



Saxo**TraderPRO**

Algorithmic Order Guide



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Supported markets

// APAC

Hong Kong
Japan
Australia
Singapore

// EMEA

Austria
Belgium
Denmark
Finland
France
Germany
Ireland
Italy
Netherlands
Norway
Portugal
South Africa
Spain
Sweden
Switzerland
United Kingdom

// North America

United States
Canada

VWAP

VWAP works an order over a user-specific time interval, attempting to match or beat the Volume-Weighted Average Price (VWAP) for that time interval. The order is executed proportionally with the expected market based on historical volume distribution. Since the VWAP is executed according to the expected market volume the strategy should not be used on days where the actual market volume is deviating significantly from the normal historic market volume.

Key considerations:

Volume moving sharply away from historical distribution, e.g. unexpected company news will likely result in higher deviation from VWAP benchmark.

Parameter options:

// Limit Price (Optional)

// Start / End Time (Optional):

If not specified, start and end times are by default set to market open and market close, respectively. Start and end times are defined in local exchange time.

// Max Participation Rate (Recommended):

Ability to place constraint on the maximum percentage of trade volume in which the order should participate.

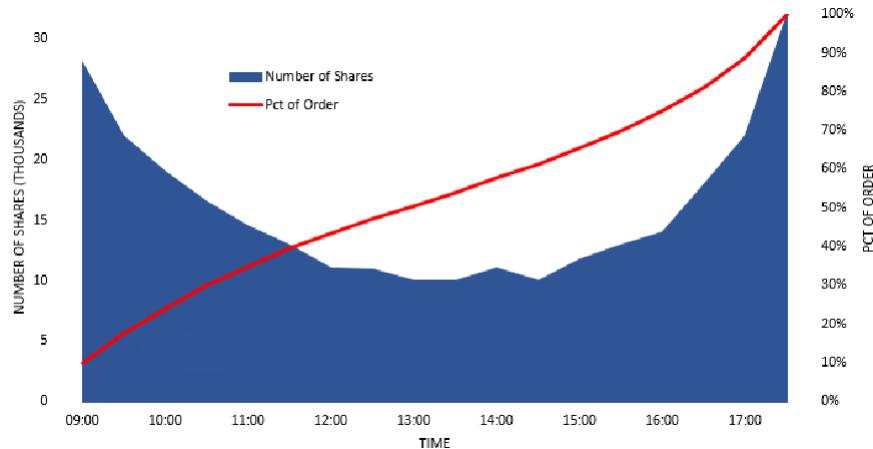
// In Open / In Close Auction (Optional):

The user can decide to not participate in opening and/or closing auctions. If not specified these are by default set to include auctions.

// I Would Price (Optional):

Attempts to complete or trade up to the price specified. Within this price the order can be up to 100% of trade volume.

Sample Trading Horizon



TWAP

TWAP will trade linearly over the specified time period. The strategy aims to trade evenly throughout the period regardless of volume while reducing market impact and attempting to maximize anonymity

Key considerations:

During unpredictable spikes in volume liquidity might be missed and during low volume periods the order could be significant part of the traded volume.

EQ Lloyds Banking Group Plc		London Stock Exchange		
Bid	Ask	Last traded	Net change	% Change
58.44	58.45	58.39	0.92	1.60%
Market closed		London Stock Exchange		
Show market depth				
Type	<	Algo	>	
Strategy	<	TWAP	>	
Order type	<	Market	>	
Buy/Sell	<	Buy	>	
Shares	-	2,400	+	
Duration	Day Order			
Hide algo parameters				
Start Time	i	<	12:30	>
End Time	i	<	14:30	>
Max Participation Rate	i	-	12	+
In Open Auction	i	<	Off	>
In Close Auction	i	<	Off	>
I Would Price	i	-	Off	+
PLACE ORDER				

Parameter options:

// Limit Price (Optional)

// Start / End Time (Optional):

If not specified, start and end times are by default set to market open and market close, respectively. Start and end times are defined in local exchange time.

// Max Participation Rate (Recommended):

Ability to place constraint on the maximum percentage of trade volume in which the order should participate.

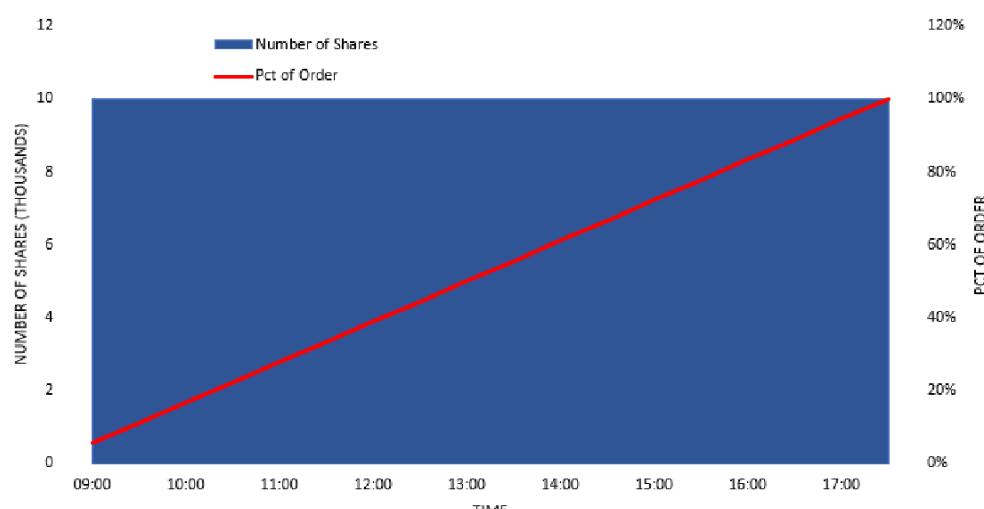
// In Open / In Close Auction (Optional):

The user can decide to not participate in opening and/or closing auctions. If not specified these are by default set to include auctions.

// I Would Price (Optional):

Attempts to complete or trade up to the price specified. Within this price the order can be up to 100% of trade volume.

Sample Trading Horizon



With Volume

With Volume trades in proportion with actual market activity targeting the participation at a user specified percentage of overall traded volume. The strategy is suited when the trader wants to directly control their participation rate and/or be more involved when the stock is trading heavily. As the strategy trades in proportion with actual market volume it is more suited for stocks whose trading volume varies substantially from a day to day basis.

Key considerations:

With Volume does not guarantee completion if there is low liquidity and may fill early if there is high liquidity. Participation in a volume spike could lead to large volume execution around an event which offers un-favourable price.

Apple Inc. AAPL.xnas • USD				
Bid 232.50	Ask 232.52	Last traded 232.51	Net change 3.23	% Change 1.41%
15 minutes delayed – 18:14:19 NASDAQ				
Type	<	Algo	>	
Strategy	<	With Volume	>	
Order type	<	Market	>	
Buy/Sell	<	Sell	>	
Shares	-	14,500	+	
Duration	Day Order			
Hide algo parameters				
Start Time	i <	Start of trading	>	
End Time	i <	End of trading	>	
Max Participation Rate	i -	5	+	
In Open Auction	i <	Off	>	
In Close Auction	i <	Off	>	
I Would Price	i -	Off	+	
PLACE ORDER				

Parameter options:

// Limit Price (Optional)

// Start / End Time (Optional):

If not specified, start and end times are by default set to market open and market close, respectively. Start and end times are defined in local exchange time.

// Max Participation Rate (Recommended):

The percentage of trade volume in which the order should participate.

// In Open / In Close Auction (Optional):

The user can decide to not participate in opening and/or closing auctions. If not specified these are by default set to include auctions.

// I Would Price (Optional):

Attempts to complete or trade up to the price specified. Within this price the order can be up to 100% of trade volume.

Implementation Shortfall

Implementation Shortfall aims to optimize the time of trading to minimize the combination of price impact and the risk of potential price movement. The optimization considers the current marketplace and stock-specific trading characteristics as well as the size of the order. The order is executed in line with the expected volume profile. Higher urgencies trade faster at the beginning to maximize liquidity capture at the current price, whereas low urgency will prioritize to minimize market impact while taking more execution risk.

Key considerations:

Should be avoided on days with high volatility periods or when volume distribution is uncertain.

EO Enel ENELxm1 • EUR			
Bid	Ask	Last traded	Net change % Change
4.541	4.543	4.521	0.112 2.54%
Market closed Borsa Italiana/Milan Stock Exchange			
Show market depth			
Type	<	Algo	>
Strategy	<	Implementation Shortfall	>
Order type	<	Limit	>
Buy/Sell	<	Buy	>
Shares	-	4,000	+
Price	-	4.547	+
Duration	Day Order		
Hide algo parameters			
Start Time	i <	Start of trading	>
End Time	i <	End of trading	>
Max Participation Rate	i -	15	+
In Open Auction	i <	Off	>
In Close Auction	i <	Yes	>
I Would Price	i -	4.530	+
Urgency	i <	Medium	>
PLACE ORDER			

Parameter options:

// Limit Price (Optional)

// Start / End Time (Optional):

If not specified, start and end times are by default set to market open and market close, respectively. Start and end times are defined in local exchange time.

// Max Participation Rate (Recommended):

Ability to place constraint on the maximum percentage of trade volume in which the order should participate.

// In Open / In Close Auction (Optional):

The user can decide to not participate in opening and/or closing auctions. If not specified these are by default set to include auctions.

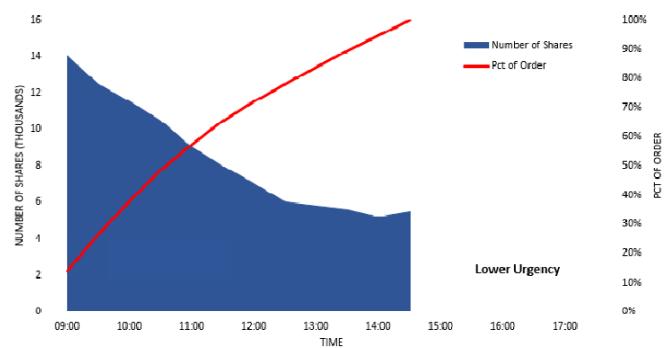
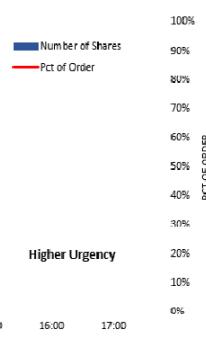
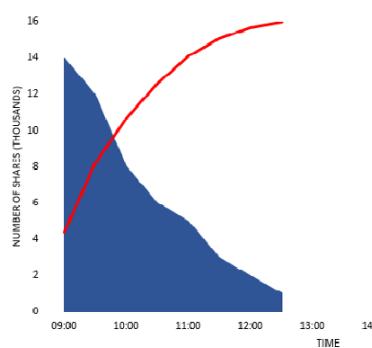
// I Would Price (Optional):

Attempts to complete or trade up to the price specified. Within this price the order can be up to 100% of trade volume.

// Urgency (Mandatory):

Based on the urgency chosen the algorithm determines the optimal trading horizon. Higher urgencies trade faster at the beginning to maximize liquidity capture at the current price, whereas low urgency will prioritize to minimize market impact while taking more execution risk.

Sample Trading Horizon



Liquidity seeking

Strategy intelligently seeks liquidity across lit, hidden, dark/periodic and conditional venues. The strategy uses hidden orders to disguise its intentions from the market.

Within the order limit price the strategy will trade opportunistically against displayed liquidity and periodically sweep selected non-displayed venues, post in conditionals and seek block fills. The urgency parameter controls the aggressiveness of the strategy.

Key considerations:

When trading illiquid stocks the strategy may continually pay the spread when executing using the higher urgencies.

The screenshot shows a CFD trading interface for ING Groep NV (ING:xams • EUR). The top header displays the instrument name and exchange. Below it, a table provides real-time market data: Bid (9.8312), Ask (9.8475), Last traded (9.8400), Net change (0.1410), and % Change (1.45%). A note indicates the data is 15 minutes delayed. The Euronext Amsterdam logo is also present.

The main area is titled "Algo" and contains the following configuration:

- Strategy:** Liquidity Seeking
- Order type:** Limit
- Buy/Sell:** Buy
- Quantity:** 12,000
- Price:** 9.950
- Duration:** G.T.C.

Below these settings, there is a section for "Algo parameters" which includes an "Urgency" slider set to "Medium". At the bottom of the panel is a large blue "PLACE ORDER" button.

Parameter options:

// **Limit Price (Mandatory)**

// **Urgency (Mandatory):**

Low: Is a passive urgency that will not cross the spread to take the displayed quote. A low urgency strategy will send only dark and hidden orders.

Medium: Executes against the displayed quote whilst interacting with dark and hidden order books. In medium urgency the strategy will use IOC, hidden and dark order types.

When within the order limit price, a medium urgency strategy will periodically cross the spread to take a portion of the displayed liquidity whilst attempting to minimize market impact.

High: Executes to capture maximum liquidity whilst attempting to balance the effects of market impact. When within the order limit price, a high urgency strategy will aggressively seek liquidity and frequently cross the spread to take all of the far-side displayed liquidity. In high urgency the strategy will use IOC, hidden and dark order types.

For high urgency a tighter limit price is recommended.

Pre-market limit

Available for CFDs and Cash Shares on US Single Stocks and ETPs.

The order will participate in the pre-market from 7:00am, and any residual will be rolled into the continuous session as regular limit order at the same limit price.

CitiGroup Inc. C xny - USD				
Bid	Ask	Last traded	Net change	% Change
72.58	72.59	72.58	0.78	1.09%
(⌚ 15 minutes delayed – 10:18:30 New York Stock Exchange)				
Type	<	Algo	>	
Strategy	<	Pre-Market Limit	>	
Order type	Limit			
Buy/Sell	<	Buy	>	
Shares	-	250	+	
Price	-	72.00	+	
Duration	Day Order			
PLACE ORDER				

Parameter options:

// Limit Price (Mandatory)

Target Close

Target Close attempts to target the closing auction price whilst balancing market impact and benchmark risk of trading before the closing auction.

For orders large relative to the predicted closing auction volume, the strategy will create a pre-auction trajectory to trade any excess volume leading up to the closing auction. Otherwise the order will be fully routed into the closing auction.

Key considerations:

Larger orders may deviate from the closing auction price due to pre-auction trading.

EQ Nintendo Co Ltd 7974.xtk • JPY			
Bid 43,510.00	Ask 43,540.00	Last traded 43,530.00	Net change 210.00
Market closed		Tokyo Stock Exchange	
Account			
Type	<	Algo	>
Strategy	<	Target Close	>
Order type	<	Market	>
Buy/Sell	<	Buy	>
Shares	-	2,500	+
Duration	Day Order		
PLACE ORDER			

Parameter options:

// Limit Price (Mandatory)

Market On Close (MOC)

Available for CFDs and Cash Shares on North American and European Single Stocks and ETPs*.

An order that will execute as close as possible to the closing price.

The screenshot shows a trading interface for Micron Technology Inc. (MU:xnas + USD). The 'Strategy' dropdown is set to 'Market on Close (MOC)'. Other settings include 'Buy/Sell' as 'Buy', 'Shares' as '500', and 'Duration' as 'Day Order'. The 'PLACE ORDER' button is highlighted in blue at the bottom.

North American exchange cutoff times:

- // NYSE 15:50 EST
- // NASDAQ 15:50 EST
- // NYSE ARCA 15:59 EST
- // AMEX 15:50 EST
- // IEX 15:50 EST
- // BATS 15:55 EST
- // Toronto / TSX 15:40 EST

Orders cannot be cancelled or modified after the cutoff times.

* MOC not available in Spain, as order type is not natively supported by the exchange

Limit On Close (LOC)

Available for CFDs and Cash Shares on North American and European Single Stocks and ETPs*.

An order that will execute if the closing price is within the order limit price.

Parameter options:

// Limit Price (Mandatory)

North American exchange cutoff times:

- // NYSE 15:50 EST
- // NASDAQ 15:50 EST
- // NYSE ARCA 15:59 EST
- // AMEX 15:50 EST
- // IEX 15:50 EST
- // BATS 15:55 EST
- // Toronto / TSX 15:40 EST

Orders cannot be cancelled or modified after the cutoff times.

* LOC not available in Spain, as order type is not natively supported by the exchange

Peg

Peg is designed to maintain a dynamic, but passive slice on the order book that moves in relation to the market spread. It's a passive trading strategy that is intended to minimize market impact while maximize spread capture. The strategy is configured to always peg against near touch and does not participate in either the opening or closing auctions.

The screenshot shows a trading interface for Tencent Holdings Ltd (00700:HK). At the top, it displays the stock code, name, and current price information: Bid 390.800, Ask 391.000, Last traded 391.000, Net change 5.600, and % Change 1.45%. Below this, it says "Market closed" and "Hong Kong Exchanges". The main area contains a table of algorithmic parameters:

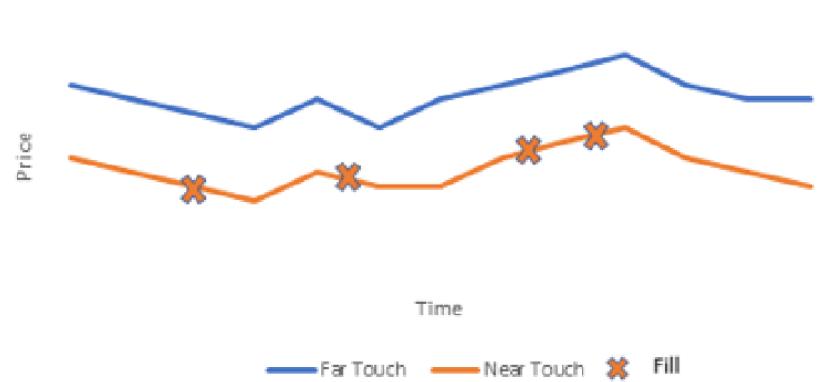
Account	<	>
Type	<	Algo >
Strategy	<	Peg >
Order type	<	Limit >
Buy/Sell	<	Buy >
Shares	-	1,000 +
Price	-	391.600 +
Duration	Day Order	
Hide algo parameters		
Display Quantity	-	100 +
PLACE ORDER		

Parameter options:

// Display Quantity (Mandatory):

Quantity of shares displayed on the exchange at any given time.
Please be aware of exchange specific rules for minimum display size.

// Limit Price (Mandatory)



Iceberg

Iceberg orders are sent only to the primary exchange where only the specified quantity of the total is shown at any given time.

CFD Dropbox Inc.			
DBX:xnas • USD			
Bid 26.290	Ask 26.310	Last traded 26.290	Net change -0.030
15 minutes delayed - 18:23:35		% Change -0.11%	
NASDAQ •			
Type	<	Algo	>
Strategy	<	Iceberg	>
Order type	Limit		
Buy/Sell	<	Buy	>
Quantity	-	10,000	+
Price	-	26.27	+
Duration	<	G.T.C.	>
Hide algo parameters			
Display Quantity	i	-	350
PLACE ORDER			

Parameter options:

// Display Quantity (Mandatory):

Quantity of shares displayed on the exchange at any given time.
Please be aware of exchange specific rules for minimum display size.

// Limit Price (Mandatory)

Reload

The reload strategy trades the order in tranches of a given size, entering a new tranche every time the previous one is filled. The strategy will place limit orders at the given price and size of the Display Quantity. The tranches are smart order routed across multiple venues which is the main difference from a native Iceberg order.

CFD Vodafone Group Plc
VOD:London Gbp

Bid	Ask	Last traded	Net change	% Change
162.780	162.860	162.480	2.600	1.63%

Market closed London Stock Exchange

Show market depth

Type	<	Algo	>	
Strategy	<	Reload	>	
Order type	Limit			
Buy/Sell	<	Buy	>	
Quantity	-	10,000	+	
Price	-	162.76	+	
Duration	<	G.T.C.	>	
Hide algo parameters				
Display Quantity	[i]	-	400	+
PLACE ORDER				

Parameter options:

// Display Quantity (Mandatory):

Quantity of shares displayed on the exchange at any given time.
Please be aware of exchange specific rules for minimum display size.

// Limit Price (Mandatory)

Dark

Order posted to dark venues only.

EQ	Apple Inc.	AAPLxnas	USD
Bid	232.65	Ask	232.67
Last traded	232.67	Net change	3.39
% Change	1.48%		
🕒 15 minutes delayed - 18:26:39			
NASDAQ ●			
Type	<	Algo	>
Strategy	<	Dark	>
Order type	Limit		
Buy/Sell	<	Buy	>
Shares	-	15,000	+
Price	-	231.00	+
Duration	Day Order		
PLACE ORDER			

Parameter options:**// Limit Price (Mandatory)**

