Book
Minimum Order size	> 0 in all currencies.	According to MiFID Large in Scale criteria depending on ADT. See Appendix E.

Reference price pegging	Mid-point peg.	Primary peg, Mid-point peg and Market peg.
Offset available	No.	Yes.
Limit Price	Yes.	Yes.
MAQ	Yes.	Yes.
Time-in-Force attributes	Immediate-or-Cancel and Day Orders. Open Orders will be cancelled by the Trading System after market close.	Immediate-or-Cancel, Day Orders and Good-till-cancelled Orders.
Matching price	Actual mid-point is always used. No rounding of Order price to a less aggressive price.	According to tick size table. In cases were the Mid-point falls on a non-tick price, the mid-tick price will be used
Matching priority	Participant-quantity-time.	Price-participant-displayed-time.

8. Nordic@Mid matching examples

1. Matching of Nordic@Mid Orders without Limit Price and Minimum Acceptable Quantity

Central Order Book, BBO = 12,20 – 12,23; midpoint of BBO = 12,215

Bid				Ask			
Order#	Time	Volume	Limit	Limit	Volume	Time	Order#
1	1	10000			15000	1	3
2	2	20000					

Nordic @Mid buy Order #1 is entered with a volume of 10000 and without Limit or MAQ.

Nordic@Mid buy Order #2 is entered with a volume of 20000 and without Limit or MAQ.

Nordic@Mid sell Order #3 is entered with a volume of 15000 without Limit or MAQ.

Execution price is the midpoint of BBO. Sell Order #3 is executed in following order:

1) 15000 @ 12,215 (with buy Order #2)

Unfilled part (15000) of the buy Order #1 and 2 stays in Order Book.

2. Matching of Nordic@Mid Orders with Minimum Acceptable Quantity protection

Central Order Book, BBO = 12,20 – 12,23; midpoint of BBO = 12,215

Bid				Ask			
Order#	Time	Volume	Limit	Limit	Volume	Time	Order#
3	1	10000			30000 (MAQ 15000)	1	1
				12,21	10000	2	2

Nordic @Mid sell Order #1 is entered with a volume of 30000 and MAQ of 15000 and without Limit.

Nordic@Mid sell Order #2 is entered with a volume of 10000 and Limit of 12,21 and without MAQ.

Nordic@Mid buy Order #3 is entered with a volume of 10000 and without Limit or MAQ.

Sell Order #1 has size, time priority over sell Order #2 but it is protected by MAQ of 15000, so it cannot be filled by the incoming buy Order #3. Sell Order #2 has a Limit of 12,21. Since the midpoint of BBO = 12,215 is higher than 12,21, the sell Order #2 can be filled by the incoming buy Order #3. Thus, execution takes place against sell Order #2.

Execution price is the midpoint of BBO:
10000 @ 12,215

Sell Order #1 stays in Order Book.

3. No matching of Nordic@Mid Orders – Limit Price protection

Central Order Book, BBO = 12,20 – 12,23; midpoint of BBO = 12,215

Bid				Ask			
Order#	Time	Volume	Limit	Limit	Volume	Time	Order#
1	1	10000	12,24	12,23	10000	1	3
2	2	20000	12,21				

Nordic @Mid buy Order #1 is entered with a volume of 10000 and with Limit of 12,24 and without MAQ.

Nordic@Mid buy Order #2 is entered with a volume of 20000 and with Limit of 12,21 and without MAQ

Nordic@Mid sell Order #3 is entered with a volume of 10000 and with Limit of 12,23 and without MAQ.

No matching takes place. Incoming sell Order #3 has a Limit of 12,23 which is higher than the midpoint of BBO = 12,215. Orders #1-#3 will stay in the Order Book. Sell Order #3 will be executed as soon as the midpoint of BBO is equal or higher than the Limit Price of sell Order #3.

Appendix O: Smart Order Routing

Smart Order Routing

Nasdaq Nordic offers Smart Order Routing (SOR) via an Order router centrally placed near the matching engine. Outbound Smart Order Routing is offered during the Continuous Trading and works in a way that if the best price is not available in the Nordics, the Order will be routed out to the supported Away Markets for matching attempt there, at that best price, before being posted in the relevant Nasdaq Nordic Order Book.

Trading Phases, Order types and Validity

Submitting Routable Orders is possible during all Trading Phases. If submitted in the auctions the Orders will stick and participate in the auction, and if the strategy is reactive (e.g. DNGY) the Order may route out after the auction. During the Continuous Trading for the respective Nasdaq Nordic, Smart Order Routing is always applicable. Smart Order Routing is primarily available via FIX and is an attribute to the "New Order single" message. Nasdaq Nordic also offers certain internal routing strategies available as further described in this Appendix O.

Order management in terms of new/cancel/replace is supported. Routed Orders cannot be cancelled once they have left Nasdaq Nordic. The reason being that they will be outbound routed as a Limit IOC. Remaining volume can however, be cancelled.

The only Order type allowed at Order entry is a Limit price Order. This means that other advanced Order types or Order conditions (Market Orders, Iceberg Orders, FOK etc.) cannot be routable; hence the routing instruction will be ignored and the Order will be treated as a regular Book Order and posted in the relevant Nasdaq Nordic Order Book only without any routing.

"STGY" and "DNGY" that come with an allowed GTC Time In Force (TIF) condition will be re-inserted with the Smart Order Routing attribute the following trading day. Those Orders will also participate in the auction with its given limit price. Any remaining volume after the auction will be subject for Smart Order Routing, according to the given strategy.

When submitting a "SCAN" or "DCAN" with TIF set to GTC, any remaining volume will be inserted as "BOOK" the next day, without Smart Order Routing out again. The strategy "DMID" is not allowed in combination with TIF set to GTC. IOC Market Pegged Order will also be accepted.

All Orders will automatically be treated as limit immediate or cancel (Limit IOC) when routed.

Remaining volume after Smart Order Routing will always be posted in the Nasdaq Nordic Order Book with the original Order conditions (unless other is stated under respective Smart Order Routing strategy below).

Away markets

The following Away Markets are supported:

1. CBOE Europe
2. Aquis Exchange
3. Turquoise

Routing decisions are based on European Best Bid Offer (EBBO), constituted by the best bid and offer from the Nasdaq Nordic and the routable venues: CBOE Europe, Aquis Exchange and Turquoise. Routable venues are prioritized according to the numbering in the table above, in case multiple venues shows the same price that is better than Nasdaq Nordic.

Nasdaq will on behalf of the Member forward the Order to an Introducing Broker that will be used to introduce the Order to one or several Away Markets. The Trade at the Away Market is therefore done in the name of the Introducing Broker or its Assigned Broker.

Based on the Away Market Trade executed by the Introducing Broker or its Assigned Broker, an on-exchange Trade will be automatically created between the Introducing Broker and the Member. Practically Nasdaq Nordic will send the Trade to the CCP that will be the counterpart for both the Introducing Broker and the Member. If Away Market Trade by some reason is cancelled, the mirrored Trade towards the Member will be cancelled as well (see NMR 5.7.3).

Routable Instruments

Routable Instruments are CCP cleared shares traded on Away Markets⁴⁶:

- OMXC25, OMXS30 and OMXH25 shares
- Nasdaq Copenhagen, Helsinki and Stockholm: Large Cap and Mid Cap shares
- Certain other shares

For the NMID routing strategy, all Nordic@Mid eligible Order books are eligible.

⁴⁶ Individual order book configuration is disseminated in reference data. Some order books may not be routable.

Smart Order Routing strategies

BOOK: Hit Nordic Book only. Not for routing. This is the default value on all Orders.

SCAN (labeled as algorithmic trading due to the MiFID definitions): Unfilled part of the Order is sent to one or several Away Markets for a matching attempt at EBBO. If several Away markets offer an EBBO (better price than in the Nordic book), the Order may be routed to these Away markets in parallel in order to try to fill the remaining Order volume. The router will always send out the full remaining unfilled volume, leaving nothing on the central order book during the routing attempt. Routing decision will be based on price and volume by the Order router. If the visible Order volume on Away Markets at EBBO is less than the unfilled part of the Order, the router will split the volume between the Away Markets based on a priority set by the router. In-between every routing attempt to the next venue, Nordic Book will be checked.

STGY (labeled as algorithmic trading due to the MiFID definitions): This Routable Order follows the logic of a "SCAN" but the Order can be reactivated dynamically and route out again after posting in the relevant Nasdaq Nordic Order Book. This happens if there is a change in the EBBO that indicates that all, or a part can be matched elsewhere.

DCAN (labeled as algorithmic trading due to the MiFID definitions): This Routable Order follows the logic of a "SCAN" but the Order will first try to match against Nordic@Mid Orders and in a second step the Nasdaq Nordic Order Book before being routed to the relevant Away Market, with the EBBO according to the provisions set in the Market Model document for INET Nordic. To be able to match against Nordic@Mid Orders, the Routable Order must fulfill the minimum Order value requirements and other requirements according to the Market Model document.

Any remaining volume of a Routable Order after routing to the relevant Away Market will be posted in the relevant Nasdaq Nordic Order Book and will not be posted in the Away Market's order book. Once the Order has turned to a passive Order within the Nasdaq Nordic Order Book, the Order will not be attempted routed again.

DNGY (labeled as algorithmic trading due to the MiFID definitions): This Routable Order follows the logic of a "STGY" but the Order will first try to match against Nordic@Mid Orders and in a second step the Nasdaq Nordic Order Books before being routed the relevant Away Market, with the EBBO according to the provisions set in the Market Model document for INET Nordic. To be able to match against Nordic@Mid Orders, the Routable Order must fulfill the minimum Order value requirements and other requirements according to the Market Model document. The Order can be reactivated and route out again after posting in the relevant Nasdaq Nordic Order Book if there is a change in the EBBO that indicates that all or a part can be matched elsewhere.

Dark-Lit Sweep (internal routing strategy available without agreement) Nasdaq Nordic offers Dark-Lit Sweep. This Routable Order will first try to be executed in the Nordic@Mid Order Book within its given Limit price and then immediately in the Nasdaq Nordic Order Book as a normal BOOK Order as Immediate-or Cancel Order (IOC orders allowed only). Once accepted the Order will atomically sweep Nordic@Mid before being introduced in the Lit order book.

Orders equal and above Large In Scale will always skip Nordic@Mid regardless if the Order book is subject for DVC suspension or not.

The Order books eligible for the Dark-Lit Sweep can be obtained from the European Market Operations (EMO@Nasdaq.com).

DMID: This routing strategy is only applicable on Nordic@Mid Orders. Routing is triggered by the Market Segment moving into the closing auction, and results in the Order being routed from Nordic@Mid to the normal Nasdaq Nordic Order Book as a regular LOC (Limit On Close) with the original given limit price. If the Nordic@Mid Order has been submitted without limit price the Order will be routed as a MOC (Market On Close). Any Minimum Acceptable Quantity condition will be removed when the Order is routed.

NMID: This Routable Order will first try to be executed in the Nordic@Mid within its given Limit price and then in the Nasdaq Nordic Order Book as a normal BOOK Order. The Routable Order will not be onward routed to any Away markets. To be able to be executed in Nordic@Mid, the Routable Order must fulfil the requirements for Mid-price Orders according to the Market Model document for INET Nordic.

Example:

BBO = 100 – 103

Nasdaq Nordic Order Book has three Orders.

Bid	Price	Ask
	103	2000
	102	
	101	
1000	100	
2000	99	

Nordic@Mid Order Book has one Ask Order with a limit price of 101. Midprice is 101,50 in the Nasdaq Nordic Order Book.

Bid	Price	Ask
	103	
	102	
	101	200
	100	
	99	

A NMID DAY Buy Order 2500@103 is entered. This Order is matched in two steps:

Trade 1: 200@101,50 (against Nordic@Mid Order)

Trade 2: 2000@103 (against Nasdaq Nordic Order Book Order)

Nasdaq Nordic Order Book after the trades. The NMID Order is now posted in the Nasdaq Nordic Order Book.

Bid	Price	Ask
300	103	
	102	
	101	
1000	100	
2000	99	

QTSS (Quiet Time Spray Strategy – (labelled as algorithmic trading due to the MiFID definitions)): This Routable Order will first try to match the full volume against Nordic@Mid Orders and in a second step the Nasdaq Nordic Order Books with the full volume within the given Limit price. In case there is no match, the Routable Order will, as a third step, aim to simultaneously match against the volume available at one or many Away Markets with the EBBO according to the provisions set in the Market Model document for INET Nordic as well as at the respective Nasdaq Nordic Order Book. The simultaneous matching is achieved by sending Orders to the respective Away markets and Nasdaq Nordic Order Book consecutively, first to the respective Away markets and then to the Nasdaq Nordic Order book. Any residual volume will be posted in the Nasdaq Nordic Order book.

QTSP (Quiet Time Spray Parent Strategy) – (labelled as algorithmic trading due to the MiFID definitions): QTSP is based on QTSS. The difference to QTSS is that QTSP may initially route out if there is a better price available for the full parent order volume, else it will follow the logics of QTSS.

DLTS (Dark Lit Time Spray Strategy – (labelled as algorithmic trading due to the MiFID definitions)): This Routable Order will first try to match against Nordic@Mid Orders and in a second step aim to simultaneously match against the volume available in (1) Nasdaq Nordic Order Books (utilizing the Dark-Lit Sweep strategy) and/or (2) one or many Away Markets (including utilizing equivalent Dark-Lit Sweep conditions on Away markets) within the given Limit price. The simultaneous matching is achieved by sending Orders to the respective Away markets and Nasdaq Nordic Order Books in a timed sequence, first to the respective Away markets and then to the Nasdaq Nordic Order Book. Any residual volume will be posted in the Nasdaq Nordic Order Book.

Algo and Order Record Keeping

The following SOR strategies may be labeled as algorithmic trading due to the MiFID definitions. This interpretation is based on the fact that the SOR decides where to send child orders, and may split a parent order into multiple child orders.

DCAN
DNGY

SCAN
STGY
QTSS
QTSP
DLTS

In order to comply with the Order Record Keeping requirements described in 6.5, the following Nasdaq Nordic long code algo names may be used. These long codes should be mapped to assigned short codes in Nasdaq Member Portal. Short codes must be populated at order entry and the table below expresses values that may be used.

Strategy	Long code algo name	Short code (example)
DCAN	NasdaqDCAN	100001
DNGY	NasdaqDNGY	100003
SCAN	NasdaqSCAN	100004
STGY	NasdaqSTGY	100005
QTSS	NasdaqQTSS	100008
QTSP	NasdaqQTSP	100009
DLTS	NasdaqDLTS	100010

It is the responsibility of the Member to conduct needed mapping and upload the short-long code mapping to Nasdaq Nordic according to the Order Record Keeping Guideline.

An algo indicator must be added to identify orders where an algo is involved in either the execution or the investment decision. For the SOR, the value of the field is always set "true". The algo indicator will therefore be passed through to child and parents acknowledgements and executions automatically. Nasdaq Nordic may auto populate Algo Indicator on SOR strategy Orders.

Special provisions for reactive routing strategies

For the DNGY, and STGY the following configuration possibilities will apply.

The Routable Order will only be reactivated if there is a change in the EBBO that indicates that a minimum percentage of the remaining Order volume can be matched elsewhere. The minimum percentage is set per Member participant Id, and allows values equal or larger than 0%. The default value is 0% meaning that the Order will route out regardless of aggregated visible volume on one or multiple Away markets. By request from the Member the default configuration can be changed. E.g. if the Member has 100% configured, the aggregated volume at the best price must be equal or higher than the remaining Order volume for the Order to route out again.

The minimum percentage can be set per strategy.

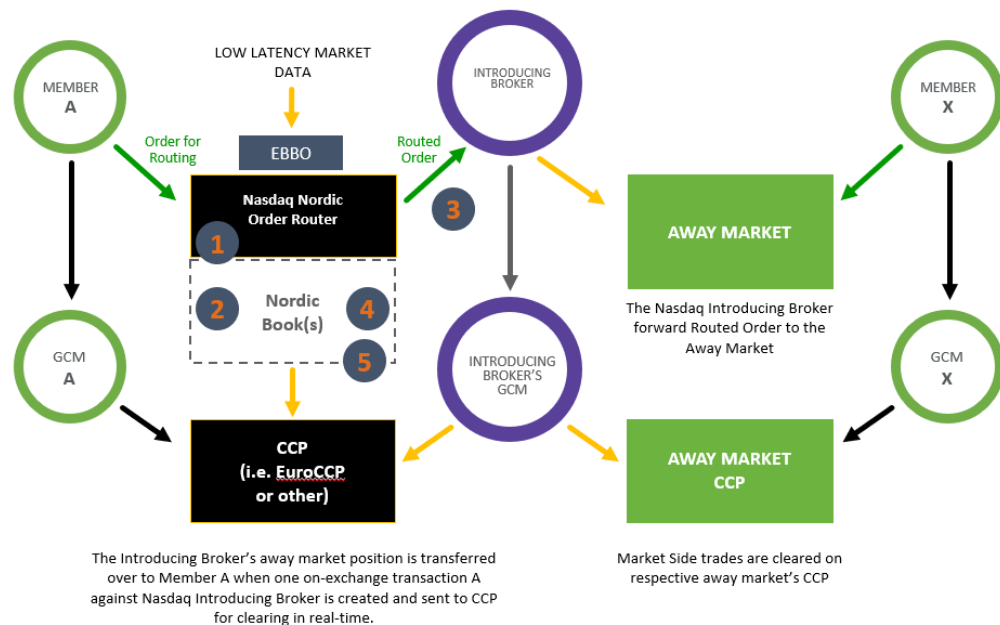
General provisions on Nordic@Mid strategies

Nordic@Mid and the central Order Book, are separate Order Books and the same routable Order cannot ever be considered to be in these two Order Books at the same time. This means that for Orders with order condition NMID, DNGY or DCAN there are matching attempts in two sequential steps;

- First one when the Order first tries to be executed in the Nordic@Mid (within its given Limit price). In case there is a regulatory DVC suspension in an Instrument, entering Nordic@Mid Orders below large in scale thresholds is not allowed and the Order will bypass Nordic@Mid, without trying to match and
- Secondly when (the remaining part of) the Order reaches the central Order Book

This means that priority in the central Order Book is given when the Order reaches the regular/central Order Book, not when the router got the Order in the first place.

Principal workflow for SCAN



1. Any Order eligible for Smart Order Routing is sent through the Routing Engine and will automatically check the Nordic Book for best execution before being routed out to an external Away Market. E.g. if the spread is 100-102 in the Nasdaq Nordic Order Book, but 100-101 at an Away Market. A Limit Order with submitted price of 102, will be re-priced accordingly to 101 before trying to match (price improvement).
2. If the Nordic Book has the best price or a price that is equal to the best price then the Order will execute on the Nordic Book. If the Nordic Book does not have the best price, or a portion of that Order is still outstanding, then the system uses the EBBO (European Best Bid and Offer defined by Nasdaq Nordic) to determine which external trading venue has the best price before sending the Order on to that external venue to be executed. If several Away markets offers an EBBO (better price than the in the Nordic book), the router may, if needed, decide to route Orders to these Away markets in parallel in order to try to fill the remaining Order volume.
3. Unfilled volume will be routed to the respective MTF/RM according to the chosen Smart Order Routing strategy. The Order will be introduced in the name of the Introducing Broker or by its Assigned Broker. The Assigned broker may be used by the Introducing Broker to reach the respective Away Market. Trades made at other venues than Nasdaq Nordic will therefore be executed in the name of the Introducing Broker or by the Assigned Broker and sent to their respective CCP.

4. Remaining volume will after Smart Order Routing always be posted in the Nordic book in the original Members name. Posting Orders on Away Markets is not supported. Routing attribution on an Instrument not eligible for Smart Order Routing will result in a match attempt in the Nordic main Order Book according to the Order conditions. The Order will not be transferred onwards to the Introducing broker.

Other conditions

- It will only be possible to send in Routable Orders to such markets where the Member is a Member. E.g. for a Member of Nasdaq Copenhagen, only Orders in OMXC25 shares are routable.
- If the Order Book is in a halted state, the Routable Order will IOC the book with the given limit price. Since the book is in a halted state, the Order will "stick" and participate in the auction. At the end of the auction, the Smart Order Routing will continue as normal on any remaining shares.
- Nasdaq Nordic will utilize low latency market data for the Smart Order Routing decisions towards the London based venues. Due to the physical distance between London and Stockholm any market data will suffer from a slight latency which in certain situations can affect the outcome of the Smart Order Routing. Smart Order Routing is therefore done on best effort basis due to these circumstances.
- Orders exceeding certain monetary values in the applicable currency (EUR/ SEK/ DKK) will not be accepted by Introducing Broker. The Introducing Broker may also reject orders with a limit price away parameter set for both passive and aggressive Orders from the latest reference price (last/open/close). Orders may also be rejected by the Introducing Broker in case the limit price of the child order does not cross the current spread on the Away market. In addition, the Introducing Broker may reject orders that risk to trigger volatility checks applied on the relevant Away market. Typically, these volatility checks are divided into two types. A static %-age away from the last auction phase (e.g. 10%) and a dynamic %-age away from the last price (e.g. 5%). The current limitations as described above can be obtained from the European Market Operations (EMO@Nasdaq.com) since they may vary from time to time on respective Away market.
- For the DCAN, SCAN, DNGY, and STGY strategies, any reject from Introducing Broker on an IOC Order sent to an Away market will be treated as if the order simply did not fill, and no reject message will be relayed back to the Member. The order will continue being processed according to the given strategy and the order may route based on the next EBBO update. Normally the order would be posted in Nasdaq Order book, but the order could also route out to Away markets. If routed to other Away market the reject handling might be repeated and the process iterates. If the strategy is reactive, the order posted in Nasdaq Order book may route to Away markets again (and if rejected by Introducing Broker, be re-posted without any priority).

- A Market Order that is routable will be re-priced according to EBBO and be given a limit price according to current EBBO. The Order is thereafter changed to a Limit Order with Time In Force IOC. This means that the Order changes from being a Market Order to a Limit Order.

Mirrored on-exchange Trade

When a Member has submitted a Routable Order, which leads to an Away Market transaction, a mirroring Trade will instantly and automatically be created between the Member and the Introducing Broker at the same price on the applicable Nasdaq Nordic. The Member and the Introducing Broker will thereby be bound by such on-exchange Trade between each other according to the NMR. That mirroring Trade will instantly and automatically be sent to the CCP for clearing in real time, just as any other on-exchange CCP-cleared Trade. The mirrored Trade shall, from the Member's point of view, be seen as any other on-exchange Trade (e.g. for transaction reporting obligations).

The execution report that is sent to the Member will display the Away Market on which the first Trade was made (by exploring the Liquidity code).

The mirrored on-exchange routed Trade will be published in real time with Trade type "Standard Routed Trade".

Agreement

In Order to make use of the Smart Order Routing service, the Member needs to sign an application/agreement with Nasdaq Nordic. The current version of the Terms and conditions for the service are available on the Nasdaq Nordic website.

Certain internal routing strategies, such as Dark-Lit Sweep, are also available without signing an application/agreement.

Default routing strategy

By request of the Member, a default order routing strategy can be set on the Member's own FIX port(s). By applying the default setting, the Member allows Nasdaq Nordic to automatically apply the Member chosen order routing strategy on Orders submitted via the FIX port(s).

In those cases when Nasdaq Nordic will not apply the default setting, the Order will be treated as a regular non-routable order designated for the Lit Order book, honoring the order conditions specified by the Member.

Appendix P: Market Maker Order

MMO definition

The Market Maker Order (MMO) offers functionality for effective and secure Market Making, with robust protection for end investors trading against MMO.

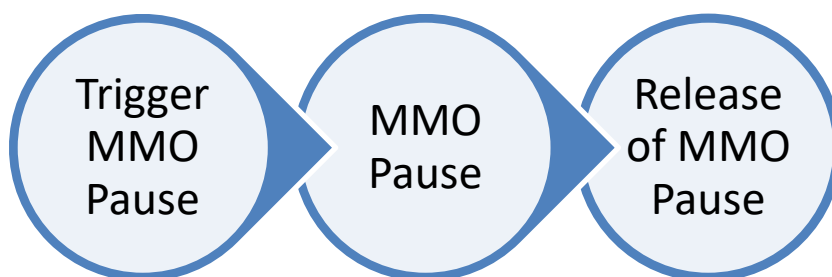
The following concepts define the MMO functionality:

<p>MMO</p>	<p>A Limit priced Order that can be matched, and create a Trade, if certain conditions are fulfilled. An MMO is only possible to enter via the OUCH-protocol by a Market Maker. MMOs are distinguished in the public market data feed with an identification to show that the Order is an MMO type of Limit Order.</p> <p>The MMO has to be displayed, and needs to carry a limit price. Time In Force should be DAY or GTT. Non-displayed MMOs will not be accepted.</p> <p>The MMO comes in two flavors, a regular MMO, and the MMO with the instruction to release the MMO Order Book immediately during a MMO Matching Pause.</p> <p>Contrary to usual principle of resting order setting the price, an aggressive MMO will set the price when matching with a resting non-MMO order.</p>
<p>MMO Order book</p>	<p>MMO support may be enabled on a per Order Book basis for Warrants, Certificates, Tracker Certificates and Leverage Certificates</p>
<p>Market Maker</p>	<p>The MMO is only available for appointed Market Makers (MM). Only one MM can exist per MMO Order book.</p>
<p>MMO Pause</p> <p>MMO Matching Pause</p> <p>MMO Spread Pause</p>	<p>A period during Continuous Trading when there is no matching of any orders in the MMO Order book. The MMO Pause comes in two sub-types:</p> <p>MMO Matching Pause: Triggered by a proposed trade involving at least one MMO being crossed or a MMO crossing a resting regular Limit Order.</p> <p>MMO Spread Pause: Triggered by the MM not having established a Valid spread.</p>
<p>MMO Timeout period</p>	<p>The maximum duration of a MMO Matching Pause. The MMO Timeout Period is set to 600 milliseconds (0,6 seconds) across all MMO Order books.</p>

MMO Queue	New (non-MMO) Orders are put on a separate list, not sent to the MMO Order book during a MMO Pause.
Valid spread	<p>At least one Buy MMO and one Sell MMO placed passively at the same time in the Order book. A Valid spread must also follow a certain maximum spread limit defined per Order book and price level.</p> <p>In case the Order book is in Buy back mode, a Valid spread consists of at least one Buy MMO Order.</p> <p>The Valid spread acts as a mechanism to manage volatility and restrict sudden price movements. It also defines how aggressive other non-MMO Orders may trade, when entered in the Order book, hence acting as effective "Price collars".</p> <p>The concept of Valid spread in this context does not constitute any Market Making obligations, and should purely be seen as technical limits defining how wide the spread may be without putting the Orderbook into an MMO Spread Pause. Market making obligations are typically tighter than the Valid spread. Market making spread requirements in the context of MiFID II market making are detailed in the Market Making Agreement.</p>

MMO Process Overview

The MMO Process consists of three sub processes:



Trigger of MMO Pause

Trigger of MMO Matching Pause

When the Order book is not in a pause, and if an Order attempts to match with a MMO, or if a MMO attempts to match a resting Order, a "MMO Refresh Request Message" is sent to the MM, in combination with putting the Order Book into a short MMO Matching Pause, with no matching of any Orders.

The protection is enabled on both passive MMOs and aggressive MMOs crossing Orders in the Order Book. Protection is only available during the Continuous Trading.

Trigger of MMO Spread Pause

In addition, there will be no matching in the book when the MM is not providing a Valid Spread. This pause is triggered when an MMO Buy and/or MMO Sell Order are not present. One MMO Buy or one MMO Sell Order is not sufficient (one-sided MM spread), unless the Order book is in a Buy back mode.

When MMO quantity (plus other quantity provided by other Orders at the same price level as the MMO) is exhausted, the MM is deemed not present, hence triggering an MMO Spread Pause. This means it is normally not possible for an aggressive Order to trade through an MMO price level and trade to a less favorable price, unless the MMO Trade Through Limit (see below) is enabled. Note that incoming Orders may trade up to the settings of the MMO Trade Through Limit (typically the MMO price level), and residual volume is not placed in the Order book, since it is being queued up, up until the book is released again.

Dynamic Maximum MMO spread

If the Valid spread is larger than a value according to the table below (counted from the Buy Order), the order book will be automatically paused, in the same way as if the MM is not present.

The following maximum spread will dynamically apply (based on the MMO Buy Order price of the instrument with one decimal):

Table 1: Warrants and Certificates (standard default table).

<u>PriceFrom</u>	<u>Spread in %</u>
0.000	3275.0
0.050	100.0
0.250	50.0
1.000	35.0

Table 2: Warrants and Certificates Commodities underlying (standard default table).

<u>PriceFrom</u>	<u>Spread in %</u>
0.000	5000.0
0.050	500.0
0.250	100.0
1.000	50.0

Table 3: Warrants and Certificates with tighter spread.

<u>PriceFrom</u>	<u>Spread in %</u>
0.000	500.0

0.050	100.0
0.250	50.0
1.000	10.0

Nasdaq Nordic Trading Surveillance may decide in unforeseen circumstances to authorize temporary Dynamic Maximum MMO spreads outside the above tables. Such requests should be made to EMO@Nasdaq.com. The dynamic maximum MMO spread will in principle work as a tick size table, where based on the price of the Buy MMO Order, the maximum spread according to the tables will apply. In case the MM sends in a Buy MMO Order at a price of 0,002 in an Order book utilizing Table 1 above, the maximum spread of 3275% will automatically be applied. This means that the MM can quote e.g. 0,002 – 0,05 (2400%) if needed.

MMO Trade Through Limit

In order to provide a possibility to trade through the MMO Order price level without triggering an instant MMO Spread pause, it is possible that the MM configures an MMO Trade Trough Limit in % (one decimal), determining how aggressive the incoming order may trade. The default configuration is 0% (disabled) meaning aggressive orders trading up to the MMO price level.

Example #1 – Principle of the Trade Thorough Limit

Let us assume we have the following book:

Buy	Sell
MMO 1000@99	MMO 1000@100, 300@100
300@99	2000@101
	500@102
	300@103

The default configuration is 0% (disabled) meaning that as soon as the MMO Order is exhausted plus the other Orders on the MMO level, the book is paused. So in case an incoming Buy 2000@103 is sent in to the book below, it trades 1000 (after a short MMO Matching Pause) + 300 instruments and then the order book gets paused.

The MM may, however, choose the option to enable the Trade Thorough Limit percentage (enabled). In such case, an incoming order may trade through the MMO price level up to and including a configurable % per Order book (e.g. 2%) from the MMO price level. So in case an incoming Buy 2000@103 is sent in to the book above, it trades 1000 + 300 + 700 instruments and then the order book is subject to the MMO Spread pause.

MMO Trade Through Limit is not applied to aggressive MMOs trading against passive Orders in the book.

The Trade Through Limit is set per order book, but not sent out on GCF-TIP.

Buy back

Buy back is supported and, in those situations, only the MM may send in Buy Orders and other participants may only send in Sell Orders.

During Buy back situations, MM Buy MMO Order suffices to meet the criteria of Valid Spread and hence the order book will not be paused due to missing MM Sell MMO Order.

The following Buy back situations are supported:

- SO – Sold out Buy Back
- BB – Buy Back
- KB – Knock out Buy Back

During SO and BB, if the Sell Order does not match with the MM Buy Order, the Sell Order will be posted to the order book. If the MM Buy Order is updated during Buy Back, it may match with a resting Sell Order. In this scenario, the MM Buy Order will set the price.

During KB, the Sell Order will be automatically converted to Immediate-Or-Cancel (IOC). So in essence, there are no Sell Orders resting in the book during KB.

MMO Pause

The concept of “paused” means that the MMO Order book is still in Continuous Trading but no matching of Orders occurs. Existing orders in the book are kept in the book, retaining their original time priority.

New Orders (all valid TIFs including IOC) entered during the pause, including the residual quantity on the Order triggering the pause, are being queued as long as there is no Valid spread; and book not released. Full order management applies on Orders in the book and in the MMO Queue. However, non-MMOs in the MMO Queue that are replaced, will be cancelled and the new Order will be put in the back of the MMO Queue.

There is no specific indicator of the pause. The Order book is still in Continuous Trading. Information that MMOs are not present on both sides of the Order book will be provided via market data feeds.

Auto halt after a too long pause

After 10 minutes MMO Spread Pause, the Order book will move into an automatic Trading Halt (Symbol state=H, Reason=TH) and immediately followed by an Order book flush (all Orders cancelled by the trading system).

The Order book will stay halted, and after 10 seconds, a new Halt Reason code, MMM – Market Maker Missing, will be published and it will be possible for the MM to enter new MMO’s in order to establish a new valid MMO spread. No other order entry will be possible during the halt. Orders queued during the pause will be cancelled, and those will not be sent to the Order Book after the release. Where the Market Maker has requested Nasdaq Nordic to set note code “UN”, Halt Reason code “UNQ” – Underlying Not Quoted, will be applied in the above scenario instead of “MMM”.

As soon as a valid MMO spread is present, the Order book will be immediately released for continuous trading. The new MMO's will be published when the Order book opens.

Release of MMO Pause

New MMOs entered during the MMO pause will always be released first into the Order Book when matching commences, to secure that MMOs will be passive in the Order Book. Other Orders (non-MMO) entered during the phase, now queued in the MMO Queue will be released into the book in the sequential time order they were sent into the matching engine, but then after any new MMOs.

After the release, Orders may immediately trade up to the MMO Trade Through Limit. A release may end in a new MMO Pause when:

1. A non-MMO Order would aggressively hit an Order posted outside the MMO Trade Through Limit
2. An Order would post outside the MMO Trade Through limit
3. All Orders in the queue are executed or posted.

Situations 1. and 2. will always result in a new MMO Pause. Situation 3. results in a new MMO pause only if there is not a valid MMO spread left.

There is a difference on how the MMO Order book is released depending on sub-type of MMO Pause.

Release of MMO Matching Pause

A new MMO with the instruction to release the Order book, or failing that, the end of the MMO Timeout Period, will trigger matching to commence and activation of possible new Orders entered during the time frame from where matching was initially paused. During this time frame, the Market Maker has the possibility to modify/cancel existing MMOs and submit new MMOs into the Order Book. The Market Maker should send in a regular MMO on one side first (will not release the Order Book), and then a second MMO on the other side. The second MMO may contain the instruction to immediately release the Order Book or not. In case of no immediate release is instructed, matching will start after the MMO Time Out Period.

MMO protection does not apply in the release of pauses. During a reactivation, multiple MMOs may be executed.

Example #2 – Release of MMO Matching Pause

Let us assume we have the following book:

Buy	Sell
MMO 1000@99, 300@99	MMO 1000@100, 300@100
1300@98	

An aggressive Buy 2000@103 is entered, crossing the MMO 1000@100 and 300@100, then moving the book into the MMO Matching Pause. Note that the MM is first asked to confirm the trade or wait the time out period before the MMO is matched. Right after the release the 300@100 is matched and then moving the MMO Order book into a MMO Spread Pause.

The same applies on the MMO Sell. If an aggressive Sell 1000@99 is entered, crossing the MMO 1000@99, then moving the book into the MMO matching Pause. Note that the MM is first asked to confirm the trade or wait the time out period before the MMO is matched. Right after the release, the MMO 1000@99 is matched and then moving the MMO Order book into a MMO Spread Pause.

Release of MMO Spread Pause

The MMO Pause runs up until the MM comes back with a full spread, or if an automatic Halt is being triggered (see above). For sake of clarity, when an MM updates an MMO with a Cancel and New, the order book is paused for matching for a very short moment until the new Order is accepted.

The MMO may contain the instruction to immediately release the Order Book or not. In any case, matching will commence immediately. MMO orders are always passive in the book relative to orders sent in after the trigger point of the MMO Pause. The second MMO establishing a Valid Spread may trade directly towards a resting order (sent in before the pause); hence the pause is ending when second MMO is sent to the book. In this case, where the MMO trades against a resting non-MMO order, it is the aggressive MMO order that sets the price of the match (as opposed to usual logic of resting order setting price).

The residual quantity of 700 instruments will be queued up in the MMO Queue, and released to the book after MM is back.

Example #3 – Release of MMO Matching Pause

Let us assume we have the following book:

Buy	Sell
MMO 1000@99 (MMO)	1500@100, MMO 1000@100, 300@100
300@98	

An aggressive Buy 2000@103 is entered, crossing the 1500@100 and MMO 1000@100. 1500@100 is matched immediately, then moving the book into the MMO Matching Pause. Note that the MM is first asked to confirm the trade or wait the time out period before the MMO is matched. Right after the release, the MMO 500@100 is matched, releasing the MMO Order book from the pause. The state of the Order book is the following:

Buy	Sell
MMO 1000@99 (MMO)	MMO 500@100, 300@100
300@98	

Example #4 – Release of MMO Spread Pause

Let us assume this order book:

Buy	Sell
500@101	MMO 1000@102

In case a Buy Order of 1000@102 is entered, the Order is queued. The MM sends in a Buy MMO 1000@100, accepted in book, hence establishing the spread. The Buy Order 1000@102 is then released to the book and matches instantly without an additional MMO Timeout Period. The Order book looks like this after the match and is paused:

Buy	Sell
500@101	
MMO Buy 1000@100	

In case the MM sends in a MMO Sell of 1000@101, the MMO matches aggressively instantly without an additional pause.

The order book looks like this after the match:

Buy	Sell
MMO Buy 1000@100	MMO 500@101

Example #4a – Release of MMO Spread Pause where MMO aggresses resting non-MMO order previously posted to book

MMO user (MM) has a valid spread. Other Bid 500@100 is a non-MMO order.

Buy	Sell
1000 (MMO)@100, 500@100	1000 (MMO)@101

The MMO Spread Pause commences when a price movement causes the MM to update the spread from 100-101 to 98-99, starting with the Buy side.

Buy	Sell
500@100	1000 (MMO)@101
1000 (MMO)@98	

When the MM then proceeds to update the Sell side, the book becomes crossed. 500 instruments are traded at price 99. The investor trading against the MMO gets to trade at a more advantageous price (in this example, less than what the investor would have originally been willing to buy at). In books where MMO functionality is not in use, the investor would have bought 500 at price 100 in this example. With MMO functionality, aggressive MMO sets the price when matching with a resting non-MMO order.

Trading schedule and Order management

Order books configured for MMOs will not have an opening auction or any auction.

Order Management for non-MMO Orders will be possible from CET 08:00 (from the start of the Pre-Open). Market Orders will not be allowed during Pre-Open.

Non-MMO Orders can also be submitted with TIF set to GTC. Those Orders will automatically be carried over to the next trading day

GTCs and New Orders submitted during Pre-Open will be passed on to the MMO Queue, hence not booked, and later released to the Order book in Continuous Trading when the Market Maker has established a Valid spread using the same priority rules used during regular MMO pauses.

Although Pegged orders are supported in MMO Order books, the user should be aware that Pegged orders are left in the book, and not re-priced during an MMO Pause, hence may be traded once the Market Maker establishes a Valid spread again.

MMO Message rate control

A messaging rate control will be applied for all MMO Order books for Warrants and Certificates. The messaging rate control will limit MMO order (new/replace) messaging rates on a single Order book over a rolling second.

The limitation will be set to a maximum number of updates per second per OUCH connection. If the threshold is breached, further MMO messages will be rejected (except for cancels). New MMO messages will be allowed after one second. In case of MMO Matching pause, the restriction will be lifted.

The limitation in number of messages per/s per port and Order book can be obtained from the European Market Operations (EMO@Nasdaq.com) and will be communicated via Exchange IT Notices.

Appendix P1: MMF - Market Maker Order for Danish Investment Funds (UCITS ETFs & Capital Associations)

MMF definition

The Market Maker Order for Danish Investment Funds (MMF) offers functionality for effective and secure Market Making, with robust protection for end investors trading against MMF.

MMF is an order type based on the Market Maker Order for Warrants and Certificates (MMO) with a small set of modifications in order to make the order type suitable for Market Making in the instruments traded on the Danish Investment Fund market.

The Market Maker Order for listed Danish Investment funds is available for Market Makers in UCITS ETFs and Capital Associations instruments, excluding Alternative Investment Funds.

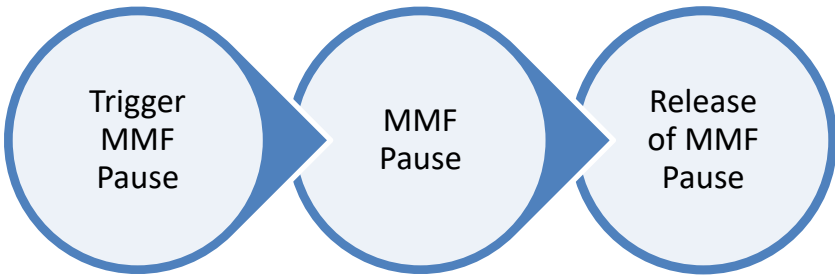
The following concepts define the MMF:

MMF	<p>A Limit priced Order that can be matched, and create a Trade, if certain conditions are fulfilled. An MMF is only possible to enter via the OUCH-protocol by a Market Maker. MMFs are distinguished in the public market data feed with an identification to show that the Order is an MMF type of Limit Order.</p> <p>The MMF has to be displayed, and needs to carry a limit price. Time In Force should be DAY or GTT. Non-displayed MMFs will not be accepted.</p> <p>Contrary to usual principle of resting order setting the price, an aggressive MMF will set the price when matching with a resting non-MMF order.</p>
MMF Order book	MMF support may be enabled on a per Order Book basis for Danish Investment Funds (UCITS ETFs & Capital Associations).
Market Maker	The MMF is only available for appointed Market Makers (MM). Only one MM can exist per MMF Order book.
MMF Spread Pause	<p>A period during Continuous Trading when there is no matching of any orders in the MMF Order book.</p> <p>Triggered by the MM not having established a Valid spread.</p>
MMF Queue	New (non-MMF) Orders are put on a separate list, not sent to the MMF Order book during a MMF Pause.
Valid spread	At least one Buy MMF and one Sell MMF placed passively at the same time in the in the Order book. A Valid spread must also

	<p>follow a certain maximum spread limit defined per Order book and price level.</p> <p>The Valid spread acts as a mechanism to manage volatility and restrict sudden price movements. It also defines how aggressive other non-MMF Orders may trade, when entered in the Order book, hence acting as effective “Price collars”.</p> <p>The concept of Valid spread in this context does not constitute any Market Making obligations, and should purely be seen as technical limits defining how wide the spread may be without putting the Order Book into an MMF Spread Pause. Market making obligations are typically tighter than the Valid spread. Market making spread requirements in the context of MiFID II market making are detailed in the Market Making Agreement.</p>
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MMF Process Overview

The MMF Process consists of three sub processes:



Trigger of MMF Spread Pause

There will be no matching in the book when the MM is not providing a Valid Spread. This pause is triggered when a MMF Buy and/or MMF Sell Order are not present. One MMF Buy or one MMF Sell Order is not sufficient (one-sided MM spread).

When MMF quantity (plus other quantity provided by other Orders at the same price level as the MMF) is exhausted, the MM is deemed not present, hence triggering a MMF Spread Pause. This means it is normally not possible for an aggressive Order to trade through a MMF price level and trade to a less favorable price, unless the MMF Trade Through Limit (see below) is enabled. Note that incoming Orders may trade up to the settings of the MMF Trade Through Limit (typically the MMF price level), and residual volume is not placed in the Order book, since it is being queued up, up until the book is released again.

Dynamic Maximum MMF spread

If the Valid spread is larger than a value according to the table below (counted from the Buy Order), the order book will be automatically paused, in the same way as if the MM is not present.

The following maximum spread will dynamically apply (based on the MMF Buy Order price of the instrument with one decimal). (Tables are subject to change).

Table 1:

<u>PriceFrom</u>	<u>Spread in %</u>
0.000	3275.0
0.050	100.0
0.250	50.0
1.000	35.0

Table 2:

<u>PriceFrom</u>	<u>Spread in %</u>
0.000	5000.0
0.050	500.0
0.250	100.0
1.000	50.0

Table 3:

<u>PriceFrom</u>	<u>Spread in %</u>
<u>0.000</u>	<u>500.0</u>
<u>0.050</u>	<u>100.0</u>
<u>0.250</u>	<u>50.0</u>
<u>1.000</u>	<u>10.0</u>

Nasdaq Nordic Trading Surveillance may decide in unforeseen circumstances to authorize temporary Dynamic Maximum MMF spreads outside the above tables. Such requests should be made to EMO@Nasdaq.com. The dynamic maximum MMF spread will in principle work as a tick size table, where based on the price of the Buy MMF Order, the maximum spread according to the tables will apply. In case the MM sends in a Buy MMF Order at a price of 0,002 in an Order book utilizing Table 1 above, the maximum spread of 3275% will automatically be applied. This means that the MM can quote e.g. 0,002 – 0,05 (2400%) if needed.

MMF Trade Through Limit

In order to provide a possibility to trade through the MMF Order price level without triggering an instant MMF Spread pause, it is possible that the MM configures a MMF Trade Trough Limit in % (one decimal), determining how aggressive the incoming order may trade. The default configuration is 0% (disabled) meaning aggressive orders trading up to the MMF price level.

Example #1 – Principle of the Trade Through Limit

Let us assume we have the following book:

Buy	Sell
MMF 1000@99	MMF 1000@100, 300@100
300@99	2000@101
	500@102
	300@103

The default configuration is 0% (disabled) meaning that as soon as the MMF Order is exhausted plus the other Orders on the MMF level, the book is paused. So in case an incoming Buy 2000@103 is sent in to the book below, it trades 1000 (after a short MMF Matching Pause) + 300 instruments and then the order book gets paused.

The MM may however choose the option to enable the Trade Through Limit percentage (enabled). In such case, an incoming order may trade through the MMF price level up to and including a configurable % per Order book (e.g. 2%) from the MMF price level. So in case an incoming Buy 2000@103 is sent in to the book above, it trades 1000 + 300 + 700 instruments and then the order book is subject for the MMF Spread pause.

MMF Trade Through Limit is not applied for aggressive MMFs trading against passive Orders in the book.

The Trade Through Limit is set per order book, but not sent out on GCF-TIP.

MMF Pause

The concept of “paused” means that the MMF Order book is still in Continuous Trading but no matching of Orders occurs. Existing orders in the book are kept in the book, retaining their original time priority.

New Orders (all valid TIFs including IOC) entered during the pause, including the residual quantity on the Order triggering the pause, are being queued as long as there is no Valid spread; and book not released. Full order management applies on Orders in the book and in the MMF Queue. However non-MMFs in the MMF Queue that are replaced, will be cancelled and the new Order will be put in the back of the MMF Queue.

There is no specific indicator of the pause. The Order book is still in Continuous Trading. Information that MMFs are not present on both sides of the Order book will be provided via market data feeds.

Auto halt after a too long pause

After 10 minutes MMF Spread Pause, the Order book will move into an automatic Trading Halt (Symbol state=H, Reason=TH) and immediately followed by an Order book flush (all Orders cancelled by the trading system).

The Order book will stay halted and after 10 seconds, a new Halt Reason code, MMM – Market Maker Missing, will be published and it will be possible for the MM to enter new MMF’s in order to establish a new valid MMF spread. No other order entry will be

possible during the halt. Orders queued during the pause will be cancelled, and those will not be sent to the Order Book after the release.

As soon as a valid MMF spread is present, the Order book will be immediately released for continuous trading. The new MMF's will be published when the Order book opens.

Release of MMF Pause

New MMFs entered during the MMF pause will always be released first into the Order Book when matching commences, to secure that MMFs will be passive in the Order Book. Other Orders (non-MMF) entered during the phase, now queued in the MMF Queue will be released into the book in the sequential time order they were sent into the matching engine, but then after any new MMFs.

After the release, Orders may immediately trade up to the MMF Trade Through Limit. A release may end in a new MMF Pause when:

1. A non MMF Order would aggressively hit an Order posted outside the MMF Trade Through Limit
2. An Order would post outside the MMF Trade Through limit
3. All Orders in the queue are executed or posted.

Situations 1. and 2. will always result in a new MMF Pause. Situation 3. results in a new MMF pause only if there is not a valid MMF spread left.

Release of MMF Spread Pause

The MMF Pause runs up until the MM comes back with a full spread, or if an automatic Halt is being triggered (see above). For sake of clarity, when a MM updates a MMF with a Cancel and New, the order book is paused for matching for a very short moment until the new Order is accepted.

The MMF may contain the instruction to immediately release the Order Book or not. In any case, matching will commence immediately. MMF orders are always passive in the book relative to orders sent in after the trigger point of the MMF Pause. The second MMF establishing a Valid Spread may trade directly towards a resting order (sent in before the pause); hence the pause is ending when second MMF is sent to the book. In this case, where the MMF trades against a resting non-MMF order, it is the aggressive MMF order that sets the price of the match (as opposed to usual logic of resting order setting price).

The residual quantity of 700 instruments will be queued up in the MMF Queue, and released to the book after MM is back.

Example #2 – Release of MMF Spread Pause

Let us assume this order book:

Buy	Sell
500@101	MMF 1000@102

In case a Buy Order of 1000@102 is entered, the Order is queued. The MM sends in a Buy MMF 1000@100, accepted in book, hence establishing the spread. The Buy Order 1000@102 is then released to the book and matches instantly without an additional MMF Timeout Period. The Order book looks like this after the match and is paused:

Buy	Sell
500@101	
MMF Buy 1000@100	

In case the MM sends in a MMF Sell of 1000@101, the MMF matches aggressively instantly without an additional pause.

The order book looks like this after the match:

Buy	Sell
MMF Buy 1000@100	MMF 500@101

Trading schedule and Order management

Order books configured for MMFs will not have an opening auction or any auction.

Order Management for non-MMF Orders will be possible from CET 08:00 (from the start of the Pre-Open). Market Orders will not be allowed during Pre-Open.

Non-MMF Orders can also be submitted with TIF set to GTC. Those Orders will automatically be carried over to the next trading day.

GTCs and New Orders submitted during Pre-Open will be passed on to the MMF Queue, hence not booked, and later released to the Order book in Continuous Trading when the Market Maker has established a Valid spread using the same priority rules used during regular MMF pauses.

Although Pegged orders are supported in MMF Order books, the user should be aware that Pegged orders are left in the book, and not re-priced during an MMF Pause, hence may be traded once the Market Maker establishes a Valid spread again.

A message rate control per MMF Order book will be applied following the same fundamentals as described for MMO in Appendix P.

Appendix Q: Self-Trade Prevention

Self-Trade Prevention definition

The Self-Trade Prevention (STP) functionality may be used by Members to avoid unintentional internal trading by preventing certain Member Orders (within the same MPID or on request across multiple MPID's) from executing against each other. The aim with the functionality is to facilitate Members' compliance and risk management duties and needs.

The STP functionality can be activated on Order instruction level without any configuration. This allows greater flexibility; the Member may for example create protected trader groups. As the STP actions may also be expanded into multiple options, the functionality may be used to target different regulatory and compliance requirements within the Member.

Description of the functionality

The inbound order entry protocols (OUCH and FIX) contain three fields: STP Level, STP Action and STP Trader Group. By actively populating these fields, the STP functionality is activated, no other configuration is needed. The fields will also be displayed on associated Drop copies. All technical details including protocol specifications can be found on the [Nasdaq Nordic website](#).

STP Level

STP Level indicates the scope of STP protection set on the Order. The Member can choose between three levels:

1. MPID + Trader ID
2. MPID
3. MPID + Specified Trader Group

The idea with Specified Trader Group is that the Member can decide that certain Orders should not interact. This enables varying usage of the functionality for the Member. E.g. Algo engine flow A and B should not interact with each other.

STP Action

STP Action indicates the action that should be undertaken by the trading system in order to prevent a Self-trade. Possible actions indicated on the Order instruction to activate STP:

1. Cancel passive
2. Cancel aggressive
3. Cancel both
4. Create technical transfer transaction

If no STP Action is chosen, no action will be taken to prevent internal trading. By messaging standards, the technical transfer transaction looks like a trade, but is not an exchange trade and therefore not sent to the CCP for clearing (even if it is a CCP eligible Order book), and not published externally on any market data services. The technical transfer transaction enables the Member to take the needed internal re-allocation actions.

STP Trader Group

The STP Trader Group is assigned by the Member and identifies Member Orders that should not interact, i.e. two Orders with the same code would be prevented to match.

Order condition requirements for STP

To use STP, the parameters must match for the respective passive and aggressive Order. If the conditions do not correspond, STP will not be enabled, and a trade may occur.

In case the STP Actions are differently assigned on the respective Orders, the set action on the aggressive Order will be honored.

STP can be used on all Nasdaq Nordic Order books, excluding Nordic@Mid and AOD. The functionality is only active during Continuous Trading. STP does not give protection to Auction trades, Routable Orders, Algo strategy Orders and Trade Reports.

STP for Sponsored access (SA) and Direct Market Access (DMA)

The STP functionality may be used by Member's SA, and DMA client accounts wanting to avoid unintentional internal trading.

In case the same end client to a Member operates through both a SA Trader ID and a DMA Trader ID, STP may be supported based on Member request by using the STP Group settings as described below.

STP Group

It is possible to obtain STP protection across two or multiple MPIDs where Trader ID's belonging to the same STP Group of MPIDs.

One Trader ID (also DMA, or SA Trader ID), may only be part of one STP Group. STP Group protection is not active on "STP level 1" (MPID + Trader ID), since the same "Trader ID" is not used across MPID's.

Requests for STP Group settings are available for Members belonging to the same group of companies operating across multiple MPID's.

The setting is also available between a Member trading under own MPID and where the same Member is trading DMA or SA via another Member.

STP requests

STP requests should be made to mac@nasdaq.com.

Example

Incoming aggressive sell order.

Price	Qty	MPID	User	STP Level	STP Action	STP Trader Group	STP Group (config)
100	250	AAA	LPS002	3	4	AA	V

Bids*

Price	Qty	MPID	User	STP Level	STP Action	STP Trader Group	STP Group (config)	Comment
100	50	AAA	LPS002	1	1		V	Match
100	50	AAA	LPS001	3	1	AA	V	Transfer
100	50	AAA	ABCDEF	3	4	AB	V	Match
100	50	AAA	LPS002				V	Match
100	25	CCC	C00001	3	4	AA	V	Transfer
100	25	CCC	C00001				V	Match
100	50	DDD	D00001					Left in book
100	50	EEE	E00001					Left in book
99	50	AAA	BCDEFG					Left in book

*Book ranked in Price, Internal, Time order.

Appendix R: Top Of Book

Top Of Book description

Top Of Book ("TOP") Order is an optional Order condition designed for shares trading. The aim of the functionality is to offer an Order type that results in **narrower spreads**. Order needs to fulfill certain criteria in order to be accepted as a TOP Order. By using the order condition, Member can get the best price priority according to current matching logics and trade before other participants, but only if their Order tightens the spread of the Order Book (setting a new price level). If the Order tries to match aggressively it is cancelled.

Description of the functionality and applicable criteria

TOP Order shall be accepted and added to the Order Book if its limit price is narrowing but not crossing the current Order Book spread, i.e. if the limit of a buy (sell) TOP Order is greater (smaller) than the best visible bid (ask) in the Order Book and smaller (greater) than the best visible ask (bid). TOP Order fulfilling the described criteria may however be fully or partially executed against posted Non-displayed Orders. A TOP Order needs to also fulfill certain minimum Order value criteria in order to be accepted. The TOP Order must always have a value equal or larger than EUR 4000, SEK 47 000 or DKK 30 000.

Detailed provisions for TOP Orders:

- Available for all MPID's.
- A TOP Order must always be a displayed Limit Order which improves the spread. Non-displayed TOP Orders are not allowed.
- Time in Force must be DAY (GTT, GTC, IOC and FOK are not allowed).
- Advanced order conditions are not allowed, including (but not necessarily limited to): Reserve (Iceberg); MAQ; Routing strategies; N@M; Non-display; Pegging.
- Orders are only accepted during Continuous Trading, but can participate in auctions after entry.
- A new liquidity flag indicates a TOP Order execution.
- A formally valid Limit Order which does not fulfill qualifications set for TOP Order, i.e. which fails as it would execute or not reduce the spread, is converted to an IOC and technically canceled (not rejected).
- TOP Order does not override the Internal priority for opposite Orders.
- TOP Order is not activated/available on Nasdaq Iceland.

TOP C optional configuration

Based on Member (MPID) and UserID configuration it shall be possible to have an alternative workflow for the TOP order – TOP C. Instead of being converted to an IOC order in the event the TOP order does not fulfill the requirements for bettering the spread, or not fulfilling the minimum Order value criteria, the order shall be converted

from a TOP to a regular Limit order and will be posted passively in the book. TOP C is subject to all other regular TOP validations, e.g. an Order can not cross the visible spread, and in such case the Order is rejected and not added to the book. TOP C not fulfilling the minimum Order value criteria will be converted to a regular Limit Order and may cross the spread.

TOP liquidity provider

Possibility to utilize the TOP Order functionality is available for all MPIDs. Special terms will however be offered to TOP Order users that have assigned as TOP liquidity providers.

Appendix S: Scheduled Intraday Call

Scheduled Intraday Call functionality is applied for Instruments traded on Auction Trading Market Segments on:

- Nasdaq Stockholm and First North Sweden
- First North Finland

Please see Appendix AA for details.

Appendix T: Buy-Back functionalities and Soft Knock

Buy-Back functionalities and Soft Knock are available on Warrants, Certificates, Tracker Certificates and Leverage Certificates market segments on First North Denmark, First North Finland, First North Sweden as applicable.

Buy-Back

Buy-Back (BB) is an optional functionality applicable for instruments about to mature. It can be used in situations where the issuer has listed equivalent replacement products within the same market segment and wants to offer buy-back in the maturing instrument.

To make use of the BB, the Market Maker will contact Nasdaq Nordic and request for the order book impacted to be placed in Buy-Back. Provided that an equivalent instrument has been listed by the issuer, Nasdaq Nordic will initiate the Buy-Back by placing the order book in "Trading Halt", sending a Note Code "BB" and flushing the order book before releasing the halt.

After the Note Code is applied, the Market Maker will only be able to send in buy orders. Under the Buy-Back period, other participants will only be allowed to send in sell orders. Any buy orders that are not sent in by the Market Maker during the Buy-Back will be rejected. Buy-Back can persist until maturity of the instrument. During BB, eligible sell orders that do not match with the Market Maker's buy orders will be posted to the order book. If the Market Maker buy order is updated during BB, it may match with the resting sell orders. In this case, the Market Maker buy order will set the price. Resting orders in the order book will be flushed at the end of BB.

The start of the Buy-Back is indicated by the dissemination of the note code "BB" for the impacted order book through the "Order Book Directory" message in ITCH.

Buy-Back can also be used in unforeseen or exceptional circumstances where it is unreasonable for the issuer/market maker to be expected to maintain two-sided prices in the order book. The duration of BB should be kept to the absolute shortest possible.

Knock-Out Buy-Back

Knock-Out Buy-Back (KB) functionality is optional for Market Makers/Issuers and can be used following a knock-out event where the instrument has residual value.

To make use of KB, the Market Maker will contact Nasdaq Nordic and request for the order book impacted to be placed in Knock-Out Buy-Back. Nasdaq Nordic will initiate the Knock-Out Buy-Back by sending the Note Code "KB" and flushing the order book. In circumstances where the instrument cannot be placed in Knock-Out Buy-Back directly after the knock-out event, the instrument may first be placed in "Trading Halt – Knock Out". The Knock-Out Buy-Back period will persist until the end of the trading day during which the knock-out occurred.

After the Note Code is applied, the Market Maker will only be able to send in buy orders. Under the Knock-Out Buy-Back period, other participants will only be allowed to send in sell orders. During the KB, irrespective of the Time-In-Force, all sell orders are treated

as Immediate-or-cancel (IOC). Any buy orders that are not sent in by the Market Maker during the Knock-Out Buy-Back will be rejected.

The start of the Knock-Out Buy-Back is indicated by the dissemination of the note code for the impacted order book through the "Order Book Directory" message in ITCH.

Sold-Out Buy-Back

Sold-Out Buy-Back (SO) functionality is optional for Market Makers/Issuers and can be used in exceptional circumstances where the instrument has been sold-out.

To make use of the SO, the Market Maker will contact Nasdaq Nordic and request for the order book impacted to be placed in Sold-Out Buy-Back. Nasdaq Nordic will initiate the Sold-Out Buy-Back by placing the order book in "Trading Halt", sending a Note Code "SO" and flushing the order book before releasing the halt. This can occur at any point during the trading day and the Sold-Out Buy-Back note code can persist overnight. The issuer commits to keep the length of the Sold-Out Buy-Back period to the absolute minimum required in order to recommence quoting on the ask side.

After the Note Code is applied, the Market Maker will only be able to send in buy orders. Under the Sold-Out Buy-Back period, other participants will only be allowed to send in sell orders. Any buy orders that are not sent in by the Market Maker during the Sold-Out Buy-Back will be rejected. During SO, eligible sell orders that do not match with the Market Maker's buy orders will be posted to the order book. If the Market Maker buy order is updated during SO, it may match with the resting sell orders. In this case, the Market Maker buy order will set the price. Resting orders in the order book will be flushed at the end of SO.

As soon as the Market Maker is satisfied with its inventory, they will contact Nasdaq Nordic. The Note Code will be removed from the order book and the order book will be flushed. After the SO is lifted, trading will resume normally and according to the trading phase ongoing at that time.

The start of the Sold-Out Buy-Back is indicated by the dissemination of the note code for the impacted order book through the "Order Book Directory" message in ITCH. The end of the Sold-Out Buy-Back and the removal of the Note Code leads to ITCH relaying an "Order Book Directory" message with an updated Note Code field for the order book.

Soft Knock

Where a certain barrier level is reached and in order to enable a recalculation event to take place, the issuer may request the instrument in question to be placed in Soft Knock by Nasdaq Nordic. The barrier level will be detailed in the final terms or other official documentation for the instrument. The request for Soft Knock will be evaluated by Nasdaq Nordic and where grounds exist for Soft Knock, it will commence by the instrument being placed in Trading Halt and by the dissemination of a Soft Knock note code "SK". The order book will be flushed. No Valid spread is expected to be established by the Market Maker until SK period is over.

At the end of the Soft Knock period, the issuer will request the removal of Soft Knock note code before establishing a Valid spread. The Soft Knock note code will be removed, leading toITCH relaying an "Order Book Directory" message with an updated Note Code field for the Order Book. Market participants should refer to the issuer's website for relevant updates in reference data related to the Soft Knock event.

Appendix U: Safeguards in opening, Scheduled Intraday and closing auctions

Auction safeguards are to limit unexpected impact to uncross prices due to erroneous or extraordinary order entries during opening, Scheduled Intraday and closing auctions. The auction safeguards will trigger a 3-minute extension period to the auction in a single Order Book, if the proposed auction price of that Order Book would deviate too much in percentage from a reference price at the time of the uncross.

The last sale price is used as a reference price. In the opening auction, the last sale price is normally the closing price (adjusted if corporate actions) from the previous day.

Auction extension period

The extension period may only be triggered at the time of the uncross.

When the extension is triggered in an Order Book in the opening auction, the next trading phase (Continuous Trading or Scheduled Intraday Call) in that Order Book starts 3 minutes after the normal scheduled time. During the last 5 seconds of the extension period the Order book uncrosses randomly. Other Order Books uncross at normal scheduled time.

When the extension is triggered in an Order Book in Scheduled Intraday Call, the next trading phase (Closing Call) in that Order Book starts 3 minutes after the normal scheduled time. During the last 5 seconds of the extension period the Order book uncrosses randomly. Other Order Books uncross at normal scheduled time.

When the extension is triggered in an Order Book in the closing auction, the auction in that Order Book ends approximately three minutes later than normally. In other Order Books, the closing auction ends at normal time.

The extension period follows the respective order management rules, market by order transparency and equilibrium data (Net Order Imbalance Indicator) dissemination applied to the pre-open and pre-close periods.

Information on the extension is disseminated in the Net Order Imbalance Indicator message during the extension.

The extension period ends automatically and will not be prolonged, even though the auction price would fall outside the auction safeguard limits.

Auction safeguard configuration

The Dynamic Volatility Guards set on Order Book level according to liquidity bands are the basis for the percentages used as safeguards in auctions:

- in the opening auction the auction safeguard's value is in percentages two (2) times the value of the Dynamic Volatility Guard⁴⁷ and

⁴⁷ Not applied for Danish Investment Funds.

- in the Scheduled Intraday and closing auction the auction safeguard's value is in percentages the same as the value of the Dynamic Volatility Guard.

When market on which Instrument is traded has no opening, Scheduled Intraday and/ or closing auction, respective auction extension safeguards are not applied. Safeguards for Scheduled Intraday Call are applicable only for Market Segments and/or Instruments, described in Appendix S. The following percentages are applied under normal market conditions:

Market	Instrument group	Opening auction	Scheduled Intraday and Closing auction
Nasdaq Copenhagen, Helsinki and Stockholm	OMXS30/OMXH25/OMXC25 shares ⁴⁸	+/-6%	+/-3%
	Other shares and ETFs*, ETNs* and ETCs* or all Danish Investment Funds*	+/-10%	+/-5%
	Other Equity-like Instruments or First North instruments** or liquidity group C shares or spread >= 3%	+/-20%	+/-10%
	Penny instruments	+/-50/80/100/200%	+/-25/40/50/100%
	First North Tracker Certificates Non-MMO Market Segment (Stockholm only)	+/-10%	n/a
Nasdaq Tallinn, Vilnius and Riga	Shares and Fund Units	+/-20%	+/-10%
Nasdaq Iceland	OMXI15 and selected shares	+/-6%	+/-3%
	Other shares and ETFs	+/-10/20%	+/-5/10%
	Penny instruments	+/-50/100/200%	+/-25/50/100%

* There is no closing auction on the ETF segment on Nasdaq Stockholm, NOK ETF segment on Nasdaq Stockholm or segment for Danish Investment Funds classified as ETFs on Nasdaq Copenhagen nor on the ETN and ETC segments on Nasdaq Stockholm, Nasdaq Helsinki and Nasdaq Copenhagen.

** Not applicable to Norwegian shares on First North Trading List Norway segment since there is no opening or closing auction on this segment.

Updates widening the auction safeguards thresholds before the opening call or intraday may occur in rare situations when there is a natural and for the market well known

⁴⁸ The situations when auction safeguards could be widened follows the routine applied for the Dynamic Volatility Thresholds: in order to avoid unnecessary trading halts in the index shares (OMXS30/ OMXC25/ OMXH25/ OMXI15), Nasdaq Nordic will, on best effort basis, apply in certain situations a special routine on selected shares to increase the dynamic volatility thresholds to 5% – and hence the auction safeguards to 10% in the opening call and 5% in the closing call. This routine will be used when the issuer has a planned company announcement of a quarterly or yearly result that will be published during Continuous Trading. The widened thresholds for the respective share will be used throughout such trading day and normal thresholds will be used on following trading day. Select ETFs tied to index shares also follow this routine.

movement in the instrument. Intraday updates of the thresholds will not be made available via the public data feeds.

Adjustments for dividend payments (shares only)

In case of a publicly announced dividend payment is exceeding the threshold for the safeguards in the opening auction, Nasdaq Nordic will on best effort basis widen the threshold with a factor three (3) to avoid an unnecessary extension in the opening auction on the Ex-Day (first day the share is traded without the right to the dividend payment). The threshold will be switched back without undue delay after the opening auction on the Ex-Day.

E.g. an Issuer with a share belonging to the Index constituency has announced a dividend payment of 10%. Effective on the Ex-Day the opening auction extension threshold will be set to 18%. The new threshold will efficiently prevent the auction extension. Immediately after CET 09:00:05, the thresholds will be reverted to 6%.

Appendix V: Indicative Close Price (ICP)

An Indicative Close Price is provided for some instruments including Warrants, Certificates, Tracker Certificates, Leverage Certificates, Exchange Traded Notes, Exchange Traded Commodities, Exchange Traded Funds and Danish Investment Funds.

For Warrants, Certificates, Tracker Certificates and Leverage Certificates, the Indicative Close Price is calculated daily as the time weighted Average Best Bid and Ask from the last (1) minute of Continuous Trading, provided that an order coverage criteria of 90% is met. Where the order coverage criteria is not met, the Indicative Close Price will not be calculated for that day. The previous value for the Indicative Close Price will persist until a new ICP is available.

Where a Sold-Out Buy-Back (SO) or Buy-Back (BB) period coincides with the calculation period of ICP, the Indicative Close Price calculation will not be subject to the order coverage criteria. If SO or BB is active at the end of the Indicative Close Price calculation period, the ICP will be based on the Market Maker's Best Bid as present at the end of the calculation period.

For Exchange Traded Funds (ETFs), Exchange Traded Notes (ETNs) and Exchange Traded Commodities (ETCs), the Indicative Close Price is calculated based on the time weighted Average Best Bid and Ask from the last two minutes of Continuous Trading, provided that an order coverage criteria of 80% is met. Where the order coverage criteria is not met, the Indicative Close Price will not be calculated for that day. The previous value for Indicative Close Price will persist until a new ICP is available.

The Indicative Close Price process does not change or override the official close price process. The ICP exists as an additional field for informative purposes.

For Alternative Investment Funds and Danish Investment Funds, including Investment Funds classified as ETFs, the Indicative Close Price is provided where no trades eligible for closing price have been registered during the trading day. The Indicative Close Price is calculated as the average best bid and offer in the order book at close, provided that an order coverage criteria of 85% has been met and that orders are valid at closing. If a trade has occurred and there is a Last price, the old indicative price is removed. If no trade has occurred and the calculation of an indicative price is not viable, the old Last and/or indicative price remains.

Please refer to the TIP Protocol for more information on the Indicative Close Price.

Appendix X: Cancel on Disconnect (COD)

The Cancel On Disconnect (COD) is a subscription based service that monitors the loss of connections between the Member and the INET Nordic trading system (Host). If a lost connection is detected by the Host, the COD service cancels resting Orders for the disconnected connector. In the event of a severe failure on the Host side, COD will also be applied.

COD is offered over the following protocols:

- OUCH - Order entry
- FIX Order entry

If the Member has requested the COD configuration on the port, the Host will cancel Orders based on port configuration (see below).

Functionality in detail

The COD functionality allows Members to have working Orders automatically canceled upon an unintentional loss of session connectivity from the Member or the Host side. Upon a session disconnect the COD functionality checks for resting Orders for registered session and sends a command to cancel the Orders. If COD has worked correctly, a user will receive unsolicited cancel accept confirmations upon reconnecting.

Protocol	From the Host perspective	From the Member perspective
FIX	<p>The HeartBtInt that is specified in the Logon message will be used to make sure that the Member connection is alive and functioning. If Nasdaq detects inactivity according to the details displayed in the "Nasdaq Nordic – FIXT Transport Layer" specification (available at INET Nordic - Protocol Specifications on the Nasdaq Nordic website), Nasdaq will immediately send a logout message and the connection will be closed, and COD activated.</p> <p>If the Host is suffering from a severe failure the COD service will be enabled on FIX port level after about 15 seconds.</p>	<p>It is expected that similar logic will be used on Member side in Order to detect Host activity.</p>
OUCH - SoupBinTCP	<p>SoupBinTCP uses logical heartbeat packets to quickly detect connection failures.</p> <p>Once logged in, the Member must send a Member Heartbeat packet within 1 second has passed since the Member last sent anything. If the Host doesn't receive anything from the Member within 15 seconds, it may close the existing socket and activate COD.</p>	<p>The Host will send a Server Heartbeat packet anytime more than 1 second has passed since the server last sent any data. This ensures that the Member will receive data on a regular basis. If the Member does not receive anything (neither data nor heartbeats) for 15 seconds it can assume that the</p>

	If the Host is suffering from a severe failure the COD service will be activated on OUCH port level after about 15 seconds.	connector is down and attempt to reconnect using a new TCP/IP socket.
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Port configuration

FIX/OUCH port:

- Cancel On Disconnect disabled
- Cancel On Disconnect enabled:
 - Keep GTC
 - Keep Orders taking part in auction (Keep Cross type Orders only)
 - Keep GTC and Cross type Orders
 - Cancel all

Details of Keep Cross type Orders

	COD triggered during Continuous trading	COD triggered during Scheduled Auction (Opening, Scheduled Intraday or Closing)	COD triggered during Non-Scheduled Auction (e.g. Volatility Halt auctions)
Keep Cross enabled	Non-Cross destined orders will be cancelled. Cross destined orders, e.g. Market On Close, Limit On Close orders will not be cancelled.	No Orders will be cancelled.	Non-Cross destined orders will be cancelled. Cross destined orders, e.g. Market On Close, Limit On Close orders will not be cancelled.

COD - Applied

The Host detects a loss of session connectivity by monitoring its application messaging with the Member system. When there is a lack of messages received for a period exceeding the specified heartbeat interval, the Host may close the connection and initiate the COD functionality.

The Host also initiates COD directly when TCP-connection is noticed broken and before the heartbeat time elapses.

If the connection being closed is the primary connection and the Member system initiates a fail over process the secondary connection, COD will anyway be triggered. The COD will also apply if the Member system is logged on to both the Primary and Secondary, and disconnects from any of the Secondary or Primary ports.

If the Host is suffering from a severe failure the COD service will be activated on OUCH and/or FIX port level after about 15 seconds.

COD – Not applied

COD is applied for a loss of session, and not initiated for a graceful disconnect, meaning a voluntary log outperformed by the Member system will not trigger the COD.

Appendix Y: Auction on Demand

Introduction of Auction on Demand

Auction on Demand (AOD) is a separate volume discovery service based on lit periodic auctions triggered on demand by crossing Orders.

The duration of the AOD auction is a 25 millisecond (ms) fixed period plus a 0-75 ms random period, meaning the auction will last for a maximum of 100 ms. The auction will uncross at the price where most volume can be traded.

AOD is designed to execute Orders with low market impact by offering open yet discreet trading as individual Orders are not published. The pre- and post-trade transparency will follow the transparency rules as for any other Periodic Trading Systems operated by Nasdaq Nordic. The indicative auction price and executable quantity, as well as subsequent trades, are published in real time.

An execution in AOD takes place at or within the Primary Best Bid Offer (PBBO) of the corresponding lit Order book.

Trading in AOD is supported by safety features such as a "speed bump" on Cancel / Modifications, which aim to minimize the risk for information leakage.

Market Scope

AOD covers the following Nasdaq Nordic cash equity instruments and markets, including associated First North markets, except First North Trading List Sweden shares. See section "Market Data/Reference data" below for eligibility.

- Shares⁴⁹ traded on Nasdaq Stockholm (including Norwegian shares), Nasdaq Copenhagen, Nasdaq Helsinki and Nasdaq Iceland.
- Selected ETFs⁵⁰ on above markets (where Nasdaq is the Most Relevant Market).

Trading hours

The AOD trading schedule is the same as it is for the lit Order book of the specific Instrument. This means that AOD is accessible during the Continuous Trading applicable for the specific instrument in the lit Order book.

During lit Order book auctions (in the scheduled or non-scheduled intra-day auctions), AOD Orders will be suspended.

Order Types

⁴⁹ Including depositary receipts on shares and cooperative shares classified as Other Equity-like Instruments.

⁵⁰ Exceptions may occur. Complete list of AOD eligible instruments can be obtained from EMO@Nasdaq.com.

The following Order types are valid for the AOD Order book:

- Pegged Orders – pegged to Primary Best Bid Offer (PBBO) only executing at their pegged price according to the peg instruction (“at-priced”)
- Limit Orders - executes at or within the PBBO (“at or better” priced)
- Market Orders (Limit Order without price)

Since the Pegged Orders are “at-priced”, they only trade at their pegged price level and do not offer price improvement relative to the pegged price.

Limit Orders trade at their full price range “at or better” within the current PBBO.

On pegged Orders, an optional Limit guard price protection can be added to protect the Order from execution at less favorable prices.

Limit Orders may have a limit price. If no limit price is added, the order acts as a Market Order.

Pegged Orders can be pegged towards the following PBBO levels:

- Best bid
- Mid-point
- Best offer

Mid-point can be half tick (up to 4 decimals). Other peg levels fall on valid ticks.

Valid prices on AOD Orders

Limit Orders are accepted on tick prices. If the price specified by a Limit price is not valid according to the allowed tick sizes, it will be rounded to a less aggressive price (default) or rejected if that is preferred by the Member. Limit Orders can match on-tick or off-tick at midpoint.

Mid-point pegged Orders may have any Limit guard price, including off-tick. They can match on-tick or off-tick at midpoint.

Time In Force (TIF)

The following TIFs (See 6.1) are supported at Order entry:

- DAY
- GFA (Good for Auction)
- GTT (Good Till Time)
- IOC

Minimum Execution Size (MES)

Pegged or Limit Orders can be protected by applying MES. If MES is used, each opposite Order needs to be equal or larger than MES, hence no "aggregation" or "bulking" will be supported.

The MES applies to all executions (including every partial execution). A single execution does not need to be an increment of the MES. If the Order is for 1000 shares with a MES of 100 shares, it can take out a contra Order of 123. If the residual of a MES Order is below the original MES, the MES is adjusted to equal the residual.

Using MES is optional and offers protection towards smaller fills and possible information leakages. Applying MES on an Order may reduce the likelihood of execution if the value is set too high.

Matching priority

Once the algorithm finds the price point where most quantity can be traded, Orders are matched in the following priority

- (1) Internal (Member MPID),**
- (2) Size, and**
- (3) Time priority**

AOD auction process

The AOD auction starts when there are crossing Orders that can be matched in the AOD Order book.

The auction process can be explained by the following steps:

Step 1:

Inter auction period

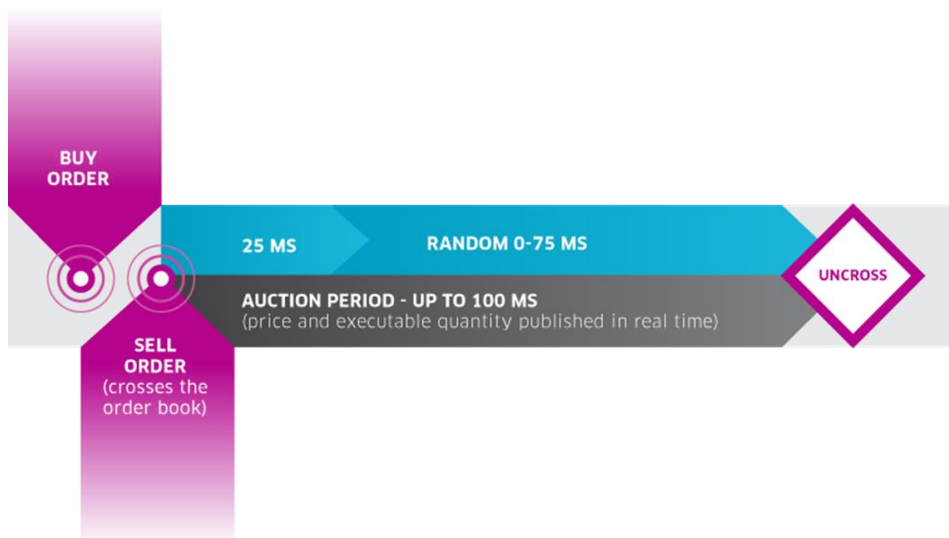
Before the AOD auction has started, the Order book is in an inter-auction period without any crossing Orders. During this phase, Orders that do not fulfill set MES conditions are not matched even though such Orders could be crossed in price.

Step 2:

Auction is triggered

An AOD auction is triggered on demand. It is the second Order crossing in the diagram below that triggers the auction to start.

Diagram: Auction process



Step 3:

Price discovery

AOD utilizes a volume and price discovery mechanism built to maximize traded volume in the auction. The AOD matching algorithm first identifies at which price point at or within the PBBO (including off-tick mid-point) most quantity could be traded. Indicative auction price and executable quantity at that price are published in real-time.

Once the price point where most quantity can be traded has been found, Orders are matched following (1) Internal (Member MPID), (2) Size, and (3) Time priority.

Step 4:

Random uncross

The duration of the AOD auction is a 25 millisecond (ms) fixed plus a 0-75 ms random period, meaning the auction will last for maximum 100 ms before uncross at the random time point.

Determination of the auction price

The indicative auction price is the price that maximizes the number of Instruments at the time of the uncross to be executed at or within PBBO, taking potential MES conditions into account. Note that even though Limit priced Orders are allowed, crossed Limit prices outside the PBBO will not generate Trades outside the PBBO.

If more than one price exists with equal executed quantity, the algorithm will choose the price based on the following ranking model:

1. Mid-point
2. Best Bid
3. Best Offer
4. Any other price at or within PBBO set by Limit orders
 - a. If there are multiple price levels possible:
 - i. Price level with order closest to the Mid
 - ii. If two price levels have equal distance to the Mid, chose the higher price.

When one or both sides of PBBO falls outside the EBBO, the matching algorithm will evaluate a Limit match at the European Best Bid Offer (EBBO) of that/those side(s). Note that EBBO is always at or better than PBBO.

Let's assume the following market situation:

PBBO 100 -104
EBBO 103 -104

A Limit Buy@104 and a Limit Sell@100 (starting the auction) are sent to the AOD book. The matching algorithm would like to choose the PBBO midpoint as the auction price of 102. However, this price falls outside the EBBO, hence the algorithm will chose 103.

Safety features

Matching is only available if all of the following conditions are satisfied:

- The primary market lit Order book is in Continuous Trading;
- There is a PBBO in the above order book; both a bid and an ask price;
- The spread in the Order book is less than or equal to a defined maximum spread counted from the bid price. The maximum spread is following the thresholds applied for dynamic Volatility Guards. E.g. index shares OMXS30/OMXH25/OMXC25 should not have a spread more than 3%;
- The AOD Indicative auction price is at or inside the current EBBO⁵¹ and has four decimals or less, An execution in AOD takes place at or within the Primary Best Bid Offer (PBBO); and
- If mid-point falls on >4 decimals, only mid-point pegged Orders are not eligible for matching. However, other valid price-levels are eligible for matching. A rounded 4 decimal value will be used for step 4 of the ranking model explained above when determining the auction price.

Order management and "speed bump" on Cancel / Modifications

During the inter-auction period, there is full order management. Any changes are allowed as long as the book is not in an auction period (orders do not match).

During the auction period, the following changes improving the marketability of the Order are allowed, hence not subject to the "speed bump" (explained below):

⁵¹ If a symbol is only traded at Nasdaq Nordic or Away market prices are not available for the order book, EBBO is equal to PBBO.

- Quantity increase
- Limit price improvement
- MES improvement (lower value)
- Fields (e.g. reference fields) that do not affect ranking

For a modification/replace that has been accepted, a new time stamp will be assigned, changing the time priority of the Order.

Any changes during the auction period reducing the marketability of the Order will be subject to a "speed bump" putting the modification /cancel request in a pending state. The duration of the "speed bump" is from the point the auction has started up until the uncross.

Order management conditions **supported** in the AOD Order book during the corresponding lit Order book trading phases:

- During non-scheduled intraday calls (i.e. volatility halts and trading/matching halts) or Scheduled intraday calls (no matching however occurs): Order entry and modification
- During Continuous Trading: Order entry and modification
- Order cancellation is possible until end of post trade in the Lit Order book
- If the mid-point price falls on more than 4 decimals, mid-point pegged AOD orders are automatically suspended

Order management conditions **not supported** in the AOD Order book during the corresponding lit Order book trading phases:

- During opening call: Order entry or modification is not possible
- An AOD Order cannot be Routable. Hence, if sent in with a routing instruction, the routing instruction will be disregarded
- Self-Trade-Prevention (STP) is not supported in auctions, hence not in AOD either
- AOD Orders will not transition to the Lit Order book closing auction
- Modifications over FIX will lead to a Cancel + New. Hence, the FIX modification will always be subject to the "speed bump"
- It is not possible to opt out from the internal priority in AOD

Nasdaq Nordic may restrict the number of open orders active per Member connection and per orderbook. Details of such restrictions can be obtained from the European Market Operations (EMO@Nasdaq.com).

Market Data

Reference data:

- The AOD eligibility is indicated in the Symbol reference data available via ITCH (Order Book Directory message including the respective MIC codes), GCF-TIP (Basic Data Tradable), and Nordic Workstation.

ITCH and GCF-TIP real-time data feeds show the indicative auction price and executable quantity.

- AOD MIC codes are available in reference data
- Indicative auction price and executable quantity published in real-time

Pre-trade transparency information:

- Individual AOD Orders are not published in real-time since the Order book operates as a Periodic Auction trading system
- At entry of a qualified crossing AOD Order; auction information starts to be published if it meets its MES condition.
- A new real time Net Order Imbalance Indicator (MOII) message publishes the indicative auction result:
 - Indicative auction price (a.k.a. Equilibrium Price (EP)). A cross level flag indicates if the price represents best Bid, Mid, Ask or any other Level.
 - Executable quantity
- The MOII message is published from the time the Order book is crossed, and updated if EP or matched quantity changes

Post-trade transparency information:

- AOD MIC code will be available on Member's trade confirmations (FIX)
- A separate cross trade message is published in real-time displaying the auction result
- Counterparty information is revealed neither in real-time, nor at end of day

Trading statistics:

- See Appendix K.

Trading examples

Legend:

Buy Order pegged to the best bid/Sell Order pegged to the best offer = Primary peg

Buy Order pegged to the best offer/Sell Order pegged to the best bid = Market peg

In all examples below: Order book spread = 100-102

Example 1: Only pegged Orders

Buy

2000@Mid (101)

1000@Primary (100)

Sell

2000@Market (100) – incoming order

In this case the incoming 2000 shares triggers an AOD auction at the Best Bid = 100. EP=100, and paired quantity is 1000 shares. The Mid-point pegged Order is "at priced", meaning not trading at any other price than the Mid-point.

Example 2: Pegged and Limit Orders

Buy

2000@Mid (101)

1000@Primary (100)

A Sell order of 6000 shares with the Limit of 100,50 is entered. This order makes the book crossed; hence starting an AOD auction at 101 (the Mid-point pegged order only trade at Mid-point). The EP published is 101, and the paired quantity is 2000.

A new incoming Buy order is sent in. The order book is still crossed, however, more can be traded at the price of 100,50 moving the EP to 100,50, and the paired quantity to 5000.

Buy

2000@Mid (101)

5000@100,50 (Limit) – incoming order

1000@Primary (100)

Another Mid-point pegged order is entered. The order book is still crossed; however, more can be traded at the price of 101 moving the EP back to 101, and the paired quantity to 6000.

Buy

4000@Mid (101) – incom.

2000@Mid (101)

5000@100,50

1000@Primary (100)

Sell

6000@100,50 – incoming order
(Limit)

Sell

6000@100,50

Sell

6000@100,50

Example 3: Book crossed on multiple levels

Buy

4000@Market (102)

Sell

4000@100,00 – incoming order

2000@101.50

4000@Mid (101)

2000@100.50

4000@Primary (100)

The order book is crossed on multiple levels; EP is set to 101 according to the ranking model.

Example 4: Broker priority

Buy

2000@100 (Bank B) - incoming

1000@Primary (100) (Bank A) 2000@Market (100) (Bank A)

Sell

In this case an auction is already triggered at the Best Bid = 100. EP=100, and paired quantity is 1000 shares. An incoming Limit order tries to get in-between internal priority with a larger order, without success. Internal priority guarantees the match between Bank A's orders first, before the 2000 shares of the incoming may trade the last 1000 shares of the Sell Order. The EP=100 and the paired quantity is now 2000 shares.

Example 5: Subsequent auction

Buy

500@Mid (101)

1000@Primary (100) - Incom. (2)

Sell

500@Mid (101) - Incoming (1)

2000@Market (100) - Incoming (3)

In this case the incoming 500 shares trigger an AOD auction at the Mid. EP=101, and paired quantity is 500 shares. Two additional pegged orders are added, and moves the EP to 100, since the volume that can be executed there is larger. After the uncross, a new auction at the crossing price 101 starts again.

Appendix Z: Manual Trades

1. How to report Manual Trades at Nasdaq Nordic

Manual Trades in Nasdaq Nordic Instruments – all transactions have to be sent to the same order books for each Instrument that are used for automatic matching of orders.

Manual Trades can be reported as One-party (for matching) or as Two-party (pre-locked-in) reports. For detailed information, please see "FIX On-Exchange Trade Reporting" under INET Nordic Protocol Specification at Nasdaq Nordic website.

A Manual Trade will be concluded if the following information matches:

- Symbol
- Trade date
- Firm / Contra
- Price
- Quantity
- Settlement date (if specified)
- Clearing indicator
- Trade type / MMT

One-party report for matching

Members are able to report each trade side for matching by Nasdaq Nordic. When both parties have reported their side and the required data matches, a locked-in trade will be created.

Unmatched One-party report trade reports will be cancelled by the system at the end of the trading day (day of entry of this report).

Two-party pre-locked-in report

One Member is able to report both trade sides (internal crossing) when both buyer and seller are represented by the same Member firm or if only one part of the trade is a Member or if the reporting party is a service provider reporting the trade on behalf of a Member (according to special exchange registration).

Break Locked-in Trade / Cancel Trade

The entering trading participants are able to cancel the reported trades within 10 minutes after the reporting (however this must be granted by Nasdaq Nordic).

In case of One-party report for matching, both parties must send Cancel request to cancel the Manual Trade.

In case of a Two-party locked-in report, only the reporting party needs to send in a Locked-in Trade Break request to cancel the Manual Trade.

Cancellation requests must be submitted in accordance with the Nasdaq Nordic Member Rules (please see chapter 5.7) and the Cancellation Guideline.

2. Trade Types

The following Trade Types are supported for Manual Trades:

Trade type	Definition
Standard Trade	A Trade concluded on standard market terms in respect of price, time of the Trade and with standard delivery and settlement schedule.
Non-Standard Settlement	A Trade concluded on standard market terms in respect of price and time of the Trade, but where settlement date deviates from the standard delivery and settlement schedule. Settlement date from and including T+0 ⁵² is accepted.
Portfolio Trade	Transactions in five or more different financial instruments where those transactions are traded at the same time by the same client and as a single lot against a specific reference price in Equity Instruments, or against a single lot price in the case of Securitized Derivatives or Exchange Traded Notes and Exchange Traded Commodities.
Volume Weighted Average Price Trade	A Trade executed in reference to volume weighted average price where price is calculated over multiple time instances according to a given benchmark.
Exchange Granted Trade ⁵³	A Trade pursuant to an individual or general authorization from Nasdaq Nordic. Settlement dates in the past as well as in the future may be accepted.
Pre-Opening Trade	A Trade, which is entered into in Pre-Opening on the date of admission to trading of an Instrument (Only applies to Nasdaq Helsinki).
Contingent Trade ⁵⁴	A Trade contingent on the purchase, sale, creation or redemption of a derivative contract or other financial instrument where all the components of the trade are meant to be executed as a single lot.
Non-Price Forming Trade	A transaction, that does not constitute a transaction for the purposes of Article 26 of Regulation (EU) No 600/2014 in accordance with Article 2(5) of Delegated Regulation (EU) 2017/590.

Table 1 Trade Types available when reporting Manual Trade

The Trade Types below are applied to certain trades made outside the central Order book and are not available for members' own trade reporting.

⁵² In CCP cleared trades time span T+1 – T+6 is accepted. In Securitized Derivatives, for trades concluded during extended evening trading hours, T+0 should not be used.

⁵³ The Trade Type "Exchange Granted Trade" presupposes that the Member has either obtained prior authorisation from Nasdaq Nordic for the specific case and Trade, or that Nasdaq Nordic has granted a general authorisation to all Members for a particular kind of Trade. Nasdaq Nordic shall notify general authorisations through an Exchange Notice.

⁵⁴ Contingent Trade is only applicable for Equity Instruments

Trade type Published (not available for trade entry)	Definition
Standard Routed Trade	A routed Trade concluded on standard market terms in respect of price, time of the Trade and with standard delivery and settlement schedule. This Trade type cannot be used by the Member, since it is a Trade type that the system will automatically use for the routed Trades executed between the Member and the Introducing Broker.

Table 2 Trade Type automatically assigned – not available when reporting Manual Trade

Manual Trade shall be reported using the Trade Type that is applicable to the circumstances described in Trade Type definition in Table 2.

For the use of Trade Type **Contingent Trade**, Member may apply for an Exchange Trader user ID named MPSDSK allowing the Manual Exchange Trading System at Nasdaq Stockholm AB to report Manual Trades on INET Nordic that are part of certain derivatives related trades. MPSDSK will be used by the Manual Exchange Trading System with the purpose to report Manual Trades on-behalf of the Member by using the Trade Type Contingent Trade. In case of any part of the derivatives related combination trade arranged by the Manual Exchange Trading System is cancelled, the "Guidelines for cancellation of trades based on Nasdaq Nordic Member Rules" shall apply, giving Nasdaq Nordic the right to cancel the reported Trade, of conduct a counter Trade if needed, with involved counterparties.

Trade Type **Exchange Granted Trade** presupposes that the Member has either obtained prior authorisation from Nasdaq Nordic for the specific case and Trade, or that Nasdaq Nordic has granted a general authorisation to all Members for a particular kind of Trade. Nasdaq Nordic shall notify general authorisations through an Exchange Notice.

Member must obtain prior authorisation to use Trade Type Exchange Granted Trade from Nasdaq Nordic for any Manual Trade that does not directly fall under, but that is equivalent to Trade Types Portfolio Trade, Volume Weighted Average Price Trade, Pre-Opening Trade, Contingent Trade or Non-Price-Forming Trade in that it is contingent on technical characteristics which are unrelated to the current market valuation of Instrument⁵⁵.

All Manual Trades shall be reported with Trading capacity information, see chapter 6.5 for details. For internal Manual Trades, Trading capacity that maps to DEAL on both buy and sell side of Trade are not allowed.

2.1. Equity Instruments

In Manual Trades in Equity Instruments, when the trade size is below Instrument's LIS threshold, Nasdaq Nordic automatically assigns and publishes, based on the Trade Type, the relevant MiFID post trade flag indicating

- if the Manual Trade is executed under negotiated trade waiver
 - negotiated transaction in liquid financial instruments flag 'NLIQ'

⁵⁵ As specified in Commission Delegated Regulation 2017/587 Article 6(j).

- negotiated transaction in illiquid financial instruments flag 'OILQ'
- negotiated transaction subject to conditions other than the current market price flag 'PRIC'.

In addition to above pre-trade transparency waiver flags, Nasdaq Nordic automatically assigns and publishes following descriptive flags based on the Trade Type

- if the Manual Trade is reported with Trade Type Volume Weighted Average Price Trade,
 - benchmark transactions flag 'BENC'
- if the Manual Trade is reported with Trade Type Contingent Trade,
 - contingent transactions flag "CONT"
- if the Manual Trade is reported with Trade Type Portfolio Trade,
 - portfolio transactions flag "PORT"
- if the Manual Trade is reported with Trade Type Non-Price Forming Trade,
 - non-price forming transactions flag "NPFT".

Table 3 displays the MiFID post-trade flags automatically assigned by INET for Equity Instruments when the trade size is below Instrument's LIS threshold. Nasdaq Nordic publishes the relevant MiFID post-trade flags as part of the trade publication. The trade execution message relayed back to Member contains also respective values.

Trade type Published	MiFID pre-trade waiver flag in Equity Instruments	MiFID descriptive flag in Equity Instruments	Negotiated transaction waiver as defined under MiFIR
Standard Trade	'NLIQ' for Liquid Instruments		Article 4(1)(b)(i) of MiFIR
	'OILQ' for Non-Liquid Instruments		Article 4(1)(b)(ii) of MiFIR
Non-Standard Settlement	'NLIQ' for Liquid Instruments		Article 4(1)(b)(i) of MiFIR
	'OILQ' for Non-Liquid Instruments		Article 4(1)(b)(ii) of MiFIR
Portfolio Trade	'PRIC'	'PORT'	Article 4(1)(b)(iii) of MiFIR and further specified in Commission Delegated Regulation (EU) 2017/587 Article 6(b)
Volume Weighted Average Price Trade	'PRIC'	'BENC'	Article 4(1)(b)(iii) of MiFIR and further specified in Commission Delegated Regulation (EU) 2017/587 Article 6(a)
Exchange Granted Trade	'PRIC'		Article 4(1)(b)(iii) of MiFIR and further specified in Commission Delegated Regulation (EU) 2017/587 Article 6 (j)
Pre-Opening Trade	'PRIC'		Article 4(1)(b)(iii) of MiFIR and further specified in Commission Delegated Regulation (EU) 2017/587 Article 6(j)
Contingent Trade	'PRIC'	'CONT'	Article 4(1)(b)(iii) of MiFIR and further specified in Commission Delegated Regulation (EU) 2017/587 Article 6(c)
Non-Price Forming Trade	'PRIC'	'NPFT'	Article 4(1)(b)(iii) of MiFIR and further specified in Commission Delegated Regulation (EU) 2017/587 Article 6(k)

Standard Routed Trade	'PRIC'		Article 4(1)(b)(iii) of MiFIR and further specified in Commission Delegated Regulation (EU) 2017/587 Article 6(j)
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Table 3 MiFID post trade flags assigned automatically based on Trade Type

In case the Manual Trade is a LIS Trade, executed under LIS waiver⁵⁶, no public MiFID pre-trade transparency waiver or descriptive flag is set. The trade execution message⁵⁷ relayed back to Member contains the LIS indicator.

Optional descriptive flags available in trade entry

For Trade Types Portfolio Trade, Volume Weighted Average Price Trade, Contingent Trade and Non-Price Forming Trade below Instrument's LIS threshold, Member may add optional descriptive flags in addition to those automatically assigned by Nasdaq Nordic. Table 4 below describes the possible combinations:

Trade type Published	MiFID post-trade flags assigned automatically by Nasdaq based on the trade type used		Optional descriptive flags assigned by Member in trade entry
	MiFID pre-trade waiver flag	MiFID descriptive flag	
Portfolio Trade	'PRIC'	'PORT'	'BENC', 'CONT'
Volume Weighted Average Price Trade	'PRIC'	'BENC'	'PORT', 'CONT'
Contingent Trade	'PRIC'	'CONT'	'BENC', 'PORT'
Non-Price Forming Trade	'PRIC'	'NPFT'	'BENC'

Table 4 Optional descriptive flags assigned by Member in trade entry

If Manual Trade of any size, regardless of the Trade Type used, is executed during the ex-dividend period where the dividend or other form of distribution accrues to the buyer instead of the seller; or is executed during the cum-dividend period where the dividend or other form of distribution accrues to the seller instead of the buyer, Member needs to use the Special dividend transaction flag 'SDIV' when reporting the Manual Trade.

Nasdaq Nordic publishes MiFID optional descriptive post-trade flags assigned by Member as part of the trade publication.

2.2. Securitized Derivatives

Securitized Derivatives are non-equity Instruments and have pre-trade transparency waiver only for Manual Trades at or above LIS thresholds.

Use of Trade Type Contingent Trade or 'CONT' as optional descriptive post-trade flag is not allowed when reporting Manual Trades in Securitized Derivatives.

2.3 Exchange Traded Notes and Exchange Traded Commodities

⁵⁶ Large in scale waiver as defined under Article 4(1)(c) of MiFIR

⁵⁷ See "FIX Trade Reporting" for details.

ETNs and ETCs are non-equity Instruments and have pre-trade transparency waiver for Manual Trades at or above LIS thresholds. Additionally, for ETNs and ETCs determined not to have a liquid market, there is a pre-trade transparency waiver for Manual Trades for Illiquid instruments (illiquid waiver not applicable to Nasdaq Copenhagen).

Use of Trade Type Contingent Trade or 'CONT' as optional descriptive post-trade flag is not allowed when reporting Manual Trades in ETNs and ETCs.

Table 5 displays the MiFID post-trade flags automatically assigned by INET for ETNs and ETCs when the trade size is below Instrument's LIS threshold and the Instrument is illiquid. Nasdaq Nordic publishes the relevant MiFID post-trade flags as part of the trade publication. The trade execution message relayed back to Member contains also respective values.

Trade type Published	MiFID descriptive flag assigned automatically in ETNs and ETCs
Portfolio Trade	'PORT'
Volume Weighted Average Price Trade	'BENC'
Non-Price Forming Trade	'NPFT'

Table 5 MiFID post trade flags assigned automatically based on Trade Type

For Trade Types in Table 5, when the trade size is below Instrument's LIS threshold in illiquid Instrument, Member may add optional descriptive flags in addition to those automatically assigned by Nasdaq Nordic. Table 6 below describes the possible combinations:

Trade type Published	MiFID descriptive flag assigned automatically in ETNs and ETCs	Optional descriptive flag assigned by Member in trade entry
Portfolio Trade	'PORT'	'BENC'
Volume Weighted Average Price Trade	'BENC'	'PORT'
Non-Price Forming Trade	'NPFT'	'BENC'

Table 6 Optional descriptive flags assigned by Member in trade entry

3. Price of a Manual Trade

3.1. Equity Instruments

Shares, depositary receipts, ETFs and Other Equity-like Instruments⁵⁸ when trade size is below LIS threshold:

- In Standard Trades and Non-Standard Settlement Trades in Liquid Instruments, the price needs to be at or within the Volume Weighted Average Spread (VWAS)⁵⁹;

⁵⁸ Equity Rights

⁵⁹ The VWAS is the range between the reference prices which would have been paid if the Buy and Sell Orders for the volume of the trade had been executed in the Order Book (i.e. would have been the average prices if these Buy and Sell Orders had been automatically matched), excluding Non-displayed Volume. When there is no Spread, the Member needs to make the Trade to a price that takes into account the market situation at the time of the Trade.

- In Standard Trades and Non-Standard Settlement Trades in Non-Liquid Instruments, the price needs to be at or within the Manual Trade Price Collar⁶⁰ in Table 7 below;
- In all other Trade Types, both in Liquid and Non-Liquid Instruments, the price may be subject to conditions other than the current market price of the Instrument. Members shall be able to provide reasons for their assessment of the conditions.

⁶⁰ Manual Price Collar, a +/- percentage range allowed from Last Paid, is distributed as part of the Instrument's reference data via market data.

Instrument type	Manual Trade Price Collar %
Non-liquid shares, depositary receipts, ETFs and all Danish Investment Funds on main markets	5
Equity rights Other Equity-like Instruments Non-liquid shares, depositary receipts and ETFs on First North markets Liquidity Group C or spread $\geq 3\%$	10
Non-liquid penny shares/ depositary receipts/ ETFs/ equity rights 0.25-5 (SEK,DKK,NOK), 0.025-0.5 (EUR) 0.1-0.25 (SEK,DKK,NOK), 0.01-0.025 (EUR) 0.05-0.1 (SEK,DKK,NOK), 0.005-0.01 (EUR) 0-0.05 (SEK,DKK,NOK), 0.0-0.005 (EUR)	25 40 50 100
Norwegian shares and ETFs	50
Baltic markets, including First North Baltic Baltic shares and Fund units	10
Icelandic markets ⁶¹ Icelandic index shares (OMXI15) Other Icelandic shares and ETFs	3 3, 5 or 10 depending on liquidity
Icelandic markets Penny instruments: 0.00-1.00 (ISK)	25, 50 or 100 depending on liquidity

Table 7 Manual Trade Price collars

3.2 Securitized Derivatives

- Manual Trades are not allowed when trade size is below LIS threshold.
- Manual Trade Price collar: 10%.

3.3 ETN/ETC

- Manual Trades are not allowed when trade size is below LIS threshold unless the applicable illiquid waiver has been granted (illiquid waiver not applicable to Nasdaq Copenhagen) and the instrument is considered not to have a liquid market.
- Manual Trade Price collar: 10%.

4. LIS Trades

LIS Trades should be reported with the applicable Trade Type in Table 1. LIS Trade in Equity Instrument may be reported as Standard Trade or Non-Standard Settlement Trade, even if the price is outside VWAS/ Manual Trade Price Collar.

LIS Trades are Trades considered large in scale compared to the average daily turnover.

⁶¹ The threshold levels for individual Instruments are published in market notices.

- The LIS Trade thresholds for **shares and depositary receipts** can be seen in Appendix E Table 1.
- The LIS Trade threshold for **ETFs** can be seen in Appendix E Table 3. ETFs have static threshold of EUR 1 000 000.
- The LIS Trade thresholds for **Other Equity-like Instruments** can be seen in Appendix E Table 4.
- The LIS Trade threshold **for Securitized Derivatives** can be seen in Appendix E Table 5. Securitized Derivatives have static threshold for LIS pre-trade of EUR 60 000.
- The LIS Trade thresholds for **ETNs/ETCs** can be seen in Appendix E Table 6.

4.1. Price of LIS trade

In general, LIS Trades must reflect the current market value of the Instrument. LIS Trades are allowed to be reported outside the VWAS or outside Manual Trade Price Collar.

Shares, depositary receipts, ETFs and Other Equity-like Instruments

- The price of LIS Trade needs to be within Order Price Collars presented in Chapter 6.6.

5. Time for reporting of Manual Trade

Manual Trades that take place during the Exchanges' Trading Hours must be reported as close to real time as possible, however,

- in Equity Instruments (shares, depositary receipts, ETF and Other Equity-like Instruments), not later than one (1) minute from the Time of the Agreement.
- in Securitized Derivatives, ETNs and ETCs, not later than five (5) minutes from the Time of the Agreement.

Manual Trades that take place after the Exchanges' Trading Hours day must be reported in the Pre-Open Phase on the following Exchange Day prior to the opening of the Trading Hours. Manual Trades reported on the following trading will be included in the turnover for the reporting day.

Where a Manual Trade cannot be reported within the aforementioned time limits due to technical disruptions in the Member's Technical Equipment, the Manual Trade shall be reported as soon as the technical impediment has ceased. The Member shall immediately notify Nasdaq Nordic thereof.

6. Deferred Trade publication

Nasdaq Nordic allows waivers from the principle of immediate publication of a reported Manual Trade.

A request can be made for a Manual Trade to be deferred a time period in an incoming Trade report. A Manual Trade will be deferred if one of the parties requests the Manual Trade to be deferred. Nasdaq Nordic will automatically apply the longest allowable deferral period.

A deferred publication regime as set by MiFID exists in EUR and should be referred to for deferred publication rules that apply in each country. Values in deferred publication tables in EUR are converted to local trading currency of an Instrument.

Nasdaq Nordic publishes MiFID post-trade flag 'LRGS' as part of the trade publication. The trade execution message relayed back to Member contains also respective value.

Combinations of minimum qualifying size in EUR and permitted deferral time are presented for each Instrument type in Appendix E.

Equity Instruments

Publication of Manual Trade in shares, depositary receipts, ETFs and Other Equity-like Instruments is deferred based on Member's request,

- if the Manual Trade meets the minimum qualifying size dependent on Average Daily Turnover (ADT) criteria set by MiFID, and
- if it is a Manual Trade where the at least one side of the Manual Trade Member takes on risk, i.e. Member is dealing on own account other than through riskless principal trading.

Securitized Derivatives

On Nasdaq Copenhagen and Nasdaq Helsinki operated markets, publication of Manual Trades in Securitized Derivatives is deferred based on Member's request, if the size qualifies for deferral:

- Minimum qualifying size of transaction for permitted delay in EUR: 100 000.

On Nasdaq Stockholm operated markets, deferral of Manual Trades in Securitized Derivatives is not available. Trades requested for deferral in Securitized Derivatives will be published without deferral.

Exchange Traded Notes and Exchange Traded Commodities

On Nasdaq Copenhagen, publication of Manual Trades in ETNs and ETCs is deferred based on Member's request, if the size qualifies for deferral:

- Minimum qualifying size of transaction for permitted delay in EUR:
 - 50,000,000 for liquid ETN/ETC
 - 45,000,000 for not liquid ETN/ETC

On Nasdaq Helsinki, publication of Manual Trades in ETNs and ETCs is deferred based on Member's request,

- if the size qualifies for deferral:
 - Minimum qualifying size of transaction for permitted delay in EUR:
 - 50,000,000 for liquid ETN/ETC
 - 45,000,000 for not liquid ETN/ETC

OR

- if the transaction is in a not liquid ETN/ETC (illiquid waiver)

On Nasdaq Stockholm operated markets, deferral of Manual Trades in ETNs and ETCs is not available. Trades requested for deferral in ETNs and ETCs will be published without deferral.

7. Settlement date restrictions

Trade Type Standard Trade needs to follow T+2 settlement schedule. INET will validate the settlement date submitted by Member counting from 'Time of Agreement' and reject the trade report if the submitted settlement date is not correct.

Member may submit Settlement date that deviates from T+2 standard settlement schedule for other Trade Types.

In CCP cleared trades⁶² with settlement dates in the time span T+1 – T+6 are accepted. If the settlement date submitted is not within this time span, the trade report will be rejected.

In non-CCP cleared trades⁶³ with a settlement date in the past, current date, and >current date are accepted.

Table 8 below details rules on settlement date in schematic form.

	Allowed settlement dates when settlement date is submitted in trade report by Member			If no settlement date is provided by Member in trade report	
	Trade Type Exchange Granted	Trade Type Non-standard Settlement	Any other Trade Type	Trade Type Exchange Granted	Any other trade type
	T = date when the report is submitted	T = date when the report is submitted			
CCP cleared trades	T+1 – T+6	T+1 – T+6	Standard settlement schedule T+2 for all securities	INET calculates settlement date as T+2 counting from the reporting date	INET calculates settlement date as T+2 counting from agreement date. If the calculation results in a date older than T+1, the trade report is rejected
Non-CCP cleared trades	T-90 – T+20	T+0 – T+20	Standard settlement schedule, currently T+2 for all securities		As above, except that settlement dates older than T+1 are accepted.

Table 8 Detailed rules for settlement restrictions

⁶² "CCP cleared trade" is a trade in a CCP eligible security where the instruction is to clear the trade, and, therefore, to be sent to the CCP for clearing.

⁶³ "Non-CCP cleared trade" is a trade in (1) an instrument that is eligible for CCP clearing but is not be sent to the CCP for clearing; (2) an instrument that is not eligible for CCP clearing.

8. Double volume cap mechanism and impact on Manual Trades

In liquid shares and ETFs, reporting of Manual Trades below large in scale thresholds using Trade Types Standard Trade and Non-Standard Settlement Trade is subject to MiFID double volume cap mechanism (DVC). In case there is a regulatory suspension due to the breach of DVC in Instrument, reporting of Manual Trades below large in scale thresholds using these Trade Types is not allowed and any such report will be rejected. Nasdaq Nordic may also by its own decision to cease reporting of Trade Types Standard Trade and Non-Standard Settlement Trade in order not to breach the DVC.

In both cases, reporting of Manual Trades using other Trade Types than Standard Trade and Non-Standard Settlement Trade continues to be available. DVC suspension does not have impact to reporting of LIS Trades i.e. Manual Trades that are at or greater than large in scale thresholds.

For general description on DVC related measures, please see Chapter 4.18.

Nasdaq Nordic will inform of suspensions related to DVC via note codes in market data feed. See Appendix G Note Codes.

Appendix AA: Auction Trading

Auction Trading is provided on certain Instruments on Auction Trading Market Segments under Nasdaq Stockholm and First North Sweden and First North Finland, if they fulfil specific pre-defined criteria according to A or B below.

Auction Trading Market Segments have five consequent auctions during the trading day:

- Opening auction
- Three Scheduled Intra-day auctions
- Closing auction

During half days in Sweden Scheduled Intraday auction will follow the schedule for holidays, according to chapter 3.6.

Auction mechanics

All auctions follow the same mechanics, including similar pre- and post-trade transparency, as Nasdaq Nordic regular auctions described in this Market Model section 4.2.

A. Company's share traded on Nasdaq Stockholm and First North Sweden is one of several classes of shares (A, B, C) of the same company

Criteria for transferring a share to Auction Trading

The following criteria needs to be fulfilled in order to transfer or list a share in the Auction Market Segment.

- The share must be one of several classes of shares (A, B, C) that are listed for the same company, with one share class dominating in terms of liquidity (average daily traded value (ADTV) during the period). The share shall be ranked 2nd or lower, among the parallel share classes, in terms of average turnover during the previous quarter.
- The share may not be a Preference or Interim share.
- The share may not be subject to a Market Maker/LP program.
- The share must have less than 30 MEUR in Free float adjusted average Market Cap at the end of each quarter.
 - Nasdaq Nordic will use latest available Free float for calculation.
 - Nasdaq Nordic will multiply the free float with the average Market Cap during the quarter. In case Free float is not available for an individual share, Nasdaq Nordic will use a proxy.

If above criteria are fulfilled for two consecutive quarters in a row, the share will be automatically transferred to the Auction Trading Market Segment for the following quarter.

Transferring a share from Auction Trading to market segment continuous trading

The process is reverted if the liquidity of the share improves or if there are changes to the free float during the next quarter. This means that the share may be transferred back to the ordinary Market Segment from one quarter to the next.

Extraordinary circumstances

Nasdaq Nordic may decide on its own discretion to add or change instruments in extraordinary situations, to and/or from the Auction market segments at and/or in-between the normal Update schedules.

Such extraordinary matters could be for example based on situations as listed below:

- A share > 30 MEUR in free float adjusted market cap is being targeted or at risk for abnormal trading: Nasdaq Nordic may decide to transfer the share for the next trading day to the Auction segment. The share will stay on the segment up until the next scheduled update.
- A share currently trading on the Auction segment, contracts a Market Maker for its less liquid share classes. Nasdaq Nordic may decide to transfer the share on the next trading day from the Auction segment.
- A share class that has been subject to abnormal trading, consequently dominating in terms of liquidity (ADTV) during the period: Nasdaq Nordic may decide to add such share to the Auction market segment instead of the less liquid share.
- Several classes of shares are listed for the same company, with similarly distributed liquidity (ADTV), and less than 30 MEUR in Free float adjusted average Market Cap: Nasdaq Nordic may decide to add to the Auction market segment the share class deemed to be most suitable for the Auction market segment.

Update schedule and communication

After the end of each calendar quarter, Nasdaq Nordic will analyze the listed shares and based on criteria produce the list of Shares allocated to Auction Trading Market Segment for the next quarter.

Latest the second Thursday in the following calendar month Nasdaq Nordic will announce via a notice the shares to be traded in Auction Trading Market Segment, and shares will be transferred in/out effective the third Thursday in the following month. If the Thursday falls into a non-banking day, the following bank day will be used.

B. Share (including depositary receipts and cooperative shares) traded on First North Finland or First North Sweden with low liquidity

Criteria for allocating share to Auction Trading

The following criteria needs to be fulfilled in order to transfer a share into Auction Trading:

- (i) The spread of the share exceeds 7% in continuous trading for two consecutive quarters. The spread is measured as an average of daily Relative Time Weighted Average Spread (RTWAS) during the quarter; and
- (ii) The share is not subject to a Market Maker Agreement or Liquidity Provider⁶⁴ activity; and
- (iii) In case of dual listings, both shares exceed the spread criteria.

If the above criteria are fulfilled, the share and the equity rights and equity warrants related to the share will be automatically transferred to Auction Trading.

⁶⁴ In accordance with Nasdaq First North Growth Market Rulebook for Issuers of Shares.

An assessment of whether the share still fulfils the criteria is performed by Nasdaq Nordic twice a year: for the first and second quarter of a year (Q1 and Q2) in the beginning of July, and for the third and fourth quarter of a year (Q3 and Q4), in the beginning of January.

Equity rights and equity warrants related to a share are not assessed separately against the spread criteria but follow the underlying share when allocating a market segment.

Based on the assessment, a share and equity rights and equity warrants related to it will be transferred to the Auction Trading for the next two-quarter period. New equity rights and equity warrants related to a share listed during the next two-quarter period will be also allocated to Auction Trading.

Transferring a share from Auction Trading to Market Segment with continuous trading

A share is transferred to a Market Segment with continuous trading immediately when the issuer contracts a Liquidity Provider, and the Liquidity Provider initiates quoting on the share in question, or when the liquidity of the share improves as assessed by Nasdaq Nordic according to the following criteria:

- (i) The share has a quoted spread of not more than 7% in Scheduled Intraday auctions, measured immediately after Scheduled Intraday auction uncross. Spread can be measured only in cases where there are orders unexecuted after an auction uncross on both sides of the book; and
- (ii) The share is traded on a consistent basis during Scheduled Intraday auctions, measured if trades are executed in at least 80% of Scheduled Intraday auctions; and
- (iii) The share has orders on a consistent basis on both sides of the order book immediately after Scheduled Intraday auctions uncross at least in 80% of Scheduled Intraday auctions.

If the above criteria are fulfilled for two consecutive quarters, the share and the equity rights and equity warrants related to it are transferred to the market segment with continuous trading.

An assessment of whether the share still fulfils the criteria is performed by Nasdaq Nordic twice a year: for the first and second quarter of a year (Q1 and Q2) in the beginning of July, and for the third and fourth quarter of a year (Q3 and Q4), in the beginning of January.

Based on the assessment, a share and equity rights and equity warrants related to it will be allocated to Auction Trading for the next two-quarter period.

Update schedule and communication

After the two-quarter periods ending in December and June, Nasdaq Nordic will analyze the shares and produce a list of shares that meet the criteria for Auction Trading for the next two-quarter period. When a share meets the criteria, equity rights and equity warrants related to it are also included in the list.

Latest the second Thursday of the calendar month following the two-quarter period, in January and July, Nasdaq Nordic will announce via an IT Notice the instruments to be traded in Auction Trading Market Segments. Instruments will be moved into Auction Trading and from Auction Trading effective the third Thursday of January and July. If Thursday falls into a non-trading day, the following trading day will be used.

Current list of shares for Auction Trading

Shares eligible for Auction Trading, are traded on separate Market Segment.

Even though the T@CP phase always ends at an exact time point (no matching may occur after this time point), the start of the phase is the randomized Closing auction uncross, with the possible delay from a Closing auction extension.

Order Management

Order types described further below may participate in T@CP; these order types will automatically be transferred to participate in the following T@CP phase in case the Member has opted in to this trading phase.

Member is required to activate the T@CP orders by Member or User Level configuration. Participation in the T@CP session is governed by a separate T@CP Order Condition. The Member may opt-in on Order level by activating the T@CP Condition. The Condition is optional, but will always be sent back on the Order acknowledgement.

It is possible to opt-in T@CP for all Orders over a specific MPID and UserID combination and in such case the T@CP Condition will be activated automatically for all eligible Orders. Configuration can be overridden on Order by Order basis by disabling the T@CP Condition.

Prerequisites for the Order actually being included in T@CP are that:

- Member has opted in to T@CP through Member or User Level configuration;
- The Order book is eligible and;
- The T@CP Condition is set to "Yes" on the Order and;
- The Order is still active when T@CP starts and may be transitioned (not fully filled, expired or canceled), or;
- The Order is sent in as a New Order during the T@CP session and;
- That the Order conditions are acceptable for T@CP and;
- The Order is priced at or more generous (buy: higher, sell: lower) than the Closing auction price.

Note: Less aggressive Orders sent in during T@CP will be rejected, and not published in T@CP.

T@CP participation example

Configuration/Condition Matrix	MPID/USER T@CP database configuration		
	Y	S	N (default)
T@CP Order condition at order entry			
Y	YES	YES	NO
N	NO	NO	NO
Empty (no value)	YES*	YES**	NO

- *) With MPID/User setting Y, the "Empty" (no value) T@CP flag shall transfer resting orders to T@CP phase and accept the orders to T@CP when entered during the T@CP phase.

- ***) With MPID/User setting S, the resting orders sent with "Empty" (no value) T@CP order condition will not be transferred to T@CP, while orders entered without a value are accepted during T@CP phase.

Special conditions

- The T@CP eligible order condition will be retained for "overnight orders". This means the GTC orders will be participating in T@CP trading at the Closing auction price, and will be converted back, and entered into the Lit Order book the next day.
- There is no way to send in an Order only destined for the T@CP phase before the T@CP phase has started.
- Orders that are, due to their conditions, not deemed eligible for the T@CP session will have the T@CP Condition disregarded.
- Self-Trade-Prevention (STP) is supported during T@CP.

Limit Price

Orders taking part to T@CP trading phase must have a Limit price.

Order Volume

There is no minimum Order volume required on an Order taking part to T@CP trading phase.

Time In Force

T@CP supports the following Time In Force (TIF):

- DAY
- GTT
- GTC, sent in before and during T@CP phase.
- IOC, sent in during T@CP. Note that IOC Orders from the closing auction are not carried over to the T@CP session
- FOK, sent in during the T@CP session.

Minimum Acceptable Quantity Support (MAQ)

MAQ condition for Hidden Orders or FOK will be honored.

Order management, Cancel and Cancel/Replace

FIX Order management possibilities during T@CP phase are similar as during continuous trading. OUCH orders can only be modified through cancel and new.

Orders active during the T@CP phase can be amended for both order quantity and display quantity. Note that during the T@CP phase inactive orders may not be made active by amending limit price to at least the Closing auction price. It is not possible to modify a T@CP Order to a regular Limit (GTC) Order for next day's trading.

Order move to T@CP

Following Orders not matched in the closing auction uncross will take part to T@CP trading phase (if member has opted in for T@CP) as well as new Orders sent in during T@CP:

- Limit Orders

- Iceberg Orders (Display and Non-display part) to Limit price
- Hidden Orders to Limit price

Orders that do not move to T@CP trading phase; hence T@CP Condition disregarded:

- AOD Orders
- Nordic@Mid Orders
- Pegged Orders
- Market Price Orders send in during the Closing auction
- Auction Orders (e.g. Limit on-open Market on-close,) to their Limit or Market price
- Orders with the following routing instructions will not participate:
 - All Execution Algo -strategies.
- TOP orders

T@CP orders entered during the T@CP as DAY orders will be canceled after the T@CP period.

Order management for Orders not designated for the T@CP phase

Day Orders not participating in T@CP will be inactive during T@CP phase until Post Trade starts. Current Order management rules in Post-trade (i.e. cancelled and cancelled down) will apply for inactive orders.

Matching Model

During the T@CP trading phase continuous auction order book trading system matches Orders that are priced at or more generous than the Closing auction price at the Closing auction price. Such Orders will participate to this trading phase at the Closing auction price.

Orders with Limit prices less generous than the Closing auction price will be rejected and will not take part to this trading phase.

In order for matching to commence the closing auction must have generated a closing price.

Matching priority

Price* - Internal – Display –Time

*Note that all Orders in the book are priced to the same price, hence the price is not a ranking factor. This do not apply to all orders, only the one that are available to match. Orders are moved to the T@CP from the Closing auction uncross with their original time stamp.

Price

The T@CP flag means that orders implicitly trade at the Closing auction price, honoring the optional Limit price protection.

Orders not fulfilling the price requirement for T@CP and which are remaining from the Closing auction will remain inactive throughout the T@CP unless expired or cancelled.

Pre-trade transparency

As during Trading Hours. Orders are published in real time with volume and the Closing Auction price, unless sent in as Hidden fulfilling Large In Scale (LIS) or as Iceberg orders with a hidden reserve volume.

Post trade

MIC on private trade confirmations

Regular Lit Order book MIC codes are used on trade confirmations (e.g. XCSE).

Post-Trade transparency

As during Trading Hours and Member configuration. Counterparty information is revealed following the Lit order book and MPID counterparty visibility settings as detailed in Chapter 4.7 Trade publication.

Trading statistics

Executed trades update Turnover, but do not update the Last price, High/low, Average price or VWAP.

Clearing

Clearing follows the clearing model of the Order Book/participant: CCP/bilateral and self-clearing.

Liquidity flag

Special Liquidity flags will apply for executions during the T@CP.