

MATS Fundamentals - Confidential

EPEX SPOT
25.02.2025

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1. Introduction

1.1 Audience

This document is intended for all customers (Client Members, API Members and Market Data Customers) who will use MATS Trading system.

1.2 Purpose

This document describes the fundamentals of features, functionalities that are available in the auction trading system which is used for Day Ahead and Intraday auction markets. Where applicable, the document will highlight the specific changes related to the introduction of 15-minute Market Time Unit in SDAC¹, day-ahead coupling (please refer to the label **15MTU SDAC**).

1.3 Document revision history

Evolution	Date	Version	Author	Comments
Creation	18/10/2024	1.0	EPEX SPOT	
Update	20/02/2025	1.1	EPEX SPOT	Include Market Result Report description

¹ Please note that, while the document refers to 15MTU in SDAC, this also addresses the changes of moving to 30MTU for customers in ROI and NI markets.

2. Glossary

Term	Definition
Exchange	Exchange is a legal entity; owner of the operated auctions.
Auction	It defines an auction related to an Exchange. An auction is defined as a procedure for making transactions after a period of time during which the orders are entered by exchange participants.
Market	A country or region that takes part in the auction.
Bidding Level	Area or Bidding Level within which market participants submit their orders.
Duration	Duration of delivery period at which the orders are submitted.
MTU	Market Time Unit represents the duration at which the results are published and nomination and settlement happens.
CPM	Cross-Product Matching is the ability to match orders that are submitted at different durations. Two possibilities exist: - Ability to submit orders at different durations within an auction, meaning that each bidding level only allows one duration. - Ability to submit orders at different durations within the same bidding level, meaning that each bidding level allows several durations.
Participant	Otherwise referred to as Market Participant, represents a legal entity who can take part in the auction. By definition, a participant is related to an Exchange.
Portfolio	Collection of orders submitted by the user corresponding to a participant.
User	User who perform trading activities like submitting orders, view results. A user is related to a Participant.
Settlement Member	Settlement Members are customers of Clearing Members. Each trading participant corresponds to one or several settlement members.
Clearing Member	Clearing Member is a guarantor and payment agent for all orders concluded at the Spot Market. Clearing member is responsible for defining the trading limits for its customers and provide this information to the trading exchange via its designated CCP.
CCP	A CCP (Clearing Counter Party) acts as a counterparty who provides clearing and settlement services to both sellers and buyers.
Settlement currency	Currency in which orders are submitted and settled.
Auction currency	Currency used for price calculation.
MCP	Market clearing price corresponds to the intersection between the aggregated supply and demand curve which is determined for each delivery period.
MCV	Market clearing volume
PAB	Paradoxically accepted block A block order could be "Accepted" even though if it is "Out of the Money" which is called as "Paradoxically Accepted Blocks". This is the case where a block order has a children blocks whose executions yield gains that compensate for the loss.
PRB	Paradoxically rejected block

A block order could be “Rejected” even though if it is “In the Money” with regards to published prices. Such block order is referred as “Paradoxically Rejected Blocks (PRB)”.

3. Connection

3.1 Password policy

Rule	Rule Description
1	Password must have: • a minimum of 12 characters • a maximum of 128 characters • a minimum of one capital letter • a minimum of one small letter • a minimum of 1 digit • a minimum of 1 special sign (space,!#\$%&'()*+,-.:=?@[^_`{ }~\ / " :<>) • First character and last character must not be space
2	Last 5 passwords cannot be reused
3	Password cannot be same as login
4	Maximum password age = 90 days

3.2 User account lockout policy

Please note the below user account lockout policies

- After **3** failed connection attempts due to invalid credentials, user will be temporarily banned for 5 minutes. User will be notified about the temporary ban via the email.
- After the temporary ban is removed and if user fails to connect to the trading system due to invalid credentials in next **2** attempts, then user account is permanently locked. User will be notified about the permanent account lockout via the email.
- In this case, please contact **Market Operations Team** to unlock the user account.

3.3 User login to the trading system

In order to login to the trading system, the user must have an authorized user account created in the trading system. User account must be registered with a **mandatory email address**.

Once user account is created in the trading system, user will receive an email requesting for **Password Reset**. This password reset process will allow the user to set a new password for themselves.

With the login name and password, user can access the trading system.

4. Configuration and Permissions

4.1 Order entry and Portfolio set up

In order to submit any type of orders (linear orders or block orders or scalable complex orders) and/or to view the results, an authorized user must have:

- **at least one active portfolio with:**
 - The general read/write permission on the corresponding (Portfolio, Bidding Level) combination
 - In case of **write** permission:
 - user is allowed to submit/modify/delete/view an order on the corresponding bidding level
 - In case of **read** permission:
 - user is allowed to view an order on the corresponding bidding level
 - In case of **read** or **write** permission:
 - user is allowed to view the market results (MCP & MCV) for the respective markets and the order execution results
- **if relevant for the traded bidding level (*2):**
 - Permission to submit linear order, block order (Classic Block Order (C01), Linked Family (C02), Loop Block Order (C88), Exclusive Group (C04), big block), scalable complex order

Please contact our **Market Operations Team** to double check your user and portfolio settings if required.

4.2 Non Market Participant configuration

In order to view the results, an authorized user must have:

- at least one active market with:
 - In case of **read** permission:
 - user is allowed to view the market results (MCP & MCV) for the respective markets

Please contact our **Market Operations Team** to double check your user and market permission settings if required.

² (*) the corresponding bidding level must be configured to allow the user to submit a specific order type (ex: Linear Order, Classic Block Order (C01), Linked Family (C02), Loop Block Order (C88), Exclusive Group (C04), Big Block, Scalable Complex Order).

4.3 Order submission and results resolution

While duration and market time unit (MTU) may appear to be the same, they represent two different things (as defined in the Glossary). Examples below represent several possible scenarios to better illustrate the difference.

1. All the markets included in the auction have the same MTU, and all the orders must be submitted with a duration equal to the MTU

Market time unit		15min
Duration	15min	X
	30min	X

Market time unit		30min
Duration	30min	X
	60min	X

Market time unit		60min
Duration	60min	X
	15min	X

2. The markets included in the auction have different MTU, and all the orders must be submitted with a duration equal to the MTU

Duration \ Market time unit	15min	30min	60min
	X		
		X	
			X

3. **15MTU SDAC**: The markets included in the auction can have different MTU, and all the orders can be submitted with a duration equal to the MTU or coarser

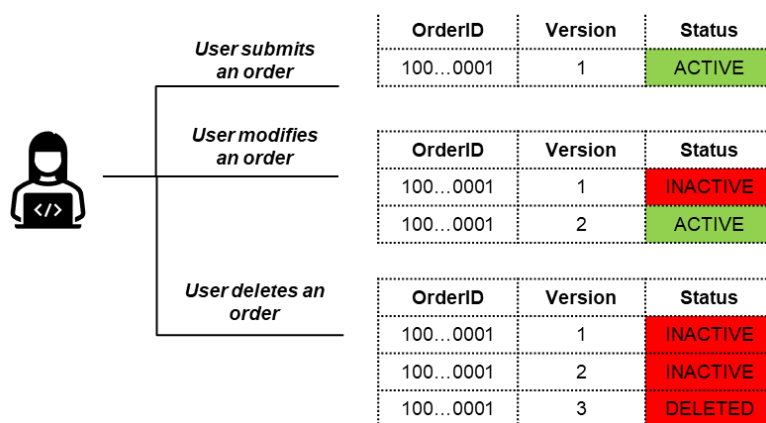
Duration \ Market time unit	15min
	X
	X
	X

5. Order submission and versioning principles

Users can submit, modify and delete their orders in the trading system. All order types follow the same versioning principles, which are explained in this chapter.

- **Submit order**
 - Upon successful submission, the system registers having an active order and provides an associated order ID. Considering that the order is submitted for the first time, this order has version 1.
- **Modify order**
 - Should the user wish to update the order, they can do that via their preferred interface (e.g. API or Client). Each successful modification creates a 'higher' version of the existing order, meaning that e.g., first modification of the original order will create version 2, second modification will create version 3, etc.
 - In order to modify an order, users must provide the order ID to allow the system to create a higher version. Should the user not provide the order ID, system will either reject the order (in case of linear and scalable complex orders) or add another order on top of existing ones (for block orders). Only exception to this is the case where a user changes their order directly in the order submission screen.
- **Specific case – reactivation of a previous version**
 - Users are able to retrieve and reactivate a previous version. However, it should be noted that this creates a new version in the system. To take a simple example:
 - If a user has 5 versions of an order available and wants to retrieve and reactivate e.g. version 3, system will register this as version 6 (even though the actual order could be the same).
 - Note: Users could also choose to delete the original order and submit a new order. In this case, practical difference will be the different order ID.
- **Delete order**
 - By deleting an order, user also deletes all of the associated versions.

Please see below an illustration of the mentioned examples.



6. Order types

6.1 Linear order

A linear order is a set of curves. A linear curve is a set of (price, quantity) combinations defined for a (portfolio, bidding level, duration, delivery period) combination. For each of these delivery periods, the linear order is related to a curve which defines for each price between the minimum and maximum prices of the market the willingness to purchase or sell a certain amount.

- Price is defined in settlement currency for the considered bidding level
- Minimum and maximum price are specific to the considered bidding level for which the order is submitted

Historically, EPEX Trading System offered two types of curves – **Stepwise and Piecewise**. As an evolution, a user have the possibility to submit any type of curve without any restriction to a specific curve type for all markets. **This is achieved via the “new” curve type – Hybrid.**

Hybrid curve type allows the user to submit a linear order with stepwise curves or piecewise curves or hybrid curves and it is the user choice which curve is used during the linear order submission. Please note that regardless of the linear order submitted, the application will check that the linear order complies with the characteristics of a hybrid curve.

With **Hybrid curve type**, a trading user will have below possibilities:

- A user can define one or several piecewise curves for a linear order
- A user can define one or several stepwise curves for a linear order
- A user can define one or several hybrid curves for a linear order

In next chapter, definition of each curve type is explained in detail.

6.1.1 Supported curve definition

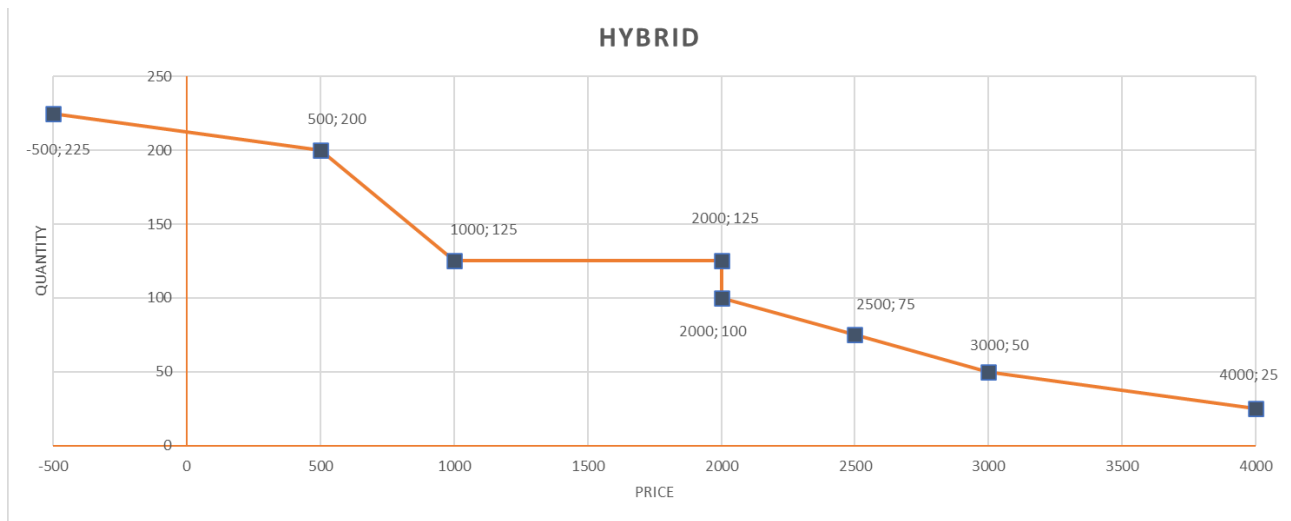
6.1.1.1 Hybrid curve

The characteristics of a hybrid curve are following:

- A hybrid order is defined by n (price, quantity) couples: $[(P_{\min}, Q_1), \dots, (P_{\max}, Q_n)]$
- For any couple $(P_i, Q_i), (P_{i+1}, Q_{i+1})$ within this list we have either:
 - $P_i < P_{i+1}$ and $Q_i \geq Q_{i+1}$
 - or
 - $P_i = P_{i+1}$ and $Q_i > Q_{i+1}$, excluding $P_{\min}, P_{\max}$

Please see below an example of the hybrid curve for a linear order. The illustration provided here is for (Portfolio, Bidding Level, Delivery Period) combination.

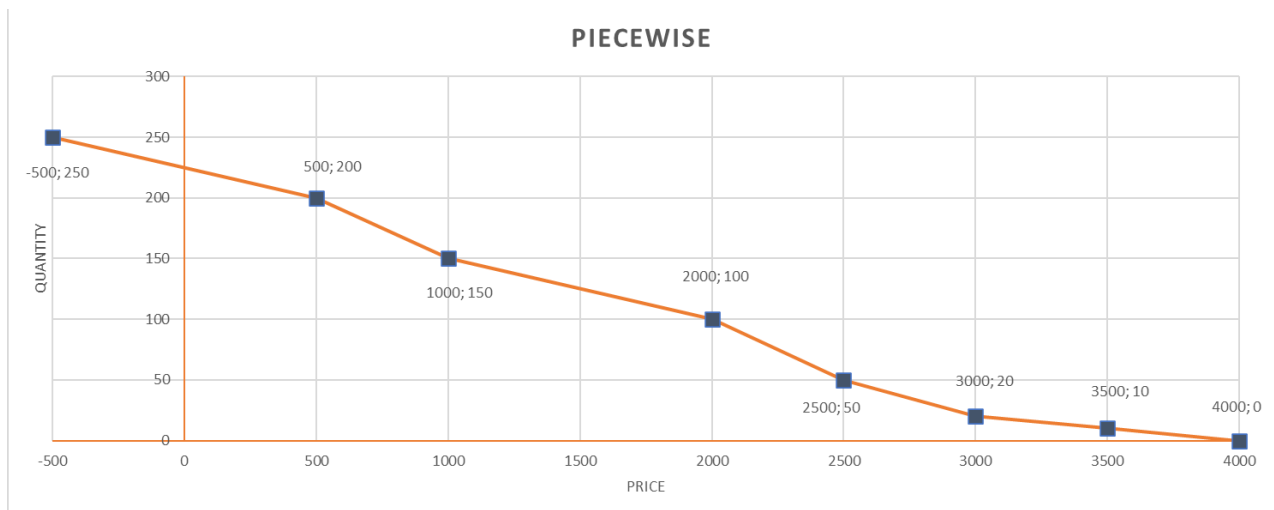
Price	-500	500	1000	2000	2000	2500	3000	4000
Quantity	225	200	125	125	100	75	50	25



6.1.1.2 Piecewise curve

Please see below an example of the piecewise curve for a linear order. The illustration provided here is for (Portfolio, Bidding Level, Delivery Period) combination.

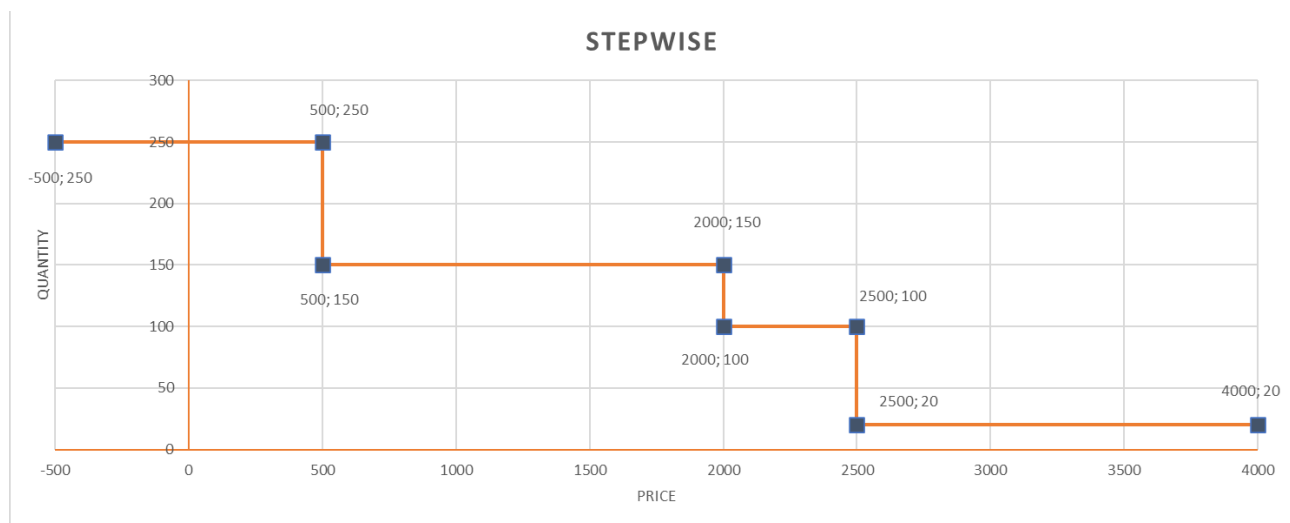
Price	-500	500	1000	2000	2500	3000	3500	4000
Quantity	250	200	150	100	50	20	10	0



6.1.1.3 Stepwise curve

Please see below an example of the stepwise curve for a linear order. The illustration provided here is for (Portfolio, Bidding Level, Delivery Period) combination.

Price	-500	500	500	2000	2000	2500	2500	4000
Quantity	250	250	150	150	100	100	20	20

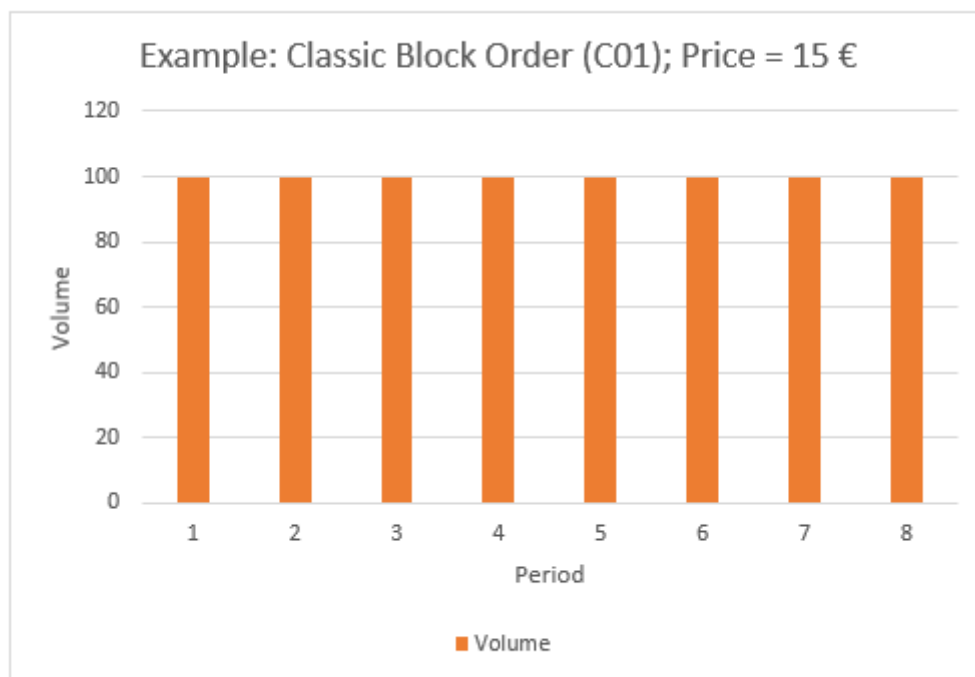


6.2 Block order

The type of block orders that can be used and their parameters are specific to each market segment. Please refer to **EPEX SPOT Auctions Block parameters (member only)** for a detailed description of the applicable parameters.

6.2.1 Classic block order

A classic block order is defined by the Block Code = C01. It does not depend on any other block and is executed if it is in the money and not a paradoxically Rejected Block (PRB). C01 block orders consist of profile volumes with one limit price.



6.2.2 Linked family

A linked block orders family is a set of block orders which have together a linked execution constraint.

A child block order has the execution constraints of a simple block order, and can be executed only if the parent block order it is linked to, is executed. A child block order has block type C02.

A block order is a parent block order if the execution of a child block order directly depends on its own execution. A parent block order can be a root of a linked block orders family or a child block order.

The Actual Acceptance Ratio of a linked child block cannot be higher than that of its parent block.

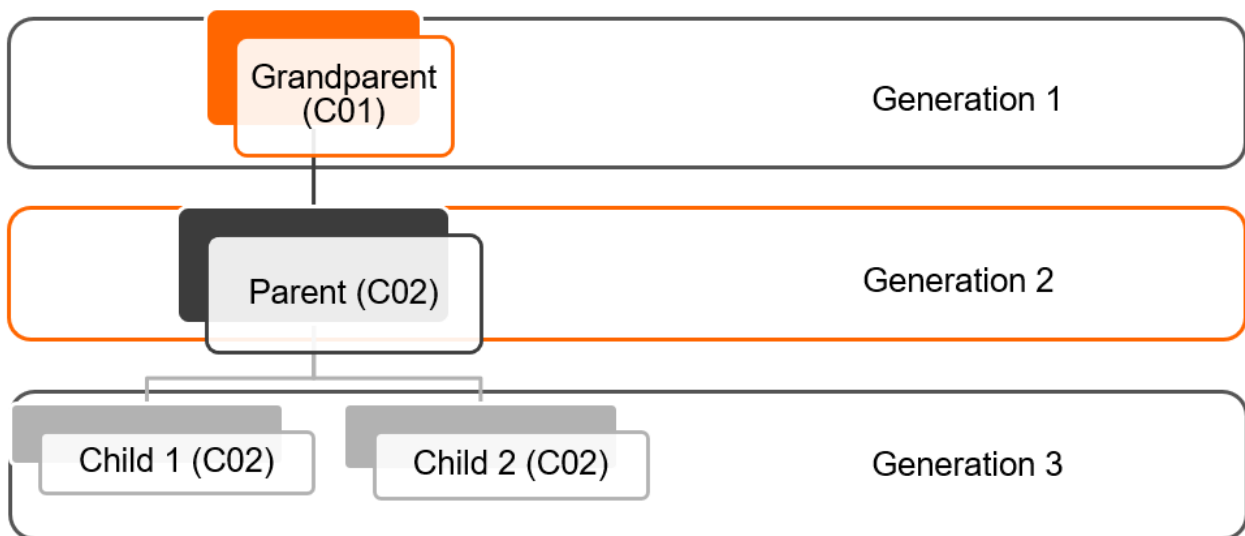
In linked block order families and in exclusive links (see part: *6.2.5 Exclusive links*), a parent block order can be executed although it is not in the money if the sum of the surplus of the parent block order and a set of child block orders which are linked to it in the first or subsequent generations is positive. A child block order with no accepted linked child block order cannot be accepted if it is out of the money.

A block order is a root of a linked block orders family if its execution is not linked to the execution of a parent block order and if it is the parent of at least one child block order. The root block order has block type C01.

The number of generations within a linked block orders family is determined by the longest sequence of child-parent links to reach a root block order within the linked block order family.

The size of a linked block orders family corresponds to the number of block orders which are grouped in the linked block orders family.

It is possible to design a “linked family”, with several “generations”. An example of such “family” is illustrated in the below picture:



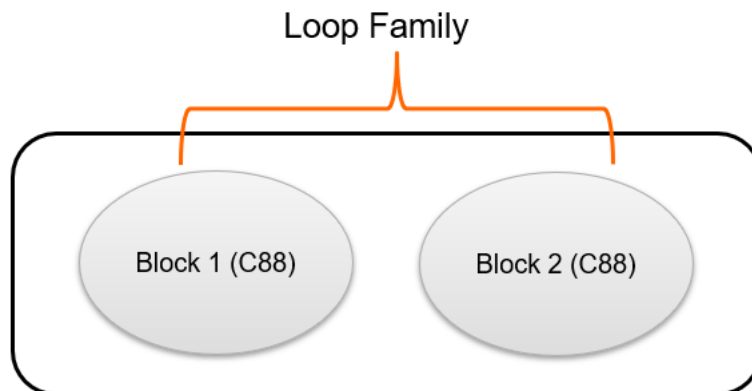
In this example:

- Number of generations is 3
- Size of the family is 4

The generation 1 block order has block type C01 (i.e. root of the family); the other generations block orders have block type C02.

6.2.3 Loop block

A loop block order is defined by the Block Code = C88. This is a block order which is part of a loop family and where there is no parent-child relation between the loop block orders. In such group either all block orders included in the loop family are executed with the same Actual Acceptance Ratio value or all block orders included in the loop family are rejected.



In this example:

- Block 1 and Block 2 are grouped in a single loop family
- The loop family has a size of 2 block orders

6.2.4 Exclusive group

An exclusive group block order is defined by the Block Code = C04. An exclusive group of block orders is a set of block orders for which the algorithm may accept any combination of them as long as the sum of Actual Acceptance Ratios (ratio of accepted volume to total block volume) of the exclusive group block orders is less than or equal to 1.

In case the exclusive group is made only of all-or-none block orders, then a maximum of one block order can be executed within the exclusive group.

An exclusive block order is a block order which is part of an exclusive group. Such a block order has to fulfil the execution constraints of a simple block order.

The size of an exclusive group corresponds to the number of block orders which are gathered in the exclusive group.

The combination of accepted block orders within the exclusive group is the one which maximizes total welfare.

6.2.5 Exclusive links [not available yet in MATS SIMU]

An Exclusive Links block family is a set of block orders that combine exclusive block orders (C04) and child block orders (C02).

The exclusive block orders included in an Exclusive Links family have the execution constraints of exclusive block orders as described in part 6.2.4 *Exclusive Group*.

The child block orders included in an Exclusive Links family have the execution constraints of child block orders as described in part 6.2.2 *Linked family*.

The C04 parent block order can be accepted although it is out of the money if the sum of the surplus of the C04 parent block order and a set of child block orders which are linked to it in the first or subsequent generations is positive.

6.2.6 Curtailable block order

Curtailable block orders provide the opportunity to the trading participants to submit block orders for which the execution can be total or greater than a specified Minimum Acceptance Ratio (MAR). By relaxing the execution constraint for a block order, it is more likely that a block order will be executed.

Every block order type (C01, C02, C04, and C88) can be a curtailable block. Each period of the block order has the same MAR value. Per default, the value of MAR is 1, i.e. all or none.

The Actual Acceptance Ratio (AAR) is the executed fraction of the block order returned by the matching algorithm. Each period of the block order has the same AAR value, which is between MAR and 1.

Within a linked family, a child block order has an AAR value that is lower or equal to the AAR of its parent.

The loop block orders included in the same loop family have the same AAR value.

In the below example:

- the trader allows the block order to be curtailed down to 35MW (70%) and still be accepted
- this will apply for all hours
- the same MAR value of 0.7 is applicable for each period of the block

Limit Price of the Block = 200 EUR

<i>Period</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
<i>Volume</i>	50MW	50MW	50MW	50MW
<i>MAR</i>	0.7	0.7	0.7	0.7

6.2.7 Big block

A big block order is a block which:

- volume for each of its periods is less or equal to a maxVolumeOfBigBlocks

AND

- with a volume for at least one of its periods strictly greater than maxBlockVolume

Every block order type (C01, C02, C04, and C88) can be a big block.

For details on specific market segment parameters, please consult the ***EPEX SPOT Auctions Block parameters (member only)*** in your member area.

6.3 Scalable complex order

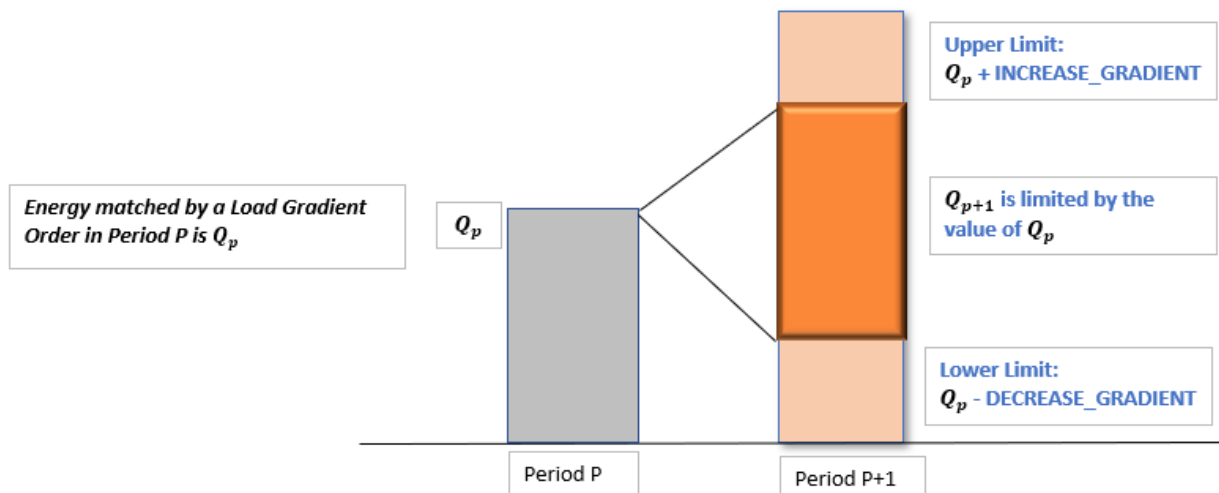
6.3.1 Definition

A scalable complex order is composed by:

1. One stepwise curve per period
 - a. Only step wise curves are allowed; **no scalable complex order for piecewise or hybrid.**
 - b. Scalable complex order can only have sale side, i.e. quantities ≤ 0
2. An economic condition defined by one input parameter listed below. This economic condition is defined in settlement currency.
 - a. Fixed Term: Defines the 'absolute minimum income' economic constraint
3. Minimum Acceptance Volume (MAV)
 - a. MAV must be defined per period
4. Scheduled Stop Periods
 - a. Defines the period of the complex order that remains accepted independent of the rejection of the rest of the scalable complex order. Possible values are subject to the duration, i.e. :
 - i. For 60min orders, possible values are : 0,1,2,3
 - ii. For 30min orders, possible values are : 0,1,2,3,4,5,6
 - iii. For 15min orders, possible values are : 0,1,2,3,4,5,6,7,8,9,10,11,12
 - b. If Scheduled Stop Periods is set to 0 means no period
 - c. If Schedule Stop Periods is set to 2 means periods 1 and 2 remain accepted
5. Load gradients
 - a. Increase gradient: Defines the maximum executed volume increase per period
 - b. Decrease gradient: Defines the maximum executed volume decrease per period
 - c. The value of increase gradient and decrease gradient is applied for all periods

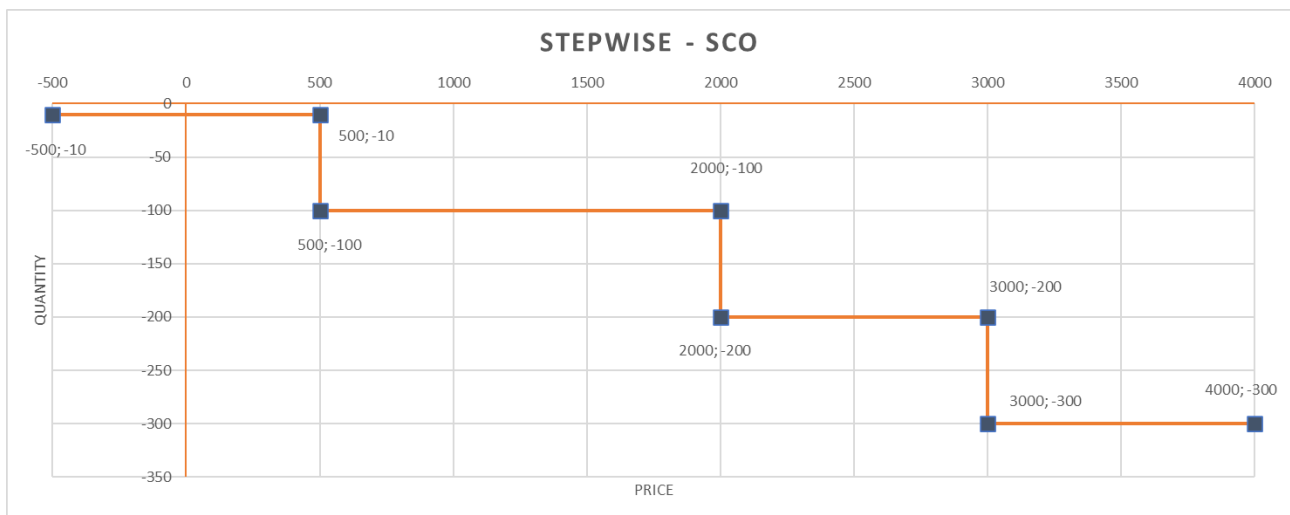
Remark:

Even though mathematically $-25 < -10$, trading system consider -25 as an executed volume increase compared to -10 (i.e. $-25 > -10$) and -10 as an executed volume decrease.



Please see below an example of the stepwise curve for a scalable complex order. The illustration provided here is for (Portfolio, Bidding Level, Delivery Period) combination.

Price	-500	500	500	2000	2000	3000	3000	4000
Quantity	-10	-10	-100	-100	-200	-200	-300	-300



7. Reports

7.1 Trade report

The trade report is a member specific report for a given auction and auction session date time. The report comprises of below set of data:

- the MCP and MCV for each market and every delivery period at MTU granularity
- the curtailment ratio details for the considered (bidding level, delivery period) combination
- the orders and the related trades at MTU granularity

All the above listed data are included in the trade report is strictly based on the user permissions as configured in the trading system.

7.1.1 File name/format

Name	[Auction Session Date Time]_TradeReport_[Participant ShortName]_[Auction]_[Auction Name]_[CreationDateTime] Where: • [Auction Session Date Time]: Auction session date time in the format <code>yyyymmddhhmmss</code> • [Participant ShortName]: Name of participant • [Auction]: Unique identifier of auction • [Auction Name]: Name of auction • [CreationDateTime]: Server Date and Time in UTC at which the system generated the report. Format in <code>yyyymmddhhmmss</code>
File Format	XML Encoding for the xml file = <code><?xml version="1.0" encoding="UTF-8"?></code>

7.1.2 File content

Element	Data Type	Relation	Description
Auction	String	[1..1]	Unique name of the auction
AuctionName	String	[1..1]	Auction name
AuctionDateTime	DateTime	[1..1]	Auction session date time • <i>DateTime is in UTC</i>

			Format: YYYY-MM-DDTHH24:MI:SSZ
Market	Group	[1..n]	List of markets of the auction
+MarketName	String	[1..1]	Market.configName
+MarketIndex	Group	[1..n]	Market indexes (Price & Volume) for each (Delivery Start & Delivery End) related to the duration of the market.
++DeliveryStart	DateTime	[1..1]	Delivery start date time of the period in UTC. Format: YYYY-MM-DDTHH24:MI:SSZ Delivery start date time follows MTU granularity, i.e. the lowest market time unit. 15MTU SDAC: this field will have 15-minute granularity independent on the duration of the submitted orders which resulted in a trade.
++DeliveryEnd	DateTime	[1..1]	Delivery end date time of the period in UTC. Format: YYYY-MM-DDTHH24:MI:SSZ Delivery start date time follows MTU granularity, i.e. the lowest market time unit. 15MTU SDAC: this field will have 15-minute granularity independent on the duration of the submitted orders which resulted in a trade.
++PriceIndex	Group	[1..n]	Price index is indicated for all auction currencies, settlement currencies and the trade limit currencies available for the corresponding auction
+++Currency	String	[1..1]	Auction currency
+++Price	Decimal	[1..1]	Market clearing price The value is reported with the number of decimal places as per price tick precision of the related market
++VolumeIndex	Decimal	[1..1]	Market clearing volume The value is reported with the number of decimal places of the volume tick
+BiddingLevel	Group	[0..n]	<i>If the member(s) do not have any active order for the considered auction session, then this tag will not appear (omitted).</i>
++BiddingLevelName	String	[1..1]	Bidding level name
++BiddingLevelTimeZone	String	[1..1]	Time zone of the bidding level
++CurtailmentRatioDetails	Group	[0..n]	<i>This tag is only displayed if there is a curtailment ratio ≠ 0 for at least one combination of (Bidding level, duration, delivery period)</i>
+++PeriodDuration	DateTime	[1..1]	Duration of the delivery period for which curtailment ratio is detected. Possible values: 60 30 15
+++Period	Group	[1..n]	
++++DeliveryStart	DateTime	[1..1]	Delivery start date time of the period in UTC. Format: YYYY-MM-DDTHH24:MI:SSZ

++++DeliveryEnd	DateTime	[1..1]	Delivery end date time of the period in UTC. Format: YYYY-MM-DDTHH24:MI:SSZ
++++CurtailmentRatio	Decimal	[1..1]	Curtailment ratio value
++MemberDetail	Group	[1..n]	
+++MemberName	String	[1..1]	Participant shortname to whom the portfolios belong
++++Order	Group	[0..n]	<i>First all active Linear Order(s) in ascending order of OrderID, then all active Block Order(s) in ascending order of OrderId and then all active Scalable Complex Order(s) in ascending order of OrderId must be displayed</i>
+++++OrderID	Integer	[1..1]	linearOrder.orderId OR blockOrder.orderId
+++++Portfolio	String	[1..1]	Name of the portfolio
+++++OrderType	String	[1..1]	Type of order: Linear Block Scalable Complex
+++++OrderPeriodDuration		[1..1]	Duration of order at which the order has been submitted
+++++OrderEntryTime	DateTime	[1..1]	Order submission date time in UTC. Format: YYYY-MM-DDTHH24:MI:SSZ <i>submissionDateTime of latest version which is in ACTIVE status is considered</i>
+++++OrderEntryUser	String	[1..1]	User name who did the last modification on the order
+++++SettlementCurrency	String	[1..1]	Settlement currency of the order
+++++BlockOrderDetail	Group	[0..n]	<i>This tag will appear only if OrderType is "Block"</i>
+++++Price	Decimal	[1..1]	Block price limit in settlement currency
+++++AverageMCP	Decimal	[1..1]	Weighted average MCP over the periods of the considered block, in the settlement currency The value is reported with the number of decimal places as per price tick precision of the related market
+++++MAR	Decimal	[1..1]	Value of minimum acceptance ratio. Value is provided with a precision of 2 decimal places.
+++++AAR	Decimal	[1..1]	Value of actual acceptance ratio. Value is provided with a precision of 5 decimal places.
+++++Status	String	[1..1]	Execution status: "Executed" or "Rejected"
+++++BlockCode	String	[1..1]	• C01 for classic block • C02 for linked block • C04 for exclusive block • C88 for loop block
+++++BlockCodePRM	Integer	[0..1]	• If "BlockOrderType" = C01 : the tag is omitted • If "BlockOrderType" = C02 : identification of the parent block order. This is equivalent to the order id of the parent block • If "BlockOrderType" = C04: The "BlockCodePRM" field corresponding to this BlockCode will be an "Exclusive Group" ID generated by the trading system. It will be unique and the same for all contents blocks in this group.

			If "BlockOrderType" = C88: The "BlockCodePRM" field corresponding to this BlockCode will be an "Loop family" ID generated by the trading system. It will be unique and the same for all contents blocks in this group.
+++++Comment	String	[1..1]	Comment
+++++Paradoxically	String	[1..1]	"No" or "PRB" or "PAB with child"
++++ScalableComplexOrderDetail	Group	[0..n]	<i>This tag will appear only if OrderType is "Scalable Complex"</i>
+++++Paradoxically	Integer	[1..1]	Value of Paradoxically Rejected (1 – paradoxically rejected / 0 – not paradoxically rejected)
+++++Activation	Integer	[1..1]	Value of Activation (1 – Accepted / 0 – Rejected)
+++++Period	Group	[1..n]	<i>Data in this group is sorted in ascending order of DeliveryStart</i>
+++++OrderPeriodID	Integer	[1..1]	ID for a period of the order
+++++TradeID	Integer	[1..1]	ID of the trade (please see Section 11.1 to understand mapping with OrderPeriodID)
+++++DeliveryStart	DateTime	[1..1]	Delivery start date time of the period in UTC. Format: YYYY-MM-DDTHH24:MI:SSZ Delivery start date time follows MTU granularity, i.e. the lowest market time unit. 15MTU SDAC: this field will have 15-minute granularity independent on the duration of the submitted orders which resulted in a trade.
+++++DeliveryEnd	DateTime	[1..1]	Delivery end date time of the period in UTC. Format: YYYY-MM-DDTHH24:MI:SSZ Delivery start date time follows MTU granularity, i.e. the lowest market time unit. 15MTU SDAC: this field will have 15-minute granularity independent on the duration of the submitted orders which resulted in a trade.
+++++MarketClearingPrice	Decimal	[1..1]	Market clearing price in settlement currency The value is reported with the number of decimal places as per price tick precision of the related market.
+++++ExecutedVolume	Decimal	[1..1]	Executed volume
+++++Volume	Decimal	[1..1]	Block order submitted volume This tag will appear only if OrderType is "Block"

7.2 Market Result Report

Market results report which contains member specific information are generated and provided to the end-users (for ex: file which can be downloadable via front end) after the results are published.

Market results file is generated per auction session for a given participant.

The market results report consists of the following information:

- Auction information:**

- Contains the generic details about auction: Auction, Auction Name, Auction Session Date Time
- **FX rate information**
- **Index information**
 - MCP & MCV related to (Market, MTU) combination
 - The information is provided per delivery period corresponding to the MTU (equivalent to market duration)
 - **15MTU SDAC**: Index information will be expressed in 15min.
- **Curtailment ratio information**
 - Curtailment ratio details related to (Bidding level, Duration, Delivery Period) combination
 - This information appears only if there is a curtailment ratio > 0 is calculated by the system.
- **Aggregated portfolio information**
 - The information is provided at (Bidding level, MTU) combination
 - (Net, Purchase, Sale) at (Bidding Level, Portfolio) at MTU
- **Linear order execution results**
 - Results are provided at the same duration at which members submitted the orders
 - If there are no linear orders offered in the market(s) then this information does not appear in the file
- **Block order execution results**
 - Results are provided at the same duration at which members submitted the orders
 - If there are no block orders offered in the market(s) then this information does not appear in the file
- **Scalable complex order execution results**
 - Results are provided at the same duration at which members submitted the orders
 - If there are no scalable complex order offered in the market(s) then this information does not appear in the file

7.2.1 File Name/Format

File Name	[Auction Session Date Time]_MarketResult_[Participant Short Name]_[Auction]_[Auction Name] Where: • [Auction Session Date Time]: Auction session date time (UTC) in the format yyyyymmddhhmmss • [Participant Short Name]: Name of participant • [Auction]: Unique identifier of auction • [Auction Name]: Name of auction
File Format	CSV (value separator: semi colon (;), decimal separator: comma (,))

7.2.2 File content

7.2.2.1 Auction information

Line 1

Column Number	Description
1	Auction
2	Unique name of auction

Line 2

Column Number	Description
1	Auction name
2	Name of auction

Line 3

Column Number	Description
1	Auction date time
2	Auction session date time • <i>Date Time is in UTC</i> • <i>Format: YYYY-MM-DDTHH24:MI:SSZ</i>

7.2.2.2 FX rate information

Line 1

Line 1 is always reported even if there no FX rates defined for the auction

Column Number	Description
1	FX rates

Line 2

For each FX rates defined, following line is included in the report. FX rate is indicated only from “**Auction Currency**” to “**Settlement Currency**”.

Line 2 is created only if there is any FX rate configuration exists in the system. Otherwise, only Line 1 as described in the above chapter is created always.

Column Number	Description
1	Value of auction currency
2	Value of settlement currency
3	Value of FX rate

7.2.2.3 Index information

The index information is provided at the MTU granularity. For each market of the auction, following lines are indicated.

Line 1

Column Number	Description
1	Market Time Unit Resolution
2	Duration of market which is the MTU

Line 2

For each market related to the auction, the index information (Price Index (MCP), Volume Index (MCV) is reported.

If there is FX rate defined, then index information related to Prices are indicated as per the auction currency and for the settlement currencies of the auction.

Column Number	Description
1	Market
2	Name of the market
3	<Empty>
4	Name of the market
5	<Empty>
6...n	Complete the list with all the markets related to Market Time Unit Resolution and to the corresponding auction. The list markets is completed in the same format as of Columns (4,5)

Line 3

Column Number	Description
1	<Empty>
2	Price Index (<currency>/MWh) <i>Where: <currency>: auction currency</i>
3	Price Index (<currency>/MWh) <i>Where: <currency>: settlement currency</i> <i>This column is included in the report only if the orders were submitted in a different currency (named as settlement currency) than the auction currency.</i>
4	Volume Index (<volumeUnit>)
5...n	Completed as long as there are indexes in the auction

Line 4...n

Column Number	Description
1	Delivery start date time of the period in UTC. Format: YYYY-MM-DDThh:mm:ssZ.
2	Market clearing price in the auction currency
3	Market clearing price in the settlement currency <i>This column is included in the report only if the orders were submitted in a different currency (named as settlement currency) than the auction currency.</i>
3 (or greater)	Market clearing volume
...	Completed as long as there are indexes in the auction

Line n+1

The following information is reported in the line corresponding to every column related to Price Index(<currency>/MWh) and Volume Index(<volumeUnit>).

Column Number	Description
1	Sum/Avg
2	Arithmetic average of price indexes over all the delivery periods
3	Sum of volume index over all the delivery periods
...	Completed as long as there are indexes in the auction

Line n+2...m

Column Number	Description
1	Name of block definition
2	Arithmetic average price related to the block definition in auction currency
3	Arithmetic average price related to the block definition in settlement currency <i>This column is included in the report only if the orders were submitted in a different currency (named as settlement currency) than the auction currency.</i>
3 (or greater)	Sum of volume related to the block definition

7.2.2.4 Aggregated portfolio information

Aggregated portfolio information is provided at MTU granularity.

Line 1

Column Number	Description
1	Name of the bidding level
2	Participant: <participantName> <i>Where, <participantName>: Short name of participant</i>
3-13	<Empty>
14(or greater)	Portfolio: <portfolioName> <i>Where, <portfolioName>: Name of portfolio</i> <i>The list of portfolios included in the report is based on the trading permissions of the user who downloaded/retrieved (via Web client or API) defined in the trading system.</i>
...	<i>Completed as long as the participant has portfolios for the corresponding bidding level. This means, the empty cells is also repeated as many as portfolios.</i>

Line 2

The headers described are fixed and is not changed.

Column Number	Description
1	<Empty>
2	Total Sched.
3-4	<Empty>
5	Linear Sched.
6-7	<Empty>
8	Block Sched.
9-10	<Empty>
11	Scalable Complex Sched.
12-13	<Empty>
...	<i>Completed as long as the participant has portfolios for the corresponding bidding level This means the columns from 2-13 must also be repeated as many as portfolios</i>

Line 3

The headers described are fixed and is not changed.

Column Number	Description
1	<Empty>
2	"Net" for Total Sched.
3	"Purchase" for Total Sched.
4	"Sale" for Total Sched.
5	"Net" for Linear Sched.
6	"Purchase" for Linear Sched.
7	"Sale" for Linear Sched.
8	"Net" for Block Sched.
9	"Purchase" for Block Sched.
10	"Sale" for Block Schedule
11	"Net" for Scalable Complex Sched.
12	"Purchase" for Scalable Complex Sched.
13	"Sale" for Scalable Complex Sched.
...	<i>Completed as long as the participant has portfolios for the corresponding bidding level. This means the columns from 2-13 must also be repeated as many as portfolios.</i>

Line 4...n

Column Number	Description
1	Delivery start date time of the period in UTC. Format: YYYY-MM-DDThh:mm:ssZ.
2	Arithmetic sum of purchase volume and sale volume
3	Arithmetic sum of purchase volume
4	Arithmetic sum of sale volume
5	Arithmetic sum of purchase volume and sale volume
6	Arithmetic sum of purchase volume of all linear orders
7	Arithmetic sum of sale volume of all linear orders
8	Arithmetic sum of purchase volume and sale volume
9	Arithmetic sum of purchase volume of all block orders
10	Arithmetic sum of sale volume of all block orders
11	Arithmetic sum of purchase volume and sale volume
12	Arithmetic sum of purchase volume of all scalable complex orders
13	Arithmetic sum of sale volume of all scalable complex orders
...	<i>Completed as long as the participant has portfolios for the corresponding bidding level</i>

Line n+1

Column Number	Description
1	Sum
2	Sum of all volumes over all the delivery periods

7.2.2.5 Curtailment ratio information

The curtailment ratio information is reported only if there is any curtailment ratio is detected for bidding level(s). Otherwise, this part is skipped.

Line 1

Column Number	Description
1	Bidding level
2	Duration
3	Delivery period
4	Curtailment ratio

Line 2

Column Number	Description
1	Bidding level name
2	Duration of the delivery period for which curtailment ratio is detected. Possible values: 60 30 15
3	Delivery start date time of the period in UTC. Format: YYYY-MM-DDTHH24:MI:SSZ
4	Curtailment ratio value

7.2.2.6 Bidding level, duration, order information

For each (Bidding level, Duration) combination, following lines are indicated. The linear order, block order, and/or scalable complex order information are grouped per (Bidding level, Duration) combination.

If there are no orders exists in DB for a given combination of (Portfolio, Bidding level, duration) then the respective information is not included in the report.

Line 1

Column Number	Description
1	Bidding level
2	Bidding level name
3	Duration
4	Duration at which the orders were submitted Possible values: 60 30 15

For every combination of (Bidding level, Duration) on which active order exists in the system, data related to block order, linear order and/or scalable complex orders are repeated.

7.2.2.7 Block order execution results

Line 1

Column Number	Description
1	Portfolio
2	Block id
3	MAR
4	AAR
5	BlockCode
6	BlockCodePRM
7	Comment
8	Status
9	Paradoxically
10	av MCP (EUR/MWh)
11	"av MCP (<currency>/MWh)" <i>Where:</i> <currency>: settlement currency <i>This column is included in the report only if the orders were submitted in a different currency (named as settlement currency) than the auction currency.</i>
11 (or greater)	Price
12 (or greater)	Currency
14(or greater) → m	Delivery start date time of the period in UTC. Format: YYYY-MM-DDTHH24:MI:SSZ <i>Due to clock change, the number of columns is different</i>
m+1 → p	Delivery start date time of the period in UTC. Format: YYYY-MM-DDTHH24:MI:SSZ <i>Due to clock change, the number of columns is different</i>

Line 2...n

Column Number	Description
1	Name of the portfolio
2	Block order id
3	Value of minimum acceptance ratio. Value is provided with a precision of 2 decimal places.
4	Value of actual acceptance ratio. Value is provided with a precision of 5 decimal places.
5	• C01 for classic block • C02 for linked block • C04 for exclusive block • C88 for loop block
6	• If "BlockOrderType" = C01 : then N/A • If "BlockOrderType" = C02 : identification of the parent block order. This is equivalent to the order id of the parent block • If "BlockOrderType" = C04: The "BlockCodePRM" field corresponding to this BlockCode will be an "Exclusive Group" ID generated by the trading system. It will be unique and the same for all contents blocks in this group. • If "BlockOrderType" = C88: The "BlockCodePRM" field corresponding to this BlockCode will be an "Loop family" ID generated by the trading system. It will be unique and the same for all contents blocks in this group.
7	Comment of the block order
8	Execution status: "Executed" or "Rejected"
9	"No" or "PRB" or "PAB with child"
10	Weighted average MCP over the periods of the considered block, in the auction currency The value is reported with the number of decimal places as per price tick precision of the related market
11	Weighted average MCP over the periods of the considered block, in the settlement currency The value is reported with the number of decimal places as per price tick precision of the related market <i>This column is included in the report only if the orders were submitted in a different currency (named as settlement currency) than the auction currency.</i>
11 (or greater)	Block price limit in settlement currency
12 (or greater)	Settlement currency of the block order in which the block order were submitted
13 (or greater)...m	Executed volume

m+1...p	Block order submitted volume
----------------	------------------------------

Line n+1

Column Description12(or greater)Sum13(or greater)...pSum over all the blocks (either submitted block quantity or executed block quantity depending on the column), for each period

7.2.2.8 Liner order execution results

Line 1

Column Number	Description
1	Portfolio
2	Name of the portfolio
3	Linear id
4	Order id of the linear order

Line 2

Column Number	Description
1	Delivery period
2	Paradoxically
3	Paradoxically rejected volume
4	Executed volume

Line 3...n

Column Number	Description
1	Delivery start date time of the period in UTC. Format: YYYY-MM-DDTHH24:MI:SSZ
2	Paradoxically status of the linear order • No: Linear order is not paradoxically rejected • PRL: Paradoxically rejected linear order
3	Paradoxically rejected volume
4	Executed volume
...	<i>Completed as long as the delivery periods are defined</i>

8. Appendices

8.1 Order Period ID and Trade ID [CPM scenario]

15MTU SDAC: This section explains how the users can map Order period ID and Trade ID in CPM scenario where orders can be submitted in the same bidding level multiple durations. Once the results are published, the executed volume for a given order is provided by the trading system at MTU granularity.

1. Order submitted in 60min duration

After results publication, 4 unique trade IDs are provided by the trading system for the respective Order Period Id (corresponding to the delivery period) of the Order Id: 10000000045624. The Executed Volume: 10 MW must be settled/nominated for every quarter hour with MTU = 15 min (that corresponds to the delivery period in 60 min of the order).

Order Period Id	Trade Id	Delivery Start Date Time	Delivery End Date Time	Executed Volume (in MW)
10000000055623	100000000556231	2025-03-31T22:00:00.000Z	2025-03-31T22:15:00.000Z	10
	100000000556232	2025-03-31T22:15:00.000Z	2025-03-31T22:30:00.000Z	10
	100000000556233	2025-03-31T22:30:00.000Z	2025-03-31T22:45:00.000Z	10
	100000000556234	2025-03-31T22:45:00.000Z	2025-03-31T23:00:00.000Z	10

2. Order submitted in 15min duration

After results publication, 4 unique trade IDs are provided by the trading system, matching 4 Order Period IDs.

Order Period Id	Trade Id	Delivery Start Date Time	Delivery End Date Time	Executed Volume (in MW)
10000000055623	10000000055623	2025-03-31T22:00:00.000Z	2025-03-31T22:15:00.000Z	10
10000000055624	10000000055624	2025-03-31T22:15:00.000Z	2025-03-31T22:30:00.000Z	10
10000000055625	10000000055625	2025-03-31T22:30:00.000Z	2025-03-31T22:45:00.000Z	10
10000000055626	10000000055626	2025-03-31T22:45:00.000Z	2025-03-31T23:00:00.000Z	10

8.2 Delivery period illustration

Please consult '*MATS – Delivery period illustration*' for examples of delivery periods and period sequence numbers for orders of 15-, 30- and 60-min duration.

8.3 Order import templates and other sample files

Please consult '*LinearOrderTemplate_Import*' and '*BlockOrderTemplate_Import*' files for templates to be used for order import.

Moreover, please consult the '*Trade_Report_v002.xsd*' for the Trade report schema and '*20240918100000_TradeReport_MEMBER_CORE_PWR-MRC-D+1.xml*' for a sample Trade report file.

Lastly, please consult '20250412173000_MarketResult_COMPANYA_CORE_PWR_MRC-D+1' and/or '20250406100000_MarketResult_COMPANYA_CORE_PWR_MRC-D+1' (15MTU SDAC) for sample Market result reports.