

Reversible ploughs



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MASTER

123 and 153 series



be strong, **be KUHN**



MASTER

123

153

The KUHN plough



The future of farming lies in competitiveness and profitability.

The MASTER range concept with its advanced features will contribute to a quick return on your investment.

The Kuhn plough will allow you to:

- Maintain a high quality soil structure with an efficient burial of organic matter and an even aggregate spread throughout the soil profile - crop yields will be increased.
- Have at your disposal a wide range of working width settings and an excellent overall manoeuvrability - "in field" costs will be reduced.
- Benefit from a number of technological innovations such as the reinforced box section, the variable width, the plough structure protection systems (Hydraulic non-stop or traction bolt) - the working life of the plough is increased and maintenance costs reduced.
- Profit from a renowned reliability and long working life allowing you to work throughout the day without interruption - your plough will also keep a high second-hand value.

Opt for a Kuhn plough - because obtaining high yields and optimizing financial results all starts with high quality ploughing.

KUHN offers solutions for ploughing while meeting your requirements with regards to :





MASTER 123

DESIGNED FOR MID-RANGE TRACTOR HORSEPOWERS

The MASTER 123 ploughs have been designed to meet your requirements for a versatile machine which is both easy to use and strong enough to meet the demands of today's average sized farm.

This plough range is available from 3 to 6 furrows in both MULTI-MASTER and VARI-MASTER versions and in either traction bolt or non-stop hydraulic. It's technical characteristics and different equipment options make these ploughs adaptable to all situations.



WORKING WIDTH ADJUSTMENTS ON THE VARI-MASTER 123



12" to 18" in 90cm point to point and 12" to 20" in 102cm point to point. The working width is changed hydraulically from the tractor cab. The correction of the front furrow and plough aligning settings are carried out automatically as the width changes. For plough turnover the plough bodies fold up automatically to their narrowest width for the maximum possible ground clearance. After turnover the plough returns to the memorised working width.

WORKING WIDTH ADJUSTMENTS ON THE MULTI-MASTER 123

Multi-Master: 14", 16" and 18" by moving bolts to the required width setting hole.



EASY ADAPTATION FOR ALL TRACTOR INTER-TYRE DISTANCES



Depending on tractor type, the plough is pre-set for three ranges of tyre spacing: 1.15m-1.35m, 1.30m-1.50m and >1.45m. This adjustment is required only once for your tractor and ensures optimum use of the engine power available.



MASTER 153

DESIGNED FOR INTENSIVE USE

The MASTER 153 ploughs have been designed to meet the same demands as the 123 range but for more intensive use, more difficult work conditions and higher horsepower tractors.

The 153 ploughs are available from 3 to 6 furrows in MULTI-MASTER and VARI-MASTER in either traction bolt or non-stop hydraulic.

The strength, simplicity and different options available make the plough fully adaptable to your needs.

This range also features the possibility to assemble diamond bodies, particularly useful where wide tyres are fitted to the tractor.



OPTIONAL DIAMOND BODIES AVAILABLE ON THE 153 RANGE



1. REDUCTION OF DRAFT FORCE OF UP TO 20%

Substantial reduction in fuel consumption, due to the different soil turnover characteristics of Diamond bodies.



2. WIDE FURROW-BOTTOM

Allows the use of wide tractor tyres to increase traction, and reduce compaction.
Reduced wear of tyre walls.

WORKING WIDTH ADJUSTMENTS ON THE VARI-MASTER 153

12" to 20" in 102cm point to point. The working width is changed hydraulically from the tractor cab. The correction of the front furrow and plough aligning settings are carried out automatically as the width changes. For plough turnover the ploughs bodies fold up automatically to their narrowest width for the maximum possible ground clearance. After turnover the plough returns to the memorised working width.



MULTIPLE WORKING WIDTHS ON THE MULTI-MASTER 153

A change in working width to 14", 16" or 18" whether in traction bolt or non-stop hydraulic is quickly carried out by pivoting the plough leg support on the beam and placing the bolt in the corresponding width setting hole.

HIGH QUALITY FEATURES FOR A LONG LIFE



ROBUST ONE PIECE HEADSTOCK



The headstock is mounted onto heavy duty conical bearings. Computerised machining tools ensure a precise manufacturing process giving improved quality and reliability.

- 1 A quick-hitch cross-shaft fits quickly and easily into the adjustable pick-up cups (not adjustable on the MM123 3E/4T).
- 2 A single or double acting 80x40mm turnover cylinder features a very low hydraulic pressure demand of 95 bar for an effortless turnover. Following turnover, a hydraulic locking valve blocks the plough into its work position.
- 3 A weather proof tool box is incorporated into the headstock containing spanners and replacement bolts.

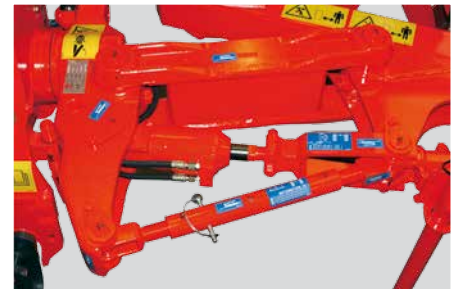
EXCLUSIVE TO KUHN



COMBINED FRONT FURROW WIDTH/ANGLING

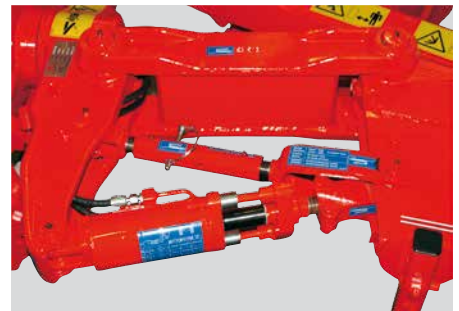
According to the tractor linkages and/or the ground conditions the front furrow width is adjusted to its optimum setting. The parallelogram obtained by the layout of the two linkages means that any adjustment in front furrow width automatically adjusts the angling of the plough so that the tractor always pulls in perfect line. Adjustments are quickly carried out by simply turning the turnbuckle adjuster or by activating the hydraulic cylinder (optional).

One adjustment is sufficient unlike conventional systems where the front furrow width and the plough alignment are separated. With the conventional system as one adjustments interacts with the other, several successive adjustments are necessary.



HYDRAULIC OFFSETTING AND ANGLING (OPTIONAL)

Allows adjustment of the front furrow width from the tractor seat.



BEAM FOLDING CYLINDER FOR THE MULTI-MASTER

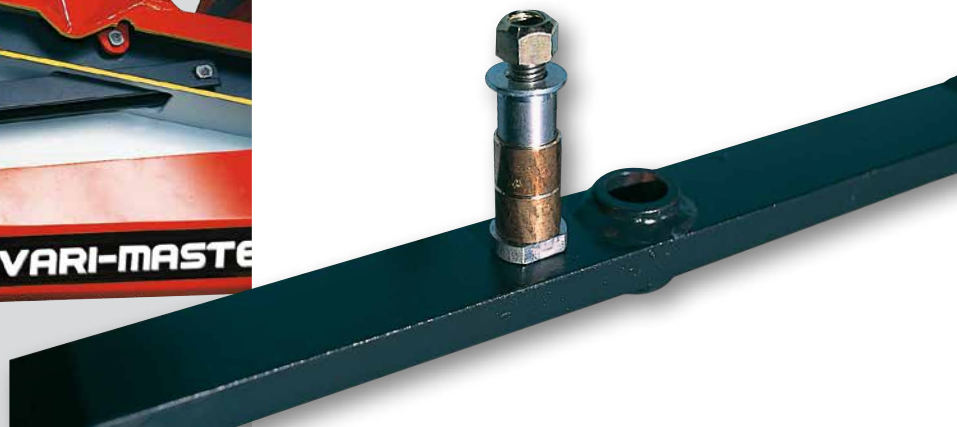
Hydraulic beam folding cylinder (optional) advised for 4 and 5 furrow models. The link is fitted as standard for changes in working width.





FUNCTION SELECTOR

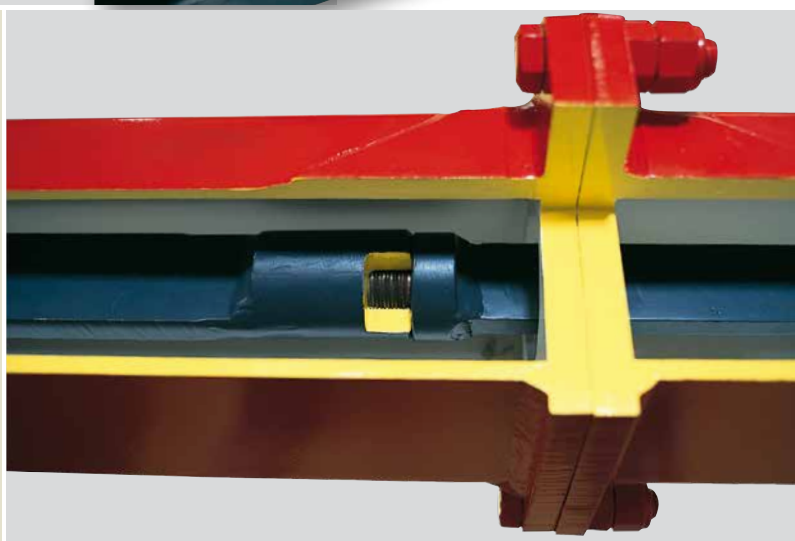
The KTH 105 control box lets you control up to 5 plough functions with one hand.



USEFUL ADVANTAGES OF A VARIABLE WIDTH PLOUGH



- Instant adaptation to available traction.
- Time savings and reduced fuel consumption.
- Holding of a good working speed on steep slopes.
- Ability to cope with different levels of trash.
- Neat finish to the field.
- Avoiding obstacles and tidying up of difficult unploughed areas.

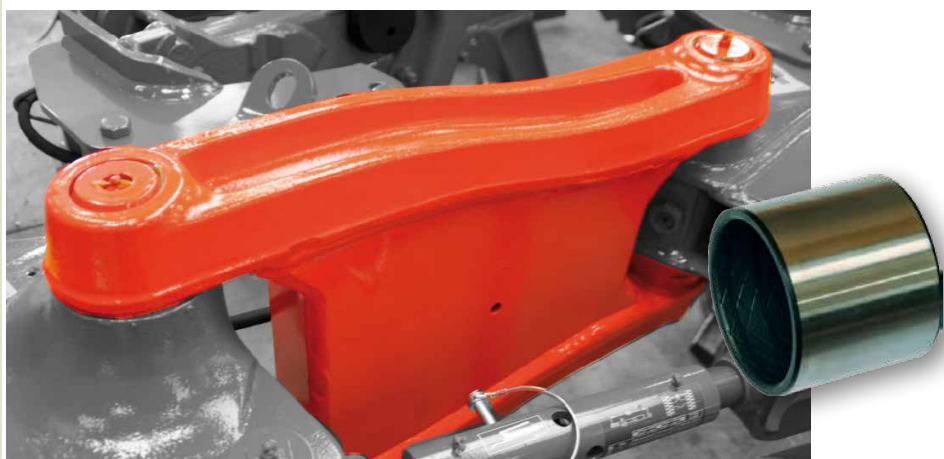


FORGED AND HEAT TREATED ONE PIECE MAIN LINK

Designed for strength (270 or 330 mm height) and long life the main link is assembled with either bronze or steel bushes depending on the model of plough.

EXCLUSIVE TO KUNN

- The whole variable width linkage system is enclosed in the plough structure giving maximum protection from water, dust and possible shocks.
- All moving pivot points are chromed, prevented from rotating and assembled with wearing bushes: no risk of jamming and very low maintenance.



HIGH TECHNOLOGY AND MANUFACTURE

EXCLUSIVE TO KUHN

MAIN BEAM

The main beam (either 120mm or 150mm section) is supported by a side mounted triangular reinforcement welded along the length of the front section. This increases the strength of the beam in the zone of most stress and gives substantial advantages when compared to a conventional plough design.

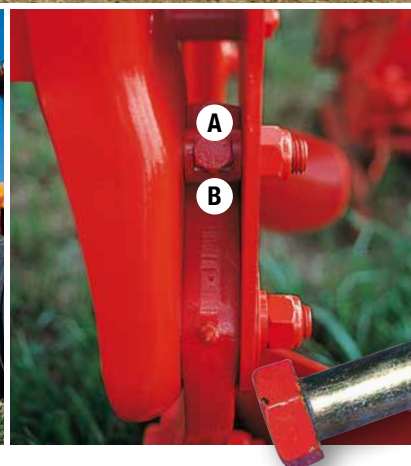


TRACTION BOLT LEG PROTECTION



Abrupt breakage of the 16mm traction bolt following a force at the plough point in excess of 3000kg avoids risk of too frequent a breakage.

- The bolt **A** runs in the direction of the line of force contrary to the conventional scissor bolt method where the bolt runs across the line of force.
- Due to these "in-line" forces the bolt support **B** never deforms and never becomes rounded with use.
- It is impossible for the bolt to become trapped inside following a breakage.
- Once a force in excess of 3000kg is met at the furrow point the bolt breaks along its length and simply falls away for quick and easy replacement.



PLOUGH LEG PROTECTION SYSTEMS FOR ALL WORKING CONDITIONS



AUTO RESET PLOUGH LEG PROTECTION (NON-STOP HYDRAULIC)

1 - Adapting to all working conditions

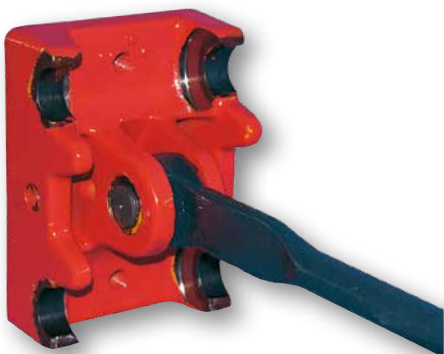
Designed for stony and / or heavy conditions the Non-Stop Hydraulic (NSH) system allows continuous ploughing with the plough legs automatically folding out of work upon hitting an obstacle and immediately returning into work again once the obstacle is passed. No need to get out of the tractor and no need to replace bolts. The system also acts as an excellent shock absorber when working in pebbly or flinty ground absorbing all the vibration, increasing the life of the plough and increasing comfort for the driver.

VARIBAR system: An optional system allowing instant control from the tractor cab of the NSH pressure at the share point - either with or without Maxibar.

MAXIBAR system: The Maxibar option allows the pressure at the share point to be increased giving an adjustment range of 600 to 2500kg yet conserving the flexibility of the system. The option is particularly useful in heavy compacted ground.

HEAVY DUTY PLOUGH LEG ARTICULATION AND TIE ROD

- All pressure points receive a specific heat treatment process.
- With just one articulation point all the forces put through the plough leg are transmitted in a straight line through a one piece forged and heat treated tie



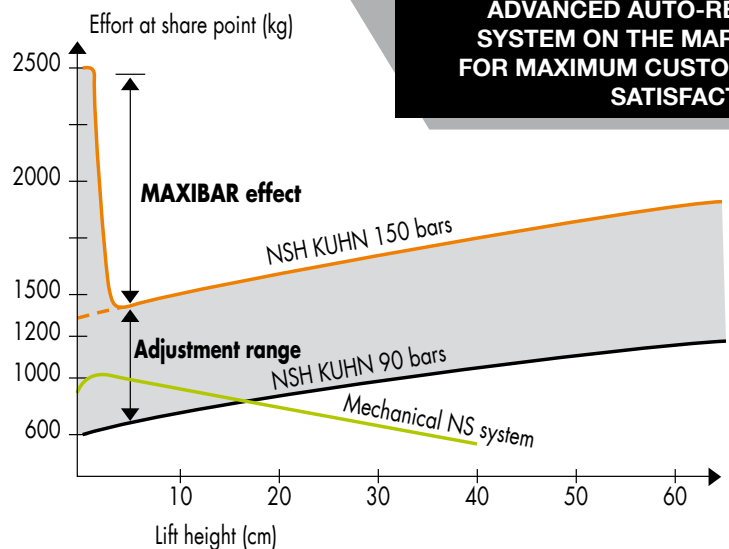
2 - A unique concept

The basic concept of the hydraulic non-stop plough leg safety system gives a rapid break-away when an obstacle is met and yet an increase in pressure thereafter bringing the body quickly and firmly back into work.

BENEFITS OF THE NSH SYSTEM:

- Long life and reliability - hydraulic technology is more reliable with no wear or friction and fewer moving parts (just one articulation point and two moving parts per leg).
- Weight saving - compared to a mechanical auto reset system the NSH system is 25kg lighter per leg.
- Ease of use - the pressure at the share point can be quickly adjusted from 600 to 1300kg by simply inflating or deflating the accumulator mounted on the headstock.
- Excellent performance - plough leg resetting is quick and positive once the obstacle is passed with no "drumming" of the plough bodies in work.
- Compactness - the NSH tie rod is located inside the plough leg structure and the hydraulic cylinder incorporated into the leg profile for the maximum possible clearance and minimum obstruction to trash and vegetation.
- Exceptional obstacle clearance - the share point can lift 60cm vertically out of work and 20cm sideways.

KUHN HAS CHOSEN THE MOST ADVANCED AUTO-RESET SYSTEM ON THE MARKET FOR MAXIMUM CUSTOMER SATISFACTION





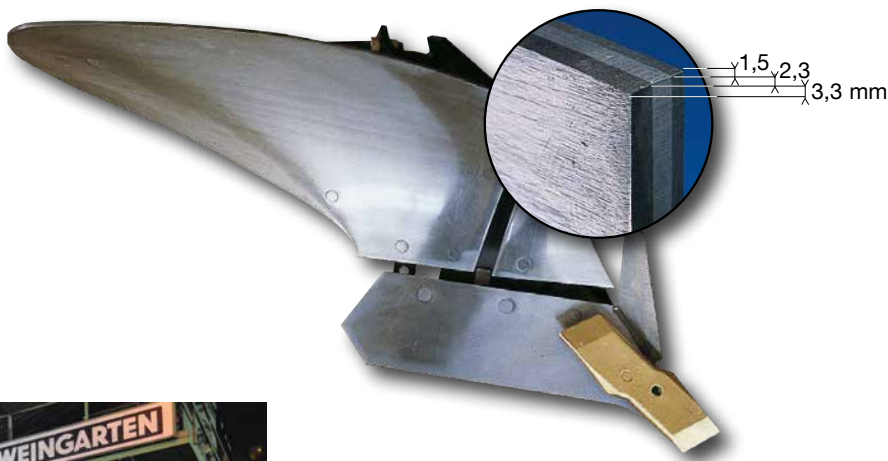
MASTER

123

153

PLOUGH BODIES DESIGNED TO SAVE ON COSTS

1 - MOULDBOARDS WITH UNEQUAL LAYER TRIPLEX STEEL



EXCLUSIVE TO KUHN

- Kuhn mouldboards are made of unequal layer Triplex steel.
- The thickness of the wearing surface is increased to 3.3mm - an exclusive feature.



2 - PLOUGH BODIES DESIGNED TO REDUCE WEARING COST



Shares are forged with a force of 5500 tonnes ensuring:

- excellent wear resistance,
- self-sharpening profile due to the grain in the steel resulting from the forging process.



MARATHON®

Special heat treated forged steel. Reversible for maximum efficiency. Featuring a step giving better landside protection.



OLYMPIC®

Special heat treated forged steel. Reversible for maximum efficiency. More pronounced form at wearing zones on the point for longer life and better protection of the landside. Point is self sharpening for good ground penetration at all times.



SUPER MARATHON®

Special heat treated forged steel fitted with a tungsten carbide tip. High wear resistance. Four to five times the life of a traditional share point. A sharp working edge is maintained for excellent ground penetration.





CLASSIC TYPE PLOUGH BODIES



N BODY

Helicoidal cylindrical semi-digger. 15 to 30cm ploughing depth. Highly versatile body. Cylindrical at front, helicoidal at rear. Low draft, ensures a partly broken furrow, with excellent trash burial.



L WIDE HELICAL H4 BODY (ALSO AVAILABLE IN PLASTIC)

The capacity, long helical mouldboard, Scandinavian type, giving well formed ploughing to a depth of 30cm. Especially suited to heavy and damp clays. (H6 gives ploughing depth to 35cm).

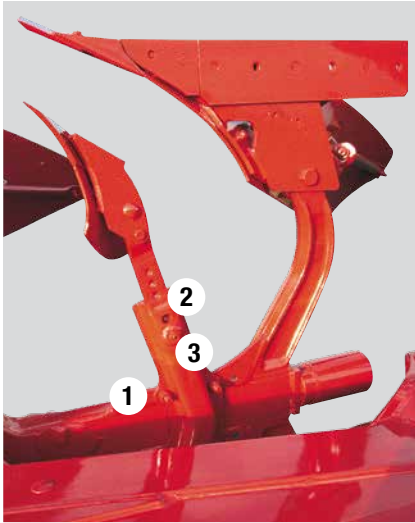


VP SLATTED BODY

Mouldboard composed of independent and interchangeable slats. Gives a reduction of traction force, due to a lower mouldboard surface area. Easy maintenance.



HIGH QUALITY EQUIPMENT



INDEPENDENT, EASY TO ADJUST SKIMMERS

Each skimmer is totally independent left from right and is firmly held in a sheath like support. The skimmers are shear bolt protected and are adjustable in three directions:

- 1** Forwards and backwards - with a choice of three positions the sheath bolts to the leg support via countersunk holes to avoid any risk of free play.
- 2** Up and down - rapid and precise height adjustment (20cm of adjustment) also with countersunk holes in the skimmer leg for easy locking of the leg at the desired height.
- 3** Side to side - for correct adjustment in relation to the disc coulters (where fitted).



DISC COULTERS

Discs have a diameter of 500mm plain or notched with the added choice on the traction bolt models of a 600mm disc. The disc serves to cut the furrow wall in front of the plough body giving a cleaner finish and improving trash incorporation.



TRASHBOARD

For trash burial in difficult conditions where the quantity of trash may otherwise block up the skimmers.



ALL PURPOSE ZX SKIMMER

Well adapted to ploughing on cereal or maize stubbles. ZXL : large share, ZXE : small share.



HELICOIDAL ZH SKIMMER

Helicoidal skimmer for deep trash burial. Well adapted to grassland ploughing.



ZRL HIGH CAPACITY SKIMMER

High capacity skimmer for trash incorporation throughout the soil profile. Excellent straw and maize trash burial.

PRESS ARMS WITH HYDRAULIC RELEASE



Available for the complete plough range the arm allows the use of a furrow press with easy hooking up and hydraulic push-off. On the pick-up hook part of the arm where there is most risk of damage all grease nipples and hydraulic hoses are protected inside the structure of the head. The arm folds up conveniently for subsequent transport.



The wheel is equipped with a central pivot allowing it to automatically follow any changes in working width. The depth is adjusted by turnscrew **1** (or hydraulically **2**) with the possibility to adjust the depth differently on each side. The depth wheel can be mounted in many different positions along the beam in order to achieve the best possible configuration.

A number of positions are possible on the beam allowing easy adaptation to all working conditions.



DEPTH WHEEL

Available in steel 500mm diameter or with rubber tyre 600mm diameter for the Master 123 series.



DEPTH WHEEL WITH SHOCK ABSORBER

Available for the Master 123 and 153 series in 600, 690 or 760mm diameters with rubber tyre. The shock absorber **3** not only removes the shock of the wheel falling during turnover but also ensures the wheel is in the correct rearwards inclined position as the plough is lowered back into work. (760 only on MASTER 153 5E/6)



HYDRAULICALLY ADJUSTED DEPTH WHEEL

Available on the Master 123 and 153 series in 600, 690 or 760mm diameters the depth wheel can be adjusted hydraulically (by cylinders no. **2**) directly from the tractor seat. (760 only on MASTER 153 5E/6)



HYDRAULICALLY HD TRONIC ADJUSTED DEPTH WHEEL

Ø 760, 370mm width. Outstanding carrying capacity in difficult conditions. Easier rolling owing to the large diameter and agricultural thread of the wheel.



COMBINED WHEEL

a single wheel ensures both work and transport positions



KTS 201 CONTROL BOX
(only HD TRONIC)
indicating the working depth in the cabin.



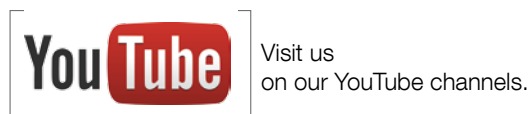
TRANSPORT WHEEL WITH SUSPENSION

The plough can be transported on the road in complete safety thanks to a 540mm diameter transport wheel equipped with its own suspension system **4** serving to protect the plough and tractor from possible transport shocks. The wheel can be swung into the transport position in a single movement by pulling on the locking pin. **5**.




Modèle	Beam configuration E : Extensible	Max authorized tractor power (kW/hp)	Traction bolt leg protection				NSH leg protection				
			Weight* (kg)	Working width (inches/cm)	Clearances (cm)		Weight* (kg)	Working width (inches/cm)	Clearances (cm)		
					under beam	point to point			under beam	point to point	
123 SERIES	MULTI MASTER 123	3 E	77/105	940	14" - 16" and 18" 35 - 40 and 45 cm	75 option 80 (in 102)	90 or 102	1165	14" - 16" and 18" 35 - 40 and 45 cm	75	90 or 102
		4 (3 + 1)	103/140	1160				1420			
		4 E		1270				1525			
		5 (4 + 1)	129/175	1490				1785			
		5 E		1585		-					
		6 (5 E + 1)	155/210	1830		-					
	VARI MASTER 123	3 E	77/105	1020	12" to 18" (in 90) 30 to 45 cm or 12" to 20" (in 102) 30 to 50 cm	75 option 80 (in 102)	90 or 102	1250	12" to 18" (in 90) 30 to 45 cm ou 12" to 20" (in 102) 30 to 50 cm	75	90 or 102
		4 (3 + 1)	103/140	1260				1500			
		4 E		1355				1630			
		5 (4 + 1)	129/175	1590				1880			
		5 E		1730	-						
		6 (5E + 1)	155/210	1970	-						
153 SERIES	MULTI MASTER 153	4 E	132/180	1460	14" - 16" and 18" 35 - 40 and 45 cm	80	102 96	1635	14" - 16" and 18" 35 - 40 and 45 cm	80	102 96
		5 (4 + 1)	166/225	1710				1925			
		5 E		1735				2005			
		6 (5 E + 1)	198/270	1985				2295			
	VARI MASTER 153	4 E	132/180	1540	12" to 20" 30 to 50 cm 12" to 19" 30 to 48 cm	80	102 96	1665	12" to 20" 30 to 50 cm 12" to 19" 30 to 48 cm	80	102 96
		5 (4 + 1)	166/225	1815				1945			
		5 E		1835				1975			
		6 (5E + 1)	198/270	2070				2250			

For more information about your nearest KUHN dealer, visit our website www.kuhn.com



Your KUHN dealer



www.kuhn.com

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Some machines have a considerable weight. Respect the tractor gross vehicle weight rating, its lift capacity and maximum load per axle. The tractor front axle load must always reach minimum 20 % of the tractor net weight. Our material is produced in accordance with the European Machinery Directive in the member states of the European Union. In countries outside the E.U., our machinery complies with the safety regulations set by the country concerned. Some safety devices may have been removed from our leaflets in order to clarify the illustration. Under no circumstances should the machine be operated without the necessary safety devices in place (as specified by the assembly instructions and operators manual). We reserve the right to change any designs, specifications or materials listed without further notice. Machines and equipment in this document can be covered by at least one patent and/or registered design. Trademarks cited in this document may be registered in one or several countries.

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