

# VWAP Range Breakout

Expert Advisor Documentation

## PLATFORM

MetaTrader 5 (MT5)

## TYPE

Momentum Breakout

## TIMEFRAME

M15 – H1 (Intraday)

## WEBSITE

[www.algotbot.live](http://www.algotbot.live)

**⚠ Important Disclaimer** This document is for educational and informational purposes only. It does not constitute financial or investment advice. Trading forex, CFDs, and other leveraged instruments involves substantial risk of loss and is not suitable for all investors. Past backtest performance does not guarantee future results. Never trade with capital you cannot afford to lose.

## Overview

**VWAP Range Breakout** is a momentum-breakout Expert Advisor that only trades genuine range expansion in the direction of the prevailing regime. Rather than reacting to a single trigger, it requires **three independent confirmations** to align before it commits to a trade: a rolling **VWAP** regime filter, an **N-bar price-range (channel) breakout**, and an **RSI** momentum confirmation — plus a strong-close quality check on the breakout bar itself.

The rolling VWAP acts as the institutional fair-value / trend anchor. Price trading *above* VWAP defines a bullish regime; price *below* VWAP defines a bearish regime. Inside the correct regime, the EA takes a breakout only when price closes beyond the recent N-bar high or low (a true range expansion) *and* RSI confirms momentum is leaning the same way. Stacking three orthogonal conditions is what filters out the false breakouts that plague single-condition breakout systems.

On the exit side, every position is protected with an ATR-based stop-loss and take-profit, and is additionally watched by a **VWAP-flip exit**: if price closes back through VWAP against the open position, the regime that justified the trade is gone, so the trade is closed immediately. The EA holds at most one position per Magic number and enforces a configurable bar cooldown between entries.

# How It Works

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## 1. Regime filter — Rolling VWAP

A rolling Volume-Weighted Average Price is computed over the last `VWAPPeriod` bars using the typical price  $(\text{High} + \text{Low} + \text{Close}) / 3$  weighted by tick volume (falling back to equal weight when no volume is reported). This defines the directional context:

- **Bullish regime** — price closing above VWAP. Only long breakouts are considered.
- **Bearish regime** — price closing below VWAP. Only short breakouts are considered.

## 2. Range break — N-bar channel

The EA builds a channel from the highest high and lowest low of the previous `BreakoutLookback` bars, *excluding* the current bar. A breakout is registered when the completed bar closes beyond that channel:

- **Long candidate** — close above the N-bar channel high.
- **Short candidate** — close below the N-bar channel low.

## 3. Momentum confirmation — RSI

RSI (period `RSIPeriod`) must lean firmly in the breakout direction, measured as a margin away from the neutral 50 line:

- **Long** requires  $\text{RSI} \geq 50 + \text{RSIMargin}$ .
- **Short** requires  $\text{RSI} \leq 50 - \text{RSIMargin}$ .

## 4. Strong-close quality check

To reject weak, wick-driven breakouts, the breakout bar must close in the leading 40% of its own range and in the right candle direction:

```
range          = High - Low
closesUpper    = (Close - Low) ≥ 0.6 × range // close near the high
closesLower    = (High - Close) ≥ 0.6 × range // close near the low
```

A long additionally requires `Close > Open`; a short requires `Close < Open`.

**All conditions must align.** A long entry fires only when *all* of the following are true on the completed bar: close above the channel high, close above VWAP, RSI at least `RSIMargin` above 50, a bullish candle, and a strong close near the high. The short entry is the exact mirror image. If even one condition fails, no trade is taken.

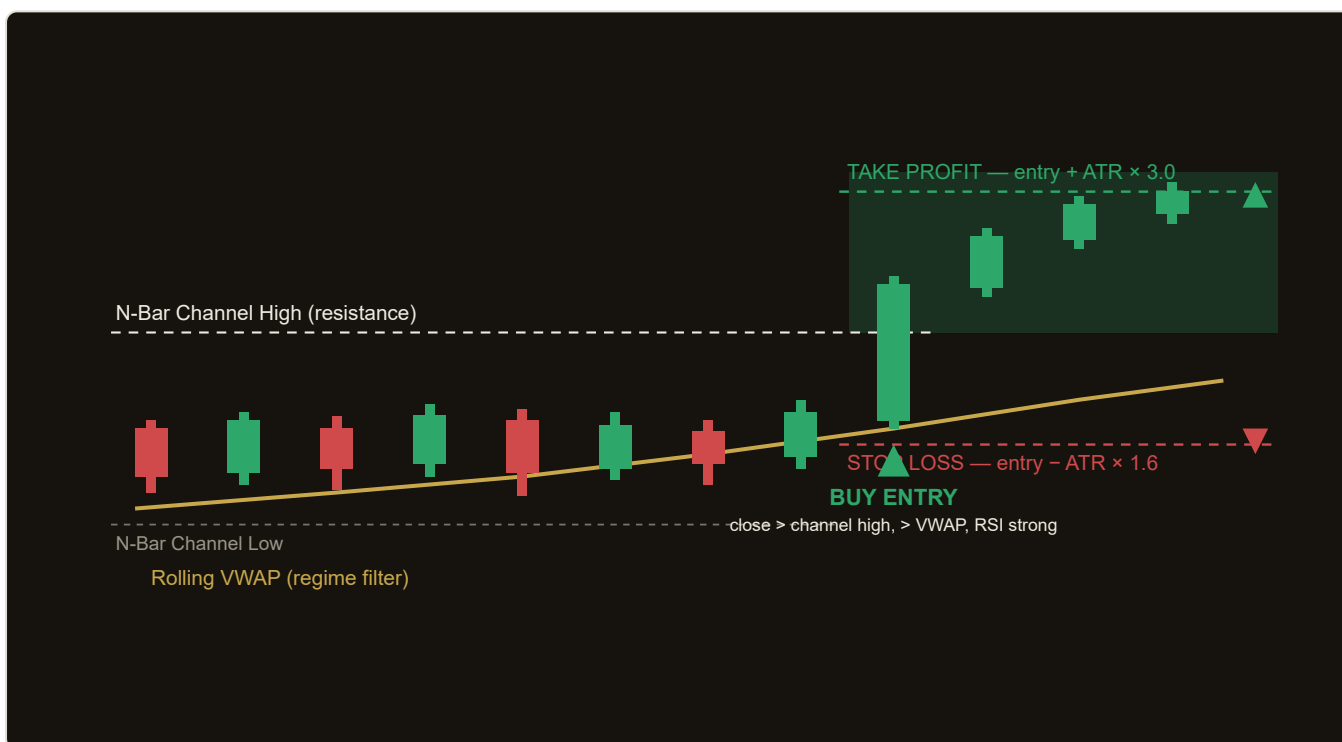
## 5. Exits and trade management

- **Stop-loss** —  $\text{AtrSlMult} \times \text{ATR}$  away from entry.
- **Take-profit** —  $\text{AtrTpMult} \times \text{ATR}$  away from entry.
- **VWAP-flip exit** — if an open long closes back below VWAP (or an open short closes back above VWAP), the position is closed immediately because the regime has flipped.
- **One position per Magic** — the EA never opens a second trade while one is already live under its Magic number.
- **Cooldown** — at least  $\text{CooldownBars}$  bars must pass after an entry before another can be taken.

All logic acts **once per completed bar** on a single timeframe; intrabar ticks are ignored for signal generation.

## Strategy in Action

The illustration below shows an example of how the strategy identifies a setup and triggers its entry and exit. This is a simplified, illustrative example for educational purposes — not real market data.



*Illustrative example only. Actual market behaviour varies.*

## Parameters

Parameter	Default	Description
VWAPPeriod	50	Rolling VWAP lookback in bars used as the regime / fair-value anchor. Range 20–200, step 10.
BreakoutLookback	20	Number of bars in the price-range (channel) used to detect the breakout, excluding the current bar. Range 10–60, step 5.
RSIPeriod	14	RSI averaging period for the momentum confirmation. Range 7–28, step 1.
RSIMargin	8.0	Distance RSI must be from the neutral 50 line to confirm momentum (long: $\geq 50 + \text{margin}$ ; short: $\leq 50 - \text{margin}$ ). Range 0–20, step 1.
AtrPeriod	14	ATR averaging period used to size the stop-loss and take-profit. Range 7–30, step 1.
AtrSIMult	1.6	ATR multiple applied to set the stop-loss distance from entry. Range 0.5–4.0, step 0.1.
AtrTpMult	3.0	ATR multiple applied to set the take-profit distance from entry. Range 1.0–8.0, step 0.25.
CooldownBars	3	Minimum number of bars to wait after an entry before another trade may be taken. Range 0–20, step 1.
Lots	0.10	Fixed trade volume in lots. Range 0.01–1.0, step 0.05.
Magic	5201	EA magic number used to identify and manage this strategy's own positions.

**Risk/reward ratio.** With the defaults `AtrSIMult = 1.6` and `AtrTpMult = 3.0`, each trade targets roughly a **1 : 1.9** reward-to-risk ratio. Keep take-profit comfortably larger than stop-loss so that a modest win rate can still be profitable, but avoid stretching it so far that targets are rarely reached.

## Recommended Settings

Because VWAP is most meaningful on intraday data, this EA is designed for lower timeframes on liquid instruments where range expansions are clean and spreads are tight.

- **Timeframe:** M15 to H1. The defaults are tuned for this range.
- **Instruments:** liquid major FX pairs (e.g. EUR/USD, GBP/USD) or major indices with reliable tick volume.

- **Sessions:** favour active sessions (London / New York) where breakouts are driven by real participation rather than thin liquidity.
- **RSIMargin:** raise it (e.g. 10–12) for fewer but higher-conviction entries; lower it (e.g. 4–6) for more frequent signals.
- **CooldownBars:** increase on choppy instruments to avoid clustering entries around a single move.

#### Example configuration — EUR/USD, M15

VWAPPeriod 50, BreakoutLookback 20, RSIPeriod 14, RSIMargin 8.0, AtrPeriod 14, AtrSIMult 1.6, AtrTpMult 3.0, CooldownBars 3, Lots 0.10. A balanced starting point: selective enough to skip noise, responsive enough to catch a clean session breakout.

**Always backtest and forward-test first.** Optimise parameters on out-of-sample data and validate on a demo account before risking live capital. The defaults are a sensible starting point, not a guarantee of profitability on any specific symbol or broker.

## How to Install on MetaTrader 5

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- 1 Copy `VWAPRangeBreakout.ex5` to your MT5 `MQL5\Experts\` folder
- 2 Restart MetaTrader 5 and refresh the Navigator panel
- 3 Drag the EA onto a chart matching the recommended symbol and timeframe
- 4 Configure the input parameters and click **OK**
- 5 Enable **Algo Trading** in the MT5 toolbar

## Risk Warning

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