Volume by Price - Parameters

Type

- Volume Profile - Histogram
- Volume Profile - Line Graph
- Market Profile - Letter-Based
- Market Profile - Block-Based
- Market Profile - Interpolated Curve Graph

Volume

- Tick Volume
- Real Volume
- Source API

Volume, History

time frame data

- Chart Time Frame
- All Available Time Frames
- M1, M5, M15, M30, H1, H4, D1, W1

Volume, Update Rate

new incoming data

Time frame data options effective if equal to **Volume, History**.

- Tick - distribute by tick data prices at near real-time rate. Store price zone data in memory until reinitialization or change to price zone grid, then redistribute by time frame data prices. For unavailable tick data of current (i.e., already opened) bar range within total selected time range distribute by current price.

> ℹ️ 'Tick data' is a collection name for the data provided at tick (i.e., real-time update) rate, it can consist of both 'Tick Volume' and 'Real Volume'. Select volume type with **Volume**. Tick data details and in memory record count can be viewed in the profile label. To maintain price zone grid use **Price Zone** and **Price Zone, Grid**.

- Chart Time Frame
- M1, M5, M15, M30, H1, H4, D1, W1

Price Range

total price range

- All Data

- Drag & Drop - effective if **Time Range** is **Drag & Drop**.
- Visible Chart Range
- Specified Range

Time Range

total time range

- Specified Bars
- Specified Date/Time
- Specified Days
- Specified Minutes
- Visible Chart Range
- Drag & Drop
- Last 60 Minutes
- Last 4 Hours
- Current Day
- Yesterday

- Last 2 Days
- Current Week
- Previous Week
- Current Month
- Previous Month
- Current Quarter
- Previous Quarter
- Current Year
- Previous Year

Segment

total time range segmentation method, number of segments

- Segments per Range
- Bars per Segment

> ⓘ use keyboard shortcut **Z** to move the first segment into view.

Segment, Grid

total time range segmentation grid position method, start of segments

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- Linear
- Dynamic - Market Profile POC-Based

Session

session filter

- Chart Symbol
- Specified - 24h, 4 digits, colon separator
- Pacific, Sydney - 22:00-07:00
- Asia, Tokyo - 23:00-08:00
- Europe, London - 07:00-16:00
- South-America, Sao Paolo - 11:00-17:15
- North-America, New York - 12:00-20:00

Anchor

- Chart - effective for single segment instances
- Segment Start
- Segment End

Price Zone

price zone range method

Adjusted primarily by chart window height and scale to the closest possible equivalent in pixels which can be accurately drawn. Underlying calculations with not less than 8 to 12 digits. How volume is distributed depends on actual price zone size, grid position method and data coverage.

> ℹ️ data coverage and actual price zone size can be viewed in the profile label. If the price zone size does not match the specified size identical size can be achieved by increasing or decreasing the chart window height or price scale. This is a general software/hardware issue regarding the 'pixel perfect' concept.

- Zones by Chart Scale
- Zones per Chart
- Pixels per Zone
- Price Range per Zone

Price Zone, Grid

price zone grid position method

> ⚠️ A minor price zone grid change might cause significant distribution changes.

- Static
- Dynamic

> 📋 example to maintain grid position:
> set **Price Zone, Grid** to **Static**.
> set fixed chart scale terminal properties **CHARTS > PROPERTIES**, e.g., **COMMON > SCALE FIX**.

MP Marker Blocks

unique block markers

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default **52**, min **5**, max **230**

> ℹ️ TPO time period is set by segment time range divided by amount of unique markers and filtered by session hours. TPO period can be viewed in the profile label. Set session hours with **Session**.

> 📋 example to set TPO of 15 minutes for London session (07:00-16:00 GMT+0)
> calculate unique markers required by session duration / required TPO period
> (9 hour session duration / 15 minute TPO = **36** unique markers)
> set **MP Marker Blocks** to **36**

> ℹ️ to display Market Profile histogram (i.e., interconnected blocks) use **MP Marker Block Padding** and **MP Marker Block Size**.

MP Marker Letters

unique character markers

ASCII characters, max **64**
ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz0123456789#@

Additional ASCII and selected ANSI characters, max **230**
(Windows-1252 CP intended, code 128 and above, 'nonprintables' with unique replacement symbol)

default **26**, min **5**
ABCDEFGHIJKLMNOPQRSTUVWXYZ

> ℹ️ TPO time period is set by segment time range divided by amount of unique markers and filtered by session hours. TPO period can be viewed in the profile label. Set session hours with **Session**.

> 📋 example to set TPO of 30 minutes for London session (07:00-16:00 GMT+0)
> calculate unique markers required by session duration / required TPO period
> (9 hour session duration / 30 minute TPO = **18** unique markers)
> set **MP Marker Letters** to **18** characters.

> ℹ️ Code pages are used by operating systems to display symbols (characters) by codes. Windows US-English systems have as default code page (ANSI) CP-1252, if the host operating system has another code page the maximum amount of unique character markers usable might be lower than 230. If an incorrect 'not unique marker' error message appears set **Safe Mode, Character Encoding** which enables support for all operating systems and locales but also sets the maximum to 64 (ASCII characters).

MP Marker Anchor

marker anchor method

- Collapse - joined structure
- Expand - split structure

MP Marker Letter Start / End

start and end replacement marker

Highlight Current Zone

Highlight POC

Volume Point of Control / Point of Control

If Market Profile has multiple price zones with the same TPO count Volume Profile is used to determine which of those zones is POC by highest volume.

Highlight VA

Value Area

Highlight VA Boundary Zones

zone above VAH and below VAL

Highlight HVN / LVN

High and Low Volume Nodes

Highlight VP Delta

zone color and size method

Effective if **Highlight VA** is **false**. Volume is 'negative' if close price of that record is below open and 'positive' being of close equal or above open.

- Zones
- Zones by Stack
- Zones by Stack and Order
- Total by Heatmap - gradual progression of colors and shades between a list of colors
  default list **5 colors**
  set custom color list with **Highlight Color List VP**

Highlight MP Marker

marker color method

Effective if **Highlight VA** is **false**. Set custom color list with **Highlight Color List MP**.

- Sequence - highlight sequence of TPO's by list of colors
  default list **52 colors** (26 unique colors repeated once)
  if the amount of colors is less than the amount of markers (**MP Marker Letters** or **MP Marker Blocks**) the color specified with **MP Marker Color** is used
  for the remaining markers

  > ⓘ to highlight groups of TPO's use **Evaluation MP Marker Groups**.

- Sequence by Heatmap - highlight sequence of TPO's by gradual progression of colors and shades between a list of colors.
  default list **5 colors**
  default group size **amount of unique markers divided by 4**, min group size **4**
  set group size and order with **Evaluation MP Marker Groups**
- Count by Heatmap - highlight count of markers per price zone by gradual progression of colors and shades between a list of colors.
  default list **7 colors**

Highlight MP Curve Graph

area color method

Set custom color list with **Highlight Color List MP**.

> ℹ️ use **Highlight Opacity Fill, MP** for transparent fill.

- Count by Heatmap - highlight count of markers of the underlying structure per price zone by gradual progression of colors and shades between a list of colors.
  default list **7 colors**

Highlight MP IB

Initial Balance

- H1
- Specified as Markers
- Specified as M15 Periods

Highlight MP Start / End

start and end zone method

- Underline
- Outline
- Dot - front of zone row
- Asterix - respective side of zone row

Highlight MP Median

Highlight MP VA

Value Area method

> ℹ️ to disable Market Profile VA highlighting set **Highlight VA** to **false** and **Highlight MP VA** to **Markers**. **Box** and **Bracket** options can be used in combination with a single marker color or marker highlighting.

- Markers - effective if **Highlight VA** is **true**
- Box
- Bracket

Highlight MP POC

Point of Control method

Effective if **Highlight POC** is **true**.

Markers
- Box

Highlight MP POC Marker

zone end of row additional marker

Highlight MP Start / End Marker

Highlight Color Fill

fill areas in addition to outlines (borders)

Highlight Color Lists

custom colors of groups and heatmap gradient bases

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path	**\MQL5\Files** or **\MQL4\Files**
type	**text/plain** (UTF-8 encoded ASCII characters)
format	MQL colors, comma separated, single line, no spaces

> ℹ️ create color list with included color picker (Custom_Color_List_Picker.html), or manually create a list with a file editor (use MQL color names as specified <u>here</u> ⧉, e.g., **clrPurple,clrGold**, or RGB values as specified <u>here</u> ⧉, e.g., **C'235,64,52',C'33,102,176'**).

> 📋 examples to set path:
> - C:\Program Files\MetaTrader 5\MQL5\Files\Folder\List.txt
> set to **Folder\List.txt**
> - C:\Program Files\MetaTrader 5\MQL5\Files\List.txt
> set to **List.txt**

Anchor Line

Toggle keyboard shortcut **T**

Direction

Effective for **Volume Profile - Histogram**.

- Left to Right
- Right to Left

Border

Effective if price zone size in pixels is larger than **2**.

Border Merge

merge adjacent borders

Effective if **Highlight Color Border (positive)** equals **Highlight Color Border (negative)**, or **Highlight VP Delta** is **false** or **Zones**.

Height

Determines maximum height in combination with highest zone volume. Use **Height, Max Volume** to override.

> ℹ️ if highest volume zone has new volume distributed to it the entire profile must redraw as the height of the other zones is relative.

- Scale by Chart Width (percentage) -
- Pixels per Profile

Height, Max Volume

Effective if higher than highest zone volume.

Offset

Text Volume Scale

- None
- h (Hundred)
- k (Thousand)
- M (Million)

Time Statistics

- Histogram
- Bubble-Based

Time Statistics Histogram, Anchor

- Chart Axis
- Drag & Drop Line Axis

Time Statistics Bubble-Based, Anchor

Current bubble is always anchored to **Time Zone End and Price Close**

- Time Zone Start and Price High
- Time Zone End and Price Low
- Time Zone End and Price Close
- Time Zone and Price Median
- Time Zone Median and Axis

Time Statistics Zone

time zone range method

- Zones per Segment
- Zones per Chart
- Bars per Zone
- M1, M5, M15, M30, H1, H4, D1, W1

Time Statistics Zone, Grid

time zone grid position method

- Static - by first available data record (chart time frame specific)
- Dynamic - by data selection

Time Statistics Highlight Delta

zone color and size method

Volume is 'negative' if close price of that record is below open and 'positive' being of close equal or above open.

- Zones
- Zones by Stack
- Zones by Stack and Order
- Total by Heatmap Horizontal - gradual progression of colors and shades between a list of colors
  default list **5 colors**
  set custom color list with **Time Statistics Highlight Color List**
- Total by Heatmap Vertical - gradual progression of colors and shades between a list of colors
  default list **5 colors**
  set custom color list with **Time Statistics Highlight Color List**

Time Statistics Highlight Delta Opacity Range

fill color opacity

range **0-100**

Time Statistics Border

Time Statistics Border Merge

merge adjacent borders

Line Highlights

- Preset 1 - Profile Type
- Preset 2 - Profile Type without Label
- Preset 3 - Volume Weighted Average Price
- Preset 4 - Supply & Demand Zones
- Preset 5 - Time Statistics Score Volume-Based
- Preset 6 - Time Statistics Score Price-Based
- Custom - comma separated list of supported environment variable names. Optionally append custom text labels colon (**:**) separated. Set direct or by file.

> ℹ️ for a list of all supported environment variable names and the sets used with preset options see Built-in Presets and Environment Variables List.

> ⚠️ sets longer than 229 characters can only be set by file

> 📋 example VWAP and Supply & Demand Zones with default labels:
> set **Line Highlights** to **Custom**
> set **Line Highlights Custom** to **VWAP,SD**

> 📋 example VWAP and SD with custom labels
> (for SD custom labels can be set by **SZ** and **DZ**)
> set **Line Highlights** to **Custom**
> set **Line Highlights Custom** to **VWAP:Volume Weighted Average Price,SD,DZ:Demand Zone ,SZ:Supply Zone**

> 📋 example line graph Volume Profile with VPOC and VA lines without labels
> (append just the colon separator followed by a space to disable label)
> set **Type** to **Volume Profile - Line Graph**
> set **Line Highlights** to **Custom**
> set **Line Highlights Custom** to **VP_POC_MEDIAN: ,VP_VA_LOW: ,VP_VA_HIGH:**

> 📋 example to set by file:
> set **Line Highlights** to **Custom**
> set **Line Highlights Custom** to **Folder\Line.txt**
> create file named **Line.txt** at path **C:\Program Files\MetaTrader 5\MQL5\Files\Folder\Line.txt**
> edit file to content **VWAP:Volume Weighted Average Price,SD,DZ:Demand Zone ,SZ:Supply Zone**

> ⭐ example Market Profile with styling per environment variable by string parameter:
> **MP_POC_MEDIAN: ;propColor=clrRed;propOpacity=192;propSize=3;,MP_VA_LOW: ;propColor=clrGray;propOpacity=128;propSize=1;,MP_VA_HIGH: ;propColor=clrGray;propOpacity=128;propSize=1;**

Label

metrics of time range segments

Toggle keyboard shortcut **L**.

- Preset 1 - Profile Type
- Preset 2 - Profile Type
- Data Coverage
- Custom - use any of the supported environment variable names. Enclose the variable names with per cent (**%**) sign. Use a semicolon (**;**) to break the label into multiple lines. Set direct or by file.

> ℹ for a list of all supported environment variable names and the sets used with preset options see Built-in Presets and Environment Variables List.

> ⚠ sets longer than 229 characters can only be set by file

> 📋 example:
> set **Label Custom** to **%PROFILE% (%VOLUME_TOTAL%) (%VP_PRICE_ZONE%);%TIME_START%-%TIME_END%**
>
> 📋 example to set by file:
> set **Label Custom** to **Folder\Label.txt**
> create file named **Label.txt** at path **C:\Program Files\MetaTrader 5\MQL5\Files\Folder\Label.txt**
> edit file to content **%PROFILE% (%VOLUME_TOTAL%) (%VP_PRICE_ZONE%);%TIME_START%-%TIME_END%**

Label Anchor

- Chart - effective for single segment instances
- Segment

Label Price Zone

metrics of price zones

Effective if actual price zone size equals or is larger than **8** pixels.

- Preset 1 - Volume Total
- Preset 2 - Volume Positive/Negative
- Preset 3 - Volume Delta with Sign
- Preset 4 - TPO Count
- Custom - use any of the following environment variable names. Enclose the names with per cent (**%**) sign. Use a semicolon (**;**) to break the label into styleable columns to display as stacked bar chart or table.

Name	
PRICE_MEDIAN	
PRICE_START	
PRICE_END	
VOLUME_TOTAL	
VOLUME_DELTA	minus sign.

VOLUME_DELTA_N	no sign.
VOLUME_POSITIVE	
VOLUME_NEGATIVE	
TPO	available if **Type** is set to **Market Profile** option.

> ℹ️ **NEGATIVE** volume being volume of a record with a negative price change and **POSITIVE** being of positive or no change.
>
> Use **Text Volume Scale** to format the numbers.
> Use **Text Size** or set **Label Price Zone Size** to **by Zone Size** to adjust text size.
>
> To display matching Volume Profile histogram delta highlighting with **VOLUME_DELTA** in label **Highlight VP Delta** option **Zones**.

> 📋 example:
> **%VOLUME_DELTA%;(%VOLUME_TOTAL%)**

Label Price Zone Anchor

Chart side options effective for single segment instances.

- Chart - Left
- Chart - Right
- Segment Start - Right
- Segment Start - Left
- Segment End - Right
- Segment End - Left

Label Price Zone Color Fill

fill areas

Label Price Zone Highlight Delta

fill color opacity

Effective if **Label Price Zone Color Fill** set **true** and a column is set.

- Off
- On
- On - without Text

Label Price Zone Offset

Offset in pixels. Effective offset is combination with segment **Offset**.

> ℹ️ initial alignment (without any set offsets) is based on effective **Anchor** and **Label Price Zone Anchor**.

Label Price Zone Column Width

Comma separated list of widths in pixels per column. Set column width effective if larger than largest text width - of column.

> 📋 example for three columns, first and second column sized 200 pixels and the last column sized to largest text width of column:
> set **Label Price Zone** to **%VOLUME_DELTA%;%VOLUME_TOTAL%;%PRICE_START%**
> set **Label Price Zone Column Width** to **200,200,0**

Label Price Zone Column Border

Candlestick
segment range-based candlesticks

Toggle display of native chart candles with keyboard shortcut **C**.

Drag & Drop Color Fill
fill area

Toggle keyboard shortcut **B**. Effective if **Anchor** is set to **Segment** option.

Evaluation Current Zone

- Bid
- Ask

Evaluation VA (percentage)

default **70**

Evaluation VA Count Start

default **POC**

- POC
- Range

Evaluation VA Count Include

default **Any**

- Any
- Exceed

Evaluation MP VA Count First

first zone after start zone to count

default **to High**

- Up
- Down
- to High - zone with highest TPO count
- to Low - zone with lowest TPO count

Evaluation LVN (percentage, less than)

nodes by volume of highest node of area

default **10**

Evaluation HVN (percentage, greater than)

nodes by volume of highest node of area

default **90**

Evaluation Limit LVN (amount per area)

Evaluation Limit HVN (amount per area)

Evaluation MP Marker Groups

order and sizes of groups

Comma separated, no spaces. Effective if **Highlight MP Marker** is set to **Sequence** option.

> 📋 example to highlight the first two hours and then each hour with a TPO of 30 minutes:
> set **Highlight MP Marker** to **Sequence**
> set **Evaluation MP Marker Groups** to **4,2**

(4 x 30min for first group and 2 x 30min for the remaining groups)
set **Highlight VA** to **false**

Evaluation MP IB Period

Evaluation MP Curve Graph Interpolation
averaging of data points

Amount of interpolation (cubic spline method) is determined by price range and drawable height per segment, amount of unique markers of the underlying structure to best fit time range, and price range of zones to the lowest possible value which can be accurately calculated (i.e., **Price Zone** options are ineffective).

API Environment
MQL global variable-based environment API

Multiple segment instances use literal array variable names starting with the second segment. Access to multiple instances on the same terminal requires setting unique prefix for each instance with **API Environment Name**.

📋 example to access VPOC median price of first, second and third segment:
VBP_VP_POC_MEDIAN
VBP_VP[1]_POC_MEDIAN
VBP_VP[2]_POC_MEDIAN

API Volume Source, Endpoint
file-based volume data source API endpoint

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path	**\MQL5\Files** or **\MQL4\Files**
type	**text/plain** (UTF-8 encoded ASCII characters)
record order	**descending**
record delimiter	**new line** (0x0A)
field delimiter	**space** (0x20)
field1	**VOLUME** whole number, max **9×10^{15}**
field2	**DATETIME** Unix timestamp

Designate a record as 'positive' or 'negative' volume by using a plus (**+**) or minus (**-**) sign in front of the **VOLUME** number. If no sign is used volume is 'negative' if close price of that record (chart symbol) is below open and 'positive' being of close equal or above open. To set ascending record processing order use file configuration **vbp_data_volume_row_order**. Records can be updated for compatibility with feeds and services which provide preliminary and final data. Use the **TIMEFRAME** variable name for multi time frame data. Maximum value of **VOLUME** also applies to the each price zone's volume, to use larger numbers or decimals multiply or divide accordingly.

📋 example path and file to reverse record processing:
C:\Program Files\MetaTrader 5\MQL5\Files\vbp_data_volume_row_order

📋 example for multiple time frame data, files:
- asset-M1.dat
- asset-M5.dat
- asset-D1.dat
set **API Volume Source Endpoint** to **asset-%TIMEFRAME%.dat**
set **Volume History** to **M1**

API Volume Source, Serie

Comma separated. Requires use of **SERIES** variable name with **API Volume Source, Endpoint**

📋 example for multiple contract month data, files:
- gc-gcj19.dat
- gc-gck19.dat
- gc-gcm19.dat
- gc-gcq19.dat
set **API Volume Source Serie** to **gcj19,gck19,gcm19,gcq19**
set **API Volume Source Endpoint** to **gc-%SERIES%.dat**

API Volume Source, Serie Aggregate

- by Serie Order
- by Highest Value

Volume by Price - Keyboard and Mouse

Display state of objects.

Function			Key
Show	**All**	effective for set objects, click key twice to synchronize multiple instances on a chart	**F**
Toggle	**All**	effective for set objects	**H**
Toggle	**Drag & Drop Outline**		**G**
Toggle	**Drag & Drop Fill**	effective if **Drag & Drop Color Fill** is set	**B**
		ℹ️ to fill over the chart objects set **Drag & Drop Fill, Background** to **false**. Use multiple instances on a chart with only one instance set **Drag & Drop Color Fill**	
Toggle	**Segment Labels**	effective if **Label** is set	**L**
Toggle	**Anchor Lines**		**T**
Toggle	**Chart Candles**	effective if **Drag & Drop Color Fill** is not set	**C**

Share dataset between drag & drop instances.

Requires:

- **Mouse Events**
  and
- **Time Range** option **Drag & Drop**

Function		Key
Pair	1. hover mouse pointer over selection outline of first instance click key to select (outline changes color). 2. hover mouse pointer over selection outline of second instance click key to pair.	**M**
Unpair	hover mouse pointer over selection outline click key to unpair.	**N**

Split Market Profile letter-based structure of single segment instances in up to five parts by mouse click.
Parts must be equal to or larger than the specified IB period.

> ℹ️ to completely split structures (letter- and block-based) of single and multiple segment instances use **MP Marker Anchor**.

Requires:

- **Mouse Events**
  and
- **Anchor** option **Segment**

Function		Key
Split	effective with **Highlight MP VA** option **Markers** and any of the **Highlight MP Marker** options, hover mouse pointer over marker click key to split.	**LEFT MOUSE**
Collapse		**S**

Volume by Price - Environment Variables

Name		Usage
VOLUME_TOTAL		Label, Global Variable
VOLUME_DELTA	plus/minus sign.	Label, Global Variable
VOLUME_DELTA_N	no sign.	Label, Global Variable
VOLUME_POSITIVE		Label, Global Variable
VOLUME_NEGATIVE		Label, Global Variable
TIME_START		Label
TIME_END		Label
VP_PRICE_ZONE	zone size.	Label, Global Variable
VP_PRICE_START		Label, Global Variable
VP_PRICE_END		Label, Global Variable

VP_PRICE_RANGE	profile size.	Label, Global Variable
VP_POC_MEDIAN		Label, Global Variable, Draw
VP_POC_START		Label, Global Variable, Draw
VP_POC_END		Label, Global Variable, Draw
VP_VA_LOW		Label, Global Variable, Draw
VP_VA_HIGH		Label, Global Variable, Draw
MP_TPO_TOTAL	profile size (unique markers)	Label, Global Variable
MP_TPO_COUNT	profile marker volume count.	Label, Global Variable
MP_TPO_TIME	marker size (seconds).	Global Variable
MP_TPO_TIME_NSHORT	(literal short notation)	Label
MP_TPO_TIME_NLONG	(literal long notation)	Label
MP_PRICE_ZONE	zone size.	Label, Global Variable
MP_PRICE_START		Label, Global Variable
MP_PRICE_END		Label, Global Variable
MP_PRICE_RANGE	profile size.	Label, Global Variable
MP_POC_MEDIAN		Label, Global Variable, Draw
MP_POC_START		Label, Global Variable, Draw
MP_POC_END		Label, Global Variable, Draw
MP_VA_LOW		Label, Global Variable, Draw
MP_VA_HIGH		Label, Global Variable, Draw
MP_IB_LOW		Label, Global Variable, Draw
MP_IB_HIGH		Label, Global Variable, Draw
SD	custom labels specified separately: **DZ** (demand zones) **SZ** (supply zones). number of zone is appended.	Draw
VWAP		Label, Global Variable, Draw
TICK_CACHE	tick data cache record count.	Label
TICK_CVOLUME	last tick(s) volume count.	Label
TICK_CVOLUME_POSITIVE		Label
TICK_CVOLUME_NEGATIVE		Label
TICK_BVOLUME	last bar tick data cache volume count.	Label
TICK_BVOLUME_DELTA	plus/minus sign.	Label
TICK_BVOLUME_DELTA_N	no sign.	Label
TICK_BVOLUME_NEGATIVE		Label
TICK_BVOLUME_POSITIVE		Label
TICK_CTIME		Label
TICK_CPRICE		Label
TICK_CPRICE_CHG		Label

TICK_CPRICE_CHG_N	(point)	Label
TICK_LED_VOLUME	new tick data cache record entry sign. (color by volume delta)	Label (first entry of line)
TICK_LED_PRICE	(color by price change)	Label (first entry of line)
PROFILE	profile friendly name.	Label
PROFILE_NLONG	(long notation)	Label
SESSION	session friendly name for built-in presets.	Label
SESSION_NLONG	(long notation)	Label

> ⓘ **NEGATIVE** volume being volume of a record with a negative price change and **POSITIVE** being of positive or no change. 'Tick data' is a collection name for the data provided at tick (i.e., real-time update) rate, it can consist of both 'Tick Volume' and 'Real Volume'. Select volume type with **Volume**.
>
> **MP** variables limited availability if **Type** is **Market Profile - Interpolated Curve Graph**.
> **TICK** variables available if **Volume Update Rate** is **Tick**.

Volume by Price - Built-in Presets

Label Preset 1

Volume Profile

```
%TICK_LED_VOLUME% %PROFILE% %TIME_START%-%TIME_END%;
%VP_PRICE_START%-%VP_PRICE_END% (%VP_PRICE_RANGE%);
%VOLUME_TOTAL% (%VOLUME_POSITIVE%/%VOLUME_NEGATIVE%) %VOLUME_DELTA%;
%TICK_BVOLUME% (%TICK_BVOLUME_POSITIVE%/%TICK_BVOLUME_NEGATIVE%) %TICK_BVOLUME_DELTA% %TICK_CVOLUME% (%TICK_CTIME%)
```

Market Profile

```
%TICK_LED_VOLUME% %PROFILE% %MP_TPO_TOTAL% (%MP_TPO_TIME_NSHORT%) %MP_TPO_COUNT%;
%TIME_START%-%TIME_END%;
%MP_PRICE_START%-%MP_PRICE_END% (%MP_PRICE_RANGE%);
%VOLUME_TOTAL% (%VOLUME_POSITIVE%/%VOLUME_NEGATIVE%) %VOLUME_DELTA%;
%TICK_BVOLUME% (%TICK_BVOLUME_POSITIVE%/%TICK_BVOLUME_NEGATIVE%) %TICK_BVOLUME_DELTA% %TICK_CVOLUME% (%TICK_CTIME%)
```

Session Volume Profile

```
%TICK_LED_VOLUME% %PROFILE% %SESSION%;
%VP_PRICE_START%-%VP_PRICE_END% (%VP_PRICE_RANGE%);
%VOLUME_TOTAL% (%VOLUME_POSITIVE%/%VOLUME_NEGATIVE%) %VOLUME_DELTA%;
%TICK_BVOLUME% (%TICK_BVOLUME_POSITIVE%/%TICK_BVOLUME_NEGATIVE%) %TICK_BVOLUME_DELTA% %TICK_CVOLUME% (%TICK_CTIME%)
```

Session Market Profile

```
%TICK_LED_VOLUME% %PROFILE% %MP_TPO_TOTAL% (%MP_TPO_TIME_NSHORT%) %MP_TPO_COUNT% %SESSION%;
%MP_PRICE_START%-%MP_PRICE_END% (%MP_PRICE_RANGE%);
%VOLUME_TOTAL% (%VOLUME_POSITIVE%/%VOLUME_NEGATIVE%) %VOLUME_DELTA%
%TICK_BVOLUME% (%TICK_BVOLUME_POSITIVE%/%TICK_BVOLUME_NEGATIVE%) %TICK_BVOLUME_DELTA% %TICK_CVOLUME% (%TICK_CTIME%)
```

Label Preset 2

Volume Profile

```
%TICK_LED_VOLUME% %PROFILE_NLONG% %TIME_START%-%TIME_END%;
%VP_PRICE_START%-%VP_PRICE_END% (%VP_PRICE_RANGE%);
%VOLUME_TOTAL% (%VOLUME_POSITIVE%/%VOLUME_NEGATIVE%) %VOLUME_DELTA%;
%TICK_BVOLUME% (%TICK_BVOLUME_POSITIVE%/%TICK_BVOLUME_NEGATIVE%) %TICK_BVOLUME_DELTA% %TICK_CVOLUME% (%TICK_CTIME%);
VPOC=%VP_POC_MEDIAN%;
VAL=%VP_VA_LOW% VAH=%VP_VA_HIGH%
```

Market Profile

```
%TICK_LED_VOLUME% %PROFILE_NLONG% %MP_TPO_TOTAL% (%MP_TPO_TIME_NSHORT%) %MP_TPO_COUNT%;
%TIME_START%-%TIME_END%;
%MP_PRICE_START%-%MP_PRICE_END% (%MP_PRICE_RANGE%);
%VOLUME_TOTAL% (%VOLUME_POSITIVE%/%VOLUME_NEGATIVE%) %VOLUME_DELTA%;
%TICK_BVOLUME% (%TICK_BVOLUME_POSITIVE%/%TICK_BVOLUME_NEGATIVE%) %TICK_BVOLUME_DELTA% %TICK_CVOLUME% (%TICK_CTIME%);
POC=%MP_POC_MEDIAN%;
VAL=%MP_VA_LOW% VAH=%MP_VA_HIGH%;
IB=%MP_IB_LOW%-%MP_IB_HIGH%
```

Session Volume Profile

```
%TICK_LED_VOLUME% %PROFILE_NLONG% %SESSION_NLONG%;
%VP_PRICE_START%-%VP_PRICE_END% (%VP_PRICE_RANGE%);
%VOLUME_TOTAL% (%VOLUME_POSITIVE%/%VOLUME_NEGATIVE%) %VOLUME_DELTA%;
%TICK_BVOLUME% (%TICK_BVOLUME_POSITIVE%/%TICK_BVOLUME_NEGATIVE%) %TICK_BVOLUME_DELTA% %TICK_CVOLUME% (%TICK_CTIME%);
VPOC=%VP_POC_MEDIAN%;
VAL=%VP_VA_LOW% VAH=%VP_VA_HIGH%
```

Session Market Profile

```
%TICK_LED_VOLUME% %PROFILE_NLONG% %MP_TPO_TOTAL% (%MP_TPO_TIME_NSHORT%) %MP_TPO_COUNT%;
%SESSION_NLONG%;
%MP_PRICE_START%-%MP_PRICE_END% (%MP_PRICE_RANGE%);
%VOLUME_TOTAL% (%VOLUME_POSITIVE%/%VOLUME_NEGATIVE%) %VOLUME_DELTA%;
%TICK_BVOLUME% (%TICK_BVOLUME_POSITIVE%/%TICK_BVOLUME_NEGATIVE%) %TICK_BVOLUME_DELTA% %TICK_CVOLUME% (%TICK_CTIME%);
POC=%MP_POC_MEDIAN%;
VAL=%MP_VA_LOW% VAH=%MP_VA_HIGH%;
IB=%MP_IB_LOW%-%MP_IB_HIGH%
```

Line Highlights

Volume Profile

VP_POC_MEDIAN:Point of Control,VP_VA_LOW:Value Area Low,VP_VA_HIGH:Value Area High

Market Profile

MP_IB_LOW:Initial Balance Low,MP_IB_HIGH:Initial Balance High,MP_POC_MEDIAN:Point of Control,MP_VA_LOW:Value Area Low,MP_VA_HIGH:Value Area High

Volume Weighted Average Price

VWAP:Volume Weighted Average Price

Supply & Demand Zones

SD,DZ:Demand Zone ,SZ:Supply Zone ,

Volume by Price - Timers

Tick Rate

Effective if **Volume Update Rate** is **Tick**. Increase tick timer rate (maximum time to respond to new data) by file configuration **vbp_data_volume_tick_timer_4**, **6** and **20** for 150, 100 and 30ms respectively.

default **300ms**.

> 📋 example path and file to create for 150ms:
> **C:\Program Files\MetaTrader 5\MQL5\Files\vbp_data_volume_tick_timer_4**

> ℹ️ 'Tick data' is a collection name for the data provided at tick (i.e., real-time update) rate, it can consist of both 'Tick Volume' and 'Real Volume'. Select volume type with **Volume**. Tick data details can be viewed in the label.

Initial Load

Effective for time frame data other than chart time frame period. Increase timeout (maximum time to wait for downloading of history data to complete on initialization) by file configuration **vbp_data_volume_init_load**, **3** and **6** for 30s and 60s respectively.

default **3s**.

> ⚠️ Multi time frame data becoming available after initialization might cause significant distribution changes.

> 📋 example path and file to create for 60s:

> C:\Program Files\MetaTrader 5\MQL5\Files\vbp_data_volume_init_load_6

> ⓘ data coverage can be viewed in the profile label.

Safe Mode, Refresh Rate

Limits data and draw functions to between 333 and 666ms.
Increases responsiveness under queued load decreases otherwise.

default **false**.

> ⓘ increase limit to between 500 and 800ms by file configuration **vbp_safe_mode_ref_limit_3**.

> 📋 example path and file to create to increase limit:
> **C:\Program Files\MetaTrader 5\MQL5\Files\vbp_safe_mode_ref_limit_3**