

Exhaustion Gap Reversal

Expert Advisor Documentation

PLATFORM

MetaTrader 5 (MT5)

TYPE

Reversal (Price Action / FVG)

TIMEFRAME

M15 – H1

WEBSITE

www.algotbot.live

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Overview

Exhaustion Gap Reversal is a pure price-action Expert Advisor that fades fair-value gaps (FVGs) at the end of an over-extended move. It uses **no indicators** — only raw candle geometry.

A fair-value gap is a three-candle imbalance left behind by a single impulsive middle candle: for a bullish gap the first candle's high sits below the third candle's low (and the mirror image for a bearish gap). Most gap systems treat that void as support or resistance that *holds*, trading continuation. Exhaustion Gap Reversal does the opposite.

The EA only acts when the impulsive candle that opens the gap simultaneously drives price to a **fresh swing extreme** — a new high for a bull gap, a new low for a bear gap. That thrust is read as a late-move liquidity grab rather than the start of a fresh leg: the gap is the last gasp of an exhausted side. Instead of being respected, the imbalance gets re-entered and rejected. The strategy trades the snap-back **against** the thrust.

- **Bull exhaustion gap** (up-thrust to a new swing high) → arm a **SELL** the fade.
- **Bear exhaustion gap** (down-thrust to a new swing low) → arm a **BUY** the fade.

Stops sit just beyond the exhaustion extreme — the level where the trapped side is run — while targets are set at a fixed reward-to-risk multiple. The only “average” in the system is a plain mean candle range computed inline to scale the minimum-gap filter to current volatility; it is candle geometry, not a technical indicator.

Design intent. Built with FX majors and XAU (gold) on M15–H1 in mind, but the logic is locked to *no* fixed timeframe — it runs on whatever primary timeframe the chart or backtest selects. It is a counter-trend reversal system: it deliberately enters against the most recent thrust.

How It Works

The EA acts **once per freshly-closed bar**. On each new bar it appends the bar that just closed, then runs two small state machines built entirely on candle geometry: a SELL machine armed from bull exhaustion gaps and a BUY machine armed from bear exhaustion gaps.

1. Detecting an Exhaustion Gap

On the three newest closed bars — `c1` (oldest), `c2` (the impulse), `c3` (newest) — the EA first measures the reference window: the `Lookback` bars immediately before the trio. From that window it computes the **average candle range** and the prior **swing high / low**.

The minimum gap size is then scaled to volatility: `minGap = MinGapFactor × avgRange`. A setup is detected when:

- **Bull exhaustion gap (arm SELL):** `c1.High < c3.Low` (an up-imbalance), the impulse candle is bullish (`c2.Close > c2.Open`), the gap height `c3.Low - c1.High ≥ minGap`, and the highest point of the trio prints a **new swing high** above the reference window. The protective level is the trio high (the exhaustion top); the gap zone is `[c1.High ... c3.Low]`.
- **Bear exhaustion gap (arm BUY):** `c1.Low > c3.High` (a down-imbalance), the impulse candle is bearish (`c2.Close < c2.Open`), the gap height `c1.Low - c3.High ≥ minGap`, and the lowest point of the trio prints a **new swing low** below the reference window. The protective level is the trio low (the exhaustion bottom); the gap zone is `[c3.High ... c1.Low]`.

2. Confirmation & Entry

Arming a setup never triggers a trade on the same bar — confirmation always needs a *later* bar to close back into the imbalance. For an armed setup the EA computes the fill threshold using `FillFraction`:

- **SELL fade:** a later bar closes **bearish** (`Close < Open`) and back down past the fill threshold `Hi - FillFraction × (Hi - Lo)` — price has snapped back into the gap. The EA sells at the bid.
- **BUY fade:** a later bar closes **bullish** (`Close > Open`) and back up past the fill threshold `Lo + FillFraction × (Hi - Lo)`. The EA buys at the ask.

Only one position per symbol/magic is allowed at a time; a new entry is skipped while a position is already open.

3. Invalidation & Expiry

An armed setup is discarded before it ever triggers if either condition occurs:

- **New extreme:** a bar closes beyond the protective level (a new high above the thrust for a SELL, a new low below the thrust for a BUY). The thrust was real continuation, not exhaustion — the fade is cancelled.
- **Expiry:** more than `ConfirmExpiry` bars pass since the setup was armed without confirmation. The setup goes stale and is dropped.

4. Stops & Targets

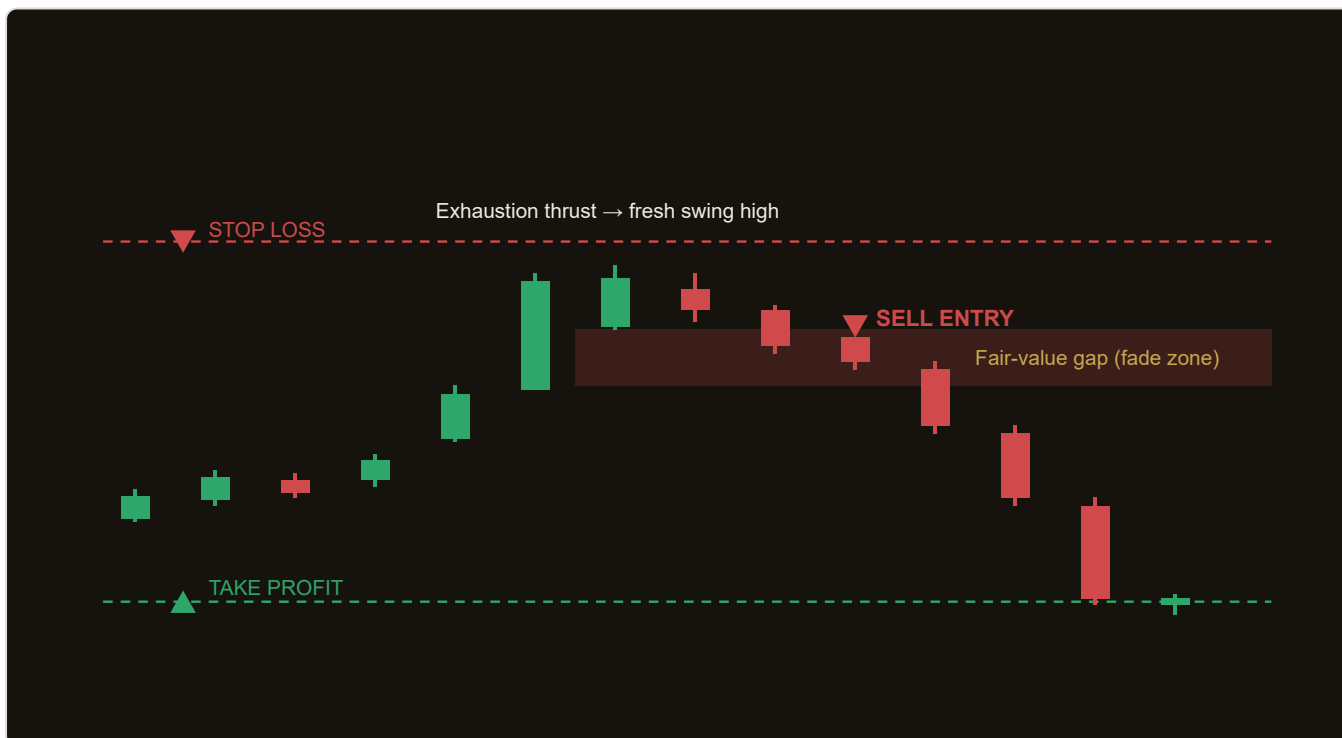
The protective stop sits just beyond the exhaustion extreme, padded by `StopBufferPct` of the gap height:

- **SELL:** $SL = Prot + StopBufferPct \times (Hi - Lo)$, placed just above the exhaustion high.
- **BUY:** $SL = Prot - StopBufferPct \times (Hi - Lo)$, placed just below the exhaustion low.

The take-profit is a fixed multiple of the measured risk: $TP = entry \pm RewardRisk \times risk$, where `risk` is the distance from entry to the stop. If the computed risk is not positive, the trade is skipped.

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.

Worked example (bull exhaustion gap → SELL fade)

An impulsive bullish candle drives price to a fresh swing high and leaves a fair-value gap of **14 pips** — comfortably above $\text{MinGapFactor} \times \text{avgRange}$. The EA arms a SELL with the gap zone as its target area and the exhaustion high as its protective level. Three bars later, a bearish candle closes back down past the 50% fill of the gap. The EA sells at the bid, places the stop just above the exhaustion high (plus the buffer), and sets the take-profit at **2x** the risk. Price rejects the imbalance and rolls over into the target.

Parameters

Parameter	Default	Description
Lookback	20	Reference window (in bars) used to compute the average candle range and the prior swing high / low. Range 8–60, step 1.
MinGapFactor	0.35	Minimum gap size expressed as a fraction of the average candle range. Filters out small, insignificant imbalances. Range 0.05–2.00, step 0.05.
FillFraction	0.50	How far back into the gap a confirming candle must close (as a fraction of gap height) before the fade is triggered. Range 0.10–1.00, step 0.05.
ConfirmExpiry	6	Number of bars an armed setup remains valid awaiting confirmation before it is discarded as stale. Range 1–25, step 1.
RewardRisk	2.0	Reward-to-risk multiple used to place the take-profit relative to the measured stop distance. Range 1.0–6.0, step 0.5.
StopBufferPct	0.25	Extra stop buffer beyond the exhaustion extreme, as a fraction of the gap height. Range 0.00–1.50, step 0.05.
Lots	0.10	Fixed trade volume (lot size) for each position. Range 0.01–1.00, step 0.01.
Magic	8240	EA magic number used to tag and manage only this strategy's own positions on the symbol.

Tuning tip. **MinGapFactor** and **FillFraction** are the two levers that shape selectivity. A higher **MinGapFactor** demands larger, more meaningful imbalances (fewer but cleaner setups), while a higher **FillFraction** waits for a deeper snap-back into the gap before committing — trading entry timing for confirmation quality.

Recommended Settings

The strategy was designed with FX majors and gold (XAU) on the M15–H1 range in mind, though it is not locked to any timeframe. As a starting point for evaluation:

- **Symbols:** liquid FX majors (EURUSD, GBPUSD, USDJPY) and XAUUSD.
- **Timeframe:** M15 to H1 — lower timeframes generate more setups but noisier gaps.
- **Defaults:** the shipped defaults (`Lookback 20` , `MinGapFactor 0.35` , `FillFraction 0.50` , `RewardRisk 2.0`) provide a balanced baseline.
- **Position sizing:** adjust `Lots` to keep per-trade risk within a small, fixed percentage of account equity.

Before going live. Always backtest and forward-test on a demo account with your own broker's spreads and execution before committing real capital. Because this is a counter-trend system, optimise `MinGapFactor` , `FillFraction` and `RewardRisk` jointly on out-of-sample data rather than each in isolation.

How to Install on MetaTrader 5

- 1 Copy `ExhaustionGapReversal.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.

