

Product Information

roboTest H (HIT) robotic testing system

CTA: 97928



Range of application

The roboTest H robotic testing system is used for automated Charpy or Izod impact tests at room temperature and on cooled specimens.

System configuration

- HIT25P (25J) or HIT50P (50J) pendulum impact tester with motorized pendulum return and safety guard
- Conventional or instrumented pendulums according to method, nominal energy 0.5 joules to 50 joules
- roboTest H robotic testing system with temperature-conditioning magazine for up to 20 specimens
- Industrial controller with testXpert testing software for data acquisition and evaluation and autoEdition3 automation software for test sequence control

Test sequence

Manual preparation

- Manual measurement of specimen dimensions and remaining width
- Up to 20 specimens in a magazine carriage are inserted into the temperature-conditioning magazine outside the system. The temperature-conditioning magazine and specimens are cooled to the required temperature in an optionally available cool box.
- Following attainment of the specified temperature the temperature-conditioning magazine is positioned in the robotic testing system.

Automatic sequence

- The specimen is transferred from the temperature-conditioning magazine to the specimen gripper by a pusher.
- The specimen gripper takes the specimen and transports it to the test area. The specimen is centered on the specimen support and placed against the anvil. The impact test is then carried out.

Benefits

- ZwickRoell has over 35 years of experience and expertise, gained while supplying more than 700 automated testing systems worldwide.
- The specimen gripper provides safe transport of the specimen to the pendulum impact tester's support within 5 seconds.
- Alignment of the specimens on the support and initiation of the test are always automatic.
- For instrumented pendulums, automatic detection of the type of break is optional.
- Manual tests can be performed whenever required—the specimen feeder is simply removed for access.
- Optional control of the specimen temperature on the magazine output ensures constant specimen temperatures and results.
- Easy and convenient operation of the robotic testing system via the testXpert testing software is also available, unchanged, with automation.

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- Safe operation of the testing system through 100% CE compliant system design is guaranteed in accordance with the latest Machinery Directive.
 - A roboTest H system can be easily retrofitted to an existing HIT25/50P pendulum impact tester with pendulum lifting.
 - Machine can be used during idle times (lunch breaks and night shifts), increasing utilization and enabling “faster” results.
 - Testing system reduces the testing costs per specimen and typically pays for itself within one to two years
 - Manual tests can be performed whenever required.
 - System allows for secure, reliable documentation and statistical long-term monitoring
- More advantages**
- Operator influences (hand temperature/moisture, off-center or angled specimen insertion etc.) are eliminated for high test-result reproducibility
 - Qualified laboratory staff are relieved of routine activities, leaving them available for more complex tasks.

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Technical data

| Type | roboTest H | |
|---|---|---------|
| Mechanics | | |
| Magazine slots (for 4 mm specimen thickness, 80 mm stacking height) | 20 | |
| Dimensions (H x W x D) ¹⁾ | 310 x 240 x 590 | mm |
| Weight, approx. | 35 | kg |
| Power specifications | | |
| Electrical connection | 100 - 240 | V |
| Power consumption (handling system + pendulum impact tester) | 1 | kVA |
| Power frequency | 50/60 | Hz |
| Compressed air, filtered, not oiled | 5 ... 6 | bar |
| Compressed air consumption, approx. | 10 | l/min |
| Controller | | |
| Automation | autoEdition3 | |
| Peripheral connection | Profinet | |
| Test | | |
| Type of test | Impact test on Charpy or Izod specimens | |
| Feed time | ≤ 5 | seconds |
| Specimens | | |
| Charpy specimens | To ISO 179-1 | |
| Length | 80 | mm |
| Width | 10 | mm |
| Height | 3 / 4 | mm |
| Charpy specimens | To ASTM D6110 | |
| Length | 127 | mm |
| Width | 12.7 | mm |
| Height | 3.17 / 6.35 | mm |
| Izod specimens | To ISO 180 | |
| Length | 80 | mm |
| Width | 10 | mm |
| Height | 3 / 4 | mm |
| Izod specimens | To ASTM D256 | |
| Length | 63.5 | mm |
| Width | 12.7 | mm |
| Height | 3.17 / 6.35 | mm |

1) Without pendulum impact tester, without table

| Description | ArticleNumber |
|--|---------------|
| roboTest H automatic testing testing system for ZwickRoell HIT25/50P pendulum impact testers. For Charpy tests to: | 046919 |
| • EN ISO 179, specimens 10 x 4 x 80 mm (specimen capacity 20 specimens) | |

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| Description | ArticleNumber |
|--|---------------|
| <ul style="list-style-type: none">• ASTM D6110, specimens 12.7 x (3.17)(6.35)(12.7) x 127 mm (specimen capacity 20 specimens) For Izod tests to: <ul style="list-style-type: none">• EN ISO 180, specimens 10 x (3)(4) x 80 mm (specimen capacity 20 specimens)• ASTM D256, specimens 12.7 x (3.17)(6.35)(12.7) x 63.5 mm (specimen capacity 20 specimens) | |

| Description | ArticleNumber |
|---|---------------|
| roboTest H robotic testing system for ZwickRoell HIT450P pendulum impact tester <ul style="list-style-type: none">• For specimen geometry 10 x 5 to 10 x 55 with constant support height.• Each specimen must be started individually by pressing a button.• Conversion to straight manual operation simply requires the removal of two screws. | 076904 |

Options

- Cool box for conditioning specimens
- Instrumentation
- Height adjustment for Charpy up to 5 joules
- Equipment table (low-vibration)
- Increased magazine capacity (please inquire)
- Magazine with active temperature conditioning (please inquire)