

TG 5011

Spaghetti and Pasta Compression Test System

with NEXYGEN™ MT and Ondio™ Application Builder Software

TG 5011 is a unique and specially designed test fixture for measuring the compressibility and recovery properties of cooked spaghetti, pasta and noodles. The system compresses a small piece of spaghetti or pasta between two circular compression platens and measures the thickness at two specified loads of 15 gf and 515 gf. The two loads are applied using weights and the thickness is measured using a high resolution rotary encoder. See figure 1.

The jig can be fitted to any LLOYD INSTRUMENTS™ or CHATILLON® 'Plus' Series materials testing machine.

The fixture consists of a fixed lower compression platen, which is removable for easy cleaning and a top compression platen attached to the base of a vertical rod which is driven up or down by the system. The effective weight of the top plate assembly is reduced to 15 g using a counterweight, which is attached via a toothed belt. This belt is suspended over two pulleys, one of which is attached to a high-resolution encoder. When the top compression plate moves, the encoder rotates to measure the position of the top compression platen.

The lower main section of the jig is attached to the lower anchor pin of the test machine.

The upper section is attached to a 100N XLC load cell and consists of a double fork arrangement. The bottom fork raises and lowers the upper compression platen and the upper fork supports or releases the additional 500g weight.

The spaghetti compressibility test is driven by NEXYGEN™ MT software with the Ondio™ Application Builder program. Three thickness measurements are automatically made using the jig via the software. A single key press allows the system to define the 'datum' position ready for testing to begin.

The user places a sample onto the lower compression platen at the start of the test. The crosshead moves down to allow the top compression platen to touch the sample to apply a force of 15gf, which is maintained for a specified time. The thickness of the pasta is then measured and stored in the software.

The crosshead moves down to lower the 500g weight onto a collar on the vertical rod to apply a force of 515gf. The force is maintained for a specified time, the thickness of the pasta is measured and stored in the software.

Finally, the crosshead moves up to lift the 500 g weight from the collar to reduce the force back to 15gf. The force is maintained for a specified time, the thickness of the sample is measured and stored in the software.

Additional results are calculated from these three thickness measurements to calculate the sample compressibility etc. Batch results and graphs are saved and can be further analysed. (see figure 2).



SPECIFICATION
SS-MT-6430-0102
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INTERNET
www.ametek.com
www.lloyd-instruments.co.uk

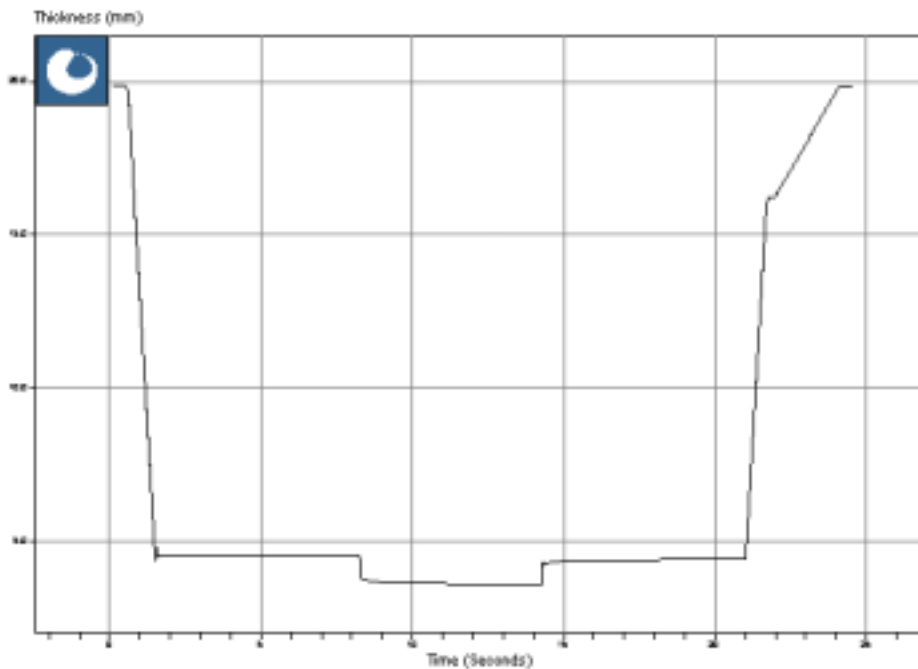
Capacity
100 N (10.2 kgf)

Packaging
A two-part fixture supplied with 500g weight and test set-up for use with NEXYGEN MT and Ondio software for complete test automation. Note that NEXYGEN and Ondio software packages have to be purchased separately.

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Applications

TG 5011 has been specially engineered to measure the compressibility, recovery, springiness and other parameters of cooked spaghetti, pasta or noodles to evaluate cooking times, ingredients, behaviour after freezing etc.

Specifications

Maximum Capacity:	100 N (10.2 kgf)
Minimum Loadcell:	100 N (10.2 kgf)
Fixing:	5/8" (lower eye end), M6 (loadcell)
Encoder Resolution:	8 microns
Application Forces:	15 g and 515 g (other loads may be specified, contact AMETEK to discuss your requirements)
Temperature Limits:	Ambient

Ordering Information

To order this complete system the following parts are required:

- Spaghetti and Pasta Compressibility Test System - TG 5011 (Contact AMETEK to discuss full requirements prior to order)
- NEXYGEN MT Software - 40/0658
- Ondio Application Builder Software - 40/0683
- Test set-up and Batch Tester Software - 40/0745

AMETEK also supplies a Spaghetti/Noodle Testing Fixture jig for tensile testing (01/2659).

For details of other food testing attachments, contact AMETEK.

AMETEK[®]

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ISO 9001
Manufacturer