











MASTER 153

MASTER 183

MASTER 123



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### MASTER 123-153-183

Reversible ploughs

# THE REFERENCE IN PLOUGHING

OF COURSE, THE FUTURE OF AGRICULTURE DEPENDS ON COMPETITIVENESS AND PROFITABILITY, BUT IT ALSO INCLUDES AN AWARENESS OF ENVIRONMENTAL AND SOCIAL ISSUES. OUR MASTER PLOUGH CONCEPT PROVIDES YOU WITH SOLUTIONS TO MEET THESE CHALLENGES.



#### QUALITY OF WORK

Create the perfect seedbed to ensure optimum germination of your crops. Successful germination increases the productivity of your crops.

#### ROBUST DESIGN

The proven reliability of the MASTER ploughs save you time and money. Benefit from uninterrupted work and a high resale value.

#### PERFORMANCE

Large working widths and impressive maneuverability mean your operational costs are reduced. With nearly 100,000 machines in operation worldwide, the MASTER range is the reference in the world of ploughing.

# WHAT IF INCREASED YIELD WAS AVAILABLE IN THE SOIL PROFILE?

#### Increasing yields through soil fertility

The higher the yields, the higher the nutrient requirements and uptake. For this to happen, soils must be able to provide more nutrients. A higher yield with the same number of growing days means higher daily uptakes.

To achieve this, the soil must be prepared in a way that supplies these nutrients. The following agronomic findings were made:

- A high root volume means a high capacity to take up nutrients and increases yield potential.
- Thin topsoil limits deep root development.
- A rich, prepared soil promotes root development and can provide the nutrients necessary for high yields.
- The roots that are most efficient at absorbing nutrients during the intense period of absorption are located deep in the soil.
- Nutrients must be available at the right time and in the right place!



Therefore, it is clear that farmers need to improve soil fertility in deeper profiles to increase yield potential. To achieve the same

yield potential on a leaner topsoil layer, the soil needs to be richer throughout the profile where the roots develop.

#### **Plant feeding**

Growing crops is above all an economic activity. These plant products are used for animal and human consumption or, in some cases, for energy. Soil management means caring for its physical, chemical and biological structure, in other words, soil preparation, which includes lime as well as organic and synthetic applications. The sole purpose of these applications is to nourish the plants and provide them with nutrients throughout the soil profile, encouraging root development mainly between 15 and 40cm deep.

Tine and disc cultivators as well as ploughs are suited to soil preparation. Unlike the plough, the cultivator produces a rough tillage, leaving most of the residue in the first few centimetres and less at depth. To compensate for this, tine implements are equipped with various types of deflectors to create a better mixing effect. On the other hand, a well-adjusted plough can enrich the whole profile. Because the plough tills throughout the soil profile, it allows the process of decomposition and the formation of humus to continue.

The plough is the most suitable tool for evenly increasing the richness of the soil in deeper horizons. Like all deep tillage tools, the plough should be used in relatively dry soil. Well ploughed soil does not bury the «surface» soil, but rather incorporates it into the whole soil profile worked by the plough. All soils, depending on conditions, climate and rotation, should be ploughed once in the rotation to improve the depth of the topsoil and fertility. The use of the plough must be adapted to the season, on soils suitable for ploughing.



The plough is not the only tool available for deep tillage. With disc or tine implements, the debris is mixed at the surface. Weeds and fungi cause disease, these remain on the surface and therefore more plant protection products are needed to fight them, when compared to ploughing. While some soils or crops can manage without ploughing, most cannot. It is therefore important to keep in mind the initial goal of growing a crop for a yield that will generate a viable margin for any hectare planted.

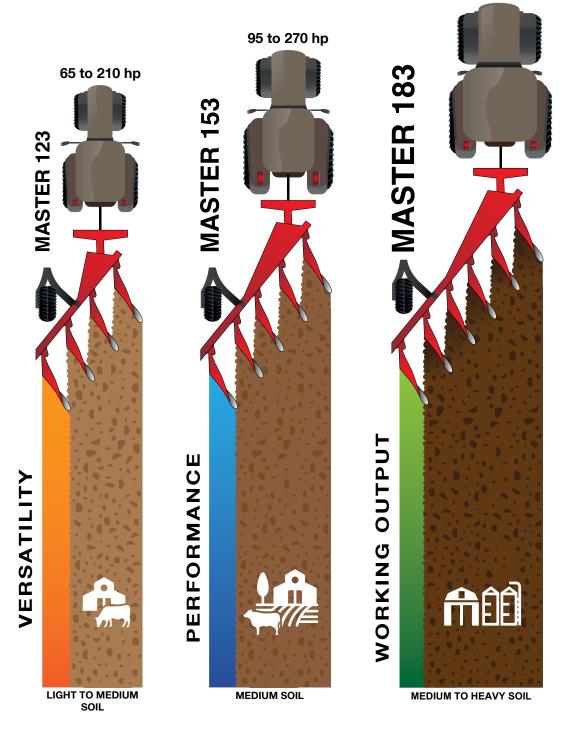
## THE PLOUGHING REFERENCE

KUHN MASTER mounted ploughs meet your requirements, including ease of use, quality of work and return on investment.

**The MASTER 123,** with its 120 x 120 mm frame, is the ideal plough for medium-sized farms that want a versatile, easy-to-use and reliable implement for tillage on medium to light soils.

**The MASTER 153 plough,** with its 150 x 150 mm frame, is the heart of the MASTER range. It is designed for more intensive use and more difficult working conditions than the MASTER 123, all while providing an ultra-manoeuvrable and easy-to-handle implement.

**The MASTER 183,** with its 180 x 180 mm frame, is dedicated to ploughing professionals who want a durable mounted plough with a high work rate and able to work with high power tractors.



125 to 325 hp

- From 3 to 6 bodies

- For tractors from 65 to 210 hp
- Suited to medium-sized farms looking for versatility, constant adaptation, ease of use and robustness.
- Its technical characteristics, its various equipment and its design will meet your requirements.
- Beam section 120x120
- 65 to 210 hp
- 3 to 6 bodies
- Multi-crop/livestock farms



The MASTER 153 ploughs have been designed to meet the same requirements as the 123 series, but are designed for more intensive use and more difficult working conditions with more powerful tractors ranging from 95 to 270 hp.

This range is available in MULTI-MASTER and VARI-MASTER versions, with safety traction bolts or Non Stop Hydraulic safety, from 4 to 6 bodies.

Possibility of mounting helical-bodies for easy passage of wide tyres.

- Beam section 150x150
- 95 to 270 hp
- 4 to 6 bodies
- Multi-crop/livestock farms, cereal farmers, farming cooperatives.



The MASTER 183 series, available with up to 7 bodies, meets the requirements of professionals with 125 to 385 hp tractors:

- Robustness and longevity: with its OPTIDRIVE headstock suspension and its MASTER design,
- Total safety, with the hydraulic non stop system, safety skimmers and transport wheel with suspension,
- Versatility and high work rate: in-furrow or on-land version, easy and fast transport/working modes, simple adjustments, multiple or variable widths to adapt to working conditions.
- Beam section 180x180 - 125 to 385 hp
- 5 to 7 bodies
- Cereal farmers, farming cooperatives



# **DESIGN AND ROBUSTNESS - ENGINEERED TO LAST**

The use of high quality materials combined with a simple and efficient design ensures that your plough is reliable. The longevity and robustness of KUHN ploughs haven't changed over the years. Whatever the age of your KUHN plough, you are sure to get the best ploughing performance.



#### **One-piece headstock**

The compact front end is mounted on hollow turnover shaft which is assembled with conical roller bearings, a slack adjuster system and allows for the passage of hydraulic hoses through the centre of the headstock.



A quick-hitch cross-shaft and adjustable pick-up cups (except 3E/4 T series 123) for easy hitching of the machine.

2 Double-acting automatic turnover cylinder. The hydraulic locking valve ensures perfect stability at work.

**3** A perfectly positioned toolbox to store spanners, spare bolts, etc.

#### Forged and heat-treated one-piece main link

4 Designed for strength and long service life, they are assembled with bushes and pins locked in rotation depending on the models.



#### Combined mechanical offset/alignment

A KUHN MASTER series plough is equipped with a combined offset/alignment patented system which allows:

- Easy, simple and quick adjustments: 1 single action to adjust the offset and alignment.
- A long service life: all linkage pins are locked in rotation and mounted on wearing bushes.

#### Hydraulic adjustments

5 For more comfort, all plough adjustments (offset, levelling, working depth, NSH pressure, depth wheel) can be controlled hydraulically from the cab. The driver can adjust the settings of the plough, on the move, while continuing to plough through difficult areas of the field.



#### Beam folding cylinder for MULTI-MASTER

6 A single action on the hydraulic spool allows the plough to be centred (less overhang), turned over and returned to the working position. We recommend this for all models with 4 or more bodies.



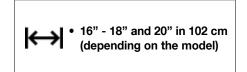
# **WORKING WIDTH SYSTEMS**

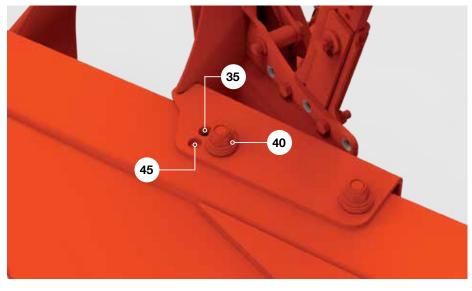
The working width of the MASTER 123, 153 and 183 mounted ploughs can be adjusted either mechanically with the MULTI system or hydraulically with the VARI system.

Choosing between a MULTI-MASTER or VARI-MASTER plough, depends on your working conditions, type of soil and the level of comfort you want.

#### **Multiple width**

The MULTI-MASTER has a mechanical adjustment of the working width by moving the bolts to the required width setting hole.







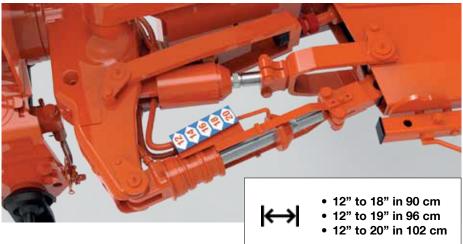


#### THE KUHN +

#### **Integrated linkage**

Protected and maintenance-free assembly. The entire mechanism for changing the working width is enclosed in the plough structure for maximum protection against water, dust and possible shocks. The moving pivot points are chromiumplated, locked in rotation and assembled

with wearing bushes to ensure zero risk of jamming and very low maintenance.



#### Variable width

VARI-MASTER: by continuous hydraulic adjustment from the tractor cab. A single action on the tractor spool allows automatic turnover (folding + turnover + return to working position).

#### Advantages of variable width

- Adapt to traction conditions for different tractors, steep slopes or poor traction.
- Alternate the ploughing profile depending on spring, summer or winter seasons.
- Take on difficult residue burial conditions.
- Neat finish to the fields.
- Avoid obstacles or straighten out furrows.

The versatility and full adaptability of this machine optimises your work rates.



# **SAFETY FEATURES**

With the T or NSH safety, the MASTER 123, 153 and 183 are dedicated to productivity at work while being effectively protected from impacts with obstacles.



#### 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 increasing or decreasing the pressure of the accumulator mounted on the headstock.

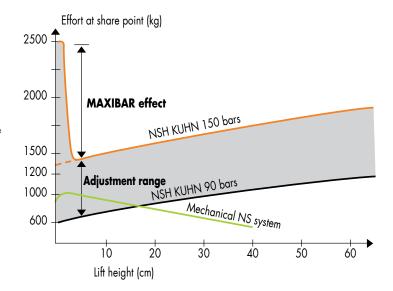
• Excellent performance - plough leg resetting is quick and positive once the obstacle is passed with no "drumming" of the plough bodies in work.

• **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.

**VARIBAR system:** An optional system which allows the NSH pressure to be adjusted from the tractor cab. Can be used 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.



THE KUHN +

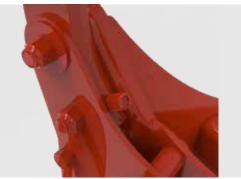
The break away pressure can be adjusted hydraulically in a matter of moments to suit the working conditions.



#### Traction bolt leg protection

Abrupt breakage of the 16mm traction bolt following a force at the plough point in excess of 3200kg (MASTER 123) and of 4000 kg (MASTER 153-183) avoids risk of too frequent a breakage.

- The bolt is mounted in the direction of the force contrary to the conentional shearbolt method where the bolt runs across the line of force,
- Due to the «in-line» force, the bolt support, never deforms and never becomes elongated over time.
- t 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 BODIES**

Backed by nearly 120 years of experience in ploughing, KUHN has developed a range of bodies adapted to all the requirements of farmers. KUHN plough bodies are made from high quality, robust materials, and are designed to ensure optimum penetration in all soil conditions and maximum service life.



CYLINDRICAL P





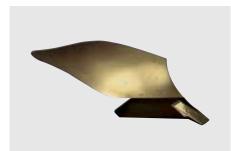








### The KUHN essentials



#### L HELICAL

Multi-purpose mouldboard for set-up furrows or reversible ploughing according to work speed. Wide clearance of the furrow buttom for passage of large tyres.



Recommended tyre width: 710 mm

Working depth from 18 to 35 cm



#### HELICOIDAL T

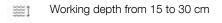
For well-formed furrows ploughed at shallow to medium depth. Suitable for use with wide tyres.

Working depth from 12 to 28 cm

Recommended tyre width: 710 mm



N HELICAL CYLINDRICAL Versatile mouldboard. Cylindrical at front part and helical at the rear part.





Recommended tyre width: 650 mm



#### HELICOIDAL HC

For deep ploughing with well-formed furrows, suitable for sticky clays and competition ploughing. Available in plastic for heavy, damp clays.



Working depth from 15 to 30 cm



Recommended tyre width: 650 mm



#### **CYLINDRICAL P**

For spring soil preparation with good surface crumbling for immediate seeding. High-speed capacity.

Working depth from 20 to 35 cm

Recommended tyre width: 650 mm



### V SLATTED BODY

1110

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

Working depth from 20 to 30 cm

Recommended tyre width: 650 mm





# Increase the service life of your mouldboards by 40%

The mouldboards are made with unequal layers of TRIPLEX steel, with a thicker wearing layer where it counts and a softer layer in the middle to guarantee the best compromise between wear resistance and ploughing quality.

When you choose a KUHN plough equipped with mouldboards made with unequal layers of TRIPLEX steel, you can be sure that you are getting one of the best cost-per-hectare deals on the market.

### **SHARE POINTS AND SKIMMERS**

# 6 reasons to choose KUHN forged wear parts

- **1. The type of steel** : offers the best compromise between hardness (wear resistance) and resilience (impact resistance).
- 2. Heat treatment : prevents breakage and increases the parts' robustness.
- **3. Ease of assembly** : the forging process allows for consistent and uniform production with precise tolerances and a longer service life.
- 4. The distribution of the material : we concentrate the material in the areas where it counts most to make sure you get a longer service life out of the parts.
- **5. + 20% compared to standard parts** : KUHN forged parts have a 20% longer service life than standard parts.
- **6.** A well-developed distribution network : optimal availability and short delivery times. You're guaranteed minimum downtime and optimised production costs.



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.



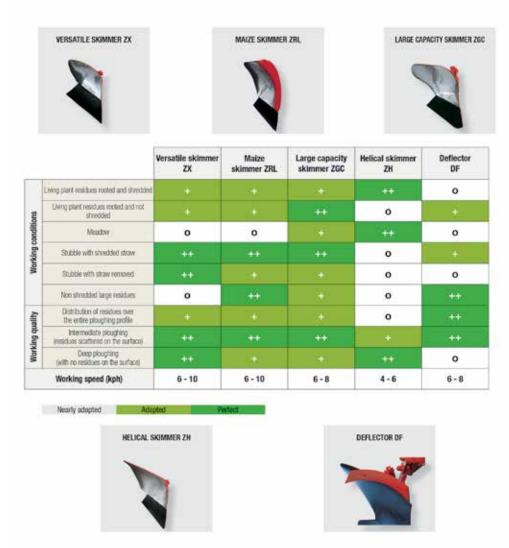
#### SUPER MARATHON

A patented manufacturing process with tungsten carbide. Carbide plates with return action offer better impact resistance.

### The role of the skimmer

The skimmer is critical as it cuts the strip of soil to bury the organic residue at the bottom of the furrow before the plough body passes through.

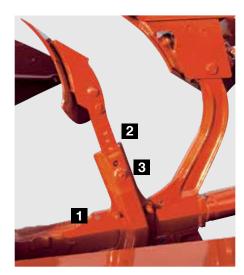




#### INDEPENDENT, EASY TO ADJUST SKIMMERS

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 coulter (where fitted).



# THE WHEELS

Wheels have several functions on the plough: control the working depth, transport or both. It is therefore necessary to choose the wheel that meets your needs in terms of ploughing. It can be placed in many positions on the beam allowing easy adaptation to all working conditions.

		Fixed de	pth wheel	Pivoting depth wheel	P	ivoting depth wh	sel	Side mounte	Side mounte combi-whee		
Features	Dimensions (mm)	500 x 160	600 x 210	600 x 210	600 x 210	690 x 320	760 x 370	690 x 320	780 x 345	690 x 320	
	Material - Tread design	steel	nubber striped	nubber striped	rubber striped	agri-tread		agri-tread	mixed rubber	agri-tread	
	Shock absorber	No		No		Hydraulic		Sţ	Hydraulic		
	Hydraulic version	ħ	10	No		Option		0;	niion	No	
tions	Easy settings	+:	+		++;	HE:	(m)			:::::	
Working conditions	Carrying capacity	0			8	- <del>10</del> 2				1000	
Workle	Turning comfort	0	0	0	++1		*	Net 1	10	- 10	
Recommended plough		2-3 bodies	2-4 bodies	3-4 bodies	3-4 bodies	4-5 bodies	from 6 bodies	4-5 bodies	from 5 bodies	4-5 bodies	

suitable Ad



#### Depth and transport wheel

- Tyre available in a steel version (Ø 500 mm)or with a lined profile (Ø 600 mm).
- Simple and precise depth adjustment by turnscrew with the possibility of setting left and right sides differently.



#### Depth wheel

- Ø 600 mm tyre with lined profile.
- It is characterised by the simplicity and precision of its settings.



#### Depth wheel with shock absorber

- Ø 600 mm with lined profile or Ø 690 and 760 mm tyres with scraper.
- The shock absorber ensures the wheel is in the correct rearwards
- inclined position as the plough is lowered back into work.

- Possibility of hydraulic adjustment.



#### **HD-Tronic wheel**

- Ø 760 mm agri-tread tyre with scraper.
- Delivered with wheel protector.
- Adjustable from the tractor cab with working depth indicated on the KTS 201 electronic control box (HD-Tronic).





#### **Combination side wheels**

- **Combination rear wheel:** Ø 690 mm scraper tyre. Features a two-step changeover between transport and work, with standard suspension for transport.
- **Combination side wheel:** Ø 780x345 mm or Ø 690x320 mm wheel. Ensures both work and transport positions.



#### Transport wheels:

- Transport wheel with suspension: You can safely transport your plough with a rear-mounted transport wheel with suspension, which protects your plough and tractor. The wheel can be swung into the transport position by pulling on the locking pin.



# ACCESSORIES

The MASTER 123, 153 and 183 ploughs can be fitted with a variety of equipment to improve ploughing performance. This equipment will make the difference and allow you to improve your comfort, your quality of work and your profitability.





#### **Disc coulters**

The disc coulter provides a clean furrow wall for better comfort during the next passage of the tractor.



#### 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 transport.







#### KTH 12 and KTS 10 hydraulic selectors

The KTH 12 selector lets you control 2 hydraulic functions with just one double-acting hydraulic distributor.

The KTS 10 selector lets you manage 3 to 10 hydraulic functions with just one double-acting hydraulic valve. The KTS 10 controls the functions in the following order: variable width, hydraulic offset, hydraulic control wheel, hydraulic levelling and VARIBAR.



#### HD-Tronic wheel and KTS 201

- This unit is delivered as standard with the HD-Tronic wheel and indicates the ploughing depth in the cab. No need to turn around to view the wheel to spot the working depth.
- Easy identification of the nominal working depth.
- Backlit display for excellent night time visibility.
- Depth wheel with shock absorber as standard.

### **Specifications**

	MASTER 123													
			MULTI-MA	ASTER 123			VARI-MASTER 123							
Beam configuration E : Extendable	3E	4 (3+1)	4E	5 (4+1)	5E	6 (5E+1)	3 E	4 (3+1)	4E	5 (4+1)	5E	6 (5E+1)		
Max authorised tractor power (kW/hp)	77/105	05 103/140		129	129/175		77/105	103/140		129/	/175	155/210		
Traction bolt leg protection														
Weight* (kg)	940	1160	1270	1490	1585	1830	1020	1260	1355	1590	1730	1970		
Working width (inches/cm)		4" - 1	6" and 18" (	35 - 40 and	45 cm			2" to 18" (in 9 2" to 20" (in 1		12" to 18" 30 to 45 cm				
Clearances (cm)														
under beam			75 0 (in 102)		7	75		7: option 80			75			
point to point		90 o	or 102		90		90 or 102					90		
NSH leg protection														
Weight* (kg)	1165 1420 1525 1785			-		1250	1250 1500 1630		1880	-				
Working width (inches/cm)			" and 18" and 45 cm		-		12" to 18" (in 90) 30 to 45 cm or 12" to 20" (in 102) 30 to 50 cm				-			
Clearances (cm)														
under beam		7	75		-			7	5	-				
point to point		90 o	or 102			-		90 or 102			-			

(1) Information given as an indication and varies according to equipment and country of delivery



### **KUHN PARTS**



#### Designed and manufactured to rival time

KUHN foundries and forge as well as a high-level manufacturing process allow the production of spare parts to defy time. You can truly rely on our know-how and our genuine parts. Farmers benefit from our client support and logistics services via any KUHN PARTS warehouse, which provide quick and reliable repair solutions in cooperation with your nearest authorised KUHN dealer.

MASTER 153											MA	STER <sup>-</sup>	183			6         7           (5E+1)         (5E+1)           43/330         283/385							
MU	VARI-MASTER 153				MULTI-MASTER 183			MULTI-	MASTER	183 OL	VARI-MASTER 183												
4E	5 (4+1)	5E	6 (5E+1)	4E	5 (4+1)	5E	6 (5E+1)	5E	6 (5E+1)	7 (5E+1 +1)	5E	6 (5E+1)	7 (5E+1 +1)	5E	6 (5E+1)	(5E+1							
132/180	132/180 166/225 198/270		132/180	80 166/225		198/270	202/275	243/330	283/385	202/275	243/330	283/385	202/275	243/330	283/385								
										1		1	1		1	1							
1460	1710	1735	1985	1540	1815	1835	2070	2073	2341	2609	2273	2541	2809	2090	2355	2620							
1 3!		12" to 20" 12" to 1 30 to 50 cm 30 to 48				14" - 16" - 18" and 20" 30 - 40 - 45 and 50 cm			14" - 16" - 18" and 20" 30 - 40 - 45 and 50 cm			12" to 19" 30 to 48 cm											
			8	0		80			80			80											
102 96				10	12	9	6	96			96			96									
1635	1925	2005	2295	1665	1945	1975	2250	2230	2510	-	2430	2710	-	2285	2560	2840							
1 3:		to 20" 12" to 19" 50 cm 30 to 48 cm			14" - 16" - 18" and 20" 30 - 40 - 45 and 50 cm		-	14" - 16" - 18" and 20" 30 - 40 - 45 and 50 cm		-	12" to 19" 30 to 48 cm												
80				80			80 -		-	80 -		-	80										
102 96			10	96			9	6	-	9	96 -			96									

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#### **Discover the range of KUHN ploughs**



1. MASTER 103 - 2. MASTER 113 - 3. MASTER 123 - 4. MASTER 153 - 5. MASTER L - 6. MASTER 183

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