

Backtest Performance Report

Bars processed: 18697
Trades executed: 580
Starting capital: 10,000.00
Total capital (final equity): 136,119.61
Max capital: 138,795.79
Min capital: 9,837.77
Total fees paid: 2,428.89
Total interest/funding paid: 0.00
Total profit before fees: 128,548.50
Duplicate timestamps: 0
Missing bars: 16
Outlier bars: 65
Total volume traded: 24,288,883.38
Max effective leverage used: 2.26x

Key stats:

Periods Per Year: 2192.0000
Total Return: 1261.20%
Cagr: 35.81%
Volatility: 19.27%
Sharpe: 1.6845
Sortino: 1.8034
Max Drawdown: -26.24%
Calmar: 1.3649
Total Trades: 580
Win Rate: 33.45%
Profit Factor: 1.7051
Avg Trade Pnl: 217.4476
Avg Win: 1572.0526
Avg Loss: -463.3642
Expectancy: 217.4476
Avg Holding Bars: 15.9138
Exposure: 49.37%

Position/trade stats:

Mean position size (USD): 20,897.08
Median position size (USD): 11,131.21
Mean trade PnL (USD/%): 217.45 / 0.49%
Median trade PnL (USD/%): -147.35 / -0.43%
Total slippage paid (est): 242.89
Fees per trade: 4.19
Slippage per trade (est): 0.42

Entry/Exit Outcomes

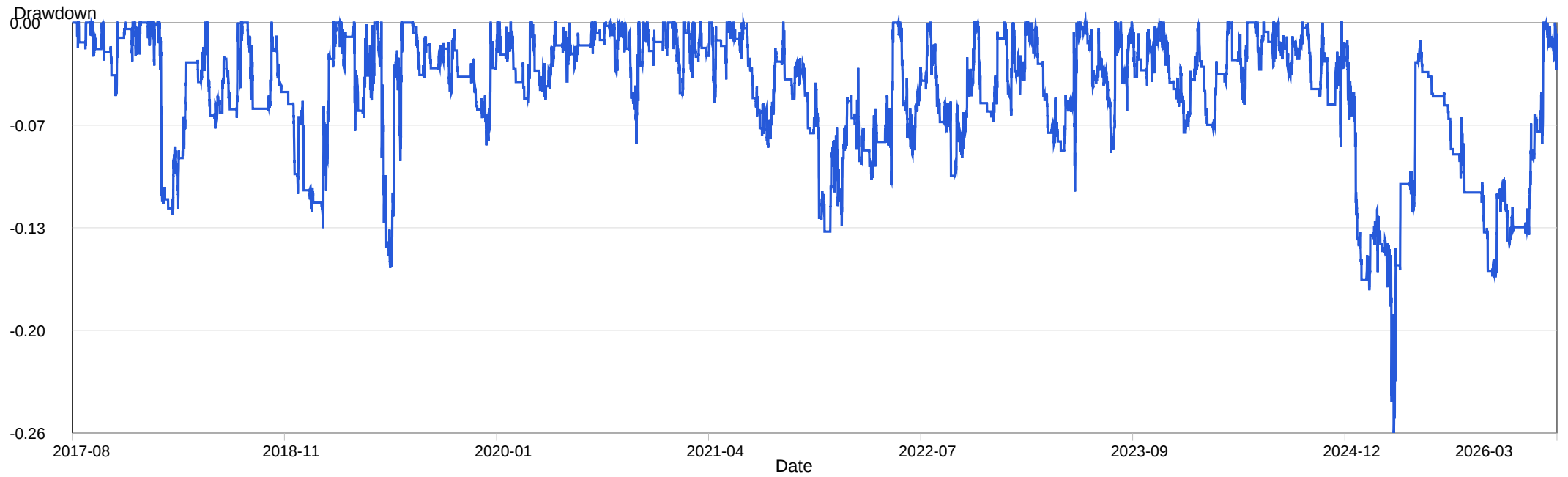
Entry	Exit	Trades	Net PnL
Bearish 1W	Signal Intent Flip to Bullish 1W	16	+10,896
Bearish 1W	Strategy Exit Reason: 1W-D Opposite Close	1	+203
Bearish 1W	Strategy Exit Reason: Red Gator Teeth PP	2	+4,303
Bearish 1W	Strategy Exit Reason: Underlying Gain Target	10	+17,081
Bearish 1W	Strategy Exit Reason: Williams Zones PP	3	+2,622
Bearish 1W	Strategy Reversal to Bullish 1W	2	+1,489
Bearish 1W	Strategy Stop Loss Bearish 1W	155	-51,896
Bearish 1W + Bearish Add-on Fractal	Signal Intent Flip to Bullish 1W	9	+6,819
Bearish 1W + Bearish Add-on Fractal	Strategy Exit Reason: 1W-A Opposite Close	1	+67
Bearish 1W + Bearish Add-on Fractal	Strategy Exit Reason: Red Gator Teeth PP	4	+6,164
Bearish 1W + Bearish Add-on Fractal	Strategy Exit Reason: Williams Zones PP	8	+23,708
Bearish 1W + Bearish Add-on Fractal	Strategy Stop Loss Bearish 1W	5	-6,287
Bearish 1W-R	Strategy Exit Reason: 1W-R Flattened by Opposite 1W	1	+3,890
Bearish 1W-R	Strategy Exit Reason: Red Gator Teeth PP	1	+624
Bearish 1W-R	Strategy Exit Reason: Underlying Gain Target	5	+10,503
Bearish 1W-R	Strategy Reversal to Bullish 1W	1	-248
Bearish 1W-R	Strategy Stop Loss Bearish 1W-R	18	-15,094
Bearish 1W-R + Bearish Add-on Fractal	Strategy Exit Reason: 1W-R Flattened by Opposite 1W	1	+5,153
Bearish 1W-R + Bearish Add-on Fractal	Strategy Exit Reason: Red Gator Teeth PP	1	+139
Bearish 1W-R + Bearish Add-on Fractal	Strategy Exit Reason: Underlying Gain Target	5	+25,422
Bearish 1W-R + Bearish Add-on Fractal	Strategy Exit Reason: Williams Zones PP	2	+11,058
Bearish 1W-R + Bearish Add-on Fractal	Strategy Reversal to Bullish 1W	3	+2,780
Bearish 1W-R + Bearish Add-on Fractal	Strategy Stop Loss Bearish 1W	12	-20,561
Bullish 1W	Signal Intent Flip to Bearish 1W	12	+14,457
Bullish 1W	Strategy Exit Reason: 1W-A Opposite Close	2	+1,233
Bullish 1W	Strategy Exit Reason: 1W-D Opposite Close	1	+640
Bullish 1W	Strategy Exit Reason: Red Gator Teeth PP	1	+799
Bullish 1W	Strategy Exit Reason: Underlying Gain Target	2	+13,126
Bullish 1W	Strategy Exit Reason: Williams Zones PP	3	+5,517
Bullish 1W	Strategy Reversal to Bearish 1W	1	+74
Bullish 1W	Strategy Stop Loss Bullish 1W	124	-43,731
Bullish 1W + Bullish Add-on Fractal	Engine End of Backtest	1	-520
Bullish 1W + Bullish Add-on Fractal	Signal Intent Flip to Bearish 1W	10	+13,365
Bullish 1W + Bullish Add-on Fractal	Strategy Exit Reason: 1W-D Opposite Close	2	+2,283
Bullish 1W + Bullish Add-on Fractal	Strategy Exit Reason: Red Gator Teeth PP	3	+3,560
Bullish 1W + Bullish Add-on Fractal	Strategy Exit Reason: Underlying Gain Target	8	+23,280

... 12 more rows not shown

Equity Over Time



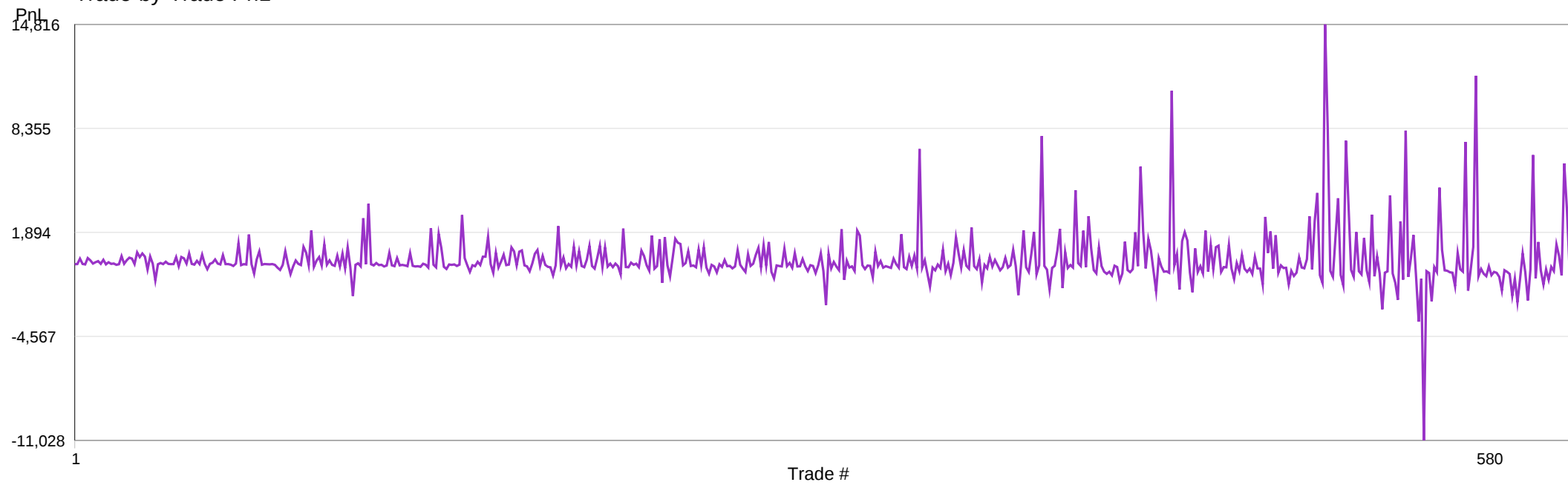
Drawdown Over Time



Cumulative Closed-Trade PnL

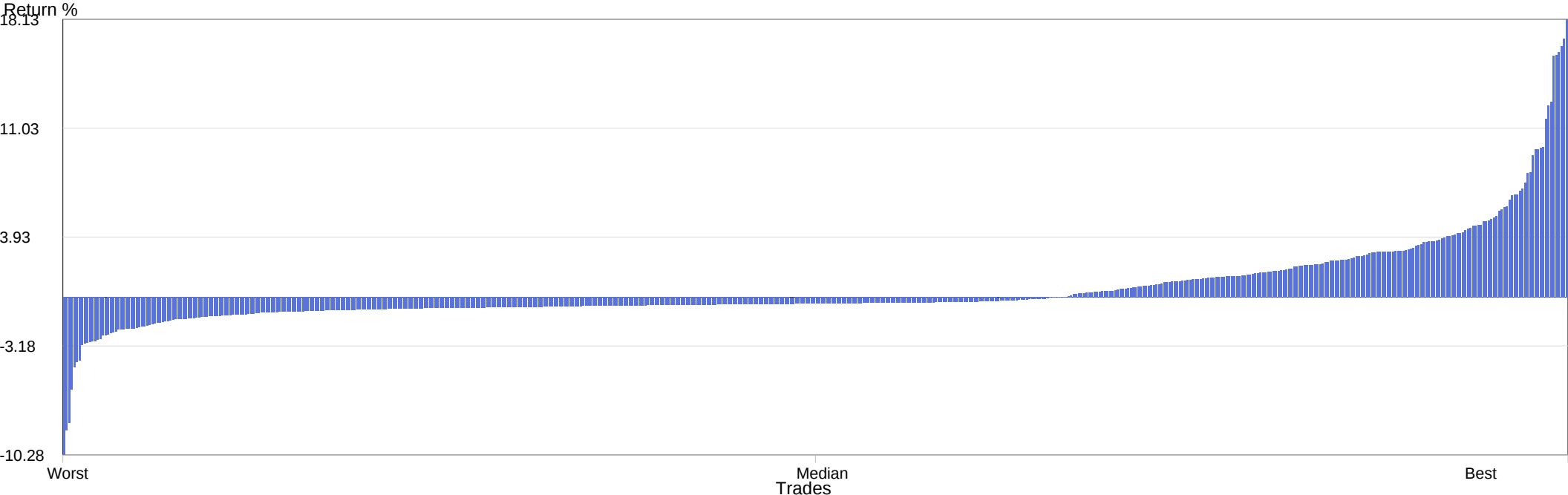


Trade-by-Trade PnL



Trade Return Distribution

Sorted Trade Return % (Worst to Best)



Trades analyzed: 580
Largest winner (PnL): 14,815.77
Largest loser (PnL): -11,027.57

Gross positive PnL contribution: 304,978.20
Gross negative PnL contribution: -178,858.59
Net closed-trade PnL: 126,119.61

Top profit contributors (PnL / return %):

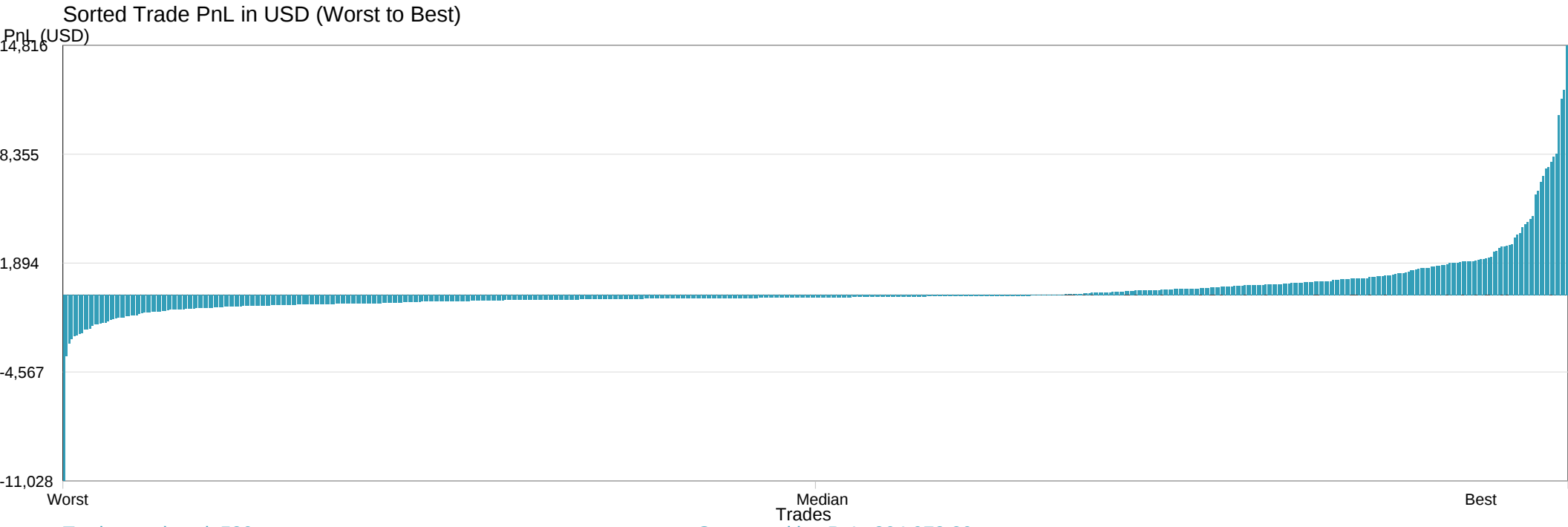
1. 14,815.77 / 16.88%
2. 12,188.42 / 9.79%
3. 11,626.75 / 9.74%
4. 10,691.83 / 15.75%
5. 8,387.10 / 8.17%

Top loss contributors (PnL / return %):

1. -11,027.57 / -8.69%
2. -3,651.65 / -2.78%
3. -2,881.44 / -2.30%
4. -2,609.43 / -6.03%
5. -2,434.52 / -2.05%

Bars are sorted by return %. Negative bars are below zero; positive bars are above zero.

Trade Return Distribution (USD)



Trades analyzed: 580

Largest winner (USD): 14,815.77

Largest loser (USD): -11,027.57

Gross positive PnL: 304,978.20

Gross negative PnL: -178,858.59

Net closed-trade PnL: 126,119.61

Bars are sorted by trade PnL in USD. Negative bars are below zero; positive bars are above zero.

Volume / Fees / Slippage Turnover

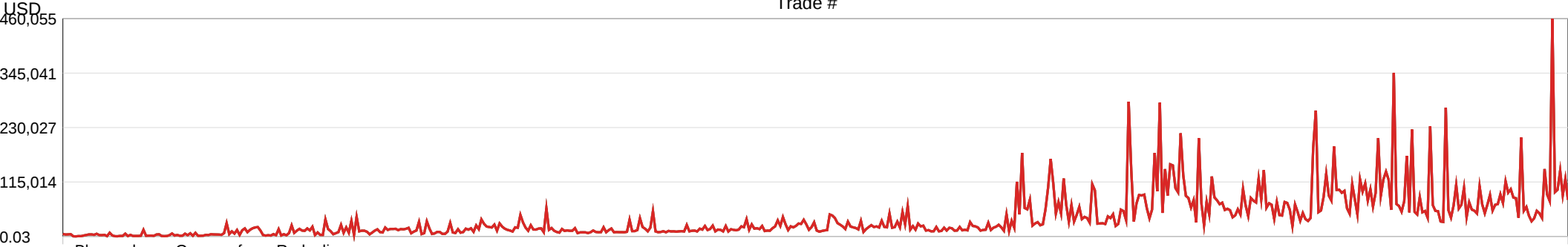
Total cumulative volume (USD): 24,288,883.38
Total cumulative fees (USD): 2,428.89
Total cumulative slippage (USD est): 242.89
Mean volume per trade (USD): 41,877.39
Median volume per trade (USD): 22,364.77
Mean fee per trade (USD): 4.19
Median fee per trade (USD): 2.24
Mean slippage per trade (USD est): 0.42
Median slippage per trade (USD est): 0.22
Cumulative Volume by Trade



Cumulative Fees & Slippage by Trade



Per-Trade Volume / Fees / Slippage



1 Blue=volume, Orange=fees, Red=slippage

Trade #

580

Performance Diagnostics & Recommendations

Reconciliation:

Closed-trade PnL (net of all allocated fees/funding): 126,119.61

Net profit (final - starting equity): 126,119.61

Total fees paid: 2,428.89

Total interest/funding paid: 0.00

Gross closed-trade profit before fees: 128,548.50

Reconciliation gap (should be 0.00): 0.00

Trade distribution:

Largest win: 14,815.77

Largest loss: -11,027.57

Average trade PnL: 217.45

Expectancy per trade: 217.45

Mean position size (USD): 20,897.08

Median position size (USD): 11,131.21

Data quality / outlier report:

Datetime index: True

Timezone aware: True

Duplicate timestamps: 0

Missing bars: 16

Outlier bars ($|z| > 5$ on close returns): 65

Recommendations:

- Max drawdown exceeds 25%: tighten risk limits and consider lower position sizing.
- Outlier bars detected: verify candles around spikes and consider robust filters.
- Missing bars detected: fill or remove gaps before comparing strategy variants.

Robustness warnings:

- CAGR drops >40% without top 5% winners

Robustness Summary

SQN: 4.14 (strong)
Top-trade dependency warning: True
Sign-flip stress warning: False
Regime dependency warning: False
Robustness score: 3/4 (robust)

Top 5% Winners Removal Test

Trades removed: 29
CAGR drop: 102.11%
Reduced CAGR: -0.76%
Reduced Sharpe: 0.02
Reduced Profit Factor: 1.01
Reduced Max Drawdown: -30.88%

Sign-Flip Stress Test (100 runs, 15% flips)

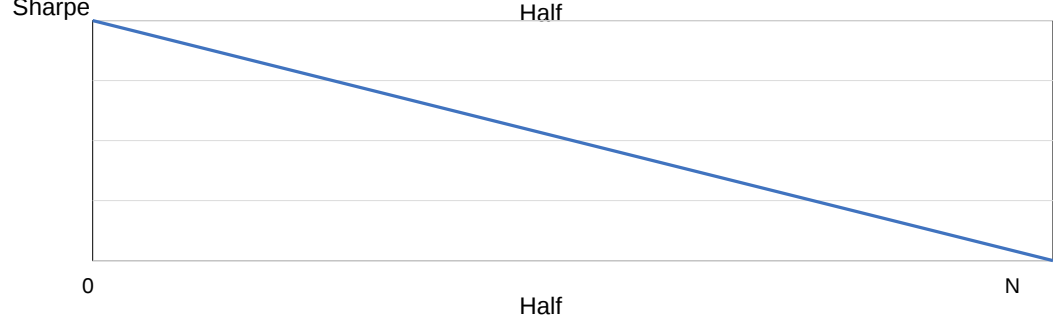
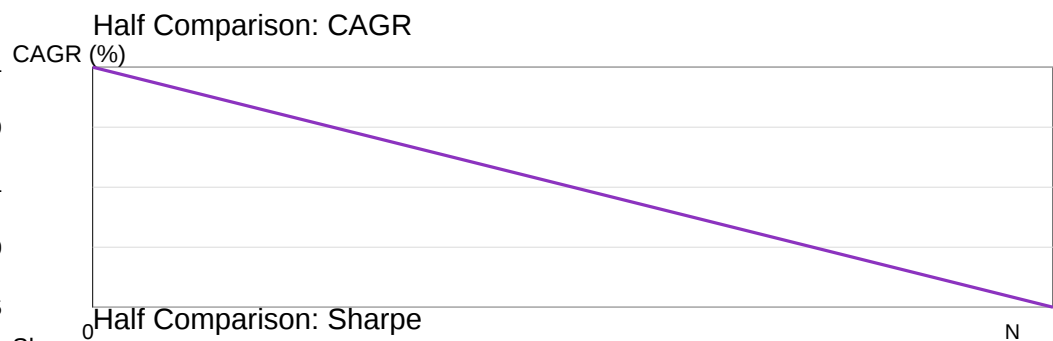
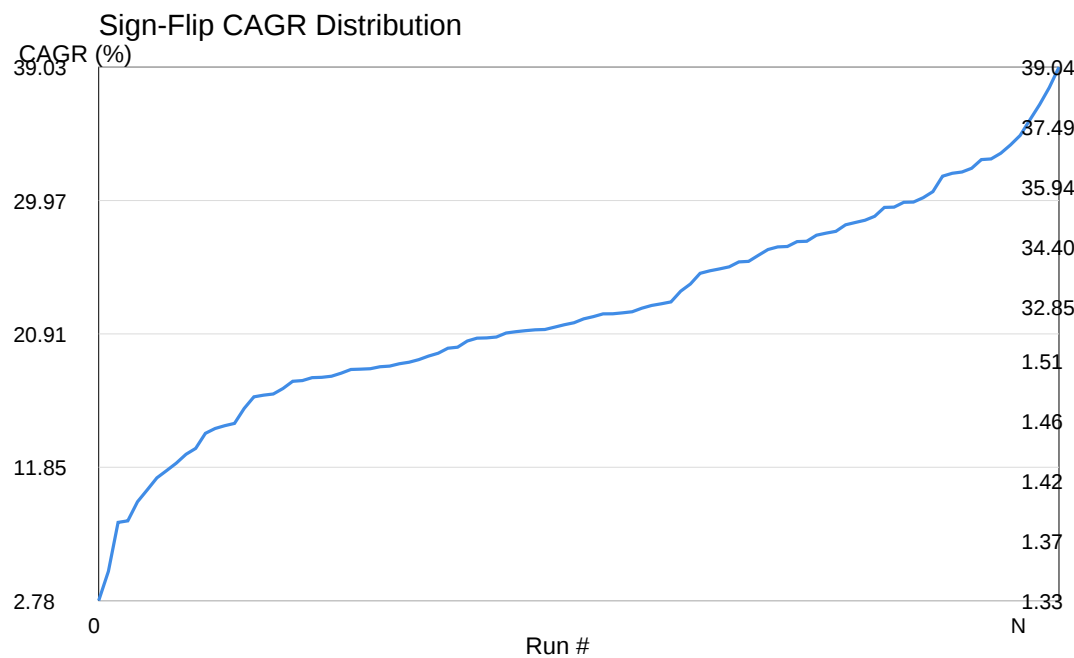
Average CAGR: 22.41%
Median CAGR: 21.80%
Average Max Drawdown: -27.75%

First Half vs Second Half

First half CAGR/Sharpe: 39.04% / 1.51
Second half CAGR/Sharpe: 32.85% / 1.33
CAGR diff: 15.85%
Sharpe diff: 11.94%

Robustness Checks Table

Test	Result	Status
SQN	4.14	PASS
Top 5% winners	102.1% CAGR drop	WARN
Sign-flip stress	median 21.80% CAGR	PASS
Half stability	CAGR 15.8% / Sharpe 11.9%	PASS



CLI Flags Used for This Backtest (page 1)

All command-line options and values for reproducibility.

--allow-close-on-1w-a: True
--allow-close-on-1w-a-min-unrealized-return: 0.15
--allow-close-on-1w-d: True
--allow-close-on-1w-d-min-unrealized-return: 0.15
--asset-allocation: 1.0
--asset-size: []
--borrow-annual: 0.0
--bw-1w-contracts: 6
--bw-1w-divergence-filter-bars: 240
--bw-1w-gator-open-lookback: 180
--bw-1w-gator-open-percentile: 0.0
--bw-atr-ut-filter: False
--bw-atr-ut-filter-allow-filtered-reversals: True
--bw-atr-ut-filter-csv: .\examples\BINANCE_BTCUSD30m.csv
--bw-atr-ut-filter-detection-mode: intrabar
--bw-atr-ut-filter-key-value: 1.0
--bw-atr-ut-filter-period: 10
--bw-atr-ut-filter-timeframe: 30m
--bw-atr-ut-filter-timestamp-convention: open
--bw-atr-ut-flip-stop: False
--bw-atr-ut-independent-contracts: 0.0
--bw-atr-ut-independent-trades: False
--bw-atr-ut-trading-halt-csv: None
--bw-atr-ut-trading-halt-detection-mode: None
--bw-atr-ut-trading-halt-direction: none
--bw-atr-ut-trading-halt-key-value: None
--bw-atr-ut-trading-halt-period: None
--bw-atr-ut-trading-halt-timeframe: None
--bw-atr-ut-trading-halt-timestamp-convention: None
--bw-close-on-underlying-gain-pct: 0.25
--bw-fractal-add-on-contracts: 3
--bw-fractal-add-ons-enabled: True
--bw-ntd-initial-fractal-contracts: 1
--bw-ntd-initial-fractal-enabled: False
--bw-ntd-ranging-lookback: 20
--bw-ntd-ranging-max-span-pct: 0.025

CLI Flags Used for This Backtest (page 2)

All command-line options and values for reproducibility.

```
--bw-ntd-sleeping-gator-lookback: 50
--bw-ntd-sleeping-gator-tightness-mult: 0.75
--bw-only-trade-1w-r: False
--bw-peak-drawdown-exit: False
--bw-peak-drawdown-exit-annualized-volatility-scaler: 1.0
--bw-peak-drawdown-exit-pct: 0.01
--bw-peak-drawdown-exit-volatility-lookback: 20
--bw-profit-protection-green-lips-annualized-volatility-scaler: 0.0
--bw-profit-protection-green-lips-exit: True
--bw-profit-protection-green-lips-latch-min-unrealized-return: True
--bw-profit-protection-green-lips-min-bars: 15
--bw-profit-protection-green-lips-min-unrealized-return: 0.1
--bw-profit-protection-green-lips-require-gator-direction-alignment: False
--bw-profit-protection-green-lips-volatility-lookback: 20
--bw-profit-protection-red-teeth-annualized-volatility-scaler: 0.25
--bw-profit-protection-red-teeth-exit: True
--bw-profit-protection-red-teeth-latch-min-unrealized-return: False
--bw-profit-protection-red-teeth-min-bars: 15
--bw-profit-protection-red-teeth-min-unrealized-return: 0.05
--bw-profit-protection-red-teeth-require-gator-direction-alignment: False
--bw-profit-protection-red-teeth-volatility-lookback: 20
--bw-profit-protection-sigma-move-exit: False
--bw-profit-protection-sigma-move-lookback: 90
--bw-profit-protection-sigma-move-sigma: 5.0
--bw-profit-protection-zones-annualized-volatility-scaler: 0.25
--bw-profit-protection-zones-exit: True
--bw-profit-protection-zones-min-bars: 15
--bw-profit-protection-zones-min-same-color-bars: 5
--bw-profit-protection-zones-min-unrealized-return: 0.05
--bw-profit-protection-zones-volatility-lookback: 20
--capital: 10000.0
--chart-max-bars: None
--csv: .\examples\BINANCE_ETHUSD4h.csv
--end: 2026-03-01
--equity-cutoff: 1000.0
--fee: 0.0001
```

CLI Flags Used for This Backtest (page 3)

All command-line options and values for reproducibility.

--funding-per-period: 0.0
--gator-width-lookback: 50
--gator-width-mult: 1.0
--gator-width-valid-factor: 1.0
--initial-capital: 10000.0
--leverage-stop-out: 0.001
--max-leverage: 20.0
--max-loss: None
--max-loss-pct-of-equity: None
--max-position-size: None
--ntd-ao-ac-near-zero-factor: 0.25
--ntd-ao-ac-near-zero-lookback: 50
--ntd-require-gator-close-reset: None
--order-type: stop
--out: .\artifacts_new_2020to2026
--overnight-annual: 0.0
--size-equity-milestones:
--size-min-usd: 0.0
--size-mode: volatility_scaled
--size-value: 0.1
--skip-chart: False
--skip-pdf: False
--skip-pine: False
--skip-runtime-estimate: False
--slippage: 1e-05
--spread: 0.0
--start: 2017-06-01
--strategy: bw
--volatility-lookback: 20
--volatility-max-scale: 3.0
--volatility-min-scale: 0.25
--volatility-target-annual: 0.25
--wiseman-1w-contracts: 1
--wiseman-1w-divergence-filter-bars: 0
--wiseman-1w-opposite-close-min-unrealized-return: 0.0
--wiseman-1w-wait-bars-to-close: 0

CLI Flags Used for This Backtest (page 4)

All command-line options and values for reproducibility.

```
--wiseman-2w-contracts: 3
--wiseman-3w-contracts: 5
--wiseman-cancel-reversal-on-first-exit: False
--wiseman-gator-direction-mode: 1
--wiseman-profit-protection-annualized-volatility-scaler: 1.0
--wiseman-profit-protection-credit-unrealized-before-min-bars: False
--wiseman-profit-protection-lips-arm-on-min-unrealized-return: False
--wiseman-profit-protection-lips-exit: False
--wiseman-profit-protection-lips-min-unrealized-return: 1.0
--wiseman-profit-protection-lips-profit-trigger-mult: 2.0
--wiseman-profit-protection-lips-recent-trade-lookback: 5
--wiseman-profit-protection-lips-volatility-lookback: 20
--wiseman-profit-protection-lips-volatility-trigger: 0.02
--wiseman-profit-protection-min-bars: 3
--wiseman-profit-protection-min-unrealized-return: 1.0
--wiseman-profit-protection-require-gator-open: True
--wiseman-profit-protection-teeth-exit: False
--wiseman-profit-protection-volatility-lookback: None
--wiseman-profit-protection-zones-exit: False
--wiseman-profit-protection-zones-min-unrealized-return: 1.0
--wiseman-reversal-contracts-mult: 1.0
--wiseman-reversal-cooldown: 0
```