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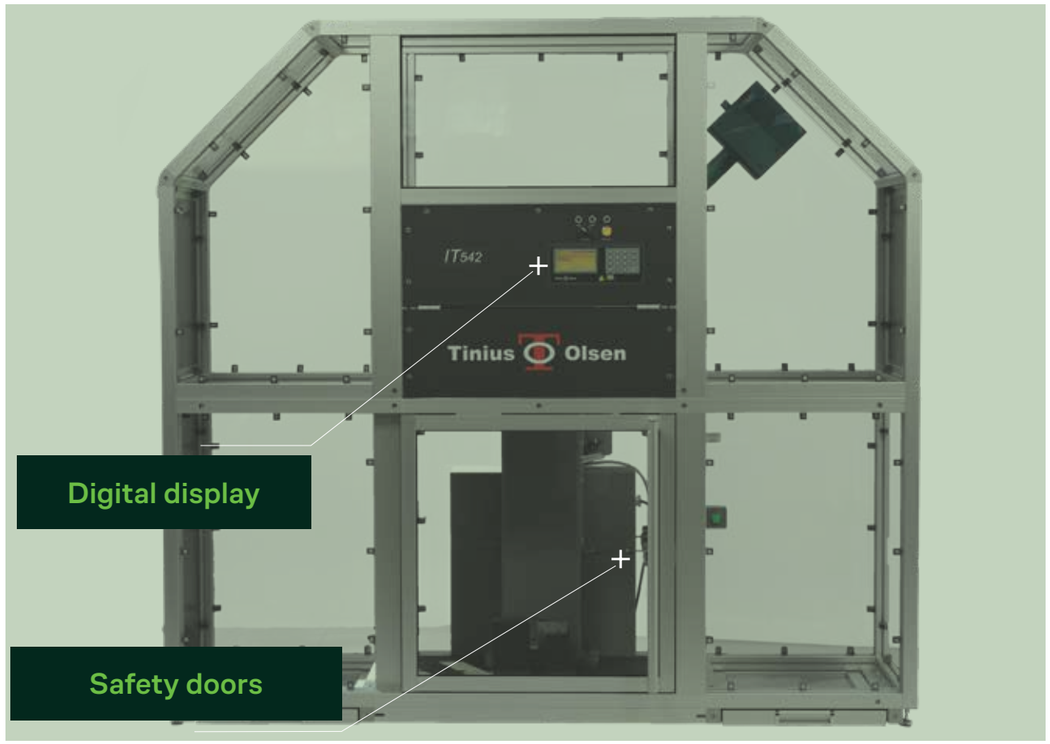
IT Series

High capacity
Impact Testing System

Tinius Olsen

IT Series - High capacity



Model IT542 Pendulum Impact Tester w/ Auto Return, Digital Display and Enclosure *[12004010]*

Tinius Olsen's pendulum impact testers are versatile and reliable systems designed to fully comply with ASTM E23, EN10045-2 and ISO 148. Today, the Model IT406 and the Model IT542 are widely recognized as the standards for the industry for high force impact testing.

The Model IT406 provides maximum testing versatility, with interchangeable striking tups for Charpy and IZod testing and optional tooling for metal impact testing.

A safety lock holds the pendulum in its raised position and ensures a vibration-free release when activated. Once released, the pendulum quickly reaches the impact velocity of 5.47m/s (17.0ft/s) and has a maximum available energy of 406J (300ft.lbf) to impact the sample.

Model IT406 and IT542 are widely recognized as the standard in the industry for impact testing.

The superior design and construction of the Model IT406 ensures maximum testing accuracy and repeatability. When the system is installed and levelled, total frictional and windage losses during the pendulum swing are guaranteed not to exceed 0.5% of the energy range. Direct indication of the energy absorbed by the broken sample is given by a mechanical pointer on a graduated scale. This scale can be supplied in ft.lbf, J or kg.m. A digital display can be ordered for system calibration, setup, data storage and output.

Tinius Olsen offers a number of options to make the operation of the impact tester easier – from a simple electric brake to stop the swinging pendulum, to an automatic motorized return, eliminating the need for any operator involvement other than releasing the pendulum.

Auto-return feature can be configured which includes the digital display. This auto return feature triggers the motor to stop the swinging pendulum at the optimal position and returns it to the latched starting point. In support of maximum productivity and throughput, each cycle time is kept at minimum. Tinius Olsen offers a low blow fixture that allows Charpy, Izod or tension impact tests to be performed at any of 55 velocity/energy levels from the maximum of 5.47m/s (17.9ft/s) down to 0.13m/s (0.4ft/s).

To improve operator safety, we can supply a complete enclosure for the system so that the swinging hammer and broken specimens do not pose any concerns. The enclosure is completely interlocked so that the system cannot operate unless it is closed. we can also supply a higher capacity model, the Model IT542, which shares all the same features as the IT406 but has an available energy of 542J (400ft. lbf). The IT542 is also supplied complete with the electric brake, motorized return and digital display. These systems incorporate a number of unique features including a follower arm that tracks the swinging pendulum without contact and, if the test area safety doors are opened (or optional light curtain broken), immediately stops any further motion of the pendulum. This follower arm also acts as the pendulum return carrier and safely returns the pendulum to its latched release point once a test is complete.

Horizon Software

+ User-selected reporting and exporting formats

+ Built-in SPC programs for X-bar, R and frequency distribution chart/histograms

+ Test mode allows configuring, running and saving of tests and results

+ Recall mode permits viewing of previously saved results and performs database maintenance

+ Horizon Impact Primary Platform; for Plastic & Metal *[21001197H-PP5]*

Key Features of IT Series

+ Precision, friction compensated, robust test frames

+ Digital display option allows test set-up and result display

+ Digital display option allows simple connection to PC for full test SPC analysis

+ Safety features ensure repetitive secure testing

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Specifications

		IT406	IT542
Pendulum capacity	J	406	542
	ft.lb	300	400
Drop height	m	1.5	1.5
	ft	5	5
Pendulum weight	kg	27	36
	lb	60	80
Impact velocity	m/s	5.5	5.5
	ft/s	18	18
Dimensions* (WDH)	mm	2108 x 508 x 1854	2108 x 508 x 1854
	in	83 x 20 x 73	83 x 20 x 73
Weight	kg	736	785
	lb	1620	1730

* Width includes total swing clearance.
Specifications are subject to change without notice

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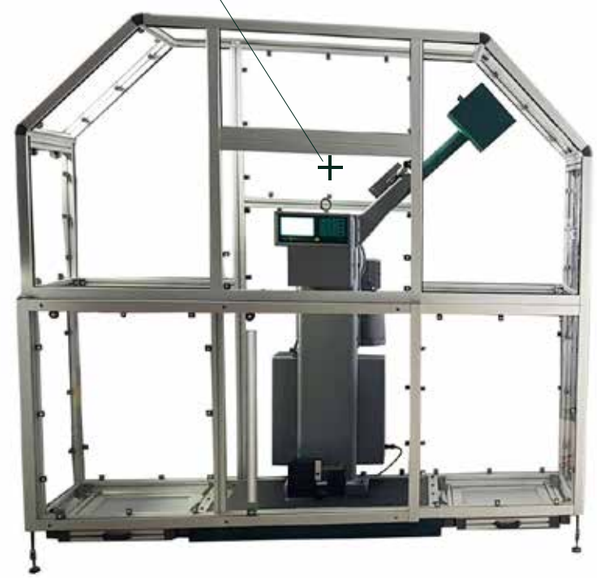
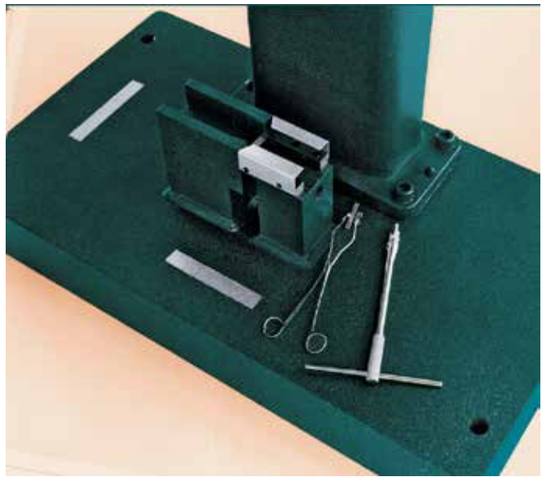


Models

1. **Model IT542 –** 542J (400 ft-lbf) system *[12004060]* with Motorized return and model 104-84 Impact Display *[12002113]*
   Comes with 1pair of std anvils *[90002461]*
2. **Model IT406 – 406J** Pendulum Impact Tester with Dial *[12004050]*
   Comes with 1pair of std anvils *[90002461]*
3. **Model IT542 with enclosure – CE compliant 542J** motorized pendulum impact tester with digital display, enclosure and pneumatic release *[12004062]* Comes with 1pair of std anvils *[90002461]*

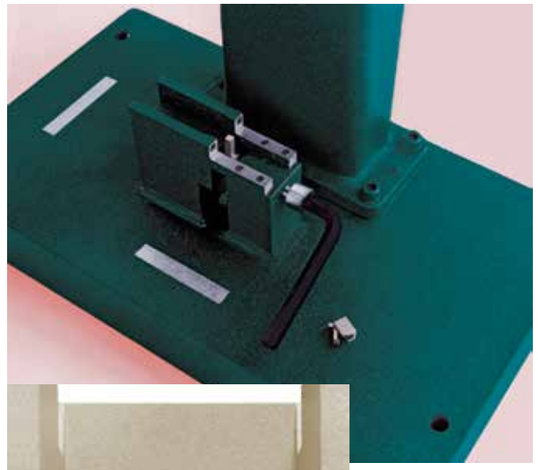
Configurations



Charpy - Replaceable shrouds prevent the specimen from rebounding against the pendulum. The striker is bolted to the pendulum and available in 8mm (ASTM E23) or 2mm (DIN, GB, EN, and ISO) nose radius sizes. An optional set of self-centering tongs is useful for accurately centering specimens, especially those subjected to temperature extremes before the test.

The specimen rests horizontally on the Charpy supports. Centering tongs can be seen in front.

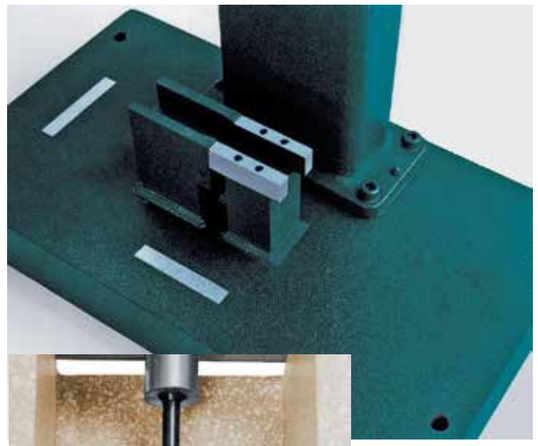
Configurations



IZOD - The Izod striker is easily secured in the pendulum while the specimen is clamped in the close clearance slots in the vise. This ensures the specimen has the correct vertical alignment while the setting gage ensures the specimen is at correct height. A wrench is provided for tightening and loosening the specimen in the vise.

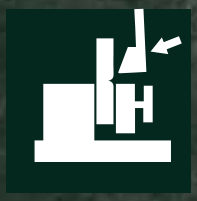
The specimen is clamped vertically at one end, using the front screw/vise.

Left: The striker.



Tension Impact - The tension impact specimen is threaded into the specimen holder in the pendulum head. Tension is instantaneously applied to the specimen when the holding bar strikes the anvils. This method of support provides uniform distribution of the impact energy over the cross-section of the test specimen.

The specimen is threaded into the striker (left) and the holding bar at the rear of the pendulum head.



Metal Impact System

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