

Volatility Quality Trend Shift

Expert Advisor Documentation

PLATFORM

MetaTrader 5 (MT5)

TYPE

Trend-Following (Regime Shift)

TIMEFRAME

M15 – H4

WEBSITE

www.algobot.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

Volatility Quality Trend Shift is a price-only (no volume) trend-following Expert Advisor built around the **Volatility Quality Index (VQI)** — a cumulative accumulator that scores every closed bar by how *clean* its move was and how *large* that move was, then rides regime shifts in that quality flow.

Rather than counting direction alone, the VQI grades each bar on quality and weights it by the size of the move it produced. A big, clean, one-directional candle advances the VQI a great deal; a wide-range but indecisive candle (a small body inside a huge range) or a tiny noise bar barely moves it at all. The VQI therefore rises only while genuinely high-quality directional flow is present. This robustness to spikes and chop is the core of the EA's design and is what keeps drawdown tight.

The EA trades **continuations**: because the VQI dips below its own EMA signal line during a corrective pullback and re-crosses on resumption, the cross naturally times "buy the clean dip / sell the clean rip" entries in the direction of an established trend, rather than chasing extended moves.

Design intent. The VQI is a *volatility-quality* meter, not a direction counter. Every value used for signals — VQI, its EMA signal line, and the baseline EMA — is computed exclusively from **closed bars**, so nothing repaints. The EA runs on a single timeframe (whichever chart it is attached to) and holds one position per magic number.

How It Works

The per-bar quality score

For each closed bar the EA computes a directional cleanliness score in roughly the range `[-1, +1]`:

```
rng      = High - Low
tr       = max( rng , |High - prevClose| , |Low - prevClose| )
bodyFrac = (Close - Open) / rng      // where in its own range the bar closed
gapFrac  = (Close - prevClose) / tr   // net displacement vs true range
quality  = 0.5 * (bodyFrac + gapFrac) // +1 = a decisive clean up-bar
```

A value near `+1` means a decisive, clean up-bar that closed near its high and displaced strongly from the prior close; a value near `-1` is the bearish mirror; values near `0` mark indecision.

The VQI line

The VQI is the running sum of quality **weighted by move magnitude**:

```
VQI += quality * |Close - prevClose|
```

The magnitude weight is the whole point. It ensures the VQI advances only when clean bars *and* real displacement coincide — big clean candles dominate, while indecisive wide-range candles and micro noise bars are effectively filtered out.

Entry logic — a trend-quality regime shift

A signal is the VQI crossing its own EMA signal line, further gated by trend and recent bar-quality:

- **Long** — the VQI crosses **above** its EMA signal (quality flow re-accelerates up), *and* price closes above the baseline EMA (with the prevailing trend), *and* the average bar-quality over the last `ConfirmBars` bars is $\geq +\text{QualityThreshold}$ (the cross is backed by genuinely clean bullish candles).
- **Short** — the VQI crosses **below** its EMA signal, price closes below the baseline EMA, and the average recent quality is $\leq -\text{QualityThreshold}$.

New entries are also skipped whenever the current spread (in points) exceeds `MaxSpreadPoints`, protecting against execution during thin or dislocated conditions.

Exit logic and risk management

The exit stack is engineered for minimal drawdown and layers four protections:

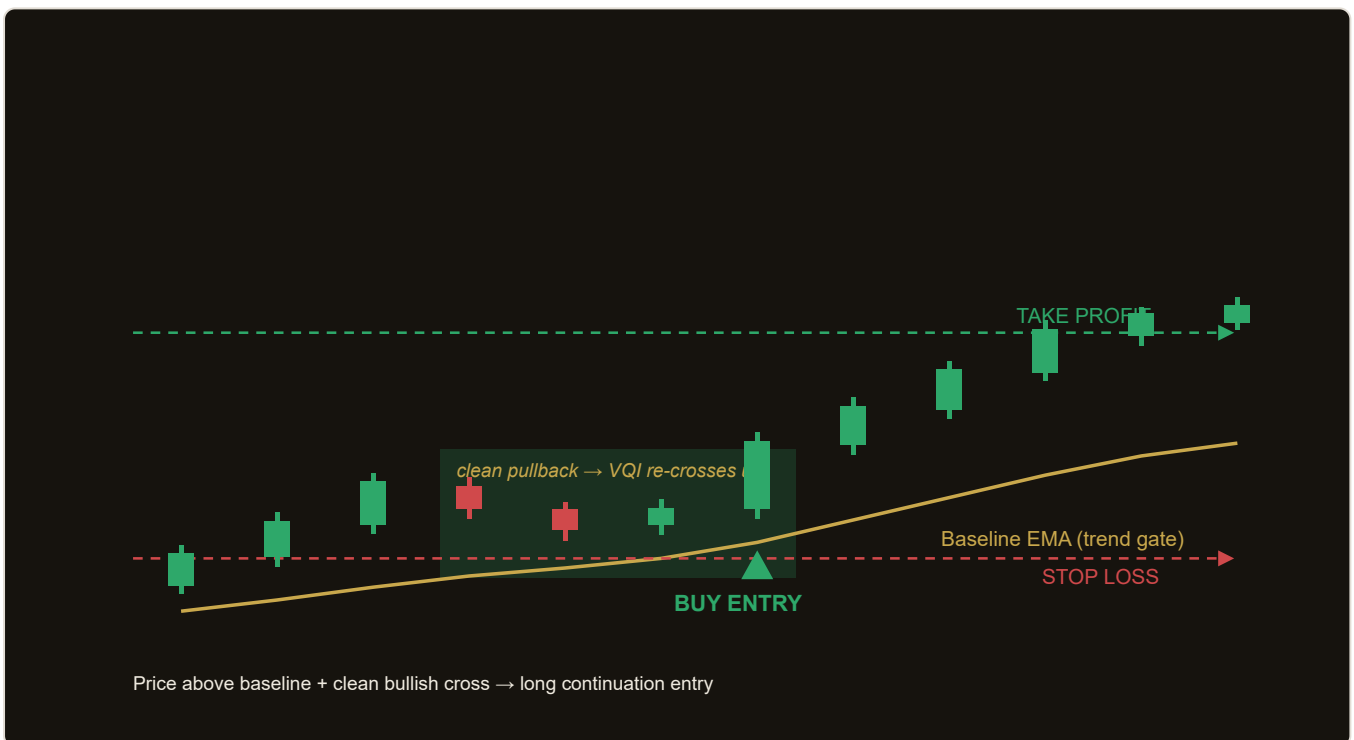
- **Volatility-scaled stop & target** — the protective stop sits `AtrStopMult × ATR` beyond entry; the take-profit is `RewardRisk ×` that stop distance.

- **Breakeven lock** — once price runs $\text{BreakevenR} \times \text{stopDist}$ in favour, the stop is pulled to the entry price, so most trades can then only scratch rather than lose ($\text{BreakevenR} = 0$ disables this).
- **ATR trail** — after breakeven, the stop trails by $\text{TrailAtrMult} \times \text{ATR}$ to lock in open profit ($\text{TrailAtrMult} = 0$ disables the trail). The trail only ever tightens.
- **Early opposite-cross exit** — an opposite VQI/signal cross closes the position early, before the hard stop is reached.

Why continuations, not chases. During a healthy trend the VQI temporarily falls below its EMA on a pullback and re-crosses when clean directional flow resumes. The gates (trend side + recent-quality threshold) ensure the EA only acts on those re-accelerations, sidestepping the exhausted, low-quality end of a move.

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
SignalPeriod	9	EMA period of the VQI signal line whose cross with the VQI marks a quality-regime shift. Range 3–40.
BaselinePeriod	50	Baseline EMA period on close — the prevailing-trend gate; price must be on its side to trade. Range 10–200.
ConfirmBars	3	Number of recent bars averaged for the bar-quality confirmation of the cross. Range 1–10.
QualityThreshold	0.15	Minimum [average recent quality] required to confirm the cross; filters weak or fluke signals. Range 0.00–0.60.
AtrPeriod	14	ATR lookback used to size the stop, target and trail. Range 5–40.
AtrStopMult	2.00	Protective stop distance as a multiple of ATR beyond entry. Range 0.50–5.00.
RewardRisk	2.00	Take-profit distance as a multiple of the stop distance (reward:risk). Range 0.50–6.00.
BreakevenR	1.00	Move the stop to breakeven once price runs this × stop distance in favour (0 = off). Range 0.00–3.00.
TrailAtrMult	2.00	After breakeven, trail the stop by this × ATR (0 = off). Range 0.00–6.00.
MaxSpreadPoints	60	Skip new entries when the current spread (points) is wider than this. Range 5–300.
Lots	0.10	Order volume in lots. Range 0.01–1.00.
Magic	8461	Magic number identifying this EA's positions. Range 0–9,999,999.

Recommended Settings

The EA is timeframe-agnostic — it reads only the chart it is attached to — and is best suited to liquid instruments where the true-range and body geometry are meaningful. Natural homes are a liquid FX major, a metal, or an index.

SUGGESTED STARTING POINT

- **Instruments** — a liquid FX major (e.g. EUR/USD, GBP/USD), a metal (e.g. XAU/USD), or a major index CFD.

- **Timeframe** — M15 to H4. Lower timeframes generate more signals but incur relatively higher spread cost; higher timeframes produce cleaner, less frequent regime shifts.
- **Defaults** — the shipped defaults (Signal 9 / Baseline 50 / ConfirmBars 3 / QualityThreshold 0.15 / ATR 14, stop $2 \times \text{ATR}$, 2:1 reward, breakeven at 1R, $2 \times \text{ATR}$ trail) are a balanced baseline.

Tuning tips

Raise `QualityThreshold` (e.g. 0.20–0.30) or `ConfirmBars` to demand cleaner, higher-conviction entries and cut marginal signals. Increase `BaselinePeriod` to trade only with the larger trend. To hold winners longer, raise `RewardRisk` and/or `TrailAtrMult`; to bank profit faster and scratch more often, lower `BreakevenR` toward the 0.50–0.75 region.

Always validate first. Backtest and forward-test on a demo account with your broker's real spreads before committing capital. Set `MaxSpreadPoints` to reflect your instrument and broker — too tight and valid signals are skipped; too loose and entries execute in poor conditions.

How to Install on MetaTrader 5

- 1 Copy `VolatilityQualityTrendShift.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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