Futures Execution Strategies

Algorithms
RBC Capital Markets offers a comprehensive product suite for Futures execution algorithms. Our streamlined algorithmic trading suite is proximity hosted next to key Futures Exchanges and utilizes low latency market data, customized liquidity profiles, and sophisticated order routing with a simple, safe, and easy to use set of orders to help you achieve best execution.

<table>
<thead>
<tr>
<th>Description</th>
<th>GHOST</th>
<th>WITH TICK</th>
<th>TWAP</th>
<th>VWAP</th>
<th>IS</th>
<th>POV</th>
<th>PEGGER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Order is released when price and required volume are available</td>
<td>Price discretion is exercised if set parameters are violated</td>
<td>Looks to achieve the Time Weighted Average Price (TWAP) over user defined time period</td>
<td>Looks to achieve the Volume Weighted Average Price (VWAP) over user defined time period</td>
<td>Proactive, price-opportunistic strategy that leverages alpha signals and order book dynamics to gain passive fills and minimize market impact. Quantitatively optimized schedule to balance market impact and opportunity cost</td>
<td>Sets min/max Percentage of Overall Volume (POV) participation</td>
<td>Trails the market and takes advantage of price movements in desired direction</td>
<td></td>
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<tr>
<td>When an order should not be exposed to the market until there are executable conditions</td>
<td>When the market is highly liquid with low volatility, or anticipation of a market moving event</td>
<td>When target or benchmark is over a defined period of time</td>
<td>When target or benchmark is the Arrival Price and you want to optimally execute without having unnecessary market impact</td>
<td>When target or benchmark is the Arrival Price and you want to optimally execute without having unnecessary market impact</td>
<td>When a large trade needs to be executed in-line with the market</td>
<td>Trails the market by a specified number of ticks as it either decreases (if buy order) or increases (if sell order)</td>
<td></td>
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Synthetic Order Types
RBC Capital Markets' Futures group provides innovative global execution and clearing solutions for futures and options to financial institutions, corporations, hedge funds, asset managers, and high net worth individuals around the world. These synthetic order types help the trader efficiently achieve best execution through a simple set of parameters.

<table>
<thead>
<tr>
<th>OCO</th>
<th>BRACKET</th>
<th>HAWKEYE</th>
<th>OTO</th>
<th>ICEBERG</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>One Cancels the Other (OCO): Work a limit order where fill is contingent with a stop order</td>
<td>Work two contingent orders: the first one enters a position, then an OCO to either capture a profit or exit with minimal loss</td>
<td>Establishes watch conditions which will initiate the placement of resulting order(s)</td>
<td>One Then the Other (OTO): Work two contingent orders – a working order whose fills then trigger the second order to be released to the market in proportion to the executed quantity</td>
</tr>
<tr>
<td><strong>When to Use/Triggers</strong></td>
<td>When limiting exposure for open position, or trying to enter new position at target level while ensuring a market move is not missed</td>
<td>When limiting loss and locking in a profit by &quot;bracketing&quot; an order with two opposite-side orders</td>
<td>When looking for various market conditions in order to initiate an order</td>
<td>When a successful buy order could generate a stop order as protection from any losses</td>
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</tbody>
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