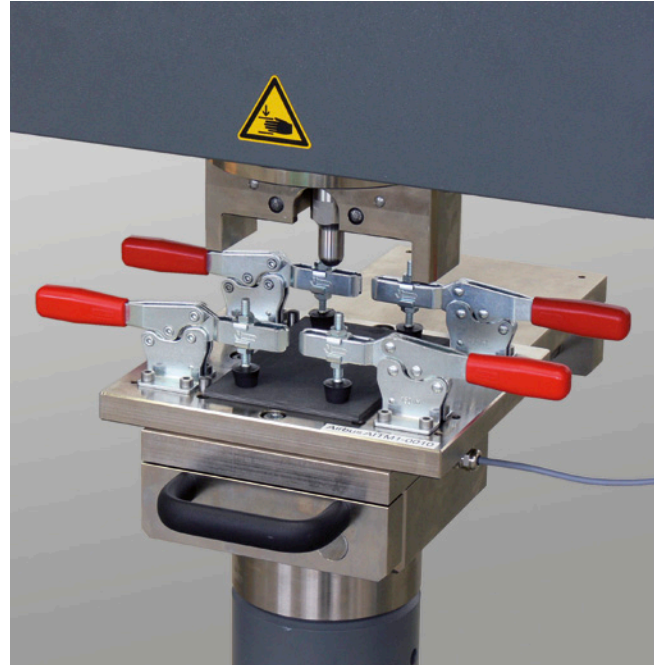


Product Information

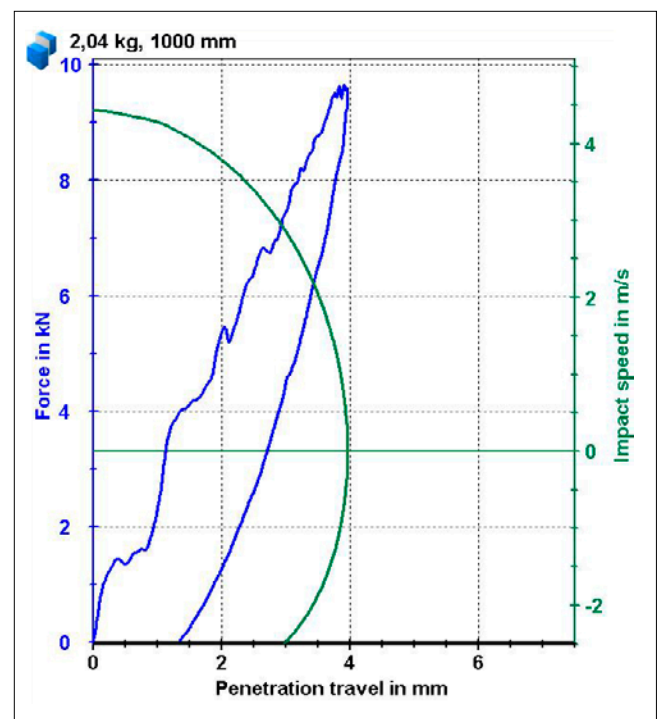
Drop Weight Tester HIT230F - Pre-damage of plates made of composites for CAI tests



The instrumented drop weight tester HIT230F has been developed in close cooperation with our customers. This has allowed the requirements of both research and development and quality assurance to be fulfilled. It is designed for pre-damaging of plates of composites for the standard aerospace industry tests, CAI (Compression-After-Impact).

Advantages/Characteristics

- Simple and safe operation
- Good accessibility to the test area
- Flexible design with simple interchanging of test accessories
- Intelligent protection system – operation of a safety door is not necessary to place a specimen in the tester
- Innovative force measurement chain design delivers very low-noise measured values, allowing the targeted introduction of pre-damage to be monitored in detail
- High test data acquisition rate (4 MHz) with simultaneous high resolution (16 bit)
- Automatic lifting of the drop weight with stepless adjustment of the height from 0.1 m to 1 m
- Precise, stepless damage energy adjustment achieved by varying drop weight and drop height
- Exact determination of actual impact speed shortly before point of impact
- Mechanical device arrests fall weight after first impact, preventing multiple impacts



Product Information

Drop Weight Tester HIT230F - Pre-damage of plates made of composites for CAI tests

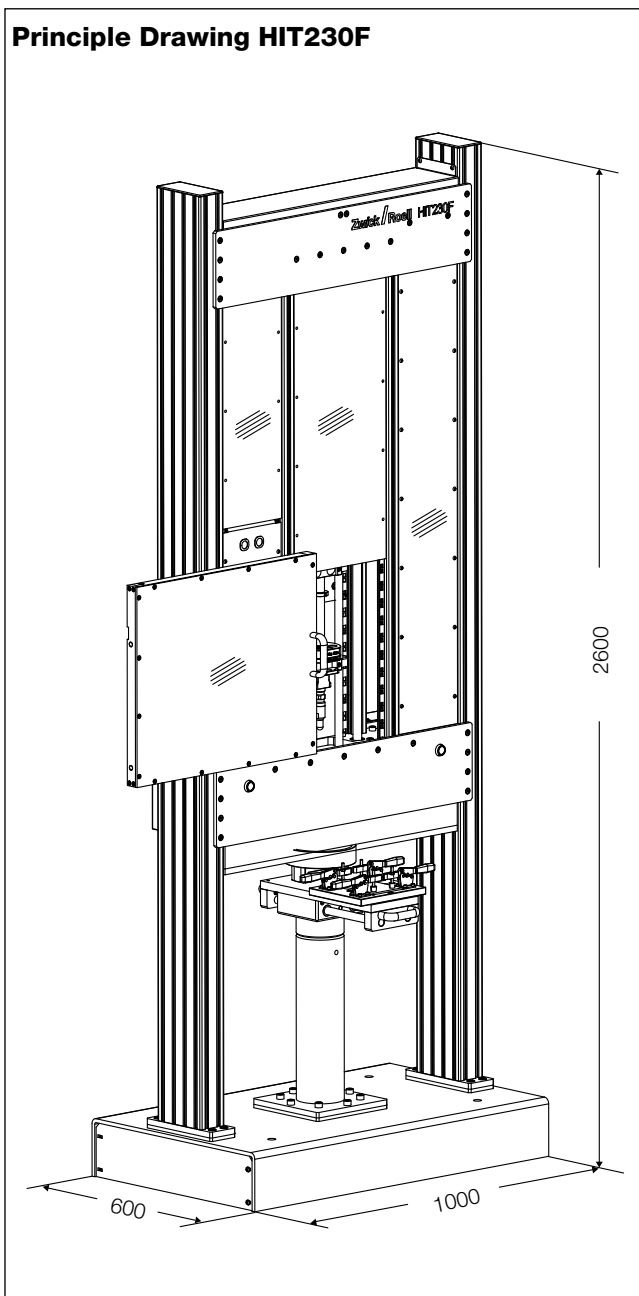
The main applications are:

- Pre-damage of plates made of composites for the compression after impact (CAI) test to Airbus AITM 1-0010, Boeing 7260, ISO 18352, DIN 65561, ASTM D 7136, EN 6038

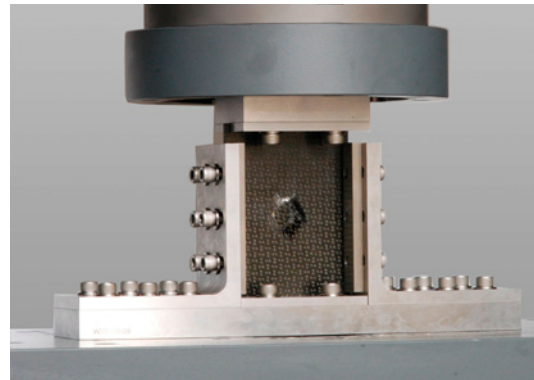
Available options

- CAI mounting fixture as per ASTM D 7136, Boeing BSS 7260, DIN 65561, SACMA SRM 2R-94
- CAI mounting fixture as per Airbus AITM 1.0010, ISO 18352, EN 6038
- CAI compression fixture for static tests to ASTM D 7136, Boeing BSS 7260, DIN 65561, SACMA SRM 2R-94
- CAI compression fixture for static tests to Airbus AITM 1-0010, ISO 18352, DIN EN 6038

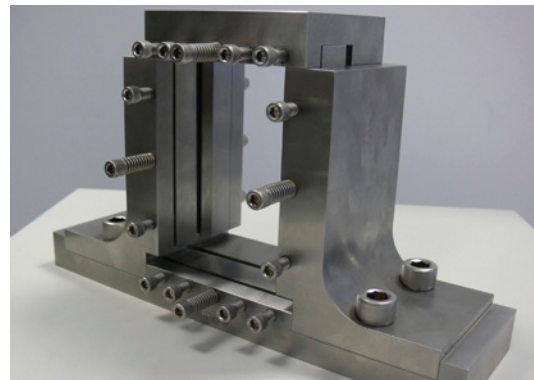
Principle Drawing HIT230F



Two different fixtures are available for installation in a materials testing machine for the compression test to determine the residual strength of the specimen following pre-damage by the drop-weight tester. With the ASTM and Boeing fixture all four sides of the specimen are guided but not gripped. In the case of the Airbus and ISO compression fixture the base and top are gripped, the sides are only guided.



Compression fixture according to Boeing and ASTM

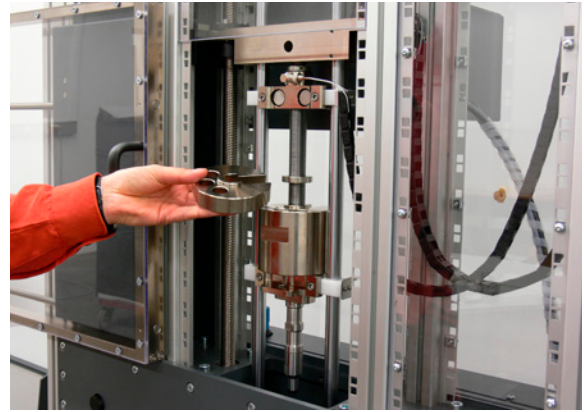
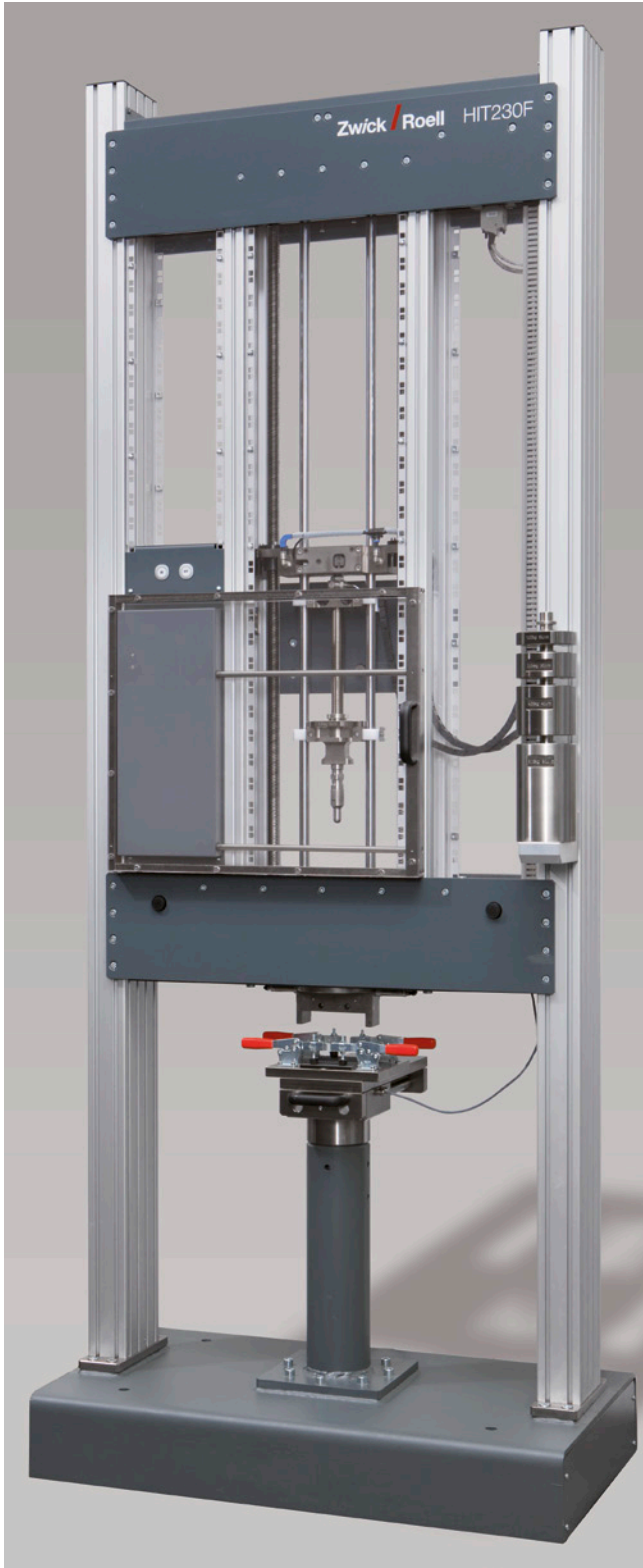


Compression fixture according to Airbus, ISO and EN

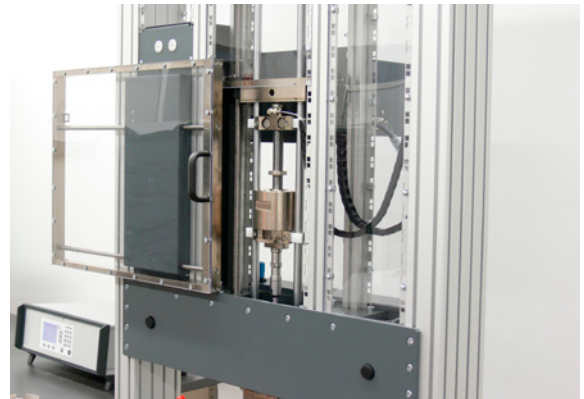
Product Information

Drop Weight Tester HIT230F - Pre-damage of plates made of composites for CAI tests

Description of the drop weight tester



The modular drop-weight set is tailored to the CAI pre-damage requirements



The electrically interlocked protective screen is slid aside to allow the drop-weight to be changed



The CAI specimen clamping is mounted on a feeding sledge

Product Information

Drop Weight Tester HIT230F - Pre-damage of plates made of composites for CAI tests

Data	Value
Basic instrument	
Drop height	Program controlled via motor drive, adjustable from 0.11 m to 1 m
Speed range	up to 4.4 m/s at 1 m (0.2406 ft/s at 39.4 inch) fall height
Speed measurement	before striking, via optical measuring unit
Energy range	approx. 10 Joule up to 120 Joule
Resolution of load signal	16 Bit
Aquisition rate (load signal)	up to 4 MHz
Required floor loading	20 kN/m ²
Point loading of the feet	200 N/cm ²
Control	pneumatic with secure two handed operation
Compressed air	Supply pressured 6 bar, air supply approx. 20 l/impact, Required: Power output of compressed-air supply 600 l/min
Maintenance unit	is mounted directly on the instrument
Dimensions H x W x D	2600 x 1235 x 695 mm
Weight	400 kg
Mains connections	
Voltage supply	85 to 132 VAC or 170 to 264 VAC – automatic setting
Power consumption	500 VA

Basic instrument for pre-damage for CAI tests

Description	Item number
HIT230F, instrumented drop weight tester, inclusive of electronics	047518
Already included in the scope of supply:	
- Makrolon protective shields (front and rear, front screen with side hinges, key lockable, safety monitoring)	
- Anti-Rebound Unit for weights up to 12 kg prevents multiple impacts	
- Light barrier for determination of the actual impact speed	
- Piezo load cell Fmax 50 kN with half-sphere striker diameter 16 mm according to Airbus AITM 1-0010, Boeing 7260, DIN 65561, ASTM D 7136, EN 6038, ISO 18352	
- Carriage for CAI Impact test equipment	
- Modular weight set for CAI tests, Weights: 0.5 kg, 1.02 kg, 2.04 kg, 4.08 kg and 8.16 kg; Energy range: 10 J up to 120 J (at fall heights ≥ 0.5 m)	

Accessories

Description	Item number
CAI Impact test equipment according to ASTM D 7136, Boeing BSS 7260, DIN 65561, SACMA SRM 2R-94, opening 3 x 5 inch	011360
CAI Impact test equipment according to Airbus AITM 1-0010, ISO 18352, EN 6038, opening 75 x 125 mm	011362
testXpert® II Basic Program (in English)	014985
testXpert® II Software: Master Test Program for running instrumented and non-instrumented impact tests	377008
testXpert® II Software: Standard Test Program for pre-damage of plates made of composites for the compression after impact (CAI) test to Airbus AITM 1-0010	048122