

Demand Zone Momentum

Expert Advisor Documentation

PLATFORM

MetaTrader 5 (MT5)

TYPE

Supply & Demand (Momentum)

TIMEFRAME

H1 (configurable)

WEBSITE

www.algotbot.live

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Overview

Demand Zone Momentum is a Supply & Demand strategy reinforced with an RSI momentum filter. It is built on the idea that institutional “zones” are created when a single strong impulse candle leaves an imbalance behind in the market. The origin of that impulse — the base of its body — becomes a fresh **demand zone** (after a bullish impulse) or a fresh **supply zone** (after a bearish impulse).

When price later pulls back *into* one of these zones, the EA does not blindly buy or sell. It first checks that RSI momentum is already rotating back in the direction of the original impulse. This single filter removes the many false touches where price slices straight through a stale zone without reacting. Long and short logic are perfectly symmetric.

The strategy operates on a **single timeframe** — every bar reference uses the chart period, so it runs on whatever timeframe the chart is set to. All decisions are made once per **closed bar**; the just-closed bar (shift 1) is the unit of analysis, which keeps the logic free of intrabar repainting.

How It Works

1. Zone Formation (the impulse)

On each closed bar the EA measures the candle's body against current volatility. A bar qualifies as an impulse when its body is at least `ImpulseAtrMult × ATR` in size:

- **Bullish impulse** → a new **demand zone** is stamped. Its proximal edge is the candle *open* (the body base) and its distal edge is the candle *low* (deeper fill).
- **Bearish impulse** → a new **supply zone** is stamped. Its proximal edge is the candle *open* and its distal edge is the candle *high*.

Only the most-recent demand zone and the most-recent supply zone are tracked at any time. A freshly stamped zone is created at `age 0`, so it cannot trigger an entry on the very bar it is born — price must first have a chance to leave and pull back.

2. Momentum Confirmation (RSI)

RSI is read on every closed bar together with its prior value. The EA derives a simple two-part momentum state around a configurable midline:

- **Momentum up** — RSI is above `RsiMidline` and rising versus the previous bar.
- **Momentum down** — RSI is below `RsiMidline` and falling versus the previous bar.

A demand-zone entry requires momentum up; a supply-zone entry requires momentum down. This is the filter that separates a genuine zone reaction from a clean breakthrough.

3. Entry Logic

Entries are evaluated only against zones that already existed before the current bar (`age ≥ 1`) and only when there is no open position for this EA's magic number.

Long (Demand) entry — all must be true

- An active demand zone exists with `age ≥ 1`.
- The closed bar dipped into the zone: its `Low ≤ demandHigh`.
- The closed bar held above the zone floor: its `Close > demandLow`.
- Momentum is up (RSI above midline and rising).

A market

Buy

is sent at the Ask with the zone consumed on fill.

Short (Supply) entry — all must be true

- An active supply zone exists with age ≥ 1 .
- The closed bar pushed into the zone: its $\text{High} \geq \text{supplyLow}$.
- The closed bar held below the zone ceiling: its $\text{Close} < \text{supplyHigh}$.
- Momentum is down (RSI below midline and falling).

A market

Sell

is sent at the Bid with the zone consumed on fill.

4. Stop Loss & Take Profit

Both exits are fixed at entry from the zone geometry and the risk:reward setting:

- **Long:** stop = $\text{demandLow} - \text{AtrSlMult} \times \text{ATR}$ (just below the zone). Risk = $\text{Ask} - \text{SL}$; target = $\text{Ask} + \text{RiskReward} \times \text{Risk}$.
- **Short:** stop = $\text{supplyHigh} + \text{AtrSlMult} \times \text{ATR}$ (just above the zone). Risk = $\text{SL} - \text{Bid}$; target = $\text{Bid} - \text{RiskReward} \times \text{Risk}$.

An order is only sent when the computed risk is positive, so degenerate stops are rejected automatically.

5. Zone Aging

Each active zone ages by one bar on every closed bar. Once a zone's age exceeds `ZoneValidityBars` it is retired unfilled. This prevents the EA from trading stale levels long after the imbalance that created them has been absorbed.

Note: the EA is always flat-or-one. A single position per magic number is held at a time, and the originating zone is immediately deactivated once it produces a trade — the same level is never traded twice.

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
AtrPeriod	14	ATR lookback used to gauge volatility — it sets both the impulse-size threshold and the stop-loss buffer. Range 8–30.
RsiPeriod	14	RSI lookback for the momentum confirmation filter. Range 7–21.
ImpulseAtrMult	1.2	A bar is treated as an impulse (zone origin) when its body \geq this multiple of ATR. Higher = stricter, fewer zones. Range 0.6–2.5.
ZoneValidityBars	20	Number of bars a zone stays active before it is retired unfilled. Range 5–60.
RsiMidline	50.0	Momentum midline: longs need RSI above it and rising, shorts need RSI below it and falling. Range 40–60.
AtrSIMult	0.5	Stop-loss distance placed this multiple of ATR beyond the far edge of the zone. Range 0.1–1.5.
RiskReward	2.0	Take-profit set at this multiple of the stop distance (risk). Range 1.0–4.0.
Lots	0.10	Fixed order volume in lots. Range 0.01–1.0.
Magic	1001	Magic number identifying and isolating this EA's positions.

Recommended Settings

The defaults are a balanced starting point and were chosen to mirror the strategy's core logic. Begin on a liquid major such as **EURUSD** on the **H1** timeframe, then validate any change in the MT5 Strategy Tester before going live.

Tuning tips:

- **Fewer, cleaner zones?** Raise `ImpulseAtrMult` toward 1.5–2.0 on noisier pairs so only decisive impulses stamp a zone.
- **More patient fills?** Increase `ZoneValidityBars` so zones survive longer while waiting for a pullback.
- **Stricter momentum?** Nudge `RsiMidline` a few points with the trend (e.g. 52 for longs-leaning regimes) to demand stronger rotation before entry.
- **Risk control:** keep `RiskReward` at 2.0 as a baseline and size `Lots` to your account so a single stop is a small, fixed fraction of equity.

Single position per magic. The EA holds at most one trade at a time and consumes a zone on entry. It does not pyramid, hedge, or martingale — do not run multiple instances on the same symbol with the same magic number.

How to Install on MetaTrader 5

- 1 Copy `DemandZoneMomentum.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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