



# RIC Range

**RIC is a technique allied to Dynamic Compaction that can be used to increase the bearing capacity of soils through controlled impact.**

The treatment is effective in the top layers typically up to 6m depth, though improvements up to 9m have been seen in some conditions. A drop weight of 9 to 16 tonnes (depending on size) is dropped onto a special foot assembly 40-60 times a minute. The foot remains in contact with the ground at all times.



**Dropweight Mass  
9000-16000 kg**



**Hammer Energy  
110-240 kN.m**



**BSP-TEX LTD**  
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**SPEED**

The unit is mounted on standard excavators, typically in the 40-90 tonne class and can be mobilised in minutes from arrival on site.

**CONTROL**

The machine is accurately controlled from the excavator cab and the degree of compaction electronically monitored.

**SAFETY**

The impact foot is in contact with the ground at all times and eliminates the risk of flying debris. Unlike conventional DC, other activities can take place in close proximity.

**QUALITY**

The impact energy and soil deflection are recorded by the on-board computer for presentation of compaction data to site managers. The data can highlight weak zones where extra fill is required or zones where underground obstructions were present (i.e. previously hidden old foundations).

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**Above:** Within a single shift of say 10 hours, expect to spend 70% compacting with the remaining time given to dolley changing, routine maintenance and site preparation/layout.

**Left:** BSP-TEX offer sound attenuation for its RIC Mk. 3 range of Rapid Impact Compactors.

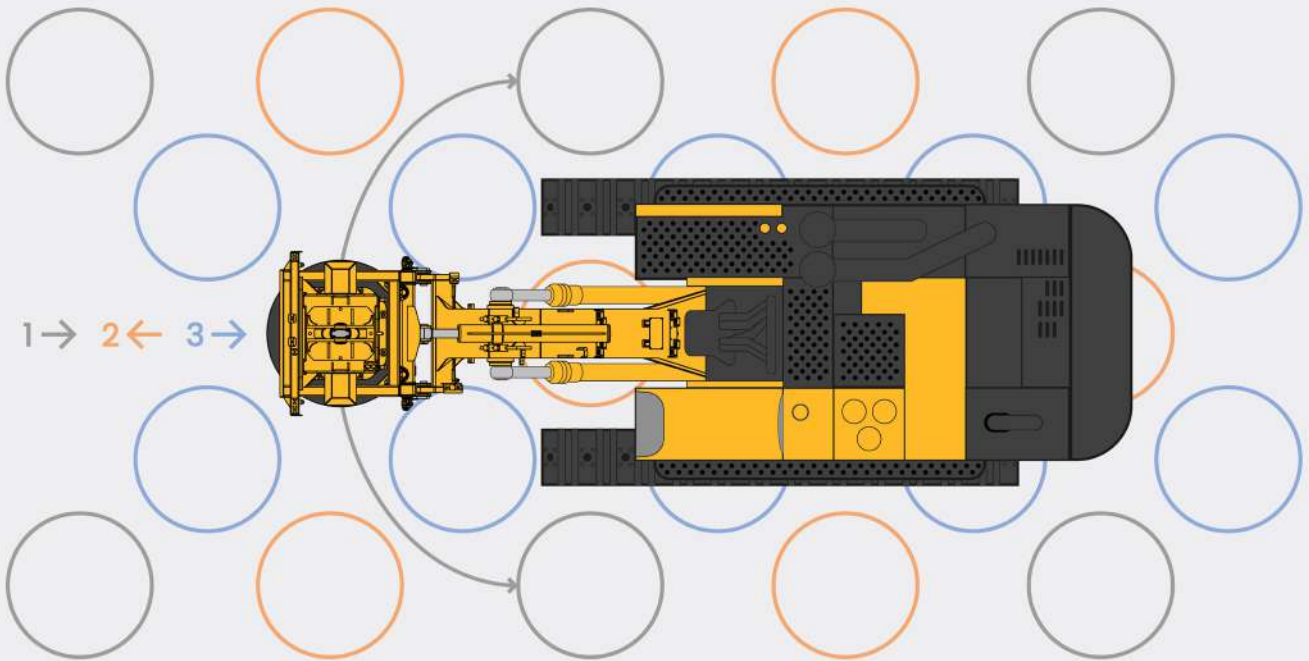


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The method for efficiently covering the ground varies from country to country. A common pattern used to cover uses a track in three passes (see diagram above). The outer (grey) points being compacted first, followed by the intermediate (orange) lastly the infilling (blue) positions. This has the effect of achieving the best depth of influence. The first pass effecting the ground to a deeper level than the latter.

**Above:** Typical method of RIC ground coverage.

**RIC is potentially twice as fast and at least 40% cheaper than conventional methods.**

Most granular fills and some silts are compactable, the best results being achieved where the fill is well-graded particle size. An area of 800m<sup>2</sup>-2500m<sup>2</sup> can be covered in an average day (depending on the 'blow-perposition' setting.) This also allows time for routine maintenance and rotation of the special dolley pads located in the foot assembly which transfers the force of the blow through to the ground.



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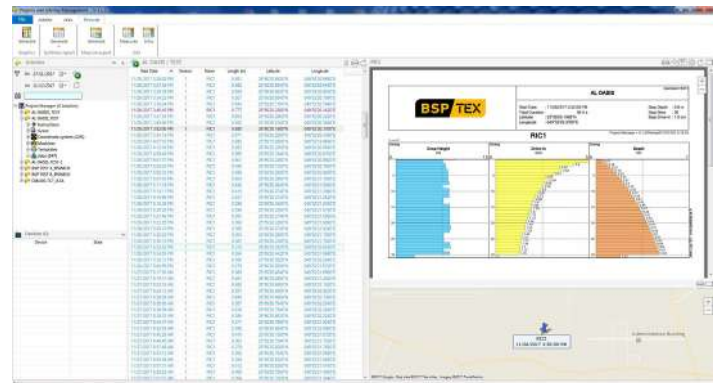


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A monitor unit is used to record work done. Target criteria settings are adjusted for final set, depth and blow counts. The driver then compacts until one of those criteria is reached before moving the machine on. A visual representation of the data is seen in the cab and recorded by the on-board monitor.

A GPS receiver option is available and GPS coordinates may be added to the compaction points. This allows the data logged to be precisely allocated to real position. Data presentations to the client can then be greatly enhanced.



**Above:** Data logging equipment is used for RIC monitoring, providing visual representation and reporting.



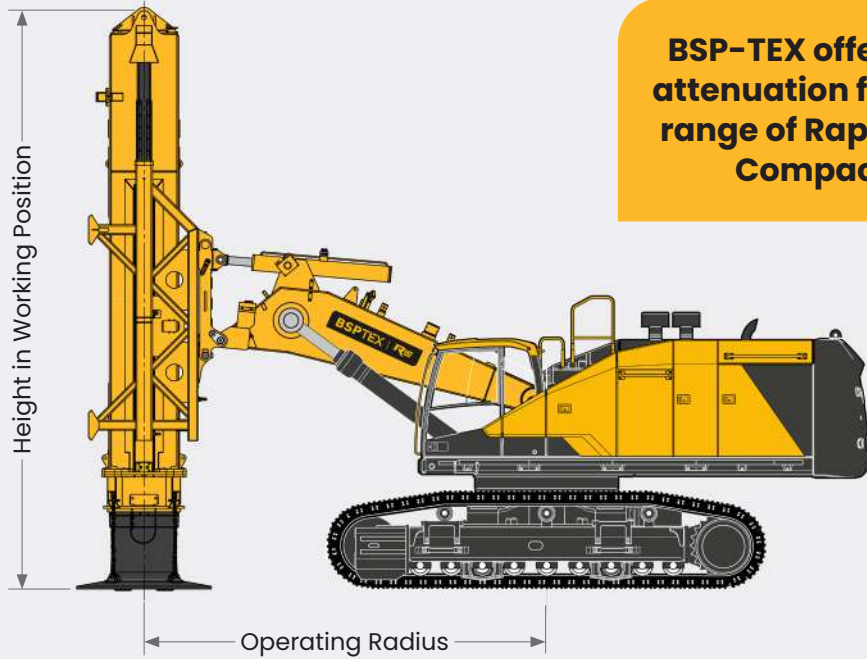
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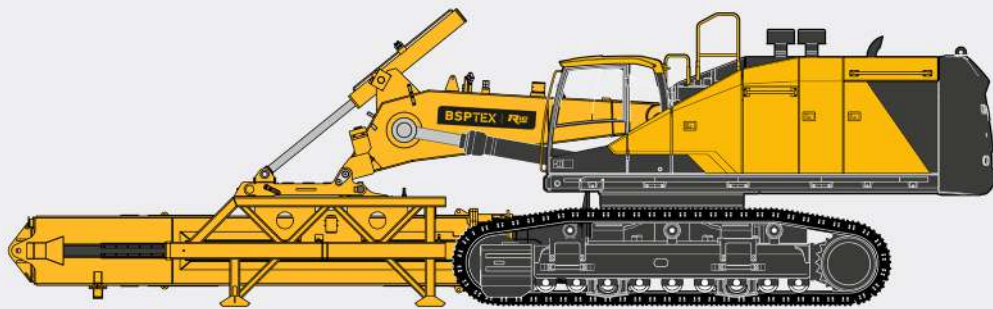
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**BSP-TEX offers sound attenuation for its Mk.3 range of Rapid Impact Compactors.**



BSP-TEX reserve the right to amend specifications at any time.

<b>RIC Specifications</b>	<b>RIC9000 Mk.2</b>	<b>RIC9000 Mk.3</b>	<b>RIC1200 Mk.2</b>	<b>RIC16000 Mk.2</b>
Dropweight Mass (kg)	9000	9000	12000	16000
Hammer Energy (kN.m)	110	110	180	240
Max Equivalent Stroke (m)	1.2	1.2	1.5	1.5
Operating Pressure (bar)	260	260	120	200
Hyd. Oil Flow Req. (L/min)	250	250	160	180
Optimum Blow Rate	35	35	35	35
Working Height (m)	-	-	-	-
Lowered Length (m)	-	-	-	-
Noise Suppression	No	Yes	No	No
Compatible Excavators (T)	45-52	48-55	55-70	75-85
Typ. Depth of Influence (m)	3-5	3-5	4-7	5-8



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RIC activities can be combined with other soil improvement techniques to provide a cost effective solution for silty/clay conditions. This essentially includes soil mixing and stone columns. To make best use of the base excavator, BSP-TEX offer a mast and drill attachment for the RIC9000 boom, that enable shallow holes to be drilled with either CFA or displacement type tools. Filled with stone, these columns can be subsequently treated by RIC to produce a more effective load bearing foundation.

**Above:** Accessories for the RIC9000 boom include a MX45-8 mast, drill tools (left) and vibro-flot (right).

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- **Can be fitted to existing range of RIC9000 compactors**
- **Can be tailored for sheet or tube piles**
- **No reduction in performance**
- **Easily removed panels for maintenance**

**MX45-8 Mast\***

Mast Length (m)	10-14
Maximum Tool Length (m)	8-12
Maximum Penetration depth (m)	7-11

**SD70 Gearbox for Anchors & Pre-Drilling\***

Torque (N.m)	35.7-71.5
Speed (rpm)	50-25
Operating Pressure (bar)	297
Hyd. Oil Flow required (L/min)	380
Auger Dia. Typ. (mm)	300-650

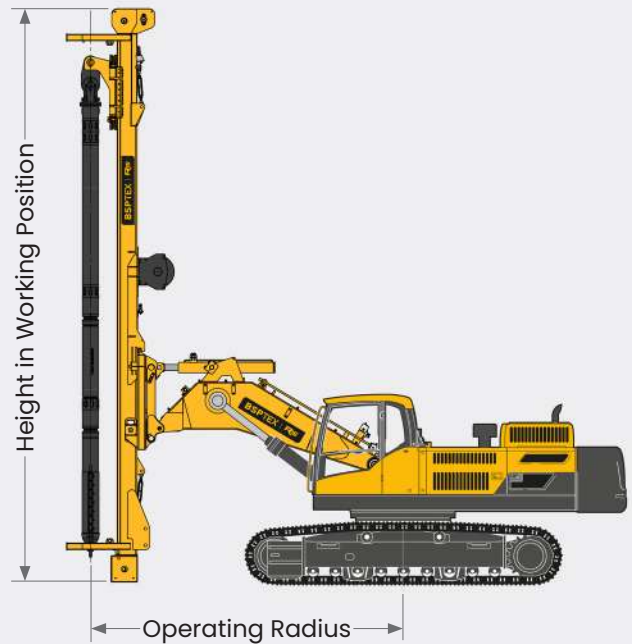
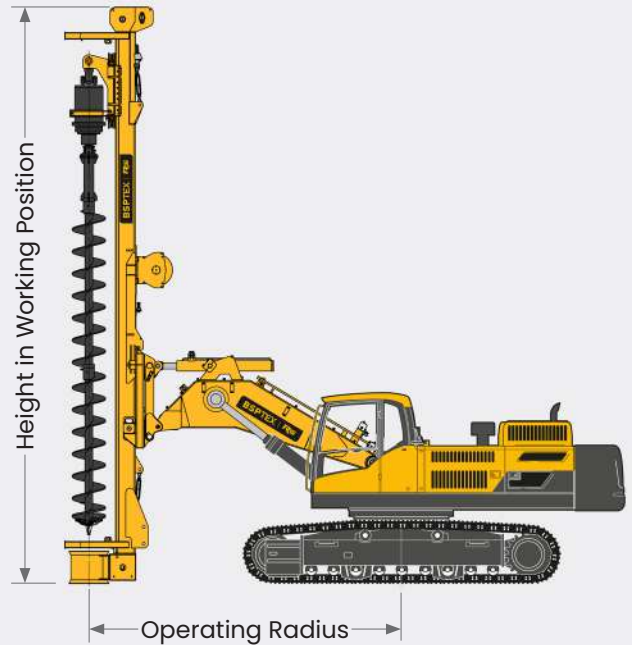
**RPH7 Rotary Table for CFA & Pre-Drilling\***

Torque (N.m)	19-83
Speed (rpm)	70-19
Operating Pressure (bar)	320
Hyd. Oil Flow required (L/min)	270
Auger Dia. Typ. (mm)	300-650

**BD300 Vibro-Flot for Top Feed Columns\***

Diameter (mm)	310
Centrifugal Force (kN)	175-252
Frequency (Hz)	30-36
Operating Pressure (bar)	325
Hyd. Oil Flow required (L/min)	230

\*For use on the same boom as RIC9000.



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