Penetrometer

Device for determining needle penetration.

acc. to EN 1426 - ASTM D 5 - AASHTO T 49 -GOST 11501- GOST 33136-2014-78 - NFT66-004 DIN 52010, , BS 2000,

20-2050

Manual drop bar arrest & time must be stopped itself.

Stable frame with base plate, bubble level and adjustable feet as well as height-adjustable penetrometer arm with manual drop bar locking device. Complete with dial gauge 30 x 0.01 mm for reading the penetration depth and drop bar 97.5 g (drop bar 47.5 g available as additional option 20-2080E30). Without penetration needles and other accessories.

The plunger is released by pressing the release button and fixed again by releasing the release button.
Height adjustment: By rotating the handwheel, the height on the penetration arm can be set.
Dial gauge holder: To measure the penetration, a dial gauge holder is mounted on the tester.

Weight: 13,8 kg

Dimensions: 250x360x640 mm
Electrical data 230V, 50/60Hz, 0.1kW

20-2060
with control Unit

Needle manually with crank on surface put on.
The timer sets the trigger time automatically.

Stable frame with base plate, bubble level and adjustable feet as well as a height-adjustable penetrometer arm with a time-controlled automatic fall arrest device using a multi-function time relay, adjustable from 0.1 seconds to 99.99 hours. To place the needle on the sample, a halogen lamp and measuring magnifier are attached to movable arms. Complete with dial gauge 30 x 0.01 mm for reading the penetration depth and drop bar 97.5 g (drop bar 47.5 g available as additional option 20-2080E30). Without penetration needles and other accessories.

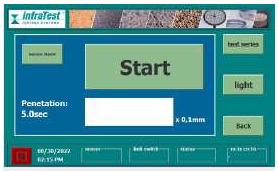
Weight: 16 kg

Dimensions: 280x110x260 mm
Electrical data: 230V, 50/60Hz, 0.1kW

Penetrometer

Device for determining needle penetration.

20-20665 Digital



20-20750 Fully automatic

Needle is raised using the joystick move the surface.

Fully automatic surface recognition a nd adjustable via joystick.

The distance that a standard needle penetrates the sample under standardized conditions (load, time, temperature) is measured. The penetration depth of the penetration needle is determined with an electronic distance measuring system, which is decoupled from the drop rod during the test. With this and with the free guidance of the drop rod, an influence on the load and friction is practically impossible. Before the start of each test, the path measuring system is automatically adjusted, and then the penetration needle is moved towards the sample with an electric drive, which is moved using a finely adjustable joystick (an ultra-bright LED lamp is used to help). The drop bar is then released via an automatic device and blocked again after the test time has elapsed. The test result is shown on the digital display. To calibrate the mass of the drop bar, it can be easily removed.

The distance that a standard needle penetrates the sample under standardized conditions (load, time, temperature) is measured. The penetration depth of the penetration needle is determined with an electronic distance measuring system, which is decoupled from the drop rod during the test. With this and with the free guidance of the drop rod, an influence on the load and friction is practically impossible. Before each test begins, the position measuring system is automatically adjusted.

Approaching and placing on the sample is carried out fully automatically by means of a scanning system. Manual operation via the joystick is also possible. The drop bar is then released via an automatic device and blocked again after the test time has elapsed. The test result is shown on the graphic touch display. To calibrate the mass of the drop bar, it can be easily removed.

24 kg
280x490x760 mm
100/240V, 50/60Hz

26 kg
280x490x760 mm
100/240V, 50/60Hz, 0.6kW

Measuring range:	0-400 penetration units (corresponds to 0-40 mm)
Resolution:	0.01mm
Test load:	100 g (drop rod 97.5 g + 2.5 g penetration needle)
Test time:	free (adjustable from 0.01 s)

Advantages:

* High precision through automatic detection of the sample surface
*Manual operation possible
*Internal memory for up to 15,000 tests

ACCESSORIES
PENETROMETER

20-20711 Penetration needle 2.5g / 3.2 mm magnet
EN 1426 - ASTM D5 – AASHTO - T 49-07
Weight 0.025 kg
With magnetic head and sequential identification number engraved on the barrel and shockproof packaging

20-20810 Penetration bullet EN 13880-3
Weight 0.0275 kg
With shaft O 3.2 mm, weight 27.5 +/- 0.1 g for use with drop rod 47.5 g.

20-20811 Penetration cone EN 13880-2, ASTM D 217, ASTM D 937
Weight 0.102 kg
With VA tip and shank O3.2 mm, for use with drop rod.

20-20670E35. Drop rod 47.5 g for the penetrometer 20-20665 and 20-20670 to hold the penetration ball and cone.
20-20670 in manual mode only.

Test vessel penetration made of stainless steel for penetration attempts.

	Ø mm
20-2084 Height 35 mm.	ID 55 / AD 60
20-2086 Height 45 mm	ID 55 / AD 60
20-2087 Height 65 mm	ID 55 / AD 60
20-2088 Height 45 mm	ID 70 / AD 78
20-2089 Height 60 mm	ID 70 / AD 78

ID = inner Ø / OD = outer Ø

Reducing ring O 53/36 mm to reduce the amount of sample in penetration vessels.

20-2092 20mm 0.0667kg
20-2093 30mm 0.0975kg

Water bath

20-207200 Ø 95 x 60 mm
nozzles, nickel-plated brass.

Weight 0.10 kg

20-2074 Ø 160 mm
without spouts

Weight 1 kg

20-2076 Ø 160 mm Without water connection

Weight 1 kg

20-2078 Perforated base plate DIN 52010
For placing in the penetration water bath and for setting up the test vessel.

Weight 0.10 kg

20-2090 Penetrometer pretempering bath
Stainless steel design with cover and built-in thermostatic heating system 25 .. 100 x 0.1° C for sample temperature control. Complete with circulation pump and hose connection fittings to connect 20-2076.
Technical data
dimension 210x330x390mm / Weight 8.40 kg
electrical data 230 V, 50/60 Hz, 2 kW

20-2090E1 Additional price to 20-2090
Weight 0.80 kg