



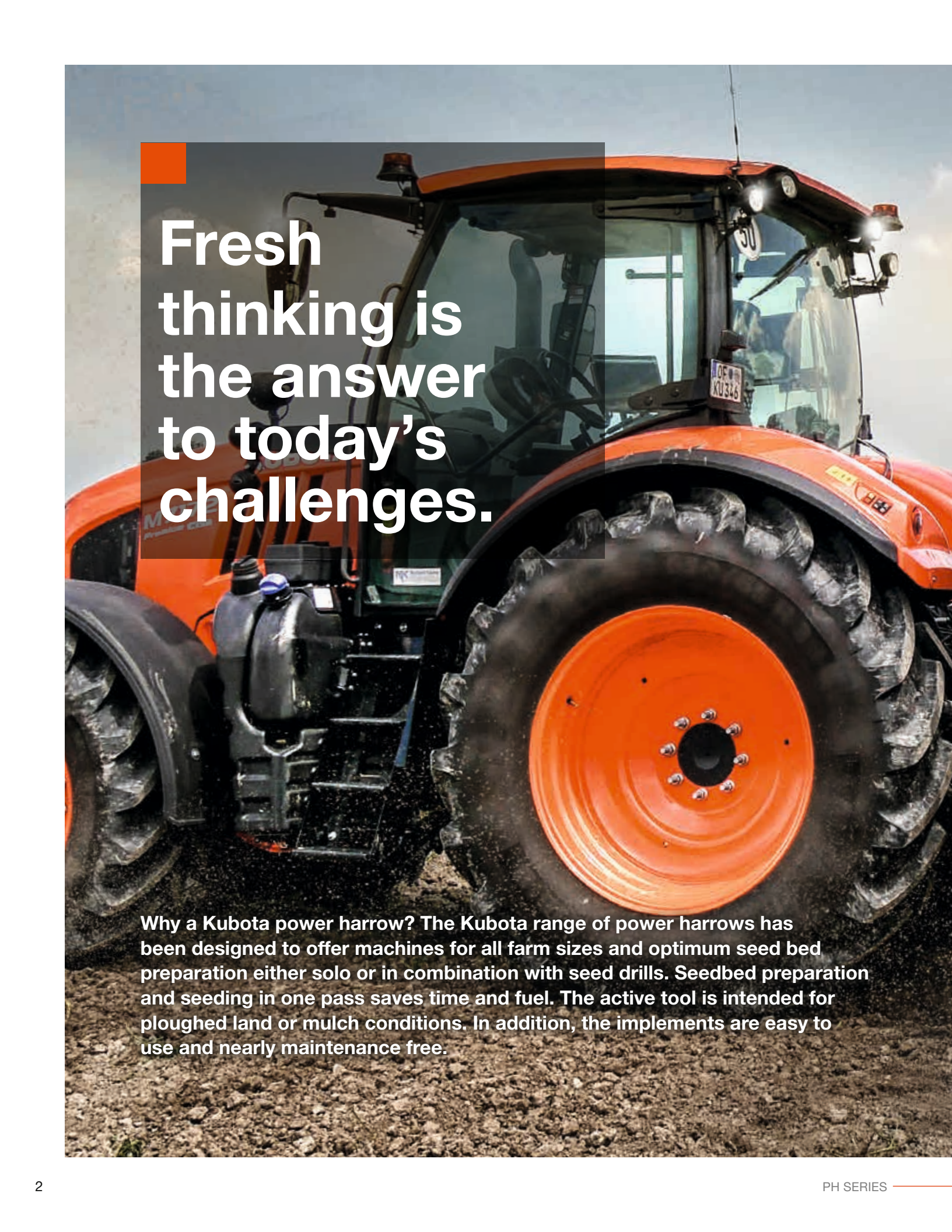
For Earth, For Life
Kubota

PH

KUBOTA POWER HARROWS

**KUBOTA
PH SERIES**





**Fresh
thinking is
the answer
to today's
challenges.**

Why a Kubota power harrow? The Kubota range of power harrows has been designed to offer machines for all farm sizes and optimum seed bed preparation either solo or in combination with seed drills. Seedbed preparation and seeding in one pass saves time and fuel. The active tool is intended for ploughed land or mulch conditions. In addition, the implements are easy to use and nearly maintenance free.





Active with strength for a perfect seedbed

The Kubota power harrows are designed for heavy conditions and built for tractors up to 350HP. You want a reliable machine. Therefore, special emphasis has been given to a strong trough design by having a large distance between the conical bearings and hardened gears.



Helical tine positioning

The tines are arranged in varying angle positions in order to prevent damage caused by stones and ensure even levelling. 4 rotors per meter and the helical tine positioning reduce the peak loads on the driveline which results in smoother running and less fuel consumption. All gears are hardened in the trough for a long lifetime.





Long durability with robust trough and transmission

The trough, which is the backbone of the whole machine is extremely rigid against bending and torsional stress. On the rigid models PH2001 and PH3001 also on the fold PH2000F the trough is made as a sandwich double bending beam to give additional stability. The headstock is on all rigid models the same and absorbed together with the trough all mechanical forces. The robust headstock for easy connection to all tractors and combination with heavy seed drills ensures additionally safe working.

Tine holder & Tine

The large distance between the conical bearings, hardened gears inside a stable gearcase, precise distance between the gears and the heavy-duty rigid trough design ensures the required durability. The rotor shaft and tine holder consist of two parts for easy maintenance and long-lifetime, even in stony conditions. Very important – the tines are easy to change due to the Quick-Fit system. The two large bearings are very strong and the large distance between the bearings ensure maximum resistance to radial stress, even in the most extreme conditions. The forged boron steel tines prepare the seed bed by cutting, crumbling and levelling the ground. The tines are extremely hard wearing and fracture resistant. The outer tines turn inwards, which together with the side deflectors avoid ridge formation. An important characteristic is the helical tine positioning which minimises the risk of damage (from stones) and ensures a more homogeneous and even load on the trough. In addition, this special design also reduces the amount of wet soil brought to the surface (especially important in the spring time); the moisture stays next to the seed for improved germination.

Self-supporting trough

Strong resistance to abrasion and torsion is one of the main characteristics of the double bending trough in sandwich design. The "laminated bottom" and the wide, wear resistant gear profile ensure reliable heavy-duty use. The tapered bearings have a high basic load rating which offers increased security and reliability, giving an extended working life.

Consolidation

The final step of perfect seedbed preparation is consolidation. A weatherproof finish allows moisture retention when dry and transition (water infiltration) through the profile in wet conditions.





Active tines (Option)

The special shape of the active tines ensure good penetration. The Active tines lift the soil and throw the clods as well as the plant residues into the front working zone. This ensures a perfect levelling even in the tractor tracks and leaves a stable crumbling structure.



Standard



Active



Carbide coated



XHD Carbide

XHD tines (Option)

The XHD Carbide reinforced tines are your perfect weapons against extremely abrasive soil conditions. These tines are available as spare parts and are designed to offer you longer lifetime, keeping costs and downtime to a minimum in environments where standard tines are wearing too fast.



Optimum Penetration with Standard or Active tines

An optimal seedbed with a load-bearing seed horizon into which the seeds can be embedded at an absolutely even depth over the whole area of the field is the basis for high field emergence. The user-friendly Quick-fit system increase efficiency.

Power harrows have long since become typical combination machines because they are largely independent of the soil conditions. On heavy soils it reaches an intensive crumbling. Under light conditions, it can work flat and at a lower rotor speed. The sets of tines rotate on vertical axles for totally horizontal tillage of the soil – no inversion of soil layers and no vertical compression leading to hardpan formation. Consequently, there is no better alternative for seedbed preparation.

Active tines

The Active tines ensure optimum penetration in hard soil. The tine, due to its shape, pulls itself into the ground. This gives a constant working depth and also prevents the machine from lifting out of the ground in hard dry soil conditions. In addition, it creates better re-compaction at the packer roller. The Active tine lifts the material and pushes it in front of the power harrow. This gives an optimum levelling effect even in tractor tracks. In mulch conditions the active tines can work directly into stubble and hard soil. The special shape of the tines keeps residues on the surface and this gives a big advantage against erosion.

Quick-fit system

The Quick-fit tines are secured by a special pin and clip mounted in the tine holder. The tines can therefore be exchanged quickly without any tools.

Carbide tines

Down time can be minimised by optional carbide layered Quick-Fit tines. These tines ensure a long lifetime and minimum wearing even in tough and abrasive soils. The Quick-Fit system ensures an easy change of tines without the need for tools.



Creating an even and weatherproof seedbed

You are looking for a levelled weatherproof seedbed. Therefore, defined preparation inclusive consolidation is important to avoid evaporation especially in dry conditions. The smaller aggregates are deposited in the lower level of the tilth to promote rapid and uniform germination whilst the coarser clods are kept on the surface to reduce the risk of surface capping. This is the basis for your yields. Offering all plants the same access to nutrients, moisture and light. Prevention of erosions in top soil layer.



Effective rear levelling bar

Kubota's high performance rear levelling bar is infinitely height adjustable. The turnbuckle adjustment is easy to use, even with a seed drill mounted. A scale ensures an even height is achieved across the full working width. An in-built spring system maintains the bar in an effective and consistent operating position.



Track eradicators

Various types of track eradicators rigid, spring or shear bolt protected are available to suit all situations.



Floating side deflectors with overload protection

When it comes to avoiding dams and to leave the soil as long as possible in the working area the parallelogram guided side deflectors move vertical up and down and following the ground contours. If stones are trapped between deflector and outer rotor, the deflector can open via coil spring overload protection. The lower part is adjustable in the height to match the tine wear. For strict transport regulations, the deflectors can easily be set in a raised transport position, just by removing one pin.



Versatile to meet the various conditions



Consolidation is an elementary action of arable farming. Reducing large open pores and aggregate size allows for improved seed-to-soil contact and keeping the water necessary for the next crop germination. The right choice of the right roller depends on the soil type and conditions. Also lifting capacity of the tractor needs to be considered. Therefore, Kubota offers a wide range of maintenance-free rollers to finalize the levelling and reconsolidation of the soil.

The roller on a power harrow is an elementary tool with different tasks:

- Supporting the exact working depth of the machine especially in light conditions
- Optimal soil to seed/root contact to enable efficient nutrient transfer
- Breaking of clods in order to have a fine seedbed but at the same time keeping the soil structure for reduced soil erosion, as the soil is both structured and stable.
- Improved drainage and water infiltration, especially important in wet years, where a good consolidated soil structure ensures access to plant root systems for water, air and nutrients
- No separation or raising of straw and residues. Minimal moisture loss, especially important in dry years, where crops which lack moisture suffer badly
- Reliable working without stick of the soil surface by slipping. Easy maintenance and cleaning.



Rollers for all type of soil

All Kubota rollers have maintenance-free bearings which are protected with 5 sealing lips against dust and water. In heavier conditions like stones, twine, mud etc. additional steel covers extend the lifetime of the bearings.



Actipack ø 1'10.0" (560mm) - 452lb (205kg/m)

The Actipack roller displays its superb working qualities especially on medium to heavy soils and also in wet, stony and sticky conditions thanks to the independent skids and adjustable knives. Scrapers support the cleaning effect. Leave a weatherproof surface and prevents for erosions. Results like an active soil implement.



Cracker Packer ø 1'9.7" (550mm) - 441lb (200kg/m)

Stripewise consolidation. 50% of the surface is rolled. Good crumbling effect on medium to heavy soils. High water absorption. No blockage in mulch conditions.



Tooth Packer roller ø 1'10.6" (575mm) - 352,74lb (160kg/m)

Optimum performance on medium to heavy soil with a good carrying capacity and self-cleaning effect. The scraper bar can be adjusted centrally are adjustable and Scrapers carbide-coated on request. Versatile in combination with seed drill.



Cage roller ø 1'9.7" (550mm) - 198lb (90 kg/m)

10 bars ensure a good loading capacity and effective crumbling actions. Suitable for light to medium soils and dry working conditions



Actiline ø 1'9.7" (550mm) - 408lb (185kg/m)

The new Actiline is a trapezoidal roller with relatively narrow crest width of 1.57" (40mm). The crests support the constant drive of the roller and avoid slip in light or tough and wet conditions.

The stripe-wise consolidation and V shape furrow in front of the CX-II seed coulters ensure a perfect seed placement and even field emergence. The water holding capacity and oxygen exchange is improved.

The Actiline supports an optimum performance on light to heavy soil with good carrying capacity and full self-cleaning effect. Two different ring distances of 4.92" (12.5cm) and 5.91" (15cm) and carbide-coated scrapers are available. The roller is compatible with standard or EURO-CONNECTION (5.91" (15cm) version excl. with EURO-CONNECTION).



User comfort and ease of handling

If you are looking for safe operation and user comfort, Kubota always makes the adjustment operation easy and safe for the user, for saving precious time and resources all along the day. That's why all the adjustments are simple for perfect working results.

Ease to use

Kubota has focussed on ease of maintenance. The trough is filled with special grease to ensure positive rotor lubrication from initial start up. The tine carrier design is of two separate pieces, allowing the oil seal to be replaced without opening the trough. The rotors are sealed with cassette seals, ensuring no wear on the shaft and minimum maintenance.



Working depth

On the rigid power harrows the working depth is adjusted via pin and holes. A square pin avoids rotations and ovalization and the wide contact area, minimize wearing. 18 different slots for several working depths are available. The reinforced roller arms support stability with the heaviest rollers and seeders.



On the hydraulic foldable power harrows the working depth setting is adjusted by spacers at the cylinders. The working depth is changed hydraulically from cabin. A parallelogram linkage ensures that the power harrow is always in a horizontal position to the roller. Therefore, the packer roller scraper bar position is basically a fixed height to the ground, independent of the working depth.



Hydraulic functions management

The foldable machines (PH2000F & PH3000F series) can optionally be equipped with a control panel that allows the management of five different functions from the tractor cabin by using just one double acting spool.



Effective rear levelling bar

Kubota's high performance rear levelling bar is infinitely height adjustable. The turnbuckle adjustment is easy to use, even with a seed drill mounted. A scale ensures an even height is achieved across the full working width. An in-built spring system maintains the bar in an effective and consistent operating 6 position.





Quick coupling: Effective one pass combination

Kubota power harrows are designed to combine with Kubota seed drills. Equipped with a very robust headstock and the “Euro-Connection”, the power harrows can simply uncoupled or coupled for solo or combined operation.

Compact in combination

All Kubota power harrows can be combined with Kubota mounted pneumatic or mechanical seed drills or coulters bars with front hopper system. Despite the integrated concept of a power harrow seed drill combination, the coulters bar can be coupled or uncoupled quickly via EURO-CONNECTION, allowing the power harrow also to be used solo. Therefore, the power harrows need to be equipped with the EURO-CONNECTION coupling system. The coulters bar is attached with the EURO-CONNECTION directly to the roller frame. The coupling hook is similar to the front loader coupling. This can quickly and easily be hitched thanks to the readily accessible hydraulic and electronic interface. Track markers are attached to the power harrow.

The seed hopper can be removed too. Therefore, the power harrow is ready for solo operation within short time. Alternatively coupling systems like a hydrolift in order to combine the power harrow e.g. with a precision seeding unit, a triangle quick hitch or a mechanical hitch are available, as an option. In combination with seed drills, the track marker arms are fitted directly to the trough. Overload protection is ensured by means of shear bolts.



Hydrolift

The hydrolift is fitted with twin hydraulic cylinders for easy and even lifting of heavy hoppers. A mechanical locking device ensures safe transport.

Quick-hitch

All models can be fitted with a Kubota seed drill quick-hitch for fast and easy attachment and demounting.

Mechanical hitch

A mechanical 3 point seed drill hitch is available for conventional seed drills.



Flexible use of the power harrow whether with seed hopper or in solo operation depending on soil conditions.

Combination	PH1001	PH2001	PH3001	PH2000F	PH3000F
SD1000M	●	●	●	-	-
SD2000M	●	●	●	-	-
SD2001MP	●	●	●	-	-
SD3001MP	-	●	●	-	-
SD3001CMP	-	●	●	-	-
CB1000 coultersbar	●	●	●	●	-
CB2000 coultersbar	-	-	-	●	●
CB2000C coultersbar	-	-	-	●	●

● Possible - Not available



EURO-CONNECTION

The coultersbar can be easily coupled and uncoupled with a coupling hook similar to the front loader coupling. Track markers are attached to the power harrow. Therefore, the power harrow is ready for solo operation within short time.



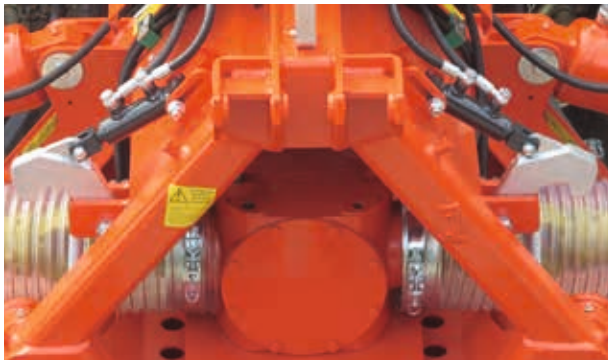
Safe on the road and quick in the field

If you are looking for safe road transport Kubota focus on a compact design. That's why all Kubota foldable power harrows have machine dimensions which allow it to pass through standard bridges and tunnels. The transport widths of only 8'20" (2.5m) ensures safe transport.





The power harrows are close to the tractor to receive a close centre of gravity for reduce lifting requirement and are connected to the tractor via the lower link hitch CAT 2 or 3. The PH models can easily be converted from transport to working position. The hydraulic transport locking device unlocks automatically when unfolding. The two-part hydraulic folding gives a transport width of 8'2" (2.5m) or 9'5" (2.9m) with CB2000 coulters bar. Road lights and fixed warning signs are fitted as option to ensure compliance with traffic regulations and safe movement on roads.





Rigid power harrows

Kubota designed the range of rigid power harrows for toughest conditions for tractors from 70HP up to 250HP.



Tine dimension
0.71" x 12.99"
(18 x 330mm)

Kubota PH3001

The heavy-duty power harrow for all kind of operations in all types of soil conditions. Robustly designed for use on tractors up to 250HP, with the Kubota heavy-duty trough design and Quick-Fit tines the PH3001 is the right solution for large farms and farm contractors.

The standard gearbox with a rotor speed of 298rpm is fitted with replaceable gears. Due to different soil conditions it is important to control the rotor speed. Therefore, additional gear sets to achieve 365rpm or 435 rpm are optional available. Outer parallelogram guided side deflectors with overload protection allow smooth operation and a ridge free soil surface, even when working in the most difficult conditions.

The PH3001 is equipped with Quick-Fit tines as standard. These are secured by a special pin and clip mounted in the tine holder. Tine replacement is therefore very easy without the need of tools. Depending on soil conditions, forward active tines are available with more aggressive action. For optimum performance in difficult soil conditions, the trough design provides a large clearance between the tine holders and the trough bottom. This allows large amounts of residue and stones to pass freely without blocking.



Kubota PH1001

The Kubota PH1001 is a medium-sized power harrow for tractors up to 140HP. It is the lightest model in the Kubota power harrow range but not only the heavy-duty headstock follows the design concept of the robust PH3001 series but also the self-supporting trough construction, as well as the optional 'Quick-Fit' tine holders and double conical bearings offer the optimum performance.

The trough of the PH1001 consists only from one bended part which is bolted on top. There is no welding which increases stability especially in combination with a seeder e.g. SD2001MP. Screws of the shaft are protected inside the gear case. The bended bolted plate together with the supporting reinforcement plate form the 5.51" x 15.75" (140 x 400mm) trough. Two conical bearings, with a large distance as well as a rotor clearance of 3.87" (98.25mm) between the trough bottom and the tine holder provide high stability.



Tine dimension
0.47" x 11.02"
(12 x 280mm)



Kubota PH2001

The robust medium sized power harrow for effective operation in most conditions. By using a double bending sandwich section for the trough, it has been possible to increase its strength, making it self-supporting without increasing the weight whilst keeping a clean and tidy design. Main features like the rotor distance of 9.84" (25cm), the double conical bearing, heavy-duty headstock and the modular tine carrier have been considered too.

Two profiled 0,24" (6mm) plates ensuring precise rotor spacing, high bending resistance of the 5.52" x 15.75" (140 x 400mm) trough. Tine shaft of 1.97" (50mm) with two large conical bearings, Ø 1.77" (45mm) and 1.97" (50mm) with a distance of 2.16" (55mm) and 1.57" (40mm) gears and an optimal ample clearance between the trough bottom and the tine holder ensure good soil flow and allow surface residues to pass easily through the machine.



Tine dimension
0.59" x 12.99"
(15 x 330mm)



PH3001F/PH2001F



On the foldable Kubota power harrows the main gear distributes the force to the sides. On each side is a gearbox separately overload protected which ensures a robust driveline up to 350HP. The rotor speed setting is varying from 336 to 450rpm at 1000rpm PTO shaft. The PH3000F is equipped with a change gearbox.

Foldable for large scale

The Kubota range of foldable power harrows offers maximum performance with narrow transport abilities.

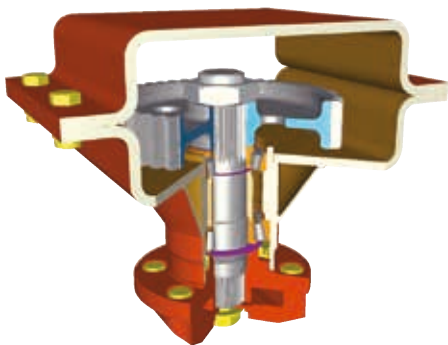
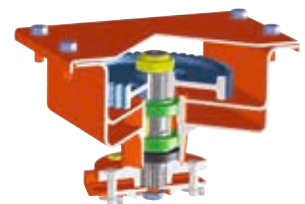
A heavy-duty headstock and a robust transmission system ensure years of effective and trouble free operation.

The advanced parallelogram hydraulic depth control system guarantees a perfect seedbed.

PH2000F: Innovative and robust trough concept

The Kubota foldable power harrow Kubota PH2000F series has a trough design that does not require any lateral frame. This saves weight and gives a tidy look to the machine. For optimum performance the new trough design provides a high clearance of 3.74" (95mm) between the tine holder and trough bottom. The PH2000F power harrow is available in working widths from 13'1" to 19'7" (4.0 to 6.0m).

By a simple and clear design the PH2000F series trough offers excellent performance with a limited weight. Double conical bearings and rotor shaft of 1.97" (50mm) diameter in combination with removable tine holders and Quick-Fit tines guarantees high reliability and very low maintenance requirements.



PH3000F: Simple and reliable trough design

The Kubota foldable power harrow PH3000F is the result of effective cooperation between cultivation and seeding experts to construct a "state of the art" strong and effective implement, designed for tractors up to 350HP and optimum performance. The PH3000F power harrow is available in working widths of 14'8" to 19'7" (4.5 to 6.0m).

The upper half of the trough is made from 0.39" (10mm) steel plate. In addition the trough base is also made from 0.39" (10mm) steel plate in order to enable the PH3000F to withstand the toughest of conditions. The welded conical bearing housings give highest strength to the overall trough. The heavy-duty tine carrier shafts with a diameter of 2.36" (60mm) have conical bearings dimensioned large enough to cope with tough and stony conditions.

Technical data

Series		PH1001		PH2001		
Model		PH1251	PH1301	PH2301	PH2351	PH2401
Maschine type		rigid		rigid		
Dimensions & weight						
Working width	ft (m)	8'2" (2.5m)	9'10" (3.0m)	9'10" (3.0m)	11'6" (3.5m)	13'1" (4.0m)
Transport width	ft (m)	8'2" (2.5m)	9'10" (3.0m)	9'10" (3.0m)	11'6" (3.5m)	13'1" (4.0m)
Trough dimension	in (mm)	5.52" x 15.75" (140 x 400)		6.50" x 15.75" (165 x 400)		
Total weight*	lbs (kg)	2976 (1350)	3417 (1550)	3549 (1610)	4078 (1850)	4629 (2100)
Minimum power requirement	kW/HP	51/70		63/85		
Maximum power requirement	kW/HP	103/140		132/180		
Attachment to tractor						
PTO input speed	rpm	540 or 1,000		1,000		
Overload protection on PTO shaft	NM	2,000		2,000		
3-point Linkage: Top		CAT 2/CAT 3		CAT 2/CAT 3		
3-point Linkage: Low	CAT	CAT 2/CAT 3N/CAT 3		CAT 2/CAT 3N/CAT 3		
Rotor						
Number of rotors		10	12	12	14	16
Standard rotor speed 540rpm	rpm	311		-		
Standard rotor speed 1000rpm	rpm	351		336		
Optional rotor speed 540rpm	rpm	358		-		
Optional rotor speed 1000rpm	rpm	351		362 and 450		
Tapered bearing distance	in (mm)	2.76" (70)		3.33" (84.5)		
Rotor clearance	in (mm)	3.86" (98.25)		3.56" (90.5)		
Tine						
Number of tines		20	24	24	28	32
Tine dimension	in (mm)	0.47" x 11.02" (12 x 280)		0.59" x 12.99" (15 x 330)		
Quick-Fit tines		○		●		
Active tines		○		○		
Operation						
Depth adjustment		manual		manual		
Rear levelling bar		○		○		
Track eradicator		○		○		
Roller offering**		●		●		
Ready to carry or integrate seeding eq.		○		○		
Lighting set		○		○		

* Approx. weight with levelling bar, tooth packer roller ø 22.63" (ø 575mm) and PTO shaft approx.

** Cage roller ø 21.65" (ø 550mm), Tooth Packer roller ø 22.63" (ø 575mm), Cracker Packer roller ø 21.65" (ø 550mm), Actipack roller ø 22.05" (ø 560mm), Actiline roller ø 21.65" (ø 550mm)

● Standard equipment ○ Option - Not available

PH3001				PH2000F				PH3000F		
PH3301	PH3351	PH3401	PH3451	PH2400F	PH2450F	PH2500F	PH2600F	PH3450F	PH3500F	PH3600F
rigid				fold				fold		
9'10" (3.0m)	11'6" (3.5m)	13'1" (4.0m)	14'7" (4.5m)	13'1" (4.0m)	14'7" (4.5m)	16'4" (5.0m)	19'7" (6.0m)	14'7" (4.5m)	16'4" (5.0m)	19'7" (6.0m)
9'10" (3.0m)	11'6" (3.5m)	13'1" (4.0m)	14'7" (4.5m)	8'2" (2.5m)	8'2" (2.5m)	8'2" (2.5m)	8'2" (2.5m)	8'2" (2.5m)	8'2" (2.5m)	8'2" (2.5m)
7.87" x 15.75" (200 x 400)				5.91" x 15.75" (150 x 400)				5.91" x 15.75" (150 x 400)		
4188 (1900)	4585 (2080)	5048 (2290)	5643 (2560)	6702 (3040)	6966 (3160)	8046 (3650)	8796 (3990)	8179 (3710)	8774 (3980)	10229 (4640)
74/100				96/130				103/140		
184/250				221/300				257/350 (optional with 400HP gear)		
1,000				1,000				1,000		
2,500				2,500				2,500		
CAT 2/CAT 3				CAT 3				CAT 3		
CAT 2/CAT 3N/CAT 3				CAT 3				CAT 3		
12	14	16	18	16	18	20	24	18	20	24
-				-				-		
298				336				246, 326 and 387 (3-speed)		
-				-				-		
365 and 435				362 and 450				326 and 387 (2-speed)		
4.35" (110.5)				3.33" (84.5)				4.35" (110.5)		
3.94" (100)				3.56" (90.5)				5.79" (147)		
24	28	32	36	32	36	40	48	36	40	48
0.71" x 12.99" (18 x 330)				0.59" x 12.99" (15 x 330)				0.71" x 12.99" (18 x 330)		
●				●				●		
○				○				○		
manual				hydraulic				hydraulic		
○				○				○		
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