Directed Vibration.
Cut costs with Total Compaction Quality Management.
Low-vibration compaction:
Ideal for bridge deck work
Optimised compaction – higher quality with lower costs.

Today, asphalt road specifications place high importance on load bearing, surface tolerances and texture. At the same time cost pressures continue to increase on contractors. To produce high quality with low costs you need versatile rollers that can be used to their full capacity and where compaction performance is continuously monitored and optimised.

For many years BOMAG has lead the way with vibration systems that automatically control, optimise and document compaction. The core of these systems is based on directed vibration.

Directed vibration –
Increasing the utility of your roller.

The BOMAG directed vibrator system consists of two counter-rotating eccentric weights.

The centrifugal forces generated by these weights are magnified if they are focused in the same direction (directed vibration) and are neutralised when acting in the opposite direction.

By re-orienting the entire exciter system including the eccentric weights the effective direction of vibration can be altered. The system can be turned progressively towards the travel direction and is automatically re-adjusted.

If the compaction force is directed vertically an enhanced depth effect will be created using maximum compaction output. In contrast reduced depth penetration is produced with horizontally directed vibration. This creates low-vibration surface compaction which is particularly suited to thin layers or sensitive materials. This mode is used on applications such as bridge-decks, where low vibration impact on the surrounding area is important. The progressive adjustment of vibration direction between the two extremes (horizontal and vertical) offers an enormous range of compaction performance and depth effect to suit every application type.
BOMAG ASPHALT MANAGER –
Your guarantee of compaction quality.

The BOMAG ASPHALT MANAGER system monitors compaction progress and adjusts compaction performance many times a second in automatic mode. This eliminates drum bounce and operator error. The soil stiffness and compaction progress, surface temperature, travel speed, exciter frequency and selected amplitude are continuously displayed to the roller operator and can be printed out on-site using the data recorder.

More from ASPHALT MANAGER: The roller can be used for testing and documenting the subgrade
ASPHALT MANAGER requires no special user training; the control panel is self-explanatory. The driver uses automatic mode for 90% of all applications. Maximum amplitude can be limited to three levels for different layer thicknesses. Compaction force is then automatically adjusted to the stiffness of the material being compacted. Of course, the roller driver can also select manual instead of automatic mode, e.g. the horizontally directed vibration shown above.

Directed vibration with ASPHALT MANAGER offers both surface compaction control and continuous documentation and position location in combination with GPS and BCM (BOMAG Compaction Manager).

Low-vibration surface compaction with horizontally directed vibration. Ideal for inner-city use, close to structures and on bridge work.
Oscillation is reciprocating vibration where the drum is in contact with the ground at all times. It has minimal depth effect and is similar to static compaction. Oscillation cannot automatically reduce compaction where there is a risk of overcompaction.

Vibration is generated using a sensitive, infinitely adjustable directed vibrator in the front drum which produces from low-vibration surface compaction up to deep-acting high-performance compaction. Directed vibration automatically limits compaction where there is a risk of overcompaction.

2. Is oscillation safer to use in sensitive areas? – NO!!

For example on bridge work:

Vibration with ASPHALT MANAGER can be adjusted sensitively and progressively with low-vibration, and easily works with low forces in the same way as oscillation.
3. Which technology will give me the best surface finish?

With its rotary vibration, **oscillation** produces a “sandpaper effect”, possibly giving “polished” surface finishes. Oscillation is only effective with non-split drum rollers; too high shearing forces at the drum edges when rolling on bends can lead to asphalt damage.

**Vibration** does not create the “sandpaper effect”; it is available on split drum rollers and gives superior compaction and asphalt surface finish on bends.

4. What if I need to compact thin surface layers as well as binder and base layers?

**Oscillation** produces a shallow depth effect. The force is non-adjustable and cannot be matched to the subsurface.

On the other hand, **vibration** can be progressively adjusted with ASPHALT MANAGER either automatically or manually, and the system will display compaction progress to the roller driver.

5. How can I safeguard and document the quality of my work?

Systems with **oscillation** do not feature surface compaction control.

**Vibration** with ASPHALT MANAGER offers the option of surface control and continuous documentation – plus positioning if combined with GPS.