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Darvas Box Breakout

Expert Advisor Documentation

PLATFORM	TYPE	TIMEFRAME	WEBSITE
MetaTrader 5 (MT5)	Price-Action Breakout	H1 – Daily	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

Darvas Box Breakout is a pure price-action Expert Advisor built on Nicolas Darvas's classic "box" theory. Price tends to consolidate inside horizontal "boxes" — narrow ranges bounded by a recent high (the box top) and a recent low (the box bottom) — before resuming a directional move. The EA waits for one of these ranges to *settle*, then trades the decisive break of a box edge in the direction of the breakout.

Everything the strategy needs is derived from raw OHLC data: swing extremes define the box, the age of those extremes measures how long the range has held, the box height gauges how tight the consolidation is, and the average bar range serves as a price-action volatility proxy. **No technical indicators are used.** Each trade is protected by a structural stop placed on the far side of the box and a take-profit set at a fixed reward-to-risk multiple.

> **Core idea:** a valid Darvas box is one whose top and bottom were established several bars ago and have *held* — no new extreme since. That maturity requirement is what separates a genuine settled consolidation from an active trend leg that merely looks like a range.

How It Works

The EA acts **once per completed bar**. On each new bar it appends the just-closed bar to its rolling history and evaluates whether a fresh breakout setup exists. If a position opened by this EA is already running, it does nothing further — the stop-loss and take-profit manage the open trade.

1. Building the box

From the `BoxLookback` bars immediately preceding the just-closed "trigger" bar, the EA records the highest high (the **box top**) and the lowest low (the **box bottom**). Ties keep the *oldest* extreme, so the box reflects the earliest point at which each edge was set.

2. Maturity check — has the box held?

Both the top and the bottom must have been established at least `MinHoldBars` bars before the last box bar. If either extreme was printed too recently, the range is still extending rather than consolidating, and the setup is rejected. This is the defining "settled consolidation" filter.

3. Volatility & tightness filter

The EA computes an **average bar range** (mean of High − Low) over the most recent `RangePeriod` bars as a volatility proxy. It then rejects any box taller than `MaxBoxRange × avgRange` — only genuinely tight, low-energy ranges qualify, filtering out tall "boxes" that are really trending legs.

4. Entry logic

A **buffer** equal to `BufferMult × avgRange` is added to each edge so the close must clear the level decisively, not just tick through it.

- **Long breakout:** the trigger bar closes *above* `box top + buffer` → enter a **Buy** at the current Ask.
- **Short breakout:** the trigger bar closes *below* `box bottom − buffer` → enter a **Sell** at the current Bid.

5. Stops, targets & risk

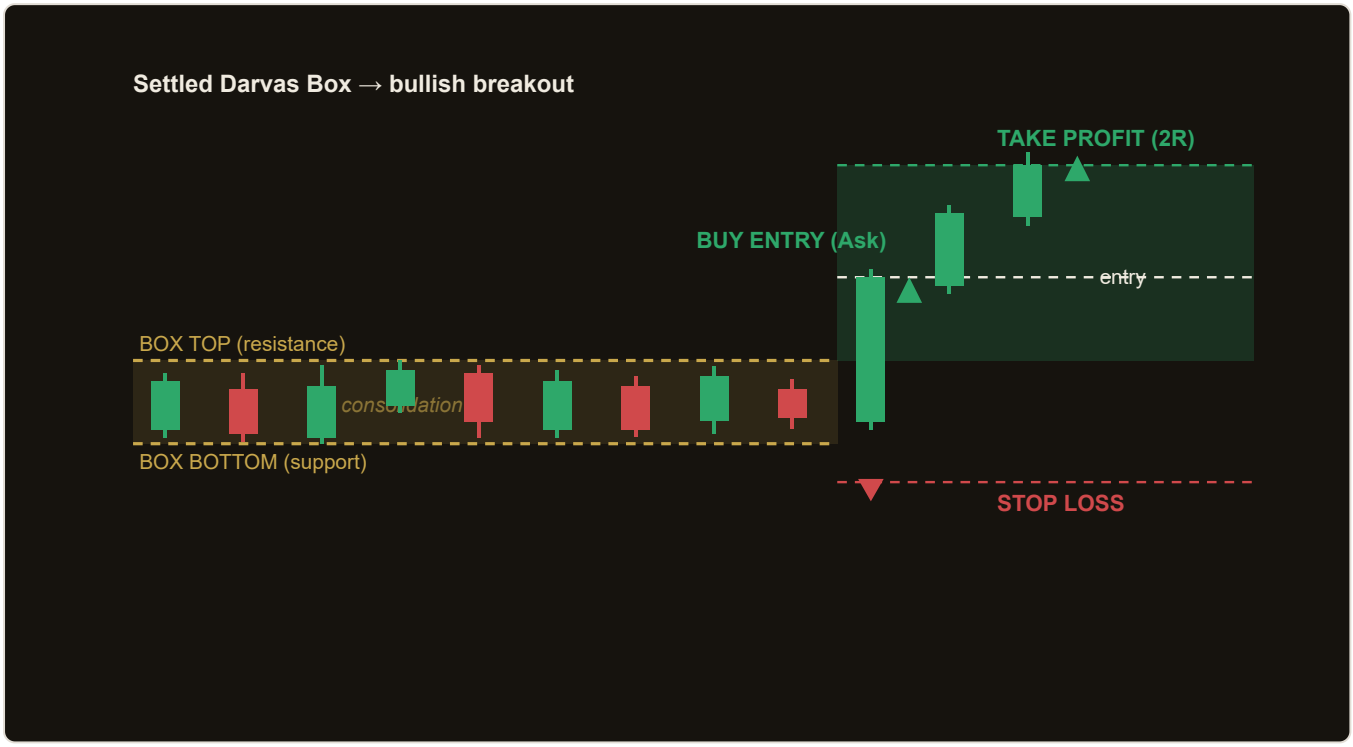
The stop-loss is structural — placed just beyond the opposite box edge so the trade is invalidated only if price falls back through the whole range:

- **Long:** SL = `box bottom − buffer`; risk = entry − SL; TP = entry + `Reward × risk`.
- **Short:** SL = `box top + buffer`; risk = SL − entry; TP = entry − `Reward × risk`.

A trade is only submitted when the computed risk is positive. With the default `Reward = 2.0`, each trade targets twice its risk in profit. Only one position per `Magic` number is held at a time.

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 (long)

A 20-bar box settles with top = 1.1050 and bottom = 1.1000 (height 50 pips). With an average bar range of 20 pips and `BufferMult = 0.10`, the buffer is 2 pips. The trigger bar closes at 1.1054 — above 1.1050 + 2 = 1.1052 — so a Buy fills at the Ask (≈1.1055). The stop sits at 1.1000 − 2 = 1.0998 (risk ≈ 57 pips), and with `Reward = 2.0` the take-profit is set ≈114 pips above entry at 1.1169.

Parameters

Parameter	Default	Description
BoxLookback	`20`	Number of bars preceding the trigger that form the box. Range 8–60, step 2. Larger values require broader, longer-held ranges.
MinHoldBars	`3`	Minimum bars an extreme must have held before the last box bar for the box to count as "settled." Range 1–12, step 1.
RangePeriod	`14`	Number of recent bars averaged (High − Low) for the volatility proxy. Range 5–40, step 1.
MaxBoxRange	`3.0`	Maximum box height as a multiple of the average bar range. Taller boxes are rejected as trending. Range 1.0–8.0, step 0.5.
BufferMult	`0.10`	Breakout/stop buffer as a fraction of the average bar range. Range 0.0–1.0, step 0.05. Higher values demand a more decisive break.
Reward	`2.0`	Reward-to-risk multiple used to place the take-profit relative to the stop distance. Range 0.5–5.0, step 0.5.
Lots	`0.10`	Order volume in lots. Range 0.01–1.0, step 0.05. Size to your account and risk tolerance.
Magic	`7720`	Magic number identifying this EA's trades. Only one position per magic is held at a time; use a unique value per chart.

Recommended Settings

Darvas's original method was designed on daily charts, but the EA adapts to any timeframe where clean consolidation-then-breakout structure appears. As a starting point:

- **Timeframe:** H1 to Daily. Higher timeframes produce fewer but structurally cleaner boxes.
- **Instruments:** trending majors and indices that alternate between range and impulse (e.g. EURUSD, GBPUSD, US indices, gold).
- **Defaults:** the supplied defaults (Lookback 20, Hold 3, Range 14, MaxBoxRange 3.0, Buffer 0.10, Reward 2.0) are a balanced baseline.

> **Tuning tips:** raise `MinHoldBars` and lower `MaxBoxRange` to demand tighter, more mature ranges (fewer, higher-quality signals). Increase `BufferMult` on noisy instruments to avoid false breaks. Always validate any parameter set in the MT5 Strategy Tester on your chosen symbol and timeframe before going live.

Position sizing: `Lots` is a fixed volume — it does not auto-scale to account equity or the stop distance. Because stop distance varies with box height, the cash risk per trade is not constant. Set `Lots` conservatively relative to your balance.

How to Install on MetaTrader 5

1. Copy `DarvasBoxBreakout.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.