Box 7454, SE-103 92 Stockholm, SWEDEN http://www.geodynamik.com
Tel: +46 8 20 67 90 Fax: +46 8 20 67 95 E-mail: Info@geodynamik.com

GEODYNAMIK

0605

Compactometer™

- One step to a smarter and more effective roller -

Benefits to the customer

- **CMV - standardized value for *bearing capacity***
- **Over 3000 units installed worldwide**
- **Available in different configurations**
- **Small size** - can be integrated into the dashboard
- **Custom design** is possible
- **Expandable** into Compaction Documentation System™
- **Original Geodynamik invention!**

System principle

The **Compactometer** is based on the principle that the more compact the soil, the more rebound it gives on impact.

A sensor mounted on the drum bearing plate continuously measures impact forces which arise when the vibrating drum works on the surface. Signals from the sensor change in character as the ground becomes harder and more stable during compaction.

These signals are converted into values which indicate a relative measure of the *bearing capacity* of the ground. Sometimes this value needs to be calibrated into a specified *density* (degree of compaction).

The bearing capacity expressed in a "modulus of elasticity" is a measure of the ability to carry a load. One might say that bearing capacity is a better measure of the strength in soil construction than the density.

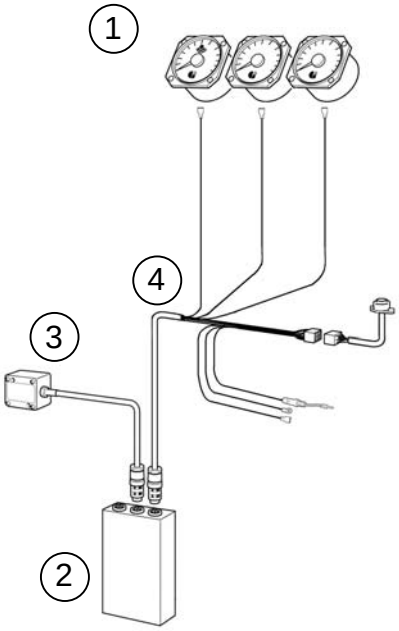
Typical CMV

The **Compactometer** normally gives the following **C**ompaction **M**eter **V**alues (CMV) for different typical soils in a compacted state.

SOIL TYPE	CMV
Rock fill	60 - 100
Gravel	30 - 80
Sand	20 - 50
Clay and silt	5 - 30

Clays and silts are sensitive to water content variations and the bearing capacity can be very low when the water content is higher than the optimum water content. This will of course also be reflected in the observed CMV.

Vibration *frequency* and *amplitude*, rolling *speed* and *direction* will influence CMV to a certain extent and should therefore be kept constant during measurements.



The shown system includes

1. **Dials/gauges, 3 pcs**
   - **CMV, C**ompaction **M**eter **V**alue
   - **RMV, R**esonance **M**eter **V**alue**(**double jump indication**)**
   - **Frequency,** Vibration frequency in Hertz
2. **Processor**
3. **A-sensor**
4. **Power/Instrument cable**

Other configurations available on request

Benefits for the end user

Time and money savings

- *Reduce* the number of *roller passes* by preventing over-compaction!
- *Selection* of representative locations for *spot tests* possible - reduces the number of tests!
- Increase the roller's *lifetime* by early warning of double jumps!

Quality assurance

- Attain a *uniform compaction*!
- *Improve compaction* by preventing reloosening and overcompaction!
- Increased competence will increase the *motivation*!