ITG Algorithms®	Description	When to Use:	Advantages	Regions
POSIT Marketplace® (ITG Dark Algorithm in Europe)	· Single source to ITG's expanded pool of high quality liquidity that combines traditional POSIT® buyside liquidity with other ATS destinations · ITG's unique Liquidity Filtering technology attempts to avoid information leakage and protects against gaming	· Trade large blocks, minimize information leakage and market impact · Seek out non-displayed liquidity	· Protects against gaming · Boosts liquidity for trading small-, mid- and large-cap stocks.	AP, EMEA, US
ITG Active Algorithm	· Works orders with a goal to beat the arrival price · Adapts to real-time market movements · Opportunistically scans the market for attractive spread and liquidity conditions, while placing passive orders to earn the spread	· Attempting to beat arrival price · Identify and exploit liquidity opportunities	· Dynamically optimizes between float and opportunistic strategies · Highly configurable · Anti-gaming logic	AP, CAN, EMEA, LAT AM, US
ITG Active X Algorithm	· An aggressive version of Active, used to capture liquidity on short term alpha or high urgency orders	· To aggressively and strategically enter or exit positions	· As per the Active strategy	AP, EMEA
ITG Advanced Iceberg Algorithm	· Designed to give users maximum flexibility in the way they display their orders into the market		· Optional pegging to best bid or offer · Randomization of display size · Ability to set minimum shares before replenishing display size and layering the book at multiple price levels	AP
ITG Best Market Server Algorithm	·Automatically finds best price in North America for orders in Canadian-US interlisted securities	· Designed for rapid fills along with price and increased liquidity improvement	· Seeks out the best price for all interlisted orders ensuring best execution across borders · Accesses cross-border interlisted dark liquidity · Posts in multiple marketplaces intelligently	CAN
ITG Close Algorithm	· Works orders into the closing price in an attempt to minimize market impact	· Works orders into the close that are high % of ADV · Useful when cutoff time for closing auction is missed	· May start trading order before actual closing auction	AP, CAN, EMEA, US
ITG Flexible Participation Algorithm	· Works orders using a scaling minimum and maximum participation rate relative to a specified benchmark and trading style · Trading styles: Layering, reversion, and momentum	· Layering: Accelerates trading when the stock moves your way · Reversion/Momentum: Accelerates/ Decelerates trading when the stock moves your way and decelerates/accelerates trading when stock moves against you	· Trade at specified volume participation rates · Vary volume participation rates · Access dark liquidity · Customizable	AP, CAN, EMEA, US
ITG Float Algorithm	· Seeks to earn the spread by actively posting to the passive side. Aims to optimize the preservation of price/time priority in order queues.	· Trading into favorable momentum · Dealing in long queue stocks · Dealing with downtick and short selling rules	· Good for maintaining priority in markets with long queues at the touch · Anti-gaming logic · Blends into the book to limit footprint	AP, EMEA
ITG FX Server Algorithm	· Works seamlessly to eliminate inefficiencies in FX conversion	US dollar trading of Canadian securities / Canadian dollar trading of US securities	· Provides USD trading of Canadian equities and CAD trading of US equities · Our Symbol Converter can do all the translation, the entire process is fully automated · Orders can be sent through a variety of sources, including any ITG desktop application or third-party FIX connection	CAN
ITG Hedge Pro Algorithm	· Flexible and automated solution to satisfy virtually any equity pairs trading style in the North American markets. Support strategies include: - Dollar Spread/Merger Arbitrage - Price Ratio - Percentage Spread	· Merger/Risk Arbitrage scenarios such as spin-offs, takeovers, mergers · Statistical Arbitrage/Switch Trades based on historical price ratio · Statistical Arbitrage trades based on deviation from a benchmark	· Support multiple execution styles · Capture in-the-money spreads quickly · Minimize risks with automated hedging control · Trade any U.S./Canadian pair combination · Intuitive and easy-to-use interface	CAN, US
ITG Opportunistic Algorithm	· Works an order with differing levels of urgency without posting onto the book	· Working illiquid names where posting liquidity has high signalling risk; stocks trending sideways or unfavorably	· Opportunistically responds to favorable events such as price moves, narrowing spreads, or unusual liquidity · Hides footprint by not posting	AP, EMEA

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ITG Participation Weighted Price Algorithm	· Opportunistic with the goal of beating the Participation Weighted Price benchmark	· Attempts to beat the participated weighted price	· Flexibility in selecting target PWP benchmarks and accessing block liquidity · Reports and analytics help fine tune strategies	US
ITG Raider Algorithm	· Rapidly adapts to volatile market movements to seize trading opportunities	· High urgency to get in and out of positions quickly · Low urgency to maximize dark fills, while scanning the market for unique liquidity opportunities	· Stealthily uncovers liquidity without tipping your hand to the market - does not display · Simultaneously strikes dark venues and the open market to rapidly capture favorable liquidity	EMEA, CAN, US
ITG Smart DMA Algorithm	· Intelligent direct market access (DMA) incorporating algorithmic logic	· For DMA orders: to ensure auction participation or when common order types are not supported on a market (e.g. Mkt, MOO/ MOC/ LOO, IOC, PEG, Display size)	· Order queuing during non-trading hours · Automatically obeys exchange order type rules · Creates synthetic order types if not supported	AP
ITG TWAP Algorithm	· Time Weighted Average Price works orders over a given time period, spreading trades along a linear distribution	· Spread trade evenly over a specified time period · To get an average price on stocks with irregular volume profiles	· May be preferable to VWAP for illiquid stocks or stocks with irregular volume curves	US, AP, EMEA, LAT AM, US
ITG Volume Participation Algorithm	· Participates at a specified percentage of printed volume	· Work in-line, targeting a constant participation rate	· Can be used as simple arrival price benchmarking strategy	AP, CAN, EMEA, LAT AM, US
ITG VWAP Algorithm	· Volume Weighted Average Price works orders over a given time horizon, spreading trades along a historical volume distribution	· Attempts to match the volume weighted average price · Low urgency, over the day, fairly liquid stocks	· Minimizes impact by spreading execution throughout a period of time trading in line with stock volume profile · Provides a transparent benchmark	AP, CAN EMEA, LAT AM, US
ITG Dynamic Implementation Shortfall Algorithm	· Portfolio algo that trades lists in both the open market and dark venues · Aims to minimize implementation shortfall on the overall list by trading opportunistically and dynamically adjusts to real-time liquidity and market conditions	· Manage two-sided portfolios including transitions, rebalances, and ratio pairs · Control risk exposures and cash balances of fills of residuals	· Maximizes exposure to dark liquidity · Provides dollar balance and risk control · Trades opportunistically for price improvement	CAN, EMEA, US
ITG Dark List Algorithm	· Portfolio algo that allows you to maintain cash and sector neutrality while trading to dark venues at midpoint of better	· Trade a basket in dark and hidden venues only while maintaining cash and sector constraints	· Maximizes exposure to dark liquidity while cash/sector neutral · Utilizes statistical model for optimal order slicing	US
ITG Smart Router	· One point connection to both displayed and hidden liquidity sources · Controls and monitors execution quality at all times	· Use when looking for rapid fills with price and size improvement across a range of order types	· Access to wide sources of liquidity · Low-latency routing infrastructure · Advanced logic searches for best prices · High customizable	CAN, EMEA, US

ITG Single Stock Algorithms®   ITG List-based Algorithms®