

# BME Concentration Analytics Daily (BCA) Technical Specifications

**BCA Product**

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## 1 PRODUCT DESCRIPTION

This document provides relevant information on the BME Concentration Analytics product suite commercialized by BME Market Data, which consists on:

- a) BME Concentration Analytics File: BME\_HHI\_Insight\_EQ\_YYYYMMDD.txt

### 1.1 Service Schedule

The files will normally be available at 21:00 CET every trading of the TARGET calendar.

### 1.2 Client Support

| Address   | Email  | Telephone         |
|---|--|-------------------|
| Palacio de la Bolsa, Plaza de la Lealtad 1,<br>28014 - Madrid | <a href="mailto:marketdata@grupobme.es">marketdata@grupobme.es</a> | + 34 91 709 58 10 |

The clients will have at their disposal a support service from 09:00 to 18:30 CET from Monday to Friday. BME Market Data will keep the clients updated regarding any critical modification in the files, or any technical improvement that might take place.

## 2 FORMAT AND DATA DELIVERY

### 2.1 File Format

BME MARKET DATA delivers this product market data under the following formats:

- TXT Format (";" as field separator and "." or "," as decimal separator). This format is compatible with databases as well as with spreadsheets. Each file field is separated from the following by ";" and each line ends with a specific end of line character.

## 2.2 Data Formats

### 2.2.1 Numerical formats

There is no thousands separator, and depending on each file the "." Or the "," will be used as decimal separator.

### 2.2.2 Date and time conventions

Unless stated otherwise, the date fields are in the format YYYYMMDD being YYYY the year, MM the month and DD the day. Time fields are stated following the format HHMMSS or HHMMSSXX being HH the hour, MM the minute, SS the second and XX second hundredth. Dates and times refer to CET (Central European Time).

### 2.2.3 Headers of TXT files

The first line of ASCII files (extensions TXT or similar) contains the headings of the file, the rest of lines contain the data.

## 2.3 Name of Files

Name of the files by product and year. A daily file will be generated.

| PRODUCT                           | DAILY / MONTHLY                 |
|-----------------------------------|---------------------------------|
| BME CONCENTRATION ANALYTICS DAILY | BME_HHI_Insight_EQ_YYYYMMDD.txt |

## 2.4 File Download

The information is accessible through the Internet via a sFTP (ssh file transfer protocol).

## 3 CONTENTS

### 3.1 BME Concentration Analytics Daily

Descriptions of the fields to be included in the file BME\_HHI\_Insight\_EQ\_YYYYMMDD.txt:

| FIELD CODE                     | LENGTH  | DESCRIPTION  |
|--------------------------------|---------|--|
| DATE                           | str     | Date in YYYYMMDD format  |
| ISIN                           | str     | ISIN code  |
| TICKER                         | str     | Ticker Symbol  |
| NOMCOMPLETO                    | str     | Equity full name   |
| NOMRED                         | str     | Equity short name  |
| CURRENCY                       | str     | Trading currency   |
| GRUPOVAL<br>trading_segment_id | str     | ID Security group<br>ID for trading segment  |
| TIPOPRODUCTO<br>group          | str     | ID Product type<br>ID for symbol grouping  |
| HHI                            | Float64 | HHI concentration, market concentration considering all traded shares                      |
| HHI_BUY                        | Float64 | HHI concentration, market concentration considering only bought shares                     |
| HHI_SELL                       | Float64 | HHI concentration, market concentration considering only sold shares                       |
| HHI_AUCTION                    | Float64 | HHI concentration, market concentration considering only shares traded during auctions     |
| HHI_AUCTION_BUY                | Float64 | HHI concentration, market concentration considering only shares bought during auctions     |
| HHI_AUCTION_SELL               | Float64 | HHI concentration, market concentration considering only shares sold during auctions       |
| HHI_AUCTION_OPEN               | Float64 | HHI concentration, market concentration considering only shares traded during open auction |

| FIELD CODE                  | LENGTH  | DESCRIPTION   |
|-----------------------------|---------|---|
| HHI_AUCTION_OPEN_BUY        | Float64 | HHI concentration, market concentration considering only shares bought during open auction        |
| HHI_AUCTION_OPEN_SELL       | Float64 | HHI concentration, market concentration considering only shares sold during open auction          |
| HHI_AUCTION_CLOSE           | Float64 | HHI concentration, market concentration considering only shares traded during close auction       |
| HHI_AUCTION_CLOSE_BUY       | Float64 | HHI concentration, market concentration considering only shares bought during close auction       |
| HHI_AUCTION_CLOSE_SELL      | Float64 | HHI concentration, market concentration considering only shares sold during close auction         |
| HHI_AUCTION_VOLATILITY      | Float64 | HHI concentration, market concentration considering only shares traded during volatility auctions |
| HHI_AUCTION_VOLATILITY_BUY  | Float64 | HHI concentration, market concentration considering only shares bought during volatility auctions |
| HHI_AUCTION_VOLATILITY_SELL | Float64 | HHI concentration, market concentration considering only shares sold during volatility auctions   |
| HHI_AGGRESSIVE              | Float64 | HHI concentration, market concentration considering only aggressively traded shares               |
| HHI_AGGRESSIVE_BUY          | Float64 | HHI concentration, market concentration considering only aggressively bought shares               |
| HHI_AGGRESSIVE_SELL         | Float64 | HHI concentration, market concentration considering only aggressively sold shares                 |
| HHI_PASSIVE                 | Float64 | HHI concentration, market concentration considering only passively traded shares                  |
| HHI_PASSIVE_BUY             | Float64 | HHI concentration, market concentration considering only passively bought shares                  |
| HHI_PASSIVE_SELL            | Float64 | HHI concentration, market concentration considering only passively sold shares                    |
| HHI_CUSTOMER                | Float64 | HHI concentration, market concentration considering only shares traded by customers               |
| HHI_CUSTOMER_BUY            | Float64 | HHI concentration, market concentration considering only shares bought by customers               |
| HHI_CUSTOMER_SELL           | Float64 | HHI concentration, market concentration considering only shares sold by customers                 |
| HHI_NONCUSTOMER             | Float64 | HHI concentration, market concentration considering only shares traded by non-customers           |
| HHI_NONCUSTOMER_BUY         | Float64 | HHI concentration, market concentration considering only shares bought by non-customers           |

| FIELD CODE                      | LENGTH  | DESCRIPTION  |
|---------------------------------|---------|--|
| HHI_NONCUSTOMER_SELL            | Float64 | HHI concentration, market concentration considering only shares sold by noncustomers   |
| TRADE_VOLUME                    | INT     | Total buy and sell number of shares traded   |
| AUCTION_TRADE_VOLUME            | INT     | Total buy and sell number of shares traded during the auctions and Trading-At-Last   |
| OPEN_AUCTION_TRADE_VOLUME       | INT     | Total buy and sell number of shares traded during the open auction   |
| CLOSE_AUCTION_TRADE_VOLUME      | INT     | Total buy and sell number of shares traded during the close auction and Trading-At-Last  |
| VOLATILITY_AUCTION_TRADE_VOLUME | INT     | Total buy and sell number of shares traded during the volatility auctions  |
| AGGRESSIVE_TRADE_VOLUME         | INT     | Total buy and sell number of shares aggressively traded during continuous trading  |
| PASSIVE_TRADE_VOLUME            | INT     | Total buy and sell number of shares passively traded during continuous trading   |
| CUSTOMER_TRADE_VOLUME           | INT     | Total buy and sell number of shares traded under the risk-less principal capacity and not originating from a Sponsored Access User |
| NON_CUSTOMER_TRADE_VOLUME       | INT     | Total buy and sell number of shares traded under the principal capacity or originating from a Sponsored Access User                |

### 3.1.1 Customer / Non-Customer Classification

Customer or Non-Customers are categories that are established depending on their Trading Capacity (field 29, Table 2. Annex I of the COMMISSION DELEGATED REGULATION (EU) 2017/590).

- a) Customer: trading under the risk-less principal capacity (Trading Capacity = 'AOTC' or 'MTCH')
- b) Non-Customer: Order flow not classified as «Customer» flow (Trading Capacity = 'DEAL').

### 3.1.2 ID Security Group (grupoval)

Possible values for the 'grupoval' field are the following:

| Segment | GrupoVal | Description       | RTS 14 |
|---------|----------|-------------------|--------|
| EQ      | AC       | Continuous market | Shares |

Only consider Regular Market.

### 3.1.3 Herfindahl-Hirschman Index (HHI)

Market concentration is measured by the Herfindahl-Hirschman Index (HHI). The HHI is the sum of the squared market shares of all market participants.

It is calculated as follows:

$$HHI = \sum_{i=1}^N s_i^2$$

$s_i$  denotes market share of market participant  $i$ , where,

$$s_i = \frac{q_i}{\sum_{j=1}^N q_j}$$

$q_i$  represents the number of shares traded by market participant  $i$ ,  $q_j$  the number of shares traded by any market participant, and  $N$  denotes the total number of market participants.

Thus, the HHI can assume values from 0 to 1. In order to protect anonymity in markets with very high concentration, no exact HHIs are provided for values above 0.9. Instead, 0.9 is specified.

### 3.1.4 Member Organization

Market participants are identified by Member ID: A member organisation may have several member IDs through which orders are routed. One member per broker, the activity of a member is grouped in the 4 exchanges (Madrid, Barcelona, Bilbao, Valencia).

### 3.1.5 Flow Classification

Order flow is classified as follows (Classification, Definition):

- Overall flow: All shares traded during continuous trading, auctions and Trading-At-Last
- Aggressive flow : Shares aggressively traded during continuous trading
- Passive flow: Shares passively traded during continuous trading
- Auction flow Shares traded during auctions and Trading-At-Last
- Customer flow: Trading under the risk-less principal capacity during continuous trading, auctions and Trading-At-Last and not originating from a Sponsored Access User
- Non-customer flow : Shares traded under the principal capacity or originating from a Sponsored Access User during continuous trading, auctions and Trading-At-Last