



CULTIVATION

PLOUGHS CULTIVATORS





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UNIA reserves the right to modify the offered range, including product withdrawal or a change to the technical specifications without prior notification.

The actual product colour may vary from the images shown.

If the machine features an additional option, the tractor's power consumption might change.

The weight of the machines is stated in KG, the power in HP.



3+	3+1	4+	4+1
600	700	740	870
60÷80	80÷100	80÷100	100÷120
3+	3+1	4+	4+1
890	940	980	1100
60÷80	80÷100	90÷120	100÷140
4		5	
800)	990	
90÷1	20	110÷150	
4		5	
980		117	70
90÷1	20	110÷	150
	60÷80 3+ 890 60÷80 4 800 90÷1	60÷80 80÷100 3+ 3+1 890 940 60÷80 80÷100 4 800 90÷120	60÷80 80÷100 80÷100 3+ 3+1 4+ 890 940 980 60÷80 80÷100 90÷120 4 5 800 99 90÷120 110÷ 4 5 980 117



S version

4

Stands out with NON-STOP body protection with suspension springs. The suspension spring has five leaves and can be extended to a seven-leaf package.

ADVANTAGES:

- TUR ploughs can feature a point (TUR L) or stepless (TUR VARIO) working width adjustment.
- The bodies are mounted on a 120×120 mm frame, which ensures optimum weight of the plough and maximum durability of its structure.
- Stepless adjustment of the first furrow slice enables the plough adjustment to any tractor's wheel track. The adjustment screw's lug facilitates changing the body's position.
- As the farm grows larger, TUR L plough can be upgraded to +1 version. An auxiliary body is fixed to the frame with six screws.
- A toothed disc coulter is mounted on a maintenance-free hub. For sodded area ploughing, the plough can be featured with coulters ahead of each body or with replaceable knife coulters.
- TUR ploughs can be featured with a LONG plough body. It is characterised by excellent furrow-slice putting, while maintaining low working resistance.
- Standard equipment of the plough includes a 200/60-14,5 supporting wheel that can be replaced with a wide wheel (320/60-12) at an extra charge.



IBIS M	2+	2+1
Weight [kg]	600	750
Power demand [HP]	50÷70	79÷90



The suspension axle

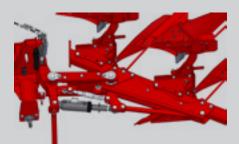
offers a two-step height adjustment, which enables coupling the machine with older tractors that do not lift their arms so high.

- A lightweight, compact construction and pantograph arrangement enable working with 50 HP tractors (2+).
- 100×100×8 mm frame is reinforced with extra boards in places transferring the greatest loads.
- The turnover shaft with bearings and a two-way hydraulic cylinder guarantee failure-free operation for many years. The actuator hoses are featured with filters.
- A side supporting wheel is equipped with a shock absorber, which ensures smooth and impact-free operation of the mechanism during plough rotation.
- As the farm develops, IBIS M plough can be upgraded to +1 version. An auxiliary body is fixed to the frame with six screws.
- 480 mm diameter toothed disc coulters are the machine's standard equipment; they are secured with lock bolts.
- 200/6-14.5 tyres enable maintaining the set working depth on light soils.





IBIS L	3+	3+1	4+	4+1
Weight [kg]	990	1180	1190	1380
Power demand [HP]	80÷90	90÷100	90÷120	
IBIS L PLUS	3+	3+1	4+	4+1
Weight [kg]	1080	1250	1270	1530
Power demand [HP]	90÷100	100÷110	120÷140	120÷160
IBIS LS	3+	3+1	4+	4+1
Weight [kg]	1120	1350	1440	1650
Power demand [HP]	80÷90	90÷110	90÷130	100÷150
IBIS LS PLUS	3+	3+1	4+	4+1
Weight [kg]	1190	1420	1600	1800
Power demand [HP]	100÷110	110÷120	120÷150	120÷160



The pantograph system

enables bringing the frame closer to the plough head – the machine's length is reduced and the centre of gravity moves forward. Beam tilting cylinder used in 4+ ploughs positions the frame in the turntable's axis line, which makes the process stable and safe.

ADVANTAGES:

- 120×120×8 mm frame profile combines high resistance and low weight.
- Owing to a pantograph system, the machine's centre of gravity has been moved closer to the tractor, which enables better use of the available power. Low lifting capacity of the three-point linkage is no longer a limitation.
- A bolt protection (IBIS L) releases the body when the force on the chisel amounts to 1,750 kg.
- The NON-STOP spring protection (IBIS LS) releases the body at 750 kg; when two leaves are added, the force increases by another 150 kg.
- The LONG body perfectly turns the furrow-slice and creates a very wide furrow bottom, which is excellent for the tractor's broad tyres.
- A side supporting wheel is equipped with a shock absorber, which ensures smooth and impact-free operation of the mechanism during plough rotation.
- A greater distance between the bodies and higher clearance in the PLUS model enable effective operation in the presence of large quantities of post-harvest residues.
- The beam tilting cylinder being standard equipment of 4+ ploughs facilitates rotation of tractors whose three-point linkage lifts the arms to a low height.



IBIS XM	4+	4+1	PLUS 4+	PLUS 4+1
Weight [kg]	1340	1510	1400	1580
Power demand [HP]	110÷140	100÷120	120÷150	130÷160
IBIS XM S	4+	4+1	PLUS 4+	PLUS 4+1
IBIS XM S Weight [kg]	4+ 1480	4+1 1700	PLUS 4+ 1560	PLUS 4+1 1790



A supporting and transport wheel

Is particularly useful for fields far away from the farm. It takes the load off the three-point linkage, the tractor is more stable, and the forces affecting the components responsible for the plough's rotation are lower.

3 UNIA

- IBIS XM combines the lightweight construction of model L and a durable frame with a slider used in XXL series.
- The slider connecting the frame with the turntable enables the use of a side or rear supporting and transport wheel.
- The turnover with full bearings ensures smooth rotation for many years of the equipment use; any potential play can be easily eliminated by tightening the shaft.
- The XM model's frame is additionally reinforced in places transferring the greatest loads during ploughing.
- A bolt protection (IBIS XM) releases the body when the force acting on the chisel (share point) amounts to 1,750 kg.
- The NON-STOP spring protection (IBIS XMS) releases the body at 750 kg; when two leaves are added, the force increases by another 150 kg.
- The LONG body perfectly turns the furrowslice and creates very broad furrow bottom, which is excellent for a tractor's broad tyres.
- The side supporting wheel fits the plough's breadth, which enables precise ploughing the soil off fences and baulks.



IBIS XXL	3+	3+1	4+	4+1
Weight [kg]	1180	1370	1390	1560
Power demand [HP]	90÷110	120÷150	120÷150	140÷180
IBIS XXL PLUS	3+	3+1	4+	4+1
Weight [kg]	1290	1430	1450	1640
Power demand [HP]	100÷120	110÷140	130÷160	150÷190
IBIS XXL S	3+	3+1	4+	4+1
Weight [kg]	1400	1590	1600	1760
Power demand [HP]	110÷130	130÷160	130÷160	150÷200
IBIS XXL S PLUS	3+	3+1	4+	4+1
Weight [kg]	1520	1690	1700	1880
Power demand [HP]	120÷140	140÷170	140÷170	160÷170
IBIS XXL H	3+	3+1	4+	4+1
Weight [kg]	1390	1570	1590	1750
Power demand [HP]	110÷130	130÷160	130÷160	150÷200
IBIS XXL H PLUS	3+	3+1	4+	4+1
Weight [kg]	1510	1680	1690	1870
Power demand [HP]	120÷140	140÷170	140÷170	160÷220

ADVANTAGES:

- A frame made of 140×140×8 mm quality steel profile, combined with a robust head and 120 mm diameter turntable, makes a machine with unmatched strength that can effectively work with 200 HP.
- High capacity in any conditions requires adequate soil and organic matter flow in the XXL model it is achieved owing to the body span of 90 cm and 80 cm clearance, while in the PLUS model the span amounts to 100 cm.
- The standard springs in IBIS XXL S model come with 7 leaves, but their number can be increased to 9 for ploughing in extremely difficult conditions.
- The furrow bottom formed by the LONG body enables working with tractors with 750 mm wide tyres.
- The BIG LONG body option in the PLUS version enables deep ploughing (32 cm) and adequate covering of large quantities of post-harvest residues.
- The XXL model can be aggregated with the TERRA tillage roller. It consists of V-rings. It crushes soil lumps and ensures adequate consolidation.



IBIS VARIO	4	5	PLUS 4	PLUS 5
Weight [kg]	1490	1790	1590	1970
Power demand [HP]	120÷150	140÷180	130÷160	150÷200
IBIS VARIO S	4	5	PLUS 4	PLUS 5
Weight [kg]	1700	2000	1790	2180
Power demand [HP]	130÷160	150÷200	140÷170	160÷210
IBIS VARIO H	4	5	PLUS 4	PLUS 5
Weight [kg]	1680	1980	1770	2160
Power demand [HP]	130÷160	150÷200	140÷170	160÷210



Hydraulic supporting wheel

The VARIO plough can be featured with a retractable supporting wheel. It enables maximum alignment of the ploughing start and end line at headland. When ploughing starts, first the plough's front is lowered, and then the wheel lowers the other bodies deep in the soil. At the end of the pass, the process is reversed.

- The frames in VARIO ploughs are adjusted to the number of bodies a 120×120×8 mm frame for 4 bodies and a 140×140×8 mm frame for 5 bodies, which offers a good weight to draw-bar pull demand ratio.
- Stepless adjustment helps to increase the performance by 43% without leaving the tractor's cabin; the minimum ploughing width is 35 cm and the maximum ploughing width is 50 cm.
- If hydraulic adjustment of the first body is selected, you can make any corrections and set the plough (except for depth adjustment) from the operator's cabin.
- The standard springs in the VARIO S model come with 7 leaves, but their number can be increased to 9 for ploughing in extremely difficult conditions.
- The construction of the bolts enables uniform greasing of the sleeve in the plough's frame and VARIO bar. All lubricating points are easily accessible.
- The BIG LONG body option in the PLUS version enables deep ploughing (32 cm) and adequate covering of large quantities of post-harvest residues.
- The VARIO model can be aggregated with the TERRA tillage roller. It consists of V-rings. It crushes soil lumps and ensures adequate consolidation.





VIS L/ XL	4+	4+1	5+	5+1	6+
Weight [kg]	2700	2950	2980	3230	3260
Power demand [HP]	120÷140	140÷160	140÷170	160÷190	170÷230
VIS L/ XL	6+1	7+		7+1	8+
Weight [kg]	3510	363	0 3	890	3600
Power demand [HP]	190÷260	210÷2	290 25	0÷310	250÷310
VIS L S / XL S	4+	4+1	5+	5+1	6+
Weight [kg]	3030	3250	3280	3590	3620
Power demand [HP]	130÷150	140÷180	140÷180	170÷220	180÷250
VIS L S / XL S	6+1	7+		7+1	8+
Weight [kg]	3930	405	0 4	370	4140
Power demand [HP]	200÷280	220÷2	280 250	0÷350	210÷290



Easy positioning of the plough for ploughing

Ensures the ploughing quality, reduces fuel consumption and accelerates work. The line positioning in the VIS ploughs is extremely easy. Simply put the towing rod into the relevant hole after changing the body's working width. The ploughing depth and the first body are set without a wrench.

ADVANTAGES:

- The VIS ploughs are suitable for ploughing in most challenging conditions; the frame size in the L series model is 140×140×8 mm, while in XL series the frame size is 180×180×8 mm; such a robust structure ensures the machine's long life.
- Two Weber Hydraulik hydraulic cylinders ensure the plough's rotation; owing to their telescopic design and one-way operation, the rotation and manoeuvring are as stable as possible and the lift is not exposed to shocks.
- The axle of rotation at the back of the plough is mounted on cone bearings, which guarantees the plough's reliable rotation.
- The hitch trestle is connected with the plough's frame with a robust cross; a carefully designed hitch facilitates manoeuvring on tight headlands.
- The furrow bottom formed by the LONG body enables working with tractors with 750 mm wide tyres.



VIS ON LAND	5+	5+1	6+	6+1	7+	7+1
Weight [kg]	2980	3230	3260	3510	3630	3890
Power demand [HP]	140÷170	160÷190	170÷230	190÷260	210÷290	250÷310
VIS ON LAND S	5+	5+1	6+	6+1	7+	7+1
Weight [kg]	2980	3230	3260	3510	3630	3890
Power demand [HP]	140÷170	160÷190	170÷230	190÷260	210÷290	250÷310



The ploughing system can be easily changed

from the "in-the-furrow" to the "on land" option by unlocking and pulling the hydraulic actuator.

- VIS ON LAND is a semi-mountable plough for undisturbed soil ploughing; the distance between the catch point and the furrow edge enables working with a tractor featured with caterpillars or twin wheels.
- The plough's bodies are mounted on a frame with a 160×160×10 mm beam section; the profile has a higher resistance class (Re 500 and 700 MPa kN/mm²).
- The plough body's maximum span is 55 cm, which means that a plough with 8 bodies ploughs a 4.4 m wide strip during one pass!
- The plough's standard equipment includes the lifting actuator's shock absorption. It absorbs any surface roughness during transport and so vibrations are not transferred onto the machine frame or the tractor's three-point linkage.
- After providing a front supporting wheel with depth adjustment, the plough can work with tractors not featured with the EHR system.
- The BIG LONG body option enables deep ploughing (32 cm) and adequate covering of large quantities of post-harvest residues.





КОМВІ	XL 3,7	XL 4,2	XL 5,1	XL 5,6
Weight [kg]	1280	1360	1640	1720
Power demand [HP]	70÷110	80÷120	100÷150	130÷180
No. of tines [pc.]	36	42	50	56



Three types of tines

A standard KOMBI version comes with SU tines with a 32 mm wide double-sided cultivator point. The tine's entry angle ensures good mixing characteristics in the soil's top layer. The tine works best on light and medium soils.

The SV spring tine is most useful on heavy soils; the adequate angle of attack does not allow bringing soil lumps to the surface. The cultivator point in a tine with SK is 100 mm wide; it uniformly cultivates and crushes a lumpy soil layer.

ADVANTAGES:

- Three types of tines enable the unit's configuration for work in different soil conditions.
- Track openers secured with springs offer stepless span adjustment and height adjustment in steps.
- The rollers' section features a spring clamp. Stepless adjustment of the spring tension enables adjusting the operation to the field conditions.
- The front roller bars are twisted against the axis, which makes the roller less susceptible to clogging, and the crushing effect is very good.
- The suspension axle and trestle height adjustment enables coupling the machine with any tractor.
- The rear rollers have different diameters:
 - the first roller with a 320 mm diameter has lower rolling resistance, crushes larger lumps and compacts deeper soil layers
 - the other roller with a 280 mm diameter has a higher rpm, provides lumpy texture of the soil and smooths the surface.



CERES			L			XL
Working width [m]	2,5	2,7	3	2,7	3	3
No. of tine rows/type of tines [pc.]	2	2 rows / SI	J	3 row	s/SU	3 rows / SV
Weigh with ø320 string roller [kg]	670	690	725	780	810	-
Weight with pipe roller [kg]	680	700	750	790	820	940
Weight with ø500 Packer roller [kg]	930	970	1030	1060	1110	1210
Weight with ø500 Rubber roller [kg]	-	-	-	-	-	1360
Weight with ø400 Crosskill roller [kg]	_	_	_	_	_	1310
Power demand [HP]	45÷80	60÷90	60÷90	60÷100	60÷110	80÷120
No. of tines [pc.]	17	19	21	27	27	32



Coupler for a seed drill

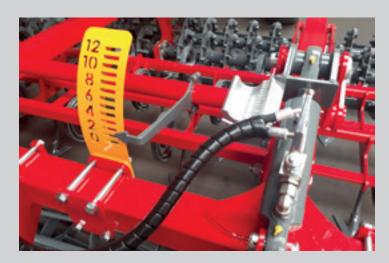
Adjustable hooks, two holes mounting the central coupler and adjustable wheel supports allow for combining the machine with different commercially available seed drills.

- The number of tine, roller and width configurations enables adjusting the CERES unit for any working conditions with different seed drills.
- Depending on the model, the unit can be featured with a string, pipe, Packer, rubber (XL) or Crosskill (XL) roller.
- The working depth is set with two controllers in an easily accessible location.
- The rollers are mounted on a self-aligning frame, which enables their operation in a floating position; they can be blocked if necessary.
- The coupler for the seed drill is lifted with a two-way actuator. It facilitates lowering the seed drill on slopes.
- The changeable scrapers in the Packer roller can be reversed to the other side and press against the roller surface.
- A rubber roller (XL) works perfectly once combined with a seed drill. The seeds falling into the pitch sprout quickly.





ATLAS II	2,5	3	4
Weight [kg]	1460	1720	2180
Power demand [HP]	90÷110	110÷150	130÷170
No. of tines SX or SZ [pc.]	10	12	16
No. of tines SV [pc.]	25	30	40
No. of tines SE [pc.]	16	20	25
Working depth [cm]	12	12	12



Working depth adjustment

is stepless, and the setting is made with a handy crank or hydraulic actuator. The tine section is placed on a parallelogram.

ADVANTAGES:

- The unit's robust structure ensures high quality work in the most difficult conditions. Over 540 kg load per one meter of the machine's working width.
- Four different tine sections can be mounted in ATLAS:
 - 2-row section of SX tines,
 - 2-row section of SZ tines,
 - 4-row section of SV tines,
 - 3-row section of SE tines.
- The working depth adjustment is done in a parallelogram pattern, and the tine penetration depth is shown in a legible scale, which is particularly useful when the unit is featured with a hydraulic adjustment system.
- The flat bars of the Ø400 string roller are turned against the axis of rotation, which makes the roller less susceptible to clogging and the crushing effect is better.
- The cultivation unit can be equipped with a rear Crosskill roller (400 mm ring diameter) instead of a string roller.
- The front skid can be replaced with a set of track openers with spring protection.
- A toothed rear skid with spring pressure effectively levels any surface roughness.



ATLAS II P	3	4
Weight [kg]	2250	2600
Power demand [HP]	80÷110	90÷130
No. of tines SX or SZ [pc.]	12	16
No. of tines SV [pc.]	30	40
No. of tines SE [pc.]	20	25
Working depth [cm]	12	12



Track openers

Track openers are the first tools impacting the cultivated soil. They lift, open and level the surface compacted with the tractor's wheels. Different adjustment options enable their adaptation to any conditions. A standard unit includes four track openers, regardless of the selected width.

- Six tools combined in one unit to prepare a perfect seeding bed in any conditions.
- Four different tine sections can be mounted in ATLAS II P:
 - 2-row section of SX tines,
 - 2-row section of SZ tines,
 - 4-row section of SV tines,
 - 3-row section of SE tines.
- A hydraulic front board mounted instead of the front skid enables smooth adjustment of the position depending on the current conditions, with no need to stop the set.
- The first Crosskill roller's rings overlap with the second row rings, forming an alternate self-cleaning roller.
- A long draw bar and semi-linkage axle enables effective U-turning with tractors featuring twin wheels.
- A three-point linkage system independent of the chassis allows for the cultivation unit's coupling with packing rollers or a seed-drill.
- 360/55-16 tyres help minimise adverse soil compacting during returning at the field edge, even when working with a seed drill.



ATLAS II HP

SEMI-MOUNTED SEEDBED CULTIVATOR



TECHNICAL SPECIFICATIONS:

ATLAS II HP	4	5	6	8
Weight [kg]	3200	3750	4450	5700
Power demand [HP]	120÷1600	140÷180	170÷210	190÷250
No. of tines SX or SZ [pc.]	16	20	24	32
No. of tines SV [pc.]	40	54	64	94
No. of tines SE [pc.]	26	32	40	54
Working depth [cm]	12	12	12	12



Finish roller

provides intense crusching thanks to the high circumferential speed and strings twistet in relation to roller axis.

ADVANTAGES:

- The structure of the second-generation ATLAS units is based on a modern, three-dimensional frame, where all machine components are mounted.
- Four different tine sections can be mounted in ATLAS II HP:
 - 2-row section of SX tines,
 - 2-row section of SZ tines,
 - 4-row section of SV tines,
 - 3-row section of SE tines.
- A hydraulic transport lock prevents unfolding of the side sections during transport. It is integrated with the actuator operation so there is no need for the operator to leave the tractor's cabin. It is the machine's standard equipment.
- The flat bars of the Ø400 string roller are turned against the axis of rotation, which makes the roller less susceptible to clogging and the crushing effect is better.
- A hydraulic front board has 150 mm wide plates; such a width ensures adequate soil crushing and levelling without excessive loading of the springs.
- The transport width of all ATLAS II HP units is 3 m.



VIKING LH	5,3	5,8	6,3	6,8	8
Weight [kg]	2000	2080	2200	2280	2700
Power demand [HP]	110÷140	120÷160	130÷170	155÷190	185÷225
No. of tines [pc.]	65	71	79	85	98

SK tines

If the unit is equipped with a set of SK tines, it can be used to eliminate emerging weeds. The cultivator points (goosefeet) of individual tines overlap and ensure full undercutting of the soil.



- VIKING L during one pass levels, opens, crushes and compacts the soil. The unit's lightweight construction enables its coupling with low-power tractors a 5.3 m wide tillage unit needs only 110 HP.
- The offset of the supporting and transport wheels ensures the machine's stability along the axis, vibration reduction and maintaining the tines' set working depth.
- Broad supporting and transport wheels and side wheels (200/60 14.5) have a large contact surface with the soil, which prevents the unit's bogging down and an increase in the rolling resistance.
- To provide better tillage results, the unit can be featured with a front hydraulic front board. The plates mounted on the springs effectively crush the soil and level the surface.
- The scraper ahead of the roller loosens the top layer and prevents water loss from the soil. It prevents crust formation on the soil surface after heavy rainfall.
- A ø320 mm string roller levels the field surface and provides excellent soil texture. It offers easy and convenient pressure adjustment with pins.

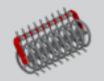




MAX	3	H 4	H 4,5	Н 6	H 7,5	Н 9
Weight with roller String/String [kg]	1305	2040	2205	2880	4000	4550
Weight with roller Crosskill/String [kg]	1510	2290	2510	3280	4500	5150
Weight with roller Crosskill/Crosskill [kg]	1555	2325	2585	3380	4620	5300
Power demand [HP]	90÷110	120÷160	140÷180	170÷220	190÷260	230÷300
No. of tines SV [pc.]	32	36	48	64	80	96
No. of tines SX/SZ [pc.]	12	18	20	24	30	36
No.of.tines SE [pc.]	20	24	30	40	50	60







MAX (option)



MAX CS



MAX CC

- A type-series of MAX units consists of three models with different widths: MAX unit with double string rollers, MAX CS with a combination of Crosskill-string rollers and MAX CC with alternate Crosskill-Crosskill roller.
- Four different tine sections can be mounted in the unit:
 - 4-row section of SV tines,
 - 3-row section of SE tines,
 - 2-row section of SX tines,
 - 2-row section of SZ tines.
- The front string roller with a large diameter of 400 mm has low rolling resistance, maintains the working depth and is perfect for crushing large soil lumps.
- The unit's working depth adjustment is based on a parallelogram, which makes it very precise and easy to handle.
- The front string roller can be replaced with a levelling bar.
- 4.5 m, 6 m and 9 m units can be additionally equipped with a chassis.



ARES L	2,5	3	3,5	4	4,5	6,0
Weight [kg] *	920	1080	1300	1420	2920	3420
Power demand [HP]	75÷90	80÷100	100÷120	110÷130	150÷180	170÷210
No. of discs [pc.]	20	24	28	32	36	48
Spacing between rows of discs [cm]	64	64	64	64	80	80

ARES L DRIVE	3	3,5	4
Weight [kg] *	1530	1740	1930
Power demand [HP]	80÷100	100÷120	110÷130
No. of discs [pc.]	24	28	32
Spacing between rows of discs [cm]	64	64	64



DRIVE system

A semi-mountable ARES L DRIVE disc harrow with a tyre roller can work with lower power tractors. It is particularly important during formation of a combined seed drill unit. A roller with high-pressure tyres perfectly levels and uniformly compacts the surface ahead of the sowing coulters, creating excellent conditions for plants.

- A compact and robust frame has been a characteristic feature of ARES L disc unit for many years. The machine's adequate weight enables its use with tractors with over 70 HP.
- The disc coulters are mounted on changeable, maintenance-free hubs. Each disc is protected with four triangular shock absorbers.
- A standard ARES L unit features CLASSIC 510 discs with small cut-outs around the circumference; they are perfect for shallow cultivation of stubble fields and for preparing the field for sowing.
- AGRESSIVE 510 discs are intended for work with larger amounts of post-harvest residues, on heavier soils. High rpm and deep notches with sharp edges are perfect for cutting and mixing of post-harvest residues.
- The unit can be equipped with a hydraulic coupler for the seed drill. Its lifting capacity enables safe coupling with UNIA POZNANIAK seed drill.
- The chassis and DRIVE system enable the formation of combined seed drill units for smaller tractors.





ARES L PLUS	2,5	3	4
Weight with pipe roller ø500 [kg]	920	1080	1420
Power demand [HP]	75÷110	80÷130	110÷160
No. of discs [pc.]	20	24	32
Spacing between rows of discs [cm]	70	70	70



Coupler with improved lifting capacity.

The seed drill is lifted with two actuators. The total lifting capacity is 1,500 kg. The coupler is locked with a pin to take the load off the tractor during transport.

ADVANTAGES:

- ARES L PLUS is a lightweight-structure 560 mm diameter disc coulter. Such a combination enables effective and deep stubble field cultivation with lower power tractors.
- The lifting capacity of the robust coupler lifted with two hydraulic cylinders is 1,500 kg. It enables safe coupling of a harrow with POZNANIAK and POLONEZ seed drills.
- The AGRESSIVE disc option enables working in conditions with large straw and catch crops, their elliptical shape ensures aggressive operation at a low working depth.
- A point adjustment with a system of pins enables quick and comfortable change in the working depth. Rigid locking of the roller extension enables additional loading of the machine.
- Two catching heights of the threepoint linkage arms facilitate coupling with different tractors in one farm.
- The Packer roller (option) is excellent for pre-sow cultivation on light soils; its large resistance area enables maintaining the set working depth.
- A rubber roller (option) ensures adequate consolidation in post-harvest and pre-sow cultivation. Its heavy weight can be used for additional loading of the machine.



ARES XL	3	3,5	4
Weight with pipe roller ø600 [kg]	1530	1875	2085
Power demand [HP]	110÷130	120÷140	120÷150
No. of discs [pc.]	24	28	32
Spacing between rows of discs [cm]	80	80	80

ARES XL	H 4	H 4,5	H 6,0	H 7.5
Weight with pipe roller ø600 [kg]	2470	3075	3630	4485
Power demand [HP]	130÷160	150÷180	170÷210	190÷260
No. of discs [pc.]	32	36	48	60
Spacing between rows of discs [cm]	80	80	80	80

The DRIVE system

is also available in hydraulically folded machines. 670 mm diameter wheels mounted in offset ensure stability at high speed operation.



- Modular design and many options available at an extra charge enable customising ARES XL for work in any farm. The available range of the machine's width is from 3 m to 12 m.
- The machine can be featured with a chassis with 480/45-17 wheels and front supporting wheels at any time after the purchase.

 Pneumatic or hydraulic brakes allow for coupling the machine with different tractors.
- An elastic scraper, with adjustable angle setting and point adjustment of the working depth, is a piece of standard equipment in machines with a single roller.
- In order to level the field's surface better after tillage, the semi-mountable ARES XL unit can be featured with a hydraulically controlled front board.
- ARES XL offers a broad range of roller configurations. The available options include: ø600 mm V-ring roller, ø620 mm T-roller, ø600 mm U-roller, ø500 mm rubber roller (only in a mountable version), ø500 mm Packer roller and DRIVE system on a tyre roller made of ø670 mm diameter wheels.
- The V-ring rollers, T-rollers, and U-rollers are available in a double version. Their rings clean one another during rotation. An additional advantage of using alternate rollers in units with transport chassis is preventing the machines' resonating or vibrations.





ARES XM	5	6
Weight with pipe roller ø600 [kg]	4700	5100
Power demand [HP]	160÷190	170÷210
No. of discs [pc.]	40	48
Spacing between rows of discs [cm]	80	80



Spring fingers

distribute straw uniformly on the field surface. It contributes a lot to the development of succeeding crop. Large amounts of straw accumulated in one place degrade slower and make perfect environment for pathogen development.

ADVANTAGES:

- The chassis placed between the disc section and the packing rollers prevents the disc harrow resonating at high working speeds.
- The packing rollers' offset ensures stable transverse operation the machine does not swing to the sides at shallow working depths.
- A standard ARES XM unit features CLASSIC 560 discs with small cut-outs around the circumference; they are perfect for shallow cultivation of stubble fields and for preparing the field for sowing.
- AGRESSIVE 560 discs are intended for work with larger amounts of post-harvest residues, on heavier soils. High rpm and deep notches with sharp edges are perfect for cutting and mixing of post-harvest residues.
- ARES XM can be equipped with three different tools working ahead of the disc section:
 - hydraulically controlled front board
 - elastic fingers to spread straw
 - 400 mm diameter knife roller
- An elastic scraper, working ahead of the roller section, with adjustable angle setting and point adjustment of the working depth, is a piece of standard equipment.

ARES HP



TECHNICAL SPECIFICATIONS:

ARES HP	4	5	6	8
Weight XL [kg]	5560	6160	6530	8030
Weight XXL [kg]	5660	6260	6730	8210
Weight TX [kg]	6120	6700	7220	-
Power demand [HP]	170÷220	220÷230	240÷260	260÷280
No. of discs (XXL/TX) [pc.]	32	40	48	64
Spacing between rows of discs [cm]	120	120	120	120



Four hydraulic cylinders

ensure uniform folding and unfolding of the machine. After closing the ball valves, the robust main frames applies uniform load to the entire machine.



- ARES HP is a heavy disc harrow with a hydraulically folded frame. Heavy weight enables effective operation in conditions with a lot of organic matter.
- The disc interrow spacing is 120 cm. Such a large distance ensures adequate flow of any organic matter quantity.
- The XL model comes with 560/6 mm discs, while the XXL and TX models are equipped with 660/6 mm discs. Regardless of the selected version, the unit can be featured with CLASSIC cylindrical discs or AGRESSIVE oval ones.
- The discs in the TX version are secured with springs. It is the most durable solution designed for stony soils.
- Large wheels (550/45-22.5) ensure safe transport on roads. When U-turning in the field, even in damp conditions, they prevent excessive soil compacting.
- The draw-bar adjustment hydraulic cylinder with a latch system enables quick levelling of the machine after changing its working depth. It is particularly useful after equipping the machine with a hitch.
- Double compacting rollers ensure optimum consolidation and stable operation at higher speeds, while their self-cleaning structure helps avoid clogging with damp soil.



BUZZARD	7,5	9
Weight in standard version [kg]	1760	2000
Weight with knife cutter [kg]	2760	3130
Weight with cutting discs [kg]	2510	2730
Weigh with front board [kg]	2340	2550
Power demand [HP]	130÷170	170÷220
Quantity of springs [pc.]	60/120	75/150



Knife roller

is featured with hydraulic pressure adjustment. One section is 1.5 m wide. Each section is protected with rubber shock absorbers.

- Five rows of 16×700 mm elastic fingers uniformly spread straw on the field surface.
- Hydraulic adjustment of the working angle enables quick setting of the machine depending on the amount of residues and field conditions.
- Independent pulling back of the fingers in the last two rows helps to increase the mass flow.
- The harrow can be featured with a knife roller located in front of the finger section. It is meant to break and partly comminute post-harvest residues.
- The harrow can be well used for soil preparation in spring. The fingers intensively aerate and insulate the soil's top layer.
- Two hydraulic cylinders ensure stable folding and transport with the machine.
 A hydraulic transport lock prevents the machine's unfolding during transport.
- UNIA BUZZARD can be equipped with ETA 500 aftercrop seeder, which enables effective sowing of catchcrop seeds or grass sowing on grassland.



KOS B / S	2,1	2,6	3	3,7
Weight of spring-protected version [kg]	720	800	915	1270
Weight of bolt-protected version [kg]	930	1050	1200	1650
Power demand for spring-protected version [HP]	65÷80	80÷100	100÷140	140÷160
Power demand for bolt-protected version [HP]	75÷100	90÷120	115÷150	140÷180
No. of tines [pc.]	5	6	7	9
KOS B H / S H	3,7	4,5	5,4	6
Weight of spring-protected version [kg]	1830	2080	2375	2530
	1830 2360	2080	2375	2530 3080
[kg] Weight of bolt-protected version				
[kg] Weight of bolt-protected version [kg] Power demand for spring-protected	2360	2560	2950	3080



KX tines

Offer two-step adjustment. The first step reduces the tine's angle and enables working at a shallow depth with full undercutting. The second setting is perfect for dry years when problems with soil penetration by the machine occur. The chisel is set at an aggressive angle.

- Large distances between the working components enable continuous flow of even poorly cut straw. The tine spacing is 41 cm, while the distance between the tines in one row is 82 cm.
- The undercutter's breadth is 440 mm, and it is 3 cm greater than the tines' scale. Such positioning enables full undercutting even when working at shallow depths.
- The tine coulter's unit pressure is 320 kg − such a value enables deep penetration of the machine into the soil even in very dry periods.
- KOS H 6 with a chassis enables full use of the power of older tractors with the threepoint linkage's low lifting capacity. The axle is equipped with pneumatic brakes as a standard.
- KOS 2.6 and 3 offer the possibility of mounting ALFA catchcrop mechanical seeder with a mechanical drive. UNIA installation components enable quick coupling with a seed drill.
- B harrow with two rows of 460 mm diameter AGRESSIVE discs completes the tines' operation, mixing the straw with the soil top layer.





KOS PREMIUM	3	3,5	4
Weight with ø600 mm pipe roller [kg]	1880	2190	2500
Power demand [KM]	120÷150	140÷170	160÷190
No. of tines [pc.]	8	10	12
No. of discs (harrow type A) [pc.]	9	10	13
No. of discs (harrow type B) [pc.]	16	20	24
Tine spacing [cm]	37	37	37
Underbeam clearance [cm]	85	85	85



Two rows leveling harrow

Single disc leveling section can be changed into two rows disc leveling section. Eliptical discs in diameter 460 mm, are mounted on free-hubs. The shape of disc and high circumferential speed allows to level and mix topsoil.

ADVANTAGES:

- KOS PREMIUM is a double-beam unit with a tine structure that enables effective operation at depths over 30 cm.
- The mixing mouldboards are profiled in opposite directions to maximise the effect of soil and organic matter mixing.
- The tine release force is 550 kg at the end of the chisel; a chamfered pin is additionally used to improve the safety level.
- B harrow with two rows of 460 mm diameter AGRESSIVE discs levels the surface, crushes soil lumps and mixes the top layer.
- Hydraulic adjustment of the working depth with a system of 12 latches is the unit's standard equipment.
- A three-metre unit can work at the depth of 30 cm with 140 HP tractors.
- The tines are fixed to the frame with a clamping ring tightened with 4 screws, which eliminates weakening of the frame's main profiles during welding.
- Soil full undercutting by the undercutters at shallow stubble cultivation.



KOS PREMIUM LONG	3	4
Weight without roller [kg]	3000	3640
Power demand [HP]	140÷170	180÷220
No. of tines [pc.]	8	12
Underbeam clearance [cm]	85	85
Tine spacing [cm]	37	37



The chassis axle in the KOS PREMIUM LONG unit

is located between the scraping harrow and the roller. It makes the cultivation unit stable during transport, even if the catchcrops spreader is full.



- KOS PREMIUM LONG is a double-beam, semimountable unit with a tine structure that enables effective operation at depths over 30 cm.
- The mixing mouldboards are profiled in opposite directions to maximise the effect of soil and organic matter mixing.
- The chassis is lifted with two hydraulic hydraulic cylinders, while 340/55-16 wheels ensure safe transport and load capacity on waterlogged ground.
- The tine release force is 550 kg at the end of the chisel; a chamfered pin is additionally used to improve the safety level.
- B harrow with two rows of 460 mm diameter AGRESSIVE discs levels the soil, soil lumps and mixes the top layer.
- The tines are fixed to the frame with a clamping ring tightened with 4 screws, which eliminates weakening of the frame main profiles during welding.
- A three-metre unit can work at the depth of 30 cm with 140 HP tractors having low lifting capacity of the three-point linkage.



CROSS S	3	3,5	4	DRIVE 3	DRIVE 3,5	DRIVE 4
Weight with ø600 mm pipe roller [kg]	2260	2460	2620	2760	3080	3240
Power demand [HP]	150÷180	160÷190	170÷200	140÷170	150÷180	170÷200
No. of tines [pc.]	10	12	13	10	12	13
Tines spacing in the machine [mm]	300	290	300	300	290	300
Underbeam clearance [cm]	85	85	85	85	85	85
Beams spacing [cm]	75	75	75	75	75	75
Cultivator lengh [cm]	397	397	397	430	430	430



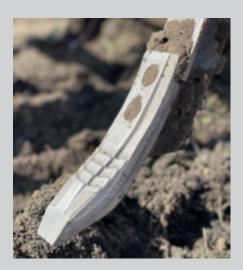
DRIVE system

CROSS S can be additionally equipped with a tyre roller with Ø670 mm or Ø800 mm wheels. CROSS S DRIVE is an ideal solution for farms where low capacity tractors are used. Owing to the tyre roller, the machine can be featured with a scraping and mixing harrow.

- The unit's frame consists of three profiles (100x100x8 mm section), and the beams are connected with 16 mm thick boards.
- The tine release force is 550 kg at the end of the chisel; a chamfered pin is additionally used to improve the safety level.
- 460 mm diameter discs rotate on maintenancefree changeable hubs; each coulter is secured with triangular rubber shock absorbers.
- A point adjustment of the extreme leveling discs' depth allows for adapting the work to the field conditions and cultivation depth.
- The breadth of the blades for shallow cultivation is greater than the tines' scale, which ensures perfect undercutting of the entire cultivated area.
- The tines are fixed to the frame with a clamping ring tightened with 4 screws, which eliminates weakening of the frame main profiles during welding.
- Hydraulic adjustment of the working depth is the unit's standard equipment.



CROSS HP	4	5	6
Weight with ø600 mm pipe roller [kg]	6300	6950	7270
Power demand [HP]	180÷240	240÷280	280÷320
No. of tines [pc.]	13	17	19
Tines spacing in the machine [mm]	300	290	305
Underbeam clearance [cm]	85	85	85
Beam spacing [cm]	75	75	75
Cultivator lengh [cm]	760	760	760



DURUM forged chisels

are available at an extra charge.
Their life is eight times longer than the life of steel chisels.
They are available for all UNIA units with a CX tine.

- CROSS HP is a semi-mountable, fourbeam cultivation unit for minimum tillage. The arrangement of the tines ensures the right flow of soil.
- The mixing mouldboards are profiled in opposite directions to maximise the effect of soil and organic matter mixing.
- Front supporting wheels (340/55-16) are standard equipment of the machine. They ensure stable operation, allow precise levelling of the machine and maintaining the set working depth.
- Standard equipment includes adjustment of the working depth and levelling with hydraulic cylinders featuring a system of latches. It helps avoid the unpleasant physical effort.
- A hydraulic transport lock prevents unfolding of the side sections during transport. It is integrated with the folding cylinders operation so there is no need for the operator to leave the tractor's cabin.
- The weights mounted on the draw bar minimise skidding of the tractor's rear wheels during work, increasing its towing power. In the transport position, the machine's centre of gravity is moved ahead of its axis.





KRET B	3	3/5	5	5/7	7
Weight without roller [kg]	610	720	840	980	1140
Power demand [HP]	75÷110	100÷130	110÷150	150÷180	160÷210
No. of tines	3	3	5	5	7
KRET S	3	3/5	5	5/7	7
					•
Weight without roller [kg]	830	1000	1300	1510	1785
Weight without roller [kg] Power demand [HP]	830 100÷130	1000 130÷160	1300 150÷180	1510 170÷230	1785 180÷240



KRET 3B and 3S

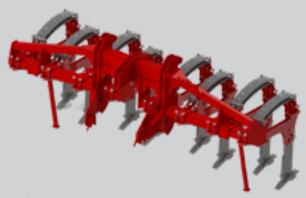
Subsoilers with the working width of 170 cm. Perfect solution for smaller farms. After removing the middle tine, they can be used for loosening soil on the tramlines with a tractor whose power is less than 70 HP.

ADVANTAGES:

- The subsoiler's is made of high-quality 200×100 mm profile. Its V-shape ensures a good flow of organic matter between the working components.
- The spacing can be adjusted owing to the tine mounting structure. It helps adapt the machine to the width of the tramline system in the farm.
- The 200/60-14.5 supporting wheels mounted at the frame edge allow the accurate setting of the working depth. The adjustment is stepless and is done with two toplinks.
- A three-metre broad frame can hold 3 or 5 tines, while a four-metre frame can hold 5 or 7 tines.
- The S version features a NON-STOP protection. Each tine is protected with two springs consisting of five leaves.
- The maximum working depth of the L type tine is 50 cm. 190 mm broad blades trigger a wave effect and open the soil uniformly at the entire width.
- Five available rollers: ø600 mm pipe roller, ø600 mm V-ring roller, ø600 mm U-roller, ø620 mm T-roller and ø600 mm steel roller.



PLOW B	4	6	8
Working width [m]	2,4	2,8	3,7
Weight without roller [kg]	1040	1340	1500
Power demand [HP]	130÷150	150÷180	170÷200
Underbeam clearance [cm]	95	95	95
PLOW S	4	6	8
Working width [m]	2,4	2,8	3,7
Weight without roller [kg]	1440	1820	2350
Power demand [HP]	130÷150	150÷180	170÷200



XL tines

are available at an extra charge. The side blades trigger a wave effect by uniform opening of the soil. The tines on a single-beam frame are installed in an offset arrangement. Such a solution helps maintain a continuous flow when stubble fields with plenty of straw are opened.

- The 200×100 mm section frame is made of high quality Swedish steel. Carefully selected materials enable safe operation at 35 cm.
- The PLOW type tines open the soil without turning it upside down. An adequate inclination angle results in lifting the soil that drops afterwards and its structure is loosened.
- The opening effect without turning the soil upside down can be used to improve the air ratio of grassland. 95% of the green growth remains intact.
- The opener works well in dry conditions and on heavily compacted soil. The coulter's unit pressure is 600 kg.
- The coupler available as auxiliary equipment in PLOW B enables its coupling with a disc unit or active harrow. Its lifting capacity amounts to 4,000 kg.
- A wide range of auxiliary equipment allows the machine adaptation to soil requirements and intended use. Any of the five rollers or supporting wheels can be added to the opener.





HARRIER B	3/5	3/7	4/7	4/9
Working width [m]	3	3	4	4
No. of tines [pc.]	5	7	7	9
Power demand [HP]	180÷240	260÷300	320÷370	360÷440
Weight with roller [kg]	2480	2670	2920	3130
HARRIER H	3/5	3/7	4/7	4/9
Working width [m]	3	3	4	4
No. of tines [pc.]	5	7	7	9
Power demand [HP]	190÷250	270÷310	330÷380	370÷450
Weight with roller [kg]	2930	3390	3590	3990



A backward spike roller

crushes the lumps excavated by the tines and mixes plant residues with soil. The spikes of the first roller attack the surface with their sharp ends, while the spikes of the other roller smooth the surface. Both rollers overlap and hence clean one another during work.

- A 3D frame and tine structure enable working deep under the soil layer. The machine's maximum working depth is 50 cm.
- HARIER H has a double protection of the tines and the frame. The tine release force at the end of the chisel can amount to 2,000 kg. Each tine is equipped with a safety catch.
- The side blades lift and aerate the soil at the entire working width of the machine. They can be set in any of the three positions available.
- The working depth adjustment is based on a parallelogram. Regardless of the set depth, the double roller carries out its self-alignment.
- The chisel's optimum angle of attack facilitates soil penetration in any conditions. It opens the soil intensively without high operating resistance.
- Triangular inserts mounted on the tine head crush and refine the soil excavated by the tine's point (chisel). It is particularly important in dry years.



HERMES	3
Working width [m]	3
Weight without roller [kg]	1120
Power demand [HP]	80÷120
No. of knives [pc.]	24



Main frame

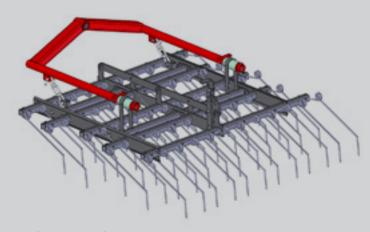
are made of 5 mm thick sheet metal and the knife older is 50 mm thick, which makes HERMES furrow highly resistant to mechanical damage.

- 24 knives 280 mm long crush and comminute even the heaviest soil. The maximum depth of the knives is as much as 14 cm.
- The side screens keep the soil within the machine. The bent ends direct the soil excess under the roller which makes the field surface free of any roughness.
- The front beam levels any surface roughness formed during ploughing and crushes larger lumps. A point adjustment enables lowering the skid into the soil or disabling its use.
- The point adjustment of the hitch enables coupling the harrow with tractors whose arms protrude beyond the tractor wheels' outline.
- The PTO is located on both sides of the gear. It allows the coupling with pneumatic seed drills with a fan powered through the PTO.
- The coupling set includes adjustable supports for the seed drill wheels and toplink.
- The PTO is the machine's standard equipment. It comes with an automatic friction clutch that stops rotor operation when overload occurs.





AKCENT	6	9	12
Weight [kg]	740	1260	1700
Power demand [HP]	70÷100	90÷120	110÷140
Quantity of sections [pc.]	4	6	8
Quantity of springs [pc.]	240	360	480



Section mounting

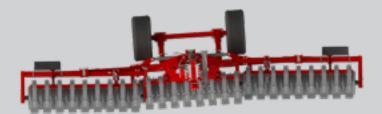
The front is suspended on two chains while the back is fixed with clamping rings. Such a combination enables following the ground and prevents harrow clashing. Stepless adjustment of the wheels helps load the fingers with the machine's frame weight.

ADVANTAGES:

- The centrally mounted sections help the springs adapt to major surface roughness. It is particularly useful in fields with rough topography.
- The ground and supporting wheels are of the same size, which helps distribute the pressure uniformly at the entire width of the machine. The wheel size of 23×8.5×12 helps handle the machine even on lightest soils.
- 450 mm long springs are made of high quality spring steel. The bar's cross section is 7 mm. The working components are galvanised.
- The machine's standard equipment includes hydraulic locks which are fully integrated with the folding process and automatically lock the side sections to prevent their unfolding.
- The angle of attack in all five spring rows is adjustable in each section. The modifications are made by placing a pin in one of the six holes.
- The folding hydraulic cylinders (AKCENT 9 and 12) are equipped with a proportional valve which ensures uniform folding of the machine's both sides. It contributes to the user's safety.
- For working on meadows and pastures, the harrow can be featured with bars on the last row of springs. They are used for levelling the molehills.
- The transport width of all AKCENT 9 and 12 weeders is 3 m.



TERIS XLH	4,3	5,3	6,3
Working width [m]	4,3	5,3	6,3
Power demand [HP]	90÷140	100÷150	110÷160
Weight CAMBRIDGE [kg]	2900	3300	3690
Weight CAMBRIDGE F [kg]	3030	3450	3860
Weight CROSSKILL [kg]	3170	3710	3940



Central fastening of the sections in TERIS rollers

enables precise ground following and machine adaptation to any surface roughness.

- UNIA TERIS packing rollers are among the heaviest commercially available rollers.
 Their breadths range from 4.3 to 9.3 m.
- Three different ring types are available for each breadth:
 - CAMBRIDGE 530 mm composed of alternately arranged smooth rings and toothed discs with a sharp vertex.
 - CAMBRIDGE F 530 mm contrary to standard Cambridge rings this ring has a narrow, wavy strip on its edge.
 - CROSSKILL 530 mm composed of alternately arranged Crosskill rings; conical pins are the crushing components.
- All rings in UNIA rollers rest on four arms, which makes them much more resistant to cracking.
- Each standard roller comes with a semi-linkage axle, which makes the machine highly steerable.
- The drawbar shock absorption helps minimise the amount of vibrations transferred onto the tractor and the roller. The unfolding hydraulic cylinder's bean-shaped hole allows the roller's adaptation to the field surface.



TINES

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EQUIPMENT OPTIONS

TINE TYPE	APPLICATION	CHARACTERISTICS	SOIL RECOMMENDATIONS/ SOWING TECHNOLOGY
SU 32×12	CERES L	spring tine with a replaceable two-sided coulter, 32 mm wide	SOILS
6		effective opening of the top soil layer	medium to medium-heavy soils, including stony soils
	}	optimum soil preparation for the sowing depth	TECHNOLOGY
, and the second	9	good mixing performance	■ pre-sow ploughing tillage
SV 45×10	CERES XL	spring tine with a replaceable two-sided coulter, 45 mm wide	SOILS
C	MAX ATLAS II	■ effective opening of the top soil layer	■ light to medium heavy soils, including stony soils
	VIKING	optimum soil preparation for the sowing depth	TECHNOLOGY
	/	good mixing performance	■ pre-sow ploughing tillage
SK 45×10×100	KOMBI	spring tine with a replaceable one-sided coulter, 100 mm wide	SOILS
E	VIKING	■ effective opening of the top soil layer and crushing of lumps	■ light to medium heavy soils, prone
	,	optimum soil preparation for the sowing depth	to lumping and stony soils
-	1		TECHNOLOGY
			■ pre-sow ploughing tillage
SX 45×260	ATLAS	■ tine with an extra reinforcing spring and a duckfoot	SOILS
(*	ATLAS II MAX	with the undercutting width of 260 mm	■ light to medium heavy soils, prone
9)	effective opening of the top soil layer and crushing of lumps	to lumping, and stony soils
Br Br		optimum soil preparation for the sowing depth	TECHNOLOGY
			pre-sow ploughing tillage or leveling
SE 32x12x175	MAX	■ tine with an extra reinforcing spring and a duckfoot	SOILS
G	ATLAS II	with the undercutting width of 260 mm	■ light to medium heavy soils, prone
)	effective opening of the top soil layer and crushing of lumps	to lumping, and stony soils
-	1	optimum soil preparation for the sowing depth	TECHNOLOGY pre-sow ploughing tillage or leveling
			■ pre-sow ploughing thage of leveling
SZ 40×25×260	ATLAS	■ rigid tine with a bolt protection and a duckfoot	SOILS
	ATLAS II MAX	with the undercutting width of 26 cm	■ light to medium soils, free of stones
- 4	,	good crushing performance	TECHNOLOGY
100			■ pre-sow ploughing tillage or leveling
PLOW	PLOW	■ tine for loosening the topsoil and the upper layer of the subsoil	SOILS
·		aerating and structure-forming action	■ all soil types
	1	■ improves aeration and water penetration into the soil	TECHNOLOGY
			■ conventional and minimum-tillage
PLOW XL	PLOW	■ tine for loosening the topsoil and the upper layer of the subsoil	SOILS
		aerating and structure-forming action	■ all soil types
fill.		■ improves aeration and water penetration into the soil	TECHNOLOGY
			■ conventional and minimum-tillage
KRET	KRET	■ helps to control water-to-air ratio in the soil	SOILS
1		facilitates breaking of the plough pan	heavy and very heavy soils, non-permeable,
J	ı	improves aeration and water penetration into the soil	with non-regulated water-to-air ratio
	,	,	TECHNOLOGY
			conventional and minimum-tillage

TINES

EQUIPMENT OPTIONS

TINE TYPE	APPLICATION	CHARACTERISTICS	SOIL RECOMMENDATIONS/ SOWING TECHNOLOGY
Tine CX with a narrow coulter	KOS PREMIUM CROSS CROSS HP KOS PREMIUM LONG	 tine for shallow post-harvest tillage very good stubble undercutting and mixing up to the depth of 15 cm undercutting width: 440 mm tine with non-stop protection for working at the depth up to 30 cm very good soil opening performance opens a soil strip ca. 4.5 cm wide (no possibility of using undercutting wings) low power demand (25-30% less than for a wide coulter) 	SOILS In a all soil types TECHNOLOGY Iploughing and ploughless, Ishallow post-harvest tillage SOILS If or all soil types TECHNOLOGY Iploughing and ploughless, Immedium and deep,
CX	KOS PREMIUM CROSS HP CROSS KOS PREMIUM LONG	 perfect for breaking the plough pan tine with non-stop protection for working at the depth up to 30 cm very good soil opening and mixing performance, without soil reversing possible operation with or without wings enables breaking of the plough pan undercutting width with wings: 370 mm 	■ post-harvest and pre-sow SOILS ■ for all soil types TECHNOLOGY ■ ploughing and ploughless, ■ shallow, medium and deep, ■ post-harvest and pre-sow
HARRIER	HARRIER	 very good soil opening and cutting performance deep penetrating tine, with reclamation properties lump crushing soil opening without reversing 	 SOILS medium and heavy soils, non-permeable, prone to lumping TECHNOLOGY ploughing and ploughless, medium and deep, post-harvest and pre-sow



DURUM

IMPRESSIVE STRENGTH OWING TO WELL-CONCEIVED DESIGN

Four tungsten carbide plates

- Two independent plates on the bow reduce the risk of cracking
- The carbide shell's angle of attack minimises the resistance and shields the coulter's vertex.
- The side plates help maintain uniform chisel area and shape

2. Material thickening

 Higher amount of steel in the folding area protects the spot where friction is most likely to occur

3. Corrugated surface

It is filled with soil during work; it provides an additional protective coat

4. Deep installation holes

Once filled with soil, they fully protect the fixing bolt's head.

5. Mouldboard protection

■ The chisel's thickness is higher than the mixing insert's thickness





■ KOS PREMIUM



■ KOS PREMIUM LONG



■ CROSS S



■ CROSS HP



DISCS

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EQUIPMENT OPTIONS

DISCS TYP	E APPLICATION	CHARACTERISTICS	SOIL RECOMMENDATIONS/ SOWING TECHNOLOGY
460 lassic	ARES FRONT	 disc diameter: 460 mm for shallow post-harvest and pre-sow tillage aggressive operation, the disc cuts deep into the soil good undercutting, mixing and reversing 	SOILS all soil types TECHNOLOGY ploughing and ploughless tillage
510 lassic	ARES L	 disc diameter: 510 mm for shallow and medium-deep post-harvest and pre-sow tillage aggressive operation, the disc cuts deep into the soil good undercutting, mixing and reversing 	SOILS all soil types TECHNOLOGY ploughing and ploughless tillage
L 560 lassic	ARES L PLUS ARES XL ARES XL A ARES XM ARES ROLLER UP ARES HP	 disc diameter: 560 mm for shallow and medium-deep post-harvest and pre-sow tillage and for large quantities of the plant mass aggressive operation, the disc cuts deep into the soil good undercutting, mixing and reversing 	SOILS ■ all soil types TECHNOLOGY ■ ploughing and ploughless tillage
XL 660 lassic	ARES ROLLER UP ARES P ARES HP	 disc diameter: 660 mm for medium-deep and deep post-harvest and pre-sow tillage and for large quantities of the plant mass and manure aggressive operation, the disc cuts deep into the soil good undercutting, mixing and reversing 	SOILS ■ medium to heavy soils TECHNOLOGY ■ ploughing and ploughless tillage
X 660 assic	ARES HP ARES P	 disc diameter: 660 mm with non-stop spring protection for shallow and medium-deep post-harvest and pre-sow tillage and for large quantities of the plant mass and manure aggressive operation, the disc cuts deep into the soil good undercutting, mixing and reversing 	SOILS ■ medium to heavy soils TECHNOLOGY ■ ploughing and ploughless tillage
510 gressive	ARES L	 disc diameter: 510 mm with scarce tines for shallow and medium-deep post-harvest and pre-sow tillage aggresive operation even at low working depths good undercutting, mixing and reversing 	SOILS light to heavy soils TECHNOLOGY ploughing and ploughless tillage
_ 560 gressive	ARES L PLUS ARES XL ARES XL A ARES XM ARES ROLLER UP ARES HP	 disc diameter: 660 mm with scarce tines for shallow and medium-deep post-harvest and pre-sow tillage and for large quantities of the plant mass aggressive operation even at low working depths good undercutting, mixing and reversing 	SOILS ■ medium and heavy soils TECHNOLOGY ■ ploughing and ploughless tillage
XL 660 gressive	ARES ROLLER UP ARES P ARES HP	 disc diameter: 660 mm for shallow and medium-deep post-harvest and pre-sow tillage and for large quantities of the plant mass and manure aggressive operation even at low working depths good undercutting, mixing and reversing 	SOILS medium and heavy soils, non-permeable, prone to lumping TECHNOLOGY ploughing and ploughless tillage
X 660 gressive	ARES HP ARES P	 disc diameter: 660 mm with non-stop spring protection for shallow and medium-deep post-harvest and pre-sow tillage and for large quantities of the plant mass and manure aggressive operation even at low working depths good undercutting, mixing and reversing 	SOILS medium and heavy soils, non-permeable, prone to lumping TECHNOLOGY ploughing and ploughless tillage

ROLLERS EQUIPMENT OPTIONS

ROLLER TYPE APPLICATION CHARACTERISTICS Pipe roller Standard equipment in disc harrows and It is best for compacting light and medium soils, but its low weight does not guarantee adequate compacting of heavy soils. cultivators Consolidates the top layer to a small depth. Large contact area with the soil is its greatest advantage. This way the machine does not penetrate too deep into the ground and maintains the set depth on light soils. Rubber roller Consolidates the soil in strips, ensuring good water rise in the rubber rings' operation area. ARES XL KOS PREMIUM KOS PREMIUM LONG ■ Makes a perfect combination with a seed drill – the seeds falling into the pitch sprout quickly. ■ The roller does not tend to clog. Suitable for all soil types. Standard version equipped with a scraper system. Packer roller ARES L ARES XL CERES ■ A universal roller for all soil types, excellent for combined seed drills. Its large resistance area enables working on light soils. KRET PLOW Offers good crushing characteristics. ■ When the roller is used in too wet conditions, soil tends to stick to its surface. Problems with organic matter clogging might occur in stubble field cultivation. Features adjustable scrapers. T-roller ARESI A medium-heavy roller made of tees curved into rings. ARES XL Offers good crushing characteristics and maintains lumpy texture of the soil. ARES P ARES HP Works best on medium-heavy and heavy soils. ARES ROLLER UP CROSS Supports spreading of post-harvest residues. KOS Provides deep-drawn soil compacting. KOS PREMIUM **KRFT** Featured with clogging preventing bars PLOW CUT XXL ARES L ARES XL ARES P U-roller A U-roller is perfect for any conditions. ■ U-shaped rings become filled with soil while working on clay soils, ARES HP ARES ROLLER UP which prevents crust formation on the field surface. On sandy soils, the large bearing surface of the channel section CROSS KOS KOS PREMIUM enables maintaining the machine's set working depth. KRET The roller consolidates the soil in strips, to a medium depth. PLOW CUT XXL Standard version equipped with cleaning bars. Spiral (V-ring) roller ARES L A V-ring roller works best on heavy and compact soils. ARES XL ARES P The V-shaped rings effectively crush soil lumps. ARES HP ■ The roller impacts deeper soil layer in strips. ARES ROLLER UP Scrapers mounted between the rings effectively remove the collected soil. CROSS KOS KOS PREMIUM On light soils, a small contact area and the shape of rings may cause the machine "drowning". KRET PLOW CUT XXL Steel roller ARES P CROSS S/HP It is a heavy roller that ensures consolidation in strips. Improves water and gas exchange conditions in soil. Comminutes and accelerates organic matter degradation. Owing to 600 mm diameter it ensures continuous operation. A standard version comes with adjustable and reversible scrapers. Tyre roller System DRIVE The roller compacts the soil in strips corresponding to the tyre breadth. Since tyres with agricultural tread are used, clogging does not occur, so the roller can be used on any soil type. The wheels are mounted in pairs, which facilitates any repair. ■ The rollers available in the tandem system Double rollers ARES L

ARES XL ARES XM ARES HP

CROSS HP

include: spiral, U − and T-roller types.

■ The overlapping rollers are cleaned automatically,

so there is no need to use scrapers.
 Additionally, a double roller significantly improves the machine's stability.





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