



# ***VWAP TRANSACTIONS***

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## **PURPOSE OF THIS DOCUMENT**

This document aims to present the facility put in place by Euronext to register transactions executed at volume weighted average price (VWAP transaction) on its regulated markets.

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# VWAP TRANSACTIONS

## 1 THE VWAP TRANSACTION

A volume weighted average price (market VWAP) transaction is an agreement to execute a trade at an average price as weighted by volumes traded in the central orderbook for a given security over a fixed period of time in the future.

Euronext has developed the trading solution detailed below to enable VWAP transactions on the Euronext regulated markets, subject to the approval of the national regulators.

## 2 EURONEXT'S VWAP TRADING SOLUTION

The regulatory and technical solution provided by Euronext authorizes members to perform VWAP transactions on its regulated markets by creating a new type of transaction outside the central orderbook.

Members can decide at any time to perform a VWAP transaction with their customers, before or during the trading session, provided that the period fixed for the operation has not started.

For each VWAP transaction reported, Euronext will check that the minimum period of time is respected, within the trading session, and that the transaction is performed within the authorized price margin around the VWAP over the relevant period of time.

The minimum period of time, as well as the margin authorized around the VWAP (or the absence of a margin), may vary from one Euronext location to another, depending on the regulators' approval.

At this time the minimum period of time and margin authorized around the VWAP are the same for all the Euronext locations.

The specific conditions for VWAP transactions on the Euronext markets are the following:

- Authorized margin: 1% on either side of the VWAP price;
- Minimum period: 1 hour.

### 3 SECURITIES CONCERNED

All continuously traded securities, except Trackers, Warrants and Certificates, are eligible for VWAP transactions, provided that these are permitted by the local regulator in the market on which they are listed.

### 4 MEMBERS CONCERNED

All Cash members with access to the securities concerned are entitled to execute VWAP transactions.

### 5 DETERMINING THE VWAP PRICE

The VWAP price is calculated using the following formula:

$$\text{VWAP} = \text{Sum} (P_i * Q_i) / \text{Sum} (Q_i)$$

where:

**VWAP** = Volume Weighted Average Price

**P** = price of trade *i*

**Q** = quantity of trade *i*

*i* = each trade over the defined period of time, excluding cross trades and basket cross trades.

The VWAP price is calculated to 3 decimal places.

The Euronext VWAP trading solution is extremely flexible and allows VWAP transactions throughout all or part of the trading session.

VWAP information is not disseminated by Euronext in real time but all information necessary for the VWAP calculation will be provided in the relevant trade messages from the central orderbook (Synthetic Position, Opening trade and Trade), i.e.:

- The time of the trade;
- The traded quantities;
- The price;
- The cross-trade indicator.

Please note that, depending on the times selected for the VWAP period, the calculation may or may not take into account the trades from the opening and closing auction.

## 6 DECLARING VWAP TRANSACTIONS

### 6.1 TCS REPORTING

VWAP transactions are registered via the Trade Confirmation System (TCS), which is used for matching orders outside the central orderbook.

To this effect, a new type of operation indicator, indicator “E”, has been created for members to use when reporting the VWAP transaction.

At this stage, members must also specify the period of time for the VWAP transaction in addition to the usual information provided on a TCS report.

This period is determined by a start and end time which can be expressed to the exact second.

The following rules must be observed:

- The start time cannot be earlier than the official opening time of the trading session;
- The end time must have passed before the transaction is reported;
- The end time must be earlier than the end of the trading session;
- The VWAP period must respect a minimum time period. This may vary from one Euronext location to another depending on the national regulators' requirements.

If no start time is indicated, the TCS system considers by default that the VWAP trade begins at the opening time of the session and includes the trades stemming from the opening auction in its price.

If no end time is indicated, the TCS system considers by default that the VWAP trade ends after the closing auction or after the trading-at-last phase depending on the session timetable to which the instrument belongs.

The VWAP transaction must be executed within the authorized price margin around the VWAP calculated by Euronext. In the event of an error (VWAP not stated or VWAP outside of the authorized price margin), the error message sent back to the member by Euronext will contain the correct VWAP for the specified period.

## 6.2 MATCHING RULES

Euronext accepts declarations in all directions for VWAP transactions, i.e. Buy, Sell.

The matching delay is the same as for other TCS operations, i.e. 15 minutes.

Please note that in the case of VWAP declarations, the start and end times of the VWAP period must be specified in addition to the existing TCS matching criteria.

## 7 DISSEMINATION OF VWAP TRANSACTIONS

### 7.1 POST-NEGOTIATION INFORMATION

Euronext will broadcast all the information relative to the VWAP transactions (instrument code, period of time, price, quantity).

The VWAP trade will be disseminated through the existing TCS trade message.

A new value **(E)** has been added to the “Type of operation” field in order to distinguish between VWAP trades and other TCS trades. In addition, two extra fields have been added in the TCS trade message containing the start and end times of the VWAP trade.

### 7.2 PUBLICATION OF VWAP TRANSACTIONS

The dissemination rules are summarized in the following table:

Transaction type	Session		Out Session
	Client	Non-client	
VWAP			
Qty * Price < NAB	Immediate	Immediate	D+1 morning
$MNB \leq Qty * Prix < 5 NAB$	Immediate	60 minutes	D+1 morning
Qty * Prix $\geq 5 NAB$	Immediate	120 minutes	D+1 morning
Structured Block	Immediate	120 minutes	D+1 morning