

# IDEM: Guide to the Trading System

*Future documentation related to SOLA 9*

V 3.8 *(effective from July 2017)*





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## 1.0 Introduction

### 1.1 Purpose

The purpose of this document is to provide customers with the knowledge and technical details necessary for accessing and using the SOLA trading system.

This guide provides essential information for participants and independent software vendors in the functional design of their application in order to interface with SOLA using the native SOLA Access Information Language (SAIL) protocol, FIX and High Speed Vendor Feed (HSVF) protocol.

### 1.2 Relevant Exchange Communication channels

The SOLA Access Information Language (SAIL) is the SOLA native protocol for the market making and regular order management which allows orders and quotes insertion.

The Financial Information eXchange (FIX) Protocol is a messaging standard developed specifically for the real-time electronic exchange of securities transactions. FIX is a public-domain specification owned and maintained by FIX Protocol, Ltd.

The High Speed Vendor Feed (HSVF) is the SOLA native data dissemination feed; it is a high speed transmission protocol which broadcasts real-time trading and statistical information from SOLA including trades, quotes, market depth, strategies, bulletins, summaries and other statistics. HSVF uses a TCP/IP broadcast interface. Each message type is fixed in format and messages are non-blocked. Re-transmission of any data is available.

### 1.3 Document History

Issue	Date	Description
1.0	December 2013	First version
1.1	January 2013	Revised examples, contract specification and further details
1.2	February 2013	Version for Customer
1.3	August 2013	Added Single Stock Dividend Futures in sections 3.1.1, 3.1.2.1, 3.4, 5.2, 7.2, Appendix 1 Corrected the FLEXCO naming convention in section 3.1.2.2 Corrected the Price type parameters adding "Opening" in section 5.1.1 Align the IDEX contract specifications in sections 5.2 and Appendix 1 (Peakload) Enrich Market Maker Protection details in sections 7.5.1 and 7.5.5
1.4	October 2013	Correction on actions available for Market Members on "End of Consultation" phase in section 4.3.7. Corrected in the FLEXCO naming convention the length for field [identification number] in section 3.1.2.2
1.5	November 2013	Updated Examples in sections 3.1.1, 3.1.2.1, 7.3.4 Reviewed the Contract Specifications in sections 5.2, 7.2 and Appendix 1
1.6	April 2014	Updated description for Stock Dividend Futures and naming convention for Stock Futures cash settled in section 3.1.1
1.7	May 2014	Updated Logical architecture of the IDEM Trading System
1.8	September 2014	Added Weekly stock options contract specifications (Appendix 1) and update in sections 3.1.1, 3.4, 4.5, 5.2, 7.2 New document layout
1.9	October 2014	Added SSF up to 3 years. Added option for physical delivery for IDEX contracts (Appendix 1)
2.0	February 2015	1) Added mapping of Underlying Symbol - Class Symbol for Weekly Stock Options and Weekly MIBO 2) Include limits for Trade Reports below Block Trade Quantity 3) Include Non-Executing Brokers Committed Cross Orders
2.1	July 2015	Certification Test Programme Updated
2.2	October 2015	Added IDEX new contracts specs and naming convention



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Issue	Date	Description
2.3	October 2015	Amended MM Protection behaviour when Time Interval = 0 and further details on IDEX FLEXCO
2.4	November 2015	Amended Settlement details for IDEX – Germany/Austria Area
3.0	November 2015	Amended market hours following entry into force of the new Borsa Italiana's Rules and related Instructions
3.1	January 2016	Minor corrections
3.2	March 2016	Added support for 4 leg Strategies, Bundle Orders, Third Party and Self Execution Prevention (SEP). Added comments regarding ratio on the leg and Theoretical Price Dissemination on HSVF
3.3	June 2016	Amendment to the Instructions of the Market - IDEM Market – Single Stock Option Tick table. Fine tunings
3.4	July 2016	Rewording and fine tunings on Appendix 2: Certification Test Programme
3.5	August 2016	Added details of Market Making Protection counters' reset. Amendment of End of Consultation phase description and allowed actions
3.6	February 2017	Contract Specs for ESO, amendment of IDEX NEB
3.7	June 2017	Introduction of: 1) Pre-Trade Validation (PTV) functionality and 2) Extended trading hours on FTSE MIB index futures and miniFutures ( <i>effective from July 3<sup>rd</sup>, 2017</i> )
3.8	June 2017	Appendix 2: updated Certification Test Programme ( <i>effective from July 1<sup>st</sup>, 2017</i> )

## 1.4 Enquires

For any technical question related to SOLA trading system for the IDEM market, please contact the Service Desk at Borsa Italiana:

- Toll Free number: 0080026772000
- From Mobile: +39 02 45411399
- Email: [service-desk@borsaitaliana.it](mailto:service-desk@borsaitaliana.it)

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# Guide to the Trading System

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## 2.0 Architecture

The IDEM Trading System is based on a dedicated technological infrastructure and on the SOLA trading software application. It consists in all the information and communication services supporting the functioning of IDEM market.

The logical architecture of the IDEM Trading System is represented in Figure 1 and includes: i) the SOLA System, and: ii) its Interconnected Systems.

The SOLA System provides matching functionalities and allows access to such matching functionalities for Member Firms and for Borsa Italiana (and the Clearing House).

The SOLA primary site is located in Milano, whilst the Disaster Recovery site is located in London.

The SOLA system is composed by:

- the Central System (or back-end level), including the SOLA Trading Engine and the SOLA Routing Engine;
- the Access System (or front-end level), including 6 components.

Central System and Access System use HP servers with Sun Solaris and Windows operating systems.

### 2.1 Central System (back-end level)

The Central System includes: i) the SOLA Trading Engine, and: ii) the SOLA Routing Engine.

Central Systems are responsible for processing the requests transmitted by Member Firms through the peripheral systems, and for executing internal trading functionalities (automatic matching of orders, management of the market trading phases, etc.). Moreover, it distributes real-time information generated by the Central System order book, general notification messages, execution notification messages, etc. and dispatched to all Member Firms.

The SOLA Trading Engine is the application that manages the central order book and provides comprehensive trading related services. It supports Schedule Management functionality, and generates feeds required by all the other business domain functions (Post Trading, Market Data Dissemination as well as Order, Applications and Systems Management).

The SOLA Routing Engine manages connections between Market Participants and the Trading Engine, as well as commands sent by monitoring to the SOLA Trading Engine. It is the sole application responsible for data persistence. Whilst other applications operating in the production environment are built to sustain software or hardware failure without loss of data, an additional layer of data security is necessary to cover cases of catastrophic failures.

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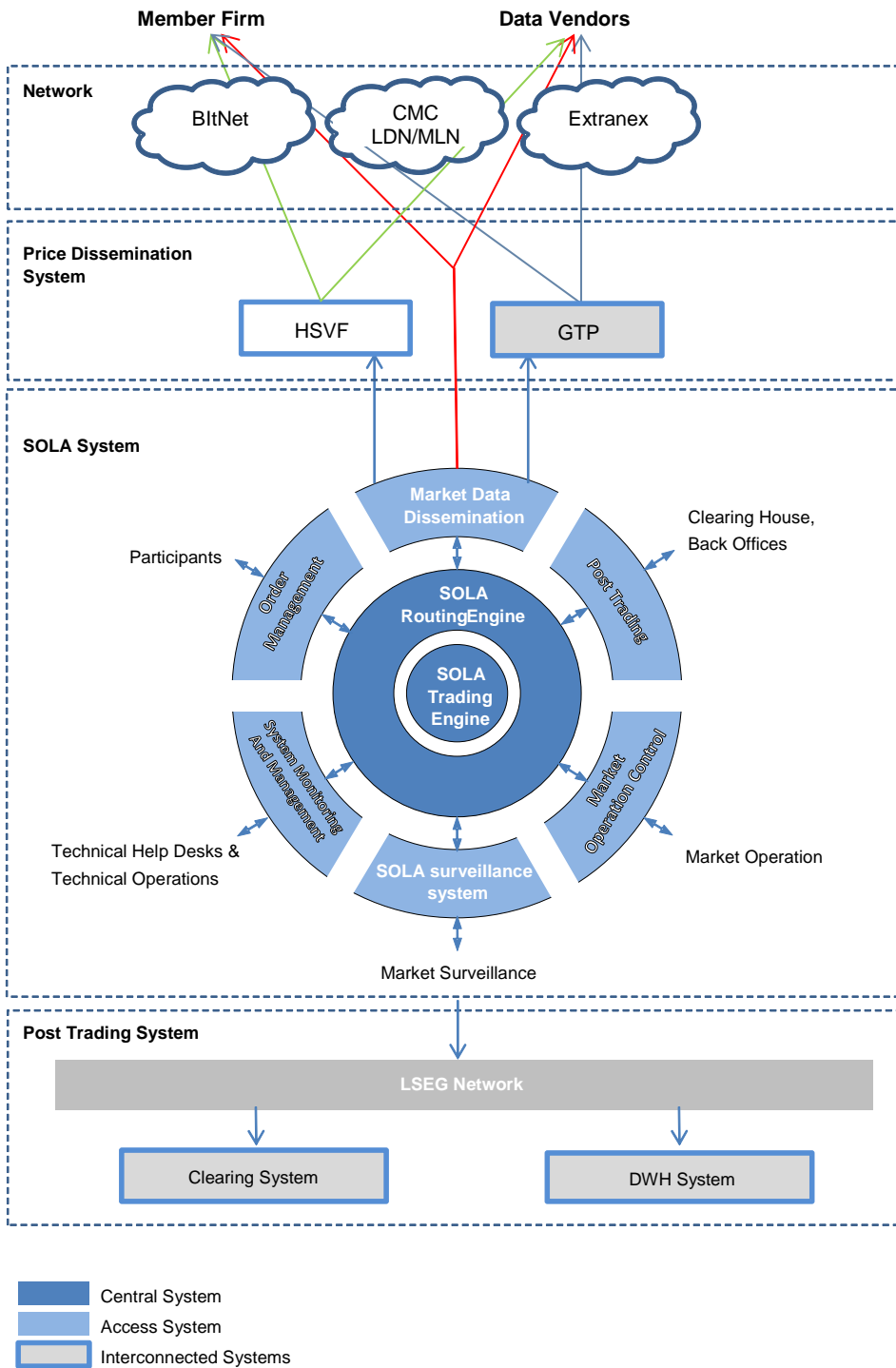


Figure 1: Logical architecture of the IDEM Trading System

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## 2.2 Access System (front-end level)

The Access System is responsible for allowing members to access trading Central System's functionalities (this is possible through the SAIL and FIX protocols) and to receive the market data feed through the HSVF SOLA protocol.

The Access System includes 6 components:

- Order Management: supports all the order management functionalities offered by SOLA. It supports: i) SAIL protocol, which is the native SOLA protocol for order and quotes management (Market Makers can use only this protocol to insert bulk quotes) and ii) FIX protocol, the international standard protocol for orders management. FIX is a two-way communication protocol between the trading engine and FIX client applications. The order management front-end translates inbound user messages in SAIL protocol and outbound messages into FIX protocol;
- Market Data Dissemination: disseminates anonymous market information to IDEM participants and to the Market Monitoring and Surveillance teams of Borsa Italiana. This front-end includes the HSVF Gateway, which broadcasts real-time trading and statistical information;
- Post Trading: is responsible for the dissemination of the trades to the clearing system. Clearing members can access trading information through the BCS interface, provided by CC&G;
- The other 3 components (System Monitoring and Management; SOLA Surveillance System; Market Operation Control) provide real time and historical data to teams involved in the analysis and reconstruction of market events. Furthermore, they provide functionalities related to the management of systems through graphical user interfaces.

### SAIL Protocol

The SOLA Access Information Language (SAIL) protocol is the native protocol for SOLA.

The SAIL protocol is defined at two levels: technical and business. The technical level deals with the delivery of data while the business level defines business-related data content.

### FIX Protocol

The derivatives platform utilises FIX 4.2 with a few exceptions as specified in the Fix Design Guide. The FIX interface does not provide functions related to Market Making. Participants who intend to be Market Makers must use the native SOLA Access Information Language (SAIL) protocol.

### HSVF Protocol

HSVF is the protocol through which customers can retrieve the native market data feed from the IDEM market.

It is TCP/IP broadcast interfaced. Each message type is fixed in format and messages are non-blocked (i.e. the Exchange does not wait for acknowledgement before sending the following message). Re-transmission of any data is available. HSVF messages consist of a standard message header followed by the message body, which varies in format according to the message type.

Here are the main topics of the HSVF protocol:

- Connection: no authentication is provided by the system; participants connect to specific port and then send connection message (RS message);
- End of day messages: after the closing of the market, messages that indicate that the day's transmission is completed are sent;
- Users customization: members can tailor the feed to their needs, using the connection message subscription mechanism: members can request messages for:
  - o Subsets of underlying (e.g.: underlying "xyz" only, or as many underlying as needed);
  - o Derivatives instrument types (options, futures, both);
  - o Data type (market depth, top of book, trades, referential data);
- Aggregated order book: the aggregated order book (5 level) is available in real time (no holdback timer is provided);

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- Backward compatibility: it is possible for participants to use the previous protocol version for a period, protocol-id must be specified in the user connection message;
- Messages re-alignment: re-transmission can be forced by sending a specific message to the system; no query transactions are available.

During the session, the trading system distributes the information flows in real-time, in the same way and with the same contents to all market operators and information providers for distribution to the public.

## 2.3 Interconnected Systems

Downstream systems interconnected to the SOLA System are:

- Data Warehouse (DWH) system: this is the Borsa Italiana's data warehouse where all trading data are stored;
- Clearing system: this is the Clearing House system;
- GTP: it is the new Group market data distribution system.

## 2.4 Market Connectivity

The Service is available starting from 8:00 a.m. (CET) until the dissemination of the closing prices by the Clearing House, after the end of the daily trading session. The following paragraphs describe how connections to the trading platform are managed by the SOLA System.

### Member Firms

In order to access IDEM market, Member Firms are provided dedicated access profiles to the SOLA System by Borsa Italiana. These profiles are assigned according to the membership profile and User category requested by the Member Firm to Borsa Italiana via the Member Portal. Each Member Firm is assigned a unique identification code (Member ID), corresponding to the Member Firm's CED code.

### User categories (Front-End Users)

Front-End Users (here following, "Users") are the entry points to the SOLA platform. The following User categories are currently available. Their specifications are defined by Borsa Italiana and described below:

- Standard User;
- Advanced User;
- PTP User;
- Basic Quoting User;
- Additional Quoting User;
- Panic Quotes User;
- Risk Manager User;
- Drop Copy User.

Each User is associated to: i) a Connection Type; ii) a specific capacity limit in term of the maximum number of allowed transactions per second (tps) and iii) trading privileges (e.g. the PTP User is limited to FTSE MIB index futures and FTSE MIB index miniFutures).

A Member Firm can request several Users at the conditions defined by Borsa Italiana in the "Pricelist for trading services", depending on the Member Firms' requirements.

Users are the entry point to the SOLA System. The available profiles are defined by Borsa Italiana and the pricing for additional components are reported in the "Pricelist for trading services".

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User Category	Connection Type	Capacity Limit	Description
Standard User	OR (Order Routing) or FX (FIX) connections types	Max. 10 tps (single order)	
Advanced User	OR (Order Routing) or FX (FIX) connections types	Max. 30 tps (single order)	
PTP (Proprietary Trading Program) User	OR (Order Routing) or FX (FIX) connections types	Max. 50 tps (single order)	PTP Users can be used only to send orders on proprietary account on the FTSE MIB index futures and miniFutures. The maximum number of PTP Users for each Member Firm is 3
Risk Manager User	RM (Risk Manager)		Allows a Member Firm ("Risk Manager") to set up and manage Pre-Trade Validations controls to constrain trading activity of its controlled "Managed Entity"
Drop Copy User	DC (Drop Copy)		Allows Member Firms to receive all orders and trades sent by all the traders of the Member Firm

## User Categories reserved to Market Makers and Specialists

Basic Quoting User	Bulk Quotes (BQ)	Number of BLQ per second determined by Market Maker / Specialist obligations (100 single quotes per single BQ)	Includes one or more bulk quotes (BLQ) per second. The number of allowed BLQ per second is equal to 75% of the number of underlying/group covered by the Member Firm's Market Maker / Specialist obligations. This value is rounded up, and a minimum of 4 BQ per second is guaranteed. The Market Maker / Specialist can divide the available number of BQ per second on one or more Quoting Users. Each BLQ comprise a maximum of 100 single quotes, which has to be sent on instruments belonging to the same group
Additional Quoting User	Bulk Quotes (BQ)	4 BLQ per second (100 single quotes per single BLQ)	Includes 4 bulk quotes (BLQ) per second. Each BLQ can comprise a maximum of 100 single quotes and has to be sent on instruments belonging to the same group. A Market Maker / Specialist member can ask to add the 4 BQ per second of an additional Quoting User to an already existing Basic Quoting User
Panic Quotes User	Panic Quotes (PQ)	Number of PNQ is equal to available bulk quotes (BLQ)	Allow to cancel quotes inserted through a Quoting User. Market Makers / Specialists can send a number of Panic Quotes (PNQ) allowing cancelling all the quotes inserted on every underlying covered by their quoting obligations. PNQ are structured like BLQ, allowing cancelling a maximum of 100 single quotes for each transaction

## Connection Types

Available Connection Types are:

- OR (Order Entry): available to all Member Firms to enter, cancel, modify orders and to submit request for quotes via SAIL Protocol;
- BQ (Bulk Quotes): reserved to Market Makers and Specialists. Allows to respond to request for quotes and to insert quotes on the market through dedicated SAIL messages, including up to 100 single quotes in a single message;
- PQ (Panic Quotes): reserved to Market Makers and Specialists. Allows to jointly cancel quotes through dedicated messages (Sail Global Cancellation Message GC), including up to 100 single quotes cancellations in a single message via SAIL Protocol;
- RM (Risk Manager); available to all Member Firms on request. Allows a Member Firm ("Risk Manager") to set up and manage Pre-Trade validations controls to constrain the trading activity of its controlled "Managed Entity";
- DC (Drop Copy): available to all Member Firms. Allows to receive all the orders and trades sent by all the traders of the Member Firm via SAIL Drop Copy;
- FX: available to all Member Firms to enter, cancel, and modify orders via FIX.

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Each User is associated to a specific Connection Type, allowing interacting with the platform using a specific set of Message Types, as described in the following table:

Message Types	Connection Types					
	OR	BQ	PQ	RM	DC	FX
Order Entry	OE					D
Order Modification	OM					G
Order Cancellation	XE					F
Cross Entry	OX					s
Bundle Order	BO					AE
Proposal Acceptance	OB					AR
Proposal Cancellation	XP					AR
Proposal Request (available only for Non-Executing Brokers)	PR					AE
New Strategy Instrument	ON					c
Request For Quote	RQ	RQ				R
Bulk Quotes		RP, BD, Qi				
Global Cancellation		GC	GC			
Risk Limits Configuration				MK, MQ		
Risk Limits Usage Notice				MN		
Order Mass Status Request						AF
List of Securities Request						c

Any message not supported by the Connection Type of the selected User will receive an ERROR message, reporting the associated error code.

## Identification of Users

Each Member ID is provided with one or more pairs of User IDs and Passwords (one pair of User ID and password for each subscribed User). The format of a User ID is the following:

[Connection Type]	[Incremental User Identifier]	[Member ID]
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where:

- Connection Type is a two letter acronym identifying the Connection Type (OR, BQ, PQ, RM, DC, FX);
- Incremental User Identifier is an incremental number identifier for each User attributed to a Member Firm, starting at 01 for each Member ID;
- Member ID is the CED code of the Member Firm.

The following are the formats for the available User IDs, where XX is to be replaced by an Incremental Number Identifier, starting at 01 for each Member ID:

- OR + XX + CED Code (OR = Order Routing)
- BQ + XX + CED Code (BQ = Bulk Quote)

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- PQ + XX + CED Code (PQ = Panic Quote)
- RM + XX + CED Code (RM = Risk Manager)
- DC + XX + CED Code (DC = Drop Copy)
- FX + XX + CED Code (FX = FIX)

Each Member Firm will be attributed one Standard User (associated with the OR Connection Type, allowing for order entry, order cancellation, order modification and RFQs). In addition, each Member Firm acting as a Market Maker or Specialist will also be attributed:

- one Basic Quoting User (associated with the BQ Connection Type, allowing for bulk quotes, RFQs and Global Cancellations), with capacity defined on the basis of the number of covered instruments;
- one Panic Quote User.

Additional Users are available on request. Example of User IDs for a Member Firm (CED code 1234) with a Standard User and a Drop Copy User:

OR011234:           OR = Connection Type: Order Routing  
                      01 = Incremental User Identifier: 01  
                      1234 = Member ID (CED code): 1234

DC021234:           DC = Connection Type: Drop Copy  
                      02 = Incremental User Identifier: 02  
                      1234 = Member ID (CED code): 1234

## Connection Security

During the authentication procedure of a SOLA User-ID into the trading system, the Member Firm password is encrypted with the MD5 algorithm. The MD5 Message-Digest algorithm is a cryptographic function that produces a 128-bit hash value.

## Throttling

A throttling mechanism is implemented in SOLA in order to avoid system overload in case of peaks of transactional activity. For this reason, each User category is assigned a maximum number of transactions per second ("tps"). The maximum number of transactions per second allowed for each User category is established by Borsa Italiana and described in the User Categories table.

The timeslot considered for the frequency is one second and the transactions exceeding the specified limit are managed in the following timeslot, increasing queues on the central systems.

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## 3.0 Market Overview

IDEM is the derivatives market managed by Borsa Italiana, where futures and option contracts on i) financial instruments, ii) interest rates, iii) currencies, iv) commodities and v) related indices can be negotiated.

IDEM is currently organised in 3 segments, as specified in the Borsa Italiana's Rules and related Instructions:

- IDEM Equity segment: dedicated to derivatives contracts on financial instruments, interest rates, currencies and related indices. Derivatives contracts on stocks, stock dividends and related indices are currently traded;
- IDEX segment: dedicated to derivatives contracts based on Energy related commodities and indices. Power futures are currently traded;
- AGREX segment: dedicated to derivatives contracts based on Agricultural related commodities and indices. Durum wheat futures are currently traded.

The IDEM market currently offers trading services on futures, options and their related combinations.



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## 3.1 Traded Contracts and Series

Borsa Italiana defines the specifications of the derivatives contracts admitted to trading on the IDEM market in the Borsa Italiana's Rules and related Instructions (see summary provided in Appendix 1). Throughout this document, the term "Standard Contract" is used to indicate an individual futures or option contract. For each Standard Contract, a Series is defined as a unique combination of:

- underlying<sup>1</sup>;
- strike price;
- lot size;
- expiry date;
- settlement type (cash vs. physical delivery).

Series are managed in SOLA as "Instrument Series" and are identified with an Instrument ID. Each Instrument Series is associated to a unique Series Name which is defined according to the specific naming scheme that is different for Standard Series, Standard Combinations and FLEXCO. Combinations of Standard Contracts' Series can be referred to as "Strategies".

### Standard Contracts

The following Standard Contracts are available on the IDEM market.

	Contract Name	IDEM segment	Description
<b>Futures Contracts</b>	FTSE MIB futures	IDEM Equity	Futures contract on the FTSE MIB index
	FTSE MIB miniFutures	IDEM Equity	miniFutures contract on the FTSE MIB index
	FTSE MIB Dividend futures	IDEM Equity	Futures contract on the FTSE MIB Dividend index
	Stock futures	IDEM Equity	Futures contract on individual shares
	Pan-European stock futures	IDEM Equity	Futures contract on Pan-European individual shares
	Single stock dividend futures	IDEM Equity	Futures contract on ordinary gross dividend paid by underlying individual shares
	Power yearly futures	IDEX	Yearly (baseload or peakload) futures contract on Electrical Energy (Italy and Germany/Austria areas)
	Power quarterly futures	IDEX	Quarterly (baseload or peakload) futures contract on Electrical Energy (Italy and Germany/Austria areas)
	Power monthly futures	IDEX	Monthly (baseload or peakload) futures contract on Electrical Energy (Italy and Germany/Austria areas)
	Durum Wheat futures	AGREX	Futures contract on Durum Wheat
<b>Options Contracts</b>	FTSE MIB options	IDEM Equity	Options contract on the FTSE MIB index
	FTSE MIB weekly options	IDEM Equity	Weekly option contracts on the FTSE MIB index
	Stock options	IDEM Equity	Options contracts on individual shares
	Weekly stock options	IDEM Equity	Weekly option contracts on individual shares

<sup>1</sup> For stock options and stock futures only. Delivery period and profile (baseload or peakload) for power futures.

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# Guide to the Trading System

The Series Name for Standard Series is defined according to the following naming scheme.

[root]	[year]	[month]	[strike]	[corporate action flag]
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where:

- [root] = Product/Underlying code (Class Symbol Root), max. 6 chars (e.g. FIB for FTSE MIB futures, ENI for futures/options on ENI S.p.A.)
- [year] = 1 char, corresponding to the last digit of the year (e.g. "7" for 2017)
- [month] = 1 char, representing the expiry month of the Instrument Series;
- [strike] = strike price of the Instrument Series (max. 10 chars)
- [corporate action flag] = 1 char, according to the rules described (e.g. X, Y, Z)

Available roots are the following:

- FIB = futures on the FTSE MIB index (IDEM Equity)
- MINI = miniFutures on the FTSE MIB index (IDEM Equity)
- FDIV = future on the FTSE MIB Dividend index (IDEM Equity)
- MIBO = call and put options on the FTSE MIB index (IDEM Equity)
- IDEBM = future on the monthly contract "Baseload" (IDEX) – Italy Area
- IDEBQ = future on the quarterly contract "Baseload" (IDEX) – Italy Area
- IDEBY = future on the yearly contract "Baseload" (IDEX) – Italy Area
- IDEPM = future on the monthly contract "Peakload" (IDEX) – Italy Area
- IDEPQ = future on the quarterly contract "Peakload" (IDEX) – Italy Area
- IDEPY = future on the yearly contract "Peakload" (IDEX) – Italy Area
- GDEBM = future on the monthly contract "Baseload" (IDEX) – Germany/Austria Area
- GDEBQ = future on the quarterly contract "Baseload" (IDEX) – Germany/Austria Area
- GDEBY = future on the yearly contract "Baseload" (IDEX) – Germany/Austria Area
- GDEPM = future on the monthly contract "Peakload" (IDEX) – Germany/Austria Area
- GDEPQ = future on the quarterly contract "Peakload" (IDEX) – Germany/Austria Area
- GDEPY = future on the yearly contract "Peakload" (IDEX) – Germany/Austria Area
- DWHEAT = future on durum wheat (AGREX)
- In addition, all the underlying "Tickers" for stock futures and options traded on IDEM Equity such as G (Assicurazioni Generali) and T (Telecom Italia ordinarie):
  - o For single stock dividend futures, a "1" is preceding the Underlying "Ticker", e.g. 1G for Assicurazioni Generali shares
  - o For stock futures cash settled, a "2" is preceding the Underlying "Ticker", e.g. 2TIT for Telecom Italia ordinary shares
  - o For stock option European physical Settled "3" is preceding the Underlying "Ticker"
  - o For stock option European cash Settled a "4" is preceding the Underlying "Ticker"
- For Weekly MIBO and Weekly Stock Options:
  - o First week: "1W" follows the Underlying "Ticker", e.g. BMPS1W
  - o Second week: "2W" follows the Underlying "Ticker", e.g. MIBO2W

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- Fourth week: "4W" follows the Underlying "Ticker", e.g. ENI4W
- Fifth week: "5W" follows the Underlying "Ticker", e.g. TIT5W.

Description	Suffix for Class Symbol - Weekly series (following Underlying "Ticker")	Suffix for Underlying Symbol - Weekly MIBO (following Underlying "Ticker")	Suffix for Underlying Symbol - Weekly stock option (following Underlying "Ticker")
Week 1	1W	1W	V
Week 2	2W	2W	W
Week 4	4W	4W	Y
Week 5 (when applicable)	5W	5W	Z

The [month] code is assigned according to the following table:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Futures<sup>(1)</sup> and call options</b>	A	B	C	D	E	F	G	H	I	J	K	L
<b>Put Options</b>	M	N	O	P	Q	R	S	T	U	V	W	X
<b>Quarterly power futures (IDEX)</b>	..	..	1	..	..	2	..	..	3	..	..	4

<sup>(1)</sup> With the exception of IDEX's quarterly power futures.

Some examples related to the IDEM Series Names are reported below.

## Examples for the IDEM Equity segment

- Call option on the FTSE MIB index, expiry March 2018 @ strike=20.000 (index points)  
→ Series name: MIBO8C20000

#	Code	Description
[root]	MIBO	Option on the FTSE MIB Index
[year]	8	Call expiry: March 2018
[month]	C	
[strike]	20000	Strike Price: 20.000 index points

- Put option on the FTSE MIB index, expiry March 2018 @ strike=20.000 (index points)  
→ Series name: MIBO8O20000

#	Code	Description
[root]	MIBO	Option on the FTSE MIB Index
[year]	8	Put expiry: March 2018
[month]	O	
[strike]	20000	Strike Price: 20.000 index points

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- Future on the FTSE MIB index, expiry March 2018

→ Series name: FIB8C

#	Code	Description
[root]	FIB	Future on FTSE MIB Index
[year]	8	Expiry: March 2018
[month]	C	

- Call option on Eni shares, expiry March 2018 @ strike=15 euro

→ Series name: ENI8C15

#	Code	Description
[root]	ENI	Underlying: ENI
[year]	8	Call expiry: March 2018
[month]	C	
[strike]	15	Strike Price: €15

- Put option on Eni shares, expiry March 2018 @ strike=15 euro

→ Series name: ENI8O15

#	Code	Description
[root]	ENI	Underlying: ENI
[year]	8	Put Expiry: March 2018
[month]	O	
[strike]	15	Strike Price: €15

- Stock future on Eni shares, expiry March 2018

→ Series name: ENI8C

#	Code	Description
[root]	ENI	Underlying: ENI
[year]	8	Expiry: March 2018
[month]	C	

## Examples for the IDEX segment

- Yearly "baseload" contract, expiry December 2018 → Series name: IDEBY8L

#	Code	Description
[root]	IDEBY	Underlying: yearly "baseload" Contract – Italy Area
[year]	8	Expiry December 2018
[month]	L	

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- Yearly "baseload" contract, expiry December 2018 → Series name: GDEBY8L

#	Code	Description
[root]	GDEBY	Underlying: yearly "baseload" Contract – Germany/Austria Area
[year]	8	Expiry December 2018
[month]	L	

- Monthly "baseload" future contract, expiry March 2018

→ Series name: IDEBM8C

#	Code	Description
[root]	IDEBM	Underlying: monthly "baseload" Contract- Italy Area
[year]	8	Expiry March 2018
[month]	C	

- Monthly "baseload" future contract, expiry March 2018

→ Series name: GDEBM8C

#	Code	Description
[root]	GDEBM	Underlying: monthly "baseload" Contract- Germany/Austria Area
[year]	8	Expiry March 2018
[month]	C	

- Quarterly "Peakload" future contract, expiry March 2018

→ Series name: IDEPQ81

#	Code	Description
[root]	IDEPQ	Underlying: quarterly "Peakload" contract – Italy Area
[year]	8	First quarter 2018
[quarter]	1	

- Quarterly "Peakload" future contract, expiry March 2018

→ Series name: GDEPQ81

#	Code	Description
[root]	GDEPQ	Underlying: quarterly "Peakload" contract – Germany/Austria Area
[year]	8	First quarter 2018
[quarter]	1	

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## Examples for the AGREX segment

- Future on the Durum Wheat contract, expiry March 2018

→ Series name: DWHEAT8C

#	Code	Description
[root]	DWHEAT	Underlying: Durum wheat
[year]	8	Expiry: March 2018
[month]	C	

## Strategies

SOLA supports trading of combinations of Series of Standard Contracts ("Strategies") on the IDEM market. In a Strategy, several orders on different Series are jointly entered, to be jointly executed in case market conditions at the same time satisfy the order parameters for all the Series included in the Strategy.

From a regulatory perspective, Strategies represent a specific Order Type (as detailed in the Borsa Italiana's Rules and related Instructions).

From a technical perspective, Strategies are implemented in SOLA as a single Instrument Series ("Strategy Series"). For this reason, Strategy Series have their own order book and can be bought or sold like any other Series.

Available Strategies are defined in the Borsa Italiana's Rules and related Instructions.

Strategies available on IDEM market belong to the following three Strategy Categories:

### a. Standard Combinations

These Standard Combinations represent pre-determined combinations of Series of Standard Contracts.

With regard to Standard Combinations, only Time Spreads on the FTSE MIB Future, FTSE MIB miniFutures, FTSE MIB Dividend Future, Stock Future and Single Stock Dividend Future are currently available.

Time Spreads are a combination of two orders with opposite direction (one buy, one sell) to be jointly executed, for the same quantity, on different expiries.

The Series Name for Standard Combination (time spreads) Series is defined according to the following naming scheme:

[root]	[year long leg]	[month long leg]	[flag of Time spread]
--------	-----------------	------------------	-----------------------

where:

- [root] = Product/Underlying code, max. 6 chars (e.g. FIB for FTSE MIB index futures, ENI for futures and options on ENI shares)
- [year long leg] = 1 char, representing the expiry year of the first leg of the strategy (long position);
- [month long leg] = 1 char, representing the expiry month of the first leg of the strategy (long position) (from A to L);
- [flag of Time spread]= 1 char, representing the flag of Standard Combinations (T).

Time spread on FTSE MIB Index future (long June 2018, short March 2018)

→ Series name: FIB8FT

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#	Code	Description
[root]	FIB	Underlying: FTSE MIB Index
[year long leg]	8	Expiry of the first leg of the strategy (long position): June 2018
[month long leg]	F	
[flag of Time spread]	T	Flag for Standard Combinations

## b. User Defined Strategy (FLEXCO)

Flexible Combinations (“FLEXCO”) represent personalized combinations of Series of Standard Contracts. Member Firms can individually determine the Series included in a FLEXCO, subject to the following limitations:

- the maximum number of FLEXCO legs is equal to four;
- Series within the same FLEXCO order must have the same contract size;
- the maximum ratio that can be associated to a single leg is 100 (unless differently communicated via Borsa Italiana’s Notices).

Orders on a FLEXCO that coincide with an existing Standard Combination or with a pre-existing FLEXCO will be directed to the order book of the existing Strategy.

A participant can request the creation of a user defined strategy (FLEXCO) by submitting a New Instrument (ON) message. A strategy creation request must include the following information for each of the legs:

- Verb
- Ratio
- Group ID
- Instrument ID

Strategy Creation requests can be accepted, accepted with modifications or rejected.

There are two reasons why a strategy creation request can be accepted with modifications:

1. The Strategy Ratio can be reduced to the least common denominator.  
For example a participant requests the creation of a 2 leg strategy where the ratio is 2 on the first leg and 2 on the second leg. During the creation of the strategy the ratio is rounded down to 1.
2. The leg verbs are reversed.  
For example, a participant sends a creation request with the instruction to Sell leg A and to Buy leg B. During the strategy creation process, the strategy created can be Buy leg A and Sell leg B. An acknowledgement message is always provided to the customer.

The Series Name for FLEXCO is defined according to the following naming scheme:

[root]	[identification code]	[identification group]	[identification number]
--------	-----------------------	------------------------	-------------------------

where:

- [root] = Product/Underlying Ticker, max. 6 chars (e.g. FIB for FTSE MIB index futures, ENI for futures and options on ENI shares)
- [identification code] = 4 chars, equal to “\_FC\_” (FLEXCO identification code);
- [identification group] = 2 chars, Instrument Group ID
- [identification number] = a unique incremental identifier by instrument group assigned to the FLEXCO series (4 chars)

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Here following an example of the Series Name for a FLEXCO:

- FLEXCO on ENI shares  
→ Series name: ENI\_FC\_XXxxxx

#	Code	Description
[root]	ENI	Underlying Ticker
[identification code]	_FC_	FLEXCO identification code (FC)
[identification group]	XX	Instrument Group ID
[identification number]	xxxx	Unique number per instrument group assigned automatically by the system when the FLEXCO is created

## c. IDEX FLEXCO: Location Spread

IDEX Flexible Combinations (“FLEXCO”) represent combinations of Series of Standard Contracts that Exchange will list and Member Firms can trade.

For IDEX Location Spread, implied dissemination is turned off

The Series Name for IDEX FLEXCO is defined according to the following naming scheme:

[root Instrument 1]	[root Instrument 2]	[Exp Year]	[Month Code]
---------------------	---------------------	------------	--------------

Here following an example of the Series Name for an IDEX FLEXCO:

- FLEXCO on Italy vs. Germany monthly baseload contract  
→ Series name: IDEBM\_GDEBM\_8K

#	Code	Description
[root Instrument 1]	IDEBM	Baseload monthly Italy Area
[root Instrument 2]	GDEBM	Baseload monthly Germany / Austria Area
[Exp Year]	8	Expiration year 2018
[Month Code]	K	Expiration Month Code November

- FLEXCO on Italy vs. Germany monthly peakload contract  
→ Series name: IDEPM\_GDEPM\_8K

#	Code	Description
[root Instrument 1]	IDEPM	Peakload monthly Italy Area
[root Instrument 2]	GDEPM	Peakload monthly Germany / Austria Area
[Exp Year]	8	Expiration year 2018
[Month Code]	K	Expiration Month Code November

- FLEXCO on Italy vs. Germany quarterly baseload contract  
→ Series name: IDEBQ\_GDEBQ\_81



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#	Code	Description
[root Instrument 1]	IDEBM	Baseload quarterly Italy Area
[root Instrument 2]	GDEBM	Baseload quarterly Germany / Austria Area
[Exp Year]	8	Expiration year 2018
[Month Code]	1	Expiration Quarterly Code -> 1 <sup>st</sup> quarter

- FLEXCO on Italy vs. Germany quarterly peakload contract

→ Series name: IDEPQ\_GDEPQ\_82

#	Code	Description
[root Instrument 1]	IDPEM	Peakload monthly Italy Area
[root Instrument 2]	GDEPM	Peakload monthly Germany / Austria Area
[Exp Year]	8	Expiration year 2018
[Month Code]	2	Expiration Quarterly Code -> 2 <sup>nd</sup> quarter

- FLEXCO on Italy vs. Germany yearly baseload contract

→ Series name: IDEBY\_GDEBY\_8L

#	Code	Description
[root Instrument 1]	IDEBM	Baseload quarterly Italy Area
[root Instrument 2]	GDEBM	Baseload quarterly Germany / Austria Area
[Exp Year]	8	Expiration year 2018
[Month Code]	L	Expiration Month Code December

- FLEXCO on Italy vs. Germany yearly peakload contract

→ Series name: IDEPY\_GDEPY\_8L

#	Code	Description
[root Instrument 1]	IDPEM	Peakload monthly Italy Area
[root Instrument 2]	GDEPM	Peakload monthly Germany / Austria Area
[Exp Year]	8	Expiration year 2018
[Month Code]	L	Expiration Month Code December

## 3.2 Trading Phases

Available Trading Phases for the IDEM market are defined in the Borsa Italiana's Rules and related Instructions. Table 1 below provides a summary of the Trading Phases of the IDEM market.

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**Table 1 – Trading Phases for IDEM Equity / IDEX / AGREX segments**

Trading Phase		Time interval	IDEM Equity segment FIB and miniFIB	IDEM Equity segment All other products	IDEX segment	AGREX segment
Opening Auction	Pre-Opening	8:30am - 9:00am <sup>2</sup>	Yes	-	-	-
	Validation	Immediate <sup>3</sup>	Yes	-	-	-
	Opening	Immediate <sup>3</sup>	Yes	-	-	-
Continuous Trading <sup>4</sup>		9:00am - 8.30pm	Yes	-	-	-
		9:00am - 5:50pm	-	Yes	-	-
		9:00am - 5:40pm	-	-	Yes	-
		2:30pm - 5:40pm	-	-	-	Yes

Trading Phases are implemented in the SOLA system by associating, in each moment of the trading day, an appropriate Instrument Group State (4.3) to each Instrument Group.

Each Instrument Group State permits to perform only certain actions on the associated Instrument Series (e.g. order entry, order cancellation). A detailed description of the available Instrument Group and Instrument Series States and of their associated actions is provided in paragraphs 4.1 and 4.2.

### 3.3 Order Types

The following Order Types are supported by the SOLA system for the IDEM market (please refer to Borsa Italiana's Rules and related Instructions, and paragraph 5.1 for a full description of the Order Types and Order Parameters available in the IDEM Trading System):

1. Single Orders: represent an order to buy or sell a Standard Series. Single Orders can be submitted:
  - a. as limit or market orders;
  - b. with specific quantity parameters (e.g. minimum quantity and iceberg orders);
  - c. with specific time validity parameters (e.g. Good Till Day, Good Till Cancelled);
  - d. as Stop Orders;
  - e. as Trade Reports, to be executed between 2 pre-determined counterparts (Committed Cross Orders) or within the same counterparty (Internal Cross Orders). Committed Cross Orders can also be submitted by Non-Executing Brokers in the name and on behalf of two pre-determined counterparties.
2. Quotes: available to Market Makers and Specialists only.

Strategy Orders: represent an order to jointly execute one buy or sell orders for each Series included in a Standard Combination or in a FLEXCO.

Note: a Request for Quote can be submitted by any member.

Order entry of a single order, a FLEXCO or a Standard Combination is managed through the same message type.

### 3.4 Tick sizes

Prices on IDEM contracts can vary change according to the tick table summarised below. For details, please refer to the Borsa Italiana's Rules and related Instructions.

The tick tables can be downloaded using the J/JF/JS message of the HSVF protocol.

<sup>2</sup> Refers to a randomly selected second between 9:00 and 9:00:59am.

<sup>3</sup> Immediately after the end of the previous Trading Phase.

<sup>4</sup> Starts immediately after the end of the Opening Auction Phase.

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## IDEM Equity - Index based contracts

Short Name	Instrument Type	Tick
IF	FTSE MIB index futures	5
	FTSE MIB index miniFutures	5
IO	FTSE MIB index options (depending on premium value)	1 (1 - 99)
		2 (100 - 498)
		5 ( $\geq 500$ )
IW	FTSE MIB index Weekly Options	1
DV	FTSE MIB Dividend index futures	1

## IDEM Equity - Stock based contracts

Short Name	Instrument Type	Tick
EF	Stock futures	0.0001
	Pan European Stock futures	0.0001
EO	Stock options	0.0001 (if premium $\leq$ €0.005)
	Weekly stock options	0.0005 (if premium $>$ €0.005)
DF	Single Stock Dividend futures	0.0001

## IDEX contracts

Short Name	Instrument Type	Tick
XF	IDEX futures	0.01

## AGREX contracts

Short Name	Instrument Type	Tick
AG	AGREX futures	0.25

### 3.5 Market Makers and Specialists

Each Member Firm is assigned (at least) a unique identification code (TraderID). Traders of a Member Firm may use any User of the Member Firm to which they belong.

Member Firms can apply to perform the role of Market Maker or Specialist on IDEM market.

Market Makers and Specialists are subject to specific quoting obligations for minimum quantities and on defined group of Instrument Series and are provided specific pricing schemes for their trading activity. Supervision regarding Market Makers and Specialists' activities and fulfilment of their obligations is carried out by Borsa Italiana's Markets Supervision Department in real-time, through special functions implemented on the IDEM Trading System and, subsequently, through the processing of dedicated indicators.

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The following categories of Market Makers and Specialists are available on IDEM. For full details on Market Makers' and Specialists' obligations, please refer to the Borsa Italiana's Rules and related Instructions.

Role		Obligations
Market Makers	Primary	continuous quoting obligations, on proprietary account
	Market Makers	answer to Request for Quotes, on proprietary account
	Liquidity Providers	continuous quoting obligations, on proprietary account and on a reduced number of and expirations underlying (or of days in the AGREX segment) in comparison with Primary Market Makers
	Designated Market Maker	continuous quoting obligations, on proprietary account
	Extended Market Makers	continuous quoting obligations, on proprietary account (in the evening session only, just for index futures)
Specialists	Primary	continuous quoting obligations, on agency account, on a reduced number of underlying and expirations (or of days in the AGREX segment), in comparison with Primary Market Makers
	Specialists	answer to request for Quotes, on agency account
	Liquidity Providers	continuous quoting obligations, on agency account and on a reduced number of underlying and expirations in comparison with Primary Market Makers
	Designated Specialist	continuous quoting obligations, on agency account
	Extended Specialist	continuous quoting obligations, on proprietary account (in the evening session only, just for index futures)

## 3.6 Non-Executing Broker (NEB)

IDEM market allows for Members registered in the capacity of Non-Executing Broker to enter pre-arranged trades via cross and/or block trades in the name and on behalf of two or more predetermined counterparties (not including itself). SOLA trading platform supports order entry from NEBs via APIs as described in para 5.2 of this document.

In addition, for IDEX segment only, support to NEB is also provided via a dedicated Front End (BTS). The BTS IDEX-NEB is also available via HTTPS.

In particular, NEB submitting a Committed Cross Order in the name and on behalf of two pre-determined counterparties must indicate, amongst all other relevant parameters that define the order, the Firm ID and the TraderIDs of both counterparties.

Only IDEM Members registered in the capacity of NEB will be allowed to enter pre-arranged trades as described above for products listed on the related IDEM segments.

## 4.0 Market Structure

IDEM Equity, IDEX and AGREX reference data are organised in Instrument Series and Instrument Groups. Their status can be modified due to the scheduled trading phase's changes or due to manual intervention as described in the following paragraphs.

### 4.1 Instruments Series

An Instrument represents an individual Series in the SOLA system.

An Instrument Series is identified by its Instrument Series ID and the Instrument Group ID of the Instrument Group to which it belongs (see paragraph 4.1.2). An Instrument Series ID is represented by a 4-digits code that is unique within the Instrument Group to which the Instrument Series belongs.

HSVF Summary messages (N/NF/NS) allow downloading the list of reference data for the IDEM market. A specific summary message is available for each instrument type.

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Summary messages will be sent:

- at the beginning of the day to define the list of instruments traded on that day; in these messages, all price fields, with the exception of open interest, will contain zero values;
- after a trade cancellation;
- at calculation of the closing prices by the clearing house, jointly with other relevant data such as the Open Interest/High/Low/Last/Volume;
- at the end of the evening session, with Open Interest/High/Low/Volume updated by clearing house. It is worth to note that, in these messages, closing prices will be the same as per previous point, since not updated by trading activity of the evening session;
- during the day if a new instrument is added.

## 4.2 Instrument Groups

An Instrument Group is a set of Instruments Series governed by the same trading rules, according to the Borsa Italiana's Rules and related Instructions. Each Instrument Group is identified by an Instrument Group ID.

The list of the Instrument Groups and Instrument Group ID can be retrieved via HSVF protocol.

## 4.3 Instrument Group States

Each Instrument Group is associated, in each moment of the day, to a specific Instrument Group State. Available Instrument Group States are reported below. Instrument Group States from 1 to 8 are associated to pre-defined time intervals during the daily trading session. Time intervals for Group Status from 2 to 5 correspond to the time intervals for the Trading Phases defined in the Borsa Italiana's Rules and related Instructions. The "Interrupted" and "Forbidden" Instrument Group States are activated manually by Borsa Italiana under specific circumstances.

Each Instrument Group State is described below:

Trading Phase	IDEM Equity segment FIB and miniFIB	IDEM Equity segment All other products	IDEX segment	AGREX segment
1. Start of Consultation	7:30am - 8:00am			
2. Intervention Before Opening (or "Order Cancellation")	8:00am - 8:30am	8:00am - 9:00am	8:00am - 9:00am	8:00am - 2:30pm
3. Pre-Opening	8:30am - 9:00am <sup>5</sup>	-	-	-
4. Opening	Immediate <sup>6</sup>	-	-	-
5. Continuous Trading	9:00am <sup>7</sup> - 8:30pm	9:00am - 5:50pm	9:00am - 5:40pm	2:30pm - 5:40pm
6. Exchange Intervention	8:30pm - 8:45pm	5:50pm - 6:20pm	5:40pm - 6:10pm	5:40pm - 6:10pm
7. End of Consultation	8:45pm - 9:00pm	6:20pm - 7:00pm	6:10pm - 7:00pm	6:10pm - 7:00pm
8. Mini Batch	9:00pm - EOD*	7:00pm - EOD	7:00pm - EOD	7:00pm - EOD
9. Forbidden				
10. Interrupted				

\* EOD (End of Day) is a Technical Phase.

<sup>5</sup> 9:00am refers to a randomly selected second between 9:00 and 9:00:59am.

<sup>6</sup> Activated immediately after the end of the Pre-Opening State.

<sup>7</sup> Activated immediately after the end of the Opening State.

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SOLA notifies all clients when an Instrument Group switches to a different Instrument Group State. This is done by sending a GROUP STATUS CHANGE NOTICE message indicating the Instrument Group ID and the Instrument Group's new State:

- SAIL: message NG;
- FIX: message NG;
- HSVF: messages GR, GS and GC.

In the event that trading is interrupted for the whole IDEM market, clients will receive one INSTRUMENTS GROUP STATUS CHANGE NOTICE for each Instrument Group.

## Start of Consultation

- *All IDEM products: 7:30am - 8:00am*

SOLA does not notify clients of the switch of Instrument Groups to the "Start of Consultation" State. Only Borsa Italiana can operate on Instrument Groups in this State (no action is available to Market Members).

Data related to the Borsa Italiana's interventions during this Phase are broadcast to Member Firms and data vendors via HSVF.

During this State, Borsa Italiana is allowed to perform actions on Instrument Series scheduled to become effective starting from the forthcoming trading day (e.g. reserve instruments). Order entry is not allowed. However, Borsa Italiana can perform order deletions for a specific Instrument Series or global deletions of a specific Member Firms' orders.

## Intervention Before Opening (**Order Cancellation**)

- *FTSE MIB index futures and FTSE MIB index miniFutures: 8:00am - 8:30am*
- *All other IDEM Equity products and IDEX segment: 8:00am - 9:00am*
- *AGREX segment: 8:00am - 2:30pm*

SOLA notifies all clients via HSVF with one message for each Instrument Group that switches to the "Intervention Before Opening" State.

For Instrument Series in "Intervention Before Opening" State, Member Firms are only allowed to cancel orders (see Table 1 - Trading Phases for IDEM).

Data is broadcast to Member Firms and data vendors via HSVF.

In addition to cancellations performed by Market Members, the system automatically cancel long orders having prices that are not consistent with the order price threshold parameters. Order cancellations performed during this Phase are broadcast to orders' owners via HSVF and SAIL/FIX.

## Pre-Opening

- *FTSE MIB index futures and FTSE MIB index miniFutures only: 8:30am - 9:00am (9:00am and 9:00:59am)*

Orders entered during this Phase contribute to the calculation of the Theoretical Opening Price (TOP). No trade execution is performed during this Phase.

During this Phase, Member Firms are allowed to enter, modify and cancel orders and quotes. Internal/committed cross orders and strategies are not available (see Table 2).

Data is broadcast to the public, to Member Firms and to CC&G.

SOLA notifies all clients via HSVF with one message for each Instrument Group that switches to the "Pre-Opening" State. In case there is one Bid and one Ask at the same price in the book during Group State Pre-opening or Instrument in Reserved state:

- The first level is displaying the TOP as an aggregated price level;

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- If there are market orders in the book, the TOP level is split in the following levels as per below:
  - o The side(s) of the book with market order(s) contributing to the TOP level will display in the second level the aggregated market order price(s) (OUV);
  - o Following level will display aggregated limit order(s) contributing to the TOP;
- Further levels will display the additional prices that would not match the TOP.

## *Theoretical Opening Price calculation*

The Theoretical Opening Price (TOP) calculation is calculated and disseminated in real-time on a daily basis during the Pre-Opening phase, as follows (please refer to the Borsa Italiana's Rules and related Instructions):

### Step 1: Maximisation of traded volume

The TOP is the price at which it is possible to trade the highest number of contracts.

### Step 2: Minimisation of surplus

If there are several prices available after Step 1, the TOP will equal to the price that leaves the minimum non-tradable quantity in the book, in relation to both buy and sell orders with prices equal or better than the TOP.

### Step 3: Minimisation of variation against the last traded price /reference price

If there are prices left after Step 2, and several of these prices are left without a surplus, Step 3 will define a tradable price range and determine the TOP within that range, minimizing the variation against the last traded price if available or the reference price if the last trade price is not available.

### Management of the tradable price range:

If multiple prices are left after Step 2, the system defines a range of valid opening prices according to the following rules:

If the market unbalanced quantity includes market order, the range is set at the best limit order on the same side up to the instrument limit price. Note the price must respect Step 1 and 2. If the same side best limit order price does not maximize the traded volume or minimized the unfilled quantity then the TOP range start at the first price meeting step 1 and 2 criteria.

Range determination when unbalanced includes limit order:

If buy is the unbalanced side then the range lower boundary is determined with the highest buy limit order that would remain unfilled at TOP price (included in the unbalanced quantity).

If sell is the unbalanced side then the range higher boundary is determined with the lowest sell limit order price that would remain unfilled at TOP price (included in the unbalanced quantity).

If at opening, an instrument has no last trade price and no reference price or it is set to 0 and the Pre-Opening book shows only market orders on both sides, the instrument state will be set to "reserved".

The following example illustrates the definition of a price range:

Reference Price		€1.25			
Order Book during pre-opening phase					
Buy			Sell		
Order #	Quantity	Price	Price	Quantity	Order #
1	100	MKT	€1.05	50	1
2	50	€1.00			

- The initial price range is €1.05 (Order 1 on the Sell side) to infinite (the MKT order on the Buy side).
- The engine validates the price if the reference price is located within the range.

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# Guide to the Trading System

- If the reference price is €1.25, the opening price will be set at €1.25
- The remaining quantity of the market order will be booked at €1.25

## Opening

- Available for *FTSE MIB index futures and FTSE MIB index miniFutures only*

SOLA notifies all Member Firms and data vendors via HSVF with one message for each Instrument Group that switches to the "Opening" State.

At the end of the "Pre-Opening" Phase, trades for each Instrument Series are executed at the last TOP price, if such TOP is considered valid according to price limit variations described in paragraph (the "Opening Price"). Otherwise, a volatility auction is started with the Instrument Series assuming the Instrument Series Status "Reserved".

## Continuous Trading

- *FTSE MIB index futures and FTSE MIB index miniFutures: 9:00am - 8:30pm*
- *All other IDEM Equity products: 9:00am - 5:50pm*
- *IDEX segment: 9:00am - 5:40pm*
- *AGREX segment: 2:30pm - 5:40pm*

SOLA notifies all Member Firms and data vendors via HSVF with one message for each Instrument Group that switches to the "Continuous Trading" State.

Orders are associated and trades executed in real-time, following Price-Time priority rules (please refer to the Borsa Italiana's Rules and related Instructions).

All actions on orders (including internal/committed cross orders) and quotes (including Request for Quotes) are available to Market Members on Instrument Groups in "Continuous Trading" State (see Table 2).

The following information are sent by the trading system to the CC&G clearing system and showed in the BCS:

- Information of the executed trades;
- request for early exercise/by exception (sent to the CC&G clearing system through the BCS);
- information on intraday margin calls (available through the BCS).

## Exchange Intervention

- *FTSE MIB index futures and FTSE MIB index miniFutures: 8:30pm - 8:45pm*
- *All other IDEM Equity products: 5:50pm - 6:20pm*
- *AGREX and IDEX segments: 5:40pm - 6.10pm*

Participants may receive certain messages during this phase (e.g. Group or Instrument State change notices).

Market Members on Instrument Groups in "Exchange Intervention" and Borsa Italiana are entitled to perform Order cancellations (see Table 2).

## End of Consultation

- *FTSE MIB index futures and FTSE MIB index miniFutures: 8:45pm - 9:00pm*
- *All other IDEM Equity products: 6:20pm - 7:00pm*
- *AGREX and IDEX segments: 6.10pm - 7:00pm*

No data information is broadcasted.



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# Guide to the Trading System

This phase is reserved for Borsa Italiana which, for the purposes of managing the system, is entitled to perform Order cancellations (see Table 2) when the Instrument Group is in “End of Consultation” State.

## Mini Batch

- *FTSE MIB index futures and FTSE MIB index miniFutures: 9:00pm - EOD*
- *All other IDEM Equity products: 7:00pm - EOD*
- *AGREX and IDEX segments: 7:00pm - EOD*

Orders whose validity date has expired are deleted. Statistics for each Instruments Series are automatically reset by the system (high, low, volume). Notifications of expired orders are sent to Member Firms. Since Member Firms are not typically connected during this phase, such messages are available upon next connection.

No action is available on Instrument Groups in “Mini Batch” State (see Table 2).

## Forbidden

SOLA notifies all Member Firms and data vendors [via HSVF] with one message for each Instrument Group that switches to the “Forbidden” State.

Data is broadcast to the public, to Member Firms via HSVF or GTP and to CC&G

Order cancellation is the only available action on Instrument Groups in “Forbidden” State (see Table 2).

Instrument Groups are manually set to the “Forbidden” State by Borsa Italiana. An Instrument Group State change to “Forbidden” can occur at any time during the trading day and is normally used when an Instrument Group is permanently de-listed.

## Interrupted

SOLA notifies all clients Member Firms and data vendors [via HSVF] with one message for each Instrument Group that switches to the “Interrupted” State.

No action is available on Instrument Groups in “Interrupted” State (see Table 2).

Instrument Groups are manually set to the “Interrupted” State by Borsa Italiana. An Instrument Group State change to “Interrupted” can occur at any time during the trading day and is normally used when an Instrument Group is deliberately shut down for a technical or business emergency.

## 4.4 Instrument Series States

The normal behaviour of an Instrument Series is to follow the rules of its Instrument Group according to the active Instrument Group State. Under specific circumstances, Borsa Italiana can assign an Instrument Series a specific Instrument Series State, independently by its Instrument Group.

The following Instrument Series States can be in place during the trading day:

- Normal: it follows the trading rules associated to the Instrument Group it belongs;
- Forbidden: no trading activities are available. No action on Orders, Quotes and Strategies is available;
- Reserved: this Instrument Series State is automatically activated in case the Opening Price cannot be determined or it is not valid or on specific circumstances following a decision by Borsa Italiana;
- Suspended: this Instrument Series State is automatically activated in case a Circuit Breaker is triggered.

When an action affects an Instrument Series modifying its Instrument State, SOLA sends all clients an INSTRUMENT STATE CHANGE NOTICE (NI) message specifying, amongst other parameters, the new Instrument Series Status of the Instrument Series, as well as the type of action which triggered this change.

Table 2 summarises the actions allowed under each Instrument Group State and each Instrument Series State.



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# Guide to the Trading System

## Strategies' Instrument Series State

Instrument Series State for Strategy Series is dependent on the Instrument Series State of its legs.

If any of the legs of the Strategy Series is placed in a not trading State, the IDEM Trading System automatically places the Strategy Series' Instrument Series State to "Suspended".

The Strategy Series' Instrument Series State will return to follow the State of its Instrument Group (so, returning to the value "Continuous Trading") when the same switch will have happened for all of its legs (so, when the Instrument Series State for of its legs returned to "Continuous Trading").

## 4.5 Strike generation rules

The system automatically manages the updating of the Series of option Contracts available for trading on IDEM, according to the Borsa Italiana's Rules and related Instructions.

Here follow the current strike generation rules:

- At the close of the session on the Expiration Date, the series of the new expiration to be quoted starting from the first subsequent Borsa Italiana open day are generated;
- Every day the new strike prices are generated (i.e. the new single series) according to the fluctuation of the index last value (for FTSE MIB index Options) or the stock Reference Price (for stock Options), whenever:
  - o For call options, it is higher (lower) than the average value of the at the money price and the first out of (in) the money price;
  - o For put options, it is higher (lower) than or the average value of the at the money price and the first in (out of) the money price;

All the strike prices generated remain visible (and tradable) in the trading system until the expiration date even if no orders are entered on the days following their generation.

In particular, the negotiable series are:

- The central Strike Price level, defined as "at the money", or the strike price nearest the value of the underlying stock;
- N Strike Price levels higher than at the money;
- N Strike Price levels lower than at the money;

Currently for FTSE MIB index option contracts, for each series up to one year (monthly and quarterly) there are 15 price levels with interval of 250 or 100 index points and 500 index points for the following series; at least 21 price levels with interval of 1000 index points for the series with remaining life longer than one year. For the FTSE MIB index weekly options contracts there are 21 price levels with interval of 100 index points.

For stock option contracts for each series up to one year (monthly and quarterlies) there are at least 15 price levels available on calls and puts, and at least 21 price levels for the series with remaining life longer than one year. For the weekly stock option contracts there are 21 price levels.

When the Reference Price approaches the limit of a strike interval, the system generates new strike prices using the new step, in order to keep the ratio between the incremental step and the strike value constant.

## 4.6 Adjustment of stock option, futures and single stock dividend futures contracts

The adjustment of stock option, single stock dividend futures and stock futures contracts is due in case of corporate actions (e.g. extraordinary dividend payment). The events and the criteria for the adjustments are defined by Borsa Italiana in the Corporate Action Policy.

The new adjusted series are generated by the clearing system that sends the data to the trading system; the new series are identified by:

- an "X" at the end of their name if it is the first adjustment, an "Y" or "Z" for the following adjustments; for additional adjustments the following letters are used: "Q", "R", "S", "T", "U", "V".
- a suitable indicator in the static information flow exchanged with CC&G.

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# Guide to the Trading System

Ahead of the adjustment, the system automatically cancels the existing orders related to the series that will be no longer tradable on the days following the adjustment.

The adjusted strike prices related to the maturity tradable on the ex-day will not respect the standard steps: the correct strike prices will have their own "K" factor as a result of the adjustment after the Corporate Action.

In case of both the introduction of an expiration and the shifting of the Reference Price, the new automatically generated series will have all the characteristics defined for the standard futures contract to which they refer to (steps, number of underlying shares, etc.).

The electronic system allows the co-existence of corrected series (until their expiration) and series generated according to the normal procedures, both for the same expiration and for different expirations.

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## 5.0 Orders Management

### 5.1 Order Entry

The IDEM Trading System assigns a unique identification number to each order ("Order ID") at order entry. Such Order ID is unique by Instrument Series and by day, and it is recorded along the life of the order, following order modifications and up to trade execution or cancellation. This way, the entire history of any order entered into the IDEM Trading System is traced and can be reconstructed, when necessary.

Order Entry is performed by Member Firms through the ORDER ENTRY (OE) message. The OE message is used both for Standard Series, Strategy Series, with the sole exception of Cross Orders (OX Message).

To enter an order, the client sends an ORDER ENTRY (OE) message. This message will contain the Client's User Sequence ID.

SOLA performs validation on the parameters of the ORDER ENTRY (OE) message received.

If validation fails, SOLA sends an ERROR MESSAGE (ER/TE) rejecting the message received and indicating the code for the first error detected and the message type for the message generating the error along with its User Sequence ID.

If validation is successful, SOLA accepts the message received and populates an Order ID to the order entered. This ID is unique by instrument and by day. SOLA sends the client an acknowledgement for the order entered via an ORDER ACKNOWLEDGEMENT (KE) message. The ORDER ACKNOWLEDGEMENT message will contain the unique Order ID. It also contains the User Sequence ID which enables the client to reconcile the acknowledgment to the original message entered.

An ORDER ACKNOWLEDGEMENT indicates that the order has been:

- Entered on the order book (Status = " ", a part of the order having possibly been executed)
- Eliminated (Status = E)
- Executed in full, or Partially for IOC orders (Status = X)

If an order is either partially or fully executed, the client receives, immediately after the ORDER ACKNOWLEDGEMENT (KE) message, one or several EXECUTION NOTICE (NT) messages providing additional information related to the transaction that took place.

If the order was on a strategy instrument, the client also receives LEG EXECUTION NOTICE (NL) messages providing additional information related to the price and quantity at which each of the individual legs of the strategy instrument traded.

If the order has been booked, the client will automatically receive at a later time one of the following messages:

- One or more EXECUTION NOTICE (NT) messages.
- In the case of a strategy: several LEG EXECUTION NOTICE messages (NL) in addition to the EXECUTION NOTICE. Each NL message can be linked to its parent strategy trade (EXECUTION NOTICE (NT) on the strategy instrument) message by the 'Strategy Instrument ID', 'Strategy Group' and 'Strategy Trade Number' fields.
- An ORDER ELIMINATION (NZ) message.

# Guide to the Trading System

All messages related to an order (execution notice, cancellation notice, order acknowledgement) contain the current Order ID and the Original Order ID. The User Sequence ID is set to zeroes.

The following parameters must be specified in the ORDER ENTRY:

**Table 3 - Available Parameters in the Order Entry message**

Parameter	Available values	Comments
- Instrument Series ID		Instrument identification within a Group and Group ID
- Price Type	Limit; Market; Top; Committed	Refer to paragraph 5.1.1
- Price		To be defined if the Price Type is set to "Limit" or "Committed". Refer to paragraph 5.1.2
- Quantity		Number of contracts or shares
- Minimum Quantity (Group)		Includes 2 sub-fields. Refer to paragraph 5.1.3
Quantity Term	Minimum; Disclosed	(Optional)
Additional Quantity		(Optional). To be defined only when the Quantity Term is set to "Minimum" or "Disclosed"
- Time Validity	Day; Good Till Day; Good Till Cancellation; Immediate; Good Till Connected	Refer to paragraph 5.1.4
- Stop (Group)		For Stop Orders only. Refer to paragraph 5.1.5
Stop Price		(Optional)
Special Price Term	Stop; Stop on Bid; Stop on Ask; If Touched; If Touched on Bid; If Touched on Ask	(Optional)
- Clearing Data (Group)		Includes 3 sub-fields. Refer to paragraph 5.1.6
Position	Open; Close	
Account Type	House; Third Party	
Client Code		
- Owner data		(Optional). A free-text field (max. 50 characters) Available to Member Firms as a reference to the order. Refer to paragraph 5.1.7

The following paragraphs describe the function of the available parameters for the ORDER ENTRY (OE) message, and how orders are managed within the IDEM Trading System in relation to the available combinations of such parameters.

## Price Type parameter

The following values can be specified for the "Price Type" parameter:

- "L": for Limit Orders;
- "O": Opening;
- "W": for Market Orders;
- "M": for Top Orders<sup>8</sup> (or "At Best Opposite Price");
- "C": for Committed Orders<sup>9</sup>.

<sup>8</sup> From a regulatory perspective, a Top Order is a Market Order with a particular execution algorithm.

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# Guide to the Trading System

## *Limit Orders*

Limit Orders are submitted by setting the Price Type field of ORDER ENTRY (OE) message to "L".

Limit Orders entered into the order book are executed at the indicated price or at a better price, if compatible orders are available on the opposite side of the order book. Unless the Time Validity Parameter of the Limit order is set to "Immediate", the residual volume after a partial execution of a Limit Order is retained on the order book, until it is withdrawn or traded.

Limit Orders can be entered on Instrument Series in "Pre-Opening" or "Continuous Trading" State.

Limit Orders entered during the "Pre-Opening" Trading Phase are executed at the Opening Price – if possible, according to the procedure described in chapter Theoretical Opening Price calculation– during the "Opening" Trading Phase. Unexecuted (partially or completely) Limit Orders at the end of the "Opening" Trading Phase, unless the Time Validity Parameter of the Limit order is set to "Immediate" (IOC), are automatically transferred to the "Continuous Trading" Trading Phase, maintaining their original Price and time priority. In case the Time Validity Parameter of the Limit order is set to "Immediate" (IOC), the unexecuted quantity is cancelled.

## *Market Order*

Market Orders are submitted by setting the Price Type field of the ORDER ENTRY (OE) message to "W".

Market Orders are executed against all the available orders on the opposite side of the order book, ordered by price-time priority, until: i) the total quantity of the Market Order has been traded, or; ii) until all the available volume on the opposite side of the order book has been traded.

In case of partial execution of the Market Order (happening when all the volume on the opposite side of the order book has been traded) and unless the Time Validity Parameter of the Limit order is set to "Immediate" the residual Quantity of the Market Order is automatically converted to a Limit Order, at the last price at which the traded part of the Market Order has been executed.

Market Orders can be entered during the "Pre-Opening" and "Continuous Trading" Trading Phase.

Market Orders entered during the "Pre-Opening" Trading Phase are executed at the Opening Price if possible, during the "Opening" Trading Phase. Unexecuted (partially or completely) Market Orders, unless the Time Validity Parameter of the Limit order is set to "Immediate" (IOC), are converted to Limit Orders at the Opening Price and transferred to the "Continuous Trading" Trading Phase. In case the Time Validity Parameter of the Limit order is set to "Immediate" (IOC), the unexecuted quantity is cancelled.

## *Top Order (or "At Best Opposite Price")*

Top Orders are submitted by setting the Price Type field of ORDER ENTRY (OE) message to "M". Top Orders are executed only against the orders available at the best price on the opposite side of the order book.

In case of partial execution of the Top Order (when all the volume at the best price on the opposite side of the order book has been traded), the residual volume of the Top Order is automatically converted to a Limit Order, at the price at which the traded part of the Top Order has been executed.

Top Orders are available for Instrument Series in "Continuous Trading" State only. So, they cannot be entered when the Instrument State is set to "Pre Opening".

Top Orders on a strategy instrument entered into the order book are also executed at the best available price in the market for the total quantity available from contra orders. However, if there are implied limits which offer a better price than the opposite real limits in the strategy book, the incoming Top Strategy order will trade at each of the implied limits until there is no more remaining quantity. If the Top Strategy order is partially filled after being matched with the implied orders, the remaining quantity will then trade against contra orders at the best executable price in its own (strategy) book. Any residual volume left after all trades (implied and own-book trades) will be booked as a limit order at the last executed price.

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<sup>9</sup> Cross Orders are executed with a specific message type ("OX"). See paragraph 5.1.4.

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# Guide to the Trading System

## *Committed Orders*

Committed Orders are a special orders type dedicated to Trade Reports, and are submitted by setting the Price Type field of ORDER ENTRY (OE) message to "C".

For more details of Trade Reports functionality in the IDEM Trading System please refer to chapter 5.2.

## **Price parameter**

The Price parameter must be specified for Limit Orders and for Trade Reports (it remains blank in case of Market and Top Orders). For Limit Orders, it indicates the lowest (for sell orders) or higher (for buy orders) price at which the Member Firm is willing to have the order executed. For Trade Reports, it indicates the pre-arranged price at which the Trade Report will be executed.

The inserted Price must be consistent with the tick size tables reported in chapter Tick sizes.

## **Quantity Term and Additional Quantity parameters**

The following values can be specified for the "Quantity Term" parameter:

- Blank (no minimum quantity);
- "M": for Minimum Quantity;
- "D": for Disclosed Quantity. This value is available for Instrument Series in Continuous Trading State only and for Limit Orders only. It is used to implement "Iceberg Orders" (please refer to the Borsa Italiana's Rules and related Instructions);

In case the Quantity Term parameter is set, the Additional Quantity parameter must also be indicated. The value specified in the Additional Quantity parameter cannot be higher than the value in the Quantity parameter.

If the Quantity Term parameter is set to "M" or "D", the Duration Term parameter can assume only the value "J" ("Day", see paragraph 5.1.5).

## *Minimum Quantity*

If the Quantity Term is set to MINIMUM (Quantity Term parameter set to 'M'), the order has to be executed at least for the quantity specified in the Additional Quantity parameter. If this is not possible, the order is rejected.

"Fill or Kill" orders are implemented by setting the Additional Quantity parameter equal to the total Quantity of the Order.

For a strategy order with a Minimum Quantity, the Trading Engine evaluates if the order can be executed against opposite orders in the same strategy book, otherwise the order is rejected, even though the incoming strategy order may trade against implied orders for the minimum quantity specified at a better price than the market in its own-book.

## *Disclosed Quantity ("Iceberg Orders")*

For Instrument Series in Continuous Trading State, it is possible to configure Limit Orders presenting a limited disclosed quantity to be filled, i.e. "iceberg orders" (Quantity Term parameter set to 'D').

The Additional Quantity for Iceberg Orders cannot be lower 5 lots.

If the Quantity Term is set to "D", the order is booked for its total quantity, specified in the Quantity parameter. However, only the Additional Quantity is broadcast by the IDEM Trading System. Once the Additional Quantity is filled, a new Limit Order is generated with the same price level as the original order;

- a new time priority;
- Quantity equal to the lower of either the Additional Quantity or the difference between the Quantity and the Additional Quantity (the "Remaining Quantity").

In the case of several strategy orders from different strategy instruments, each with a Disclosed quantity, trading against an implied-out (outright) leg order, the Trading Engine will maintain a time-priority across the different strategy books if the Disclosed quantity for a given strategy order is totally traded.

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# Guide to the Trading System

## Limitations

The Time Validity parameter for Iceberg Orders cannot be set at "Good Till Day". During the intra-day volatility auctions, the Iceberg Orders will participate in the price determination (both with the displayed and non-displayed quantity; the displayed quantity must be at least equal to the minimum quantity set by Borsa Italiana and communicated through an official Notice).

## Time Validity parameter

The following values can be specified for the "Duration Type" field of the ORDER ENTRY (OE) message:

- "J": for "Day";
- "D": for "Good Till Day";
- "F": for "Good Till Cancelled"; (till expiration)
- "E": for "Immediate Orders";
- "W": for "While Connected Orders".

OE messages for Strategies (Combo and FLEXCO) can be inserted only with Time validity parameter set to "J".

### Day

A Day Order is submitted by setting the Duration Type field of the ORDER ENTRY (OE) message to 'J'. Orders designated as 'Day' will remain on the order book until the order is:

- executed, or;
- cancelled, or;
- automatically cancelled at the end of the current trading day.

### Good Till Day ("GTD")

A GTD Order is submitted by setting the Duration Type field of ORDER ENTRY (OE) message to "D". GTD orders require setting also the "GTD Date" field to the date upon which the order must expire.

Orders designated as "Good Till Day" will remain on the book until the order is:

- executed, or;
- cancelled, or;
- automatically cancelled at the end of the day specified in the "GTD Date" field.

### Good Till Cancelled ("GTC")

A GTC Order is submitted by setting the Duration Type field of ORDER ENTRY (OE) message to "F". Orders designated as "Good Till Cancelled" will remain on the book until the order is:

- executed, or;
- cancelled, or;
- automatically cancelled at the end of the last trading day of the Instrument Series of the order.

### Immediate Orders ("IOC")

An Immediate order (also known as "Immediate or Cancel") is submitted by setting the Duration Type field of ORDER ENTRY (OE) message to "E".

IOC Orders are immediately executed against any existing orders on the opposite side of the order book, at the specified Limit Price or better up to the total Quantity of the IOC Order. Any residual volume after partial execution of an IOC Order is automatically deleted.



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# Guide to the Trading System

## FAK (“Fill and Kill”) and FOK (“Fill or Kill”)

A Time Validity parameter set to “E” (“Immediate”) can be associated to the Quantity Term parameter in order to implement FOK and FAK orders:

- FOK orders are implemented associating an Immediate order with the Quantity Term parameter set to “M” (“Minimum Quantity”) and defining an “Additional Quantity” equal to the total quantity of order.
- FAK orders are implemented associating an Immediate order with the Quantity Term parameter set to “M” (“Minimum Quantity”) and defining an “Additional Quantity” equal to the “Minimum Quantity” desired.

### *While Connected Orders*

A “While Connected” order is submitted by setting the Duration Type field of ORDER ENTRY (OE) message to ‘W’. Orders designated as “While Connected” will remain in the order book until the order is:

- executed, or;
- cancelled, or;
- automatically cancelled following a Participant disconnection, or;
- automatically cancelled in the event of a SAIL Front End failure, or;
- automatically cancelled at the end of the current trading day.

So, “While Connected” orders are valid only for the current trading day (as for Day orders).

## Stop parameters

The IDEM Trading System provides a centralised management of the “Stop Loss” functionality (please refer to the Borsa Italiana’s Rules and related Instructions). The Stop Loss functionality is activated specifying some additional parameters in the ORDER ENTRY (OE) message. For the purposes of this paragraph, orders submitted with an activated “Stop Loss” functionality will be referred to as “Stop Orders”.

## Processing of Stop Orders

The IDEM Trading System checks the Triggering Condition of the Stop Order only once the incoming order that has modified the price of the Stop Series has been completely processed. Stop Order is not triggered when the incoming order has activated a Circuit Breaker, because the order rejected changes the State of the Stop Series to “Suspended”.

The IDEM Trading Systems processes Stop Orders using, for each Instrument Series, a separate order book that is not visible to Member Firms (the “Stop Order Book”).

All orders triggered following a change of the price of the Stop Series are sorted by time priority and sequentially submitted in the instrument order book.

Stop Orders remain inactive in the Stop Order Book of the Instrument Series they refer to (the “Order Series”), until the price (“Stop Price”) of an Instrument Series chosen by the Member Firm at order entry (the “Stop Series”), is reached.

## Limitations

The IDEM Trading System allows to enter Stop Orders with the following limitations:

- the Stop Series must coincide with the Order Series;
- Stop Order functionalities are available for Single Orders only;
- the Time Validity parameter for Stop Orders can be set as “Day”, “While Connected” or “GTC” (refers to the order that enters the order book in case the price condition is triggered).
- Inactive or unexecuted Stop Orders at the close of the current trading day are automatically cancelled.

# Guide to the Trading System

## Additional order parameters for Stop Orders

The following additional parameters must be specified in the ORDER ENTRY (OE) message in case of a Stop Order:

### Stop Price

It is the value that the price of the Stop Series must reach in order to trigger the activation of the Stop Order.

### Special Price Term

It indicates the condition to be fulfilled for the Stop Order to be activated. Combines two elements: i) the relevant market price to be compared to the Stop Price (this can be chosen by the Member Firm among the last price of the Stop Series, the best buy or the best bid available in the order book for the Stop Series), and; ii) the condition that must be created between the market price of the stop series and the Stop Price, in order to trigger the activation of the Stop Order (higher or equal, lower or equal). The following six values are available:

Value		Order triggered when (Triggering Condition):		
			for Buy orders	for Sell orders
-	"S" (Stop)	Last Price	>= Stop Price	<= Stop Price
-	"E" (Stop on Bid)	Best Bid Price	>= Stop Price	<= Stop Price
-	"I" (Stop on Ask)	Best Ask Price	>= Stop Price	<= Stop Price
-	"T" (If Touched)	Last Price	<= Stop Price	>= Stop Price
-	"F" (If Bid Touched)	Best Bid Price	<= Stop Price	>= Stop Price
-	"H" (If Ask Touched)	Best Ask Price	<= Stop Price	>= Stop Price

## Clearing Data

### Position parameter

Member Firms are required to define, by means of the Position parameter, if the order entered in the trading system is related to:

- the creation of a new position ("Open") - O, or
- the closing of a previously opened position ("Close") - C.

In case of orders entered with Account Type equal to "House", or when the Position parameter is not specified, the system automatically attributes the value "Open" to the Position parameter.

### Account Type parameter

Member Firms are required to define, by means of the Account Type parameter, if the order entered in the trading system is executed on their own account ("House") or on a third party's account ("Client").

Quotes from Market Makers and Specialists must always be marked as "House".

### Client Code parameter (Clearing Instruction)

Member Firms are required to define, by means of the Client Code parameter (Clearing Instruction), a clearing sub-account number, according to the codes available in the Clearing House systems.

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# Guide to the Trading System

## Owner Data parameter

The "Owner Data" parameter of the Order Entry message is made available to Member Firms as a free-text (up to 50 characters) for storing the order date, a proprietary order identification number or any other information considered relevant by the Member Firm.

## 5.2 Trade Reports

The IDEM Trading System supports orders aimed at executing a trade against a pre-determined counterparty ("Trade Reports"). Trade Reports do not interact with the Instrument Series' order book and their prices are not subject to the Y and Z validation procedures described in paragraph Dynamic price deviation controls (and Circuit Breakers). Committed Orders that are still unmatched by the designated counterparty at the close of the current trading session are automatically cancelled.

## Categories

Following categories are available for Trade Reports (according to the Borsa Italiana's Rules and related Instructions):

### *Internal Cross Order*

Aimed at the execution of a trade where the two counterparties are represented by a unique Member Firm. An Internal Cross Order is submitted by such Member Firm through the "OX" message.

For Internal Cross Orders, since the two counterparts are represented by the same Member Firm, a two-sided order (by the OX message) must be inserted to complete the Trade Report. The Trade Report is immediately executed, given that the price validation control described in the previous paragraph is fulfilled. The price validation control is performed at order entry.

### *Committed Cross Order*

Aimed at the execution of a trade where the counterparties are pre-determined. A Member Firm must indicate, amongst all other relevant parameters that define the order, the Firm ID of his counterparty. A Committed Order is submitted by setting the Price Type field of ORDER ENTRY (OE) message to "C". For Committed Cross Orders, order entry must be done by both the counterparties of the Trade Report. The central system keeps the first order received in a dedicated private archive until the corresponding order of the Trade Report has been submitted by the other counterparty. If the two orders fully match and the price validation control described in the previous paragraph is fulfilled, the trade is executed. The price validation control is performed two times, at order entry of the Trade Report by each counterparty.

### *Bundle Orders (cross orders/block trades with up to four legs)*

IDEM facilitates the grouping of multiple cross orders/block trades into one unique window through the Bundled Order (BO) functionality. This functionality offers certainty of simultaneous execution of all the individual legs included in the Bundled Order, or no execution at all. The functionality is highly customisable, allowing market participants to create their Bundled Orders with the same or different counterparty and same or different financial instruments in each leg, as well as an individual price for each leg<sup>10</sup>.

The Bundled Order functionality offers an alternative to the Strategy functionality, whilst providing additional flexibility as described below. In particular, a Member:

- can enter a Bundled Order in up to four legs;
- can independently specify for each leg of the Bundled order:
  - o The financial instrument (e.g. option or futures);
  - o The price and size;
  - o The counterparty;
  - o Buy or Sell.
- must use the same TraderID for each leg of the Bundled Order.

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<sup>10</sup> The counterparty entering the BO must be buyer or seller of each leg included in the BO.

# Guide to the Trading System

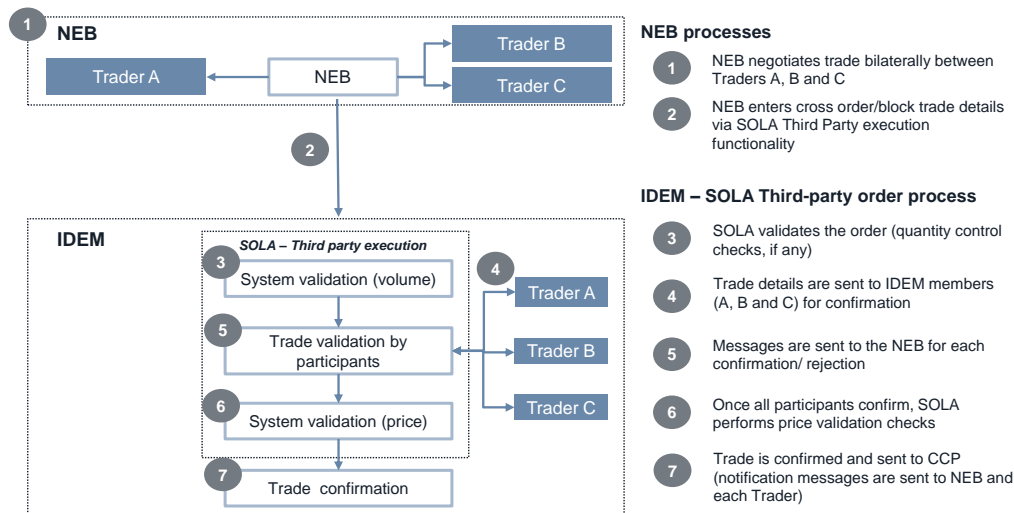
Once the Bundled Order is entered, each counterparty will receive a notification message. On receipt, counterparties will be able to submit acceptance of its Leg of the Bundled Order, or reject it. In case of rejection from one of the counterparties, acceptance by any other counterparty of the Bundled Order will be prohibited. Pending legs will remain in the system till the close of the trading day until they are all accepted. The Bundled Order will be registered and sent to clearing only on acceptance of all of the counterparties. Price and quantity validations are also applicable.

## Third Party Order execution functionality via APIs

Members registered in the capacity of NEB can initiate electronically the execution process by entering a Third Party Order and each counterparty will receive a notification message with no disclosure of the other counterparties' names (only NEB name will be visible). NEB can submit a Third Party Order as a cross order, Bundled Order or Block Trade with specifications details above.

Once proposal has been received, each counterparty will be able to submit acceptance of its own leg of the Third Party Order, or reject it. In case of rejection from one of the counterparties, acceptance by any other counterparty of the Third Party Order will be inhibited. Pending legs will remain in the system till the close of the trading day until they are all accepted. The Third Party Order will be registered and sent to clearing only on acceptance from all counterparties.

The market model applied to the Third Party Order for each leg mirrors the one for cross/bundle/block trades, such as Price and quantity validations.



## Price Limitations for Trade Reports and Block Trades

Trade Reports are subject to price validation controls before the execution of a trade. In case price validation controls are not fulfilled, the Trade Report is not executed and a message is returned to both the counterparties of the trade. Price validation limits are differentiated in relation to the size of the Trade Report:

- for a trade size below the limits defined for Block Trades: the price of the Trade Report must be within the best bid and ask price available on the Order Book (including limits);
- for Block Trades: a wider price interval around the available best bid-ask spread is available. The allowed price intervals are different for each Contract.

The following table summarises the minimum and maximum Quantity for Block Trades and the price deviation parameters (according to the Borsa Italiana's Rules and related Instructions) for Committed and Internal Cross Orders (see paragraph 5.2), Block Trades are not available on the FTSE MIB miniFutures.

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**Table 3 - Block Trade minimum size and price validation intervals for Block Trades**

	Contract	Block Trade size		Price validation interval: best bid/ask spread plus/minus
		Minimum	Maximum	
<b>IDEM Equity</b>	FTSE MIB index futures	5 lots	5,000 lots	1%
	FTSE MIB index miniFutures	n/a	n/a	n/a
	FTSE MIB Dividend index futures	5 lots	5,000 lots	2%
	Stock futures on Italian and Pan-European underlyings	500 lots	60,000 lots	10%
	Single stock dividend futures and single stock dividend futures' strategies	25 lots	60,000 lots	No price validation interval
	FTSE MIB index options (including weekly)	100 lots	30,000 lots	20%
	Stock options (including weekly)	500 lots	30,000 lots	10%
<b>IDEX</b>	IDEX monthly futures	15 lots	1,500 lots	No price validation interval
	IDEX quarterly futures	5 lots	500 lots	
	IDEX yearly futures	5 lots	500 lots	
<b>AGREX</b>	DURUM Wheat futures	20 lots	1,000 lots	No price validation interval

## Info dissemination and impact on market statistics

Trade Reports (independently by their trade size) are directly disseminated as executed trades. A proper field in the executed trade message indicates that the trade has been executed as a Trade Report.

Trade Reports below the Block Trade thresholds are counted in both prices and quantity statistics reports, but do not contribute to update the last trade price data.

Block Trades do not contribute to update neither the last trade price data nor any price statistic report; Block Trades are counted in quantity statistics report. In reference data reports published by Borsa Italiana, the part of the total volume generated by Block Trades is separately indicated.

## 5.3 Strategy order management

### FLEXCO creation

A participant can request the creation of a FLEXCO by submitting a NEW INSTRUMENT (ON) message. A strategy creation request must include the following information for each leg:

- Verb (Buy or Sell);
- Ratio;
- Instrument Group ID;
- Instrument Series ID.

Strategy Creation requests can be: i) accepted; ii) accepted with modifications, or; iii) rejected. In case the Strategy Creation request is accepted, a NEW INSTRUMENT ACKNOWLEDGMENT (KN) message is returned.

A strategy creation request can be accepted with modifications in the following 2 situations:

- the Strategy Ratio is reduced to the least common denominator: this situation happens when, as an example, a participant requests the creation of a 2 leg strategy where the ratio is 2 on the first leg and 2 on the second leg. During the creation of the strategy, the ratio is reduced to 1 for both legs;

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- the leg verbs are reversed: this situation happens when, as an example, a participant requests the creation of a Strategy with the instruction to Sell leg A and to Buy leg B. During the strategy creation process, the strategy created can be Buy leg A and Sell leg B.

In case any modification to the Strategy is performed, the New Instrument Acknowledgement (KN) message includes the new Strategy structure and a special marker to indicate that the structure of the Strategy was modified.

The leg ordering sequence may differ from the original request but will not be marked as modified if the ratio and the verb for all legs remain the same.

## Maximum number of FLEXCO

The number of FLEXCO creation requests is limited to a maximum per day for each Member Firm (99). If a Member Firm exceeds such limit; any subsequent creation request is rejected.

Following the first trade occurring on a FLEXCO created by a Member Firm, the FLEXCO creation counter for such Member Firm is reduced by 1.

## Order Book

A Strategy Series is configured as an Instrument Series in SOLA. For this reason, a dedicated order book is available for each Strategy Series. Such order book: i) is automatically configured for Standard Combinations; ii) is generated at Instrument Series creation for FLEXCO (please refer to the Borsa Italiana's Rules and related Instructions).

## Strategy Quote Definition

A strategy is viewed as a single instrument in SOLA, and strategies are quoted with bid and ask. A strategy instrument can be bought or sold like any other instrument. A strategy order can either trade against an opposite strategy order (in same instrument book) or against several leg orders (implied trade). Only strategy instruments which are system configured "implied enabled" can trade in implied mode.

A Strategy Quote is the first limit of the market depth message diffused from the Exchange routing engine for a strategy Instrument. It has the current established Best Bid / Best Ask, and Best Bid Volume / Best Ask Volume (not including hidden volumes). It is a simple snapshot of what the market conditions are on the Instrument. The same types of strategy rules written above apply in the same manner for the strategy.

## Order Types

Order Types for Strategies are the same available for Standard Series, except for Stop Orders which are not available.

## Trades Execution

According to the Borsa Italiana's Rules and related Instructions, two execution alternatives are available for Strategies:

- Strategy vs. Strategy trade, where a Strategy order is executed on the Strategy Series' dedicated order book against an opposite order on the other side of the order book, or;
- Implied trade.

In addition to execution against compatible orders on the opposite side of the order book, the "implied trade" functionality is available for IDEM Strategies. So, under certain conditions, a Strategy can be executed against compatible orders that are present on the order books of the individual Series of Standard Contracts that are included in the Strategy.

Before matching orders on the Strategy Series' dedicated order book (Strategy vs. Strategy trade), the IDEM Trading System checks for a better execution alternative on the order books of single legs included in the Strategy.

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## Implied Orders Management

### *Strategy vs. Strategy Trade*

The SOLA Trading System matches the buy and sell orders at the price defined by the market (ask/bid) at the time of order entry. SOLA also calculates the trade price of each leg of the strategy and disseminates them in real-time to the parties involved in the trade and to the rest of the market. The leg prices are the price at which the legs are to be cleared. Since a strategy-strategy trade does not lift any leg orders/quotes, the leg notifications are merely "volume adjustment trades" and do not affect the last trade price and high/low statistics of the leg instruments.

#### Example of Strategy-Strategy Trade

Market is as follows on the September, June and September-June spread.

September contract:	104.55 – 104.58
June contract:	104.47 – 104.51
September-June Spread:	0.05 – 0.09

A buy order 0.10 on the spread book will trade against the ask order at 0.09. The system will generate prices on each leg, say 104.58 for the September contract and the 104.49 for the June contract (giving a price differential of  $104.58 - 104.49 = 0.09$ ).

### *Implied-In Trades*

"Implied-in" orders are derived from regular posted orders on individual legs. "Implied-in" orders allow creating a synthetic strategy market available for trading to all market participants. "Implied-in" calculation is enabled but the dissemination is disabled for IDEM (the prices 0.04 and 0.11 in the example below will not be disseminated).

An incoming order on a strategy instrument may trade against an implied-in order, generated by outright orders from the leg markets. In case of an implied trade, SOLA also disseminates the leg prices in real-time to the party who submitted the strategy order. Note that these prices are not calculated but are the prices at which the outright (leg) orders traded. Since an implied-in trade lifts orders/quotes from the outright markets, statistics such as last trade price, traded volume and high/low prices for each of the leg instruments are affected.

## Example of Implied-In Trade

Market as follows on the September, June and September-June spread.

September contract:	104.55 – 104.58
June contract:	104.47 – 104.51
September-June Spread:	0.05 – 0.12
<i>Implied prices:</i>	<b>[0.04] – [0.11] these prices are not disseminated</b>

The implied ask on the September - June spread book, generated by the outright ask on the September book and the outright bid on the June book, is 0.11 (i.e.  $104.58 - 104.47$ ). The implied ask of 0.11 is better than the real ask of 0.12 on the September - June spread book. Therefore an incoming order to buy the September - June spread at 0.12 will trade against the implied ask of 0.11 and therefore generate trades against the September sell order(s) at 104.58 and the June buy order(s) at 104.47.

Leg notifications are sent to the submitting strategy participant at 104.58 for the September leg and at 104.47 for the June leg.

Similarly, the implied bid on the September-June spread is generated by the outright bid of the September contract and the outright ask on the June contract at a price of  $104.55 - 104.51 = 0.04$ . In the above example, the real bid (0.05) of the September-June spread is better than the implied bid (0.04). Therefore an order to sell the September-June spread at a price of 0.04 will trade against the bid of 0.05 in the spread book.

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## Implied-Out Trades

“Implied-Out” orders for a given leg instrument are derived from a combination of an existing regular strategy order(s) and existing outright order(s) in the other underlying individual legs. This type of order allows creating a synthetic market on the given underlying leg.

### Example of Implied-Out Trade

Market as follows on the September, June and September - June spread.

September-June Spread: 0.05 – 0.11  
September contract: 104.55 – 104.58  
June contract: 104.43 – 104.51  
*Implied prices:* **[104.44] – [104.53] – these prices are disseminated**

The implied bid on the June contract is generated by the bid of the September contract and the ask of the September-June spread at a price of  $104.55 - 0.11 = 104.44$ . An implied bid of 104.44 is better than the real bid of 104.43 in the June book. A sell order on the June contract at a price of 104.43 will hit the implied bid at 104.44 and generate trades with the buy order(s) on the September book at 104.55 and the sell order(s) on the September-June spread book at a price of 0.11. Real-time leg execution notices will be sent for the strategy order, at a price of 104.55 for the September leg and a price of 104.44 for the June contract.

Similarly, one can synthesise an implied ask of 104.53 in the June contract, generated from the ask order of 104.58 of the September book and the bid of 0.05 in the September - June spread book. In this case, the real ask of 104.51 of the September - June spread book is better than the implied ask of 104.53. An incoming order to buy at 104.53 will trade against the real ask of 104.51 instead of the implied ask of 104.51.

### Minimum trading tick values

Strategy vs. Strategy trades may cause trades for the individual legs of the Strategy Series to be executed at prices that do not respect the minimum trading tick tables (please refer to the Borsa Italiana’s Rules and related Instructions).

On the contrary, when looking for a better execution alternative through the Implied Trade functionality, Implied out Orders are always generated at prices that are consistent with the minimum trading tick of each leg of the Strategy.

### Order Priority

#### Order Priority within a given Strategy Book

For a given strategy book, whenever there is an implied price and a real market price present, priority is always given to the best price. However, at equal price, priority is always given to the real order(s) over the implied order(s).

Example of order priority within a strategy book

Suppose the Market as follows on the September, June and September-June spread.

September contract: 104.55 – 104.58  
June contract: 104.47 – 104.51  
September-June Spread: **[0.04]** 0.05 – 0.11 **[0.11]**  
*Implied prices are shown in [ ]*

As shown in the above example, the implied ask on the September-June contract is 0.11 (i.e.  $104.58 - 104.47$ ), which is at the same price as a real sell order(s) in the September-June spread book. An incoming order to buy at 0.12 will first trade against the real sell order in the September-June spread book at 0.11 instead of the implied order (from the sell order(s) of the September contract at 104.58 and the buy order(s) at 104.47).



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## Order Priority across several Strategy books sharing the same underlying leg

If there are several strategy orders from different strategy books, whereby each of the strategy instruments share a common underlying leg and generate the **equal implied-out price on that leg**, the strategy order with oldest timestamp (which was entered first in the system) will have a highest priority. This is shown by the following example:

Market as follows on the December, December-September spread, June, Sept-June spread.

December book:	① 104.55 – 104.58 ②
December-September Spread:	③ 0.05 – 0.09 ④
<b>September Implied limits:</b>	<b>[104.46] – [104.53]</b>
June book:	⑤ 104.39 – 104.42 ⑥
September-June Spread:	⑦ 0.07 – 0.11 ⑧
<b>September Implied limits:</b>	<b>[104.46] – [104.53]</b>

**Note:** ① to ⑧ represent the orders in the book. The sequence of entry into the trading system is also identified by the order's numbers, ① being the first order to enter, and ⑧ being the last one.

The implied bids on the September book are generated by:

Implied Bid from (Bid of December ① – Ask of December-Sept spread ④) is 104.46  
Implied Bid from (Bid of Sept-June. spread ⑦ + Bid of June. ⑤) is 104.46

An incoming order to sell the Sept. contract at 104.45 can be matched against the implied bid of 104.46 generated from either the combination of the buy order on December outright and sell order on December-Sept spread, or the combination of buy order from the Sept-June spread and the buy order on June outright.

In the above example, since the sell order of December-Sept spread ④ is entered into the system before the bid of Sept-June spread ⑦, it has a higher time-priority. Hence the match will first be made with the December and the December-Sept book. Any remaining quantity will then be matched against the June and Sept-June book.

The implied asks on the September book are generated by:

Implied Ask from (Ask of December ② – Bid of December-Sept spread ③) is 104.53  
Implied Ask from (Ask of Sept-June. spread ⑧ + Ask of June. ⑥) is 104.53

An incoming order to buy the Sept. contract at 104.52 can be matched against the implied ask of 104.53 generated from either a combination of the sell order in December and the buy order in the December-Sept spread or a combination of the sell order in the June contract and a sell order in the Sept-June spread.

In the above example, since the buy order of December-Sept spread ③ was entered into the system before the sell order of Sept-June spread ⑧, it has a higher time-priority. Hence the match will first be made with the December and the December-Sept book. Any remaining quantity will then be matched against the June and Sept-June book.

## 5.4 Orders Cancellation

Participants may cancel all orders entered either by themselves or on their behalf by the Exchange. Cancellations will only be valid for orders, or part of an order, which are currently booked.

Member firms that entered orders have the faculty to remove their entered orders from the order book through a specific ORDER CANCELLATION (XE) message.

Order cancellation is available during the entire trading session and in the 30 minutes intervals: i) preceding market opening, and; ii) following the closing of the trading session<sup>11</sup>.

To cancel an order on SAIL, the client sends an ORDER CANCELLATION (XE) message. If the cancellation is valid, SOLA sends the acknowledgement of the cancellation in the form of an ORDER CANCELLATION ACKNOWLEDGEMENT (KZ) message (Status = A: 'Order cancelled by the trader').

If the ORDER CANCELLATION is not valid, SOLA sends an ERROR (ER/TE) message indicating the error code for the first error detected.

<sup>11</sup> For FTSE MIB index futures and FTSE MIB index miniFutures, it is 15 minutes interval following the closing of the trading session (i.e. 8:45pm - 9:00pm).

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A client can also cancel an order entered by another client belonging to the same Participant. The client that sent the cancellation request will, however, take ownership of the order and receive the ORDER CANCELLATION ACKNOWLEDGEMENT (KZ) message confirming the cancellation.

The table below describes all the scenarios where order elimination may occur without the participant sending a cancellation message.

Reason for Elimination	
The order price is outside the instrument limit price	ORDER ELIMINATION (NZ) messages are sent to the Clients concerned
During the instrument opening Market Order without opposite order are eliminated	ORDER ELIMINATION (NZ) messages are sent to the Clients concerned
Participant disconnection eliminates While Connected Order	ORDER ELIMINATION (NZ) messages are sent to the Clients concerned
Instrument state does not allow order with disclosed quantity	ORDER ELIMINATION (NZ) messages are sent to the Clients concerned
Cancellation of an order by the Exchange	Possible during: Order Cancellation, Trading Session, Exchange Intervention, Start of Consultation, End of Consultation, and Group Interruption ORDER ELIMINATION (NZ) messages are sent to the clients concerned
Instrument has expired	Carried out during Mini Batch ORDER ELIMINATION (NZ) messages are sent
IOC orders partially filled or not filled	ORDER ELIMINATION (NZ) messages are sent
Validity of the order is reached	Carried out at the end of each trading day just before or during Mini Batch. Also carried out at the end of the week (last trading day of the weekly session) just before Post-session

## 5.5 Orders Modification

A participant may amend all orders self-entered or entered by the Exchange on their behalf. A participant cannot modify an order if it has been fully executed, deleted or cancelled.

During the trading session, all market participants are allowed to modify some parameters of the orders already entered in the trading book through a dedicated ORDER MODIFICATION message.

The original time priority of the entered order remains unchanged if the following Order Parameters are modified:

- Owner Data;
- Account Type;
- the Open/Close position indicator;
- Time Validity;
- Quantity (when reduced).

The original time priority of the order is not maintained when one of the following is changed:

- Quantity (when increased);
- Price.

A participant cannot modify the instrument ID or the side of the order.

To modify an order on SAIL, the client sends an ORDER MODIFICATION (OM) message. SOLA performs validation on the order details received. When an error is detected in the incoming message, SOLA returns an ERROR MESSAGE (ER/TE) specifying the error.

If the message is valid, SOLA replaces the original order from the order book with the new one, to which it attributes a new order ID. It sends the acknowledgement of the modification in the form of an ORDER MODIFICATION

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ACKNOWLEDGEMENT (KM) message. This message contains the new order ID attributed to the modified order, the Original Order ID (Order ID of the modified order) and the revised characteristics of the order.

The modified order's status takes the same values as for Order Entry acknowledgements.

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## 6.0 Quotes Management

Quotes are reserved to Market Makers and Specialists to send, modify and cancel their posted bid and ask prices.

Market Makers' and Specialists' quotes can be entered and cancelled using the Bulk Quotes and Global Cancellation functionalities available only on SAIL Protocol.

### 6.1 Bulk Quote Data

Before entering a Bulk Quote, Member Firms must specify the Clearing Data parameter to be applied for all the trades that may occur as a result of orders crossing any Quote included in the Bulk Quote.

Market Makers must send this data using the SAIL Message BULK QUOTE DATA (BD) message for each group for which he is a registered Market Maker.

A BULK QUOTE DATA (BD) message is acknowledged by the BULK QUOTE DATA ACKNOWLEDGMENT (KD) message containing a Quote ID. This Quote ID references the current Order ID and the Original Order ID for all trades resulting from a Quote on any instrument of the group for the trader.

### 6.2 Entry of a Bulk Quote

The SAIL Message BULK QUOTE (Qi) message allows Member Firms to enter multiple Quotes within the same message for Instrument Series belonging to the same Instrument Group. Bulk Quotes are a more efficient way for a Market Maker or a Liquidity Provider to send Quotes to the IDEM Trading System.

Clients may enter a BULK QUOTE message containing up to 100 separate Quote(s). The IDEM Trading System validates the message and each Quote within the message. The BULK QUOTE message:

- cannot be associated with the Immediate execution parameter (IOC);
- the Price Type parameter must be set to "L" (Limit Order);
- the Account Type must be set to "P" (HOUSE) by Market Makers and to "C" (CLIENT) by Specialists.

If the BULK QUOTE message is not valid, SOLA responds with an ERROR (ER/TE) message indicating the error code for the first error detected.

If the message is valid, SOLA sends a BULK QUOTE CONFIRMATION (LA) message. If just a specific Quote included in the Bulk Quote cannot be processed, the BULK QUOTE CONFIRMATION (LA) message indicates the Quote number and the error code for this particular Quote.

Quotes are valid only for the current trading day.

The function used for sending Quotes is such that each subsequent update referring to the same Instrument Series overwrites the previously sent Quotes. Market Makers and Specialists are not allowed to send Quotes on Contracts on which they do not have any quoting obligation.

### 6.3 Global Cancellation

The GLOBAL CANCELLATION (GC) allows Member Firms to cancel all Quotes placed with the BULK QUOTE (Qi) message, related to a specific TraderID and on all Instrument Series in the same Instrument Group, with just one message.

To identify the Quotes to be cancelled, the TraderID and the instrument Group ID must be specified.

The GLOBAL CANCELLATION message is acknowledged by the GLOBAL CANCELLATION CONFIRMATION (KG) message.

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When an unsolicited cancellation is performed by the Exchange, the participant receives a NOTICE OF CANCELLATION OF ALL QUOTES (NP) message to confirm that the quotes currently live have been removed.

## 6.4 Request for Quotes

In certain scenarios the Exchange may decide to allow participants to utilize the Request for Quote (RFQ) functionality. RFQs allow participants to ask for a market for a given quantity of a specific instrument. This informs other participants of the interest in that instrument, allowing them to respond accordingly. Sending an RFQ does not require that a subsequent order be sent into the market. In any case, participants are not required to respond to an RFQ unless they are market makers who must respond as per their overall obligations to the market.

Request for Quotes are entered in the IDEM Trading System with the SAIL Message REQUEST FOR QUOTE (RQ) message.

A REQUEST FOR QUOTE (RQ) message must include the Instrument Series ID and the quantity.

If the message is valid, the client receives a STANDARD ACKNOWLEDGEMENT (KO) message. If the REQUEST FOR QUOTE (RQ) message is not valid, SOLA sends an ERROR (ER/TE) message indicating the error code for the first error detected.

## 6.5 Market Maker Monitoring

There are two types of Market Maker Monitoring:

- Market Maker Obligation to continuously provide a number of valid quotes;
- Market Maker Obligation to respond to a Request For Quote (RFQ).

Market Maker obligations are evaluated following:

- Grace Period expired following instrument state change;
- Quote update;
- Obligation Surface update;
- Request For Quote.

The Monitoring Status (MM) message provides the Market Maker with real-time information on their quoting obligation. Every time a Market Maker is in infraction and the grace period expired, a status update is sent to the Market Maker.

The grace period is defined by the exchange in order to allow Market Makers a predefined period of time to replace a missing or invalid quote following:

- Trade;
- Market Maker Protection;
- Deliberate Quote Removal.

Market makers will have to provide valid quotes amongst the defined surface. The consecutive series of strikes are managed independently for the calls and for the puts.

Series are updated twice a day according to the underlying price value (once at 9.00 and at 15.45) and also the market makers obligations are updated accordingly by the system.

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	Calls	Puts
+4		
+3	x	
+2	x	
+1	x	
<b>ATM</b>	x	x
-1		x
-2		x
-3		x
-4		

	Calls	Puts
+4		
+3	x	
+2	x	
+1	x	x
<b>ATM</b>	x	x
-1		x
-2		x
-3		
-4		

	Calls	Puts
+4		
+3	x	
+2	x	
+1	x	
<b>ATM</b>	x	
-1		x
-2		x
-3		x
-4		x

	Calls	Puts
+4	x	
+3	x	
+2	x	
+1	x	x
<b>ATM</b>		x
-1		x
-2		x
-3		
-4		

	Calls	Puts
+4	x	
+3	x	
+2	x	
+1	x	
<b>ATM</b>		x
-1		x
-2		x
-3		x
-4		

	Calls	Puts
+4	x	
+3	x	
+2	x	
+1	x	
<b>ATM</b>		
-1		x
-2		x
-3		x
-4		x

	Calls	Puts
+4		
+3		
+2	x	
+1	x	
<b>ATM</b>	x	
-1	x	x
-2		x
-3		x
-4		x

	Calls	Puts
+4		
+3		
+2	x	
+1	x	
<b>ATM</b>	x	x
-1	x	x
-2		x
-3		x
-4		

	Calls	Puts
+4		
+3		
+2	x	
+1	x	x
<b>ATM</b>	x	x
-1	x	x
-2		x
-3		
-4		

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For the previous example, the Market Makers obligations would be defined as follow:

- Number of strikes in the money = 4
- Number of strikes out of the money = 1
- Numbers of consecutive strikes to quote = 4

There are now 9 supported patterns:

- 1 patterns having 3 common call/put strikes;
- 2 patterns having 2 common call/put strikes;
- 3 patterns having 1 common call/put strike (current model);
- 2 patterns having no common call/put strike but where the call/put surfaces are touching
- 1 pattern having no common call/put strike and one strike between the call/put surfaces.

## 6.6 Time interval of quoting obligations

Time interval of quoting obligations for Market Makers and Specialists is detailed in the following table:

Trading session	IDEM Equity segment FIB and miniFIB	IDEM Equity segment All other products	IDEX segment	AGREX segment
Daily session	09:30am - 05:25pm	09:30am - 05:25pm	09:30am - 05:40pm	02:30pm - 05:40pm
Evening session	05:50pm - 08:30pm	-	-	-

## IDEM Equity

From 9.30am until 3.45pm the “at the money” series is determined with reference to the opening price value of the underlying financial instrument of the current day.

At 3:45pm the ATM series is determined according the last price or the last index value received from the Cash Market.

For each type of Market Maker, the underlying on which the derivatives are based determines:

- The minimum number of lots to quote, depending on whether the underlying belongs to the Focus Group or not;
- Maximum allowed bid-ask spread to fulfil, depending on the specific spread table associated to the underlying.

The Focus Group’s composition and the underlying-spread table association are communicated via Borsa Italiana’s Notice.

Section 7.6 provides a description of the determination of the MM surface and monitoring.

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## 7.0 Trading protection functions

The IDEM Trading System embeds the following “trading protection” functions in order to support Borsa Italiana in maintaining the regular and orderly functioning of the market:

- Automatic cancellation of orders and quotes in case of disconnection;
- Maximum order quantity checks for orders and quotes;
- Dynamic price deviation controls and Circuit Breakers;
- Market Makers’ Protection.

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## 7.1 Automatic cancellation of orders and quotes on disconnection

Orders with Time Validity parameter set to "W" ("While Connected") will be automatically cancelled in case of disconnection from the SOLA System. An ORDER CANCELLATION NOTICE message (NZ) is returned with Order Status equal to "Eliminated on Disconnect".

The IDEM Trading Systems makes available a specific field in the LOGIN MESSAGE (TC) ("disconnection instruction") to activate, for each TraderID and for the current trading day only, the functionality of automatic removal of Quotes in case of disconnection.

Such field is optional. No quotes will be cancelled if such field has not been properly set during the login to the SOLA System.

## 7.2 Maximum order quantity checks for orders and quotes

The IDEM Trading System provides a check on the value of the Quantity parameter for every ORDER ENTRY (OE) message.

The maximum Quantity allowed for each Contract is defined in the Guide to Parameters. The current values are reported in **Error! Reference source not found.**: Maximum values for the order Quantity parameter.

If an ORDER ENTRY (OE) message is inserted with Quantity parameter higher than the limits specified, the order is rejected and an ORDER ACKNOWLEDGEMENT (KE) message with Order Status equal to "Eliminated" is returned.

The IDEM trading system provides a security check on the maximum value attributed to the Quantity parameter for any incoming order, to prevent erroneous order entry and maintain regular trading conditions. The Quantity limits in force on the date of publication of this document are defined in the Guide to Parameters, Maximum values for the order Quantity parameter.

## 7.3 Dynamic price deviation controls (and Circuit Breakers)

Circuit Breakers refer to the situations where either the "Y" or "Z" validations are not passed. The following two situations can happen:

- if the "Y" validation was not passed by the Theoretical Opening Price at the end of the Pre Auction Phase, the Instrument Series State is set to Reserved for a period currently set to 3 minutes plus a random period of max. 30 seconds ("Volatility Auction", please refer to the Borsa Italiana's Rules and related Instructions);
- if the "Y" or "Z" validations are not fulfilled during the Continuous Trading Phase, the Instrument Series State is set to Suspended for a pre-configured time interval, currently set to 1 minute (please refer to the Borsa Italiana's Rules and related Instructions). At the end of such period, Borsa Italiana has the power to activate a Volatility Auction, so setting the Instrument Series State to Reserved.

Pursuant to the Borsa Italiana's Rules and related Instructions, the Trading Parameters, the Control Prices and the Circuit Breaker duration may be modified by Borsa Italiana.

Order Cancellation only is available when the Instrument Series State is set to Suspended or Reserved (orders cannot be entered or modified).

The IDEM Trading System performs validations on any incoming ORDER ENTRY (OE) message against the following prices, defined at Instrument Series level (according to the Borsa Italiana's Rules and related Instructions):

- the Static Control Price, defined as the reference price of the previous trading day;
- the Dynamic Control Price, defined as the last trade price during the current trading day.

The following validations are performed (according to the Borsa Italiana's Rules and related Instructions):

- the Price parameter of any Limit order cannot deviate by more than a maximum percentage (the "X" parameter) from the Static Control Price ("X validation");
- the potential price of a trade deriving from the submission of an order cannot deviate by more than a maximum percentage (the "Y" parameter) from the Static Control Price ("Y validation");
- the potential price of a trade deriving from the submission of an order cannot deviate by more than a maximum percentage (the "Z" parameter) from the Dynamic Control Price ("Z validation").

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# Guide to the Trading System

“X” and “Y” validations are performed during the Opening and Continuous Trading Phase. The Z validation is performed during the Continuous Trading Phase only. The values for the “X”, “Y” and “Z” parameters are defined in the Guide to Parameters<sup>12</sup>.

Trade Reports are subject to X validation only.

Borsa Italiana, as detailed in the Borsa Italiana’s Rules and related Instructions, has the power to modify the values of such parameters, of the Static Control Price and of the Dynamic Control Price on the basis of specific market conditions.

The “X”, “Y” and “Z” validation process is re-started in case of a change of the validation parameters by Borsa Italiana during the trading day.

In the event of prices bandwidths modification (due to X parameter change or Control Price change) during the Continuous trading phase, the outstanding orders are not cancelled. In such case, if a Limit order that is resting on the order book fails the “X”, “Y” or “Z” validation, the order is cancelled and the IDEM Trading System returns an ORDER ELIMINATION (NZ) message with the Order Status equal to “Eliminated”.

## Order price vs. Static Control Price (“X Validation”)

The Price parameter of any incoming Limit order is validated against the Static Control Price plus/minus the percentage defined by the “X” parameter.

At the Intervention Before Opening phase the orders outside the prices bandwidths (X validation) are automatically cancelled.

If the Price of the incoming Limit order is outside such interval and so fails the “X validation”, the order is eliminated and the IDEM Trading System returns an ORDER ACKNOWLEDGEMENT (KE) message with Status field set to “Eliminated”.

In the event of prices bandwidths modification (due to X parameter change or Control Price change) during the Continuous trading phase, the outstanding orders are not cancelled.

## Trade Price vs. Static Control Price (“Y Validation”)

Prior to effectively executing a trade, the IDEM Trading System validates its potential execution price. In particular, the potential execution price is validated against the Static Control Price plus/minus the percentage defined by the “Y” parameter.

If the potential trade price is outside such interval, then:

- the trade is not executed, and;

in case the potential trade should be executed during the Opening Phase:

- no trade is executed at the Opening Price;
- the Instrument Series State is changed to “Reserved” (see “Circuit Breakers”);

otherwise:

- the incoming order is rejected. So, an ORDER ACKNOWLEDGMENT (KE) message is returned with Order Status equal to “Eliminated”;
- the Instrument Series State is changed to “Suspended”;
- an INSTRUMENT CHANGE STATE NOTICE (NI) message is broadcast with the new Instrument Series State.

In both cases, the Instrument Series State returns to its normal behaviour after a period of time defined by Borsa Italiana (see “Circuit Breakers”).

The Static Control Prices used for X and Y price validations during the Extended Hours are automatically updated at the beginning of the Extended Hours period, as defined in Borsa Italiana Rules and Instructions. Borsa Italiana can modify the values of the Static Control Prices and the price limits on the basis of specific market conditions.

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<sup>12</sup> Values of the parameters may differ: i) by product; ii) for specific sub-periods of the trading day (e.g. for FTSE MIB index futures and FTSE MIB index miniFutures, starting from 5.50pm until 8.30pm).



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## Trade Price vs. Last Trade Price (“Z Validation”)

Prior to effectively executing a trade, the IDEM Trading System validates its potential execution price. In particular, the potential execution price is validated against the Dynamic Control Price plus/minus the percentage defined by the “Z” parameter.

If the potential trade price is outside such interval, then:

- the trade is not executed;
- the incoming order is rejected. So, an ORDER ACKNOWLEDGMENT (KE) message is returned with Order Status equal to “Eliminated”;
- the Instrument Series State is changed to “Suspended”;
- an INSTRUMENT CHANGE STATE NOTICE (NI) message is broadcast with the new Instrument Series State

The Instrument Series State returns to its normal behaviour after a period of time defined by Borsa Italiana (see “Circuit Breakers”).

## Circuit Breaker Cases

In this section, examples for the following cases are provided:

- Incoming order that triggers Circuit Breaker (order rejected);
- Incoming order partially filled due to Circuit Breaker (remainder rejected);
- Incoming order on the first leg of a strategy partially filled, remainder rejected due to Circuit Breaker on the second leg of the strategy.

### *Incoming Order triggers Circuit Breaker: order rejected*

In the following example, it is described the case of an incoming order rejected due to the triggering of the Circuit Breaker.

Pre-conditions on the instrument FIB8C:

Level	# of Orders	BidQty	Bid	Ask	AskQty	# of Orders	Level
1	1	1	20495	20615	1	1	1
2	1	1	20490	20620	1	1	2
3				20625	1	1	3
4							4

Last Price: 20510

Circuit Breaker Parameters:

- Trade against reference price (Y): 3.5%
- Trade against last price (Z): 0.5%

Customer enters the following order: Buy 1 FIB8C @ 20625

Result:

1. Since the price 20625 is not valid against the Circuit Breaker Parameter Z%, the incoming order is rejected and Customer is notified with an Order Acknowledgment with status: “Removed by Circuit Breaker”;
2. The trade at 20615 does not occur;

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- Instrument FIB8C is Moved to Circuit Breaker status for 1 minute. The instrument state is dispatched by HSVF via H<i> message.

## FIB8C during Circuit Breaker

Level	# of Orders	BidQty	Bid	Ask	AskQty	# of Orders	Level
1	1	1	20495	20615	1	1	1
2	1	1	20490	20620	1	1	2
3				20625	1	1	3
4							4

### *Incoming Order triggers Circuit Breaker: order is partially filled and the remainder is rejected due to Circuit Breaker*

In the following example, it is described the case of an incoming order partially rejected due to the triggering of the Circuit Breaker.

#### Pre-conditions on the instrument FIB8C:

Level	# of Orders	BidQty	Bid	Ask	AskQty	# of Orders	Level
1	1	1	20495	20510	3	1	1
2	1	1	20490	20570	3	1	2
3				20610	3	1	3
4				20615	1	1	4

Last Price: 20500

Circuit Breaker Parameters:

- Trade against reference price (Y): 3.5%
- Trade against last price (Z): 0.5%

Customer enters the following order: Buy 10 FIB8C @ 20625

#### Result:

- The following trades are executed:
  - 3 @ 20510
  - 3 @ 20570
- Since the deviation between 20610 and the previous last at 20500 (+0.54%) is above the Circuit Breaker Parameter Z%, the remainder quantity (4 lots @ 20625) of the incoming order on FIB8C is rejected. Customer is notified with an Order Acknowledgment: "Removed by Circuit Breaker";
- The instrument FIB8C is moved to Circuit Breaker status for 1 minute and HSVF dispatches the State of the series via H<i> message.

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## FIB8C during Circuit Breaker

Level	# of Orders	BidQty	Bid	Ask	AskQty	# of Orders	Level
1	1	1	20495	20610	3	1	1
2	1	1	20490	20615	1	1	2
3							3
4							4

### *Incoming order on one leg of a strategy triggers the Circuit Breaker on the other leg of the strategy*

In the following example, it is described the case of an incoming order partially rejected on the first FTSE MIB index futures expiry due to the triggering of the Circuit Breaker on the second FTSE MIB index futures expiry (i.e. interaction with Time Spread Strategy).

Pre-conditions on FIB8C, FIB8F, FIB8FT:

## FIB8C

Level	# of Orders	BidQty	Bid	Ask	AskQty	# of Orders	Level (including implied)
1	1	2	20910	20915	2	1	1
2	1	2	20905	20920	5	implied	2
3				20925	1	1	3
4							4

## FIB8F

Level (including implied)	# of Orders	BidQty	Bid	Ask	AskQty	# of Orders	Level
1	implied	2	20760	20770	5		1
2							2
3							3
4							4

## FIB8FT (Buy FIB8F, Sell FIB8C)

Level	# of Orders	BidQty	Bid	Ask	AskQty	# of Orders	Level
1	1	10	-150				1
2							2
3							3
4							4

Last Price FIB8C: 20910

Last Price FIB8F: 20570

Circuit Breaker Parameters (FIB8C, FIB8F):

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- Trade against reference price (Y): 3.5%
- Trade against last price (Z): 0.5%

Customer enters the following order: buy 3 FIB8C @ 20920

## Result:

- The following trade is executed:
  - 2 FIB8C @ 20915
- Since a strategy order has to execute both legs at the same time, please note that the matching between the outstanding incoming order (buy 1 FIB8C @ 20920) and the implied order (sell 5 FIB8C @ 20920) would violate Z% parameter on the instrument FIB8F: the price deviation between the offer price of the instrument FIB8F (20770) and the last price of FIB8F exceeds 0.5%.

The result is therefore the following:

- The instrument FIB8F is moved to Circuit Breaker status for 1 minute (notification is sent to the market)
  - The outstanding incoming order on FIB8C (buy 1 @ 20920) is rejected (notification is sent to the Customer)
  - The implied orders on FIB8C and FIB8F are removed during the Circuit Breaker phase
- HSVF dispatches the State of the series FIB8F via H<i> message

## FIB8C

Level	# of Orders	BidQty	Bid	Ask	AskQty	# of Orders	Level
1	1	2	20910	20925	1	1	1
2	1	2	20905				2
3							3
4							4

## FIB8F during Circuit Breaker

Level	# of Orders	BidQty	Bid	Ask	AskQty	# of Orders	Level
1				20770	5		1
2							2
3							3
4							4

## FIB8FT (Buy FIB8F, Sell FIB8C)

Level	# of Orders	BidQty	Bid	Ask	AskQty	# of Orders	Level
1	1	10	-150				1
2							2
3							3
4							4

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## Other relevant situations for Dynamic price deviation controls

- Trade Reports: Prices of Trade Reports are not subject to the Y and Z validations;
- Long orders: the X validation process is performed on Long Orders that are present in the IDEM Trading System at the beginning of the Intervention Before Opening Phase. Long Orders that break the X validation limits are automatically removed during such Phase.

## 7.4 Controls and Circuit Breakers for Strategies

The IDEM Trading System performs the following controls on order and trade prices for Strategies (Standard Combinations and FLEXCO):

- Maximum order quantity check;
- X,Y and Z validation;
- “Too Deep parameter” validation.

Specificities of such controls when applied to Strategies are described below.

### Maximum order Quantity check

For Strategies, the maximum order Quantity check is applied on the Quantity parameter of the Strategy Order. Maximum Quantity thresholds for Strategies are reported in: Maximum values for the order Quantity parameter.

### Validation of the Price parameter for a Strategy order (“Too-deep parameter validation”)

At order entry, the IDEM Trading System compares the Price parameter of the Strategy (the “Net Price”) with the sum of the Prices of the Instrument Series included in the Strategy Series, taking into account the quantity and buy/sell position for its legs (the “Total Legs Price”).

If the difference between the Net Price and the Total Legs Price is higher than a pre-defined number of ticks, the Strategy order is rejected and an ORDER REJECTION message (ER) is returned.

The maximum allowed difference is currently set to 20 ticks. Thresholds for validation could be set at different levels by instrument type and price level (with reference to the Price parameter of the Strategy Order under validation).

In order to calculate the Total Legs Price, for each leg of the Strategy Series the following price is used:

- the best available price on the same side as the ingoing order (Bid for buy orders, Ask for sell orders);
- if there are no prices on the same side, the best available price on the opposite side of the order book of the leg;
- if there are no prices available in the order book of the leg, no further checks are carried out.

### Validation of the Price parameter for implied orders (X validation)

When an order on a Strategy Series is entered, implied orders are generated on its legs. Prices of such implied orders are subject to the X validation process. If any of the legs does not pass the X validation, the Strategy Order is rejected and all the implied orders are removed. The incoming Strategy Order is rejected and an ORDER ACKNOWLEDGMENT (KE) message is returned, with Order Status equal to “Eliminated”.

### Circuit Breakers for Strategies (Y and Z validation)

Y and Z validation for Strategies are applied at the level of the Instrument Series included in the Strategy Series. Trades from Strategy orders can trigger a Circuit Breaker both when the trade would be potentially closed through:

- a Strategy vs. Strategy trade. A Circuit Breaker is triggered if the prices for the individual Instrument series of the Strategy, fail to pass the Y or Z validations, or;
- an Implied trade A Circuit Breaker is triggered if any of the implied trades on the Instrument Series of the Strategy fails to pass the Y or Z validations.

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If a Circuit Breaker is triggered, the incoming Strategy Order is rejected and an ORDER ACKNOWLEDGMENT (KE) message is returned, with Order Status equal to "Eliminated".

In case one of the Instrument Series included in a Strategy is in a Circuit Breaker, the matching of the implied orders on the other legs is also inhibited.

## 7.5 Self-Execution Prevention (SEP)

SOLA provides Self-Execution Prevention ("SEP"), with the purpose for market participants to avoid execution when an order crosses an opposite-side order sent by the same Member Firm on the order book (i.e. "self-matching").

SEP on SOLA is user-configurable, allowing for each Member Firm to specify which TraderIDs of its member firm will or will not be able to interact, and determine which order (incoming or resting) takes precedence. SEP applies during continuous trading for Limit, Market, Top, Stop (loss) and If-Touched orders.

### Basic functionality

Market participants can define one or more Self-Execution Prevention Groups ("SEP Group") for their TraderIDs. Members can set up their SEP Groups by requesting the configuration to the Exchange:

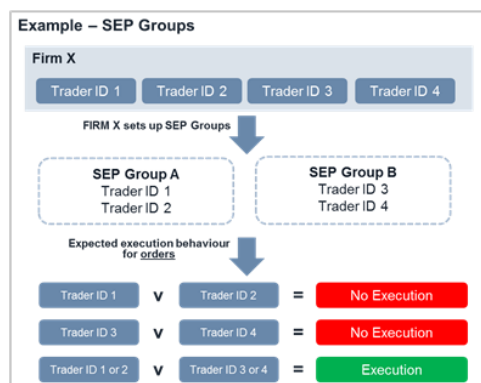
- A SEP Group will contain one or more TraderIDs from a particular member firm. A SEP Group cannot include TraderIDs from multiple member firms. A TraderID will be allowed to be associated only to one SEP Group.
  - o Orders submitted from TraderIDs within the same SEP Group will not be allowed to interact with each other;
  - o Orders submitted from TraderIDs in different SEP Group will be allowed to interact with each other.
- SEP will take effect upon aggression of the order (before execution) and not on order entry or replenishment.

The diagram above explains how the interaction between TraderIDs / SEP Groups works on SOLA.

"SEP Rules" regulate the interaction of orders from a member firm and are defined at the TraderID level. Different rules can be applied to TraderIDs included in the same SEP Group. The SEP rule of the incoming order (i.e. the aggressive order) will regulate the interaction between two orders which are part of the same SEP Group.

The following SEP Rules will be available for each TraderID:

- Cancel Incoming Order (CIO): leaves the resting order while expiring the incoming order;
- Cancel Resting Order (CRO): expires the resting order while allowing the incoming order to aggress (and rest in the book if it is not matched);
- Cancel Both Orders (CBO): expires both the resting order and the aggressing order;
- Reduce and Cancel (RC): cancels both orders if they are of the same size. For those not of the same size, the smallest order will be cancelled and the larger order will be reduced by the size of the smaller order before executing/resting. Both orders will also be cancelled if the resting order is marked with any Self Execution Prevention (other than RC) and the incoming order is smaller than the resting order.



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## Exceptions to SEP Rules

- If a self-execution is identified involving a quote (as a resting or aggressive order), the SEP Rule attached to the incoming TraderID will be ignored and the following rules will apply:
  - o In case the opposite side is an order (i.e. it is not a quote), the quote will survive while the order (incoming or resting) will be cancelled;
  - o In case the opposite side is a quote (e.g. two quotes submitted by two different TraderIDs of the same market participant), no SEP rules will be applied i.e. the trade will be executed.
- Strategies: SEP will only apply for orders with potential executions in the "Strategy v Strategy" scenario, i.e. if a strategy instrument could execute against another (resting) strategy instrument, SEP will prevent this execution. SEP will not apply in the Strategy v Legs case, i.e. when a strategy instrument could execute against orders on the Order book, the trade will be executed;
- Minimum quantity orders: SEP will not apply to execute minimum quantity orders, including icebergs, Fill or Kill (FOK) and Fill and Kill (FAK) orders;
- "Internal" cross orders: SEP will not apply to cross orders with the same counterparty on both sides.
- in the particular case of market and TOP orders triggering SEP without any previous trade, the incoming market order will not enter into the order book.

## 7.6 Market Makers Protection

The SOLA Market Maker Protection feature is designed to protect market making participants from "excessive" trades due to the following:

- Technical problems at Participant's end preventing normal market updates;
- Quoting errors at Participant's end due to erroneous underlying price information;
- Unintentionally being "swept" by another Market Maker.

SOLA provides several protection counters and each counter can trigger the Market Maker Protection if its value is equal to or greater than the parameter provided by the Market Maker. SOLA provides two types of Market Maker Protection; Standard and Advanced. The first is enabled by default for all Market Makers and the second is optional and requires special message handling.

### Protection Counters

The following lists all the protection counters available. These counters can be set by the Market Maker using the Bulk Quote Data (BD) message; otherwise the default market values will be on place.

Functionally, protection counters are provided for each class where the TraderID is assigned as Market Maker.

**Trade Counter (not currently active for IDEM):** This counter is incremented by one every time the Market Maker executes a trade of at least N lots on any instrument of the given class. Once the counter has reached a defined threshold the Market Maker Protection is triggered.

**Formula:**  $Maximum\ Trade = \sum Trade\ Occurrence\ (Trade\ Volume > Minimum\ Volume)$

**Volume Counter:** This counter is incremented by the trade volume every time a Market Maker executes a trade on any instrument of a given class. Once the counter has reached a defined threshold the Market Maker Protection is triggered.

**Formula:**  $Maximum\ Volume = \sum Volume$

**Value Counter (disabled for IDEM):** This counter is incremented by the trade value every time the Market Maker executes a trade on any instrument of a given class.

**Formula:**  $Maximum\ Value = \sum (Trade\ Volume \times Price \times Contract\ Size \times Tick\ Value)$

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**Delta Volume Counter:** This counter is incremented or decremented by the trade volume every time the Market Maker executes a trade on any instrument of a given class. This counter determines the net underlying position using the type of option transacted and the action to buy or sell as conditions.

**Formula:**

*Option Delta Volume = Absolute  $\sum$  ((Buy Call Volume + Sell Put Volume) – (Sell Call Volume + Buy Put Volume))*

*Future Delta Volume = Absolute  $\sum$  (Buy Volume – Sell Volume)*

**Delta Value Counter (disabled for IDEM):** This counter is incremented or decremented by the trade value every time the Market Maker executes a trade on any instrument of a given class. This counter determines the net underlying position using the type of option transacted and the action to buy or sell as conditions. This counter used in combination with the delta volume enables protection against out of the money.

**Formula:**

*Option Delta Value = Absolute  $\sum$  (Buy Call or Sell Put Volume x Price x Contract Size x Tick Value) - (Sell Call or Buy Put Volume x Price x Contract Size x Tick Value)*

*Future Delta Value = Absolute  $\sum$  (Buy Volume x Price x Contract Size x Tick Value) - (Sell Volume x Price x Contract Size x Tick Value)*

## Counter Reset

### *Time Interval*

The time interval represents the maximum number of seconds between a trade and its previous trade.

If a time interval is provided by the Market Maker, then the following counters are reset if the interval of time between two trades is greater than the time interval provided:

- Maximum Volume
- Delta Volume
- Maximum Value
- Delta Value

### *Disable Market Maker Protection*

If a Market Maker sets the Protection Number of Trades or the Protection Trade Quantity to zero then the Trade Counter protection is disabled.

All other counters can be deactivated in a bulk by sending a Time Interval parameter to zero or individually with by specifying a valid Time Interval and setting the specific counter to zero:

- Maximum Volume
- Delta Volume
- Maximum Value
- Delta Value

### *Parameter Update*

Following the reception of new BD with parameter updates from the Market Maker, then all Market Maker Protection counters are reset.

### *Quote Update*

Trade Counter is always reset to zero upon quote reception.



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## *Triggered Market Maker Protection*

Market Maker Protection is triggered once counters are exceeded. Once triggered, the Exchange automatically cancels all quotes posted by the TraderID on the class. This feature “protects” both quotes currently booked and incoming quotes that the Market Maker may generate as part of an update. As soon as the Market Maker protection is triggered, the participant receives a NOTICE OF CANCELLATION OF ALL QUOTES (NP) message to confirm that the quotes currently live have been removed.

If the Market Maker Protection is triggered then all Market Maker Protection counters are reset.

## **Standard Market Makers Protection**

If the Market Maker Protection is triggered on an instrument class, the counter is reset when the Market Maker sends a quote message on any instrument of this instrument class.

## **Advanced Market Makers Protection**

Combined with the Standard Market Maker protection, the Advanced Market Maker Protection provides participants with an additional layer of defence. This feature may be enabled or disabled, on demand, by Market Makers using the MARKET MAKER PROTECTION SUBSCRIPTION (RP) message. With this message it is possible to specify to the Exchange Trading System what kind of Market Maker Protection should be enabled: Standard (behaviour described in the chapter above) or Advanced.

The MARKET MAKER PROTECTION SUBSCRIPTION (RP) can be acknowledged with a STANDARD ACKNOLEGMENT (KO) or rejected with an ERROR MESSAGE (ER).

Quoting for the TraderID is disabled once the Advanced Market Maker Protection is triggered. Any subsequent quote update is rejected. The Market Maker restores its quoting capacity by sending a new MARKET MAKER PROTECTION SUBSCRIPTION (RP) message.

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## **8.0 Trades execution management**

Once a trade is executed, the system sends it to the Clearing System. At the same time the trade execution is notified to the customer and sent via market data feed to the market participants.

Data related to trades are stored in the clearing system data base and can be retrieved and managed by the clearing members using the Bit Clearing System (BCS) interface.

At the end of the trading day, Orders and Trades report files are produced by the market for reconciliation purposes. An order and trade file is available for every trading member and can be downloaded through the BCS clearing service, CC&G application for back-office activity on IDEM market.

### **8.1 Cancellation of a trade by the Exchange**

If required, the Exchange can cancel a trade that took place during the day. This cancellation can be initiated in accordance with Exchange rules. This can take place during:

- Order Cancellation
- Trading Session
- Exchange Intervention
- Consultation End
- On an Interrupted group

SOLA sends the two Member Firms concerned a TRADE CANCELLATION NOTICE (NX) message. This message specifies all the parameters related to the cancelled trade.

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## 9.0 Pre-Trade Validation (PTV) functionality

The Pre-Trade Validation (PTV) functionality provides a tool to manage the level of risk connected with the trading activity submitted to SOLA via a pre-defined group of TraderIDs, by performing user-defined, real-time checks before allowing each order and quote to enter the SOLA trading system.

This functionality can be used, for example, by:

- IDEM Members to monitor the risk associated to their own trading activity;
- IDEM Members offering Direct Market Access (DMA) to control the risk related to the trading activity of their DMA clients;
- General Clearing Members (GCMs), delegated by their NCMs which are IDEM Members, to manage the cleared risk exposure generated by the trading activity of their NCMs.

The PTV functionality is available for all products listed on IDEM via SOLA native APIs (SAIL).

For the purpose of the use of the PTV functionality two roles are defined:

- the "Risk Manager", identifying either the IDEM Member or its GCM (in case of delegated use), which controls the level of risk determined respectively by the order flow of its own activity / its DMA clients' activity or its NCM (as the case may be) trading products listed on IDEM;
- the "Managed Entity", identifying either an entire Member Firm (defined by its Member ID) or a single TraderID / group of TraderIDs of the same Member Firm, which are subject to a common set of PTV controls as defined by the Risk Manager. The Managed Entity could be subject to PTV controls by more than one Risk Manager; in this case, the more stringent limits will apply.

The PTV can be configured by the Risk Manager (for one of the purposes described above) to constrain the trading activity of its controlled Managed Entity(ies) at different levels, in particular:

- Firm / Group of TraderIDs / Instrument Group / Instrument;
- Firm / Group of TraderIDs / Instrument Group;
- Firm / Instrument Group / Instrument;
- Firm / Instrument Group.

The following limits can be configured by the Risk Manager:

- **Max Order Quantity limit** for orders and quotes;
- **Max Order Quantity limit** for cross/bundle/third party orders;
- **Position limit** on executed trades (net long/short position) during the day, expressed in quantity terms:
  - o the trade triggering the limit's breach is executed;
  - o the breach of the net long threshold triggers the cancellation of all buy orders and all quotes (and viceversa for the net short threshold);
- **Exposure limit** on open orders (excluding quotes) plus executed trades (net long/short position) during the day, expressed in quantity terms:
  - o the incoming order that would breach the net long threshold triggers cancellation of all buy orders and all quotes (and viceversa for the net short threshold);
- **Access to the "Market Maker Quoting Protection" (MMQP)**, allowing the Risk Manager to specifically control the Managed Entity's quoting activity based on bulk quotes. Since the MMQP is available to both Market Makers and their Risk Managers, in case two sets of limits are applied to the same Managed Entity, the most restrictive configurations will apply.

Based on configurations defined by the Risk Manager, SOLA will perform real-time checks before allowing each order and quote to enter the SOLA trading system.

Risk Manager can update configured limits in real-time with immediate effectiveness.

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SOLA will disseminate to both Risk Manager and related Managed Entity(ies) all the messages related to the “usage” of the predefined Position and Exposure limits (“Risk Limits Usage Notice”):

- anytime a defined limit approaches the threshold, an alert is disseminated according to a 10% interval;
- alerts are disseminated when the available threshold “used” is at 50%, 60%, 70% etc. of its total.

These messages are available for SAIL protocol, while FIX protocol only disseminates error codes.

It is responsibility of the Risk Manager to set up and manage the Pre-Trade Validation controls for each Managed Entity, and to inform the Managed Entity of the controls that have been applied to its trading activity. Independently of the activation of the PTV functionality, according to the Borsa Italiana’s Rules and related Instructions, IDEM Members are required to establish, maintain and enforce adequate systems and controls to prevent anomalous orders in terms of price, quantity and frequency.

For further details on the PTV functionality, please refer to the “IDEM Guide to Pre-Trade Validation (PTV) functionality” available on Borsa Italiana’s website.

# Guide to the Trading System

## Appendix 1: Contracts specifications

In this section the standard contracts available on the IDEM market are described.

### A.1. IDEM Equity segment

#### FTSE MIB index futures

<b>Underlying</b>	FTSE MIB index
<b>Trading hours</b>	Opening auction: 8.30am - 9.00am (9.00.00 - 9.00.59) CET Continuous trading: 9.00am - 8.30pm CET
<b>Quotation</b>	Index points
<b>Minimum price change (tick)</b>	5 index points
<b>Value of 1 index point (multiplier)</b>	€ 5
<b>Contract size</b>	Future price x Multiplier
<b>Contract months</b>	4 nearest quarterly months of the March, June, September and December cycle are quoted at the same time in each session. New futures are quoted on the first trading day following expiration
<b>Expiry day</b>	The third Friday of the expiry month at 09:05am CET. If the Exchange is closed that day, the contract expires on the first trading day preceding that day
<b>Last trading day</b>	Expiry day, 9:00am ÷ 9:05am CET
<b>Settlement</b>	Cash settled
<b>Daily settlement price</b>	Determined by CC&G according to the quantity-weighted average of the last 5% of contracts traded before 5.38pm
<b>Settlement day</b>	The first open CC&G calendar day following the expiry day
<b>Final settlement price</b>	The value of the FTSE MIB index, calculated on the opening prices of the financial instruments that make up the index recorded on the last day of trading. If the opening price of any financial instrument on the index has not been established by the end of the trading session, Borsa Italiana fixes the price in order to establish the value of the index on the basis of the prices recorded in the last session and takes into account any other relevant objective elements available
<b>Strategies</b>	Time spread

# Guide to the Trading System

## FTSE MIB index miniFutures

<b>Underlying</b>	FTSE MIB index
<b>Trading hours</b>	Opening auction: 8.30am - 9.00am (9.00.00 - 9.00.59) CET Continuous trading: 9.00am - 8.30pm CET
<b>Quotation</b>	Index points
<b>Minimum price change (tick)</b>	5 index points
<b>Value of an index point (multiplier)</b>	€ 1
<b>Contract size</b>	Futures price x Multiplier
<b>Contract months</b>	The two nearest quarterly months of the March, June, September and December cycle are quoted at the same time in each session. New futures are quoted on the first trading day following expiration
<b>Expiry day</b>	The third Friday of the expiry month at 09:05am CET. If the Exchange is closed that day, the contract expires on the first trading day preceding that day
<b>Last trading day</b>	Expiry day, 9:00am ÷ 9:05am CET
<b>Settlement</b>	Cash
<b>Daily settlement price</b>	It's the same calculated for FTSE MIB index Futures
<b>Settlement day</b>	The first open CC&G calendar day following the expiry day
<b>Final settlement price</b>	The value of the FTSE MIB index, calculated on the opening prices of the financial instruments that make up the index recorded on the last day of trading. If the opening price of any financial instrument on the index has not been established by the end of the trading session, Borsa Italiana fixes the price in order to establish the value of the index on the basis of the prices recorded in the last session and takes into account any other relevant objective elements available
<b>Strategies</b>	Time spread

# Guide to the Trading System

## FTSE MIB Dividend index futures

<b>Underlying</b>	FTSE MIB Dividend index
<b>Trading hours</b>	9.00am - 5.50pm CET
<b>Quotation</b>	Index points
<b>Minimum price change (tick)</b>	1 point
<b>Value of 1 index point (multiplier)</b>	€ 5
<b>Contract size</b>	Futures price x Multiplier
<b>Contract months</b>	The 5 nearest successive annual month's expiry of December. New futures are quoted on the first trading day following expiration
<b>Expiry day</b>	The third Friday of the expiry month at 09:05am CET If the Exchange is closed on that day, the contract expires on the first trading day preceding that day
<b>Last trading day</b>	Expiry day, 9:00am ÷ 9:05am CET
<b>Settlement</b>	Cash
<b>Daily settlement price</b>	Determined on the basis of the quantity-weighted-average contract prices or the best bid/ask quotations observed on the market during a significant trading period
<b>Settlement day</b>	The first open CC&G calendar day following the expiry day
<b>Final settlement price</b>	Cumulative total of the relevant gross dividends paid by the individual constituents of the underlying index, calculated in index points on the day of the maturity of the related contract
<b>Strategies</b>	Time spread

# Guide to the Trading System

## Stock futures (on Italian and Pan-European underlyings) and Single stock dividend futures

<b>Underlying</b>	<p><b>Stock futures:</b> stocks traded on the Borsa Italiana's equity markets or major European markets</p> <p><b>Single stock dividend futures:</b> the gross ordinary dividends paid in the current calendar year of shares of companies listed in European regulated markets</p>
<b>Trading hours</b>	9:00am - 5:50pm CET
<b>Quotation</b>	Euro
<b>Minimum price change (tick)</b>	€ 0,0001
<b>Multiplier</b>	Depending on the underlying
<b>Contract size</b>	Price x multiplier
<b>Contract months</b>	<p><b>Stock futures on Italian underlyings:</b> i) the 4 nearest quarterly maturities and the 2 nearest monthly maturities giving a total of 6 maturities, if the underlying consists of shares included in the FTSE MIB index or equivalent leading indices; ii) the nearest quarterly maturity and the 2 nearest monthly maturities, giving a total of 3 maturities, if the underlying consists of Italian shares other than those included in the FTSE MIB.</p> <p>Moreover, for some underlyings established by Borsa Italiana Announcement, the annual maturities (December cycle) of the 2 years subsequent the current year are also quoted.</p> <p><b>Stock futures on Pan-European underlyings:</b> the 4 nearest quarterly maturities and the 2 nearest monthly maturities giving a total of 6 expirations.</p> <p><b>Single stock dividend futures:</b> contracts can be traded with maturities in the months of December of the five subsequent years.</p>
<b>Expiry day</b>	<p><b>Stock futures on Italian underlyings:</b> the third Friday of the expiry month at 9:05am CET.</p> <p><b>Stock futures on Pan-European underlyings:</b> the third Friday of the expiry month at 5.50pm CET.</p> <p><b>Single stock dividend futures:</b> the third Friday of the expiry month at 9:05am CET.</p> <p>In all cases, if the Exchange is closed that day, the contract expires on the first trading day preceding that day.</p>
<b>Last trading day</b>	Expiry day
<b>Settlement</b>	<p><b>Stock futures on Italian underlyings:</b> physical or cash settled, depending on the underlying.</p> <p><b>Stock futures on Pan-European underlyings:</b> cash settled.</p> <p><b>Single stock dividend futures:</b> cash settled.</p>
<b>Daily settlement price</b>	Determined by CC&G according to the theoretical value taking the reference price of the underlying and other factors into account
<b>Settlement day</b>	<p><b>Stock futures on Italian underlyings:</b></p> <ul style="list-style-type: none"> <li>- for cash settled contracts: the first open CC&amp;G calendar day following the expiry day;</li> <li>- for physically settled contracts: the second open TARGET calendar day following the expiry day.</li> </ul> <p><b>Stock futures on Pan-European underlyings:</b> the first open CC&amp;G calendar day following the expiry day.</p> <p><b>Single stock dividend futures:</b> the first open CC&amp;G calendar day following the expiry day.</p>
<b>Final settlement price</b>	<p><b>Stock futures on Italian underlyings:</b> the opening auction price of the underlying share on the expiry day.</p> <p><b>Stock futures on Pan-European underlyings:</b> the closing auction price of the underlying share on the expiry day.</p> <p><b>Single stock dividend futures:</b> the value of the contract on the expiry day.</p>
<b>Strategies</b>	Time spread and FLEXCO

# Guide to the Trading System

## FTSE MIB index options

<b>Underlying</b>	FTSE MIB index	
<b>Trading hours</b>	9.00 am - 5.50 pm CET	
<b>Style</b>	European	
<b>Quotation</b>	Index points	
<b>Minimum price change (tick)</b>	Premium Value	Tick (index points)
	1 – 100	1
	102 – 500	2
	≥ 505	5
<b>Value of 1 index point (multiplier)</b>	€ 2.5	
<b>Contract size</b>	Strike x Multiplier	
<b>Option price (premium)</b>	Value of the option premium x multiplier	
<b>Strikes generation</b>	< 12 months 15 strikes with intervals of 250 index points for the nearest expiry and 500 index points for the following expiries	> 12 months 21 strikes with intervals of 1,000 index points
<b>Contract months</b>	< 12 months 6 expiries, the 4 quarterly (Jan-Mar-Sep-Dec) plus the 2 nearest monthly	> 12 months half yearly (Jun-Dec cycle) plus the 2 yearly (Dec) up to 5 years
<b>Expiry day</b>	The third Friday of the expiry month at 9:05am CET. If the Exchange is closed that day, the contract expires on the 1st trading day proceeding that day	
<b>Last trading day</b>	Expiry day (until 9:05am CET)	
<b>Exercise at maturity</b>	ITM options are automatically exercised on the expiry day. Intermediaries can also exercise "by exception" ATM and OTM options by 10:00am CET on the expiry day	
<b>Settlement</b>	Cash settled	
<b>Daily settlement price</b>	The clearing and settlement of contracts will take place according to the procedures and time limits established in the rules issued by CC&G	
<b>Premium settlement</b>	Settled in cash and paid on the CC&G open day following the trading day	
<b>Settlement day</b>	The first open CC&G calendar day following the expiry day	
<b>Final settlement price</b>	The value of the FTSE MIB Index, calculated according to the opening prices of index components on the last trading day.	
	If the opening price of any financial instrument on the index has not been established by the end of the trading session, Borsa Italiana fixes the price in order to establish the value of the index on the basis of the prices recorded in the last session and takes into account any other relevant objective elements available	
<b>Strategies</b>	FLEXCO	



# Guide to the Trading System

## FTSE MIB weekly index options

<b>Underlying</b>	FTSE MIB index
<b>Trading hours</b>	9.00am - 5.50pm CET
<b>Style</b>	European
<b>Quotation</b>	Index points
<b>Minimum price change (tick)</b>	Equal to 1 index point
<b>Value of 1 index point (multiplier)</b>	€ 2.5
<b>Contract size</b>	Strike x Multiplier
<b>Option price (premium)</b>	Value of the option premium x multiplier
<b>Strikes generation</b>	21 strikes with intervals of 100 index points
<b>Contract months</b>	3 or 4 expiries in the current month, depending on the number of Fridays in the month (excluding the 3 <sup>rd</sup> Friday of each month)
<b>Expiry day</b>	The contract expires on the 1 <sup>st</sup> , 2 <sup>nd</sup> , 4 <sup>th</sup> and 5 <sup>th</sup> (if there is one) Friday of the expiry month at 9.05am. If the Exchange is closed that day, the contract expires on the first trading day preceding that day
<b>Last trading day</b>	Expiry day (until 9:05am CET)
<b>Exercise at maturity</b>	ITM options are automatically exercised on the expiration date. Intermediaries can also exercise "by exception" ATM and OTM options by 10:00am CET on the expiration day
<b>Settlement</b>	Cash
<b>Daily settlement price</b>	The clearing and settlement of contracts will take place according to the procedures and time limits established in the rules issued by CC&G
<b>Premium settlement</b>	Settled in cash and paid on the CC&G open day following the trading day
<b>Settlement day</b>	The first open CC&G calendar day following the expiry day
<b>Final settlement price</b>	The value of the FTSE MIB Index, calculated according to the opening prices of index components on the last trading day. If the opening price of any financial instrument on the index has not been established by the end of the trading session, Borsa Italiana fixes the price in order to establish the value of the index on the basis of the prices recorded in the last session and takes into account any other relevant objective elements available
<b>Strategies</b>	FLEXCO

# Guide to the Trading System

## Stock options

<b>Underlying</b>	Stocks traded on Borsa Italiana's equity market		
<b>Trading hours</b>	9.00am - 5.50pm CET		
<b>Style</b>	American or European		
<b>Quotation</b>	Euro		
<b>Minimum price change (tick)</b>	€ 0.0005		
<b>Multiplier</b>	Depending on the underlying		
<b>Contract size</b>	Strike x Multiplier		
<b>Option price (premium)</b>	Premium x Multiplier		
<b>Strikes generation</b>	<table border="0"> <tr> <td style="vertical-align: top;"> <p>&lt; 12 months 15 strikes with intervals defined in the relevant table</p> </td> <td style="vertical-align: top;"> <p>&gt; 12 months 21 strikes with intervals twice the size of the intervals for the respective series with expiries within less than 12 months</p> </td> </tr> </table>	<p>&lt; 12 months 15 strikes with intervals defined in the relevant table</p>	<p>&gt; 12 months 21 strikes with intervals twice the size of the intervals for the respective series with expiries within less than 12 months</p>
<p>&lt; 12 months 15 strikes with intervals defined in the relevant table</p>	<p>&gt; 12 months 21 strikes with intervals twice the size of the intervals for the respective series with expiries within less than 12 months</p>		
<b>Contract months</b>	6 expiries, the 4 quarterly plus the 2 nearest monthly. In some cases, specified in notices of Borsa Italiana, are also quoted 4 half yearly (Jun-Dec cycle), up to 3 years, adding up to a total of 10 expiries		
<b>Expiry day</b>	The 3rd Friday of expiry month at 8:15am CET. If the Exchange is closed on that day, the contract expires on the first trading day preceding that day		
<b>Last trading day</b>	Trading in any contract ends the day before expiry at 5:50pm CET		
<b>Exercise at maturity</b>	The exercise is automatic if the option is ITM. Intermediaries can also exercise "by exception" ATM and OTM options by 08:15am CET on the expiration day		
<b>Settlement</b>	Physically settled for American and European style Cash settled for European style only		
<b>Daily settlement price</b>	The clearing and settlement of contracts will take place according to the procedures and time limits established in the rules issued by the CC&G		
<b>Premium settlement</b>	Settled in cash and paid on the CC&G open day following the trading day		
<b>Settlement day</b>	The second open TARGET calendar day following the expiry day		
<b>Early Exercise</b>	Every day before expiry by 6:30pm CET, excluding in the session preceding the day for the distribution of dividends on the share underlying the contract and preceding the start of capital operations involving the share underlying the contract		
<b>Final settlement price</b>	The closing auction price of the underlying share on the last trading day		
<b>Strategies</b>	FLEXCO		

# Guide to the Trading System

## Weekly stock options

<b>Underlying</b>	Stocks traded on Borsa Italiana's equity market
<b>Trading hours</b>	9.00am - 5.50pm CET
<b>Style</b>	American
<b>Quotation</b>	Euro
<b>Minimum price change (tick)</b>	€ 0.0005
<b>Multiplier</b>	Same of the existing stock option contracts
<b>Contract size</b>	Strike x Multiplier
<b>Option price (premium)</b>	Premium x Multiplier
<b>Strikes generation</b>	21 strikes (ATM, 10 ITM, 10 OTM)
<b>Contract months</b>	3 or 4 expiries in the current month, depending on the number of Fridays in the month (excluding the 3 <sup>rd</sup> Friday of each month)
<b>Expiry day</b>	The contract expires on the 1 <sup>st</sup> , 2 <sup>nd</sup> , 4 <sup>th</sup> and 5 <sup>th</sup> (if there is one) Friday of the expiry month at 8:15am CET If the Exchange is closed that day, the contract expires on the first trading day preceding that day
<b>Last trading day</b>	Trading in any contract ends the day before expiry at 5:50pm CET
<b>Exercise at maturity</b>	The exercise is automatic if the option is ITM. Intermediaries can also exercise "by exception" ATM and OTM options by 08:15am CET on the expiration day
<b>Settlement</b>	Physically settled
<b>Daily settlement price</b>	Same methodology used for existing stock option contracts
<b>Premium settlement</b>	Settled in cash and paid on the CC&G open day following the trading day
<b>Settlement day</b>	The second open TARGET calendar day following the expiry day
<b>Early Exercise</b>	Every day before expiry by 6:30pm CET, excluding in the session preceding the day for the distribution of dividends on the share underlying the contract and preceding the start of capital operations involving the share underlying the contract
<b>Final settlement price</b>	The closing auction price of the underlying share on the last trading day
<b>Strategies</b>	FLEXCO

# Guide to the Trading System

## A.2. IDEX segment

### IDEX monthly future contract - Italy Area

<b>Underlying Commodity</b>	<b>Baseload:</b> one Megawatt (MW) supplied during the delivery month	<b>Peakload:</b> one Megawatt (MW) supplied from 8:00 to 20:00 during the delivery month, excluding Saturday and Sunday
<b>Trading hours</b>	Continuous trading: 9.00am - 5.40pm CET	
<b>Quotation</b>	Euro/MWh	
<b>Minimum tick</b>	0,01 €/MWh	
<b>Contract Size</b>	Result of the multiplication of the future price by the number of hours in the delivery period	
<b>Tradable expirations</b>	In the same trading session the first three monthly expirations are negotiable	
<b>Expiration day</b>	Last day of the delivery month	
<b>Last Trading day</b>	Last trading day before the start of the delivery period	
<b>Settlement</b>	Cash settlement. For Italy Area Contracts: Option for physical delivery: the third trading day preceding the beginning of the delivery period the clients of the markets of the "Gestore dei Mercati Energetici S.p.A." (GME) may send to the clearing house a request for a physical delivery of the electricity instead of the cash settlement. The request needs to be approved by GME	
<b>Settlement day</b>	First clearing day after the last day of the delivery period, in case the last day of the delivery period is a trading day; Second clearing day after the last day of the delivery period, in case the last day of the delivery period is a non-trading day; In both cases, the settlement is always performed the day after the settlement price communication	
<b>Settlement Price</b>	The settlement price of the contract shall be equal to the arithmetic mean of the hourly PUNs of the delivery month, rounded to two decimal digits. The price will be rounded upward in case the third decimal digit is equal to 5	
<b>Negotiable strategies</b>	Not available	

### IDEX quarterly futures contract - Italy Area

<b>Underlying Commodity</b>	<b>Baseload:</b> one Megawatt (MW) supplied during the delivery period	<b>Peakload:</b> one Megawatt (MW) supplied from 8:00 to 20:00 during the delivery period, excluding Saturdays and Sundays
<b>Trading hours</b>	Continuous trading: 9.00am - 5.40pm CET	
<b>Quotation</b>	Euro/MWh	
<b>Minimum tick</b>	0,01 €/MWh	
<b>Contract Size</b>	Result of the multiplication of the future price by the number of hours in the delivery period	
<b>Tradable expirations</b>	In the same trading session the first four quarterly expirations are negotiable	
<b>Expiration day</b>	Last day of the delivery quarter	
<b>Last Trading day</b>	Fourth trading day before the start of the delivery period	
<b>Settlement</b>	"Cascading" method is applied	
<b>Cascading</b>	End of last trading day	
<b>Negotiable strategies</b>	Not available	

# Guide to the Trading System

## IDEX yearly futures contracts - Italy Area

<b>Underlying Commodity</b>	<b>Baseload:</b> one Megawatt (MW) supplied during the delivery period	<b>Peakload:</b> one Megawatt (MW) supplied from 8:00 to 20:00 during the delivery period, excluding Saturday and Sunday
<b>Trading hours</b>	Continuous trading: 9.00am - 5.40pm CET	
<b>Quotation</b>	Euro/Mwh	
<b>Minimum Tick</b>	0,01 €/MWh	
<b>Contract Size</b>	Result of the multiplication of the future price by the number of hours in the delivery period	
<b>Tradable expirations</b>	<b>Baseload:</b> 2 expirations	<b>Peakload:</b> 1 expiration
<b>Expiration day</b>	Last day of the delivery year	
<b>Last Trading day</b>	Fourth trading day before the start of the delivery period	
<b>Settlement</b>	"Cascading" method is applied	
<b>Cascading</b>	End of last trading day	
<b>Negotiable strategies</b>	Location Spread	

## IDEX monthly future contract - Germany / Austria Area

<b>Underlying Commodity</b>	<b>Baseload:</b> one Megawatt (MW) supplied during the delivery month	<b>Peakload:</b> one Megawatt (MW) supplied from 8:00 to 20:00 during the delivery month, excluding Saturday and Sunday
<b>Trading hours</b>	Continuous trading: 9.00am - 5.40pm CET	
<b>Quotation</b>	Euro/MWh	
<b>Minimum Tick</b>	0,01 €/MWh	
<b>Contract Size</b>	Result of the multiplication of the future price by the number of hours in the delivery period	
<b>Tradable expirations</b>	In the same trading session the first three monthly expirations are negotiable	
<b>Expiration day</b>	Last day of the delivery month	
<b>Last Trading day</b>	Last trading day before the start of the delivery period	
<b>Settlement</b>	Cash settlement. No physical delivery of the contract's underlying is envisaged	
<b>Settlement day</b>	First clearing day after the last day of the delivery period, in case the last day of the delivery period is a trading day; Second clearing day after the last day of the delivery period, in case the last day of the delivery period is a non-trading day; In both cases, the settlement is always performed the day after the settlement price communication	
<b>Settlement Price</b>	The settlement price of the contract shall be equal to the arithmetic mean of the hourly prices of the delivery month. Hourly and settlement prices are rounded to two decimal digits and will be rounded upward in case the third decimal digit is equal to 5	
<b>Negotiable strategies</b>	Location Spread	

# Guide to the Trading System

## IDEX quarterly futures contract - Germany / Austria Area

<b>Underlying Commodity</b>	<b>Baseload:</b> one Megawatt (MW) supplied during the delivery period	<b>Peakload:</b> one Megawatt (MW) supplied from 8:00 to 20:00 during the delivery period, excluding Saturdays and Sundays
<b>Trading hours</b>	Continuous trading: 9.00am - 5.40pm CET	
<b>Quotation</b>	Euro/MWh	
<b>Minimum Tick</b>	0,01 €/MWh	
<b>Contract Size</b>	Result of the multiplication of the future price by the number of hours in the delivery period	
<b>Tradable expirations</b>	In the same trading session the first four quarterly expirations are negotiable	
<b>Expiration day</b>	Last day of the delivery quarter	
<b>Last Trading day</b>	Fourth trading day before the start of the delivery period	
<b>Settlement</b>	"Cascading" method is applied	
<b>Cascading</b>	End of last trading day	
<b>Negotiable strategies</b>	Location spread	

## IDEX yearly futures contracts - Germany / Austria Area

<b>Underlying Commodity</b>	<b>Baseload:</b> one Megawatt (MW) supplied during the delivery period	<b>Peakload:</b> one Megawatt (MW) supplied from 8:00 to 20:00 during the delivery period, excluding Saturday and Sunday
<b>Trading hours</b>	Continuous trading: 9.00am - 5.40pm CET	
<b>Quotation</b>	Euro/Mwh	
<b>Minimum Tick</b>	0,01 €/MWh	
<b>Contract Size</b>	Result of the multiplication of the future price by the number of hours in the delivery period	
<b>Tradable expirations</b>	<b>Baseload:</b> 3 expirations	<b>Peakload:</b> 3 expirations
<b>Expiration day</b>	Last day of the delivery year	
<b>Last Trading day</b>	Fourth trading day before the start of the delivery period.	
<b>Settlement</b>	"Cascading" method is applied	
<b>Cascading</b>	End of last trading day	
<b>Negotiable strategies</b>	Location Spread	

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# Guide to the Trading System

## A.3. AGREX segment

<b>Underlying Commodity</b>	Durum wheat
<b>Trading hours</b>	Continuous trading: 2.30pm - 5.40pm CET
<b>Quotation</b>	Euro/metric ton
<b>Minimum Tick</b>	0,25 €/t
<b>Contract Size</b>	Result of the multiplication of the future price by 50 metric tons
<b>Tradable expirations</b>	In the same trading session 5 expirations are tradable
<b>Delivery months</b>	March, May, September, December
<b>Last Trading day</b>	10 <sup>th</sup> calendar day of the delivery month. If it is not a trading day, the next trading day
<b>Settlement</b>	Physical delivery
<b>Negotiable strategies</b>	Not available

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# Guide to the Trading System

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## Appendix 2: Certification Test Programme

The Certification Programme is based on regulatory compliance supporting interoperability against the three eligible London Stock Exchange Group (LSEG) venues. The following Certification Programme applies to anyone connecting a software application to an LSEG Live Service. A Live service is any production Trading or Information Services environment across LSEG.

Under EU and national regulatory requirements (including the ESMA Guidelines on Systems and Controls in a Highly Automated Trading Environment and MiFID II Regulatory Technical Standards) the eligible LSEG venues are required to have procedures and arrangements to ensure fair and orderly trading. This includes requirements for physical and electronic security to protect systems from misuse or unauthorised access and to ensure the integrity of the data that is part of or passes through the systems. The eligible venues are required to undertake standardised certification testing to ensure that members and participants systems used to access the venues have a minimum level of functionality that is compatible with fair and orderly trading on those venues.

Customer non-compliance with this certification programme may constitute a breach of the eligible venue terms and conditions or rules.

### A.1 Access to the Live Service

Access to the LSEG Live Services is permitted only when a customer's software application has been certified as being fit for purpose.

### A.2 Software Identification

All customer software must be identifiable by a software name and version number. Software applications that do not have both a name and version number will not be certified. Certification is limited to a single version of the named software.

### A.3 Certification Policy

Customers are required to certify or re-certify their applications under the following conditions:

- Prior to use the application in the live environment (for new applications);
- The customer modifies the software in any way that directly impacts LSEG interfaces. This includes but is not limited to updates to Gateways, Order Management, Execution Management and Quote Management Software;
- The Exchange upgrades its production environment to a later version of software;
- The customer is requested to re-certify their application by the relevant venue.

If no certifications have been performed during a solar year (because any of the previous conditions occurred), the customer will be asked to self-certify (by sending an email to the relevant Trading Venue team that look after certifications) that no changes have been applied to the application since the last certification.

### A.4 Test Scenario Exception Policy

Customers need to complete all the test cases referred as "mandatory" and only need to complete the test cases relating to the functionality that they will use on the Live Services of the test cases referred as "optional". If a customer's application does not support the functionality described in a particular test scenario and they do not intend to complete the scenario during the test, this must be agreed before the start of the certification test.

### A.5 Non-Conformant Behaviour on the Live Service

Any non-conformant behaviour by a customer's software application on the Live Services may lead to the software application being disconnected and not re-connected until it has been re-certified and the non-conformant behaviour corrected.





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