



**Steketee**

# Steketee IC

**Automatic Hoeing machine**

**The IC is Steketee's automatic hoeing machine that uses camera images to hoe around the plants accurately and quickly.**





# Steketee IC

The IC is Steketee's automatic hoeing machine that uses camera images to calculate the positions of cultivated crops and is able to hoe around them accurately and quickly. The IC is able to hoe all green crops that are planted in a row. For other crops, such as red lettuce, we are able to supply extension programmes.

In order to provide accurate quality inter-row and inter-plant cultivations a wide variety of hoeing blades and tines are available such as cultivating tines, torsion weeders, finger weeders, harrow weeders, etc. In addition, it is possible to apply row spraying or even crop specific spraying.

As an added benefit the digital recordings made whilst hoeing can be utilized to count the crops, measure the green surface of the crops or establish the discolouration of the crops.



Hoeing in lettuce

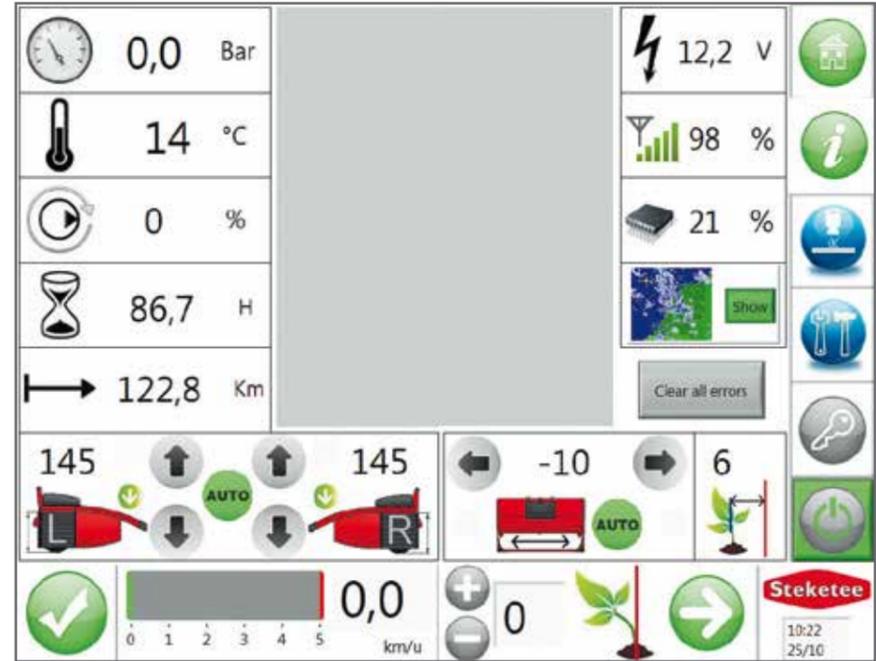


Plantcounter



**Design**  
In addition to functionality and ease of use, safety and design have also played a major role in the development of the IC. This is evident from the well considered details and beautiful appearance.

**Software**  
All automatic systems of the Steketee IC are controlled by powerful software. Its basis, which contains the image processing part, was developed in cooperation with WUR (Wageningen University Research). On the basis of colour, size, and expected position, the crop's position is determined. The software is configured in such a way, that it is easy to add extension programmes. This can also be done remotely, by means of the log on module. Operation of the machine is controlled via a touch screen with large, clearly visible buttons and symbols. It is also possible to operate the complete machine with a tablet or smartphone.



**Service**  
For the purpose of service, the complete control can be taken over remotely, by means of a GSM module.



# Steketee IC

## Automatic hoeing machine



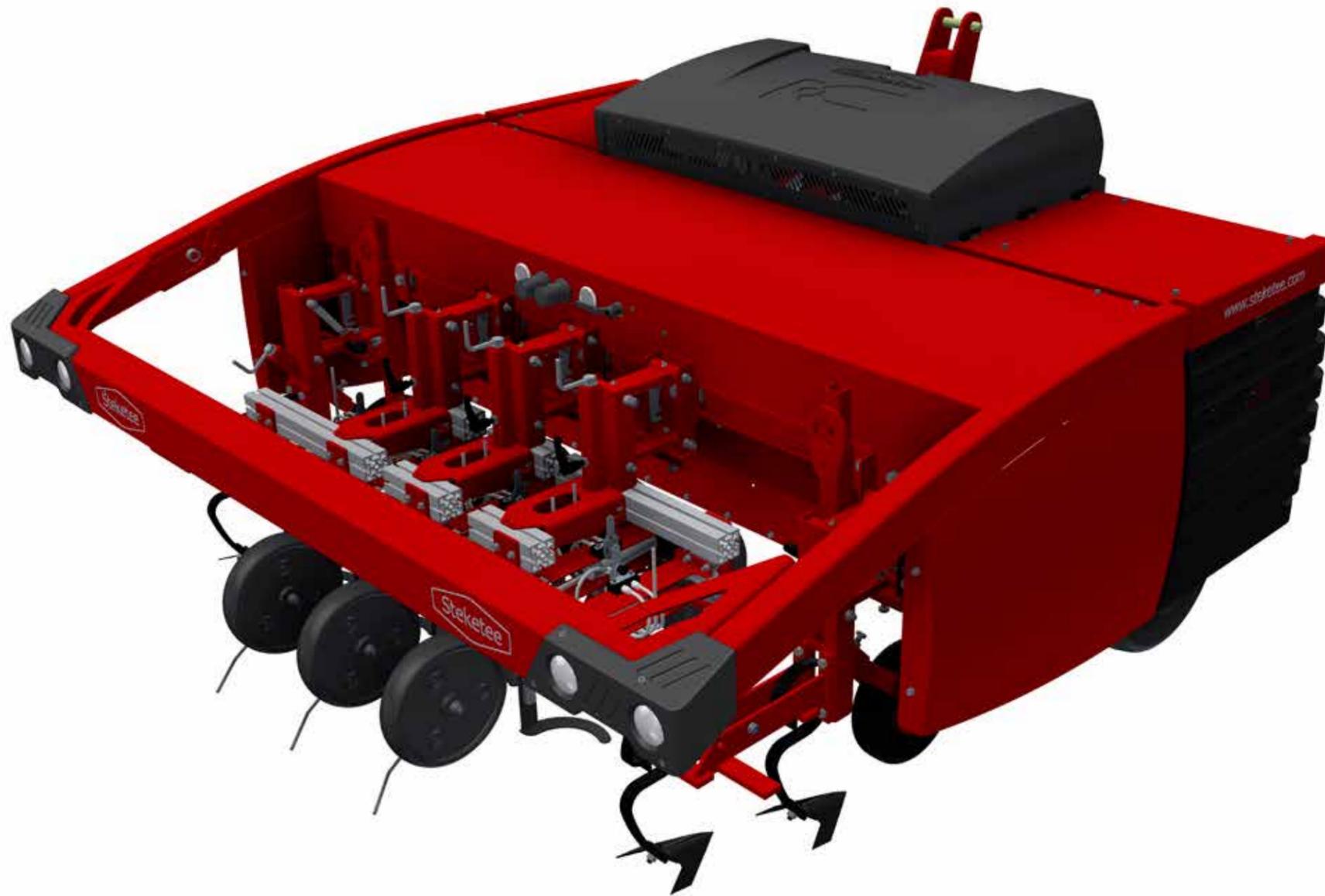
### Modular concept

Just like any other Steketee hoeing machine, the IC has a modular design. This allows work widths from 1.5 to 8 metres and any driving distance. The overall weight of the machine provides very low pressure at the tractor wheels with minimum soil compaction.



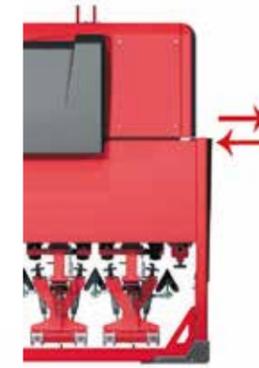
### Safety

At the rear of the machine you will find a folding safety bracket. This will make sure that by-standers are unable to reach the blades while the machine is working. It also functions as a bumper during transport on the road. For a safe transport on the public road, each IC is provided with LED rear lights.



### Sideshift

The images provided by the camera ensures the machine is positioned in the correct place for accurate cultivation. The hydraulic side shift provides 15cm left or right of the row.



### Hydraulic functions

The height adjustment and the sideshift on the IC are controlled by 1 hydraulic valve of the tractor. The tractor needs a pressure-free oil return. De compressor is driven by means of a PTO, so the IC can work with a relativ light tractor.valve.

### Compressor

In order to provide the pneumatic cylinders of the hoeing blades with sufficient compressed air, a hydraulically driven screw compressor is mounted. It is able to provide a continuous high volume. In order to discharge the heat, the machine has a combined oil/air cooler. The air pressure for the hoeing blades can simply be adjusted by means of a reducing valve.

### Support wheels

The machine is supported by 2 depth wheels. In addition to controlling the height, they will also provide sideward stability. A wheel sensor is mounted on the support wheel to provide a signal to the computer.

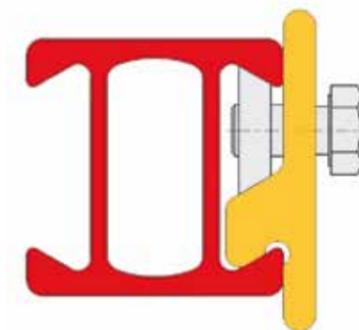


### Camera's

The cameras are mounted under the front hood to give an area where plants are monitored with the use of high power LED lighting to ensure that there is no effect from sunlight or shadows, which provides the accurate position of each plant to ensure fast accurate hoeing.

### Toolbar

The IC is Steketee's first machine that uses the new toolbar system. The unique profile of the hoeing beam will guarantee great stability and utmost flexibility. As a result, the user can mount the hoeing elements at any desired driving position very quickly and simply.



### Height control

As the distance from the cameras to the crop plants is important for the accuracy, it is continuously being measured by 2 ultrasonic sensors. In case of a deviation that is beyond the given parameters, correction is made automatically through hydraulic depth wheels.

# Hoeing element

The force that is required to be able to move the hoeing blades in the row, is supplied by 2 pneumatic cylinders. These cylinders are relatively simple, reliable and fast. At a work pressure of 7 bar, the blade will strike between a plant in only 50 milliseconds (1/100 sec.). This allows a capacity of 3-4 plants per second up to a

maximum of 5km/h. To ensure accurate working in all sizes of crops the opening with of the blades is very easily adjusted by a turnscrew. The cylinders are provided with internal damping in order to absorb the forces at the end of the stroke. Various versions and configurations of the hoeing elements are available.



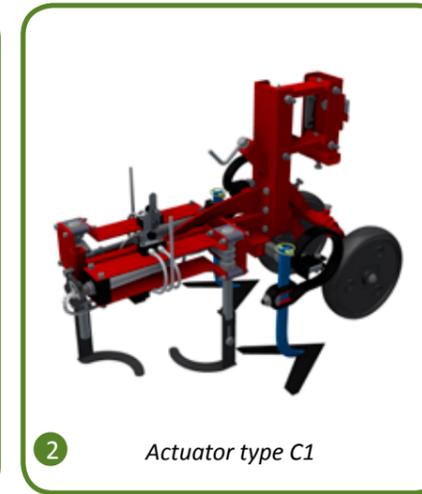
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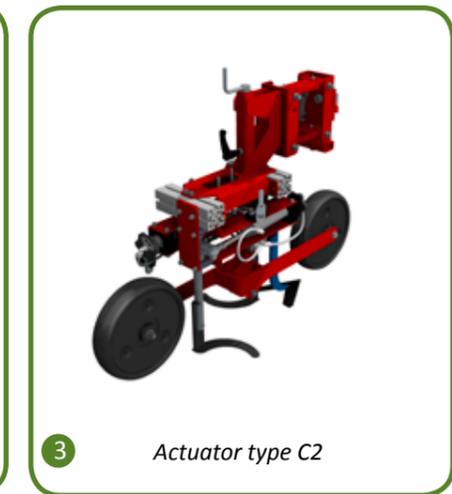
## Other options that can be used:



1 Actuator type B



2 Actuator type C1



3 Actuator type C2



4 Pressure support



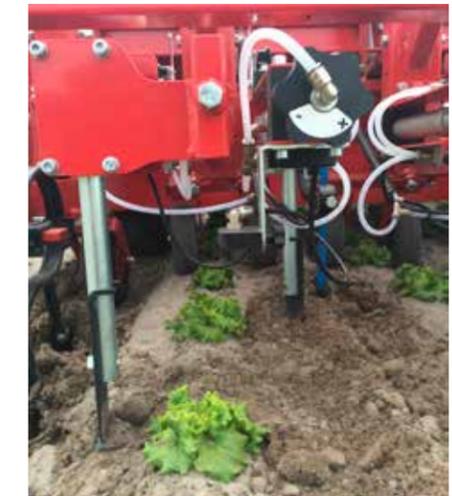
5 Crop clean



6 Fertilizer applicator

## Unique benefits:

- ▶ Full cultivation treatment in 1 go
- ▶ Fully automatic
- ▶ Modular design
- ▶ Easy to use
- ▶ Quick access remote service





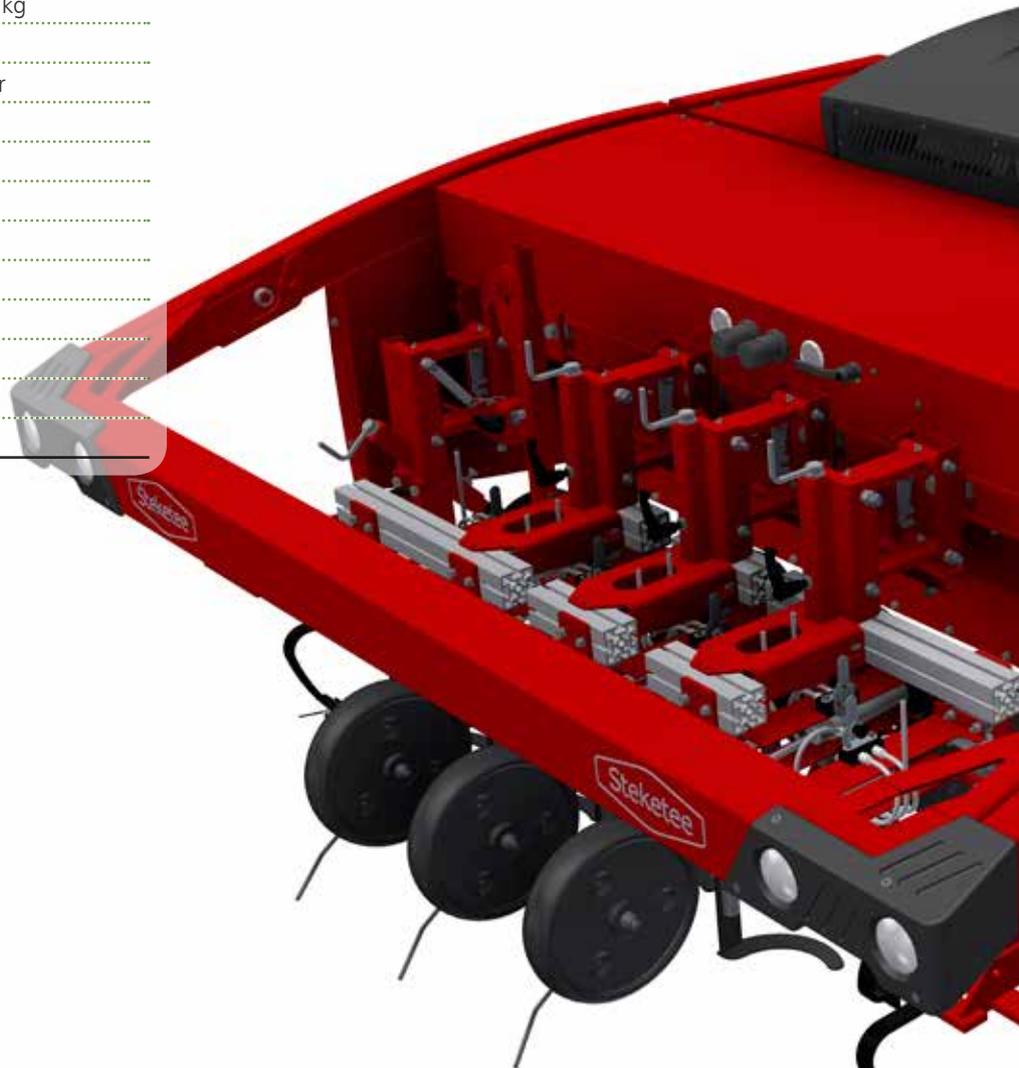
Your specialist in soil treatment and weed control

# Steketee IC

## Automatic Hoeing Machine

### Specifications:

Working width	1,5 - 8 metres
Weight	750 - 2000 kg
Hydraulic flow	15 ltr/min
Hydraulic pressure	min. 100bar
Voltage	12V DC
Ampere	30A
Minimal row distance	25cm
Minimal plant distance	10cm
Maximum working speed	5km/h
Response time hoeing knife	50ms
Capacity hoeing knife	4 plants/s
Opening hoeing knife	6 - 20 cm
Margin hoeing knife - plant	Adjustable



Your Dealer:



**Machinefabriek Steketee BV**

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