
ELVORTI
SINCE 1874

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ELVORTI SINCE 1874

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ELVORTI
SINCE 1874

ELVORTI factory was founded in 1874 in the city of Elisavetgrad by English entrepreneurs Robert and Thomas Elvorti. By the end of XIX century ELVORTI factory was the first and the only specialized factory for the production of seeders throughout Europe.

ELVORTI is an industry leader thanks to its first-class team of proactive and inventive engineers and specialists. We are united by our desire to produce quality agricultural machinery. ELVORTI's many years of experience in the market have allowed the company to prove its reliability and to gain a stable and impeccable reputation.

ELVORTI company proves that Ukrainian production meets European quality standards, develops its production in different directions and does everything to be an innovative and leading company. Cooperation with the best world companies, quality equipment, professionalism of specialists, as well as the introduction of new technologies - gives us the opportunity to maintain leadership in the market of Ukraine.

We offer comprehensive solutions and a wide range of trailed and mounted machines for quality technological processes in the shortest possible time.

Qualified support and after-sales service, direct communication with farmers and customer satisfaction are the most important tasks of ELVORTI today.

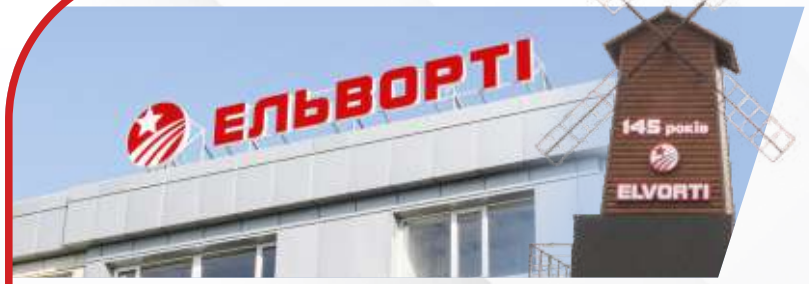
1874

The production of a new grain seeder SZ-5,4 was started.

1994

In 2003 the plant was renamed to «Chervona Zirka».

2003



On October 24, 2016, the **«Chervona Zirka»** enterprise changed the name of the plant to the historical **«Elvorti»** in honor of the founder - English entrepreneurs Robert and Thomas Elworthy.

In 2019, the plant celebrated its 145th anniversary.

2019

Production of grain seeders was started. In contrast to competitors, ELVORTI did not copy well-known models, but strived to produce machines of new design.

1877

The first row grain seeder was manufactured. The plant produced 114 types of agricultural machinery and equipment.

1888

In 1900, the ELVORTI grain planter won the Gold Medal in Paris.

The factory has 40 head offices around the world, employs 3.500 people and produced 38.345 agricultural machines. In 1917 the number of workers grew to 7 thousand people.

1900

The first tractor seeder T-1 was created. Its creators were a group of designers headed by engineer I. Kakhovskiy.

1929

In total for the post-war years, in July **1961** the one millionth seeder came off the conveyors of the plant, in September **1971** - two millionth, and in July **1983** - three millionth.

1961

Production of ALCOR seeding complex was started.

2012

The company «ELEX» for the production of backhoe loaders was founded as part of the «ELVORTI GROUP».

The production of the TETIS sprayer was launched.

2013

Foundry «Metalit» was established for the production of high-strength cast iron products using sand-clay mold technology.

2014

Production of POLARIS PREMIUM cultivators for continuous tillage is launched.

2017

PRECISION FARMING

The plant has started production of machinery for **PRECISION FARMING.**

2021

The company received the three most important awards of Ukraine for the production of agricultural machinery according to the results **of 2021.**

2022

ELVORTI
SINCE 1874

Nowadays ELVORTI plant is a national flagship of agricultural engineering in Ukraine, combining international experience, modern production, innovative equipment, quality products and stable operation for many years. Today ELVORTI company sells its products in 14 countries in Europe and Asia.

2023

STABILITY
RELIABILITY
PRECISION

Today, precision agriculture is a prerequisite for increasing the profitability, efficiency and sustainability of an agricultural enterprise in the market. Farmers, instead of increasing the area under crops, rely on more efficient processing of existing fields. The difference in the yield of agricultural crops in different areas within the same field can reach 300%. Therefore, it is not surprising that interest in precision agriculture is steadily growing. However, this type of farming requires the use of modern smart machinery, equipped with satellite navigation, new agricultural technologies, and systems analyzing the crop yield assessment.

We introduce Ukrainian machinery produced by ELVORTI for precision agriculture: the ALFA 4 Mini-Till grain seeder with electric seed-sowing devices, the VEGA 6 PROFI row-crop telescopic hinged seeder (its configuration also includes electric seed-sowing devices), and the TETIS 24 trailer sprayer with PREMIUM PLUS configuration for precision agriculture.

For more information about the entire range of ELVORTI machinery, visit our website **elvorti.com**.

ELVORTI SINCE 1874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PRECISION FARMING

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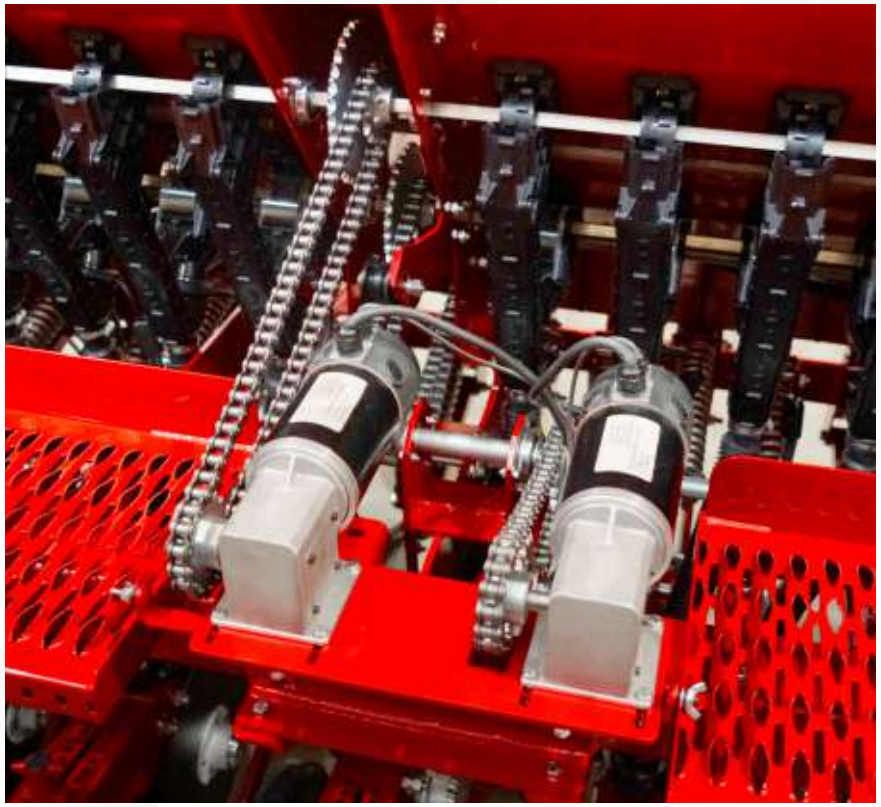
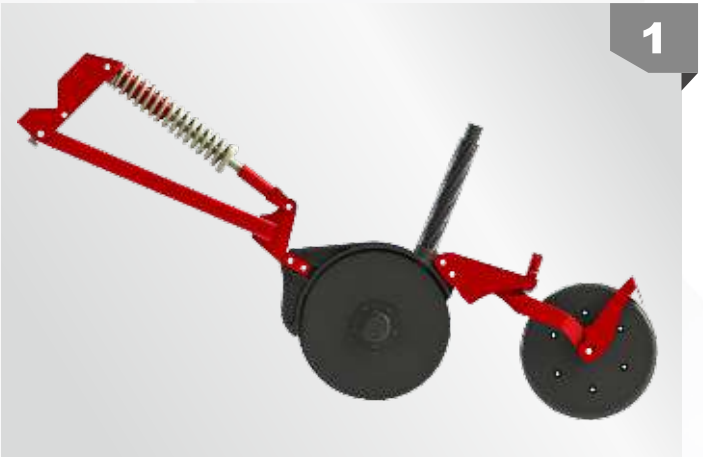
ALFA 4 THE MOST EFFECTIVE SEEDER IN THE SEGMENT
AN ELECTRIC-MOTOR-DRIVEN MODEL

- Increased in productivity due to higher sowing speed up to 15 km/h. This makes the seeder the most productive in the segment.
- Increased uniformity of the seeding rate achieved due to the use of an electric drive. The seeding rate does not depend on the speed and slippage of the wheels, which eliminates screenings.
- The accuracy and range of the seeding rates setting are enhanced. The electric drive allows adjusting various seeding rates in a wide range crops.
- Time saved when changing crops and changing the seed rates. Easy and smooth adjustment on the tablet from the tractor cab.
- A unique wireless system with electric drives. The operator uses an Android tablet to control the system. The tablet connects to the controller via a Bluetooth connection. The controller uses a patented wireless protocol to communicate with the seeder controller. That means that the only wires in the seeder are wires that supply power to the electric motors.
- Long service life of electric motors (2 500 resource/hours).
- Your costs for spare parts will be saved by reducing the number of assemblies. In addition, this model minimizes maintenance by eliminating variators, chains and sprockets.
- To detect location, the controller can be integrated with any third party GPS receivers.

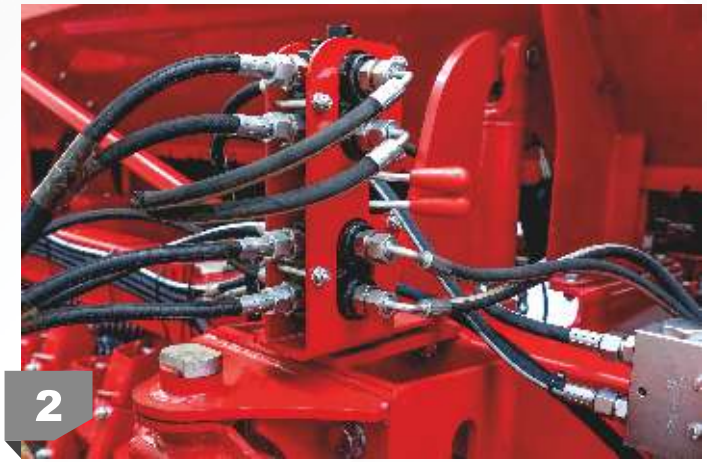


PRECISION FARMING



1.The new design of the CoultSystem with the packer roller provides coulter pressure up to 130 kg due to the hydraulic valve and increased stiffness springs.

The design of the CoultSystem drive system uses sliding sleeves made of ceramic polymer materials does not require lubrication and maintenance. Provide long service life due to high resistance to aggressive media.

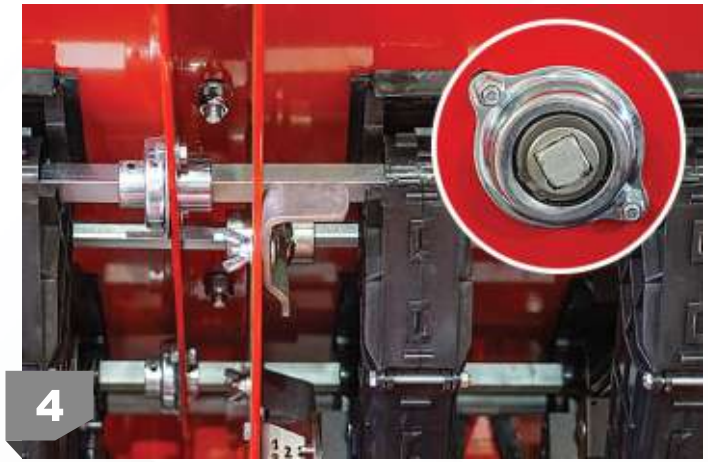


2.Hydraulic control valve (valve)

The hydraulic control valve (valve) designed to control the marker allows operating the marker by just one handle from the tractor cabin.

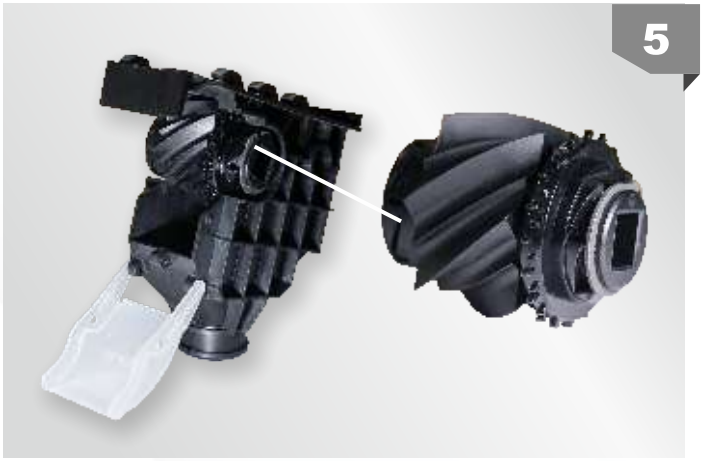
3.Constant pressure of the hydraulic system

A constant hydraulic pressure due to the installed shut-off valve fixing the initially set pressure of the coulters. This feature guarantees a consistently high quality of seed placement into the soil. It also allows maintaining uniform penetration of the coulters despite uneven ground or changes in the soil conditions.



4.Stainless steel drive shafts for the carcass screeners

The drive shafts of the carcass screening machines are made of stainless steel, which increases the durability of the shafts and the carcass screening machines located on them and eliminates their corrosion.



5.A new seed-sowing device made of polymeric materials

The seed-sowing device is equipped with two types of the coils:

- screw coil for sowing grain and leguminous crops;
- pin coil for sowing small seeds and grass seeds.

This solution ensures a constant and precise seeding rate from 0.8 to 400 kg/ha and is suitable for seeds of all types, sizes and shapes.

The seed-sowing devices are powered by an electric motor and guarantee continuity and uniformity of sowing regardless of the speed of movement.

6.Press wheels (2 sets), «narrow» or «wide», chosen by the client

Press wheels that are chosen by the client (narrow or wide) ensure sowing in soil with varying moisture. A new, reliable control system to regulate the depth ensures a stable, uniform depth of the covering of seeds. To clean the press wheels and ensure a stable sowing depth, cleaners made of wear-resistant DUROSTAT 400 steel are installed, which increases the life of the cleaners.

7.Wide wheels with increased contact patch

The ALFA 4 seeders are equipped with wide wheels with an increased contact patch and reinforced profile discs, which makes it possible to reduce the pressure on the soil and use the seeder in the spring for a more wet and loose environment. In addition, on ALFA 4 seeders, a hub with an increased axle diameter and a bearing with a higher load capacity are used, which increases strength and reliability when sowing with Mini-till.

8.A new towing and transport device

A new towing and transport device, which allows switching the seeder in 2 minutes from its transport position to the working position and vice versa. The transport width of this device is 2.65 m, which allows moving the seeder on public roads.

9.The operational life of the double-disk coulter increased by 100%

The operational life of the double-disk coulter increased by 100% due to the use of boron-containing steels of increased hardness. The double-disk single-row coulter allows sowing in fields with a large amount of crop residues. Maintenance-free hubs, mounted on coulters, ensure their long service life and reduce the amount of overall technical maintenance.

10.Electronic control system

The ALFA 4 Mini-Till seeder is equipped with a new version of electronic control systems, which uses new sensors with higher reliability and accuracy. Seeding control sensors installed on the seed-sowing devices provide 100% control of the seed flow. Optionally, sensors can be install on seed-sowing devices with fertilizers.

11.GPS module Garmin 18x provides a stable GPS signal in the field, determines the exact seeding rate in real time, transmits information to the electric motor control system, which increases the accuracy of the seeding rate and eliminates wheel slip error.

12.A bigger bunker

The ALFA 4 seeder is equipped with a bunker with a large capacity of 2 000 liters

The ALFA 6 seeder is equipped with a bunker with a large capacity of 3 000 liters

	ALFA 4	ALFA 6
Equipment type	semitrailer	semitrailer
Sowing width, m	4	6
Working speed, km/h	up to 15	up to 15
Number of rows	26	40
Productiveness, ha/h	up to 6	up to 9
Depth of sowing, mm	20 - 80	20 - 80
Coulters pressure, kg/cm²	to 130	up to 130
Seeding rate for seeds, kg/ha	0.8 - 400	0.8 - 400
Inter-row spacing, mm	150	150
Fertilizer application rates, kg/ha	25 - 250	25 - 250
Total capacity of seed bunkers, l (dm³)	1 200	1 800
Total capacity of fertilizer bunkers, l (dm³)	800	1 200
Dimensions, during transportation, mm	6 580 x 2 720 x 3 340	8 510 x 2 720 x 4 420
Dimensions, in operating condition, mm	5 050 x 5 260 x 2 000	5 300 x 7 360 x 2 000
Unitized with tractors with power, more than, hp	80	100
Weight, kg	3 500	4 400

***The production facility has an Ideal-line powder coating line (Denmark). This painting technology allows us to perform high-quality paintwork with a warranty period of more than 8 years.**

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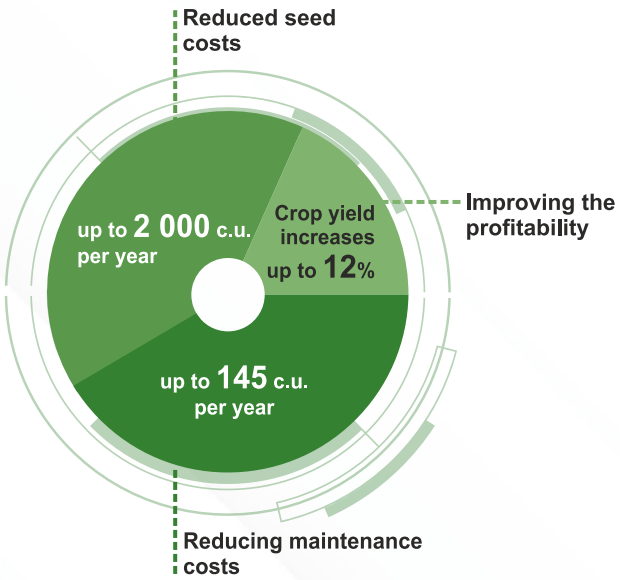
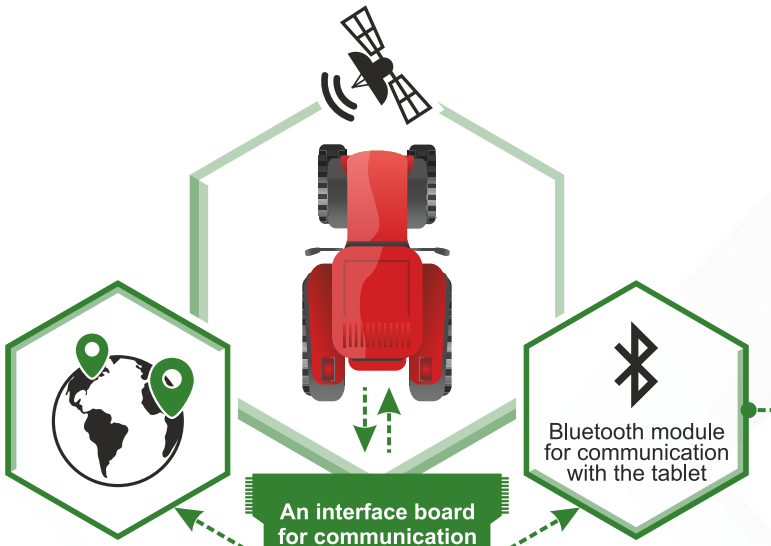
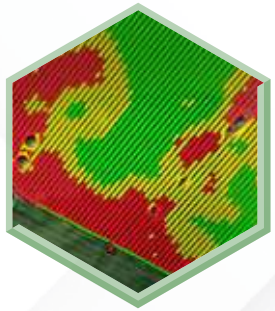
Precision agriculture. ALFA 4 with an electric drive.



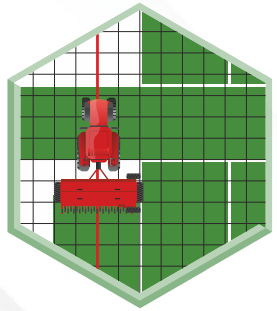
ELVORTI SINCE 1874



The seeding rate does not depend of tractor speed



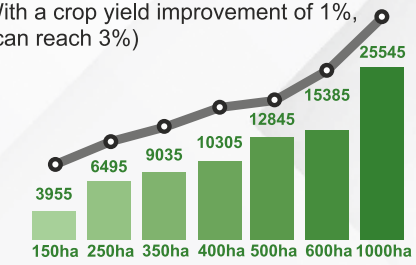
Saving time when adjusting the seeding rates



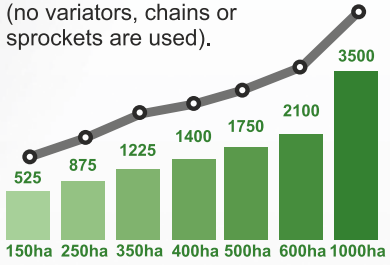
Automatic shutdown when reseeding

Increased productivity, the seeding speed up to 15 km/h

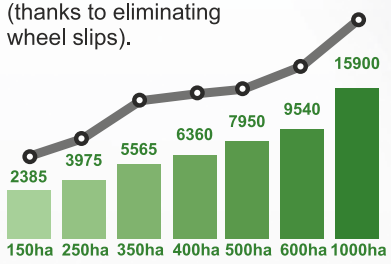
Total annual benefit to the farmer (c.u.) (With a crop yield improvement of 1%, it can reach 3%)



Savings on spare parts (c.u.) (no variators, chains or sprockets are used).



Increase in the crop yield (c.u.) (thanks to eliminating wheel slips).



PRECISION FARMING


6.75 ha/h
productiveness
tractor capacity
from 80 hp
ELVORTI
ELVORTI
VEGA 6 PROFI
Mini-Till
4.5 m
sowing width
up to 15 km/h
operating speed
6
number of rows

VEGA 6 PROFI

A hinged seeder precision seeding for Mini-till

Pneumatic planter VEGA 6 PROFI designed for precision seeding while using the minimal technology of soil cultivation. It can used for sowing seeds of corn, sunflower, soybean and other tilled crops with simultaneous application of mineral fertilizers and soil compaction in sown rows.

- Increasing productivity due to the option to higher the sowing speed up to 15 km/h without losing the quality of seeding.
- Increasing uniformity of the seeding rate achieved due to the use of an electric drive. The seeding rate does not depend on the speed and slippage of the wheels, which eliminates gaps.
- The accuracy and range of the seeding rates setting enhanced. The electric drive allows adjusting various seeding rates in a wide range crops.
- Time saved when changing crops and changing the seed rates. Easy and smooth adjustment on the tablet from the tractor cab.
- Reducing the cost of seed up to 3 000 euros per year (taking into account the area under cultivation of 1 000 ha) due to the elimination of reseeding.
- Savings in spare parts and maintenance costs of up to 400 euros per year by reducing the number of operating units.
- Crop yield increases up to 17% using options PRO AFP.
- The total savings of the farmer, taking into account the above, is up to 5 000 euros ha per year (taking into account the area under cultivation of 1 000 ha).
- This planter works with class 1.4 tractors.

PRECISION FARMING

1.Electronic control system

Designed as a wireless system based on Android OS. The tablet connects to the controller that controls the electric drives, by using Bluetooth and a wireless communication protocol. To determine location, the controller integrates with any third party receivers.

2.Equipment the Vega 6 Profi PRO AFP

The installed electric drive and software provide for the following functions using a tablet from the tractor cab:

- individual automatic shutdown of the sections;
- ordinal control of the variable seeding rate;
- compensation on turns of the angular speed of rotation of each seeding unit;
- manual or automatic control of the seeding rate by Rx task maps;
- seeding quality control in the form of histograms;
- generation of reports based on maps of actual introduction;
- motor rotation speed adjusted by manually entering the necessary parameters, or through a signal - from third-party GPS receivers, or a signal from speed radars.

3.The sowing section of the planter

The sowing sections of the seeder designed to ensure the process of seeds sowing including such stages as formation of a sowing bed, sowing of seeds and rolling the soil over the sown rows.

- a double-disk coulter made of hardened boron steels has an increased resource of up to 100%;
- the pressure on the soil can regulated up to 280 kg;
- possibility of using a clod remover or slotted disc;
- adjustable V-shaped press wheel;
- accuracy covering of seeds in depth ensured by gauge rollers. Discs of gauge rollers with spokes eliminate clogging of soil into the inner cavity of the disc;
- the high location of the seed-sowing device eliminates clogging with crop residues.

Row cleaners (needle rotors) are optionally available.

3

4

4.PROFI seeding unit. The sowing unit is made of durable aluminum alloys by injection molding, which ensures accurate single-grain seed dosing, its features are as follows:

- the presence of upper and lower adjustable seed ejectors, excluding the presence of duplicate seeds;
- amount of seeds falling from the hopper into the sowing chamber is regulated by a flap;
- easy and convenient maintenance without tools;
- a quick-release tedder, installed on the seeding disc, prevents compaction of seeds and getting stuck in the chamber of the sowing apparatus;
- presence of a viewing window makes the adjustment easy;
- the sealing gasket is built into the body and has a lip, the erasure of which signals the need to replace it;
- the sowing unit is mounted on a frame, which eliminates the influence of loads on it and guarantees durability of use;
- the presence of an unloading window ensures complete unloading of seeds after work;
- the presence of seeding discs of increased diameter allows to improve the quality of seed placement;
- the rotation shaft of the seeding discs is mounted on rolling bearings with increased dust protection, which increases service life.

5.New dry mineral fertilizer system

The system is a polymer-seeding device with polymer spools, which are non-corrosive, with the ability to quickly and smoothly change the application rate by turning the adjustment knob. This eliminated the need for a gearbox to change the fertilizer rate.

6.Telescopic frame

Two installed hydraulic cylinders ensure the unfolding of the frame into the working position, as well as the spacing of 700 mm. When rearranging the brackets (stops) on the extreme holes of the horizontal bars on the seeder, the 750 mm spacing can used. When the frame folded, the transport dimension of the seeder is no more than 3 000 mm for all spacing's.

7.High pressure hoses of improved quality

Using of high quality double crimped high-pressure hoses allows operating the planter in more demanding conditions not worrying for hydraulic fluid leaks and high pressure breaks.

8.Fan

The centrifugal fan designed to create a vacuum in the pneumatic system of the seeder. The fan driven from the PTO shaft of the tractor at 540 rpm by a cardan shaft. A centrifugal clutch mounted on the shaft of the lower fan pulley protects the belt drive from increased wear during a sudden stop of the PTO. When the tractor's PTO is disengaged, the fan speed gradually decreases, while a characteristic loud clicking of the rollers can heard in the overrunning clutch of the lower pulley until the rotation stops completely. This is a mandatory regular situation and is not a sign of any defect.

9.Double disc fertilizer coulter

Using of double-disc fertilizer coulters on VEGA seeders improved the quality of fertilizer distribution in the soil. At the request of the consumer, it is optionally possible to install single-disk coulters for fertilizers.

10.Adjustable supporting and driving wheels

The driving wheels designed to move the seeder in the combination with a tractor and in the working position, to transmit torque through the transmission mechanism to the disks of the seed-sowing devices and through the counter drive to the roller feed fertilizer sowing devices. This seeder has the ability to adjust the support-drive wheels in height.

11.Marker

The markers lowered and raised by a hydraulic mechanism that consists of a hydraulic cylinder and a high-pressure hose, and controlled from the tractor cab. The marker itself folded in half to reduce the height of the seeder.

12.Plastic bunkers

The seeder equipped with plastic bunkers made of high quality polyethylene.

This provides a significantly lower weight of the bunker, its resistance to various types of corrosion, and vibration resistance.

Such bunkers do not require additional painting and are resistant to corrosion from mineral fertilizers.

The total capacity of the seed bunkers of the VEGA 6 PROFI seeder is 312 liters, and the total capacity of the fertilizer bunkers is 560 liters. Thus, for example, when the seeding rate of corn is five seeds per one linear meter, the seeder can sow 3.6 ha without reloading.

13.Protective screen

The fertilizer bunker is equipped with a protective screen for fertilizers screening, which helps to prevent the ingress of stones and large objects that can disrupt the operation of the seeder.

14.Gauge wheels with spokes

New gauge wheels with spokes prevent soil sticking on the inner surface of the wheel, which results in elimination of damages of the hub bearing assembly of the disc coulter of the section and increase of the its service life.

15.Bearing unit

Disc coulters with new bearing unit. These seeders use double-row ball bearings, which have an extended service life and greater resistance to dynamic loads.

16.Packer roller

The V-shaped packer roller compacts the soil around the seeds and allows moisture to be drawn into the sowing area, which ensures better contact between the seeds and the soil and contributes to earlier and more uniform germination.

17.Adjustment screw

Precise and easy adjustment of the sowing depth is achieved by turning the handle against the scale.

18.WIDE RANGE OF THE BASIC SUPPORTING ITEMS

- Seed disks: 4 sets;

Crops	Diameter of the holes, mm	Number of holes, pcs.
Corn, castor beans, broad beans, kidney beans	5.5	30
Sorghum, sunflower (fine fraction)	2.2	40
Sunflower	3.0	30
Corn	4.0	30

- a set of lump eliminators;
- a set of slotting disks;
- electronic control system;
- electric drive;
- transportation device.




PRECISION FARMING

	VEGA 6		VEGA 6 (without fertilizer bunker)	
Type of unit	a hinged seeder		a hinged seeder	
Frame type	telescopic		telescopic	
Working width, m	4.2	4.5	4.2	4.5
Working speed, km/h	up to 15		up to 15	
Number of rows, pcs.	6		6	
Productivity, ha/h	1.2 - 6.2	1.62 - 6.75	1.2 - 6.2	1.62 - 6.75
Sowing depth, mm	40 - 100		40 - 100	
Row spacing, mm	700	750	700	750
Seeding rates for seeds, kg/ha	17.72 - 705.61		17.72 - 705.61	
Application rate for fertilizers, kg/ha	54 - 536		–	
Total volume of seed hoppers, l (dm^3)	312 (52 x 6)		312 (52 x 6)	
Total volume of fertilizer hoppers, l (dm^3)	560 (280 x2)		–	
Overall dimensions during transportation, mm	2 480 x 2 950 x 1 550	2 480 x 2 950 x 1 550	2 480 x 2 950 x 1 550	2 480 x 2 950 x 1 550
Overall dimensions, in working condition, mm	2 480 x 4 500 x 1 550	2 480 x 4 800 x 1 550	2 480 x 4 500 x 1 550	2 480 x 4 800 x 1 550
Aggregated with tractors with power, more, hp	80		80	
Weight, kg	2 538 ± 3%		2 538 ± 3%	

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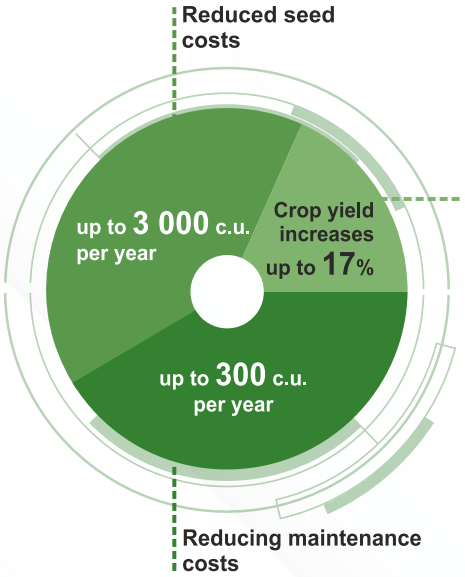
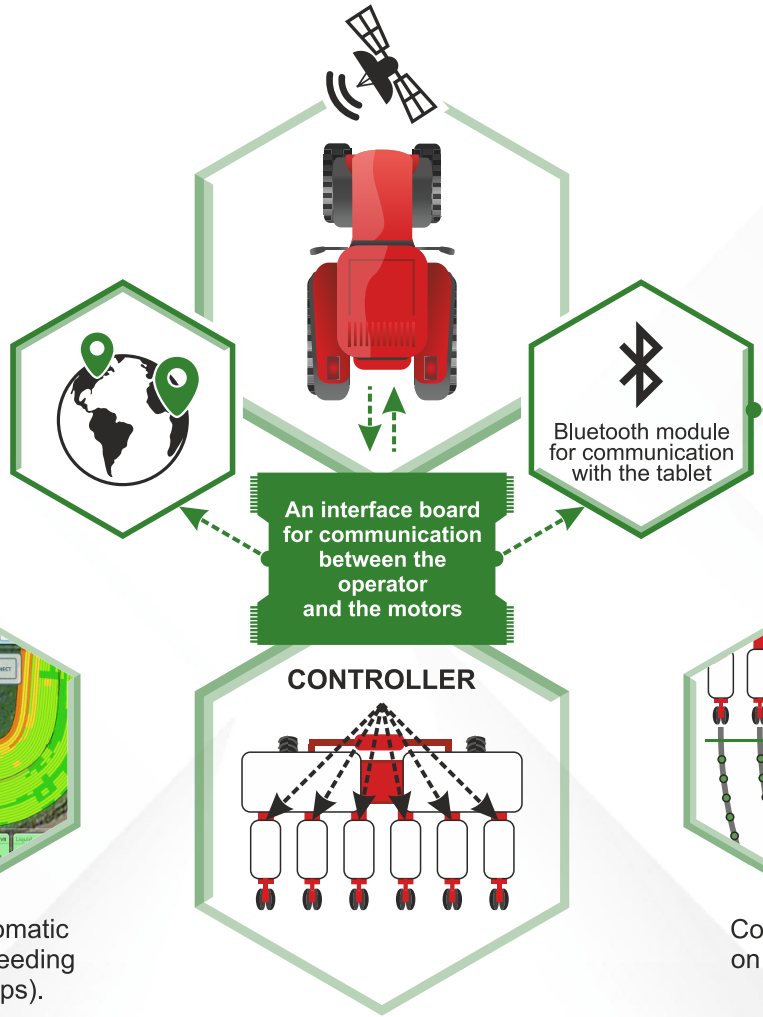
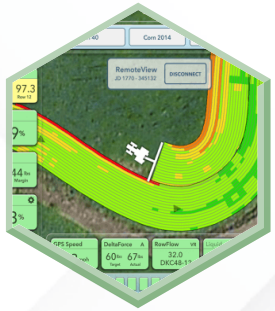
Precision agriculture. VEGA 6 PROFI with telescopic frame.

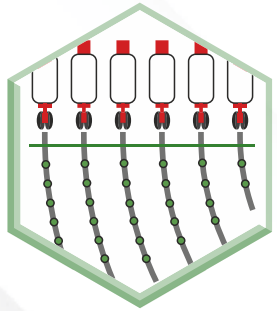




Seeding quality control



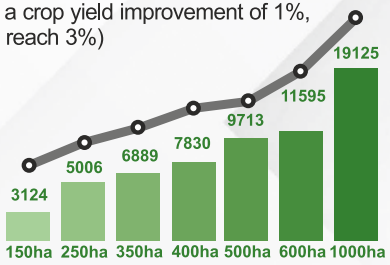
Manual or automatic control of the seeding rate (Rx- maps).



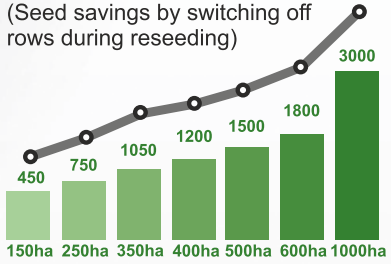
Compensation on the corners

Individual automatic shutdown of the sections

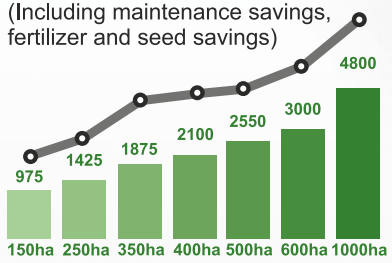
Total annual benefit to the farmer (c.u.)
(With a crop yield improvement of 1%, it can reach 3%)



Saving seeds (c.u.)
(Seed savings by switching off rows during reseeding)



Farmer Savings – Annually (c.u.)
(Including maintenance savings, fertilizer and seed savings)



PRECISION FARMING

ELVORTI
SINCE 1874

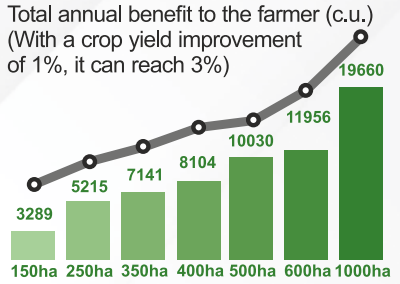
VEGA 8 PROFI WITH ELECTRIC DRIVESEED DRILL

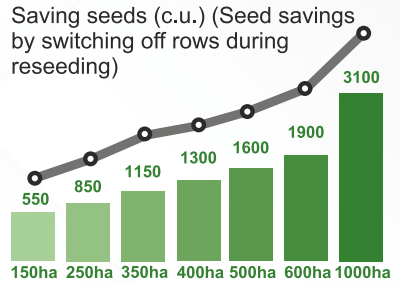
FOR PRECISION FARMING

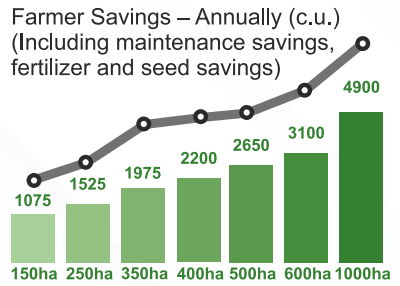
Equipment the VEGA 8 PROFI PRO AFP

The installed electric drive and software provide for the following functions using a tablet from the tractor cab:

- ✔ - individual automatic shutdown of the sections;
- ✔ - ordinal control of the variable seeding rate;
- ✔ - compensation on turns of the angular speed of rotation of each seeding unit;
- ✔ - manual or automatic control of the seeding rate by Rx task maps;
- ✔ - seeding quality control in the form of histograms;
- ✔ - generation of reports based on maps of actual introduction;
- ✔ - motor rotation speed adjusted by manually entering the necessary parameters, or through a signal - from third-party GPS receivers, or a signal from speed radars.







	VEGA 8 PROFI
Type of unit	semi-trailer
Working width, m	5.6
Working speed, km/h	up to 15
Number of rows, pcs.	8
Productivity, ha/h	up to 8.3
Sowing depth, mm	40 - 100
Row spacing, mm	700
Seeding rates for seeds, kg/ha	23.5 - 245.4
Total volume of seed hoppers, l (dm³)	416 (52 x 8)
Total volume of fertilizer hoppers, l (dm³)	720 (180 x 4)
Overall dimensions during transportation, mm	8 000 x 2 670 x 3 500
Overall dimensions, in working condition, mm	2 530 x 6 980 x 1 550
Aggregated with tractors with power, more, hp	80
Weight, kg	2 770

PRECISION FARMING


3200
fertilizer tank volume
tractor capacity from 80 hp
up to 36 ha/h
productiveness
24 m
sowing width
up to 15 km/h
operating speed

Trailed sprayer TETIS 24

Your turnkey solution in the era of precision agriculture.

Precision agriculture requires using sprayers that apply exactly the right amount of fertilizers and insecticides to the soil. The agricultural market has suitable sprayers, but as a rule, these sprayers are self-propelled and, therefore, expensive.

We bring to your attention the TETIS sprayer – the first Ukrainian trailed sprayer presented in four equipment for precision agriculture:

The Standard equipment is the first level of precision agriculture that uses the **BRAVO 400SLT** computer equipped with a 5.7 inch (145 mm) full color screen. This equipment allows for the following features of the sprayer:

- pouring out the working fluid according to a given flow rate regardless of the speed;
- automatic shutdown of spraying section-by-section;
- control of the application rate, speed, pressure, flow rate, dispensed quantity, tank level, area treated, treatment duration, distance traveled;
- automatic interlocking of spraying when speed falls below the set value;
- nozzles always operate within the allowable operating range;
- control of variable application control via instruction cards;
- automatic navigation (when there is a steering system on the tractor);
- hydraulic stabilization and boom level control;
- an option to connect to external GPS receivers;
- an option to connect 2 video cameras.

The Standard equipment does not provide for individual nozzles switching off.

bravo400SLT

PRECISION FARMING

bravo400s

The second level of precision agriculture is the **Premium** equipment.

The **Premium** equipment uses a **BRAVO 400S** computer, which allows the sprayer to operate with automatic individual shutdown of nozzles (the Celetron system).

This equipment of the sprayer provides for the following features:

- all the features listed above available with a **BRAVO 400SLT** computer;
- automatic shutdown of spraying implemented as individual shutdown of nozzles (Celetron system);
- an external multi-platform electronic control unit (ECU) ibx100. Connected to a **BRAVO 400S** monitor, this unit allows you to control all the advanced functions of the sprayer, such as individual shutdown of nozzles or automatic control of the wing height during spraying (the BLC system)
- a multifunctional joystick for convenience and work acceleration.

The **Premium** equipment does not have an internet connection and Wi-Fi.

delta80

The **Premium Plus** equipment belongs to the third level of precision agriculture. It is the most complete in terms of functionality and includes a DELTA 80 computer with a full-color display with a diagonal of 8.4 inches (213 mm).

This equipment has the ability to connect to the Internet, includes Wi-Fi, a 4-band 3G modem (GPRS, EDGE, UMTS, HSPA+) with a data transfer rate of 21 Mb per second, which makes it possible to monitor the spraying process anywhere and at any time (for example, from your office).

It also supports the **ISOBUS** international communication standard.

The **Premium Plus** equipment offers four varieties:

- **DELTA 80 Section:** spraying switched off section-by-section;
- **DELTA 80 Seletron:** spraying switched off by switching off individual nozzles;
- **DELTA 80 Section+BLC:** spraying can shut down by individual sections + the spraying height can automatically controlled;
- **DELTA 80 Seletron+BLC:** spraying can shut down by individual nozzles + the spraying height can automatically controlled.

When no equipment is connected, the **DELTA 80** computer can used as a navigator.

The fourth equipment, **ISOBUS,** implies that your tractor uses this very system.

ISOBUS (ISO11783) is an international standard that uses a single protocol through which various agricultural implements interact with a tractor regardless of its manufacturer. This makes it possible to use a monitor (Virtual Terminal, or VT) installed in the tractor cabin to control any agricultural equipment connected to such monitor.

The connection is extremely simple: one cable with a universal 9-pin **ISOBUS** plug is used.

Control is easy and simple, because only one monitor used for any connected agricultural equipment.

The sprayer must be equipped with an Implement ECU IBX 100 **ISOBUS** control unit, which not only controls all functions of the sprayer, but also controls the data exchange with the virtual terminal. In addition, the standard provides for the connection of additional control devices (remotes, joysticks, etc.) to facilitate control of the sprayer.

The main elements of **ISOBUS** used on a tractor are:
- the Virtual Terminal (VT);
- the Task Controller unit installed on the tractor;
- additional control devices (remotes, joysticks, etc.)

The main elements of **ISOBUS** used on the sprayer are:
- a control unit (ECU IBX 100 ISOBUS) for interaction between the tractor and the sprayer
- a universal plug (isobus plug).

The **ISOBUS** equipment also has four varieties:
- **ISOBUS Section:** spraying can shut down by individual sections.
- **ISOBUS Seletron:** spraying can shut down by individual nozzles.
- **ISOBUS Section+BLC**: individual sections shutdown + automatic control of the spraying height.
- **ISOBUS Seletron+BLC:** individual nozzles shutdown + automatic control of the spraying height.

If neither a Virtual Terminal (VT) nor a Task Controller unit is available on the tractor, a **DELTA 80** virtual terminal must installed to full control all spraying functions from the tractor cab.

1.Control at all stages: from the **Standard** equipment with a simple control to the **Premium Plus** equipment with a remote control, the quality of spraying controlled by a system made by an Italian company ARAG.

Precise operation: Using of GPS navigation with a signal update of 10 times per second (10Hz) provides high-quality spraying with variable application rates while using field maps with full data processing. A steering system can also mounted.

Automatic control of individual nozzles offered by the SELETRON system. **The number of overlap zones reduced by more than 85%.** Savings: up to 10% of the working fluid, and up to 11 euros per hectare when using the **Premium Plus** maximum equipment.

2.Uniform treatment of plants: thanks to the automatic control of the position of the boom (**BLC system**, available as an option), the optimal coverage of plants without gaps and drift of the working fluid achieved. The position of the boom wings is set with the help of the electronic control of three hydraulic cylinders.

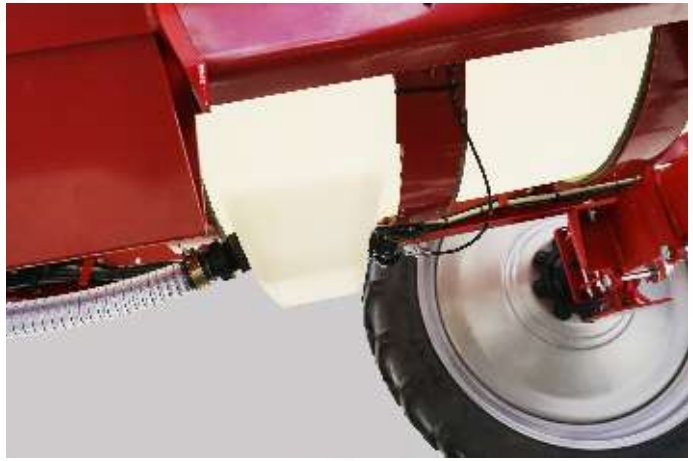
3.Boom as a quality indicator

The boom is made of light high-strength Austrian steel. A balancing stabilization mechanism with an effective system damping the boom vibrations.

4.A diaphragm-piston pump with capacity up to 250 l/ha. It provides spraying at speeds up to 15 km/h and increases productivity by up to 40% compared to competitors.

5.Premixer with a volume of 30 liters

Fast and convenient preparation of working liquid.



6.The unique shape of the main tank with a volume of 3 200 liters made of high-strength plastic prevents the working fluid from swaying. The inner surface of the tank contributes to the complete draining of the working fluid from the walls of the tank. Thanks to the special shape of the bottom of the tank, 100% of the working fluid drained. In addition, an electronic liquid level sensor installed in the tank. In addition, a tank washer installed, consisting of two nozzles.

A tank for flushing with a capacity of 250 liters.

7.Optimal spraying for each type of field
Three-way nozzles by the Italian company ARAG.
Blue nozzles: a flow up to 150 l/ha used for fine dispersion.
Red nozzles: a flow up to 300 l/ha used for medium dispersion.
A backup plug.

8.The vibration resistance during the movement of the sprayer increased thanks to the new wheel hubs.

9.Thanks to **the wide-angle driveshaft,** the system allows for full turning without turning off the power take-off.

10.This equipment can operated 24 hours a day
- using spot lighting for nozzles;
- using spotlight for nozzles.

This sprayer is equipped with a clearance lighting system.

	TETIS 18	TETIS 21	TETIS 24	TETIS 28
Type of machine	semitrailer	semitrailer	semitrailer	semitrailer
Working width, m	18	21	24	28
Working speed, km/h	6 - 15	6 - 15	6 - 15	6 - 15
Productivity, ha/h	10.8 - 27	12.6 - 31	14.4 - 36	16.8 - 42
Number of spray nozzles, pcs.	36	42	48	56
Application rate of working liquid, l/ha	50 - 300	50 - 300	50 - 300	50 - 300
Wheel track width (adjustable), m	1.4 - 2.4	1.4 - 2.4	1.4 - 2.4	1.4 - 2.4
Boom installation height (adjustable), m	0.6 - 1.85	0.6 - 1.85	0.6 - 1.85	0.6 - 1.85
Pump shaft speed, rpm	540	540	540	540
Operating pressure generated by the pump, no more than, MPa (Bar)	1 - 1.5	1 - 1.5	1 - 1.5	1 - 1.5
Chemical tank capacity, l	3 200	3 200	3 200	3 200
Tank capacity for system flushing, l	250	250	250	250
Hand wash tank, l	15	15	15	15
Mixing device type	ejector hydraulic mixer	ejector hydraulic mixer	ejector hydraulic mixer	ejector hydraulic mixer
Ground clearance, mm	300	300	300	300
Dimensions in transport position, mm	5 400 x 2 600 x 3 500	5 800 x 2 600 x 3 500	5 800 x 2 600 x 3 500	6 000 x 2 600 x 3 900
Dimensions in working position, mm	5 800 x 18 000 x 3 300	5 800 x 21 000 x 3 300	5 800 x 24 000 x 3 300	5 900 x 28 000 x 3 300
Aggregated with tractors with power, more, hp	80	80	80	80

TETIS 18

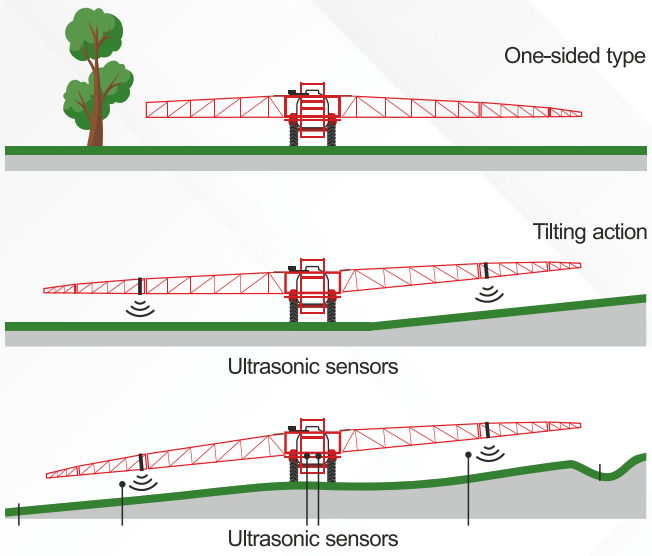
TETIS 21

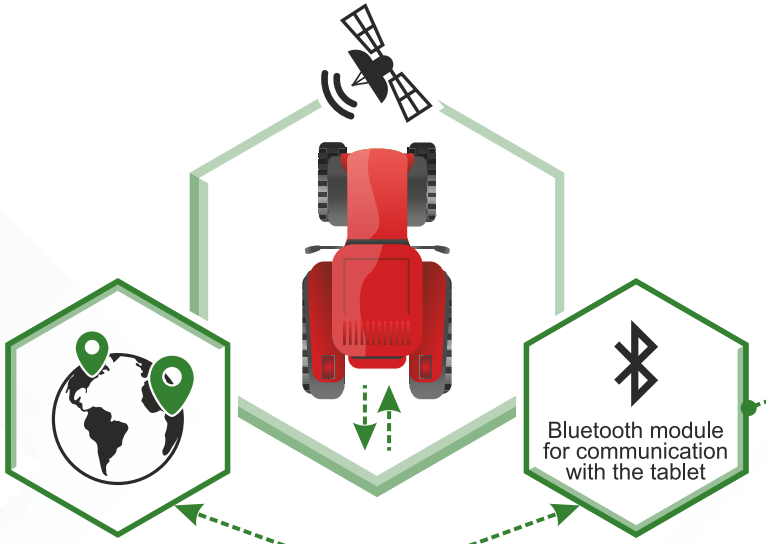
TETIS 24

TETIS 28

PRECISION FARMING

Precision agriculture. TETIS 24 with Bravo 400 Seletron





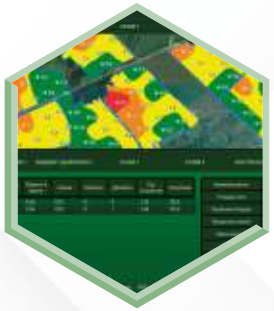
Benefits of the TETIS sprayer

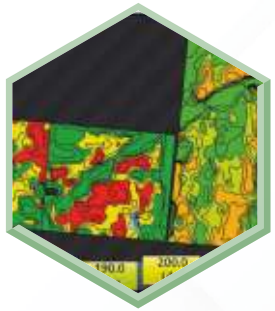
Control at all stages from the **Standard** equipment with simple control to the **Premium Plus** equipment with remote control

An external multi-platform electronic control unit (ECU)

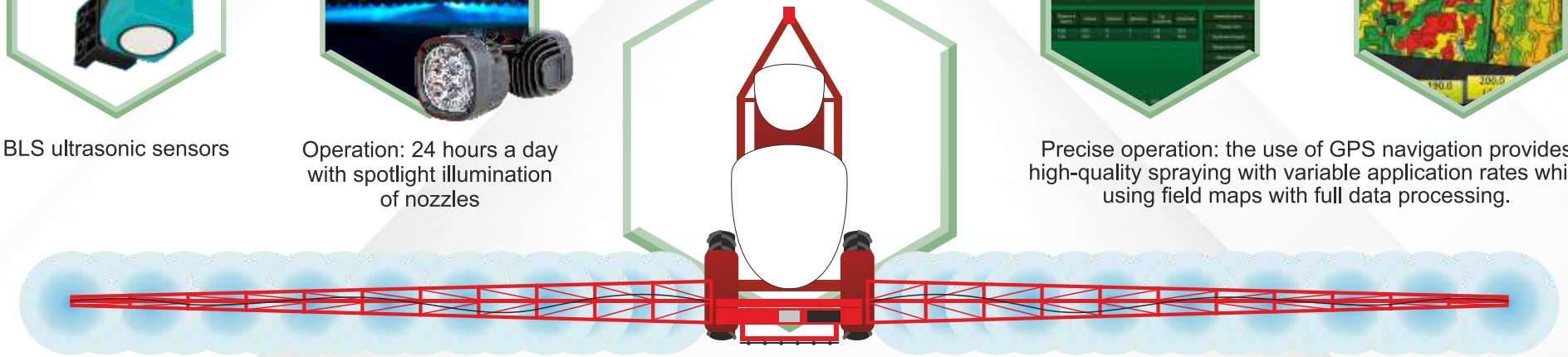
BLS ultrasonic sensors

Operation: 24 hours a day with spotlight illumination of nozzles





Precise operation: the use of GPS navigation provides high-quality spraying with variable application rates while using field maps with full data processing.



ELVORTI SINCE 1874

FOUR EQUIPMENTS for the precision agriculture of TETIS 24

Standart

bravo400SLT

- Bravo 400SLT computer;
- automatic shutdown of individual sections;
- automatic navigation (when there is a steering system on the tractor);
- control of variable application via instruction cards;
- hydraulic stabilization and boom level control.

Premium

bravo400S

- Bravo 400S computer;
- automatic shutdown of individual nozzles (Seletron system);
- an external electronic control unit (ECU) ibx100 is used;
- automatic control of the boom height (BLC system);
- hydraulic stabilization and boom level control.

Premium Plus

delta80

- DELTA 80 computer;
- all the features of other equipment mentioned above;
- Wi-Fi and 3G connection;
- ISOBUS support;
- spraying process can remotely controlled regardless of the place and time.

ISOBUS

ISOBUS

- this equipment means that your tractor already uses this system;
- connection is extremely simple, as just one universal cable is used;
- control is easy and simple, because only one monitor is used for any connected equipment;
- using an ibx100 ISOBUS control unit (ECU) installed on the sprayer.

Nozzles automatic shutdown

Example: width 24 m (12+9+6+9+12 = 48 nozzles)

An overlap zone during manual control of individual sections

An overlap zone during individual sections control – Section Control

An overlap zone along the section GPS 50 cm

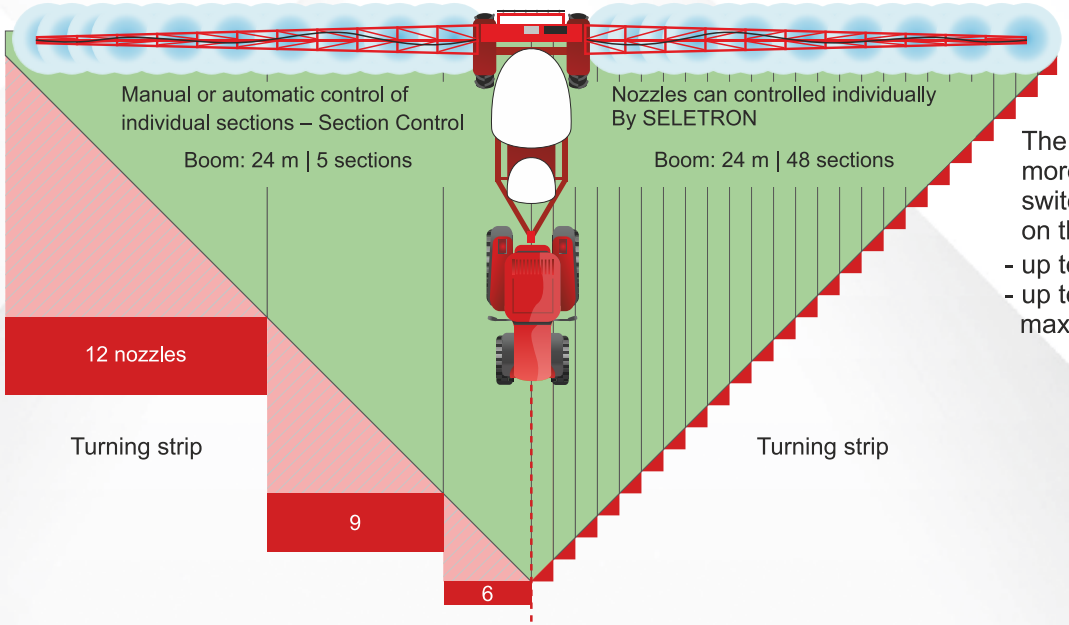
Manual or automatic control of individual sections – Section Control

5% SAVINGS IN PLANT PROTECTION PRODUCTS

* The value depends on the structure of the areas, the width and the number of sections

Individual electric control of nozzles

5% ADDITIONAL SAVINGS IN PLANT PROTECTION PRODUCTS



seletron

The number of overlap zones reduced by more than 85% compared with traditional switching of sections Section Control, example, on the turning strip

- up to 10% of the working liquid
- up to 11 euros per hectare when using the maximum equipment

PRECISION FARMING

WIDE-COVERING SOWING UNITS

The universal productive sowing complex ALCOR is designed for continuous sowing of grain, leguminous and small-seeded crops. Ideal for direct seeding and seeding into pre-treated soil.

ELVORTI SINCE 1874

Model 9000 PNEUMATIC HOPPER

Model 9 000 pneumatic hopper, when combined with the sowing part, forms sowing complexes or a pneumatic seeder. The screw auger loader, driven by a hydraulic motor, provides fast filling of hoppers with grain and fertilizers.

ALCOR 7.5 UNIVERSAL SOWING COMPLEX

SIX OPERATIONS IN ONE PASS

ROLLING and soil leveling

Sprengels are installed behind the rollers to level the soil above the sown seeds

APPLICATION OF FERTILIZERS

With a seeding rate from 25 to 200 kg/ha

Model 9000 PLASTIC HOPPERS

Total volume 9.630 l (5.215 l + 4.415 l)

CULTIVATION 100% weed cutting

Arrow legs with a width of 375 ± 5 mm, mounted on C-shaped racks, allow sowing without clogging the working organs with harvest residues

COMBING cut weeds

Spring combing harrows pull out cut weeds, harvest residues and evenly distribute them over the field surface

CONTINUOUS SOWING

With a seed sowing rate from 3 to 350 kg/ha, and a sowing strip width of 120-160 mm at a depth of 40 to 120 mm

7.3 m	8-12 km/h	6 - 9 ha/h	24 pcs.	from 30 mm up to 120 mm	from 180 hp
Working width	Operating speed	Productivity	Number of rows	Sowing depth	Tractor power

ELVORTI SINCE 1874

ALCOR 10

UNIVERSAL SOWING COMPLEX

9.8 m	8-12 km/h	8 - 12 ha/h	32 pcs.	from 30 mm up to 120 mm	from 280 hp
Working width	Operating speed	Productivity	Number of rows	Sowing depth	Tractor power

ALCOR 12

UNIVERSAL SOWING COMPLEX

12.2 m	8-12 km/h	9.76-14.64 ha/h	40 pcs.	from 30 mm up to 120 mm	from 380 hp
Working width	Operating speed	Productivity	Number of rows	Sowing depth	Tractor power

ELVORTI SINCE 1874

MAIN CHARACTERISTICS OF ALCOR SOWING COMPLEXES

1.Volume makes sense

One of main advantages is that complex has large plastic tank for seeds with capasity of 9 630 liters. Thanks to this capacity ALCOR 10 can work without additional stops for additional loading.

Using plastic tank reduces weight of unit, improves its performance, due to fact that plastic isn't subject to corrosion.

Hydraulic loading device (screw) - makes it easier to load tank.

2.Fan with drive

Fan is driven by a self-contained diesel 24hp engine from "Lombardini" company with 33 l fuel tank, which provides operation of up to 50 ha with one refueling.

3.Engine air filtration system

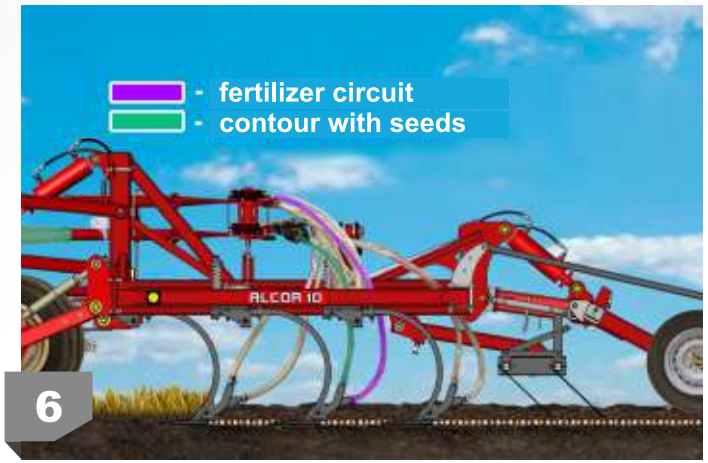
The preliminary air cleaner VORTEX (Italy), which separates and removes most of the particles in the air (dust, rain, insects) and the double cleaning air filter Vikoseal (Italy) have a high dust capacity. The filtration system reduces fuel consumption and extends the life of the engine.

4.Drive unit from hydraulic motor

To create torque in fan, a complete set with hydraulic motor is possible by prior arrangement upon purchase.

5.Adjustable seeding coil unit

Block of adjustable metering reel devices installed separately for seed and fertilizer tanks. Coils are made of polyurethane, and therefore have an increased service life.



6.Double-circuit pneumatic system

Double-circuit pneumatic system - for separate transportation of seeds and fertilizers to the working parts. Compared to competitors that have a single-circuit pneumatic system, ALCOR uses separate supply of seeds and fertilizers, which allows you to sow and apply large rates of seeds and fertilizers with the guarantee that they will not clog the grain pipelines.

7.Horizontal destribution heads

Pneumatic conveying and horizontal destribution heads that perfectly cope with sowing of even heavy seeds of pulses and legumes. Compared to vertical destribution heads, horizontal destribution heads contribute spreading (12% more) seeds by disc openers.

8.Quick setup, accurate rates

Seeding complex ALCOR 10 has step less gear mechanism (variator), which provides easy and quick adjustment of seeding rate of seeds and fertilizers, and reduces time for setting up seeding system. You can set any seeding rate as you see fit. Device can be easily adjusted for various types of seeds, caliber, moisture.

9.Working units

ALCOR is equipped with C-shaped racks and 375 mm wide arrow paws (manufactured by ELVORTI) made of boron steels with increased wear resistance.

Advantage of working units of seeding complex ALCOR 10 is unique design of paw and spreader, due to which earth doesn't get under paw. With help of above, we achieve continuous sowing - seeds and fertilizers are distributed over entire width of paw, and due to fact that paws are overlapped, stripes join and form continuous seedling carpet.

10.The rolling system

The pneumatic rollers perfectly follow the topography of the field, which allows sowing on uneven fields with a stable working depth over the entire cover width. The rollers are equipped with wipers, which are specially designed for rolling wheels. They repeat the shape of the roller and easily clean dirt from it. Striegels are installed behind the rolling wheels, which additionally level the field.

11.Control always first - siftings are dexcluded! Seeding control system allows you to control seeding from each opener from tractor cab directly during sowing. Seeding sensor is installed on each seed tube, which monitors not only seeding delay, but even decrease in the seed flow. An alert is displayed on board computer, and in case of malfunctions, an audible alarm. In addition, processor records information: seeding rate, amount of sown area, presence of seeds in tank, etc.

Today market of seeding complexes is quite extensive, most of complexes meet requirements of modern farmer, therefore it is difficult to choose one or another machine. ALCOR 10 from ELVORTI is optimal solution for your agribusiness:

1. Solid sowing, yield increases up to 25% per hectare, functionality and ease of use.

2. During the daylight hours with the ALCOR 10 sowing complex with tractor of 280-320 hp. can be sown with high quality from 80 to 120 hectares. This allows planting to be carried out in the shortest possible time. .

3. Significant resource saving. One tractor with driver and one grain carrier with driver is quite enough for carrying out whole complex of sowing work. Full sowing cycle is performed in one pass through the field. You save fuel, money and don't worry about the result. ALCOR 10 turns sowing in measured labor process.

4. Moisture saving. Few seconds pass from moment of sowing grain and applying fertilizers to moment of packing and mulching soil with harrow. In such a short time, earth doesn't have time to lose moisture.

5. Seeding complex ALCOR 10 - manufactured at high-tech plant that meets all international standards for production of agricultural machinery.

6. Service support and spare parts can be obtained within 24 hours through an extensive dealer network. This means that during sowing season you will not have to stand idle, waiting for delivery of rare part.

7. When sowing with ALCOR 10 seeding complex with 320 hp tractor, fuel consumption is 7 l / ha. All this reduces costs in production of agricultural products and makes working with ALCOR 10 more profitable in comparison with other units, or, with choosing traditional sowing technology that requires larger fleet of equipment.

Working in agricultural machinery market for over 145 years, “Elvorti” plant always offers farmers not just competitive products, but machinery that is key to profitable agricultural production in today's unstable economic conditions. After all, main task of manufacturer is to ensure efficiency and benefit of using equipment for each of its buyers.

	ALCOR 7.5	ALCOR 10	ALCOR 12
Unit type	trailed	trailed	trailed
Width of covering , m	7.3	9.8	12.2
Working speed, km/h	8 - 12	8 - 12	8 - 12
Number of rows, pcs.	24	32	40
Productivity, ha/h	6 - 9	8 - 12	9,76 - 14,64
Sowing depth, mm	30 - 120	30 - 120	30 - 120
Sowing rates for seeds, kg/ha	3 - 350	3 - 350	3 - 350
Application rate for fertilizers, kg/ha	25 - 200	25 - 200	25 - 200
The width of the sowing strip, mm	120 - 260	120 - 260	120 - 260
Seed hopper volume, l (dm^3)	5 215	5 215	5 215
Fertilizer hopper volume, l (dm^3)	4 415	4 415	4 415
Step of installation of working bodies, mm	305	305	305
Distance between rows of paws, mm	650	650	650
The width of the arrow paw, mm	375	375	375
Processing depth during cultivation, mm	30 - 180	30 - 180	30 - 180
Overall dimensions, during transportation, mm	14 605 x 5 500 x 3 955	14 620 x 5 500 x 4 018	14 620 x 6 960 x 4 700
Overall dimensions, in working condition, mm	14 605 x 7 477 x 3 955	14 620 x 9 920 x 3 955	14 600 x 12 330 x 4 060
It is combined with tractors with a power of more than, hp.	180	280	380
Weight, kg.	9 700	10 230	12 380

ELVORTI SINCE 1874

***The production facility has an Ideal-line powder coating line (Denmark). This painting technology allows us to perform high-quality paintwork with a warranty period of more than 8 years.**

ORION 9.6

ORION 9.6 sows seeds of cereals, medium- and small-seeded legumes and other crops, as well as loose grass seeds, with simultaneous application of mineral fertilizers into the rows and rolling of the soil.

9.6 m	8-12 km/h	7.8 - 10 ha/h	48 pcs.	up to 180 kg	from 25 mm up to 105 mm	from 250 hp
Working width	Operating speed	Productivity	The number of coulters	Coulter press mechanism	Sowing depth	Tractor power

MAIN CHARACTERISTICS OF ORION SOWING COMPLEXES

1.Working width

The sowing width of 9.6 meters and its productivity make the ORION 9.6 an ideal tool for farms with an area of 2 000 to 5 000 hectares. With a 300 hp tractor it is possible to sow 70 to 120 hectares in one day.

2. Volume matters

One of the main advantages is that the complex has the largest plastic seed hopper model 9 000 (9 620 liters). Thanks to this volume, ORION 9.6 can work without additional stops for reloading, which significantly reduces the number of seed loadings, which in turn is important for sowing in a short time.

3. Sowing system

The ORION 9.6 sowing system ensures the supply of seed material from the hoppers to the working bodies.

4. Fan with drive

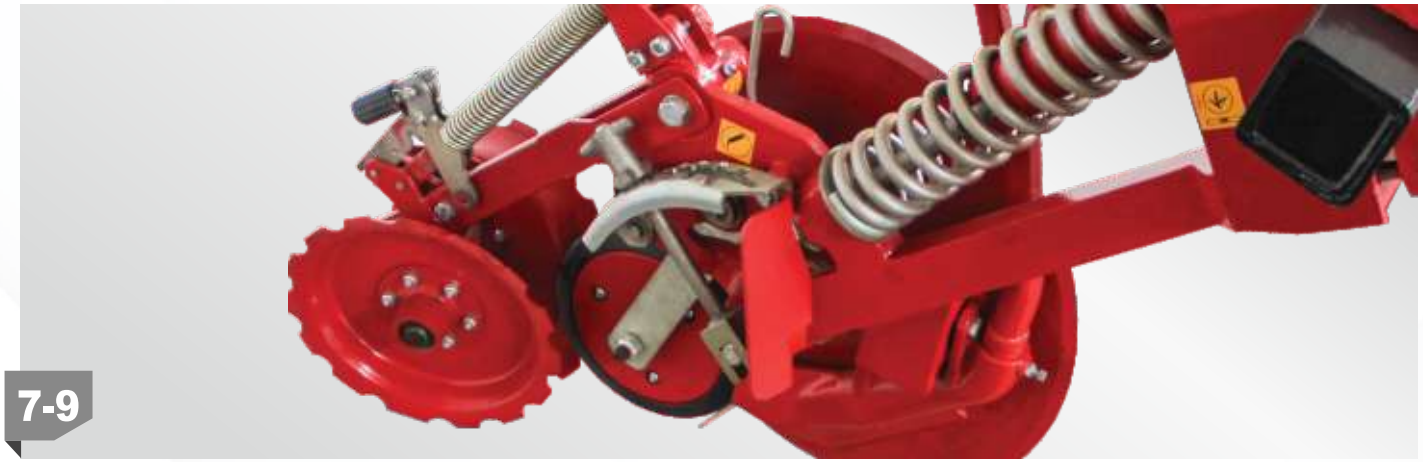
The fan is powered by an autonomous Lambordini diesel engine with a capacity of 24 hp or from a hydraulic motor that takes power from the hydraulic system of the tractor (the options are available at the time of purchase).

5. Dual-circuit pneumatic system

Dual-circuit pneumatic system is designed for separate transportation of seeds and fertilizers to working bodies. Compared to competitors, which have a single-circuit pneumatic system, the ORION 9.6 uses a separate supply of seeds and fertilizers, which allows sowing and applying large amounts of seeds and fertilizers, and surely prevents their clogging in the grain pipelines.

6.Horizontal destribution heads

Pneumatic conveying and horizontal destribution heads that perfectly cope with sowing of even heavy seeds of pulses and legumes. Compared to vertical destribution heads, horizontal destribution heads contribute spreading (12% more) seeds by disc openers.



7.Coulter

Solid tip coulters made of high-strength cast iron are installed on the ORION 9.6 seeder, which ensures high-quality sowing on any background and also ensures that grain is placed exactly in the center of the furrow, the latter has a positive effect on its simultaneity of germination.

The vertical stroke of the coulters is 5 cm, which allows them to copy the topography of the field without additional pressing force. In combination with the hydraulic system of active deepening of the coulters, you will be able to get precise depth control and the ability to work in any conditions.

8.Disc knives

Enabling the possibility of application in minimal and zero seeding technologies, the disc knives with a diameter of 460 mm, installed at an angle of 7°, are characterized by a pressing force of more than 180 kg, which allows you to work in the fields with a large amount of crop residues and the soil of increased density.

9.Adjustment of the specified depth

Depth adjustment ensures optimal penetration of the coulters into the soil. Control of the position of the coulter is realized by a copying wheel with spokes. Adjustment can be done in the range of 2.5 - 10.5 cm in 13 positions.

10.Quick setup, accurate rates

Seeding complex ORION 9.6 has step less gear mechanism (variator), which provides easy and quick adjustment of seeding rate of seeds and fertilizers, and reduces time for setting up seeding system. You can set any seeding rate as you see fit. Device can be easily adjusted for various types of seeds, caliber, moisture.

11.Device for compacting and burying seeds

The compaction device is a wheel that ensures good contact of the seed with the ground. Taking into account the density of the soil, the downforce is adjustable from 2.5 to 25 kg.

The V-shaped burrying element mounted on the wheel is designed to close the furrow, it has a stepwise adjustment of the clamping force, which allows the seeder to be used on soils of different hardness and a large amount of plant residues; the clamping range is within 12 - 25 kg.

12.Control is paramount - no sifting!

The presence of a seeding control system allows you to control seeding from each coulter from the tractor cabin directly during sowing. Each seed channel is equipped with a seeding sensor that monitors not only seeding delays, but even a decrease in seed flow. A message is displayed on the on-board computer, and in case of malfunctions, an audible alarm sounds. In addition, the processor records the following information: seeding speed, size of the sown area, presence of seeds in the hopper, etc. The system can be adjusted to any seed size, it is reliable, moisture-resistant, and insensitive to vibrations.

	ORION 9,6
Unit type	trailed
Width of covering , m	9.6
Working speed, km/h	8 - 12
Productivity, ha/h	7.8 - 10
Sowing rates for seeds, kg/ha	0.5 - 400
Application rate for fertilizers, kg/ha	25 - 200
Seed hopper volume, l (dm³)	5 215
Fertilizer hopper volume, l (dm³)	4 415
Overall dimensions, during transportation, mm	14 400 x 4 800 x 4 200
Overall dimensions, in working condition, mm	14 400 x 11 200 x 3 600
It is combined with tractors with a power of more than, hp.	250
Weight, kg.	15 300

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SEEDERS FOR SOWING GRAIN CROPS

Grain seeders are designed for row sowing of grain seeds, small- and medium-seeded seeds, leguminous crops and other crops similar in size and seeding rates to grain seeds with simultaneous introduction of granular mineral fertilizers into the sown rows.

ALFA 4 NO-TILL UNIVERSAL SEEDER

CHOOSE RELIABILITY, SAVING OF COSTS AND RESOURCES

4 m	9-12 km/h	up to 4.8 ha/h	up to 130 kg	up to 205 kg	20 pcs.	from 20 mm up to 80 mm	from 110 hp
Working width	Operating speed	Productivity	Coulter press mechanism	Pressure applied to turbo disc	The number of rows	Sowing depth	Tractor power

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ALFA 6 NO-TILL UNIVERSAL SEEDER

CHOOSE RELIABILITY, SAVING OF COSTS AND RESOURCES

6 m	9-12 km/h	up to 7.2 ha/h	up to 130 kg	up to 205 kg	30 pcs.	from 20 mm up to 80 mm	from 130 hp
Working width	Operating speed	Productivity	Coulter press mechanism	Pressure applied to turbo disc	The number of rows	Sowing depth	Tractor power

ALFA 4 MINI-TILL

SEEDER WITH THE BEST PERFORMANCE IN THE SEGMENT

4 m	9-12 km/h	up to 4.8 ha/h	up to 130 kg	26 pcs.	from 20 mm up to 80 mm	from 80 hp
Working width	Operating speed	Productivity	Coulter press mechanism	The number of rows	Sowing depth	Tractor power

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ALFA 6 MINI-TILL

SEEDER WITH THE BEST PERFORMANCE IN THE SEGMENT

6 m	9-12 km/h	up to 7.2 ha/h	up to 130 kg	40 pcs.	from 20 mm up to 80 mm	from 100 hp
Working width	Operating speed	Productivity	Coulter press mechanism	The number of rows	Sowing depth	Tractor power

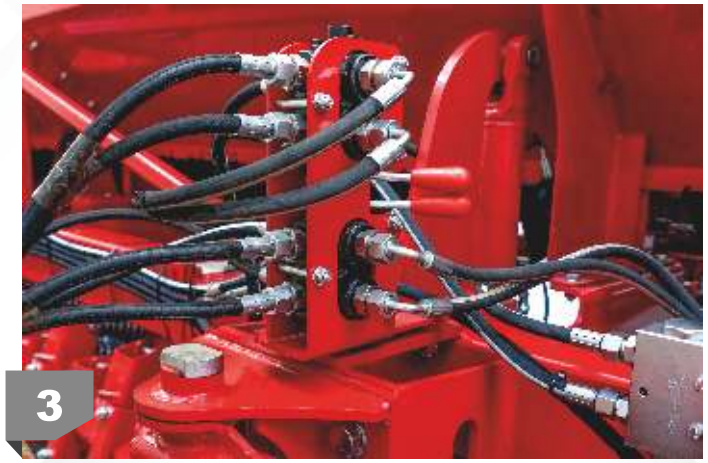
MAIN CHARACTERISTICS OF THE ALFA RANGE

1.A special feature of the ALFA No-till seeder is that it can work with any technology: No-till, Mini-till and for traditional farming.

The CoultSystem driving system in combination with coulters allows you to evenly spread the seeds on the bottom of the furrow, during direct sowing, when the soil is cultivated only in the sowing rows. Coulter springs provide a load of up to 205 kg for efficient operation in the toughest stubble conditions.

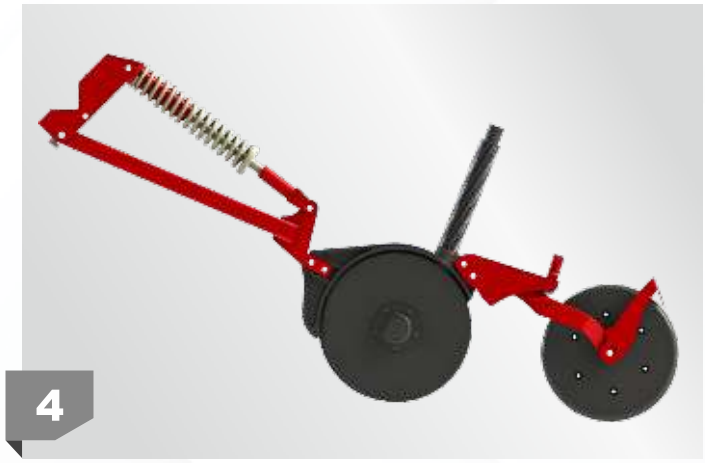
2.Constant Pressure Hydraulics

Constant hydraulic pressure, due to the installed shut-off valve, which allows you to fix the initially set coulter pressure. This function guarantees a consistently high quality of seed placement in the soil, allows you to maintain the uniformity depth of the coulters on uneven surfaces and under changing soil conditions.



3.Control valves (valve)

Control valves (valve) allows the marker control to be operated with one handle from the tractor cab.



4.The new design of the CoultSystem driving system with a press roller, and an improved coulter pressure mechanism up to 130 kg with a spring of increased rigidity and additional hydraulic pressure allows for uniform deepening of the coulters in the soil and creates a high-quality sowing bed for seeds. In the design of the CoultSystem driving system, sliding sleeves are used with ceramic-polymer materials that do not require lubrication and maintenance. They provide a long service life due to high resistance to aggressive environments.

5.Dual disc opener exploit life increased by 100%

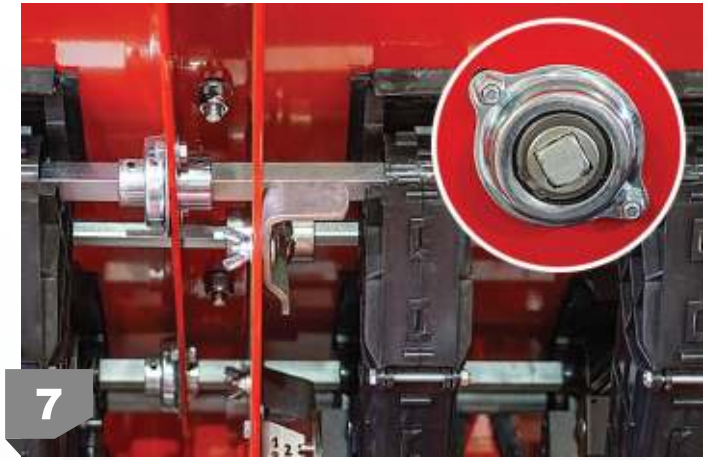
Increased service life of the double-disc opener up to 100%, due to the use of boron-containing, increased hardness steels. The double-disc single-row opener allows sowing at the fields with a large amount of crop residues; the uniformity design of the coulter-press roller unit allows the coulter to be adjusted to a predetermined depth.

6.New sowing machine made of polymeric materials

The sowing machine is equipped with two types of coils:

- screw type for sowing cereals and legumes;
- pin type for sowing small-seeded crops and grass seeds.

This solution ensures a constant and accurate seeding rate from 1.5 to 400 kg/ha and is suitable for seeds of all types, sizes and shapes. The sowing machines are driven by an electric motor and guarantee continuous and uniform sowing, regardless of the speed of the vehicle.



7.Stainless steel shafts of fertilisers drive unit

The drive unit shafts of the fertilizer dispensers are made from stainless steel, which increases the durability of the shafts and the fertilizer dispensers, located on them and excludes their corrosion.

8.Infinitely viriable system gear box (variator), Infinitely variable transmission mechanism (variator), which provides easy and quick adjustment of seeds and fertilizers seeding rates; provides more accurate and smooth adjustment in an increased seeding rate range (from 1.5 to 400 kg / ha) compared to a gearbox.

9.A bigger bunker

The ALFA 4 seeder is equipped with a bunker with a large capacity of 2 000 liters.
The ALFA 6 seeder is equipped with a bunker with a large capacity of 3 000 liters.

10.Wide wheels with increased contact patch

The ALFA seeders are equipped with wide wheels with an increased contact patch and reinforced profile discs, which makes it possible to reduce the pressure on the soil and use the seeder in the spring for a more wet and loose environment.

11.A new towing and transport device

A new towing and transport device, which allows switching the seeder in 2 minutes from its transport position to the working position and vice versa. The transport width of this device is 2.65 m, which allows moving the seeder on public roads.

12.Press wheels (2 sets), «narrow» or «wide», chosen by the client

Press wheels that are chosen by the client (narrow or wide) ensure sowing in soil with varying moisture. A new, reliable control system to regulate the depth ensures a stable, uniform depth of the covering of seeds. To clean the press wheels and ensure a stable sowing depth, cleaners made of wear-resistant DUROSTAT 400 steel are installed, which increases the life of the cleaners.

13.Seed monitoring sensors

ALFA seeders are equipped with a new version of electronic monitoring systems, which utilize newly designed sensors with increased reliability and accuracy. The seed monitoring sensors installed on the seed machines for seeds ensure 100% control of the seed flow. As an option, sensors can be installed on the fertilizer seeders.

14.Electronic control system (optional)

ALFA is equipped with a new version of the electronic seed monitoring system, which utilizes newly designed seed flow sensors with increased reliability and accuracy of seed density detection.

	ALFA 4 NO-TILL	ALFA 6 NO-TILL	ALFA 4 MINI-TILL	ALFA 6 MINI-TILL
Equipment type	semitrailer	semitrailer	semitrailer	semitrailer
Sowing width, m	4	6	4	6
Working speed, km/h	9 - 12	9 - 12	9 - 12	9 - 12
Number of rows	20	30	26	40
Productiveness, ha/h	3.5 - 4.8	5.4 - 7.2	3.6 - 4.8	5.4 - 7.2
Depth of sowing, mm	20 - 80	20 - 80	20 - 80	20 - 80
Coulters pressure, kg/cm²	up to 130	up to 130	up to 130	up to 130
Seeding rate for seeds, kg/ha	1.5 - 400	1.5 - 400	1.5 - 400	1.5 - 400
Inter-row spacing, mm	200	200	150	150
Fertilizer application rates, kg/ha	25 - 200	25 - 200	25 - 200	25 - 200
Total capacity of seed bunkers, l (dm³)	1 200	1 800	1 200	1 800
Total capacity of fertilizer bunkers, l (dm³)	800	1 200	800	1 200
Dimensions, during transportation, mm	6 430 x 2 950 x 3 340	8 510 x 2 950 x 4 200	6 580 x 2 720 x 3 340	8 510 x 2 720 x 4 420
Dimensions, in operating condition, mm	5 050 x 5 260 x 2 000	5 120 x 7 360 x 2 000	5 050 x 5 260 x 2 000	5 300 x 7 360 x 2 000
Unitized with tractors with power, more than, hp	110	130	80	100
Weight, kg	4 380	6 100	3 500	4 400

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ASTRA 4 NEW THE NEW GENERATION OF GRAIN SOWING MACHINES FOR CONVENTIONAL FARMING

ASTRA NEW mechanical grain seeders are designed for row sowing using traditional technology, performing three operations in one pass:
- sowing seeds of grain crops, legumes and small-seeded crops (rapeseed, mustard, flax);
- application of mineral fertilizers;
- rolling of sown rows.

The flat design of the frame and the offset of the transport device provide maximum access to the working parts of the seeder during maintenance.

4 m	9-12 km/h	3.6 - 4.8 ha/h	up to 75 kg	26 pcs.	from 20 mm up to 80 mm	from 80 hp
Working width	Operating speed	Productivity	Coulter press mechanism	The number of rows	Sowing depth	Tractor power

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ASTRA 6 NEW THE NEW GENERATION OF GRAIN SOWING MACHINES FOR CONVENTIONAL FARMING

6 m	9-12 km/h	5.4 - 7.2 ha/h	up to 75 kg	40 pcs.	from 20 mm up to 80 mm	from 90 hp
Working width	Operating speed	Productivity	Coulter press mechanism	The number of rows	Sowing depth	Tractor power

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MAIN CHARACTERISTICS OF THE ASTRA NEW RANGE

1.A new seed-sowing device made of polymeric materials

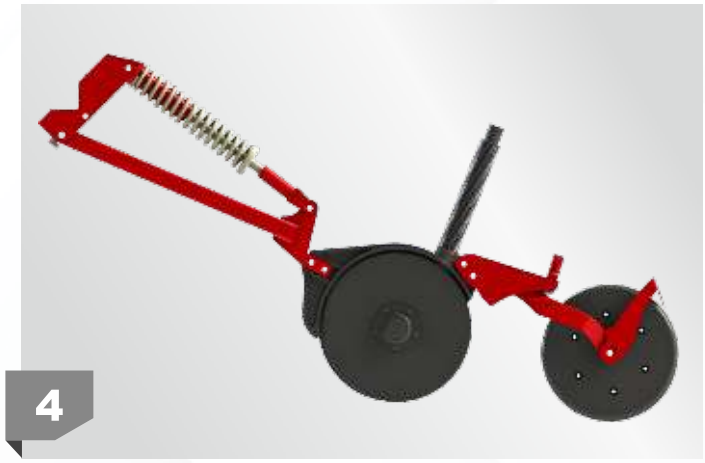
The seed-sowing device is equipped with two types of the coils:

- screw coil for sowing grain and leguminous crops;
- pin coil for sowing small seeds and grass seeds.This solution ensures a constant and precise seeding rate from 1.5 to 400 kg/ha and is suitable for seeds of all types, sizes and shapes.

2.Stainless steel shafts of fertilisers drive unit

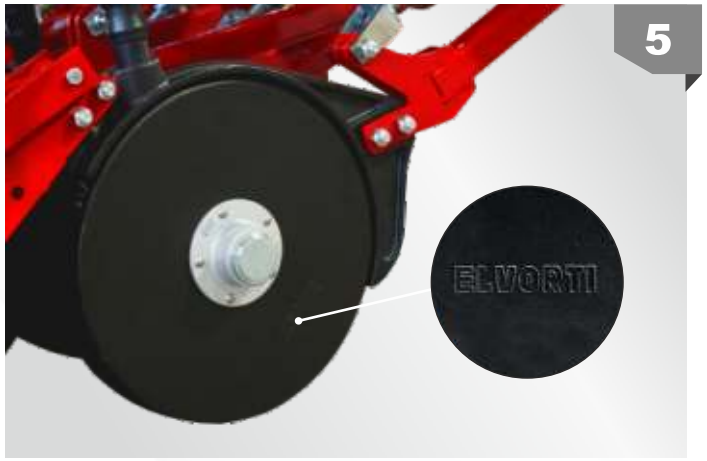
The drive unit shafts of the fertilizer dispensers are made from stainless steel, which increases the durability of the shafts and the fertilizer dispensers, located on them and excludes their corrosion.

3.Infinitely viriable system gear box (variator), Infinitely variable transmission mechanism (variator), which provides easy and quick adjustment of seeds and fertilizers seeding rates ; provides more accurate and smooth adjustment in an increased seeding rate range (from 1.5 to 400 kg / ha) compared to a gearbox.



4.The new design of the CoultSystem driving system with a press roller and an improved coulter pressure mechanism of up to 75 kg with a spring of increased rigidity and hydraulic compression allows for uniform deepening of the coulters in the soil, creating a high-quality seed bed for seeds, which is an undoubted competitive advantage of the ASTRA NEW seeder.

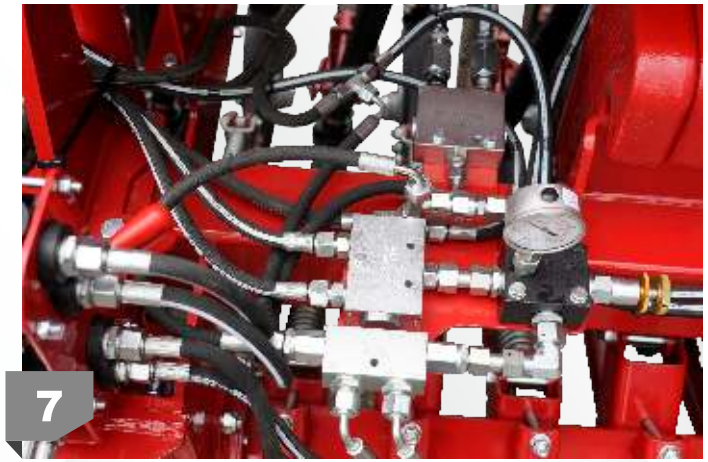
The coulters have an adjustable elastic stroke of up to 320 mm, which allows each coulter to individually overcome obstacles and follow the terrain releif.



5.The service life of the double-disc coulter is increased by 100% due to the use of boron-containing steels of increased hardness. The unique design of the double-disc single-row coulter, due to the 6 mm offset, ensures effective soil penetration in fields with crop residues and has a self-cleaning function. The maintenance-free hubs mounted on the coulters ensure a long service life and reduce the overall maintenance requirements.

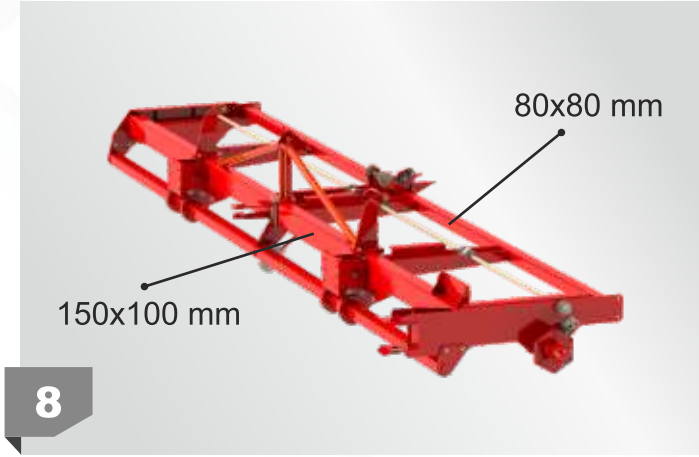
6.Active hydraulic deepening system

Constant hydraulic pressure due to the installed active hydraulic deepening system, which allows you to fix the specified coulter pressure. This function guarantees consistently high quality of seed application into the soil, allows you to maintain the same depth of coulters on uneven surfaces and in the conditions when soil conditions change.



7.Hydraulic valves

The presence of valves in the hydraulic control system of the seeder allows you to control the operation of the marker with one handle of the hydraulic distributor from the tractor cabin and provides the possibility of combination with tractors that have two pairs of hydraulic outlets.



8.Reinforced frame

New frame design with increased pipe cross-section of 100×150 mm and 80×80 mm compared to the previous generation of ASTRA seeders, which increases reliability and service life. This also ensures maximum access to the working parts of the seeder for maintenance.

9.A bigger bunker

The ASTRA 4 NEW hopper is divided into 2 parts for 850 liters of seed and 450 liters of fertilizer. ASTRA 6 NEW for seeds 850 liters, for fertilizers 450 liters. The hoppers are equipped with technological flaps that allow you to combine 2 parts into one for sowing seeds or fertilizers.

10.A new towing and transport device FastTrai which allows switching the seeder in 2 minutes from its transport position to the working position and vice versa. The transport width of this device is 2.65 m, which allows moving the seeder on public roads.

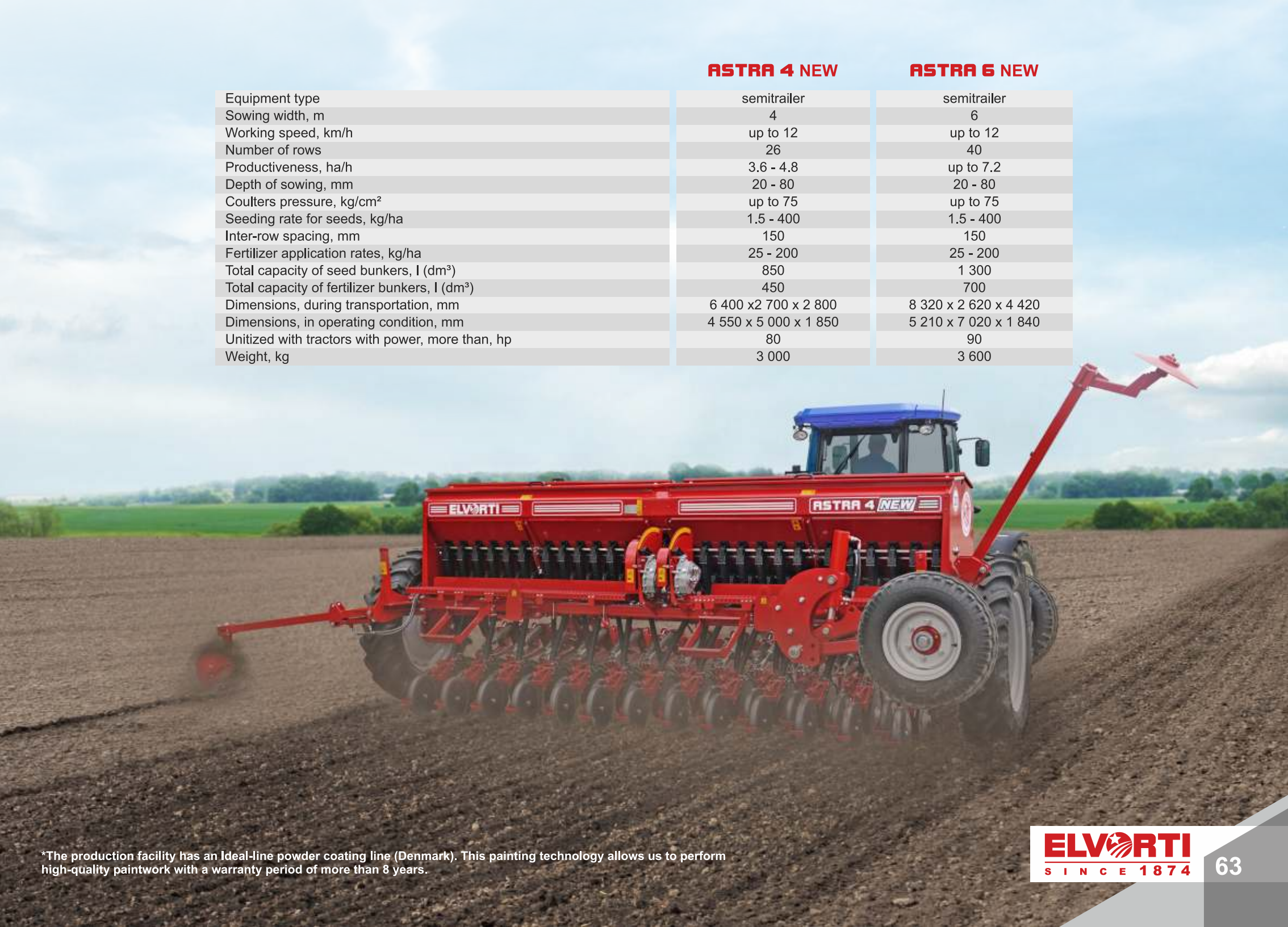
11.Press wheels (2 sets), «narrow» or «wide», chosen by the client

Press wheels that are chosen by the client (narrow or wide) ensure sowing in soil with varying moisture. A new, reliable control system to regulate the depth ensures a stable, uniform depth of the covering of seeds. To clean the press wheels and ensure a stable sowing depth, cleaners made of wear-resistant DUROSTAT 400 steel are installed, which increases the life of the cleaners.

12.Electronic control system as standard

ASTRA is equipped with a new version of electronic seeding control systems, which use newly designed seed flow control sensors with increased reliability and accuracy of seed density determination.

	ASTRA 4 NEW	ASTRA 6 NEW
Equipment type	semitrailer	semitrailer
Sowing width, m	4	6
Working speed, km/h	up to 12	up to 12
Number of rows	26	40
Productiveness, ha/h	3.6 - 4.8	up to 7.2
Depth of sowing, mm	20 - 80	20 - 80
Coulters pressure, kg/cm²	up to 75	up to 75
Seeding rate for seeds, kg/ha	1.5 - 400	1.5 - 400
Inter-row spacing, mm	150	150
Fertilizer application rates, kg/ha	25 - 200	25 - 200
Total capacity of seed bunkers, l (dm³)	850	1 300
Total capacity of fertilizer bunkers, l (dm³)	450	700
Dimensions, during transportation, mm	6 400 x2 700 x 2 800	8 320 x 2 620 x 4 420
Dimensions, in operating condition, mm	4 550 x 5 000 x 1 850	5 210 x 7 020 x 1 840
Unitized with tractors with power, more than, hp	80	90
Weight, kg	3 000	3 600



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ASTRA 4 PREMIUM GRAIN SEEDER

FOR ROW SOWING USING TRADITIONAL TECHNOLOGY

4 m	9-12 km/h	3.6 - 4.8 ha/h	up to 65 kg	26 pcs.	from 20 mm up to 80 mm	from 80 hp
Working width	Operating speed	Productivity	Coulter press mechanism	The number of rows	Sowing depth	Tractor power

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ASTRA 5,4 PREMIUM GRAIN SEEDER

FOR ROW SOWING USING TRADITIONAL TECHNOLOGY

5.4 m	9-12 km/h	4.9 - 6.5 ha/h	up to 65 kg	36 pcs.	from 20 mm up to 80 mm	from 80 hp
Working width	Operating speed	Productivity	Coulter press mechanism	The number of rows	Sowing depth	Tractor power

ASTRA 6 PREMIUM GRAIN SEEDER

FOR ROW SOWING USING TRADITIONAL TECHNOLOGY

6 m	9-12 km/h	5.4 - 7.2 ha/h	up to 65 kg	40 pcs.	from 20 mm up to 80 mm	from 90 hp
Working width	Operating speed	Productivity	Coulter press mechanism	The number of rows	Sowing depth	Tractor power

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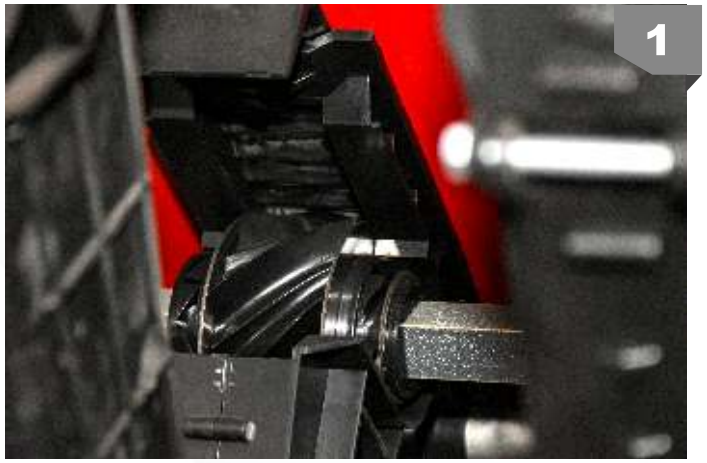
MAIN CHARACTERISTICS OF THE ASTRA PREMIUM RANGE



1.The seeding machine of the ASTRA PREMIUM model range is made of polymer materials. The design of the coil allows for sowing small-seeded crops. An adjustment of the gap between the valve and the reel has been introduced with a scale for adjusting values from 1 to 7, which makes it easier to sow small and large seeds with different rates.

2.Stainless steel shafts of fertilisers drive unit

The drive unit shafts of the fertilizer dispensers are made from stainless steel, which increases the durability of the shafts and the fertilizer dispensers, located on them and excludes their corrosion.

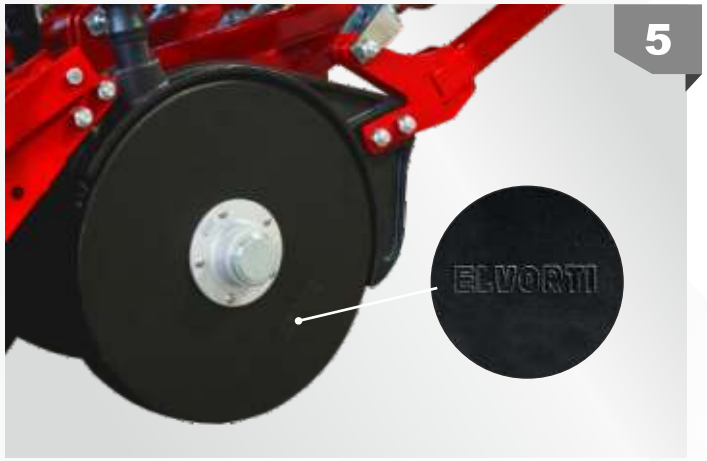
3.Infinitely viriable system gear box (variator), Infinitely variable transmission mechanism (variator), which provides easy and quick adjustment of seeds and fertilizers seeding rates ; provides more accurate and smooth adjustment in an increased seeding rate range (from 1.5 to 400 kg / ha) compared to a gearbox.

4.Hydraulic system

On the ASTRA 6 PREMIUM, ASTRA 5.4 PREMIUM and ASTRA 4 PREMIUM sowing machines, hydraulic flows are controlled using a valve that has two positions:

1.Control of the harness and transport device;

2.Control of deepening of coulters and markers.



5.The service life of the double-disc coulter is increased by 100% due to the use of boron-containing steels of increased hardness. The unique design of the double-disc single-row coulter, due to the 6 mm offset, ensures effective soil penetration in fields with crop residues and has a self-cleaning function. The maintenance-free hubs mounted on the coulters ensure a long service life and reduce the overall maintenance requirements.

6.Bunker

ASTRA 4 PREMIUM has a hopper volume of 1 200 liters (800 liters for grain and 400 liters for fertilizer);

ASTRA 5.4 PREMIUM has a hopper with a capacity of 1 500 liters (grain - 1 000 liters, fertilizer - 500 liters);

ASTRA 6 PREMIUM has a hopper with a capacity of 1 845 liters (grain - 1 245 liters, carcasses - 600 liters).

7.Press wheels and finger type fillers.

Press wheels are installed on ASTRA PREMIUM seeders, which ensures sowing in conditions of different soil moisture levels and stable soil compaction. To clean the press rollers and ensure a stable sowing depth, wipers made of wear-resistant metal are installed, which increases the service life of the wipers to 2 000 hectares. Finger fillers, as an additional option on ASTRA PREMIUM seeders, replace a heavy roller and allow sowing at high soil moisture on different backgrounds.

8.Transport device as a basic set

A universal transport device with wheels of increased diameter allows you to move the seeder on public roads.

9.High-strength steels made in Europe

For the production of ASTRA PREMIUM, high-strength European steels are used, which are 50% greater in terms of rigidity, strength and elasticity of the structure.

10.Electronic seeding control system

Possibility of installing an innovative electronic system for optimal seeding control, which uses newly designed seed flow sensors with increased reliability and accuracy in determining seed flow density.

	ASTRA 4 PREMIUM	ASTRA 5,4 PREMIUM	ASTRA 6 PREMIUM
Equipment type	semitrailer	semitrailer	semitrailer
Sowing width, m	4	5.4	6
Working speed, km/h	up to 12	up to 12	up to 12
Number of rows	26	36	40
Productiveness, ha/h	up to 4.8	up to 6.5	up to 7.2
Depth of sowing, mm	20 - 80	20 - 80	20 - 80
Coulters pressure, kg/cm²	up to 65	up to 65	up to 65
Seeding rate for seeds, kg/ha	1.5 - 400	1.5 - 400	1.5 - 400
Inter-row spacing, mm	150	150	150
Fertilizer application rates, kg/ha	25 - 200	25 - 200	25 - 200
Total capacity of seed bunkers, l (dm³)	830	1 000	1 245
Total capacity of fertilizer bunkers, l (dm³)	400	500	600
Dimensions, during transportation, mm	5 440 x 2 950 x 3 435	6 750 x 2 950 x 2 850	7 520 x 2 950 x 3 435
Dimensions, in operating condition, mm	3 570 x 4 865 x 1 850	8 550 x 6 180 x 1 830	4 750 x 6 950 x 1 850
Unitized with tractors with power, more than, hp	80	80	90
Weight, kg	2 260	3 135	3 050

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ASTRA 3

GRAIN SEEDER FOR ROW SOWING USING TRADITIONAL TECHNOLOGY

Small overall dimensions
Having a coverage width of 3 m and a row spacing of 120 mm, the grain seeder can be effectively used in small areas under conditions of intensive agricultural technologies.
Mounted design of the seeder having a weight of only 985 kg makes the unit highly maneuverable in the field and during transportation.
The seeder is supplied with a switching device for the seeding wheels, which can be adjusted according to the tractor track width.

TrimLine System
The seeder is supplied with a switching device for the seeding wheels, which can be adjusted according to the tractor track width.

Striegel harrow
Striegel harrow as a basic set preservs moisture and levels the field surface. Adjustable teeth angle allows you to work in fields with different soil moisture levels.

3 m	8-10 km/h	2.4 - 3.0 ha/h	up to 35 kg	25 pcs.	from 40 mm up to 80 mm	from 70 hp
Working width	Operating speed	Productivity	Coulter press mechanism	The number of rows	Sowing depth	Tractor power

ELVORTI SINCE 1874

MAIN CHARACTERISTICS OF THE ASTRA 3 RANGE

1. Seeding device made of polymer materials

The range of seed sowing rates is from 1.5 to 400 kg/ha. The design of the reel ensures sowing of small-seeded crops. A possibility of adjustment of the gap between the valve and the reel has been introduced, which makes it easier to sow large seeds at large rates. The screw design of the metering reel ensures continuous and smooth seed delivery.

2.Stepless gear mechanism (variator), providing smooth adjustment of seed sowing rates.

3.Depth adjustment

The front and rear shafts of the coulter mounting are connected by a screw rod. The screw is designed for group adjustment of the depth of the coulters.

4.Wear-resistant double-disc single-row coulter

Allows for sowing in fields with a large amount of crop residues.

The use of high-hardness metal containing boron increases the service life of the coulter by 100%.

	ASTRA 3
Equipment type	hinged
Sowing width, m	3
Working speed, km/h	8 - 10
Number of rows	25
Productiveness, ha/h	2.4 - 3.0
Depth of sowing, mm	40 - 80
Coulters pressure, kg/cm²	35
Seeding rate for seeds, kg/ha	1.5 - 400
Inter-row spacing, mm	120
Total capacity of seed bunkers, l (dm³)	500
Dimensions, during transportation, mm	2 220 x 3 000 x 1 450
Dimensions, in operating condition, mm	2 220 x 3 000 x 1 450
Unitized with tractors with power, more than, hp	70
Weight, kg	985

***The production facility has an Ideal-line powder coating line (Denmark). This painting technology allows us to perform high-quality paintwork with a warranty period of more than 8 years.**

SEEDERS FOR SEEDING ROW CROPS

Universal pneumatic seeders are designed for precise sowing of calibrated seeds of corn, sunflower, castor, sorghum, soybean, as well as seeds of fodder beans, beans, lupine with simultaneous, separate from seeds, application of granular or liquid mineral fertilizers.

VEGA 6 PROFI TELESCOPIC

PRECISION SEEDER FOR ALL CONDITIONS AND TECHNOLOGIES

Telescopic frame

There are 2 hydraulic cylinders installed, which allow the frame to unfold to the working position and provide a row spacing of 700 mm. By repositioning the brackets (stops) to the outermost holes of the horizontal slats, a row spacing of 750 mm can be set on the seeder. When the frame is folded in, the transport dimension of the seeder does not exceed 3 000 mm for any row spacing.

4.2 m	3.6-9 km/h	1.2 - 3.7 ha/h	up to 280 kg	6 pcs.	from 40 mm up to 100 mm	from 80 hp
Working width	Operating speed	Productivity	Coulter press mechanism	The number of rows	Sowing depth	Tractor power

ELVORTI SINCE 1874

1

1.Sowing sections of seeder

Sowing sections of seeder are designed to ensure the process of sowing seeds, and their features are as follows:

- formation of the seedbed, sowing of seeds and rolling of the ground over the sown row;
- double disc coulter made of boron steel with increased rigidity has an increased service life of up to 100;
- possibility to adjust the ground pressure up to 280 kg;
- possibility of using a clod removal device or a slotted disk;
- adjustable V-wheel, which rolls up the seeds in the row;
- copying rollers ensure the accuracy of seed placement in depth; the discs of copying rollers, having spokes, eliminate the clogging of soil in the inner cavity of the disk;
- high position of the seeding unit prevents clogging by crop residues;
- optional row cleaners.

2

2.Double disc fertilizer spreading coulter

The use of double disc fertilizer coulters on VEGA 6 PROFI seeders has improved the quality of the fertilizer placement. Single disc fertilizer coulters can be mounted on the seeder on request.

3

3.Fan

The centrifugal type fan is designed to create vacuum in the pneumatic system of the seeder. The fan is driven from the tractor PTO at 540 rpm by a PTO shaft. Centrifugal clutch, installed on the shaft of the lower pulley of the fan, protects the belt transmission from increased wear at sudden stop of the PTO. When the tractor's PTO is switched off, the fan revolutions are smoothly reduced and the characteristic loud click of rollers appears in the overrunning clutch of the lower pulley before the rotation stops. This is an inevitable normal situation and is not an indication of malfunctions.

VEGA 6 PROFI THE PRECISION SEEDER

FOR ALL CONDITIONS AND TECHNOLOGIES

4.2 m	2,5-9 km/h	1.2 - 3.7 ha/h	up to 280 kg	6 pcs.	from 40 mm up to 100 mm	from 80 hp
Working width	Operating speed	Productivity	Coulter press mechanism	The number of rows	Sowing depth	Tractor power

ELVORTI SINCE 1874

VEGA 8 PROFI THE PRECISION SEEDER

FOR ALL CONDITIONS AND TECHNOLOGIES

5.6 m	2,5-9 km/h	3.02 - 5.04 ha/h	up to 280 kg	8 pcs.	from 40 mm up to 100 mm	from 80 hp
Working width	Operating speed	Productivity	Coulter press mechanism	The number of rows	Sowing depth	Tractor power

ELVORTI SINCE 1874

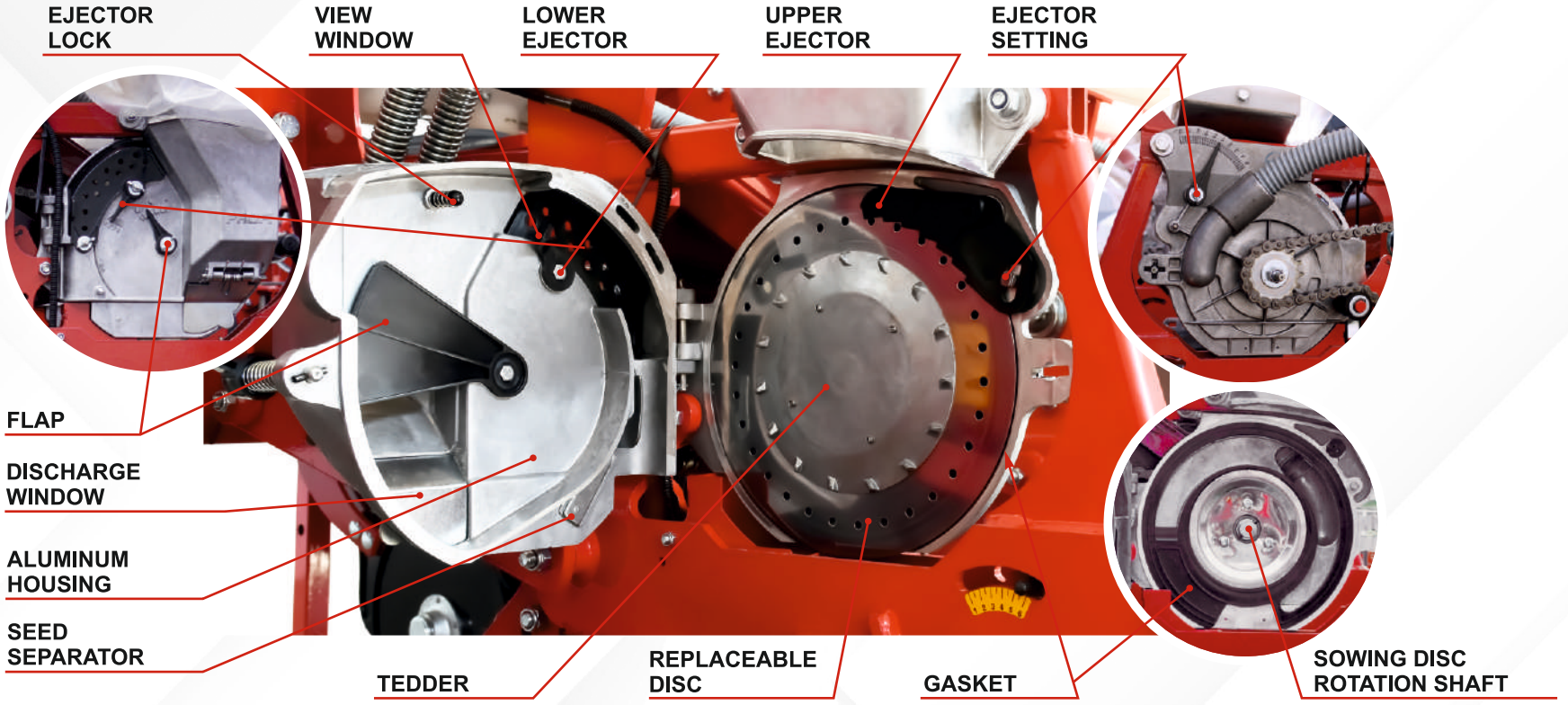
VEGA 16 PROFI THE PRECISION SEEDER

FOR ALL CONDITIONS AND TECHNOLOGIES

11.2 m	2.5-9 km/h	4.0 - 14.4 ha/h	up to 280 kg	16 pcs.	from 40 mm up to 100 mm	from 180 hp
Working width	Operating speed	Productivity	Coulter press mechanism	The number of rows	Sowing depth	Tractor power

ELVORTI SINCE 1874

MAIN FEATURES OF THE VEGA PROFI SERIES



1.PROFI seeding unit

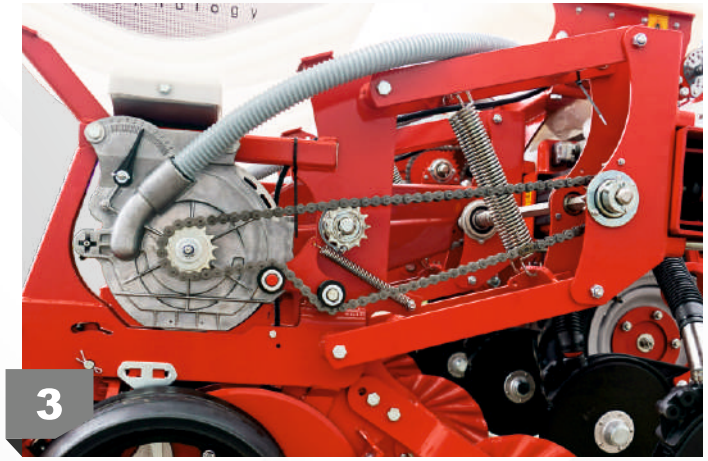
The sowing unit is made of durable aluminum alloys by injection molding, which ensures accurate single-grain seed dosing; its features are as follows:

- the presence of upper and lower adjustable seed ejectors, excluding the presence of duplicate seeds;
- amount of seeds falling from the hopper into the sowing chamber is regulated by a flap;
- easy and convenient maintenance without tools;
- a quick-release tedder, installed on the seeding disc, prevents compaction of seeds and getting stuck in the chamber of the sowing apparatus;
- presence of a viewing window makes the adjustment easy;
- the sealing gasket is built into the body and has a lip, the erasure of which signals the need to replace it;
- the sowing unit is mounted on a frame, which eliminates the influence of loads on it and guarantees durability of use;
- the presence of an unloading window ensures complete unloading of seeds after work;
- the presence of seeding discs of increased diameter allows to improve the quality of seed placement;
- the rotation shaft of the seeding discs is mounted on rolling bearings with increased dust protection, which increases service life.

2

2.Seeding section of the seeder

- Double-disc coulter made of steel containing boron of increased rigidity has an increased service life of up to 100%;
- ability to adjust ground pressure up to 280 kg;
- the possibility of using clod removal devices or a slotted disk;
- adjustable V-shaped wheel for rolling;
- copying rollers ensure the accuracy of seed placement in depth, supplied with spokes disks of copying wheels eliminate clogging of soil into the internal cavities of the disks;
- high location of the sowing unit eliminates clogging with crop residues.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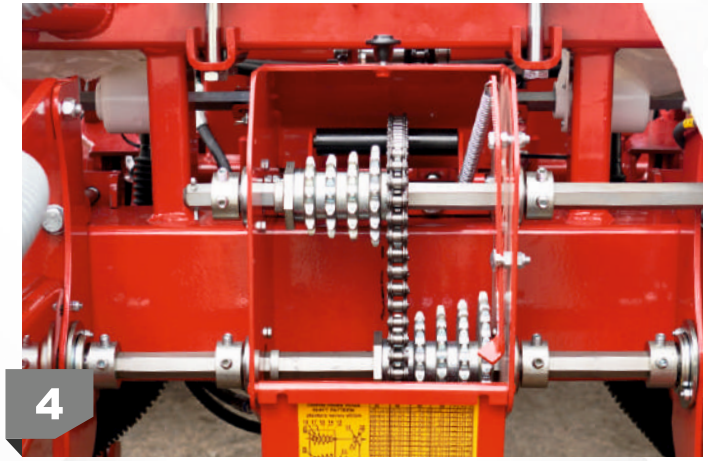
3.Dynamic construction of chain tensioner on a section

Dynamic construction of chain tensioner on a section eliminates chain slack while seeder is in operation.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4.Gearbox 5x5 stars

A gearbox unit of 5x5 gears has been installed, now the farmer has the opportunity to use a wider range of seeding rates, due to the bigger number of gear ratios of the gearbox wheels.


5

5.New system for applying dry mineral fertilizers

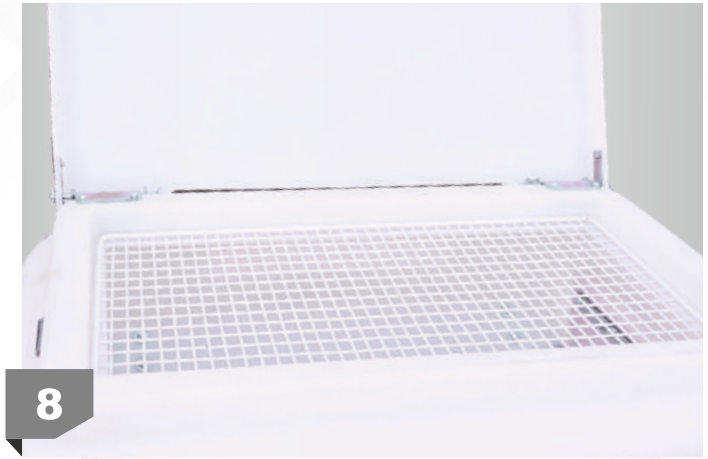
This system represents polymer seeding units with polymer reels that are not subject to corrosion, and it enables to quickly and smoothly change the application rate by turning the adjustment knob. Thanks to this, there is no need in a device for changing fertilizer application rates.

6.Double disc fertilizers opener

Usege of double-disc fertilizer openers on Vega seeders has improved the quality of soil fertilization. By the consumers request, single-disc fertilizer openers could be installed on the seeder, optionally.

7.Plastic hoppers

Seeder is equipped with plastic hoppers made of high quality polyethylene. This, in turn, provides a significantly lower hopper weight; resistance to various types of corrosion; and vibration resistance. In addition, these bins do not require periodic painting.

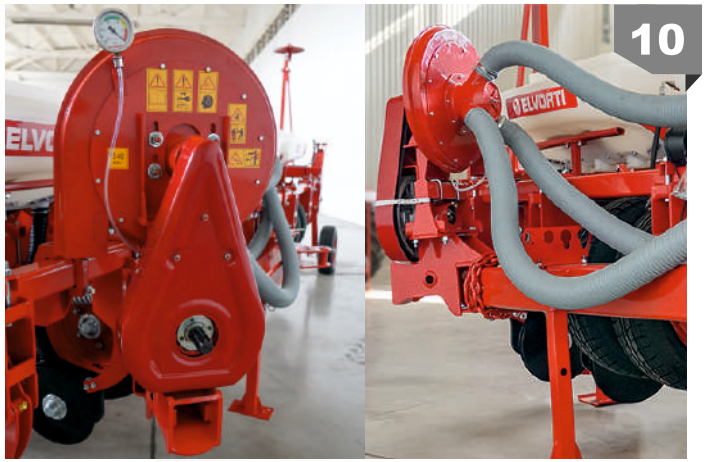


8.Protective screen

The fertilizer bunker is equipped with a protective screen for fertilizers screening, which helps to prevent the ingress of stones and large objects that can disrupt the operation of the seeder.

9.High pressure sleeves, improved quality

Use of high-pressure hoses of improved quality with double swaging allows the drill to operate under more demanding conditions without the fear of hydraulic fluid leaks and breaks under high pressure.



10.Fan on the hitch

The fact that the fan is mounted on the trailing device eliminates the possibility of damage to the PTO during turns and eliminates the need to disconnect the tractor PTO, which eliminates seed loss and reduces the time required for turning.

11.Press roller

The V-shaped press roller compacts the soil around the seeds and allows moisture to be drawn into the sowing area, which ensures better contact between the seeds and the soil and promotes earlier and more uniform germination.

12.Adjustment screw

Precise and easy adjustment of sowing depth is ensured by rotating the handle relative to the scale.

13.Bearing unit

Disc coulters with new bearing unit. The seeders use double-row ball bearings of the firm, which have an increased service life and a greater resistance to dynamic loads.

14.Adjustable support and drive wheels

The drive wheels are designed to move the seeder in conjunction with the tractor in the working position to transmit torque through the transmission mechanism to the discs of the sowing units, as well as through the counter drive to the reel fertilizer sowing units. This seeder has the ability to adjust the support and drive wheels in height.

15.Marker

The markers lowered and raised by a hydraulic mechanism that consists of a hydraulic cylinder and a high-pressure hose, and controlled from the tractor cab. The marker itself folded in half to reduce the height of the seeder.

16.Transport device

The transport device in the basic configuration provides additional protection against damage to the tires by plant stems and other objects on the field surface, with a transport width of 2.67 m allows you to move the seeder on public roads.

17.Electronic control system

VEGA PROFI seed drills are equipped with an electronic control system that monitors the seed flight in each coulter, the travel speed and transmits the information to the monitor in the tractor cab. This allows you to keep an accurate record of the sown area.

18.Wide range of the basic supporting items

- seed disks: 4 sets;

Crops	Diameter of the holes, mm	Number of holes, pcs.
Corn, castor beans, broad beans, kidney beans	5.5	30
Sorghum, sunflower (fine fraction)	2.2	40
Sunflower	3.0	30
Corn	4.0	30

- a set of lump eliminators;
- a set of slotting disks;
- information device;
- transportation device.

1. 

2. 

3. 

4. 

1.CLOD REMOVAL DEVICE

It is installed in front of the working section and ensures removal of clods and dry soil from the sowing area.

**recommended for use with traditional technology.*

2.CUTTING DISC

The unique design of the cutting disc ensures maximum efficiency and high quality cutting of crop residues and soil cutting. The conical waves of the cutting disc cut the soil and effectively loosen the side walls of the furrow directly in front of the coulter. The disc waves enter the soil perpendicular to the surface, which gives maximum cutting effect, and exit the soil parallel to the surface, which allows to "control" ejection of soil.

**recommended for No-Till, Mini-Till with small amounts of crop residues.*

3.ROW CLEANER

This unit is designed to clear the furrow in front of the double-disc coulter from plant debris. It provides the double-disc coulter with uniform and high-quality sowing of row crops.

** recommended for No-Till, Mini-Till with large amounts of crop residues*

4.CUTTING DISC + ROW CLEANER

The design of the cutting disc ensures high-quality cutting of compacted soil. The row cleaner effectively clears the furrow from the abundance of crop residues. This design provides the double-disc coulter with accurate and uniform placement of seeds into the furrow at any soil density.

**recommended for direct sowing with large amounts of crop residues*

	VEGA 6 PROFI	VEGA 8 PROFI	VEGA 16 PROFI
Type of machine	semitrailer	semitrailer	semitrailer
Working width, m	4.2	5.6	11.2
Working speed, km/h	2,5 - 9	2.5 - 9	2.5 - 9
Number of rows, pcs.	6	8	16
Productivity, ha/h	1.2 - 3.7	3.02 - 5.04	4.0 - 14.4
Sowing depth, mm	40 - 100	40 - 100	40 - 100
Coulter pressure, kg/cm²	280	280	280
Row spacing, mm	700	700	700
Application rate for fertilizers, kg/ha	23.5 - 245.4	23.5 - 245.4	23.5 - 245.4
Total volume of seed hoppers, l (dm³)	312 (52 x 6)	416 (52 x 8)	832 (52 x 16)
Total volume of fertilizer hoppers, l (dm³)	360 (180 x 2)	720 (180 x 4)	1 440 (180 x 8)
Overall dimensions during transportation, mm	2 530 x 6 980 x 1 550	8 000 x 2 670 x 3 500	13 100 x 3 325 x 3 460
Overall dimensions, in working condition, mm	6 980 x 2 530 x 3 500	2 530 x 6 980 x 1 550	6 125 x 12 565 x 2 795
Aggregated with tractors with power, more than, hp	80	80	180
Weight, kg	2 350 ± 3%	2 770	6 740

	VEGA 6 PROFI TELESCOP with a row spacing of 700 mm	VEGA 6 PROFI TELESCOP with a row spacing of 750 mm
Type of machine	hinged	hinged
Working width, m	4.2	4.5
Working speed, km/h	3.6 - 9	3.6 - 9
Number of rows, pcs.	6	6
Productivity, ha/h	1.2 - 3.7	1.62 - 4.05
Sowing depth, mm	40 - 100	40 - 100
Coulter pressure, kg/cm²	280	280
Row spacing, mm	700	750
Application rate for fertilizers, kg/ha	54 - 536	54 - 536
Total volume of seed hoppers, l (dm³)	312 (52 x 6)	312 (52 x 6)
Total volume of fertilizer hoppers, l (dm³)	560 (280 x 2)	560 (280 x 2)
Overall dimensions during transportation, mm	2 480 x 2 950 x 1 550	2 480 x 2 950 x 1 550
Overall dimensions, in working condition, mm	2 480 x 4 500 x 1 550	2 480 x 4 800 x 1 550
Aggregated with tractors with power, more than, hp	80	80
Weight, kg	2 538 ± 3%	2 538 ± 3%

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***The production facility has an Ideal-line powder coating line (Denmark). This painting technology allows us to perform high-quality paintwork with a warranty period of more than 8 years.**

VEGA 8 PROFI WITH DEVICE FOR APPLYING LIQUID COMPLEX FERTILIZERS

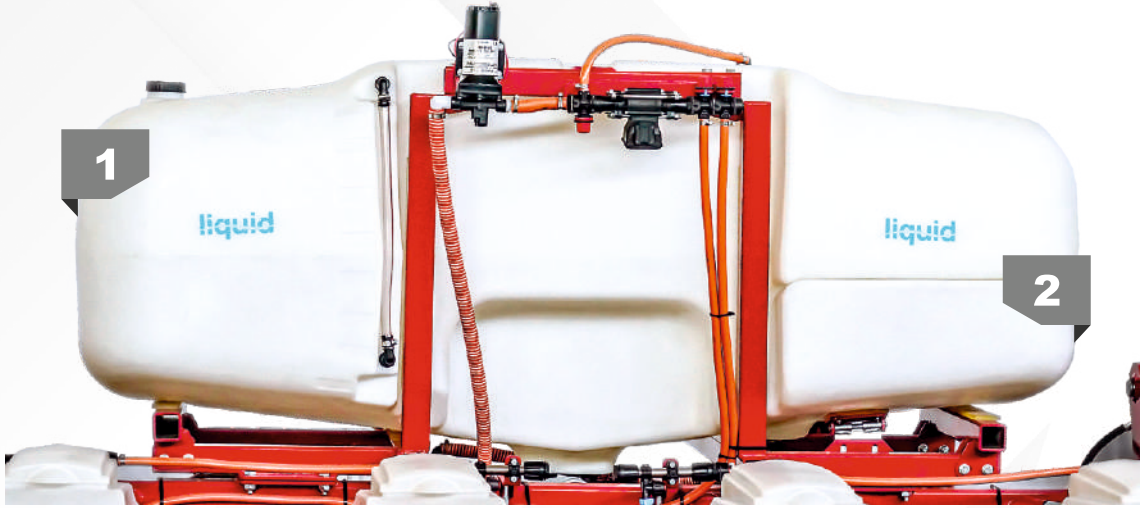
The VEGA 8 PROFI pneumatic seeder is designed for precise seeding using minimal traditiona processing technology. It ensures sowing of seeds with simultaneous application of liquid complex fertilizers and compaction of soil in the sown rows. It was created taking into account modern design solutions that can significantly reduce the cost of agricultural products supplied to the market.

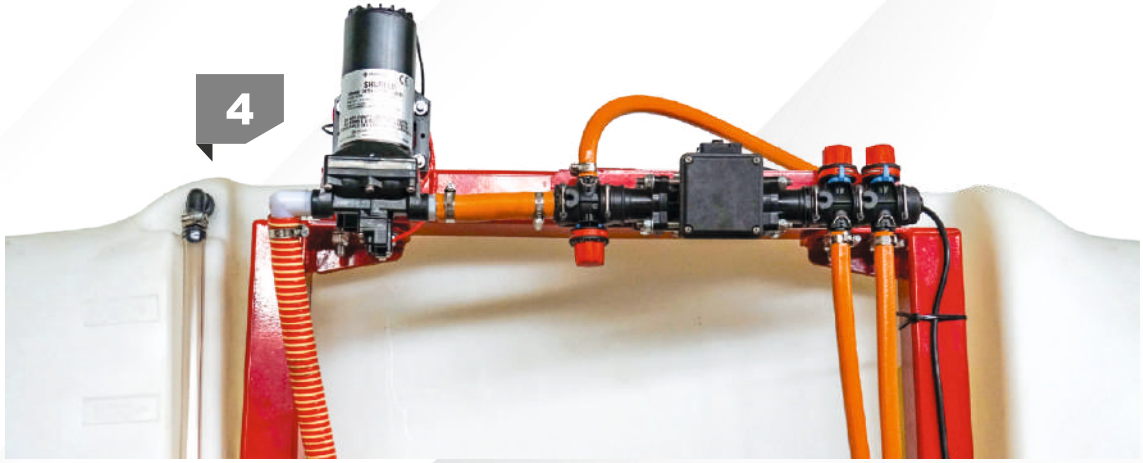
5.6 m	2.5-9 km/h	3.02 - 5.04 ha/h	up to 280 kg	8 pcs.	from 40 mm up to 100 mm	from 80 hp
Working width	Operating speed	Productivity	Coulter press mechanism	The number of rows	Sowing depth	Tractor power

Mineral fertilizers in liquid form.

Liquid fertilizers are much easier to apply to the soil than granular fertilizers. They are introduced into the soil in the fall for the main cultivation or in the spring for pre-sowing cultivation. They are also used for root and foliar feeding during the growing season of plants.

Liquid complex fertilizers (LCF) - simple and easy to use, moreover, LCF are relatively inexpensive. Such fertilizers can be used in combination with pesticides, which can significantly save financial resources of fuels and lubricants. When using liquid complex fertilizers, losses are no more than 10%, while when using other fertilizers, this figure can reach 30-40%.





1.Tank for liquid complex fertilizers

VEGA 8 PROFI seeder has a 1100 liters tank capacity for liquid complex fertilizers . At the bottom of the tank there is a tap for draining the remaining liquid fertilizers.

2.System flushing tank

A 50 l tank for flushing the systems, after liquid fertilizations, is integrated into the main tank.

3.Technical water tank

A 15 liter tank with service water for hand washing is integrated into the main tank.

4.Feeding liquid fertilizers

Using an electric pump with a capacity of 21 l/min., by Pentair plant, connected to the tractor's energy system. Liquid fertilizers are supplied through the filter from the tank for 3 adjustable valves (one main and two additional). With the help of valves and a set of washers, the rate of fertilizer delivery to each row is set. Excess fluid is returned back to the tank through a reversible feed system.

5.Application of liquid fertilizers

Liquid fertilizer is supplied through a hose, metal tip of which is located between double-disc couter and the press rollers.

6.Electronic control system

VEGA PROFI seeders are equipped with electronic control system that monitors the passage of seeds in each coulter, the speed of movement and transmits information to a monitor installed in the tractor cabin. This allows to keep an accurate record of the sown area.

	VEGA 8 PROFI with LCF
Type of machine	semitrailer
Working width, m	5.6
Working speed, km/h	2.5 - 9
Number of rows, pcs.	8
Productivity, ha/h	3.02 - 5.04
Sowing depth, mm	40 - 100
Coulter pressure, kg/cm²	280
Row spacing, mm	700
Application rate for fertilizers, l/ha	62 - 903
Total volume of seed hoppers, l (dm³)	416 (52 x 8)
Total volume of fertilizer hoppers, l (dm³)	1 100
Overall dimensions during transportation, mm	8 000 x 2 670 x 3 500
Overall dimensions, in working condition, mm	2 530 x 6 980 x 1 550
Aggregated with tractors with power, more than, hp	80
Weight, kg	3 818

***The production facility has an Ideal-line powder coating line (Denmark). This painting technology allows us to perform high-quality paintwork with a warranty period of more than 8 years.**

VESTA 6 PROFI PNEUMATIC SEEDER FOR PRECISION LAYING OF SEEDS USING TRADITIONAL SOIL TILLAGE TECHNOLOGY

4.02 m	2.5-9 km/h	1.05 - 3.78 ha/h	6 pcs.	from 40 mm up to 100 mm	from 75 hp
Working width	Operating speed	Productivity	The number of rows	Sowing depth	Tractor power

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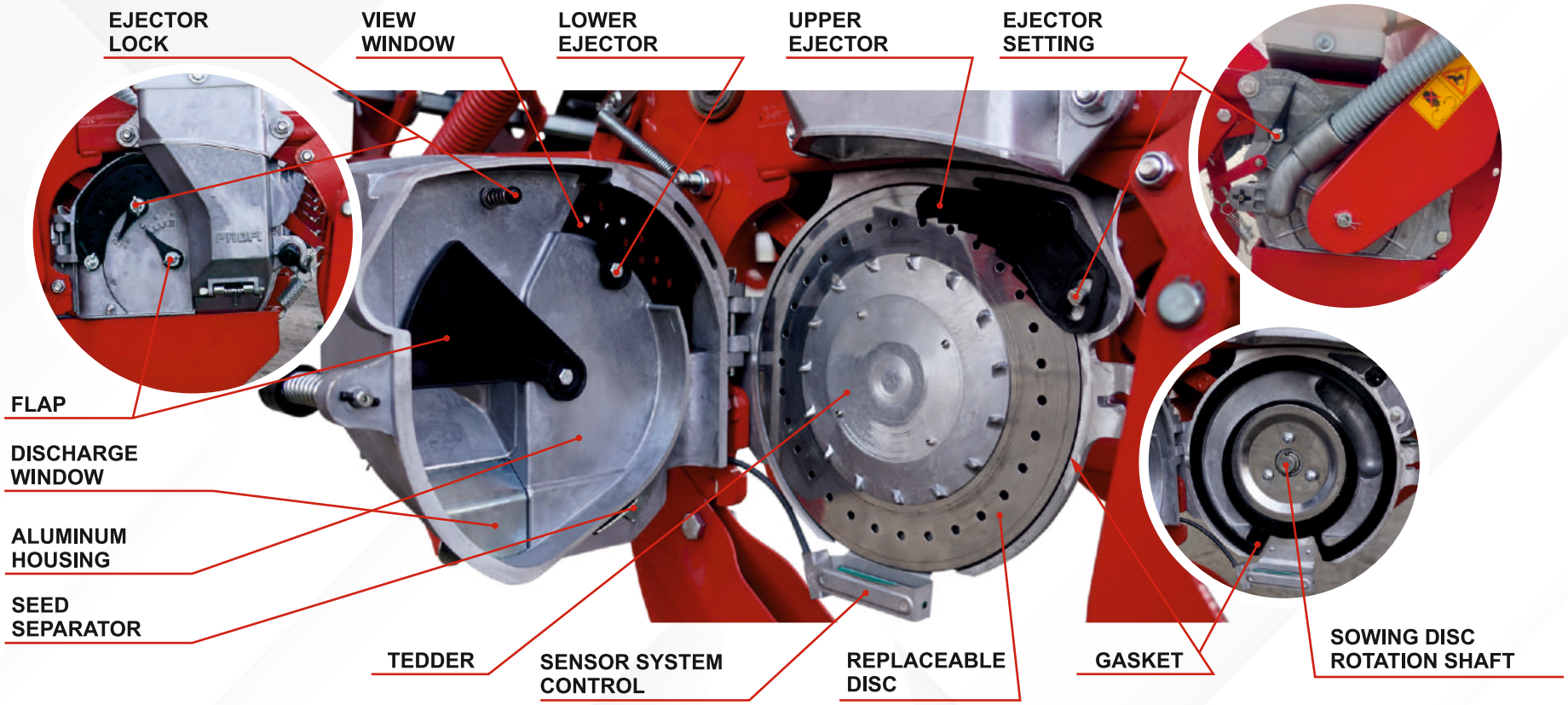
VESTA 8 PROFI PNEUMATIC SEEDER FOR PRECISION LAYING OF SEEDS USING TRADITIONAL SOIL TILLAGE TECHNOLOGY

5.6 m	2.5-9 km/h	3.02 - 5.04 ha/h	8 pcs.	from 20 mm up to 90 mm	from 80 hp
Working width	Operating speed	Productivity	The number of rows	Sowing depth	Tractor power

MAIN FEATURES OF THE VESTA PROFI SERIES



1.PROFI sowing unit

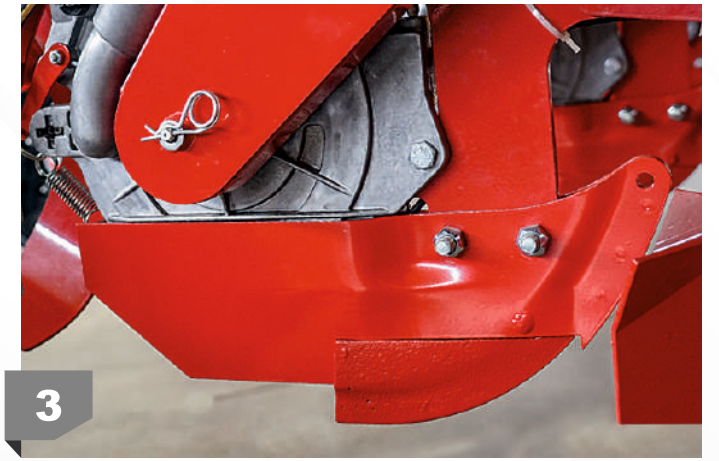
The sowing unit, made by injection molding from durable aluminum alloys, provides precise single-grain seed dosing, its features are as follows:

- the presence of upper and lower adjustable seed ejectors eliminates presence of duplicate seeds;
- the amount of seeds falling from the hopper into the seeding chamber is regulated by a flap;
- easy and convenient maintenance without tools;
- quick-release tedder installed on the seeding disc prevents compaction of seeds and getting stuck in the chamber of the sowing unit;
- the presence of a viewing window provides ease of adjustment;
- sealing gasket is built into the body, and it has a lip, the erasure of which signals the need to replace it;
- the sowing unit is mounted on a frame, which eliminates the influence of loads on it and guarantees durability of use;
- the presence of an unloading window ensures complete unloading of seeds after work;
- the presence of seeding discs of increased diameter allows to improve the quality of seed placement;
- installation of the rotation shaft of the seeding discs on rolling bearings with hightened dust protection increases service life.

2

2.Seeding section of the seeder

Low location of the sowing unit ensures that the seeds fall from a minimum height, which minimizes the time and reduces the likelihood of bouncing off. Thus, the seeds are ideally positioned through specified intervals in a row.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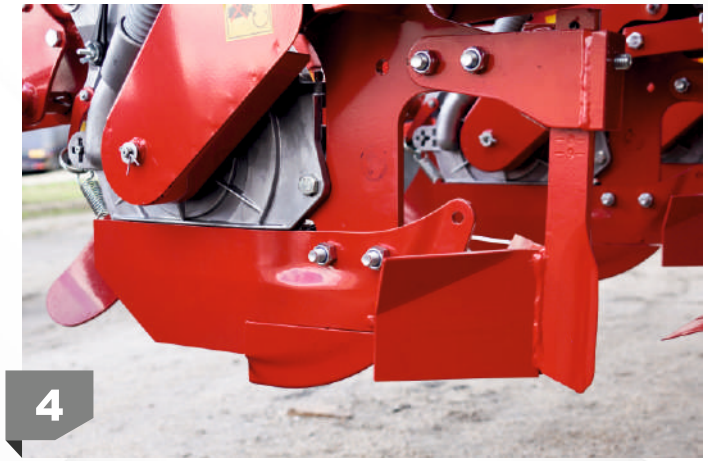
3.Skid coulter with replaceable heel

The combined skid coulter ensures perfect furrow opening. Replacement of a worn heel is quick and easy, ensuring long life of coulter.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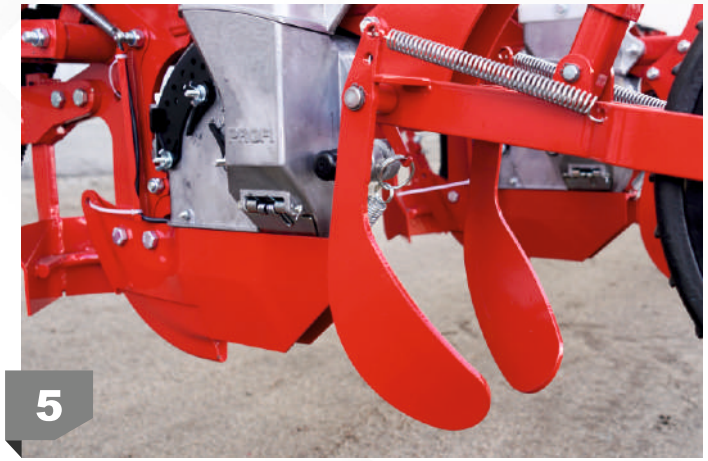
4.Clod remover

The installed clod remover allows sowing even in fields with crop residues and clods.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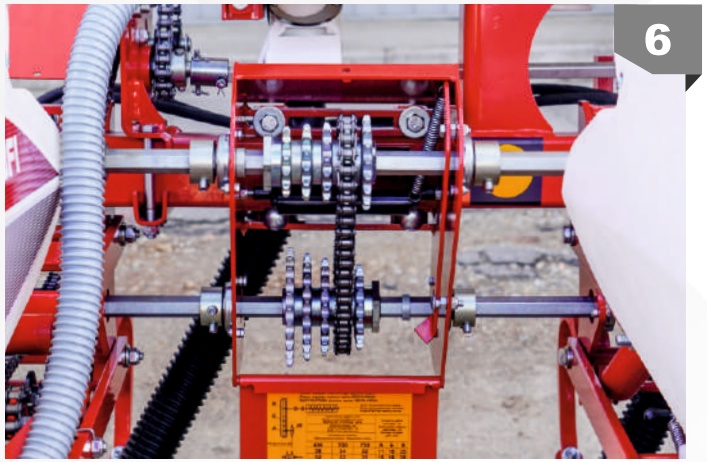
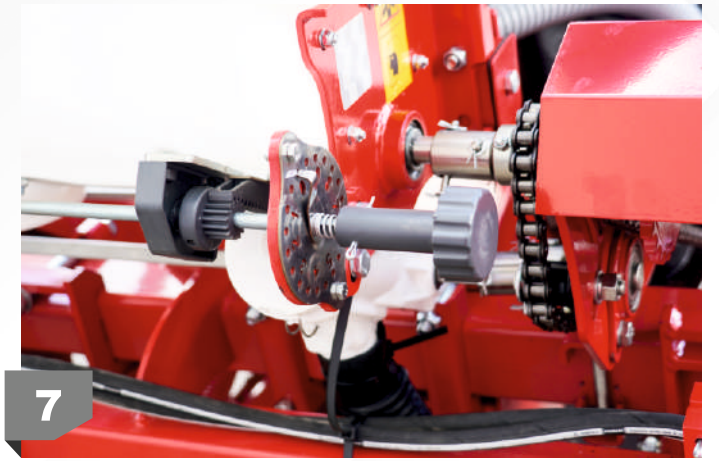
5.Effective furrow closure

The furrow closing mechanism returns the soil to the sown seeds, creating the best possible germination conditions for them.



6.5x5 star transmission mechanism

A 5x5 star assembly unit has been installed, now the farmer has the opportunity to use a wider range of seeding rates due to a larger number of transmission ratios of the transmission mechanism stars.

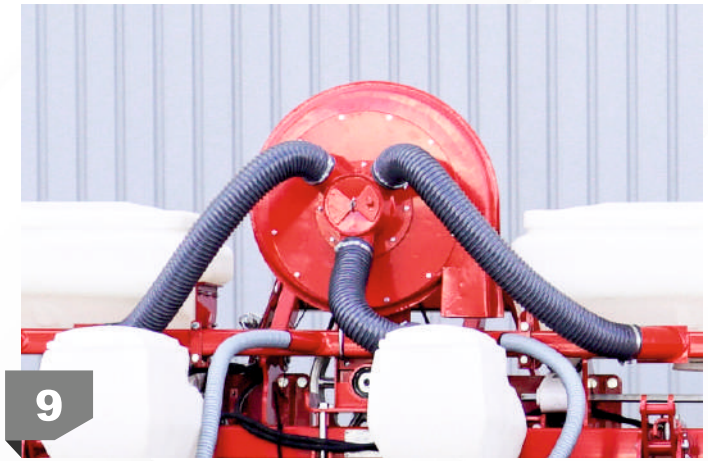


7.New system for applying dry mineral fertilizers

This system represents polymer seeding units with polymer reels that are not subject to corrosion, and it enables to quickly and smoothly change the application rate by turning the adjustment knob. Thanks to this, there is no need in a device for changing fertilizer application rates.

8.Fertilizer coulter

The fertilizer coulter is designed for preparing the furrow, compacting the bottom of the furrow and incorporating fertilizer into the soil. It is suitable for well-prepared soil and, in particular, for fine-grained soils with very little crop residue in the surface layer.



9.Receiver

The frame pipe, which acts as a receiver, provides a stable vacuum value in all sowing machines (allows you to keep heavy seeds in the holes of the sowing discs of the outer sections).

10.High pressure hoses of improved quality

Using of high quality double crimped high-pressure hoses allows operating the planter in more demanding conditions not worrying for hydraulic fluid leaks and high pressure breaks.

11.Plastic hoppers

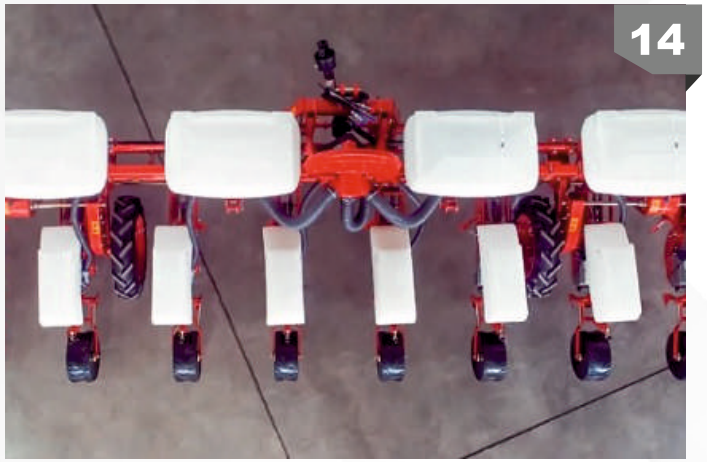
Seeder is equipped with plastic hoppers made of high quality polyethylene. This, in turn, provides a significantly lower hopper weight; resistance to various types of corrosion; and vibration resistance. In addition, these bins do not require periodic painting.

12.Protective screen

The fertilizer bunker is equipped with a protective screen for fertilizers screening, which helps to prevent the ingress of stones and large objects that can disrupt the operation of the seeder.

13.Lightweight frame design

The use of high-strength pipes of European steels reduces the weight of the frame structure while increasing its strength and rigidity, which leads to a reduction in tractor fuel consumption.



14.Support and drive wheels

The drive wheels mounted between the sowing units ensure smooth transmission of the torque through the gearboxes and uniform movement of the seed drill.

15. Press wheel

The packer wheel gently compacts the soil in the furrow, improving seed contact and thus ensuring uniform seedling emergence. The adjustment screw knob is used to set the optimum seed placement depth of 4-12 cm.

16.Transport device

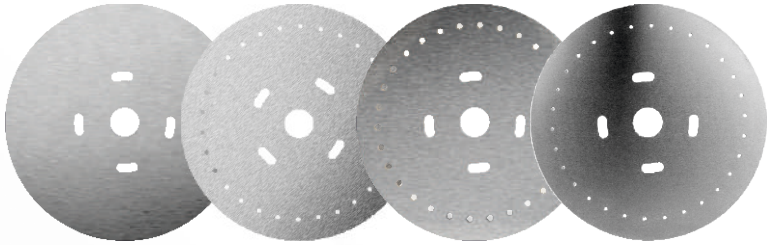
The transport device in the basic configuration provides additional protection against damage to the tires by plant stems and other objects on the field surface, with a transport width of 2.67 m allows you to move the seeder on public roads.

17.Wide range of the basic supporting items

- seed disks: 4 sets;

Crops	Diameter of the holes, mm	Number of holes, pcs.
Corn, castor beans, broad beans, kidney beans	5.5	30
Sorghum, sunflower (fine fraction)	2.2	40
Sunflower	3.0	30
Corn	4.0	30

- a set of lumps;
- information device;
- transportation device.



	VESTA 6 PROFI	VESTA 8 PROFI
Type of machine	hinged	hinged
Working width, m	4.2	5.6
Working speed, km/h	2.5 - 9	2.5 - 9
Number of rows, pcs.	6	8
Productivity, ha/h	1.05 - 3.78	3.02 - 5.04
Sowing depth, mm	20 - 90	20 - 90
Row spacing, mm	700	700
Application rate for fertilizers, kg/ha	24 - 248	24 - 248
Total volume of seed hoppers, l (dm³)	216 (36 x 6)	288 (36 x 8)
Total volume of fertilizer hoppers, l (dm³)	560 (280 x 2)	320 (80 x 4)
Overall dimensions during transportation, mm	5 520 x 2 010 x 1 840	5 870 x 2 010 x 1 840
Overall dimensions, in working condition, mm	2 355 x 4 270 x 1 445	2 355 x 5 270 x 1 445
Aggregated with tractors with power, more than, hp	75	80
Weight, kg	1 090	1 278

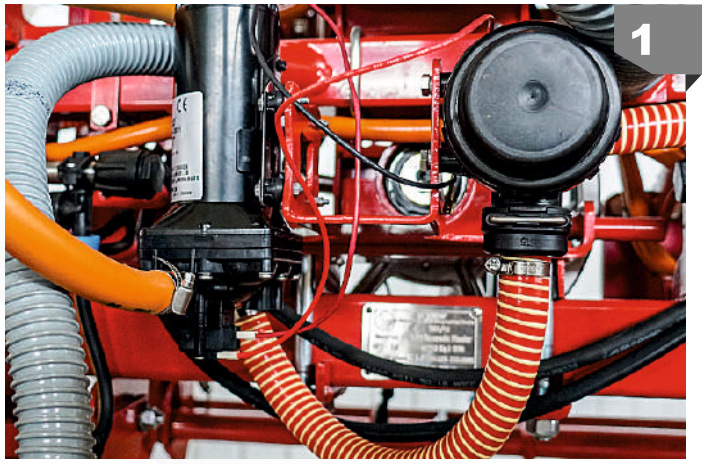
***The production facility has an Ideal-line powder coating line (Denmark). This painting technology allows us to perform high-quality paintwork with a warranty period of more than 8 years.**

VESTA 8 PROFI WITH A DEVICE FOR APPLYIN GLIQUID COMPLEX FERTILIZERS

VESTA air seeder 8 PROFI is designed for precision seeding on traditional cultivation techniques. Provides sowing of seeds with the simultaneous introduction of liquid complex fertilizers and rolling of the soil in the sown rows.

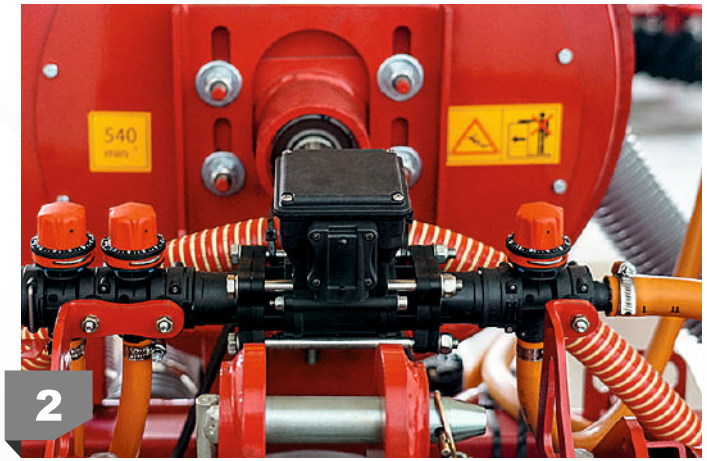
5.6 m	2.5-9 km/h	3.02 - 5.04 ha/h	8 pcs.	from 20 mm up to 90 mm	from 80 hp
Working width	Operating speed	Productivity	The number of rows	Sowing depth	Tractor power

ELVORTI SINCE 1874



1.Electro pump

With the help of an electric pump with a productivity of 21 l/min, made by Pentair, connected to the tractor's energy system, liquid fertilizers are supplied through a filter from the tank to 3 adjustable valves, one main and two additional ones.



2.Valves

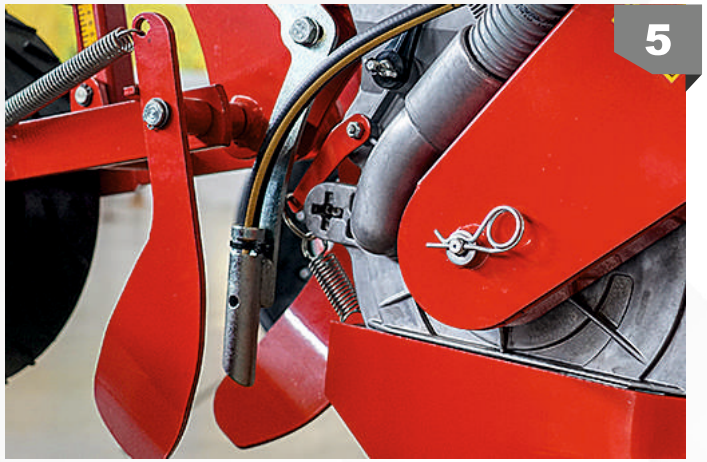
With the help of valves and a set of washers of various diameters, the fertilizer delivery rate is set for each line. Excess liquid is returned to the tank through a reversible feed system.

3.Plastic tanks for lcd

VESTA 8 PROFI seeder has a total capacity of tanks for liquid complex fertilizers of 500 liters (250x2).A tap is provided at the bottom of the main tank for draining the remaining liquid fertilizers.

4.Additional technical water tank

A plastic tank for transporting clean service water is located separately on the frame.



5.Application of liquid fertilizers

Liquid fertilizer is delivered through a hose with a metal tip located between the skid opener and the press rollers.

VEGA 8 PROFI with LCF

Type of machine	hinged
Working width, m	5,6
Working speed, km/h	2.5 - 9
Number of rows, pcs.	8
Productivity, ha/h	3.02 - 5.04
Sowing depth, mm	20 - 90
Row spacing, mm	700
Application rate for fertilizers, l/ha	62 - 903
Total volume of seed hoppers, l (dm^3)	288 (36 x 8)
Total volume of fertilizer hoppers, l (dm^3)	500 (250 x 2)
Overall dimensions during transportation, mm	5 870 x 2 010 x 1 840
Overall dimensions, in working condition, mm	2 355 x 5 270 x 1 445
Aggregated with tractors with power, more than, hp	80
Weight, kg	1 278

THE VESTA PROFI AND VEGA PROFI SEED DRILLS ARE EQUIPPED WITH PLASTIC HOPPERS:

Hopper for fertilizers and seed drills VEGA 6 PROFI and VESTA 6 PROFI with a volume of 280 liters.

Hopper for grain, seeders VESTA PROFI with a volume of 36 liters.

Hopper for grain and seed drills VEGA PROFI with a volume of 52 liters.

Hopper for fertilizers, seeders VESTA PROFI with a volume of 80 liters.

Hopper for fertilizers and seed drills VEGA PROFI with a volume of 180 liters.

ELVORTI SINCE 1874

CULTIVATORS FOR ROW CROPS

ALTAIR is a range of cultivators designed for inter-row cultivation of row crops with simultaneous application of granular mineral fertilizers. It provides quality soil loosening in the row spacing to a specified depth with weed control. Separately you can buy perching, furrow-forming bodies. There is an option of using the cultivator for continuous cultivation with razor tines, as well as for perching. Steel holders of the tine stands can withstand considerable loads.

ALTAIR 4.2-04

ALTAIR 4.2-04 for cultivation of 6-row maize, sunflower and other crops sown with a row spacing of 70 cm.

4.2 m	up to 10 km/h	2.1 up to 4.2 ha/h	288 l (dm³)	6 pcs.	from 60 mm up to 160 mm	from 65 hp
Working width	Operating speed	Productivity	Fertilizer hopper capacity	The number of rows	Working depth	Tractor power

ELVORTI SINCE 1874

ALTAIR 4.2-06

ALTAIR 4.2-06 cultivator is designed for inter-row cultivation of row crops with simultaneous application of granulated mineral fertilizers. It provides quality soil loosening in the row spacing to a specified depth with weed control.

4.2 m	up to 10 km/h	2.1 up to 4.2 ha/h	240 l (dm³)	6 pcs.	from 60 mm up to 160 mm	from 65 hp
Working width	Operating speed	Productivity	Fertilizer hopper capacity	The number of rows	Working depth	Tractor power

ALTAIR 5.6 (5.6-04)

ALTAIR 5.6-04 is designed for cultivation of 8-row crops of corn, sunflower and other crops, sown with a row spacing of 70 cm, with simultaneous application of granular mineral fertilizers.

5.6 m	up to 10 km/h	2.8 up to 5.6 ha/h	384 l (dm³)	8 pcs.	from 60 mm up to 160 mm	from 80 hp
Working width	Operating speed	Productivity	Fertilizer hopper capacity	The number of rows	Working depth	Tractor power

ELVORTI SINCE 1874

ALTAIR 5.6-06

ALTAIR provides quality soil loosening in the row spacing to a specified depth with weed control. ALTAIR 5.6-06 is designed for cultivation of 8-row crops of corn, sunflower and other crops sown with row spacing of 70 cm. The model is available without fertilizer application system.

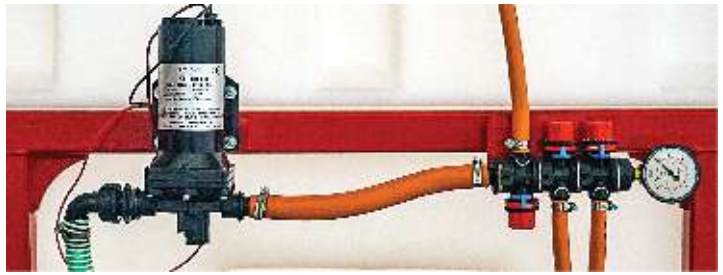
5.6 m	up to 10 km/h	2.8 up to 5.6 ha/h	320 l (dm³)	8 pcs.	from 60 mm up to 160 mm	from 90 hp
Working width	Operating speed	Productivity	Fertilizer hopper capacity	The number of rows	Working depth	Tractor power

ALTAIR 5.6-01 with LMF

(WITH ACCESSORY FOR APPLICATION OF LIQUID MINERAL FERTILIZERS)

RELIABLE LIQUID FERTILIZER TANK

Liquid fertilizer tank with a capacity of 800 l. At the bottom of the main tank there is a tap for draining the residual liquid fertilizer. The main fertilizer tank has an additional polymer tank for technical needs (for hand washing).



12 V ELECTRIC DIAPHRAGM PUMP

High-performance, efficient 12 V electric diaphragm pump with a capacity of 240 l/min, connected to the tractor's power system. The pump delivers liquid fertilizer from the tank through filters to 2 adjustable valves, which set the fertilizer rate.

PARALLELOGRAM SUSPENSION OF SECTIONS

Rigid and stable parallelogram suspension of the working body sections prevents damage to crops and ensures ground contour following. All components are mounted on bearings. Provides minimum plant protection zone during inter-row cultivation of crops.

5.6 m	up to 10 km/h	2.8 up to 5.6 ha/h	800 l	8 pcs.	from 60 mm up to 160 mm	from 90 hp
Working width	Operating speed	Productivity	Fertilizer hopper capacity	The number of rows	Working depth	Tractor power

ELVORTI SINCE 1874

MAIN FEATURES OF ALTAIR TILLED CULTIVATORS

1

1.Working section with lancet tines

The five lancet tine section is usually used for early spring loosening of young crops with 100% overlap between rows. This operation removes soil crust and weeds in the rows.

2

2.The rigid parallelogram suspension of the working element sections prevents damage to the crop and ensures ground contour following. All components are mounted on bearings.

3

3. Simple adjustment of the row spacing and working depth. The distance between the individual working sections can be easily changed by loosening the bolts connecting the main frame of the machine to the working sections and moving them along the frame. The working depth can be set from 6 to 16 cm.

4

4. Stabilization and support wheels

The rubber tires of the section support wheels ensure their self-cleaning from the ground and maintain the specified depths.

5.Resource-saving S-shaped stand with working unit

The use of S-shaped stands in the design of the ALTAIR 5.6-06 cultivator reduces traction resistance, which saves fuel consumption and increases productivity. The steel holders of the tine stands can withstand considerable loads. ALTAIR inter-row cultivators are equipped with tines of our own production; special steels with boron content are used for their manufacture, which increases service life of the tines by 100%.

6.Fertilizer hopper

The ALTAIR cultivator is equipped with fertilizer hoppers with increased capacity and stainless steel shafts to prevent corrosion. Total capacity of fertilizer hoppers:

ALTAIR 4.2-04 – 288 l (dm³);
ALTAIR 4.2-06 – 240 l (dm³);
ALTAIR 5.6-04 – 384 l (dm³);
ALTAIR 5.6-06 – 320 l (dm³);

The ALTAIR cultivator can be equipped with an 800 l hopper for application of liquid mineral fertilizer.

7.Adjustment of fertilizer application rates makes it possible to quickly and smoothly change the application rate by turning the adjusting knob.

8. Shaft for spreading dry mineral fertilizer

The rotation from the support and drive wheels is transmitted to the shaft of the fertilizer spreader. A discharge hatch is provided for removing fertilizer residues from the fertilizer hopper.

9. Transportation on public roads

The transport device allows the cultivator to be transported on public roads with a width of 2.1 m.

	ALTAIR 4.2-04	ALTAIR 4.2-06	ALTAIR 5.6 (WITHOUT FERTILIZING)	ALTAIR 5.6-04	ALTAIR 5.6-06	ALTAIR 5.6-01 with LMF
Equipment type	hinged	hinged	hinged	hinged	hinged	hinged
Sowing width, m	4.2	4.2	5.6	5.6	5.6	5.6
Working speed, km/h	5 - 10	5 - 10	5 - 10	5 - 10	5 - 10	5 - 10
Productiveness, ha/h	2.1 - 4.2	2.1 - 4.2	2.8 - 5.6	2.8 - 5.6	2.8 - 5.6	2.8 - 5.6
Inter-row spacing, mm	700	700	700	700	700	700
Application rate for fertilizers, kg/ha	25 - 260	25 - 260	–	25 - 260	25 - 260	–
Application rate for working fluid, l/ha	–	–	–	–	–	31 - 450
Total volume of fertilizer hoppers, l (dm^3)	288	240	–	384	320	320
Number of cultivation rows, pcs.	6	6	8	8	8	8
Working depth, mm	60 - 160	60 - 160	60 - 160	60 - 160	60 - 160	60 - 160
Overall dimensions during transportation, mm	4 875 x 2 100 x 1 700	4 880 x 2 050 x 2 020	5 560 x 2 070 x 2 020	6 390 x 2 100 x 1 700	7 280 x 1 890 x 1 920	7 280 x 1 890 x 1 920
Overall dimensions, in working condition, mm	2 100 x 4 875 x 1 700	1 780 x 4 880 x 1 600	2 100 x 6 390 x 1555	2 100 x 6 390 x 1 700	2 168 x 7 045 x 1 550	1 890 x 6 370 x 1 920
Unitized with tractors with power, more than, hp	65	65	80	80	90	90
Weight, kg	1 178	1 065	906	1 284	1 180	1 050

***The production facility has an Ideal-line powder coating line (Denmark). This painting technology allows us to perform high-quality paintwork with a warranty period of more than 8 years.**

CONTINUOUS TILLAGE CULTIVATORS

CULTIVATORS POLARIS PREMIUM

5 rows of tines improves throughput and pre-sowing preparation in the fieldwith a large amount of plant residues

POLARIS PREMIUM is a semi-trailer cultivator designed for resource-saving pre-sowing and steam soil cultivation for cereals, industrial and forage crops, for cutting and combing weeds, as well as for leveling and compaction of the ground surface. Cultivator models are available with working widths from 4 to 12 meters.

- **Effective combination of work units**
  The checkerboard arrangement of the paws in 5 rows with a paw width of 235 mm allows to work on fields with a lot of crop residues without clogging.

- **The paws work under the action of vibration**
  As a result of vibration, the paws thoroughly crush the soil and wear less, thereby reducing operating costs and maintenance frequency.

- **Robust cultivator design**
  The frame has a lattice design, it is made of high-strength European steels, it provides the necessary strength and reliability with less weight of the cultivator, resulting in a reduced need for tractor traction force.

- **Reliable transportation**
  Checkerboard arrangement of tandem wheels ensures smooth passage of crop residues without clogging, stable and uniform tillage depth across the entire working width of the unit.

- **Quick adjustment of working depth**
  The depth is easily and quickly adjusted by installing clips on the hydraulic cylinder rods of tandem wheels, as well as by adjusting the support wheel lanyards (talreeps) on the cultivator wings.

- **Effective moisture preservin**g
  Aggressive teeth of a spring harrow comb out cut weeds, destroying capillarity, evenly mix and distribute plant residues on the field, preserving moisture and promoting the most complete and rapid germination of fallen plants.

- **High-quality soil compaction and leveling**
  Pressing slatted rollers ensure the crushing of large and small lumps, and also compact the soil in the seed bed area.

POLARIS 6 PREMIUM

WIDE COVERAGE UNIVERSAL CULTIVATOR

5 ROWS OF PAWS IMPROVE PRE-SEED PREPARATION, WORKING IN FIELDS WITH A LARGE AMOUNT OF CROP RESIDUE

6 m	12 km/h	7.2 ha/h	5 pcs.	33 pcs.	from 60 mm up to 120 mm	from 150 hp
Working width	Operating speed	Productivity	Number of paw rows	Number of paws	Sowing depth	Tractor power

ELVORTI SINCE 1874

POLARIS 10 PREMIUM

WIDE COVERAGE UNIVERSAL CULTIVATOR

5 ROWS OF PAWS IMPROVE PRE-SEED PREPARATION, WORKING IN FIELDS WITH A LARGE AMOUNT OF CROP RESIDUE

WORKING BODY

The cultivator is equipped with a C-shaped stand 30×30 mm, made of spring steel, with a spiral arm, 235 mm wide, made of steel containing boron, which allows it to easily bypass obstacles hidden in the soil. When the cultivator is operating, the stand creates microvibration, which contributes to the destruction of lumps and layers of soil. Destruction occurs beyond microfractions, which helps restore soil structure.

PAW POSITION

The original arrangement of working bodies in 5 rows with a paw width of 235 mm on the cultivator improves pre-sowing soil preparation and allows you to work in fields with a large amount of crop residues without clogging and facilitates the passage of the unit through weeds and crop residues with a height of 150 mm.

10.3 m	12 km/h	12 ha/h	5 pcs.	56 pcs.	from 60 mm up to 120 mm	from 250 hp
Working width	Operating speed	Productivity	Number of paw rows	Number of paws	Sowing depth	Tractor power

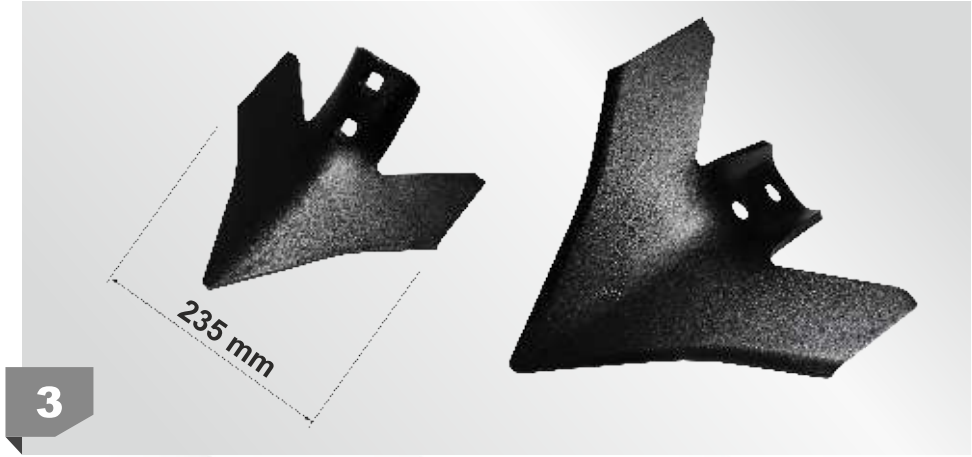
MAIN CHARACTERISTICS OF CULTIVATORS POLARIS PREMIUM

1.Original arrangement of struts

The checkboard arrangement of the loosening arms in 5 rows ensures improved flow of crop residues, no clogging, uniform soil distribution and weed cutting. The lattice frame facilitates the flow of large quantities of crop residues due to the fact that the struts have optimal transverse and diagonal spacing, which also reduces the energy costs of tillage.

2.Spring protection of the strut

Polaris 6 Premium is equipped with 25x40 mm struts with permanent spring protection. Thanks to the vibration of the struts, very thorough mixing of the soil is carried out. With constant spring protection, the strut reliably holds the paw at the set depth to create a uniform seed bed in unstable conditions, ensuring simultaneous emergence of seedlings.



3.Cultivator paw

The 235mm cultivator paw has a unique wing design and provides a low furrow to optimize productivity and meet the demands of tough field conditions. Paws have Increased service life since they are manufactured of boron steel, and they are hardened for durability and strength while maintaining sharp edge, this ensures their long service life. As a protection against counterfeiting, the manufacturer's marks are placed on the paws of our own production. Reliable bolt-on mounting allows for simple and quick replacement of wear components.

4.Press roller

The compacting slat roller ensures crushing of soil, which is dominated by small lumps of soil up to 25 mm in size. Thanks to its radial suspension, the roller follows field unevenness and ensures leveling and compaction of the soil surface. Thanks to the design features of the bearing unit with a 2-year warranty, the service life of the roller is increased and the time for servicing the unit is reduced.

5.Spring harrow

A spring harrow creates a barrier to moisture evaporation, pulls out cut weeds and plant residues and distributes them evenly over the field surface.

Adjusting the harrow tooth angle:

15° – is the standard setting for most soils and average crop residue levels;

30° – for a high level of crop residues;

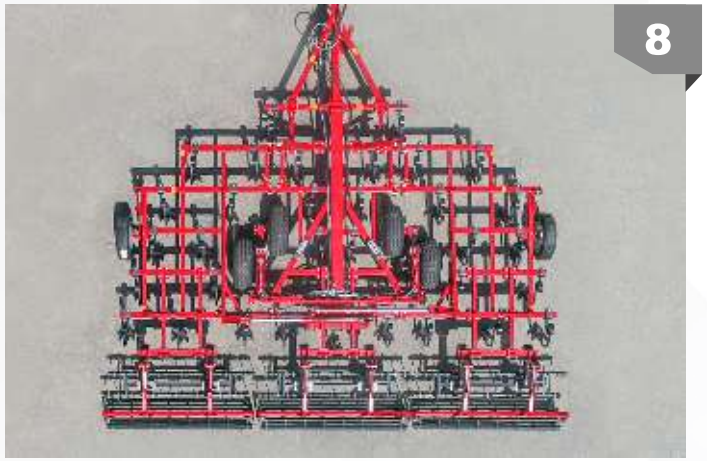
50° – on heavy soils with a minimum of crop residues.

6.Tandem wheels

The checkboard arrangement of tandem wheels on the central frame improves the passage through crop residues without clogging. Two wheels ensure a stable and uniform working depth across the entire working width of the machine and help support the frame.

7.Wing support wheels

Thanks to the location of the support wheels on the wings, the cultivator processes the soil at a given depth across the entire working width.



8.Unique frame design

A large margin of strength and reliability when working in difficult conditions is provided by pipes made of European steels, from which the central frame and wings are made. Thanks to the lattice design of the frame and its increased rigidity, the cultivator is lightweight, which leads to savings in tractor fuel consumption.

9.Adjusting the processing depth

The depth of pre-sowing treatment is adjusted from 2 to 12 cm using a hydraulic system and is additionally mechanically fixed by a set of adjusting stops (clips) made of aluminum alloy located on the central frame. Making it easier to adjust the depth and saving time on setting up the cultivator in the field is done with the help of lanyards (talreeps) located on the support wheels of the wings.

10.Cultivator wings

The side sections of the cultivator are able to follow the field topography pretty well relative to the horizon up to ± 7°, providing ideal depth control and soil loosening across the entire working width in fields with difficult terrain.

11.Maneuverability and ease of transportation

The support wheels are located in the middle of the machine, which makes the Polaris Premium cultivator easy to transport and also makes tight radius turns on headlands easier. The dimensions of the cultivator POLARIS 4 (6;8) (2 800 mm in transport position) allow the use of public roads to deliver it to the place of use.

	POLARIS 4 PREMIUM	POLARIS 6 PREMIUM	POLARIS 8 PREMIUM	POLARIS 10 PREMIUM	POLARIS 12 PREMIUM
Equipment type	semitrailer	semitrailer	semitrailer	semitrailer	semitrailer
Sowing width, m	4	6	8,27	10,3	12
Working speed, km/h	12	12	12	12	12
Productiveness, ha/h	4.8	7.2	9.9	12	14.4
Distance between rows of paws, mm	180	180	180	178	210
Paw width, mm	235	235	235	235	290
Number of paws, pcs.	23	33	45	56	56
Processing depth, mm	60 - 120	60 - 120	60 - 120	60 - 120	60 - 120
Transport speed, km/h	20	20	20	15	15
Number of plume rollers, pcs.	2	3	3	6	6
Number of spring harrows, pcs.	2	3	3	6	6
Dimensions, during transportation, mm	5 700 x 2 800 x 2 680	6 575 x 2 800 x 3 200	6 600 x 2 850 x 4 400	8 035 x 5 060 x 4 150	8 035 x 5 060 x 4 300
Dimensions, in operating condition, mm	5 755 x 4 470 x 1 040	6 626 x 6 295 x 1 240	6 680 x 8 385 x 1 200	8 035 x 10 295 x 1 470	8 035 x 12 050 x 1 470
Unitized with tractors with power, more than, hp	100	150	200	250	300
Weight, kg	2 238	3 676	4 330	5 673	6 800

***The production facility has an Ideal-line powder coating line (Denmark). This painting technology allows us to perform high-quality paintwork with a warranty period of more than 8 years.**

DISC HAROWS

Disc harrows are designed for resource-saving pre-sowing tillage for sowing grain, industrial and forage crops, for destroying weeds and crushing crop residues after harvesting, as well as for chopping, leveling and compacting the soil.

ELVORTI SINCE 1874

DOUBLE-ROW DISC HARROWS PALLADA
AND FOUR-ROW DISC HARROWS ANTARES

EFFECTIVE TREATMENT OF ALL TYPES OF SOILS

- **Versatility by changing the angle of attack**
  The PALLADA design with separate angle of attack adjustment of each disc row from 0° to 30° allows quick and easy adjustment for changes in moisture, crop residue and soil type.
- **Rigid disc stand**
  On PALLADA harrows, each disc is mounted on a high-strength firm disc stand, which guarantees uniform soil tillage with minimal ridges in the seeding area.
- **Individual disc stand**
  This sturdy disc stand, made of a strong steel wheel with a 7° bend angle, allows working in fields with large amounts of crop residues without clogging.
- **Original disc design**
  The 9-cutout disc with its unique «lobes» design ensures optimal cutting and mixing of crop residues compared to similar machines.
- **Disc sharpening angle 20°**
  The 20° disc sharpening angle ensures reliable deepening and cutting of crop residues as well as uniform wear of the disc over the entire cutting edge while maintaining its sharpening throughout its entire service life.
- **Mini-till farming technology**
  The disc harrow is designed for efficient cultivation using Mini-till farming technology and soil preparation for sowing grain, industrial and forage crops.
- **Trailed disk harrows**
  The trailed harrows do not require high tractor pulling power, which reduces fuel consumption and the cost of cultivation per 1 ha.

PALLADA 1800 (1800-01)

Disc harrows are designed for use in soil and climatic conditions with moisture up to 27%, as well as on fields with a large amount of plant residues.

Each harrow disk is mounted on an individual stand, which allows the harrow to be used on fields with a large amount of plant residues and weeds, eliminating the possibility of winding residues on the disk axle and clogging the inter-disk space, as well as providing high maintainability of the unit.

The design of the unit allows smooth adjustment of the angle of attack of each disc row from 0° to 30°, which makes it possible to optimally adjust the harrow to different soil types.

The discs for the PALLADA double row harrows have diameters 560 and 660 mm. For harrows with 660 mm discs the index 01 is added to the name.

For example, the diameter of PALLADA 1800 disks is 560 mm, and the diameter of PALLADA 1800-01 disks is 660 mm.

Zone 1 - DISKS

Destruction of weeds, shredding of crop residues after harvesting crops, loosening of the surface soil layer to pre-sowing condition.

Zone 2 - ROLLERS

Field leveling and soil compaction with rollers.

PALLADA 1800

1.8 m	12 km/h	2.16 ha/h	from 120 mm ± 20 mm	14 pcs. ø 560 mm	from 65 hp
Working width	Operating speed	Productivity	Working depth	The number of rows	Tractor power

PALLADA 1800-01

2.16 ha/h	from 150 mm ± 20 mm	14 pcs. ø 660 mm
Productivity	Working depth	The number of rows

ELVORTI SINCE 1874

PALLADA 2400 (2400-01)

PALLADA 2400

2.4 m	12 km/h	2.88 ha/h	from 120 mm ± 20 mm	18 pcs. ø 560 mm	from 80 hp
Working width	Operating speed	Productivity	Working depth	The number of rows	Tractor power

PALLADA 2400-01

2.88 ha/h	from 150 mm ± 20 mm	14 pcs. ø 660 mm
Productivity	Working depth	The number of rows

PALLADA 3200 (3200-01)

PALLADA 3200

3.2 m	12 km/h	up to 3.8 ha/h	from 120 mm ± 20 mm	24 pcs. ø 560 mm	from 90 hp
Working width	Operating speed	Productivity	Working depth	The number of rows	Tractor power

PALLADA 3200-01

3.8 ha/h	from 150 mm ± 20 mm	20 pcs. ø 660 mm
Productivity	Working depth	The number of rows

ELVORTI SINCE 1874

PALLADA 4000

4 m	12 km/h	up to 4.8 ha/h	from 120 mm ± 20 mm	30 pcs. ø 560 mm	from 120 hp
Working width	Operating speed	Productivity	Working depth	The number of rows	Tractor power

ELVORTI SINCE 1874

PALLADA 6000

6 m	12 km/h	up to 7.2 ha/h	from 120 mm ± 20 mm	46 pcs. ø 560 mm	from 180 hp
Working width	Operating speed	Productivity	Working depth	The number of rows	Tractor power

ELVORTI SINCE 1874

	PALLADA 1800	PALLADA 1800-01	PALLADA 2400	PALLADA 2400-01
Type of machine	mounted	mounted	mounted	mounted
Working width, m	1.8	1.8	2.4	2.4
Working speed, km/h	12	12	12	12
Capacity, ha/hour	2.16	2.16	2.88	2.88
Working depth, mm	120 ± 20	150 ± 20	120 ± 20	150 ± 30
Angle of attack of disks, deg.	0 - 30	0 - 30	0 - 30	0 - 30
Distance between disk rows, mm	950	950	950	950
Diameter of working bodies, mm	560	660	560	660
Distance between disk blades, mm	250	320	250	320
Transport speed, km/h	20	20	20	20
Number of cutting components, pcs.	14	10	18	14
Overall dimensions, mm	2 355 x 2 100 x 1 210	2 170 x 2 700 x 1 260	2 050 x 2 700 x 1 200	2 170 x 2 700 x 1 260
Coupled with tractors with power, more than h.p.	65	65	80	80
Weight, kg	833	754	880	950

	PALLADA 3200	PALLADA 3200-01	PALLADA 4000	PALLADA 6000
Type of machine	semitrailer	semitrailer	semitrailer	semitrailer
Working width, m	3.2	3.2	4	6
Working speed, km/h	12	12	12	12
Capacity, ha/hour	3.8	3.8	4.8	7.2
Working depth, mm	120 ± 20	150 ± 30	120 ± 20	120 ± 20
Angle of attack of disks, deg.	0 - 30	0 - 30	0 - 30	0 - 30
Distance between disk rows, mm	950	950	950	950
Diameter of working bodies, mm	560	660	560	560
Distance between disk blades, mm	250	320	250	250
Transport speed, km/h	20	20	20	20
Number of cutting components, pcs.	24	20	30	46
Overall dimensions, mm	4 430 x 3 350 x 1 520	4 650 x 3 350 x 1 930	4 900 x 4 110 x 1 295	4 900 x 6 110 x 1 295
Coupled with tractors with power, more than h.p.	90	90	120	180
Weight, kg	1 612	1 700	2 130	3 208

ANTARES 3x4 (4x4)

THREE OPERATIONS IN ONE PASS

The ANTARES series four-row disk harrow allows to prepare the ground for sowing in one pass. The ANTARES disc harrow is designed for resource-saving seedbed preparation for sowing grain, industrial and fodder crops, weed control and shredding of crop residues after harvesting, as well as for grinding, leveling and compaction of soil.

Zone 1 - DISKS

Destruction of weeds, shredding of crop residues after harvesting crops, loosening of the surface soil layer to pre-sowing condition.

Zone 2 – ROLLERS

- Mixing of plant residues with the soil;
- Leveling and compaction of the soil;
- «Combing out» weed residues.

ANTARES 3x4

3 m	12 km/h	up to 3.8 ha/h	from 120 mm ± 20 mm	30 pcs. ø 560 mm	from 150 hp
Working width	Operating speed	Productivity	Working depth	The number of rows	Tractor power

ANTARES 4x4

up to 4.8 ha/h	42 pcs. ø 560 mm	from 150 hp
Productivity	The number of rows	Tractor power

ELVORTI SINCE 1874

ANTARES 6x4

THREE OPERATIONS IN ONE PASS

6 m	12 km/h	up to 5.3 ha/h	from 120 mm ± 20 mm	60 pcs. ø 560 mm	from 300 hp
Working width	Operating speed	Productivity	Working depth	The number of rows	Tractor power

ANTARES 8x4

THREE OPERATIONS IN ONE PASS

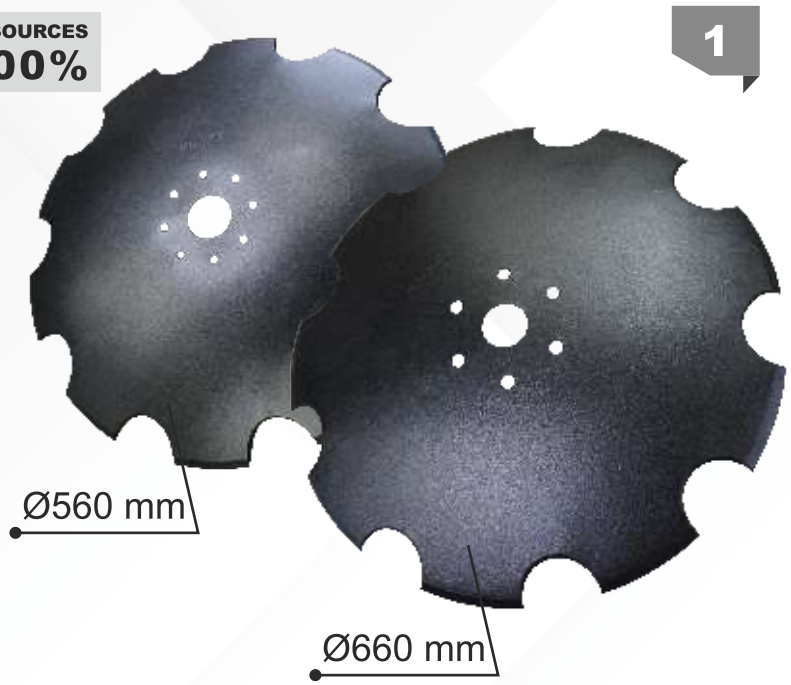
8 m	12 km/h	up to 9.6 ha/h	from 120 mm ± 20 mm	76 pcs. ø 560 mm	from 400 hp
Working width	Operating speed	Productivity	Working depth	The number of rows	Tractor power

ELVORTI SINCE 1874

	ANTARES 3X4	ANTARES 4X4	ANTARES 6X4	ANTARES 8X4
Type of machine	semitrailer	semitrailer	semitrailer	semitrailer
Working width, m	3	4	6	8
Working speed, km/h	12	12	12	12
Capacity, ha/hour	3.6	4.8	5.3	9.6
Working depth, mm	120 ± 20	120 ± 20	120 ± 20	120 ± 20
Angle of attack of disks, deg.	0 - 30	0 - 30	0 - 30	0 - 30
Distance between disk rows, mm	700	700	700	700
Diameter of working bodies, mm	560	560	560	560
Distance between disk blades, mm	400	400	400	400
Transport speed, km/h	20	20	20	20
Number of cutting components, pcs.	30	42	60	76
Overall dimensions, mm	6 450 x 3 460 x 1 530	5 950 x 4 340 x 1 440	6 630 x 6 300 x 1 530	6 630 x 7 780 x 1 530
Coupled with tractors with power, more than h.p.	150	200	300	400
Weight, kg	2 740	3 750	4 898	6 125

BASIC CHARACTERISTICS OF DISK HARROWS

RESOURCES
100%



1.560 mm diameter discs

The PALLADA series double row disc harrows are equipped with inclined spherical discs with a diameter of 560 mm on an individual stand and are designed for seedbed preparation without pre-plowing and for post-harvest cultivation.

660 mm diameter discs

The 660 mm diameter discs are designed for greater tillage depth. The disc harrows are equipped with inclined spherical discs with a diameter of 660 mm on individual stands, which increases throughput and cultivation depth and is advantageous with large amounts of crop residues, e.g. after maize harvesting.

Discs are made of European steels with boron content

Disks are made of European steels with boron content of increased rigidity, which increases their service life up to 100%. The unique method of disk sharpening provides uniform wear of the disk over the entire cutting surface with preservation of its sharpening during the whole service life. To prevent counterfeiting, the manufacturer's branding is placed. Optimum number of notches on the disk for excellent ground crumbling and cutting of post-harvest residues.

2.Maintenance-free hub

The hub with rigid post adapter is a high performance hub designed by FKL for the Pallada and Antares series disc harrows.

The design based on a housing-integrated double row angular contact ball bearing and cassette seal gives the product a longer service life than standard hubs.

Lubrication and seals are designed for the life of the bearing.

3.Hub

Design of hub of cutting unit, due to installation of a collar with a cassette seal, increases life of bearing by 60% and reduces time for maintenance by up to 50%.

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4

4.Adjustable entry angle=universality

The disc harrow design provides independent row adjustment of the disc entry angles from 0° to 30°, which allows you to optimize soil cultivation in accordance with different working depths. Thus, this contributes to the improvement of the agrotechnical parameters of soil cultivation, as well as to a decrease in the required tractive effort of the tractor. Bushings are installed on the bar for changing the entry angle of the discs, which makes it easier to adjust the entry angle. A small entry angle provides a shallow surface harrowing, while an increasing of entry angle provides good penetration.

5

5.Heavy duty frame - long life service

Frame was produsedby using high-strength pipes from European steel, which provides reducution of the weight of the frame structure, while increasing its strength and rigidity, as a results, tractors fuel consumption was decreased.

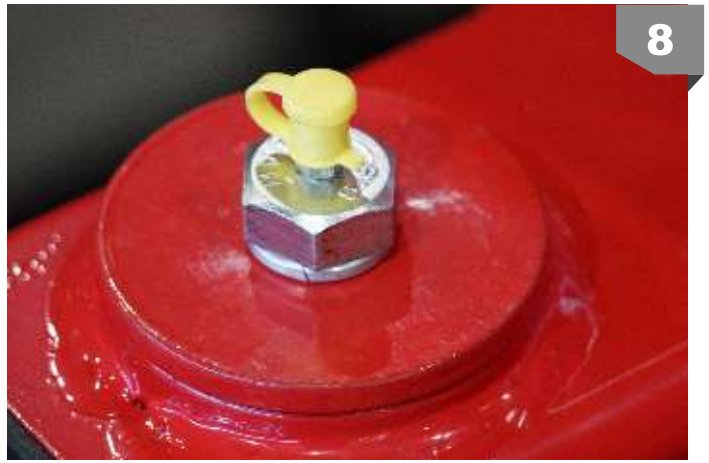
6

6.Adjusting the tillage depth

New design for adjusting tillage depth by moving pin between holes. Design made it easier to adjust depth of soil cultivation, while increasing durability of the unit.

7.Rack

Each harrow disc of the PALLADA is mounted on an individual rack. The absence of a single axis precludes winding of crop residues and clogging of the interdisc space.



8.Oiler on each hub

Oiler nipples on each hub ensure durability of unit, and oiler nipples at rack attachment essembly, preclude clogging with dust and breakdown of the racks and ensure easy setup of unit.

9.Attaching the linkage to the tractor

Pallada and Antares two-row and four-row disc harrows (except Pallada 2400-01) are equipped with a hitch bar, which facilitates connection to the tractor hitch; this connection is suitable for all types of tractors.

10.Tubular plume roller

This is a universal roller providing high load-bearing capacity; the optimal number of cross tubes contributes to the quality formation of a uniformly compacted soil surface. It is designed for mixing crop residues with the soil, leveling and compacting the soil after rolling.

11.Spiral rollers are part of the basic equipment of the ANTARES range of harrows and they ensure:

- Mixing of crop residues with soil;
- Leveling and compaction of the soil;
- «Combing out» of weed residues.

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*The production facility has an Ideal-line powder coating line (Denmark). This painting technology allows us to perform high-quality paintwork with a warranty period of more than 8 years.

JOIN THE ELVORTI TEAM!

























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