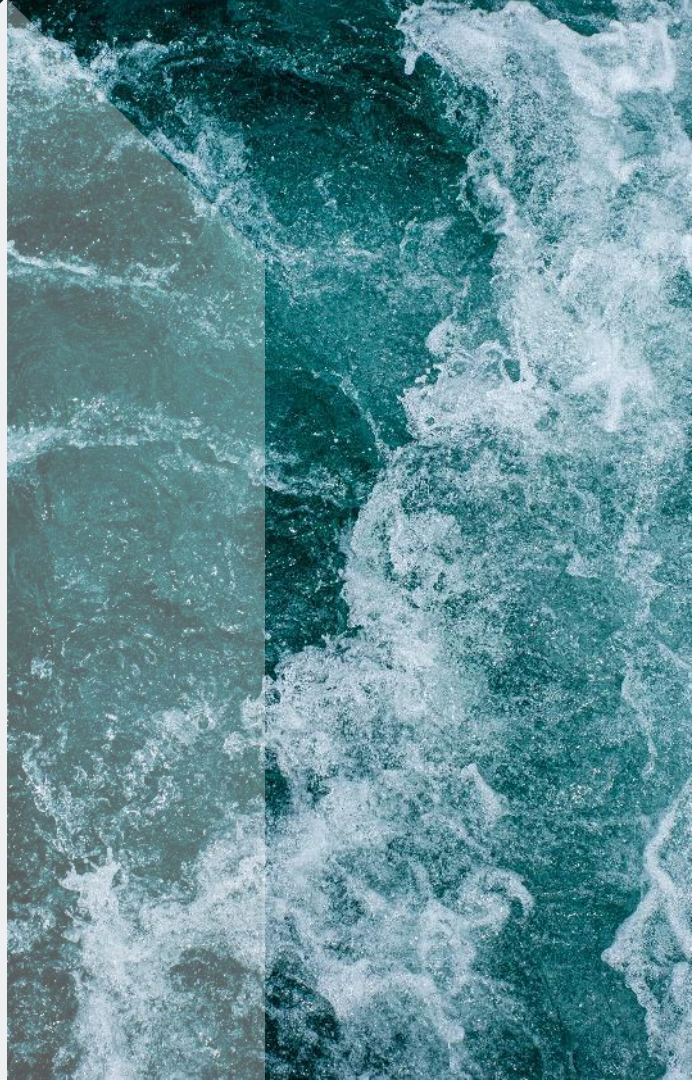




**NORD POOL**

A EURONEXT COMPANY

# **BRM Intraday Auction Platform**





# 01

**Auction system and  
API**

# 02

**Auction order types**

# 03

**Auction UI DEMO**

# Intraday Auction



## User interface

- ▶ Low maintenance web based UI
- ▶ Always up to date – no installation or updates required
- ▶ Lightweight
- ▶ Single Sign On (SSO)

## Orders

- ▶ Curve orders
- ▶ Blocks
  - ▶ Regular blocks
  - ▶ Profile blocks
  - ▶ Linked blocks
  - ▶ Spread blocks

## Features

- ▶ Order copy + paste
- ▶ Excel import
- ▶ Copy from history
- ▶ Submit multiple delivery days
- ▶ Reasonability check

## API (Application Programming Interface)

- ▶ Fast, simple and reliable API
- ▶ Easy to take into use
- ▶ Range of available ISVs

# Auction API

## WHY TRADE IDA VIA API

- ▶ Simplifies the trading process
- ▶ Easy to take into use
- ▶ Get – retrieve public market info and private data
- ▶ Post – submit orders
- ▶ Patch – change existing order
- ▶ gRPC – receive notifications
- ▶ Postman Collection – try it out using Postman
- ▶ Sample code in .NET or Java script

Auctions - by close for  
bidding period

GET

Auctions - orders

GET

Auctions - trades

GET

Submit Block order

POST

Get Block order

GET

Change Block order

PATCH

Submit Curve order

POST

Get Curve order

GET

Change Curve order

PATCH

Auctions - prices

GET

Auctions - contracts

GET

Auctions - portfolio volumes

GET

gRPC API

# ISV Partners

- Nord Pool and our ISV partners co-operate to promote and facilitate the efficient and secure use of Nord Pool APIs

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# Auction API – BRM as PX

## INTRODUCTION · AUCTIONS

- One API user, with access to all portfolios
- Public URL for using endpoints: <https://auctions-api.test.brm-power.ro/api/v1>
- Get token for access: <https://sso.test.brm-power.ro/>
- Auction ID: BRM Auctions ID

### Customer support

- Primarily BRM responsibility
- BRM provides & ensures members can access

Auctions - by close for  
bidding period

GET

Auctions - orders

GET

Auctions - trades

GET

Submit Block order

POST

Get Block order

GET

Change Block order

PATCH

Submit Curve order

POST

Get Curve order

GET

Change Curve order

PATCH

Auctions - prices

GET

Auctions - contracts

GET

Auctions - portfolio volumes

GET

gRPC API

# Walkthrough of endpoints

## INTRODUCTION · AUCTIONS

Walkthrough of different endpoints for members

Walkthrough of endpoints for BRM

- Auctions – orders
- Auctions – trades
- Auctions – prices
- Auctions – portfolio volumes
- gRPC API

Auctions - by close for bidding period	GET
Auctions - orders	GET
Auctions - trades	GET
Submit Block order	POST
Get Block order	GET
Change Block order	PATCH
Submit Curve order	POST
Get Curve order	GET
Change Curve order	PATCH
Auctions - prices	GET
Auctions - portfolio volumes	GET
gRPC API	



**NORD POOL**

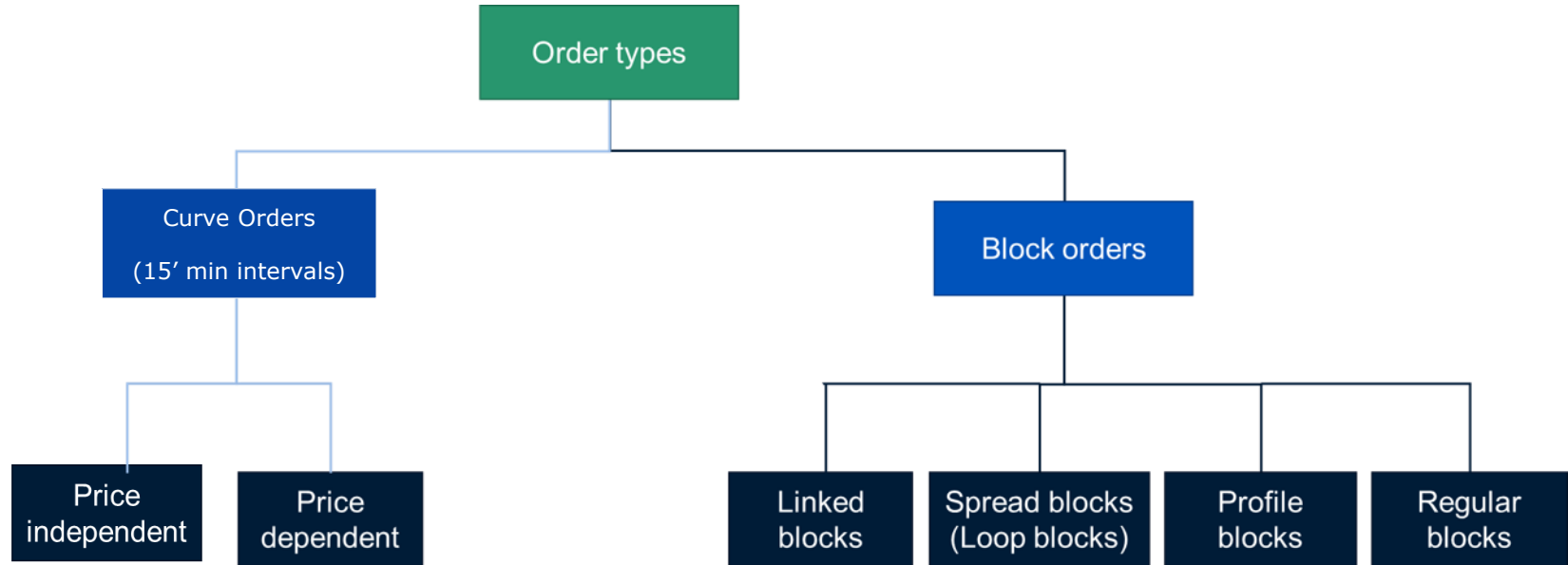
A Euronext Company



# Auctions Products



# Nord Pool auction order types



# IDA products

## BRIEF DESCRIPTION

### Curve orders

- To buy or sell – price and volume given separately for each time unit (15' minutes products)
- Participant specify price steps and corresponding volume to buy and or sell at each level of price
- Must include the min price -9999 € and max price 9999 € - up to 200 price steps allowed per time unit
- **piecewise**

### Block orders

- Block orders – spanning over a consecutive number of hours
- All or nothing condition
- Must specify three attributes; volume, price and duration
- Several product variations
  - Regular block orders
  - Profile block orders
  - Curtailable block orders
  - Linking of block orders
  - Spread block orders

# Curve orders

- Price and volume given separately for each hour (piecewise)
- Each participant selects the range of price steps for the hourly bid individually
  - Including min price -9999€ and max price 9999€
- Each pair of price and volume represent a point on a curve with **linear interpolation** between the volume and price points
- Best suited for variable production and consumption

Price independent

Sell

Price dependent

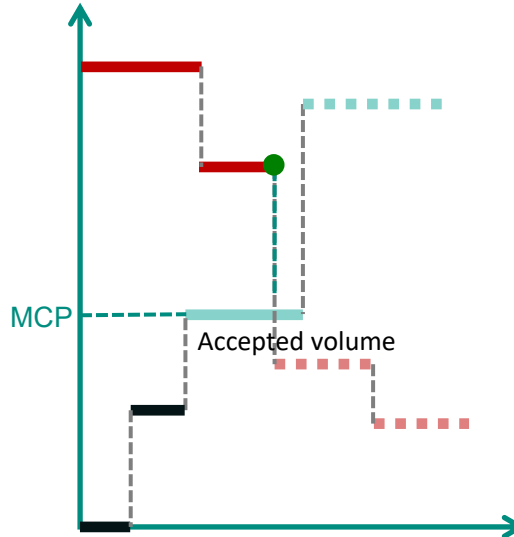
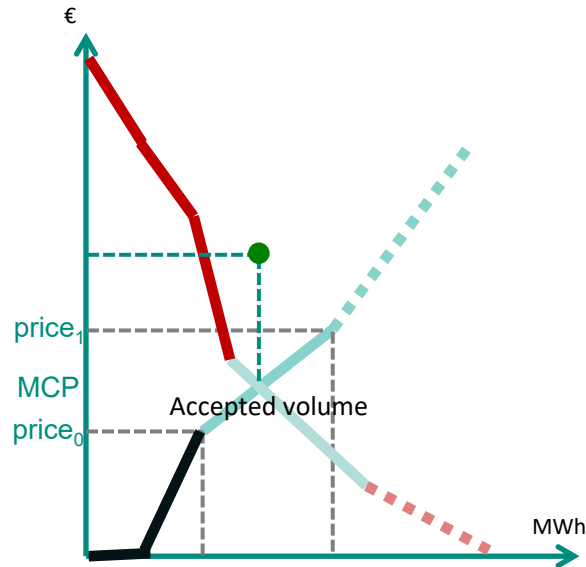
Buy

Currency: EUR		-9 999,00	-10,01	-10,00	700,00	700,01	9 999,00
Quarter Hour 1	00:00 - 00:15	12,0			12,0	0,0	0,0
Quarter Hour 2	00:15 - 00:30	14,0			14,0	0,0	0,0
Quarter Hour 3	00:30 - 00:45	16,0			16,0	0,0	0,0
Quarter Hour 4	00:45 - 01:00	18,0			18,0	0,0	0,0
Quarter Hour 5	01:00 - 01:15	20,0			20,0	0,0	0,0
Quarter Hour 6	01:15 - 01:30	0,0	0,0	-25,0			-25,0
Quarter Hour 7	01:30 - 01:45	0,0	0,0	-26,0			-26,0
Quarter Hour 8	01:45 - 02:00	0,0	0,0	-27,0			-27,0
Quarter Hour 9	02:00 - 02:15	0,0	0,0	-28,0			-28,0
Quarter Hour 10	02:15 - 02:30	0,0	0,0	-29,0			-29,0
Quarter Hour 11	02:30 - 02:45	0,0	0,0	-30,0			-30,0
Quarter Hour 12	02:45 - 03:00						
Quarter Hour 13	03:00 - 03:15						

Currency: EUR		-9 999,00	9 999,00
Quarter Hour 1	00:00 - 00:15	12,0	12,0
Quarter Hour 2	00:15 - 00:30	14,0	14,0
Quarter Hour 3	00:30 - 00:45	16,0	16,0
Quarter Hour 4	00:45 - 01:00	18,0	18,0
Quarter Hour 5	01:00 - 01:15	20,0	20,0
Quarter Hour 6	01:15 - 01:30	22,0	22,0
Quarter Hour 7	01:30 - 01:45	24,0	24,0
Quarter Hour 8	01:45 - 02:00	26,0	26,0
Quarter Hour 9	02:00 - 02:15	28,0	28,0
Quarter Hour 10	02:15 - 02:30	30,0	30,0
Quarter Hour 11	02:30 - 02:45	32,0	32,0
Quarter Hour 12	02:45 - 03:00	34,0	34,0
Quarter Hour 13	03:00 - 03:15	36,0	36,0
Quarter Hour 14	03:15 - 03:30	38,0	38,0
Quarter Hour 15	03:30 - 03:45	40,0	40,0
Quarter Hour 16	03:45 - 04:00	42,0	42,0
Quarter Hour 17	04:00 - 04:15	44,0	44,0
Quarter Hour 18	04:15 - 04:30	46,0	46,0
Quarter Hour 19	04:30 - 04:45	48,0	48,0
Quarter Hour 20	04:45 - 05:00	50,0	50,0
Quarter Hour 21	05:00 - 05:15	52,0	52,0
Quarter Hour 22	05:15 - 05:30	54,0	54,0
Quarter Hour 23	05:30 - 05:45	56,0	56,0
Quarter Hour 24	05:45 - 06:00	58,0	58,0
Quarter Hour 25	06:00 - 06:15	60,0	60,0
Quarter Hour 26	06:15 - 06:30	62,0	62,0
Quarter Hour 27	06:30 - 06:45	64,0	64,0
Quarter Hour 28	06:45 - 07:00	66,0	66,0
Quarter Hour 29	07:00 - 07:15	68,0	68,0
Quarter Hour 30	07:15 - 07:30	70,0	70,0
Sum		2 040,0	2 040,0
Min		12,0	12,0
Max		90,0	90,0

# Linear piecewise vs stepwise curve orders

## BRM Auction



- Demand in-the-money
- Demand at-the-money
- Demand out-of-the-money
- Supply in-the-money
- Supply at-the-money
- Supply out-of-the-money

# Regular block orders

MOST FREQUENT USED BLOCK ORDER TYPE:

Specification:

- Same volume and price across the whole period
- Either fully accepted or fully rejected
  - Buy order: Cleared if average MCP < price limit
  - Sell order: Cleared if average MCP > price limit
- One trading portfolio can contain up to 50 block orders

Example of regular blocks

Name	From	To	Volume	Price	Min. %	Link	SpreadBlock	Quarter Hour 1	Quarter Hour 2	Quarter Hour 3	Quarter Hour 4	Quarter Hour 5	Quarter Hour 6	Quarter Hour 7
Block 1	1:15	3:45	100	35										
Block 1	12:30	16:45	-180	65										

# Profile block order

BEST SUITED WHEN VARIATION IN THE GENERATION OR CONSUMPTION PROFILE

- Same or different volume for each hour
- Same price across the whole period
- Weighted average price is used to decide if a block order will be activated or not
  - **Buy order:** Cleared if weighted average MCP < price limit of profile block
  - **Sell order:** Cleared if weighted average MCP < price limit of profile block

Example of profile blocks														
Name	From	To	Volume	Price	Min.%	Link	SpreadBlock	Quarter Hour 1	Quarter Hour 2	Quarter Hour 3	Quarter Hour 4	Quarter Hour 5	Quarter Hour 6	Quarter Hour 7
Block 1	0:00	0:45		35				12	85	42				
Block 2	0:15	1:45		65					-35	-12	-50	-18	-2	-6

# Minimum Acceptance Ratio (MAR)

BLOCKS CAN BE CURTAILED

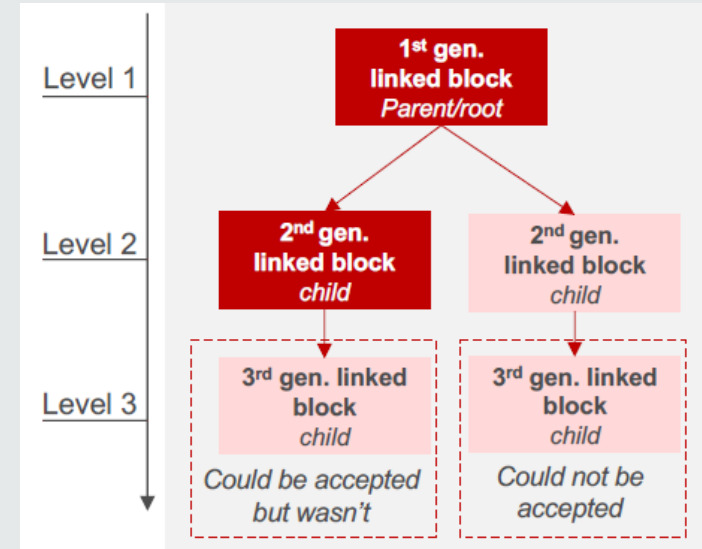
- Curtailable block orders can be partially executed according to a user-defined Minimum Acceptance Ratio (MAR):
- Can be Regular, Profile, Linked and Spread blocks
- MAR: 0 – 100%
  - MAR = 100%: Fully accepted or rejected
  - MAR = 50%: May be curtailed up to 50%
  - MAR = 0%: Fully curtailable
- Same MAR for all intervals

Example of curtailable regular/profile blocks														
Name	From	To	Volume	Price	Min.%	Link	SpreadBlock	Quarter Hour 1	Quarter Hour 2	Quarter Hour 3	Quarter Hour 4	Quarter Hour 5	Quarter Hour 6	Quarter Hour 7
Block 1	0:00	0:45		35	80.0%			12	85	42				
Profile 2	0:15	1:45	-15	65	75.0%									

# Linked block orders

## CONSIDERING DEPENDENCY BETWEEN ORDERS

- Linked blocks are evaluated as a group:
  - The whole group can be accepted although the first block would create a loss, as long as the group as a whole is profitable
  - A child block cannot be accepted without its parent being accepted
- Can be both regular and profile blocks with curtailment
- Possible to link altogether 13 block orders
  - One parent can have three children
  - Max 6 orders per level
  - Max 7 levels

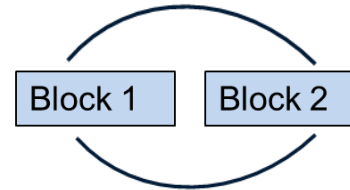




# Spread blocks

## A TYPE OF LINKING

- Mutually linked blocks between one buy and one sell order
- The pair of blocks are either executed or rejected together
- Can be both regular and profile blocks
- SpreadBlock = TRUE in the excel template



Example of Spread blocks

Name	From	To	Volume	Price	Min.%	Link	SpreadBlock	Quarter Hour 1	Quarter Hour 2	Quarter Hour 3	Quarter Hour 4	Quarter Hour 5	Quarter Hour 6	Quarter Hour 7
Block 1	0:00	0:45		35	80.0%	Profile 2	TRUE	12	85	42				
Profile 2	0:15	1:45	-15	65	80.0%	Block 1	TRUE							

# Reasonability check tool

AUTOMATIC REASONABILITY CHECK OF YOUR CURVE ORDERS

## Specifications

- Makes identifying erroneous orders easier
- Both BRM operator and the trader notified in the UI
- Reference day used: previous weekday for weekdays, previous weekend day for weekends

## Three chained calculations

1. *Absolute volume difference*
2. *Percentage difference*
3. *Standard Deviation*

Wed, 06 Aug

Test BRM IDA 05.08...

Orders

Results

BRM for TEST

IDA Trading buy EUR

Romania Delivery Area

MTU: 15min

Clear All x

ORDERS (1 of 13)

As Report

Curve (1 of 6)

Company	Portfolio	Area	Min (MW)	Max (MW)	Sum Min (MW)	Sum Max (MW)	Last Updated	Updated By	Reasonability Check	Checked By	OrderId	Comment	MTU
BRM for TEST	IDA Trading buy	Romania Delivery Area	0,0	-320,0	0,0	-17 040,0	5th Aug 2025 15:36	TEST_BRM_operator_cristian.codrescu@brm.ro	<input type="checkbox"/>		fc5b03e8-ec95-43f6-ba7b-749db7dafb8f		15mi

Block (0 of 7)

There are no orders for your current selection.

# More product specification

PRODUCTS FLEXIBILITY IS INCREASING

	SDAC Markets
Tick Size (€ / MWh)	0,01
Trade Lot (MW)	0,1
Max block order size (MW)	900
Min number of consecutive hours in Block Orders	1
Max amount of Block Orders per portfolio	100
Max amount of Exclusive Groups per portfolio	5
Max amount of levels of linked block orders	7
Max amount of orders per linked level	6
Max amount of blocks in a linked family	13
Max amount of pairs of spread blocks (loop blocks)	3