



## Measurement Devices



## 1 NW100 Density Testing Set 4

## 2 Borescope XF310×9-LED 5

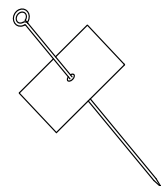
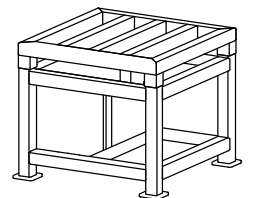
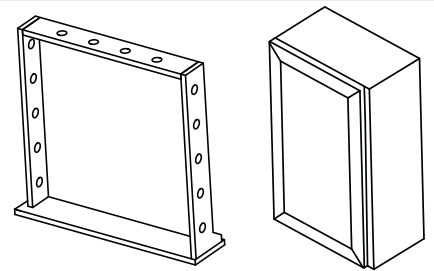
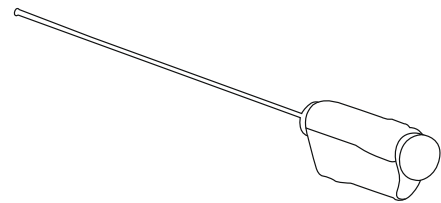
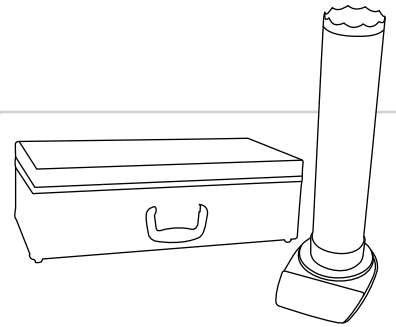
## 3 Test Elements 6

- ▶ 0,1 m<sup>3</sup> Test Element
- ▶ 0,0175 m<sup>3</sup> Test Element

## 4 Test Bench 8

- ▶ Impact Excitation Test Bench to EN15101-1
- ▶ Vibration Test Bench

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# NW100 Density Testing Set

$$\text{Density: } \rho = \frac{m}{V} \left[ \frac{\text{kg}}{\text{m}^3} \right]$$



## Measure the quality of your work

The X-Floc NW100 density testing set enables testing of the installation density of installed loose-fill blown-in insulation, for example cellulose, wood fibre, rock wool or glass wool.

The measuring range extends from 40 to 470 mm insulation thickness and an installation density from approx. 25 to 200 kg/m<sup>3</sup>.

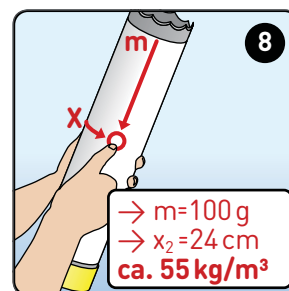
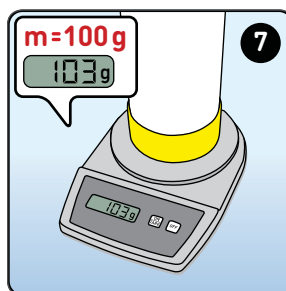
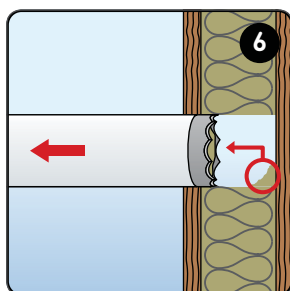
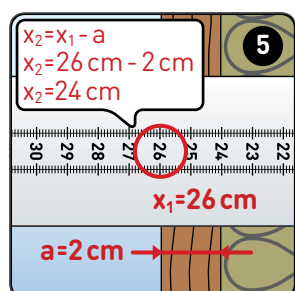
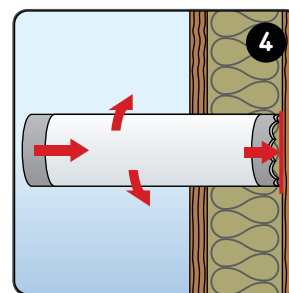
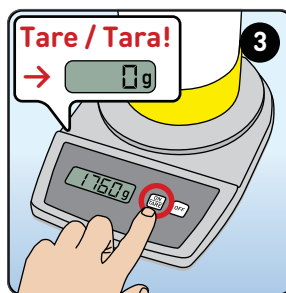
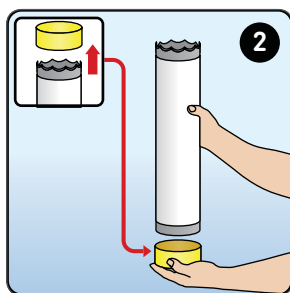
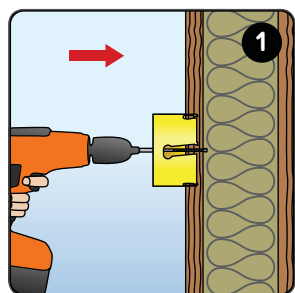
The density testing set can be used to test any elements at selected points, e.g. walls, pitched roofs, ceilings and floors. The installation density can be reliably tested, allowing you to check the quality of the insulating work.

## Order Options

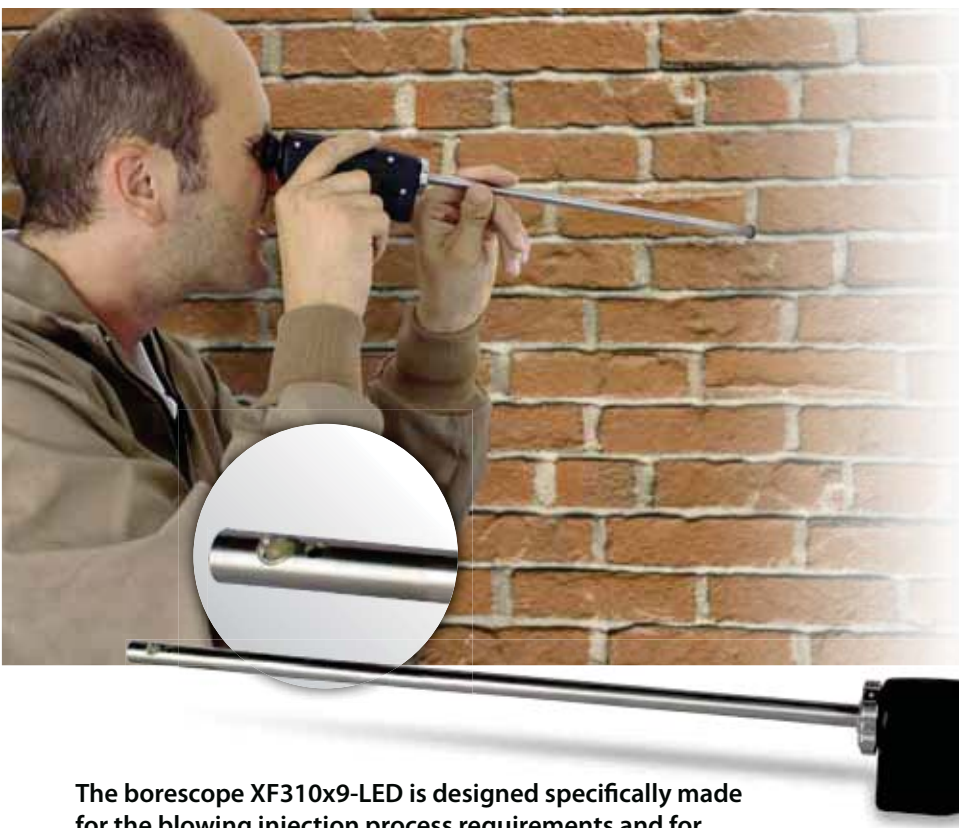
Density testing set Product no.					
4349	•	•	•	•	•
5347	•	•	•	•	•
8383	•	•	•	•	•
4348	•	•	•	•	•
3770	•	•	•	•	•

Option: 80 cm piercing pipe  
Measuring range up to 770 mm

## Use







- Cable-free compact borescope
- Outstanding image quality and super-bright illumination with LED technology
- High depth of focus
- Suitable adapters for digital cameras available



The borescope XF310x9-LED is designed specifically made for the blowing injection process requirements and for inspection of cavities. The identification of mortar snots and dirt is made consistent.

The steep cable-free and innovative borescope provides outstanding image quality and super-light illumination and a compact design for a cost-efficient price without flow-up costs (spare lamps). An extreme bright mini light-emitting diode (approx. 200 % higher light output than borescope XF340x9 with halogen) makes this borescope particularly perfect for applications in building restoration. The power is supplied with an integrated lithium-ion battery.

With an improved optical system and a fixed-focus ocular, the borescope shows brilliant images with a depth of focus of approx. 2 mm to infinite. A photo or video documentation with optional adapters is easy now. Due to the particular tough construction, reliable functionality with the borescope under rough conditions is achieved.

## Characteristics:

- ▶ Rotatable borescope probe head
- ▶ Compact construction, weight with battery only 230 g
- ▶ Extreme bright, white light by an integrated high-power LED, adjustable brightness, low heat development, long LED lifetime and no follow-up costs because of spare lamps
- ▶ Off the line by integrated lithium-ion battery, no connection cable and long operation time

## Optional Accessories:

- ▶ Digital camera
- ▶ Camera adapter

## The borescope is perfect for inside controls and inspection of:

- ▶ Cupped layers in cavity walls
- ▶ Timber frame and wood constructions
- ▶ Building restoration
- ▶ Heating and ventilation systems
- ▶ Plumbing
- ▶ Cast iron parts
- ▶ Covered cables and wire connections
- ▶ Rock drillings

## Technical Data

Effective length	310 mm
Total length	440 mm
Probe head diameter	9 mm
Line of sight	90° on the side
Angle of view	60°
Illumination	1 W high-power LED
Power supply	Off the line, 5V / 2 A li-ion battery incl. charging cable
Product no.	5896

## In the Box

- ▶ Borescope
- ▶ Charging cable with adapters
- ▶ User manual
- ▶ Transport case

## 0,1 m<sup>3</sup> Test Element

- Dry injection with hose through the injection rosette (vertical/ diagonal/ horizontal).
- Dry injection with ventilated rotary nozzle through a drill hole on the back of the element (vertical/diagonal).
- Open blowing (horizontal)
- Damp spray (vertical/horizontal)
- Material settlement testing, thickness measuring, density testing and weighing
- Removable plexiglas door

\* Drill holes must be made after purchase, for example with the cylinder saw (Ø = 106.5).



Dry injection with hose



Dry injection with ventilated rotary nozzle



Opening the test element to examine the filling results.



Testing the density of the filled test element with the NW100 density testing set.

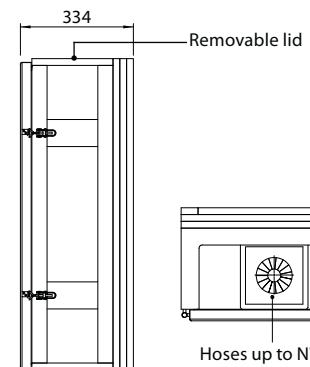
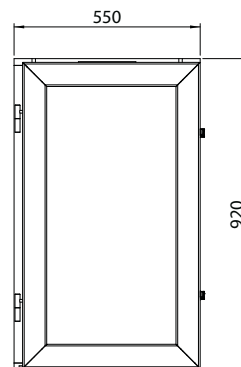


Open blowing with hose



Testing the thickness of open blown insulation with the thickness gauge.

Image	Description	Prod. no.
	Hole saw with core ejection system, Ø = 106.5 mm	4966
	Thickness gauge / test panel	1831
	NW100 density testing set with case, mains adaptor and hole saw	4349
	NW63/NW75 sealing sponge	292



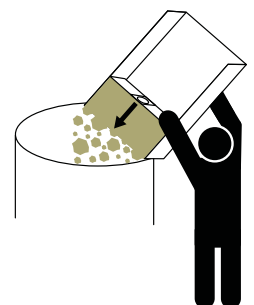
### Technical data

Product no. 3946

Test volume: 0.1 m<sup>3</sup>

W × D × H = 550 × 334 × 920 mm

Weight: approx. 26 kg



With its removable lid, the test element can be easily emptied.

## 0,0175 m<sup>3</sup> Test Element

- Test element for testing the installation density for blown-in mineral fibre cavity wall insulation according to EN 14064-2, annex C.
- Removable front panel for checking the installed insulation
- Practical locking device for quick emptying
- Increased stability thanks to an enlarged base.
- Handle for easy transport and handling.
- Robust multiplex material and reinforced metal rear wall opposite the injection hole.



Injection nozzle






Injection nozzle with ball valve

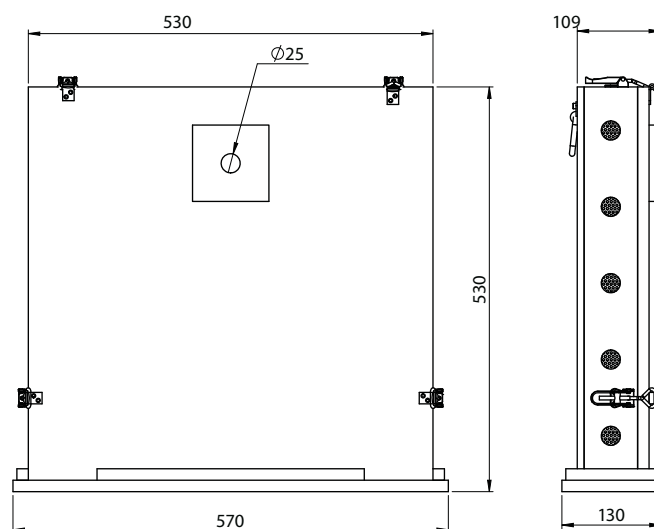


Opening the test element and inspecting the filling results.



Quality control with the digital scales

Image	Description	Prod. no.
	NW50>24 injection nozzle	3961
	NW50>24 injection nozzle with ball valve	5692
	Digital scales for the testing basket	4544



### Technical data

Product no. 5697

Test volume: 0.0175 m<sup>3</sup>

W × D × H = 570 × 130 × 530 mm

Weight: approx. 8 kg

# Impact Excitation Test Bench acc. to EN 15101-1



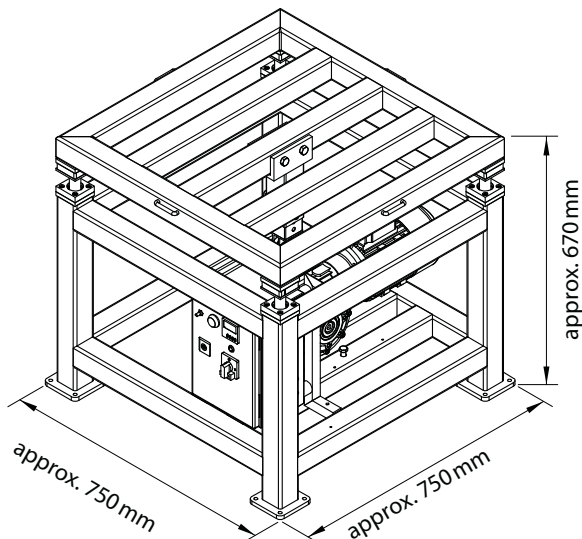
Including mounting links for tie-down of a testing element



Impact Excitation Test Bench finds out if any settlements arise under impact, especially for bulk fillings or open blown loose insulation materials like cellulose (LFCI). This testing apparatus corresponds to the guidelines of the standards ISO/CD 18393 and EN 15101-1.

The Impact Excitation Test Bench has a sturdy steel frame and is powder-coated. Four linear guide units ensure optimal guidance and a minimal lifting table drop resistance. The lift is adjustable to 6 positions, from 10 - 110 mm in 20 mm steps, and the cam speed is steplessly adjustable. Test cycles of 1 to 10,000 or more can be pre-selected. The test bench should be connected to a 230V / 50Hz power supply, with a power rating of approx. 0.8 kW.

The compact but robust square design can support a maximum load of up to approx. 60 kg. Testing frames such as the testing basket or test element can be easily clamped on using the four mounting links at the side of the bench.



- **Settlement determinations of**
  - ▶ Bulk filling with insulation materials
  - ▶ Open blown cellulose insulation material
  - ▶ Dry injected cellulose insulation material
- **According to the standards of ISO/CD 18393 and EN 15101-1**
- **Compatibly for testing basket (specimen box) 0.1 m<sup>3</sup> (Prod. no. 315)**

Technical Data	
Dimensions (L×W×H)	approx. 750×750×670 mm
Surface	Powder-coated RAL7035 (light grey)
Adjustable lift	10...110 mm
Lift levels	6 each 20 mm
Lifting speed	0.2 Hz...1.5 Hz
Test cycles	1... > 1000
Max. load	40 kg
Power rating	approx. 0.75 kW
Power supply	230V / 50Hz
Unladen weight	approx. 110 kg
Prod. no.	4179

## Accessories

Image	Description	Prod. no.
	Testing basket (specimen box) for loose insulation materials, V=0.1 m <sup>3</sup> , drilling hose Ø 90 mm	315
	Test element 0.1 m <sup>3</sup> for dry injection, injection hole up to Ø 90 mm hose	3946
	Bent-lever balance for testing basket (22kg) with tape rule	5983
	Digital scale for testing basket (40 kg)	4544
	Thickness gauges · Cellulose acc. to EN 15101-2 · Mineral wool (80g) acc. to EN 14064-2	1831 4932





- **Settlement determinations of**
  - ▶ Dry injected cellulose insulation materials (LFCI) and other blowing insulation materials
  - ▶ Blowing insulation in walls, roofs and roof pitches
- **According to the standard of EN 15101-1**
- **Compatibly test element (specimen box) 0.345/0.144 m<sup>3</sup> on request**



Four sturdy tie-down rings make the fixation of your test element possible

The Vibration Test Bench serves for settlement determinations under vibrations. Thermal insulations of walls, roofs and roof pitches which have been blown-in with cellulose fibre or other insulation blowing materials can be checked. This testing device corresponds to the guidelines of standard EN 15101-1.

The Vibration Test Bench has a sturdy steel frame and a powder-coated surface. The locating plate can be tilt over continuous from 0° to 90°. Consequently the settlement of thermal insulations in walls, roofs and roof pitches can be checked. A precise adjustment of the incline is possible with the angular arc gauge.

Vibrations up to 5220 Hz can be regulated. This makes tests possible which are more difficult than the most demanding realistic conditions. The device is dimensioned for lifelike specimen boxes. The particular test element can be fixed with lashing straps on the locating plate. A g stand fixes the test element in the vertical axis.

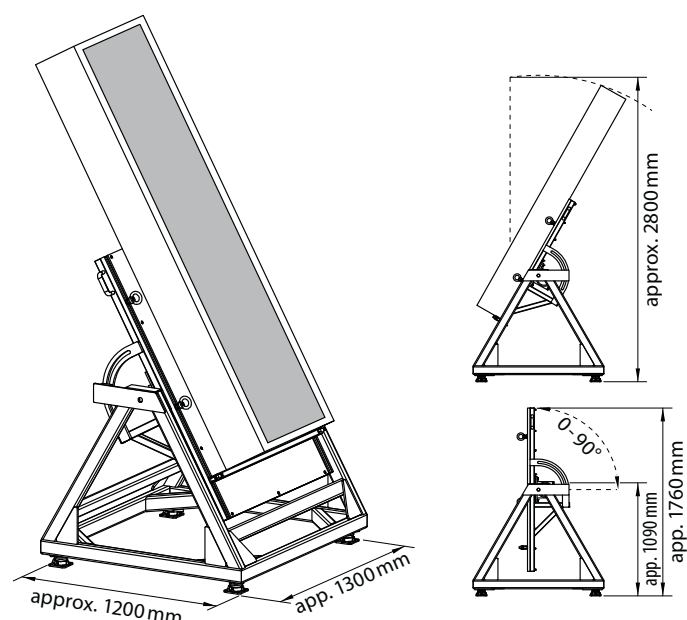
This testing apparatus has been developed in a long lasting collaboration with the Ludwig Maximilians University Munich.

## Technical Data

Dimensions (L x W x H./H <sub>2</sub> )	approx. 1200 x 1300 x 1090/1760 mm
Specimen box (W max./H max.)	1000/3000 mm
Surface	Powder-coated RAL7035 (light grey)
Swivel range	0 - 90°
Frequency max.	87 Hz
Vibrations max.	5220 Hz
Power rating	approx. 0.9 kW
Power supply	230 V / 50 Hz
Unladen weight	approx. 270 kg
Prod. no.	6342

## Accessories

Images	Description	Prod. no.
	Test element for vibration test bench acc. to DIN-EN 15101-1	6617
	Test element 0.1 m <sup>3</sup> for dry injection, injection holes up to Ø 90 mm	3946
	Density test set NW100: Checks of installation density of blow-in thermal insulation	3770



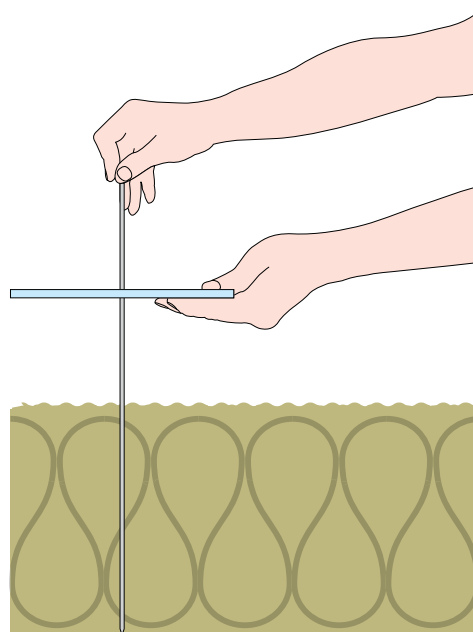
## Testing equipment

### Thickness Gauge/Test panel

The thickness gauge/test panel is used for determining installation thickness with openblowing.

Measuring tips:

- ▶ Smooth out any unevenness
- ▶ Push the test rod through the test panel, so there is a maximum distance between the test panel and the probe.
- ▶ Pierce to the bottom of the insulation layer with the test rod and test panel.
- ▶ Carefully lay the test panel on the insulation layer.
- ▶ Let the weight of the test panel rest
- ▶ Measure the length of the test rod from the top to the test panel.
- ▶ Repeat the test in different areas of the insulation (for example: in 10 different places), calculate the average.



**Prod. no. 4932** (acc. EN15101-2 und EN14064-2)



Thickness gauge/test (prod. no. 4932)

### Pressure Gauge

The blowing machine's blow-off can be checked using X-Floc's pressure gauge.

Measurement range: 0-0,6 bar

**Prod. no. 7079**



### Scale, Analog with Measuring Tape

Digital scales for weighing the testing basket or determining the density.

Measurement range: 0-22 kg

**Prod. no. 5983**



### Digital Scale

Digital scales for weighing the testing basket or determining the density.

Measurement range: 0-40 kg

**Prod. no. 4544**







### X-Floc Channel

See many product demos and tips on Youtube



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