

# ***KIVI-PEKKA***



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# ***KIVI-PEKKA 4***

- ▶ Kivi-Pekka is the smallest of our stone pickers
- ▶ It has an output of maximum 700 kg per minute
- ▶ The standard machine is equipped with a soil sieve, towbar and hitch, drive shafts, tool and spare-parts box, steel bar and standard tyres 22.5 x 550
- ▶ Suitable for smaller surface areas
- ▶ Lifting drum with 18 tines. Width of drum 80 cm.



# ***KIVI-PEKKA 5***

- ▶ The mostly widely sold of our stone collecting machines
- ▶ The machine has a capacity of maximum 1000 kg per minute
- ▶ Standard equipment as listed for Kivi-Pekka 4, with the addition of a second axle at the rotary tines
- ▶ The effective lifting drum ensures best possible stone collection from very stony surfaces
- ▶ Collection drum with 28 spikes; width of lifting drum is 113 cm
- ▶ Suitable for very stony fields



# ***KIVI-PEKKA 6***

- ▶ Our top model with the largest capacity
- ▶ The machine has a capacity of maximum 1200 kg per minute
- ▶ Standard equipment as listed for Kivi-Pekka 4, with the addition of a second axle at the rotary spikes
- ▶ Collection drum as described for Kivi-Pekka 5
- ▶ Lifting drum with 28 spikes; width of lifting drum 113 cm
- ▶ Suitable for very large surface areas





# ***COMPARISON OF MODELS***

- ▶ The width of the collection drum is 113 cm in the Kivi-Pekka 5 and 6, and is 80 cm for the Kivi-Pekka 4. The larger collection drum has 28 tines, the smaller has 18
- ▶ All spikes are 16 mm thick for the Kivi-Pekka 4. For the Kivi-Pekka 5 the spikes are 20 mm thick on the inner side up to a length of 70 cm, for the Kivi-Pekka 6 up to a length of 120 cm
- ▶ The rotary spike arm from the standard model of our Kivi-Pekka 4 is fitted with one supporting wheel. An additional axle can be supplied if requested by the customer (extra)
- ▶ In the standard models Kivi-Pekka 5 and 6, the rotary spike arms are fitted with a second axle



# ***Soil container***

- ▶ The floor and rear wall of the stone holding tank is gridded
- ▶ Soil is sieved from the machine through a 15 to 20 cm layer of stones
- ▶ When emptying the machine, the stones roll against the gridded wall and the soil collects in the soil container



# ***Soil container***

- ▶ The soil trickles from the machine, when the stone holding tank is tipped back into the collection position
- ▶ Under dry conditions about 200 litres of soil is collected per container, under wet conditions about 400 litres of soil is collected
- ▶ 10 container loads per ha result in about 2m<sup>3</sup> of soil
- ▶ The collection drum of the machine throws stones against the rear wall of the stone container. The gridded construction considerably increased the sturdiness of the rear wall





# ***Tractor hitch***



- ▶ The Kivi-Pekka is hooked up to the tractor hitch
- ▶ The combined weight of the machine with a full load of stones is 6000 – 6500 kg
- ▶ Because of the simple hook-up to the tractor, driving comfort is very good. If required a separate hitch can be attached to the tractors lifting arms
- ▶ A hydraulic mechanism quickly and easily adjusts the depth of operation
- ▶ The hydraulic cylinder can also be used for other operations after stones have been collected
- ▶ A rebound mechanism allows the machine to pass over immovable rocks



# ***Selection of tyres***

- ▶ Standard tyres for the Kivi-Pekka 560/60R22.5
- ▶ On request double axle is available:  
500/50R17 Vredestein Flotation +  
500/50R17 Nokian ELS  
400/60R15.5 Vredestein Flotation +
- ▶ Available as large individual tyres  
700/45R22.5 Vredestein Flotation +  
700/50R26.5 Nokian ELS



# ***Selection of tyres***







## NOKIA ELS RADIAL

### Contact area on soft soil and ground pressure at different loads

	500/50R17	500/60R22.5	550/60R22.5	600/55R22.5	600/55R26.5	650/65R26.5	700/50R26.5	710/55R34	
Width/mm	503	503	537	600	600	650	700	710	Width/mm
Contact area/cm <sup>2</sup>	2340	2890	3310	3700	4000	4930	4810	5840	Contact area/cm <sup>2</sup>
Surface pressure kg/cm <sup>2</sup>	Load/kg equivalent to surface pressure								Surface pressure kg/cm <sup>2</sup>
0,3	700	870	990	1110	1200	1480	1440	1750	0,3
0,4	940	1160	1320	1480	1600	1970	1920	2340	0,4
0,5	1170	1450	1660	1850	2000	2470	2410	2920	0,5
0,6	1400	1730	1990	2220	2400	2960	2890	3500	0,6
0,7	1640	2020	2320	2590	2800	3450	3370	4090	0,7
0,8	1870	2310	2650	2960	3200	3940	3850	4670	0,8
0,9	2110	2600	2980	3330	3600	4440	4330	5260	0,9
1,0	2340	2890	3310	3700	4000	4930	4810	5840	1,0
1,1	2570	3180	3640	4070	4400	5420	5290	6420	1,1
1,2	2810	3470	3970	4440	4800	5920	5770	7010	1,2
1,3	3040	3760	4300	4810	5200	6410	6250	7590	1,3
1,4	3280	4050	4630	5180	5600	6900	6730	8180	1,4
1,5	3510	4340	4970	5550	6000	7400	7220	8760	1,5
1,6	3740	4620	5300	5920	6400	7890	-	-	1,6
1,7	3980	4910	5630	6290	6800	8380	-	-	1,7
1,8	4210	-	-	6660	7200	-	-	-	1,8
1,9	4450	-	-	-	-	-	-	-	1,9
2,0	4680	-	-	-	-	-	-	-	2,0

The surface contact area is calculated using a formula from the Swedish Research Institute (Skogsarbeten)

# *Hydraulic lifting*



- ▶ The driver no longer has to leave the tractor in order to sink or lift the rotary spike drum
- ▶ The drive shafts are kept attached
- ▶ The rotary spike drums are automatically locked into the upper position with securing fixtures and are opened using a release line
- ▶ The stone collection operation can be planned and carried out more easily with the hydraulics, because the stone container can be emptied more often
- ▶ Work is made easier and faster



# ***Mounting with attachment rope***

- ▶ If the rotary spike drum is lifted into the upper position with an attachment rope the fixture axles must first be removed and the rotary spike drum will be attached with a separate attachment bolt
- ▶ When compared to the hydraulic hitch the procedure is more complicated and takes up more time



# ***Rotation monitoring***

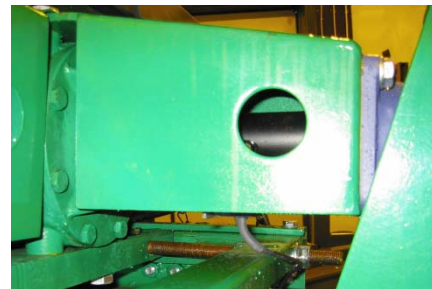


- ▶ The operation can not always be visually monitored under dry and dusty conditions
- ▶ Using the electronic monitoring unit, the operator can keep an eye on the rotation of the rotary spikes and the rotary feeders. A warning signal, light and sound, begins within 1 second of any delay. This helps one to ensure that the collection drum is not damaged or that belts do not rip



# ***Rotation monitoring unit***

- ▶ Power for the rotation monitoring unit is supplied by the tractors cigarette lighter
- ▶ Each contact is separately attached
- ▶ The rotation monitoring unit is easy to check and does not require special tools



# ***Simple belt mounting***

- ▶ Straight running belts require rotation and directional runners, which are affixed to the end of the rotary spike drums
- ▶ This construction increases the life-time of the belts and simplifies maintenance





# *Collection drum*

- ▶ The spikes are fitted with supporting springs, which ensure a much longer life-time



# ***Stronger tines***

- ▶ The new tines from Kivi-Pekka are 3 times stronger than the usual ones.
- ▶ The width of the new tines are 45 mm. The old one is 32 mm.
- ▶ The help spring is connected direct to the tines.





# ***Selection of sieve***



- ▶ The type of sieve depends on the wishes of the customer
  - 50 mm ( hay)
  - 40 mm ( hay, corn)
  - 35 mm (beet, potatoes)
  - 30 mm (early potatoes, golf courses)
- ▶ The ends of the sieving bars are tapered. This allows small stones, which might easily get stuck in the sieve to be freed more easily by the rotary drum spikes
- ▶ This construction also ensures a longer life-time for the spikes

# ***Power transmission***



- ▶ SKF bearings are used for the power transmission
- ▶ The belts from the collection drums are specially manufactured



# ***Colour finish***

- ▶ The machines are first sand-blasted
- ▶ A two-component lacquer is used for the colour finish
- ▶ These lacquers are elastic and durable

