We are now Refinitiv, formerly the Financial and Risk business of Thomson Reuters. We've set a bold course for the future – both ours and yours – and are introducing our new brand to the world.

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REFINITIV™

THOMSON REUTERS
Tick History

AUGUST 2017 – MATCHING OFFERS GUIDE

Contents

Before You Start

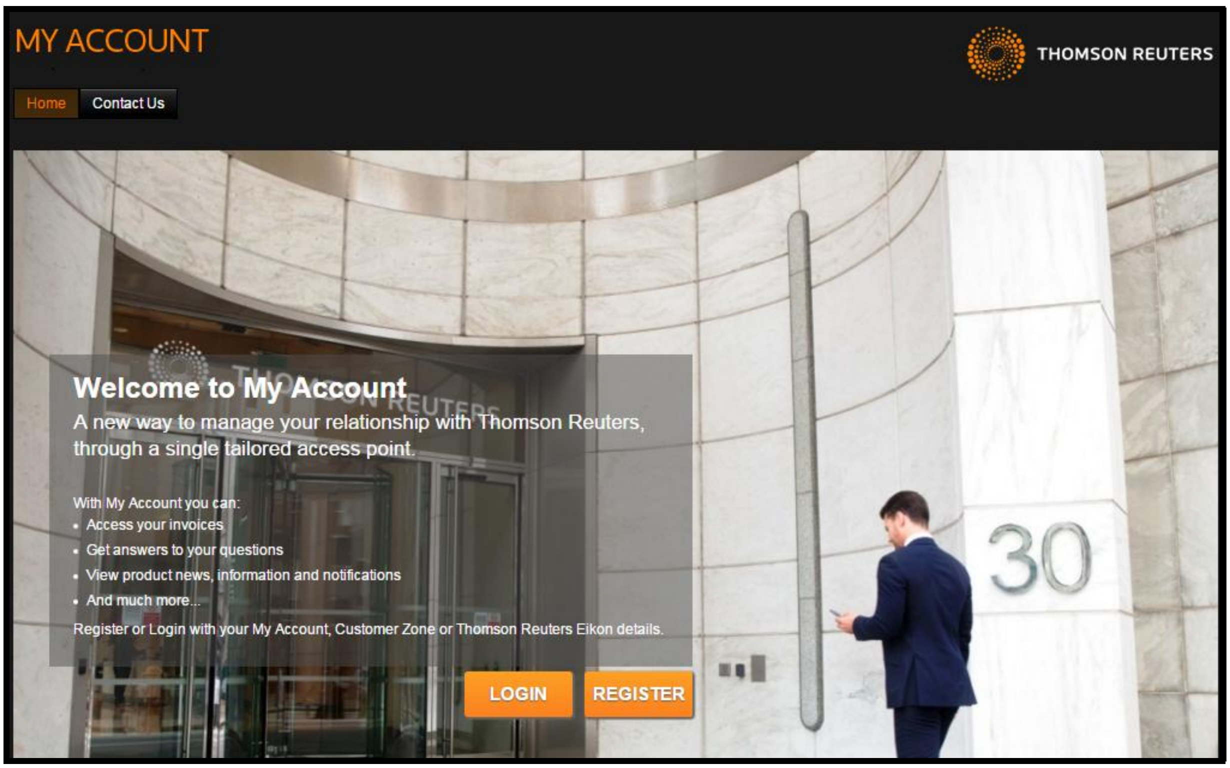
About this Guide

Thomson Reuters Tick History offers unparalleled access to historical high frequency data across global asset classes from 1996 with a standardized naming convention based on RIC symbology. Tick History clients are able to effectively manage compliance requirements in today's fluid regulatory environment, perform quantitative research and analytics and employ real-time algorithmic trading strategies in a cost efficient manner.

This guide describes the Matching Offerings subscription available in Tick History.

Support

My Account is Thomson Reuters portal that provides a single access point for timesaving support services, along with billing, user management and information. For support using Tick History, please raise a query online via **Contact Us**.



The following support channels for keeping informed of product changes and service issues. All DataScope Select clients are encouraged to subscribe to these support channels on My Account

The following support channels are available to keep informed of changes to products and data, and to be notified of any service issues or changes:

- **Change Notifications**

  You can subscribe to the following change notifications:

  - **Product** change notifications detailing new, enhanced, or changed functionality, which may require your action, in products that you use.
  - **Content** change notifications alerting you to upcoming changes to real-time and historical data across all asset classes that are relevant to you.
  - **RIC** change notifications informing you of planned changes to Thomson Reuters Instrument Codes.

- **Service Alerts**

  You can subscribe to alerts about planned maintenance and unplanned service issues affecting your products and services, and be notified via SMS or email.

- **Documentation**

  You can access product documentation in My Account. DataScope Select offers a comprehensive documentation set that includes user guides, a data dictionary, online Help and FAQs.

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Matching Offers Packages

There are two matching offerings available in Tick History.

- **4A. Matching Prices (D3)**

  This package provides matching content with Last Traded price (LTP) and market screened pricing for Top of Book (ToB) BID/OFFER). Up to four updates per second will be displayed for ToB Bid/Offer. Content is available via =D3 RICs.

  This package is available via the user interface and REST API.

- **4B. Matching Prices with Volumes Daily (D5)**

  This package provides matching content with Last Traded price with volumes and market screened pricing for Top of Book (ToB) BID/OFFER) with size. In this service we have included the 49 most traded currencies spot pairs. Content is available via =D5 RICs.

  This package is available via the Venue By Day (VBD) service.

4A. Matching Prices (D3)

This package provides Matching content with Last Traded price (LTP) at full tick and market screened pricing for Top of Book (ToB) Bid/Offer), up to four updates per second.

Where to get the data

This package can be access using =D3 RICs which are available in Tick History user interface and API. Tick History Search can be used to get the =D3 RICs.

Please see the *Tick History User Guide* and *Tick History REST API User Guide* for instructions.

When is the data available

Data for D3 RICs are released four times daily. (All given times are in UTC)

- 11:30, 18:30, 23:00 and 02:00 (during April - October)
- 11:30, 19:30, 00:00 and 03:00 (during November - March)

The latest data available at each of these release points are 2 hours old.

For example, the 11:30 release will release data for the RICs till 09:30.

Data field format

Normalised TAS and Raw Format from UI and API.

4b. Matching Prices with Volumes Daily (D5)

To access this content, users should be subscribed for the FXD5 venue offered via the Venue By Day (VBD) service.

This package provides Matching Content with Last Traded price with volumes and full tick and market screened pricing for Top of Book (ToB) Bid/Offer) with size up to four times a second. The data sources both quote and deal message streams from D5 RICs Content is available from 2006.

Below are the RICs available in this service.

RIC	Start Date
AUD=D5	20060224
CAD=D5	20060224
CHF=D5	20060224
EUR=D5	20060224
EURGBP=D5	20060224
GBP=D5	20060224
JPY=D5	20060224
ILS=D5	20060526
EURCZK=D5	20070727
EURDKK=D5	20070727
EURNOK=D5	20070727
EURSEK=D5	20070727
NZD=D5	20070727
SGD=D5	20070727
ZAR=D5	20070727
HKD=D5	20080303
AUDNZD=D5	20090506
EURHUF=D5	20090506
EURPLN=D5	20090506
EURRON=D5	20090506

RIC	Start Date
MXN=D5	20090506
THB=D5	20090506
TRYTOM=D5	20090506
AED=D5	20110727
AUDCAD=D5	20110727
AUDJPY=D5	20110727
AUDSGD=D5	20110727
CADJPY=D5	20110727
CNH=D5	20110727
CZK=D5	20110727
DKK=D5	20110727
EURAUD=D5	20110727
EURCAD=D5	20110727
EURCHF=D5	20110727
EURHRK=D5	20110727
EURJPY=D5	20110727
EURMXN=D5	20110727
EURNZD=D5	20110727
EURTRY=D5	20110727
GBPAUD=D5	20110727
GBPCHF=D5	20110727
GBPJPY=D5	20110727
HUF=D5	20110727
NOK=D5	20110727

RIC	Start Date
NOKSEK=D5	20110727
NZDJPY=D5	20110727
PLN=D5	20110727
RUBTOM=D5	20110727
SEK=D5	20110727

Where to get the data

Venue By Day (VBD) service.

Please see the *Tick History User Guide* and *Tick History REST API User Guide* for instructions.

When is the data available

Files are made available daily at 2:05:00 UTC (approximately).

Data field format

Only the relevant data field from the data file is included in the table below.

Field	Data Type	Definition
RIC	TEXT	Reuters Instrument Code; Market-level identifier for instruments and pricing sources.
Domain	TEXT	Identifies the "type" of data being described. This field can be used to distinguish different vehicles for the same RIC (e.g. Market Price and Market By Price).
Date-Time	DATE	Date and time expressed according to ISO 8601, where “Z” appended to the time indicates UTC.
Type	TEXT	Message Type: Trade, Quote, Correction, Auction, Settlement Price, or Market Condition.
Exchange ID	TEXT	For Consolidated Issues - the exchange identifier where the instrument was last traded.
Price	NUMERIC	Last Traded Price.
Volume	NUMERIC	Last Traded Volume.
Market VWAP	NUMERIC	Last exchange derived continuous Volume Average Weighted Price.
Buyer ID	TEXT	Buyer Market Maker Identifier (where applicable).
Bid Price	NUMERIC	Current or Best Bid Price.

Field	Data Type	Definition
Bid Size	NUMERIC	Aggregated volume at the Current or Best Bid Price.
No. Buyers	NUMERIC	Number of market makers at the Current or Best Bid Price.
Seller ID	TEXT	Seller Market Maker Identifier (where applicable).
Ask Price	NUMERIC	Current or Best Ask Price.
Ask Size	NUMERIC	Aggregated volume at the Current or Best Ask Price.
No. Sellers	TEXT	Number of market makers at the Current or Best Ask Price.
Qualifiers	TEXT	Correction and Trade qualifiers or market condition indicator.
Seq. No.	NUMERIC	An exchange derived sequence number associated with the original trade.
Exch Time	DATE	Exchange supplied exchange time (Local or GMT depending on the exchange).
Block Trd	TEXT	Total number of block trades of the day.
PE Ratio	NUMERIC	PE ratio or earnings multiple as adjusted by the last trade or closing price.
Yield	NUMERIC	Dividend Yield as adjusted by the last trade or closing price.
Original Price	NUMERIC	The original price is stored in this field which it is replaced by a cancellation or correction. This will only be used when “Apply Cancellations and corrections” are used.
Original Volume	NUMERIC	The original volume is stored in this field which it is replaced by a cancellation or correction. This will only be used when “Apply Cancellations and corrections” are used.
Original Sequence Number	NUMERIC	Original exchange derived sequence number associated with the trade (applicable to US markets).
Bid Yld	NUMERIC	Current or Best Bid Yield or Primary Active Yield field.
Ask Yld	NUMERIC	Current or Best Ask Yield or Secondary Active Yield field.
ISMA Bid Yld	NUMERIC	ISMA Calculated Bid Yield.
ISMA Ask Yld	NUMERIC	ISMA Calculated Ask Yield.
Duration	NUMERIC	A measurement in years of how long it takes for the price of the bond to be repaid by its internal cash flows.
Mod Duration	NUMERIC	A measurement of change in the value of an bond to a change in interest rates; it determines the effect of a 100 basis point (1%) change in interest rates will have on the price of the bond.
BPV	NUMERIC	Basis Point Value - this is the sensitivity of a price value of a bond to a one basis point shift in the yield to maturity of the bond.

Field	Data Type	Definition
Convexity	NUMERIC	A measure of the curvature in the relationship between the bond price and yield.
Benchmark Spd	NUMERIC	Difference between the government-equivalent bid yield of the bond and the closest maturity government benchmark bond bid yield of the same principal currency.
Swap Spd	NUMERIC	Difference between the bond's native bid yield to maturity and the interest rate swap curve of the same principal currency.
Asset Swp Spd	NUMERIC	Asset swap spread is the basis point margin over or under a reference rate for a bond whose cash flows have been converted from fixed to floating via an interest rate swap.
Swap Point	NUMERIC	Linearly interpolated bid point on the swap curve corresponding to the maturity of the bond.
UpLim Price	NUMERIC	Upper price limit.
LoLim Price	NUMERIC	Lower price limit.
Theo. Price	NUMERIC	The theoretical price.
Conv. Parity	NUMERIC	Price of the convertible divided by the conversion ratio (the number of shares that the convertible can be converted into).
Premium	NUMERIC	Difference between the higher price paid for the bond and the underlying security's face amount at issue.
Bid Imp. Vol	NUMERIC	The expected bid volatility that the market is pricing into the option, where bid volatility is the measure of the rate and magnitude of the change in the underlying instrument's bid price.
Ask Imp. Vol	NUMERIC	The expected ask volatility that the market is pricing into the option, where ask volatility is the measure of the rate and magnitude of the change in the underlying instrument's ask price.
Imp. Vol.	NUMERIC	Expected volatility that the market is pricing into the option, where volatility is the measure of the rate and magnitude of the change in the underlying instrument's price.
Crack	NUMERIC	Lower limit of refining profitability. Applicable to Refinery Netbacks.
Top	NUMERIC	Upper limit of refining profitability, Applicable to Refinery Netbacks.
Freight Pr.	NUMERIC	Freight charges in the refining process.
Offer	NUMERIC	Instrument's offer price for the trading day.
Actual	NUMERIC	Actual Indicator value.
Prior	NUMERIC	Previous Indicator Value.
Revised	NUMERIC	Revised value.

Field	Data Type	Definition
Forecast	NUMERIC	Average Forecast Value.
Frcst High	NUMERIC	Forecast High.
Frcst Low	NUMERIC	Forecast Low.
No. Frcts	NUMERIC	Number of economists forecasting.
Date	DATE	Date of the message.
Bid Tic	NUMERIC	Trend of the bid price relative to the previous changed bid price; ^ indicates that the bid price is higher, while v indicates that the bid price is lower; while a blank field indicates no change.
Tick Dir.	NUMERIC	This indicates the trend of the trade price relative to the previous changed trade price; ^ indicates that the trade price is higher, while v indicates that the trade price is lower; while a blank field indicates no change.
Acc. Volume	NUMERIC	Indicator indicating the dividend payment type.
Turnover	NUMERIC	Daily Turnover (price X volume) - mapped from the FID TURNOVER.
Original Date	DATE	Original date of the trade.

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