

# Compaction control within 2 minutes!

## The Light Drop-Weight Tester HMP LFG<sup>pro</sup>



By means of the Light Drop-Weight Tester **HMP LFG<sup>pro</sup>** you are able to purposefully manage and control your compaction works and to improve the quality of your construction. This gives you confidence and saves time and money!

Determine the bearing capacity and compaction quality of soils and non-cohesive subbases now

fast,  
reliable,  
precise.

MADE  
IN  
GERMANY

Building calls for testing.

**HMP**  
Magdeburger Prüfgerätebau GmbH

versatile  
in use



easy  
to perform



fast and  
cost-effective



**HMP LFG<sup>pro</sup>**

Take advantage of the various fields of application. Convince your customer by means of the quality assurance proof for your construction projects, no matter whether in road or railway construction, earth works, quality protection in canal construction, compaction control within pipe trenches and cable ducts or testing of pavement bedding and foundation backfill.

With the Light Drop-Weight Tester **HMP LFG<sup>pro</sup>** the bearing capacity and compaction quality of subsoils can be measured within only 2 minutes – just place it, measure and evaluate.

### The test method

The dynamic plate load test by means of the Light Drop-Weight Tester enables an uncomplicated bearing capacity test and compaction control of soils, non-cohesive subbases and soil improvements.

Built-in soil layers can easily be tested without load abutment, facilitating quick assessments of test lots even under limited space conditions. The test method is suited for coarse-grain and mixed grain soils having a maximum grain size of 63mm and can be used to determine the dynamic modulus of deformation of soil in the range of  $E_{vd} = 15...70 \text{ MN/m}^2$ .

### Correlations

Comprehensive correlations to other test methods ensure the comparability:

#### Static Plate Load Test

(DIN 18134, BS 1377, ASTM D1194/1195/1196)

#### Proctor test

(DIN 18127, BS 1377, ASTM D698)

#### CBR

(DIN EN 13286-47, BS 1377, ASTM D1883-05)

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The compaction control is fast and easily realizable even under limited space conditions .

## Applications

- Road and railway construction, earth-moving
- Quality assurance in canal construction
- Compaction control in pipe trenches & cable ducts
- Testing of pavement bedding, foundation backfill
- Quality inspection in boreholes
- Testing of modulus of deformation within the framework of soil examination

## Applicable Codes

### TP BF-StB B 8.3 issue 2003

Engineering Code for Soil and Rock in Road Construction

**ZTV E-StB 09** German additional terms of contract and rules for earthwork in road construction.

**ZTV A-StB 97** German additional terms of contract and rules for excavation in traffic access

**RIL 836, Deutsche Bahn AG (NGT39)** Guideline for the use of the Light Drop-Weight Tester in railway construction

**UNE 103807-2:2008** Plate Load Test by means of the Light Drop Weight Tester – part 2: fixed plate, dm 2r = 300 Mn, method 2 (SPAIN)

**TB 10102-2004, J338-2004** Standard for soil testing in railway construction (CHINA)

**RVS 08.03.04 march2008** Compaction control by means of the dynamic plate load test (AUSTRIA)

## Intra-company monitoring

Being easy to handle and providing immediate measuring results, the Light Drop-Weight Tester **HMP LFGpro** is especially suited for monitoring intra-company operations. It facilitates quick decisions to continue construction work at the site.

Minimize your costs, by avoiding unnecessary compaction works but also optimize the quality of your construction project.

Convince your customer by proofing the quality assurance of your construction. Prevent f. e. expensive claims for compensation because of subsidences.

Document your measured data directly at the site via printout by means of the thermal printer or as protocol printout after transferring and reliable archiving the measurement series onto the PC.

The HMP LFG meets the standards according to German and international test specifications.

Lower costs

Higher quality



Magdeburger Prüfgerätebau GmbH

Only  
2 minutes  
per  
measurement!

unbeatably  
easy to use



**HMP LFG<sup>pro</sup>**

## Advantages

### Fast and cost saving

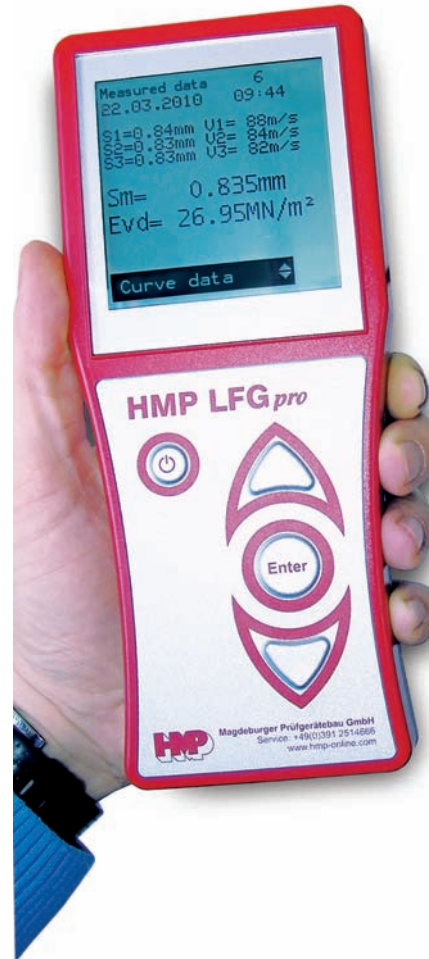
- minimal time required for the procedure only 2 minutes per measuring point
- no vehicle as counterweight necessary
- measurement result immediately available
- immediate documentation of the measurement at the site with printout

### Easy to use

- low self weight, few individual parts, ergonomic design
- easily operable and transportable by one person
- testing even possible in difficult-to-reach locations, f. e. trenches
- all measured data of a project are automatically stored and archived
- detailed correlations to other test methods exist

### Reliable and precise

- manufactured according to the state-of-the-art
- calibrated by approved calibration institute
- in use all over the world for more than 30 years



## Technical highlights

The Light Drop-Weight Tester **HMP LFG<sup>pro</sup>** is easily operable and transportable by one person – even without previous experience.

Thanks to latest technology the measuring instrument is

**small and portable,  
unbeatably easy to use,  
although very precise**

On the large, illuminated display you have all data at a glance. You are being guided through the menu comfortably. Directly print out the protocol immediately after measurement or transfer the measured data via USB for further processing to the PC. By means of the GPS-coordinates the measuring point can be exactly recorded.

**USB stick incl. video  
regarding its application**

On the supplied USB stick the videos regarding its application and the instruction manual are always available and quickly retrievable. And there is also enough storage capacity for many measurement series.



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## Function

The operation of the HMP LFGpro is very user-friendly, because already during engineering and developing care was taken to avoid faulty measurements because of an internal plausibility check.

The measuring process at the right shows the simple and fast performance of the measurement, which can be printed out directly at the site and saved on the USB stick for later printouts on the PC.

The backlit comfortable graphic display reliably guides you through the menu and in this way works are also possible even in bad light conditions.

In case of bad weather conditions the measuring instrument is of course splashproof and all parts of the device are surface-sealed.

Regarding the international communication for menu navigation one out of 13 languages can be chosen and also scale units are individually adjustable.

Video ► [www.hmp-online.com](http://www.hmp-online.com)



## Measuring process

### Set it up

- Level the test area
- Lay down the full-size load plate
- Put loading mechanism onto it
- Connect it with measuring instrument

### Measure

- Switch on, choose mode „Measuring“
- Follow the instructions in the display and perform successively 3 precompacting impacts & 3 measuring impacts
- The settlement is being displayed after each impact

### Evaluate

- All measured data and the E<sub>vd</sub>-value are being displayed after completion of the measurement series.
- Store and printout measurement



Large graphic display

Intuitive menu navigation



**HMP LFGpro**

Displayed in original size

HMP LFGpro 7029

**Measuring**

Measured data

Setting

GPS on

Meas.devi. ☐

Printer ☐

Measurement 1

07.07.2011 09:29

S1=0.39mm V1=149mm/s

S2=0.40mm V2=154mm/s

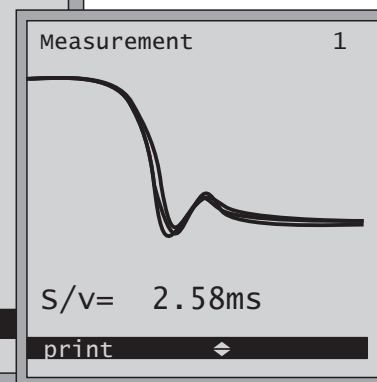
S3=0.39mm V3=150mm/s

Sm= 0.390mm

Evd= 57,69MN/m<sup>2</sup>

**Curve data** ◀

Animation ► [www.hmp-online.com](http://www.hmp-online.com)



**Intuitive menu navigation:**  
choose, confirm, done!

The menu navigation of the **HMP LFGpro** is very user-friendly. By means of the arrow keys choose a function and confirm it by pressing Enter. The active function is highlighted with a dark background.

To perform the test just follow the instructions in the display.

The state of charge of the measuring instrument and of the printer is shown in the start display. Warnings will also inform you about critical values, so that your testing device is always optimally ready for operation. In case that the GPS was activated, the coordinates of the measuring point are also indicated in the test protocol.

No.	Date	Time	Evd
1	12.03.	/09:29	57.7
2	12.03.	/09:40	56.3
3	12.03.	/10:24	51.0
4	15.03.	/08:34	51.9
5	15.03.	/08:52	57.0
6	16.03.	/12:54	55.5
7	16.03.	/13:07	55.1
8	16.03.	/13:14	55.8
9	16.03.	/13:21	57.6
10	16.03.	/13:27	53.3
Measurement 011-020			
Measurement 021-030			
back			

**Clearly arranged display**

Simple and fast selection of stored measurement series without endless quests.

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**display**

device

printer

back

HMP LFGpro 7029

**data**

time

language

contrast

backlight

back

HMP LFGpro 7029

drop weight 10kg

**GPS** EIN

unit MN/m<sup>2</sup>

graphics AUS

calibr. date AUS

back

**Individual adjustment possibilities**

Adjust the display and device configurations to your conditions. Choose one of 13 languages for the menu navigation and use familiar scale units.

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Contact details  
contractor





modular  
construction



robust  
and precise

**HMP LFG<sup>pro</sup>**



Because of the modular construction you only buy, what you actually need – the basic equipment for the efficient intra-company monitoring or the professional device for exact documentation.

An upgrade or modification is possible at any time fast and cost-effective.

**We guarantee a 10 year availability for accessories and spare parts.**

## Scope of supply

Light Drop-Weight Tester **HMP LFG<sup>pro</sup>**

- **Loading mechanism**, with bubble level
- **Load plate** with acceleration transducer
- **Electronic settlement measuring instrument** within protective aluminum case
  - interface for USB, thermal printer and GPS
  - **USB stick incl. video regarding its application** and instruction manual
  - large, illuminated graphic display (65x65 mm)
  - internal memory for up to 1000 measurement series
  - external memory on USB stick (2GB)
  - intuitive menu navigation, 13 languages selectable
  - 4 x R6 batteries (no accu charging time!)
  - internal plausibility check, signal tone
  - splash proof, connection cable with high-quality LEMO-connector
  - display and storage of settlement values, settlement speed and -curves, deformation modulus  $E_{vd}$

**optional:**

- **Thermal printer**  
incl. charging unit, charging cable and 5 rolls of thermal paper
- **Software** for comfortable evaluation, archiving and protocol creation  
incl. PC-connecting cable, instruction manual
- **GPS-Receiver**  
for capturing the measuring point coordinates

## Specifications

### Loading Mechanism

- Total weight 15,0 kg
- Drop weight 10,0 kg
- Max. impact force 7,07 kN
- Duration of impact  $17,0 \pm 1,5$  ms
- Material zinc coated/hard-chrome plated steel
- Spring element disk springs

### Load plate

- Diameter 300 mm
- Plate thickness 20,0 mm
- Total weight 15,0 kg
- Material zinc coated steel

### Electronic settlement measuring instrument

- Interface for USB, thermal printer and GPS
- Power supply 4 X R6 Batteries
- Dimensions 216 mm X 92 mm X 40 mm
- Settlement measuring range 0,1- 2,0 mm  $\pm$  0,02 mm
- Measuring range  $E_{vd}$   $E_{vd} < 225$  MN/m<sup>2</sup>
- Temperature range 0 bis 40 °C
- Storage capacity internal 1000 measurement series
- Menu navigation selectable (German, English, Polish, Czech, Russian, Lithuanian, Spanish, French, Serbian, Italian, Netherlands, Chinese)

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## Accessories



### ■ Thermal printer

small, quick printer with light resistant thermal paper. The state of charge of the printer is shown in the display of the settlement measuring instrument. The actuation is performed automatically. In this way you document your measuring results directly at the site.



### ■ robust transport box

of wood for safe keeping of the device and its transportation



### ■ Software

on USB stick, for comfortable evaluation and processing of the measurement series. Add your details regarding the measuring point and take advantage of the clearly arranged user interface to create and archive representative A4 test protocols



### ■ External GPS-Receiver from GARMIN

to proof the exact coordinates of the measuring point, highly sensitive, positioning accuracy up to 3m



### ■ Magnetic base plate

for a clean and safe putting down of the loading mechanism. Then you have both hands free, to align the load plate.



### ■ Transport cart

for the comfortable transport of the Light Drop-Weight Tester at the site to the corresponding measuring points. The transport cart is space saving, foldable, small enough to fit into the trunk - device and accessories are safely stored but still immediately ready for use.





30 years  
of experience

In use  
all over  
the world.



**HMP LFG<sup>pro</sup>**



HMP LFG Prototype  
**1981**

**HMP LFG<sup>pro</sup>**  
**2011**

The independent research- and development department in the company HMP and the cooperation with renowned institutes, f. e. the Fraunhofer Institute Magdeburg guarantee the constant further development of the HMP LFG.

30 years of experience and an independent service division with calibration institute ensure you an All-round service and an operational readiness of your device for years!

Both for basic equipment for the efficient intra-company monitoring or professional device for exact documentation – only buy, what you actually need. Because of the modular construction of the HMP testing equipment an upgrade or modification is possible at any time fast and cost-effective.

**That you can rely on:**

- German production certified according to DIN EN ISO 9001
- calibrated by the in-house certified calibration institute
- 2 years of guarantee, 10 years of spare part availability
- 30 years of experience in development, production and service
- trained distribution partner in your vicinity

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## HMP

The HMP Magdeburger Prüfgerätebau GmbH is market leader in the field of soil-mechanical test equipment.

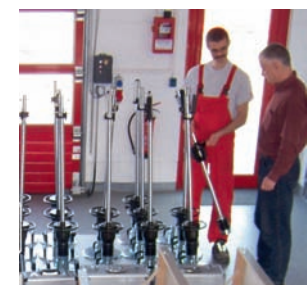
As a medium-sized family business in its second generation we rely on continuity, reliability, confidence and innovation.

30 years of experience in development, production and service, certified quality standards and latest production conditions make us to a competent partner for the construction industry.

The from us developed testing equipment, as the Dynamic Plate Load Tester HMP LFG and the Static Plate Load Tester HMP PDG are being used all over the world for compaction control and bearing capacity tests at the soil examination.

We only manufacture in Germany and trust in regional suppliers on the basis of strict certification rules.

The HMP GmbH is a from the Federal Highway Research Institute (BAST) approved calibration institute for dynamic plate load tester.



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Calibration  
INSTITUTE  
authorised by the  
Federal Highway  
Research Institute



Magdeburger Prüfgerätebau GmbH





Magdeburger Prüfgerätebau GmbH

**Development, Production and Service -**  
Soil-mechanical test equipment

HMP LFG - Dynamic Plate Load Tester  
HMP PDG - Static Plate Load Tester  
HMP SON - Logging and evaluation unit  
for penetrometer  
HMP DEN - Soil densitometer

**Distribution -**

Tester for road construction, concrete  
construction, refurbishment of buildings,  
laboratory equipment



[www.hmp-online.com](http://www.hmp-online.com)

Information, video AND animation

Contact



Precision from passion.