Screw Cap Torque Tester DTXS/DTXA series

-Fast sampling for both Peak Values and Continuous Data, achieving high reproducibility
-Clear OLED display with a variety of significant capabilities
-Ideal for opening and closing torque tests of various containers such as bottles
-Handles various samples by simply replacing optional attachments

DTXA-10N

Opening/closing torque test of jar lid

Twist test of screen protective film

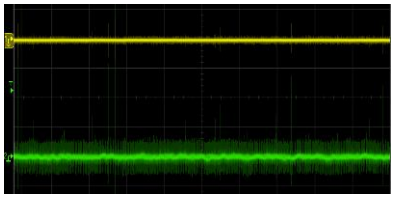
*Rotation Support Jig SDT series and Small Table HT-ST are used.

[Evolution to the Next Series]

Next Series is a generic term for IMADA measurement devices with upgraded functions, performances with the essential modifications. The devices enable to install additional functions from the user support site, IMADA-Connected. On the website, related data such as software and instruction manuals can also be downloaded.
New Series: DTXS/DTXA Series Firmware Ver.5 or later.

New Features

-Increased measurement stability achieved from further noise reduction to the measurement circuit.



Analog output comparison
Yellow: Next series/Green: Old Model

-Measurement device program (firmware) online updates available.
-Various software and additional functions downloadable to increase the measurement conveniences.

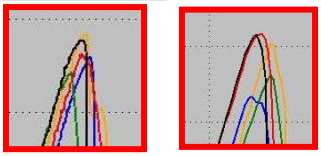
IMADA Connected
(https://www.imada-connected.com/)

[Features]

Fast sampling for both Peak Values and Continuous Data, achieving high reproducibility

High-speed sampling of up to 2000 times/second updates measured values for more accurate peak-value readings.
Double bearing structure of the torque sensor minimizes the influence of bending force to ensure precise testing result.

*The Test Results vary depending on the sample and measurement conditions.



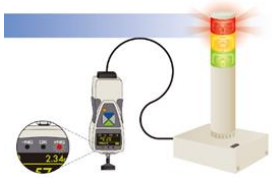
Destructive test comparison of the same sample by sampling speed: -
-Left Sampling speed 2000Hz
-Right Sampling speed 100Hz
The less variation shown in the left results

Clear OLED display with a variety of significant capabilities

The OLED provides excellent contrast and high visibility, which reduces errors in reading measurement results.
In addition, the display screen can be divided into three sections, allowing to customize the display contents for liking, such as calendar, bar graph and Comparator setting values on the top and bottom.
In addition, it has various display capabilities such as a multi-language setting menu and overload warning display.

Measurement benefit increased by external output and practical functions

By providing a wide range of data output options such as USB, wireless, serial communication, and analog output, it can be used in a wide range of situations from data management on a PC to interlocking with various devices.
The system used to control external devices, such as stopping the the machine at a specified load value, or to create an inspection device linked to a work process in order to improve the efficiency of the inspection process.



The warning light and other devices may be used to detect measurement abnormalities.

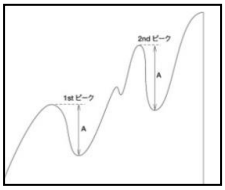
Allows easy Data acquisition and management with the included software

USB Cable and software *Force Logger* included in the original package to proceed with the data management when purchased.
It also allows to change and save the Measurement device settings from facilitating the management of measurement conditions.

Handles various samples by a wide range of optional attachments

It is easy to mount and replace your desired attachment such as tables and pins to suit for your samples. Moreover, custom-made attachments designed for your samples are also available.

[Original Features of DTXA series]

Angle output function	USB flash-drive for continuous data storage	Original display feature of DTXA
		
-By connecting with test stand MTS or SDT series with angle meter (sold separately), the angle value is shown at the display top -It is also possible to output the angle data to a PC by using a software	-Continuous and Single data (with the button press) can be saved in USB flash-drive (*sold separately). -Data saved in CSV format. -Data acquirement is available even without PC	-1st and 2nd peak value displayed as the above graph -The statistics such as the Max/Min stored in DTXA can also be displayed

[Specifications]

Model	DTXS	DTXA
Outline	Standard model with various functions	Advanced model with additional functions of DTXS series such as input/output angles and saving to USB flash drive etc.
Accuracy	+/-0.5%F.S.+/-1digit	
Unit of measurement	N-m, N-cm, kgf-m, kgf-cm, lbf-in, ozf-in (switchable) (*1)	
Display	4-digit	
Display update	16 times /sec	
Sampling rate	Maximum 2000 data/ sec (*2)	
Battery	Approx. 6.5 hours (2 hours full charge) (*3)	
Safe overload rating	Approx. 200%	
Operating environment	Temperature: 0 to 40 degrees Celsius Humidity: 20 to 80%RH	
Functions	Customized display (header and footer) / Peak hold (Clockwise and Counterclockwise) Internal memory (1000 data)) / Comparator (OK or NG judgment) Reversible display / Sign inversion/ Zero clear timer/ +NG alarm Off timer (Auto power off) / Dumping / Time display / Setting lock	
	-	1st 2nd peak Angle detection at torque peak value (*4) Angle zero reset at selected torque (*4)
Output	USB, RS232C, ±2VDC analog output (D/A), Comparator 3 steps (-NG/OK/+NG), Overload alarm	
	-	Sub comparator 2 steps (output of large or small judgment), USB flash drive, angle (displacement)
Overload warning	Approx.110% F.S. (Warning message and alarm)	
External contact point	SEND (a point of contact holding), Zero reset, Peak ON/OFF setting	
Weight	Approx. 3.0kg (table not included), Approx. 4.5kg (standard table and pins included)	
Dimensions	See [Dimensions]	
Accessory	AC adapter, Inspection certificate, CD driver (data logging software), USB cable, Carrying case, L wrench, Standard Table (only for DTXS/A-2/5/10N), Standard Pins (only for DTXS/A-2/5/10N)	
	-	USB flash drive adapter (*5)
Approved standard	JIS S 0022 (2001) Guidelines for all people including elderly and people with disabilities -- Packaging and receptacles -- Test methods for opening “6.3 Screw top receptacle”	

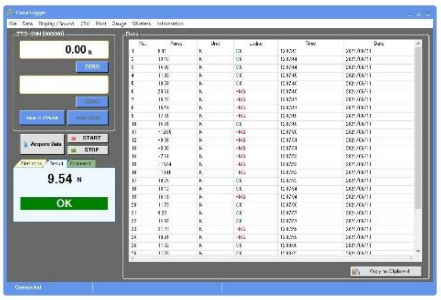
*1 These are the specifications for international model. Note that this unit is different from Japanese domestic model.
*2 Up to 100 data/sec. is saved in USB memory (selectable among 1, 50, and 100 /sec)
*3 The battery is more consumed when connected to USB flash drive or an angle scale.
*4 Angle (displacement) scale is necessary to valid this function.
*5 USB flash drive is not included.

[DTXS/DTXA series models]

Model		Range	Display	Resolution
DTXS-0.5N-Z (*1) (*2)	DTXA-0.5N-Z (*1) (*2)	0.5 N-m (50N-cm)	50.00N-cm	0.01N-cm
DTXS-2N	DTXA-2N	2 N-m (200N-cm)	2.000N-m (200.0N-cm)	0.001N-m (0.1N-cm)
DTXS-5N	DTXA-5N	5 N-m (500N-cm)	5.000N-m (500.0N-cm)	0.001N-m (0.1N-cm)
DTXS-10N	DTXA-10N	10N-m (1000N-cm)	10.00N-m (1000N-cm)	0.01N-m (1N-cm)
DTXS-2N-Z (*1)	DTXA-2N-Z (*1)	2 N-m (200N-cm)	2.000N-m (200.0N-cm)	0.001N-m (0.1N-cm)
DTXS-5N-Z (*1)	DTXA-5N-Z (*1)	5 N-m (500N-cm)	5.000N-m (500.0N-cm)	0.001N-m (0.1N-cm)
DTXS-10N-Z (*1)	DTXA-10N-Z (*1)	10N-m (1000N-cm)	10.00N-m (1000N-cm)	0.01N-m (1N-cm)

*1 Standard Table and Pins are not included in models with [-Z].
*2 The available unit is only “N-cm”.

[Accessories]

<table>
<tr><th colspan="2">Data Acquisition Software Force Logger</th></tr>
<tr><td rowspan="2">  </td><td>Main Functions
-Easy Importing of the Measurement Data
-Display Acquired Data Value Statistics: -Maximum / Minimum / Average Values.
-Data saved in CSV format
-Continuous Data acquisition up to 10 times per second.</td></tr>
<tr><td>Operating environment
- OS: 8.1/10/11
- Hardware: CPU 1GHz or more recommended
Memory 2GB or more recommended
Hard disk 10GB (Data storage area) or more
- Platform: .NET Framework4.8 or later</td></tr>
<tr><th colspan="2">Standard table and pins (*)</th></tr>
<tr><td>
Standard table

Standard pin</td><td>Suitable for fixing PET bottles, cans, etc.,
Capacity: 10N-m
Sample diameter: φ20 to 160mm
Standard table weight: Approx.1.3kg
Standard table material: Steel and aluminum
Standard pin weight: Approx. 28g/pc
Standard pin material: Stainless-steel and urethane
- Standard Table and Pins are included in DTXS-2/5/10N and DTXA-2/5/10N packages.</td></tr>
</table>

[Accessory Attachment Options]

DTXS/DTXA series can be purchased together with your desired Tables and Pins.

Standard Table Standard Pins **DTXS/DTXA-2/5/10N**	Standard Table Notch Pins (*1) **DTXS/DTXA-2/5/10N-TB-01**	Standard Table Long Clamp Pins (*1) **DTXS/DTXA-2/5/10N-TB-02**
Suitable for fixing PET bottles, cans, etc. *Included Parts for DTXS-2/5/10N and DTXA-2/5/10N.	Ideal for fixing slippery samples such as aluminum cans and plastic containers.	Ideal for fixing tall samples such as circuit boards, camera lenses and liquor bottles
Capacity: 10N-m Sample diameter: φ20 to 160mm Table weight: Approx.1.3kg Table material: Steel and aluminum Pin weight: Approx. 28g/pc Pin material: Stainless-steel and urethane	Capacity: 10N-m Sample diameter: φ20 to 160mm Table weight: Approx.1.3kg Table material: Steel and aluminum Pin weight: Approx. 69g/pcs Pin material: Stainless-steel	Capacity: 10N-m Sample diameter: φ20 to 160mm Table weight: Approx.1.3kg Table material: Steel and aluminum Pin weight: Approx. 67g/pcs Pin material: Stainless-steel and urethan
Small table Standard Pins **DTXS/DTXA-2/5N-ST**	Small table Notch Pins (*1) **DTXS/DTXA-2/5N-ST-01**	Small table Long Clamp Pins (*1) **DTXS/DTXA-2/5N-ST-02**
Suitable for measuring small samples such as eye drop lids.	Ideal for firmly fixing samples such as connectors made of resin.	Ideal for fixing slim samples such as cosmetic containers.
Capacity: 5N-m Allowable Sample Diameter: φ7 to 50mm Weight: Approx.300g Material: Steel and Aluminum Pin weight: Approx.3g/pcs Pin material: Aluminum and Urethan	Capacity: 5N-m Allowable Sample Diameter: φ7 to 50mm Weight: Approx.300g Material: Steel and Aluminum Pin weight: Approx.10g/pcs Pin material: Stainless-steel	Capacity: 5N-m Allowable Sample Diameter: φ7 to 50mm Weight: Approx.300g Material: Steel and Aluminum Pin weight: Approx.8g/pcs Pin material: Aluminum and Urethan

Other combination options

A Torque Tester without the Table attachment is selected from the chart Page 4 [DTXS/DTXA series models] and the required Attachments selected separately. (*2)

Example: For measurement of small torque such as small screws etc.

Select DTX series of 0.5N-m range and Light Weight Small Table (Standard Pin).

Product model: DTXS/A-0.5N-Z and DT-STL

*1 Standard Pins shown in the DTX images are for the image reference, and the Pin options for selection are stated individually in the chart.
*2 Refer to Attachments for DTXS/DTXA series specifications for more details.

[Related attachments/parts]

Small table **DT-ST**	Light weight small table **DT-STL**	Light weight wide table **DT-STLW**
For gripping various small samples by switching the pins	Light weight table, which reduces weight influence, suitable for small force torque measurement	Wide type of HT-STL for gripping samples from φ10 to 100mm
 *Only for 2/5N-m range	 *Only for 0.5/2N-m range	 *Only for 0.5/2N-m range
Pin Chuck **DT-DC**	**Sample stage for standard table** **TB-SP**	**Replacement battery** **BP-308**
The three claws clamp samples such as wire and round-bar samples	Stage for setting samples stably. It is designed for standard table only.	Battery for replacement

[Related stands/support jigs]

Motorized Torque Stand: MTS Series

MTS series

Test image

- This is motorized torque stand for DTXS/DTXA series.
- Regulated rotation speed allows torque measurement with better accuracy.

Analyzing Torque and Angle Relationships

MTS series can be equipped with a rotary encoder to analyze torque and angle relationships. Angle meter and DTXA series (sold separately) are required.

* Refer to MTS series specifications for more details.
* Torque-Angle Measurement Unit TAA series is also available. TAA series include all items required to analyze torque and angle relationships.
* Refer to TAA series specifications for details.

Rotation Support Jig for DTXS/A: SDT Series

SDT-5N-L

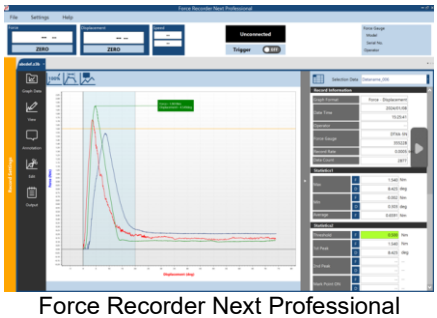
Test image

- SDT series is a rotation support jig for DTXS/DTXA series.
- The sample can be continuously rotated by keeping turning the knob.
- Various torque measurements are possible with attachments suitable for the sample.
- It assists analysis of torque-angle relationships for tactile test of rotating a dial. (DTXA series is required)

* Please refer to SDT series specifications for more details.

[Related Products]

Downloadable Graphing Software: Force Recorder Next Series*1



Force Recorder Next Professional

-High sampling rate of max. 2000Hz enables accurate graphing.
  * Professional version is for torque-time graphs and torque-displacement graphs.
  * Standard version is for torque-time graphs.
-Test condition preset functions increase efficiency of recording and analyzing measurement results.
-Various data editing functions such as up to 10-graph overlaying enable analyzing measurement result.
-Adding Images and Comments functions are useful for recording the details of measurement.
-The Print Command allows users to output of measurement data as PDF/Word, Excel, and images and drawing up reports easily.

* CD version software Force Recorder series is also available. Some specification such as operating environment is different from Downloadable version and CD version.
* Please refer to the individual specification sheets for details.

Wireless Data Transmit System: WL01 Series

WL01-USB and WL01-ADP

WL01-BOX

-Wireless communication allows the Data received from remote locations.
-The Data reception detection and interference prevention functions support stable communication.
-The communication format opened to the public and incorporated into the available facilities possible.

* Compatible with firmware Ver3.10 or later.
* Restrictions on the countries and regions for use.
* Please refer to [Wireless System] Specifications for details.

RS232C Printer Package with a Dedicated Cable: PRN-SEZD

Connecting image

-The package of RS232C printer BL2-58 series and RS232C cable CB-208.
-Measurement result can be printed without PC.
-This is useful in environments where it is difficult to bring in PC, when printing is required immediately after measurement, when you want to prevent data falsification, and so on.

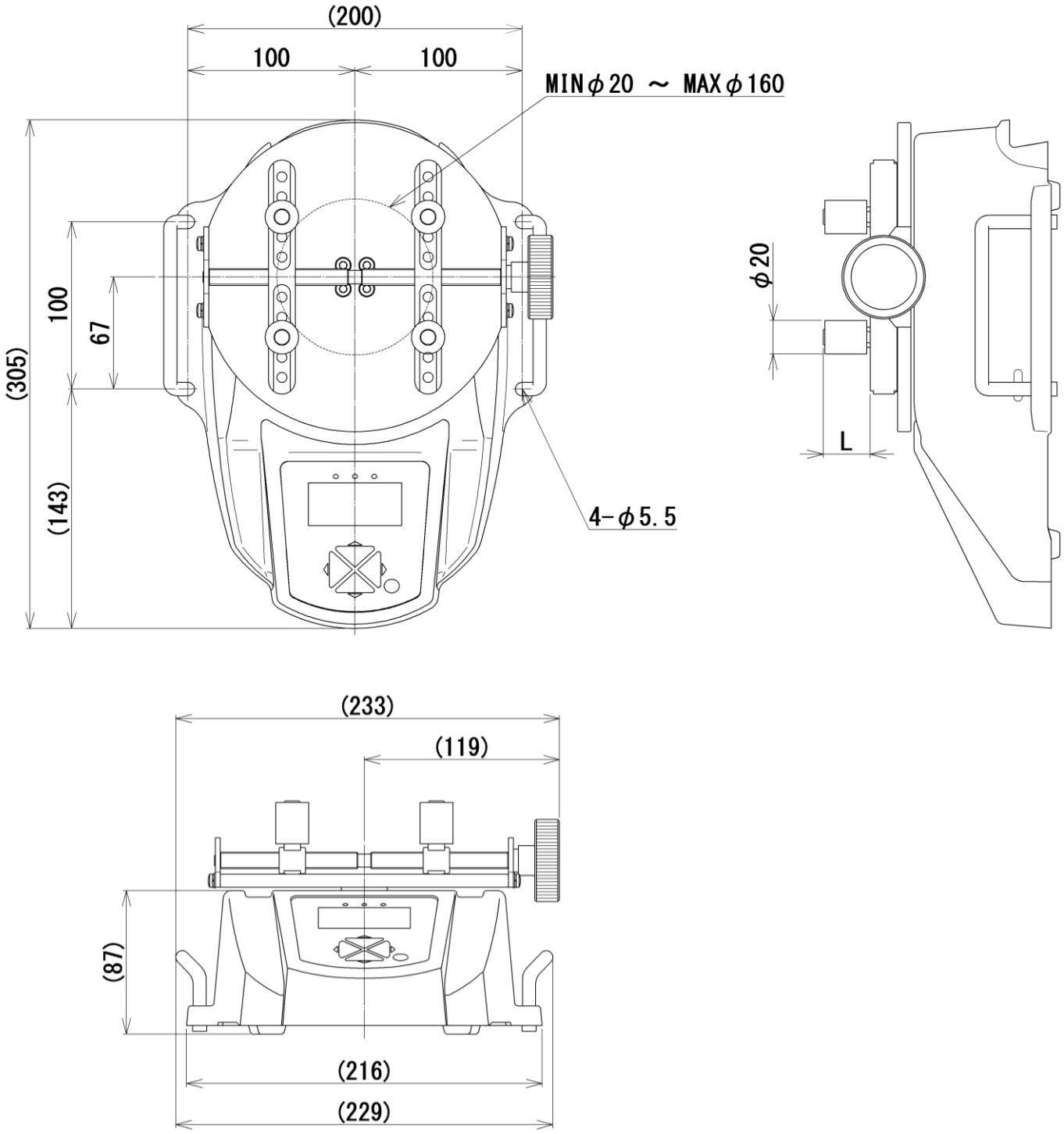
* This product can be sold to customers in Japan and EU markets only. Please contact us if you would like to purchase the product in other regions.
* Data output from DTXS/DTXA to RS232C printer is supported only for products with firmware Ver. 3.10 or later; For Next Series products, "RS232C Print Function" must be installed via network.
* Please refer to [RS232C Printer Package with a Dedicated Cable] Specifications for details.

*1 To use this product, user & product registration on IMADA Connected and downloading the software are required. Only Next Series products (For the DTXA/DTXS series, firmware versions 5.00 or are available for the product registration. An Internet connection is required in process of user & product registration and downloading the software.

[Optional Cables]

Optional cables		
Analog Cable (3m)	**CB-108**	To connect to analog devices and output the voltage
RS232C Cable (3m)	**CB-208**	To connect to an external device (RS232C communication)
Force Control Cable with RS232C Sprit Cable (1.5m)	**CB-528-RS**	To connect to both a test stand and an external device (RS232C communication)
Displacement Cable with RS232C Sprit Cable (1.5m)	**CB-728-RS**	To connect simultaneously to a test stand, a linear-scale and an external device (RS232C communication)
Contact point cable (3m)	**CB-808**	To connect to external equipment such as PLC
Open end cable (3m)	**CB-908**	Output cable for loose wire 37 pin (Useful for connection with unique equipment.)
Cable with Terminal Block	**CTB-A**	To connect to external equipment such as PLC

[Dimensions]



Unit: mm

[Calibration Certificate]

- We offer calibration certificate with extra charge.

* Please contact us or our distributor in your country for further information.

[Cautions]

- Information in this document is subject to change without prior notice.
- This document is product descriptions and handling precautions, and do not guarantee various characteristics or safety.
- This product is designed for force measurement purpose only.
- Do not copy and use this content without authorization.
- Do not apply force more than its capacity or from incorrect direction to the measuring shaft.
- Some samples may not be suitable to measure with this product.

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Visit our website for more information on wide product specifications, measurement applications and videos.