



technical specifications

AQUEEL II

The Aqueel II rollers are available using two frame designs. A two section vertical fold single press frame would be the most suitable for applications where the Aqueel II is towed in tandem with another cultivator. The three section horizontal fold frame would generally be used when the Aqueel II is used as an implement on its own for example, as a direct replacement for a Cambridge Roll.



2-Section Vertical Fold

Working Width	Transport Width	Transport Height	No. of Sections	Weight (Kg)	Power Req. (Hp)
4.2m	2.95m	2.9m	2	1675	65
4.6m	2.95m	3.1m	2	1800	70
5.5m	2.95m	3.4m	2	2100	80
6.6m	2.95m	3.9m	2	2300	100
7.6m	2.95m	4.1m	2	2540	110
8.2m	2.95m	4.4m	2	2700	120

3-Section Horizontal Fold

Working Width	Transport Width	Transport Height	No. of Sections	Weight (Kg)	Power Req. (Hp)
4.4m	2.5m	1.8m	3	2100	70
5.6m	2.5m	1.8m	3	2500	90
6.5m	2.5m	1.8m	3	2700	110
7.4m	2.5m	1.8m	3	2900	120
8.3m	2.5m	1.8m	3	3100	130



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PROFIT THROUGH INNOVATION



AQUEEL II



Consolidates, conserves and keeps on rolling - even in damp conditions



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Consolidation - a key element in modern crop establishment



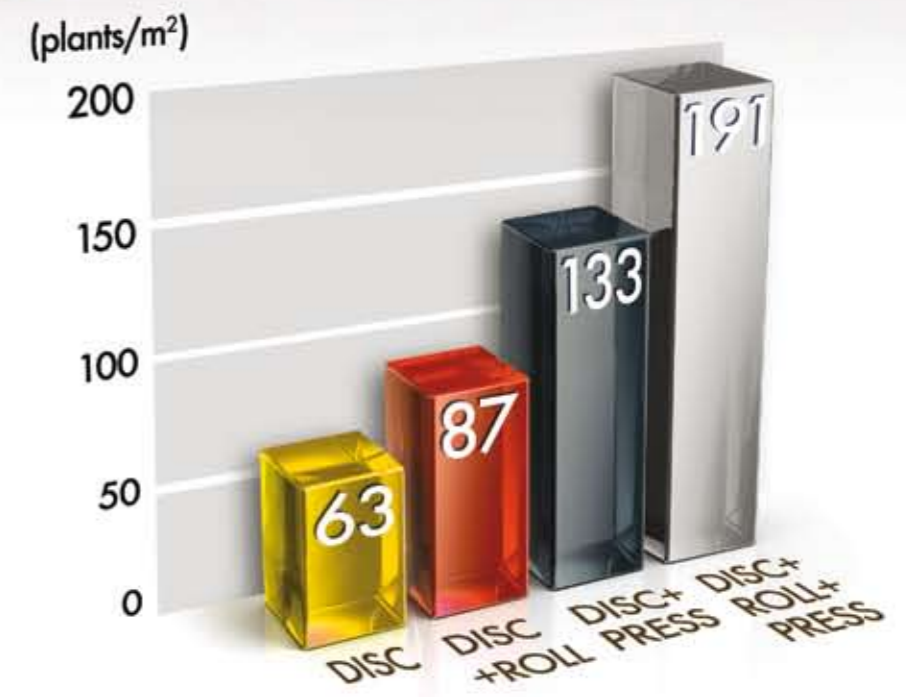
AQUEEL II



Consolidation is the process of bringing soil aggregates and particles closer together, reducing air filled porosity and increasing soil density. This process plays a crucial but often underestimated part in modern crop establishment methods although rolling elements are constantly being refined and improved to further exploit the benefits consolidation provides.

Current thinking suggests that for optimum seed germination, especially when sown on or near the surface, rolling the surface through to depth gives the best results and the chart below illustrates this.

Germination in Stale Seedbeds



Countering the effects of wind and water erosion

Innovative and patented components such as Simba's DD ring combine the action of a surface roller and traditional cast ring press but this type of finish is not always suitable, post drilling. In addition and on fine soils it is often desirable to leave surface depressions in an attempt to reduce wind and more particularly water erosion, which is becoming a serious environmental threat, and potentially a cross compliance issue.

Another limitation with current consolidating devices is an inability to operate in damp conditions due to the soil 'picking up' on the individual

soil engaging elements. Cambridge rolling for example is often limited by surface moisture and farmers frequently have to wait for the soil to 'dry out' before rolling, resulting in valuable moisture not going into the crop but being lost into the atmosphere.

It has also been scientifically proven that a soil surface left with a series of indentations is less prone to capping. This is due to the fact that during wetting and drying, the soil surface moves in opposing directions causing cracks to develop naturally which then assist seedling emergence.



Introducing the **Aqueel II** from Simba

- consolidates and protects against erosion in a single pass



Emergence on Aqueel II is unaffected as shown here on both wheat and oilseed rape

AQUEEL II



Non-stick properties - no scrapers required

The rubber carcass has a degree of flexibility which encourages moist soil to peel off and therefore self clean without needing scrapers. This avoids downtime adjusting and cleaning them and eliminates their 'braking' effect.

The Aqueel II's non-stick properties mean it can be used immediately after cultivations and drilling, whereas on many occasions a traditional Cambridge roll, for example, cannot be used for one or two days for fear of blocking on freshly worked, moist soil.

Achieving effective consolidation so soon after drilling optimises crop

germination as soil to seed contact is guaranteed, which benefits the crops subsequent development.

The 'saucers', with their central divot, do not inhibit emergence, plants emerge straight through them, users report that overall plant populations are the same where the Aqueel II has been used as where any other form of final consolidation has been chosen.

The Aqueel II also leaves a well levelled surface, which improves the efficacy of pre-emergence herbicides. The durability and weight of the Aqueel II also ensures that stones are pushed down into the seedbed so they do not hamper subsequent field operations, especially harvesting.

- Ensures optimum soil to seed/root contact
- Minimal moisture loss
- Improved drainage and water infiltration
- Reduced soil erosion
- Can be operated even in damp conditions and immediately after drilling
- No clogging up - no scrapers required

A closer look at Aqueel II

The design of Aqueel is unique, allowing the full soil surface to be firmed, whilst also flexing to predetermined limits set by the black bead spacer (see graphic left) for self cleaning properties. The inner tooth stop (green) limits the total tooth (red) inward deflection under load (see bottom of graphic). This in turn allows the tyre carcass between adjacent teeth (red) to partially flex, until it is suspended between adjacent teeth in ground contact

This 'suspension' then forces the tyre carcass to firm the soil around the teeth depressions creating the 'funnel' or 'saucer' surface contouring effect which channels water into these indentations. The tyre surface (blue) is specially moulded to achieve a durable smooth surface onto which the teeth are fixed. The bead spacers (black) maintain the correct wheel alignment on the roller tube, plus eliminate dirt ingress by sealing around the tyre beads.

Unique design

Developed over many years the Aqueel II is a remanufactured tyre carcass, onto which durable rubber teeth are attached. As well as crushing clods, these teeth press small reservoirs in the soil that catch water and retain it on the seedbed, preventing it from running off and carrying away valuable soil, residual chemicals and nutrients with it.

By pressing a lattice of small indentations in the soil surface the Aqueel II prevents lateral water movement. Furthermore, the roller can be used immediately after drilling, maximising the conservation of valuable moisture.





Ideal for a range of applications



Aqueel II is available in two machine configurations and suitable for a range of applications.

Configuration 1 2 section vertical folding

This frame design is ideal when an Aqueel II roller is trailed behind a primary cultivator such as the new Simba SL range.

In this situation the ground is rolled even when moist and therefore if a towing machine is applying oilseed rape the Aqueel II consolidates

the ground instantly virtually eliminating moisture loss. The two section roll folds easily behind the trailing machine and is stable during road transport or when moving from field to field. An optional weight pack can be added to the Aqueel in this configuration when conditions are dry and hard. In this format working widths of 4.2m to 8.2m are available.



Configuration 2 3 section horizontal folding

This frame design is generally more suitable as a direct substitute for a conventional Cambridge Roll, as it is lighter and not designed for high speeds.

This configuration comes in three sections ensuring a total rolled surface with no gaps between the gangs. This frame is also less expensive to manufacture thus making it a viable alternative to Cambridge Rolls. Working widths vary between 4.4m and 8.3m.

