

Product Information

Robotic Testing System 'roboTest H' for Pendulum Impact Tester HIT25/50P



Fig. 1: Robotic testing system 'roboTest H' with pendulum impact tester HIT25P

Application

The robotic testing system 'roboTest H' is used for automatic impact tests at ambient temperature or on temperature-conditioned Charpy or Izod specimens.

System configurations

- HIT25P (25 J) or HIT50P (50 J) pendulum impact tester with motorized pendulum return and safety housing
- Instrumented or non-instrumented pendulums according to the standard with nominal energy from 0.5 Joule up to 50 Joule
- 'roboTest H' robotic testing system with tempering magazine for up to typically 20 specimens
- Industrial controller with *testXpert*[®] testing software and autoEdition2 automation software

Advantages of the 'roboTest H' testing system

- Specimen gripper ensures the specimen is transported securely and reliably to the pendulum impact tester support within 5 seconds.
- Alignment of specimens on the support and initiation of the test are always performed automatically.
- With instrumented testing the fracture mode (complete, partial, hinged and non-break) can be detected automatically as an option.
- Manual tests are still possible by simply removing the robotic testing system.
- Optional accurate specimen temperature measurement via thermo-couple
- Simple, convenient operation of the robotic testing system via *testXpert*[®] testing software is unaffected by automation.
- Safe operation of the testing system via 100% CE-compliant construction is guaranteed in accordance with the latest machinery directive.
- Adding this roboTest H-system to an existing HIT25/50P with pendulum repositioning is possible without problems.

Advantages of a robotic testing system

- A high reproducibility of the test results is obtained because operator influences are excluded (hand temperature, moist hands, eccentric or inclined insertion of specimens etc.).
- Qualified laboratory staff is relieved of routine jobs and is thus available for more complex activities.
- The machine can be used during idle times (e.g. breaks) thus increasing the rate of utilization and allowing „quicker“ results.

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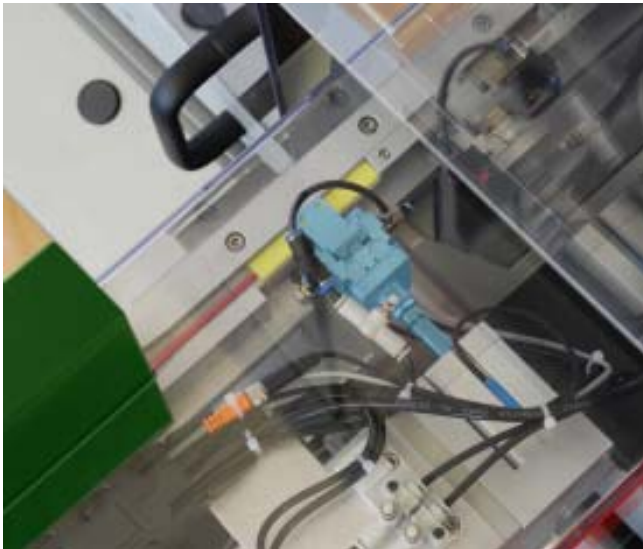


Fig 2: 'roboTest H' test area viewed from above

Test sequence

Manual preparation

- Manual measurement of the specimen dimensions and the remaining width in the notch.
- Up to 20 specimens are inserted in a magazine slide-carrier into the tempering magazine. The tempering magazine and the specimens are cooled to the required temperature in a separately available bath.
- After the predetermined temperature has been achieved, the tempering magazine (fig. 2: green) is then positioned in the robotic testing system.

Automatic sequence

- The specimen (fig. 2: yellow) is transferred from the tempering magazine to the specimen gripper via a pusher arm (fig. 2: red).
- The specimen gripper (fig. 2: blue) then transports the specimen to the test area, where it is centered on the support and pressed against the anvil. The impact test is then carried out.

Technical data

Mechanical

Magazine capacity	20 specimens (with 4 mm specimen height; stacking height: 80 mm)
Dimensions (H x W x D) ¹	310 x 240 x 590 mm
Weight ¹	approx. 15 kg

¹ without pendulum impact tester, without table

Supply requirements

Electrical supply	100 - 240 V
Power consumption	150 VA
Mains frequency	50/60 Hz
Compressed air	5-7 bar, filtered
Compr. air requirement	12 l/min

Control

Automation	autoEdition2 on industry controller
Peripheral connection	PROFIBUS /USB

Test

Type of test	Impact test on Charpy or Izod specimens
Loading time	≤ 5 seconds

Specimens

Charpy specimens	according to ISO 179-1
• Length	80 mm
• Width	10 mm
• Height	4 mm
Izod specimens	acc. to ISO 180 / ASTM D 256
• Length	80 mm / 63.5 mm (2.5 ")
• Width	10 mm / 12.7 mm (1 ")
• Height	4 mm / 3...12.7 mm (0.125...1 ")

Options

- Tempering box for conditioning specimens
- Instrumentation
- Temperature sensor
- Height adjustment for Charpy up to 5 Joule
- Instrument table (low-vibration)
- Increased magazine capacity (on enquiry)
- Magazine with active temperature conditioning (on enquiry)