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# VWAP Pivot Reversion

Expert Advisor Documentation

| PLATFORM | TYPE | TIMEFRAME | WEBSITE |
| --- | --- | --- | --- |
| MetaTrader 5 (MT5) | Mean Reversion (Intraday) | M5 – M30 | www.algobot.live |

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## Overview

**VWAP Pivot Reversion** is an intraday mean-reversion Expert Advisor that fades over-extensions back toward the session's fair-value line. It deliberately fuses only the two reference frameworks that virtually every institutional desk watches during the trading day:

- **VWAP (Volume Weighted Average Price)** — the session "fair value" line against which fills are benchmarked. Because so much flow is priced relative to VWAP, price is repeatedly pulled back toward it. A move that stretches far away from VWAP is treated as an *over-extension*.
- **Pivot Points** — the classic floor-trader levels derived from the *previous* completed day's High, Low, and Close. S1/S2 act as objective intraday support; R1/R2 act as objective resistance.

The edge is the **confluence** of the two. The EA does not fade a naked stretch from VWAP (a trend can keep extending) and it does not fade a naked pivot touch (price can slice straight through). It requires **both** to align on a freshly closed bar: price must be statistically over-extended relative to VWAP *and* a structural pivot must have rejected the move. Everything is self-scaling — the stretch filter and the protective stop adapt to volatility through ATR, while the take-profit is a genuine structural magnet (VWAP) rather than a fixed distance.

> **Core idea:** Only fade an over-extension when objective structure agrees. A stretch far below VWAP that is rejected by a support pivot is a high-probability snap-back toward fair value — and vice-versa above VWAP at a resistance pivot.

## How It Works

The EA evaluates logic once per **newly closed bar** on the chart timeframe. On each session roll (calendar-day boundary) it recomputes pivots from the day that just ended, resets its VWAP cumulation, and flattens any open runner so each new day starts clean.

### Building the Reference Levels

Pivots are computed from the previous completed day's High (H), Low (L) and Close (C):

```
PP = (H + L + C) / 3
R1 = 2 × PP - L        S1 = 2 × PP - H
R2 = PP + (H - L)       S2 = PP - (H - L)
```

VWAP is accumulated tick-volume-weighted from the first bar of the session forward, using each closed bar's typical price `(H + L + C) / 3`. It only becomes "trusted" after `MinSessionBars` bars have built up, so the EA never trades against a thin, unstable early-session VWAP.

### Entry Logic — Long

A long is taken only when **all** of the following are true on the just-closed bar:

- Price is stretched **below** VWAP by at least `MinStretchAtr × ATR` (a genuine over-extension, not noise).
- The bar's low dipped into a support pivot (`S1` preferred, otherwise `S2`) but the bar **closed back above** that level — the support held and rejected the dip.
- Only one position per magic number is allowed, and the current spread is no wider than `MaxSpreadPoints`.

Entry is at the **Ask**. The take-profit is VWAP (the mean-reversion magnet) and the stop-loss is placed `AtrStopMult × ATR` *beyond* the pivot that held (`support − stopDist`).

### Entry Logic — Short

The mirror image: price stretched **above** VWAP by at least `MinStretchAtr × ATR`, where the bar poked a resistance pivot (`R1` preferred, otherwise `R2`) but **closed back below** it. Entry is at the **Bid**, take-profit is VWAP, and the stop is `AtrStopMult × ATR` above the pivot that held (`resist + stopDist`).

### Reward : Risk Filter

Before any order is sent, the EA measures the distance from entry to VWAP (reward) against the distance from entry to the stop (risk). If price has already drifted too close to VWAP to pay for the stop — i.e. `reward / risk < MinRewardRisk` — the setup is rejected. This keeps the EA from taking trades whose target no longer justifies the stop.

### Exit Logic

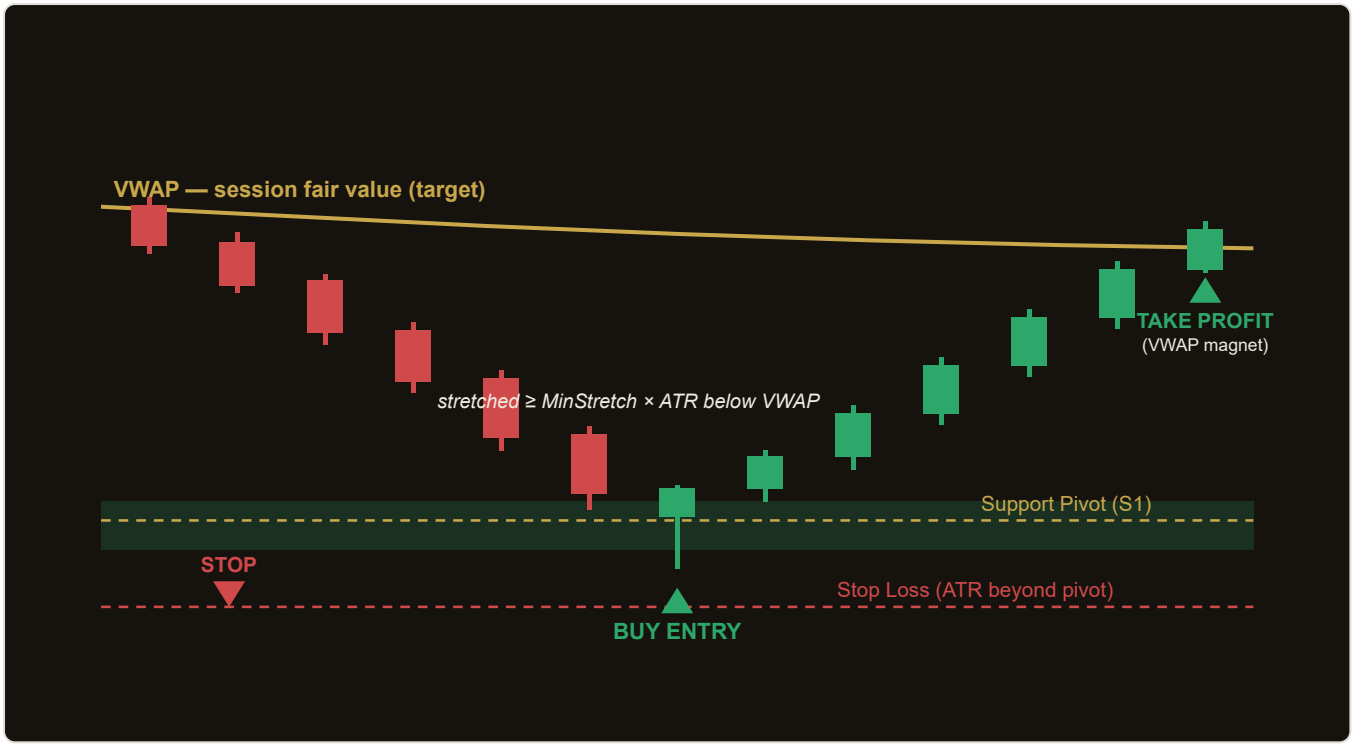
Every position is managed by one of three objective exits — there is no discretionary or trailing logic:

- **Take-profit at VWAP** — the structural mean the trade is fading toward.
- **Structural stop-loss** — a fixed ATR distance beyond the pivot that was supposed to hold; if the level fails, the trade is out.
- **Session reset** — at the daily roll, pivots and VWAP are about to be recomputed, so any open runner is flattened (`CloseAll` / `FlattenMagic`) before new levels take effect.

> **One position at a time.** The EA holds at most a single position per magic number. It will not pyramid, add, or hedge — a new setup is ignored until the current trade is closed by its stop, target, or the session reset.

## 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. It depicts the **long** case: price stretches well below VWAP, dips into a support pivot, and closes back above it (a bullish rejection). The EA buys at the Ask, places its stop just beyond the pivot, and targets VWAP.




*Illustrative example only. Actual market behaviour varies.*

**Worked example (long)**

Suppose ATR = 20 points, `MinStretchAtr` = 1.0 and `AtrStopMult` = 0.6. Price closes 26 points below VWAP (> 20, so the stretch qualifies). The bar's low pierced S1 but closed back above it. Entry is the Ask; the stop is placed 12 points (0.6 × 20) below S1 and the target is VWAP. If that reward-to-risk ratio is at least `MinRewardRisk` (0.8), the long is sent; otherwise the setup is skipped.

## Parameters

| Parameter | Default | Description |
|---|---|---|
| **AtrPeriod** | `14` | ATR lookback used for both the stretch filter and the protective stop. Range 7–28, step 1. |
| **AtrStopMult** | `0.6` | Stop distance, in multiples of ATR, placed beyond the pivot that held. Range 0.2–2.0, step 0.1. |
| **MinStretchAtr** | `1.0` | Price must be at least this many ATR away from VWAP to qualify as a genuine over-extension (the false-signal filter). Range 0.3–3.0, step 0.1. |
| **MinRewardRisk** | `0.8` | Reject setups whose VWAP target is closer than this multiple of the stop distance. Range 0.3–3.0, step 0.1. |
| **MinSessionBars** | `8` | Minimum bars into the session before VWAP is considered stable enough to trade against. Range 1–60, step 1. |
| **MaxSpreadPoints** | `80` | Skip new entries when the current spread (in points) is wider than this. Range 5–300, step 5. |
| **Lots** | `0.10` | Fixed order volume per trade. Range 0.01–1.0, step 0.05. |
| **Magic** | `5521` | Magic number identifying this EA's positions. Range 0–9,999,999, step 1. |

> **Tuning tip:** Raising `MinStretchAtr` takes fewer but cleaner over-extensions; lowering it takes more frequent, earlier fades. Raising `MinRewardRisk` discards trades whose target is too near VWAP — useful when you want each stop to be well paid for.

## Recommended Settings

This is a classic VWAP-and-pivot day-trading approach, so it is most at home on liquid, mean-reverting intraday instruments:

- **Symbols:** a liquid FX major (EURUSD, GBPUSD) or a major index CFD (e.g. US500).
- **Timeframe:** M5 to M30 — enough bars per session to build a stable VWAP and meaningful pivots. The EA reads whatever timeframe the chart is set to.
- **Spread:** keep `MaxSpreadPoints` realistic for your broker; on tight-spread majors the default of 80 is conservative.
- **Session start:** the default `MinSessionBars` of 8 lets VWAP settle before the first trade — increase it on faster timeframes if early-session VWAP looks noisy.

**Always validate first.** Run the EA in the MT5 Strategy Tester and on a demo account for your specific broker, symbol, and timeframe before risking live capital. Pivot levels and VWAP depend on the session/day boundary your data feed uses, which can vary between brokers.

## How to Install on MetaTrader 5

1. Copy `VWAPPivotReversion.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

Trading foreign exchange, CFDs, and other leveraged financial instruments involves substantial risk of loss and is not suitable for all investors. The strategies and tools described in this document are provided for **educational purposes only** and do not constitute financial advice, investment recommendations, or solicitation to trade. Always consult a qualified financial adviser before making trading decisions. Past backtest performance is not indicative of future results.