







# The Koro Story

The brainchild of Ko Rodenburg, the Koro range of machinery came to market in 1997, with the KORO® FieldTopMaker® (FTM®) as the key machine in a renovation programme designed to improve pitch quality and extend playing hours on natural turf soccer pitches. The acquisition of the manufacturing rights by Imants BV in 2009, and the fine-tuning of the "Fraize Mowing" renovation practices, has led to the design of a new range of rotors by Campey Turf Care Systems and Imants BV.

Campey Turf Care Systems has been at the fore in developing the KORO® FTM® into a system that can be used on a wide range of surfaces for a number of different renovation practices. "Koro-ing" is now an established renovation practice worldwide!

# Conventional Scarifying & Verticutting

The KORO® FieldTopMaker® when fitted with the Scarification Rotor, can be used for conventional scarification/verticutting, conveying the excess thatch into an adjacent trailer/truck. The

4 different models now available

A model to suit any size tractor 35hp+

extra collection capacity is far more efficient than an integrated hopper and greatly increases productivity, especially if two or more trailers can be utilised

The Scarification Rotor can be fitted with either 3mm tungsten tipped blades (for all models of FTM) for fairways and sports fields, while the rotor for the FTM1200 and FTM1600 can be fitted with 1.5mm blades for finer turf. Integrated adjustable brush strips are fitted to improve collection and surface hygiene. A mid-mounted, antiscalping roller is available for undulating ground.



When scarifying large areas like sports fields and golf course fairways with a conventional scarifier/collector, emptying the hopper is often the job that takes the longest time. Using a KORO® FieldTopMaker® with elevator, in conjunction with a larger trailer will minimise the down-time. Using two or more trailers prevents work being interrupted, and allows the scarifying to continue while alternate trailers are being emptied.

## KORO® FTM®

#### At the cutting edge of sports turf care technology

The KORO® FTM® is a heavy-duty fraise mower, for removing unwanted surface matter such as poa annua, thatch, weeds or the entire surface to a depth of 50mm. A sidearm conveyor removes debris directly into a trailer, leaving a level even surface. The FTM® is designed for maximum efficiency for sports turf applications like football & rugby pitches, turf farms, etc. An easily fitted scarifying rotor allows the FTM® to be used as a heavy-duty scarifier with optional mid-mounted roller for undulating ground.

Once exposed to sunlight by removal of the canopy, re-generation is rapid, often with full recovery in 3-4 weeks. Removing the thatch and organic debris minimises water retention at the surface, ensuring that any available water passes directly to the rootzone.





### The original and best just got better

# THE REMASTERED KORO® FTM RANGE

The indisputable success of the KORO® FIELDTOPMAKER® across all sports surfaces has helped produce healthier turf through greatly improved surface hygiene, and the remastered 1.2m, 1.6m, 2.0m and 2.5m models build on that success.

To make the machines more user-friendly for golf the weight and balance have been analysed, resulting in a lighter, steadier experience. Solid locking pins now offer greater consistency and the overall performance is improved due to the re-designed patented UNIVERSE® rotor and angled cross conveyor.

The new angled cross conveyor has been introduced to move material evenly with perfect belt tracking, while the weight of the machines has been reduced using a removable 100kg that greatly improves the overall weight balance.

This redistribution of weight means a much smaller tractor can be used to run the KORO® FTM®, because the centre of gravity has been shifted towards the tractor making it easier to lift. Even when the weight is removed the machine still has improved balanced against previous models.

Maintaining the new range of KORO® FTM®'s has also been enhanced to ensure working reliability. A modular set-up allows the machine to run without belts and the strong state of the art driveline is maintenance free.

All of the range can facilitate the enhanced patented UNIVERSE® rotor which offers improved clean up and greater surface hygiene. Previous rotors will fit on the 2.0m and 2.5m models but not on the 1.2m or 1.6m.



UNIVERSE® Rotor





### UNIVERSE® Rotor

Patent No. W02013/027005

Further research and testing on different sports turf and grasses, to see how long the recovery time was in different situations, lead to the development of different thicknesses of UNIVERSE® blades. 5mm and 3mm blades were developed for KORO® UNIVERSE® Finesse mowing, which will deliver a more refined finish, the working depth of the rotors can be set with infinite precision.

All 3 blades can be used on natural turf, on both cool and warm season grasses for KORO® UNIVERSE® Finesse Mowing, or KORO® UNIVERSE® Fraze Mowing.

### For Synthetic / Hybrid Surfaces

The UNIVERSE® rotor was initially developed for the removal of the organic build up from the surface of the semi-synthetic natural turf pitches that are now common in professional stadiums around the world.

The UNIVERSE® rotor (fitted with 10mm blades) achieves excellent surface hygiene without damaging the exposed synthetic/hybrid fibres. In one pass the whole annual renovation process to include dressing with 40/50 ton of sand, fertilising and overseeding could be carried out in one day instead of 4/5 days, with the process known as Koro UNIVERSE® Fraize Mowing.

UNIVERSE® Fraize Mowing on synthetic/hybrid surfaces allows the Turf Professional to maintain the original quality of the surface.















The first blades designed for the UNIVERSE® rotor where 10mm.















#### r.aligrassscotland.ce.



# UNIVERSE® Fraize Mowing

Patent No. W02013/027005

Most warm season grasses are prone to the rapid accumulation of thatch in the sward. Conventional verticutting and scarification only removes around 7 – 10% of the surface matter, and unless done on a regular basis cannot keep up with the build-up of thatch.

A radical approach is to remove all the organic build-up in one pass. The unique feature of the UNIVERSE® Rotor is that it can be set accurately to leave rhizomes and stolons in place, thus eliminating the need to re-sprig.

Once exposed to sunlight by removal of the canopy, regeneration is rapid, often with full recovery in 3-4 weeks. Removing the thatch and organic debris minimises water retention at the surface, ensuring that any available water passes directly to the rootzone.

In transitional zones, UNIVERSE® Fraize Mowing is used to speed up the transition from winter grasses to warm season grasses. The UNIVERSE® Rotor will take out the cool season grass and any organic build–up, leaving rhizomes and stolens in place. By removing the competition for water and nutrients, and exposing them to light, the transition period is dramatically reduced.

# UNIVERSE® Finesse Mowing

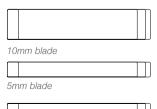
The 5mm UNIVERSE® Finesse blade is a heavy-duty, tungstentipped blade, which can be fitted to;

- Every holder 5cm cut 5mm spacing
- Every blade holder on alternate spirals giving 5mm cut at 15mm spacing
- Alternate blade holder on alternate spirals giving 5mm cut with 35mm spacing

The 3mm UNIVERSE® Finesse blade is a tungsten-tipped blade, which can be fitted to:

- Every holder 3mm cut 7mm spacing
- Every blade holder on alternate spirals giving 3mm cut at 17mm spacing
- Alternate blade holder on alternate spirals giving 3mm cut with 37mm spacing

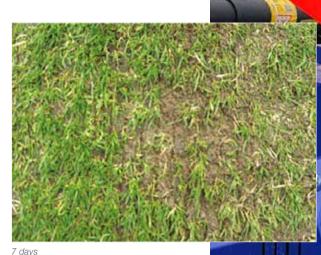
#### 3 blade thicknesses



3mm blade



UNIVERSE® blade





14 days







# Percentage removed with different blades and configurations of the UNIVERSE® Rotor

#### 10mm

- With the 10mm blades on 4 spiral you remove 100% of the surface
- With the 10mm blades on 2 spiral you remove 50% of the surface with 10mm gone 10mm still there

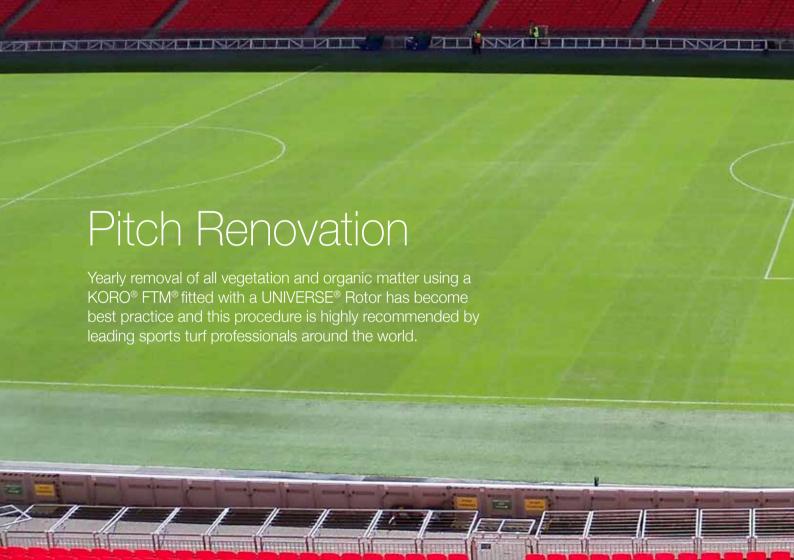
#### 5<sub>m</sub>m

- With the 5mm blades on 4 spiral you remove 50% of the surface with 5mm gone 5mm still there
- With the 5mm blades on 2 spiral you remove 25% of the surface with 5mm gone and 15mm still there

#### 3<sub>mm</sub>

- With the 3mm blades on 4 spiral you remove 30% of the surface with 3mm gone and 7mm still there
- With the 3mm blades on 2 spiral you remove 15% of the surface with 3mm gone and 17mm still there







The versatility of the machine matches the versatility of our pitches. It's a key piece of equipment for us during the renovation period and the UNIVERSE® Rotor has a lot of applications that mean we can work on the natural, fibresand and Desso pitches.

Paul Jones, Head Groundsman,

Tottenham Hotspur Football Club



# Terraplane® Rotor

The Terraplane Rotor® now leads the way in accuracy of cut, blade durability and surface hygiene. Coupled with the KORO® FTM®'s infinitely fine, depth adjustment (accurate to 0.1mm), the Terraplane® Rotor will shave off the precise amount of organic material required, leaving a clean, smooth and even surface. The durability of the tungsten-faced blades prolongs the accuracy of cut, and reduces the down-time associated with changing blades. The unrivalled surface hygiene of the Terraplane® Rotor eliminates any clean-up pass and saves time, labour and fuel costs.



Depth setting is accurate to 0.1mm, via a digital display read out









### KORO® by Imants - FIELD TOP MAKER® model options

| MODEL                     | 1200   | 1600               | 2000                | 2500         |  |  |
|---------------------------|--|--------------------|---------------------|--------------|--|--|
| Working width             | 1.20m / 47"  | 1.60m / 60"        | 2.00m / 79"         | 2.50m / 98"  |  |  |
| Overall / transport width | 1.60m / 63"  | 1.80m / 71"        | 2.55m / 100"        | 2.95m / 116" |  |  |
| Approx weight*            | 1,065kg  | 1,150kg            | 1,695kg             | 1,955kg      |  |  |
| Working depth             | 0 to 50 mm / 0 to 2"   |                    |                     |              |  |  |
| Elevator discharge height | Approx 1.50m / 60"   | Approx 2.0mm / 79" |                     |              |  |  |
| Recommended tractor       | 35 - 50hp  | 45 - 65hp          | 70 - 100hp          | 95 - 120hp   |  |  |
| Tractor mounting          | Cat I or II, 3-pt linkage  |                    | Cat II, 3pt linkage |              |  |  |
| Tractor requirements      | 2 x double acting spool valves - 30L/min 2 x double acting spool valves - 40L/min  Creep speed gearbox or hydrostatic drive  540 PTO drive           |                    |                     |              |  |  |
| Operating speed           | 0 – 2kph / 0 – 1.2mph for Digging and Terraplane® rotors<br>0 – 4kph / 0 – 2.4mph for UNIVERSE® rotor<br>0 – 6kph / 0 – 3.72mph for Scarifying rotor |                    |                     |              |  |  |
| OPTIONAL ACCESSORIES      |  |                    |                     |              |  |  |
| Mid-Mounted Roller        | Optional   | Optional           | Optional            | N/A          |  |  |

| MODEL                                     | 1200           | 1600           | 2000            | 2500            |
|---|----------------|----------------|-----------------|-----------------|
| OPTIONAL ROTORS                           |                |                |                 |                 |
| Digging Rotor                             | Available      | Available      | Available       | Available       |
| Number of Blades                          | 40             | 52             | 64              | 80              |
| Terraplane® Rotor                         | Available      | Available      | Available       | Available       |
| Number of blades                          | 36             | 45             | 60              | 75              |
| UNIVERSE® Rotor                           | Available      | Available      | Available       | Available       |
| Number of 10mm blades (on every holder)   | 120            | 150            | 200             | 250             |
| Number of 5mm blades (on every holder) ** | 120            | 150            | 200             | 250             |
| Number of 3mm blades (on every holder) ** | 120            | 150            | 200             | 250             |
| Scarifying Rotor                          | Available      | Available      | Available       | Available       |
| 3mm (1/8") Tipped Blades                  | Optional       | Optional       | Optional        | Optional        |
| 1.5mm (1/16") Tipped Blades               | Optional       | Optional       | Not recommended | Not recommended |
| Number of Blades                          | 70             | 88             | 112             | 148             |
| Blade spacing                             | 34mm / 1 5/16" | 34mm / 1 5/16" | 34mm / 1 5/16"  | 34mm / 1 5/16"  |

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