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Market Facilitation Breakout

Expert Advisor Documentation

PLATFORM	TYPE	TIMEFRAME	WEBSITE
MetaTrader 5 (MT5)	Volume-Compression Breakout	H1 (any single TF)	www.algobot.live

Overview

Market Facilitation Breakout is a participation-compression breakout Expert Advisor built on Bill Williams' **Market Facilitation Index** (BW-MFI = bar range ÷ tick volume). Where most squeeze systems measure compression from band-width or ATR contraction, this EA reads compression from how efficiently *volume* is moving price.

The core idea is the Williams **“Squat”** bar: when a candle prints far *more* volume yet *less* range-per-volume than the bar before it, participation has surged while price barely budged. Large players are absorbing order flow and coiling the market before it releases. Once such a coil forms, the EA arms a breakout of that bar's range in the direction of the prevailing drift — the subsequent break is the ignition trade.

Signals are evaluated only on completed bars. Every calculation runs on a single, user-selected timeframe, and a compact set of broadly-ranged parameters keeps the strategy resistant to curve-fitting.

What is a “Squat” bar? A bar where the Market Facilitation Index falls (range-per-volume shrinks) at the same time tick volume rises. High effort, little movement — a sign that supply and demand are locked in battle and price is being absorbed rather than trending. Breakouts out of a Squat tend to be decisive because the coiled energy releases in one direction.

How It Works

1. Market Facilitation Index & Squat detection

For each completed bar the EA computes:

```
MFI = (High − Low) / max(TickVolume, 1)
```

The just-completed bar is then classified against its predecessor. A **Squat** is confirmed when *all three* conditions hold:

- **MFI fell** — range-per-volume shrank versus the prior bar (price is being absorbed).
- **Tick volume rose** — more participants pushed into the bar than the one before it.
- **Volume beat its own average** — current tick volume exceeds the average over `VolMaPeriod` bars, so we only arm on a genuine participation spike, not quiet noise.

2. Directional bias (trend filter)

Direction comes from an EMA of Close and its slope over `SlopeBars`:

- **Long bias (+1)** only when Close is *above* a *rising* EMA.
- **Short bias (−1)** only when Close is *below* a *falling* EMA.
- Otherwise bias is neutral (0) and no setup is armed.

This keeps every entry aligned with the prevailing drift and gives fully symmetric, distinct long and short rules.

3. Arming and triggering the breakout

When a Squat prints while the bias is clearly long or short, the EA **arms** a breakout level and starts an expiry countdown:

- Long setups arm a break above the squat bar's **High**; short setups arm a break below the squat bar's **Low**.
- The setup stays armed for `ArmBars` bars.
- A later bar that **closes beyond** the armed level, while the bias *still* agrees, triggers a market entry.
- If the arming window lapses *or* the bias flips, the setup is discarded — no stale arms.

Long setup walk-through

A bar prints heavy tick volume but a smaller range-per-volume than the previous bar (Squat), while price sits above a rising EMA(50). The EA arms a break of that bar's high for the next 4 bars. Two bars later a candle closes above the armed high with the bias still long — the EA buys at market, placing the stop at 1.8×ATR below and the target at 3.0×ATR above.

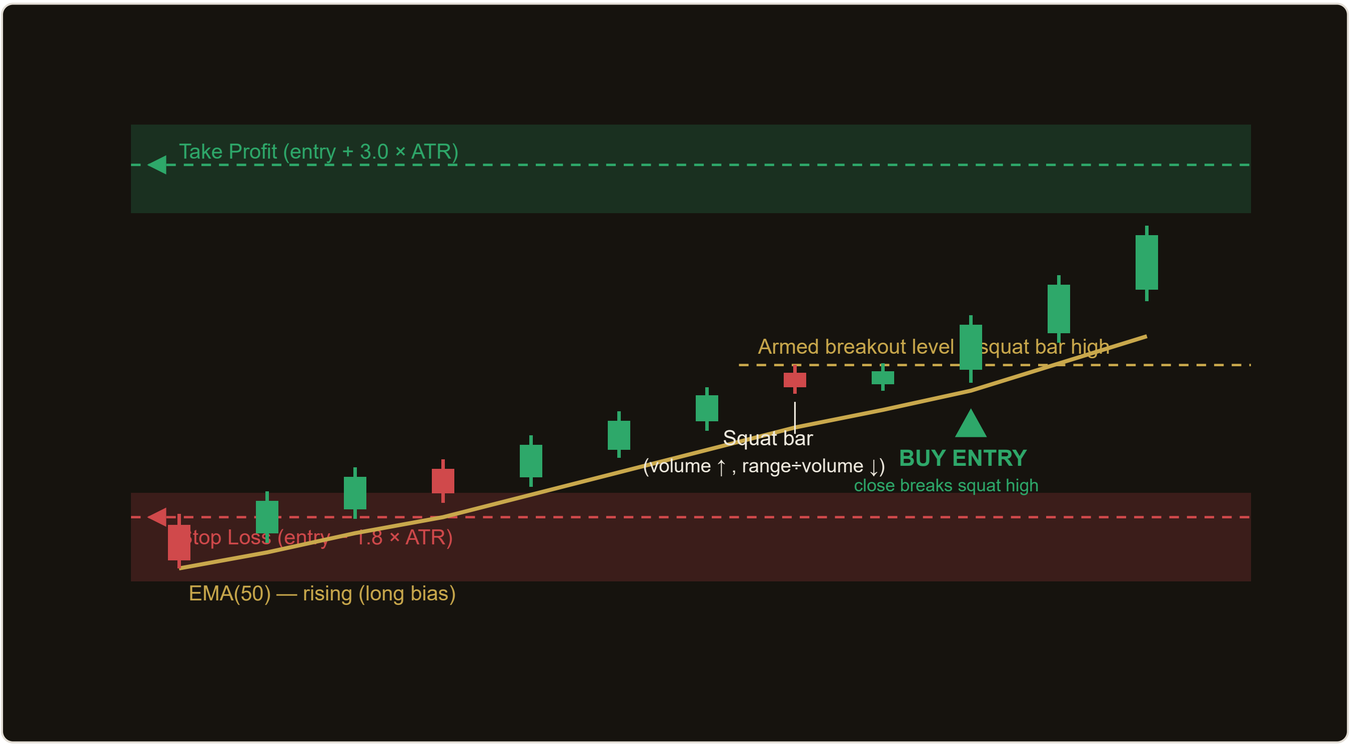
Exit logic & risk management

- **Stop-loss:** entry −/+ `AtrSlMult` × ATR (default 1.8×).
- **Take-profit:** entry +/− `AtrTpMult` × ATR (default 3.0×) — a 1.67 : 1 reward-to-risk footprint at defaults.
- **One position per magic number** at a time; while a trade is live, signals are ignored and the arm is reset so each setup starts fresh once the position closes.
- **Fixed-lot sizing** via the `Lots` input.
- **One action per bar** — the EA evaluates only when a new bar opens (the prior bar has just completed).

> **Tick volume, not real volume.** Like the underlying Bill Williams indicator, this EA uses MT5 *tick* volume (number of price changes) as its volume proxy. On FX this is a reliable measure of participation intensity, but it is broker-dependent — results can differ slightly between brokers.

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
TrendPeriod	`50`	EMA length for the directional bias / trend filter. Range 20–150, step 5.
SlopeBars	`3`	Lookback over which the trend EMA must be sloping in the trade direction. Range 1–12, step 1.
VolMaPeriod	`20`	Baseline window for the “volume must beat its own average” surge test. Range 5–60, step 1.
ArmBars	`4`	How many bars a squat setup stays armed before it expires. Range 1–12, step 1.
AtrPeriod	`14`	ATR length used for the stop / target distances. Range 7–30, step 1.
AtrSlMult	`1.8`	Stop-loss distance = AtrSlMult × ATR (entry −/+). Range 1.0–4.0, step 0.2.
AtrTpMult	`3.0`	Take-profit distance = AtrTpMult × ATR (entry +/−). Range 1.0–6.0, step 0.5.
Lots	`0.10`	Fixed lot size per trade. Range 0.01–1.0, step 0.05.
Magic	`6284`	Magic number identifying this EA's positions; use a unique value per chart.

Recommended Settings

The defaults are a balanced starting point. Because the strategy relies on tick-volume participation and an EMA trend filter, it is best suited to liquid instruments and intraday-to-swing timeframes where volume dynamics are meaningful.

- **Symbols:** major FX pairs (EURUSD, GBPUSD, USDJPY) and other liquid instruments with reliable tick volume.
- **Timeframe:** H1 is a sound default. M30–H4 also work; avoid very low timeframes where tick-volume noise dominates.
- **Trend filter:** keep `TrendPeriod` at 50 for H1; raise it on lower timeframes to smooth the bias.
- **Arming window:** `ArmBars` 3–5 balances catching the release against chasing stale coils.
- **Risk:** the 1.8 / 3.0 ATR stop/target gives roughly a 1.67 : 1 reward-to-risk. Widen `AtrTpMult` for trend-heavy markets, tighten it in choppier conditions.

Tip — validate before going live. Backtest each symbol/timeframe combination in the MT5 Strategy Tester using "Every tick" modelling, then forward-test on a demo account. Confirm your broker's tick-volume feed behaves sensibly before committing real capital, and size `Lots` to your account so a full 1.8×ATR stop is an acceptable loss.

How to Install on MetaTrader 5

1. Copy `MarketFacilitationBreakout.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.