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Guppy Compression Breakout

Expert Advisor Documentation

PLATFORM	TYPE	TIMEFRAME	WEBSITE
MetaTrader 5 (MT5)	Trend-Following Continuation	H1 / H4	www.algobot.live

Overview

Guppy Compression Breakout is a trend-following re-ignition Expert Advisor built on Daryl Guppy's Multiple Moving Average (GMMA). GMMA plots two groups of exponential moving averages on the close price rather than a single line — the strategy's edge comes from the *behaviour* of the two groups relative to one another, not from any individual average.

- **Short group ("the traders")** — EMAs of period {3, 5, 8, 10, 12, 15}. This is the crowd: fast, emotional, and quick to react.
- **Long group ("the investors")** — EMAs of period {30, 35, 40, 45, 50, 60}. This is the slow, stable backbone of the trend.

When the two groups are well separated with the short group on top, the trend is healthy. During an established trend the trader group periodically **compresses** — its EMAs bunch together as a small counter-trend pullback drains conviction — and then **fans open** again as the crowd re-commits in the direction of the investor group. Guppy Compression Breakout trades precisely that "squeeze then fan open" moment. It is a continuation entry, not a blind breakout: the EA only acts when a fresh expansion follows a genuine recent squeeze *and* both groups are aligned with the investor-group slope.

> **Core idea:** A trend that briefly rests and then re-accelerates offers a lower-risk re-entry than chasing the initial breakout. The trader fan squeezing (a pause) and then re-opening (a resumption) is the tradable "re-ignition" this EA is designed to capture.

How It Works

On every newly closed bar the EA measures the two Guppy groups, the internal width of the trader fan, and the slope of the investor group. It then checks a strict sequence of conditions before committing to a trade.

The trader-fan spread

The internal spread of the short group is measured as the widest EMA minus the narrowest EMA within that group:

```
shortSpread = max(shortEMAs) – min(shortEMAs)
normSpread  = shortSpread / ATR
```

Dividing by the Average True Range normalises the spread so the compression and expansion thresholds are **symbol- and timeframe-agnostic** — a spread of 0.90 ATR means the same thing on EURUSD H1 as on XAUUSD H4.

Long entry conditions

All of the following must be true on the close of the current bar:

- **Bullish alignment** — the short-group average is above the long-group average *and* the investor group is rising (its average is higher than it was `SlopeBars` bars ago).
- **Recent squeeze** — within the last `CompressLookback` bars the normalised trader-fan spread dropped below `CompressThreshold` (the crowd bunched up).
- **Fresh fan-open** — on this bar the normalised spread crosses *up* through `ExpandThreshold` (previous bar at or below the threshold, this bar above).
- **Directional confirmation** — the short-group average ticks up versus the previous bar (fanning upward) and the bar closes above the short-group average.

When all conditions are met the EA buys at the Ask price and joins the resuming uptrend.

Short entry conditions

The short side is an exact mirror of the long logic:

- **Bearish alignment** — short average below long average and the investor group falling.
- **Recent squeeze** — the trader fan compressed below `CompressThreshold` within the lookback window.

- **Fresh fan-open** — the normalised spread crosses up through `ExpandThreshold` this bar (the fan re-opens; direction is decided by alignment, not the spread sign).
- **Directional confirmation** — the short-group average ticks down and the bar closes below the short-group average.

When all conditions are met the EA sells at the Bid price and joins the resuming downtrend.

Exit logic

The EA never stacks trades — at most one position per magic number is held at a time. An open position is managed by two mechanisms:

- **Group-cross early exit** — if the two groups cross against the position (short average slips below the long average on a long, or above it on a short), the alignment that justified the trade has broken and the position is closed immediately at market.
- **ATR stop / target** — otherwise the fixed stop-loss and take-profit set at entry manage the trade to completion.

Risk model (ATR-based)

Stop and target distances scale with market volatility via ATR, so risk is consistent across symbols and regimes:

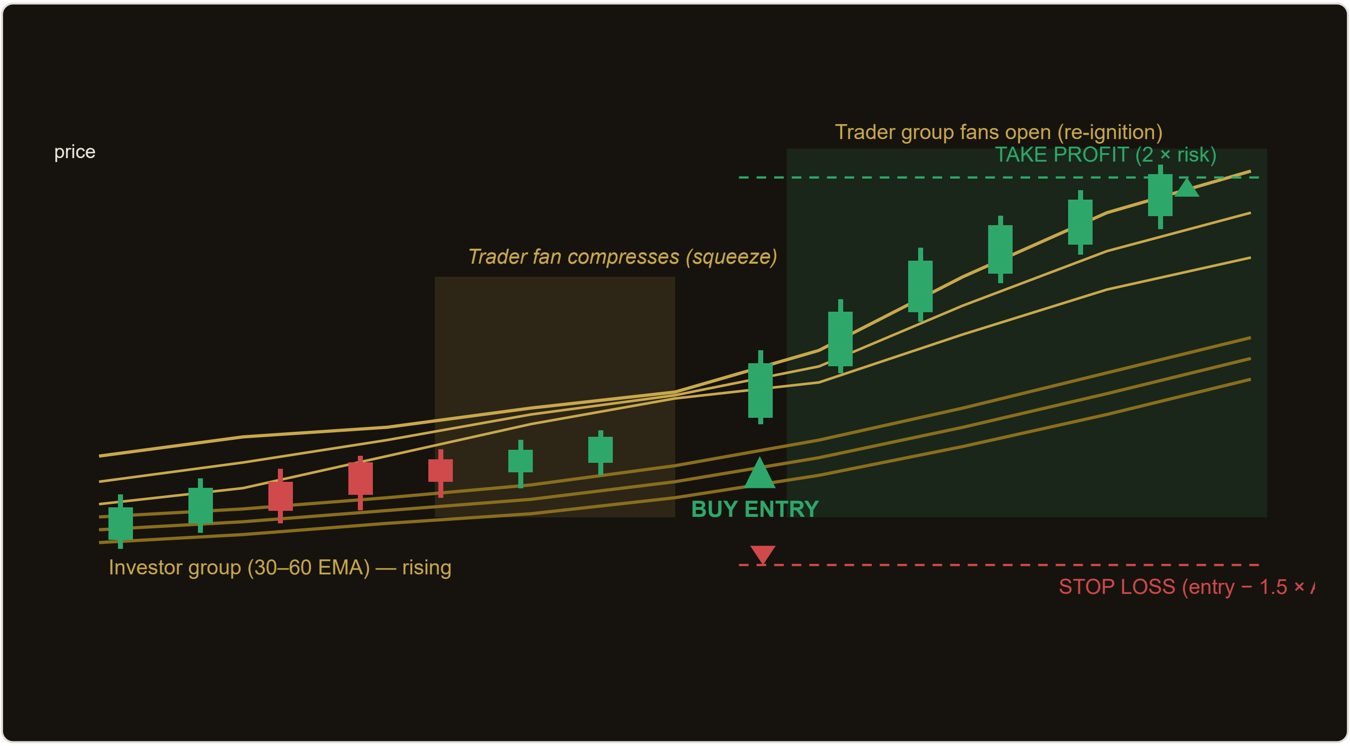
```
Long:   SL = entry − AtrMultSL × ATR
        risk = entry − SL
        TP = entry + RewardRatio × risk

Short:  SL = entry + AtrMultSL × ATR
        risk = SL − entry
        TP = entry − RewardRatio × risk
```

With the default `AtrMultSL = 1.50` and `RewardRatio = 2.00`, every trade targets twice its risk. Stops and targets are normalised to the symbol's digit precision before the order is sent.

> **Note:** The EA acts once per *closed* bar, not on every tick. It seeds its history from already-closed bars at initialisation, so it is ready to evaluate setups immediately rather than waiting to rebuild its buffers.

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
CompressThreshold	`0.50`	The trader fan is considered "compressed" when its ATR-normalised spread drops below this value. Range 0.20–1.20, step 0.10.
ExpandThreshold	`0.90`	Entry fires when the ATR-normalised spread freshly crosses up through this value (the fan re-opens). Range 0.40–2.00, step 0.10.
CompressLookback	`6`	How many recent bars back the EA searches for the preceding compression (the squeeze). Range 2–15, step 1.
SlopeBars	`5`	Number of bars used to measure the investor (long) group's slope / trend direction. Range 2–20, step 1.
AtrPeriod	`14`	Averaging period for the ATR used to normalise the spread and size the stop. Range 5–40, step 1.
AtrMultSL	`1.50`	Stop distance expressed as an ATR multiple beyond the entry price. Range 0.50–5.00, step 0.10.
RewardRatio	`2.00`	Take-profit distance as a multiple of the stop distance (risk:reward). Range 1.00–5.00, step 0.50.
Lots	`0.10`	Fixed trade volume in lots. Range 0.01–1.00, step 0.05.
Magic	`6041`	Unique magic number identifying this EA's orders. Range 0–9,999,999, step 1.

Recommended Settings

The strategy is timeframe-agnostic thanks to ATR normalisation, but it is designed for trending instruments where the "squeeze then re-ignition" rhythm is most reliable.

- **Symbols:** trending FX majors or metals — EURUSD, GBPUSD, XAUUSD.
- **Timeframe:** H1 or H4, where trader-fan pullbacks are meaningful and noise is manageable.
- **Defaults:** the shipped parameter set (CompressThreshold 0.50, ExpandThreshold 0.90, CompressLookback 6) is a balanced starting point.

Tuning example

In choppier conditions, widen the gap between the squeeze and expansion thresholds — e.g. raise `ExpandThreshold` to 1.10 while keeping `CompressThreshold` at 0.40 — so only decisive re-ignitions qualify. For faster instruments, shorten `CompressLookback` so the squeeze must be recent, and lower `AtrMultSL` toward 1.20 to tighten risk. Always re-run the Strategy Tester after changing thresholds.

Tip: Because both thresholds are expressed in ATR units, a value that works on one symbol usually transfers to another without rescaling. Optimise `ExpandThreshold` and `CompressLookback` first — they have the largest impact on trade frequency and quality.

How to Install on MetaTrader 5

1. Copy `GuppyCompressionBreakout.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

Before going live: Run the EA in the MT5 Strategy Tester on your chosen symbol and timeframe, then forward-test on a demo account. Confirm that entries and the group-cross exit behave as expected before committing real capital.

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.