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Sirius 10

Pneumatic Seeder-Cultivator



Sirius 10 Pneumatic seeder-cultivator is intended for seeding by zero and minimal agrotechnologies.

Sirius 10 produces seeding of grain-crops (wheat, rye, barley, and oats), moderate and small size seed leguminous plants (pea, haricot beans, soya beans, pea everlasting, beans, lentil, chick-pea, lupine) and of other crops similar to grain ones by the size of seeds and seeding rate (buckwheat, millet, sorghum, etc.) as well as free running herb seeds (lucerne, clover, timothy-grass, rape) with the simultaneous fertilizing into the seed furrows and soil packing.

The device with work tools introducing seeds and fertilizers into the soil may be used (after disconnection of the cart with pneumatic tank) as a highly productive cultivator of the continuous tillage of soil with the cultivation depth to 20 cm and with 10 hectares per hour productivity.

In the **Sirius 10** seeder the “W” pneumatic system of transportation is used, i.e. the separate seed and fertilizer input on all the way from dosing coils to operating tools



PROCESSING CHARACTERISTICS

Commonly used agricultural technologies	minimum and zero tillage
Seeded crops	grain-crops, moderate and small size seed leguminous plants and free running herb seeds
Recommended stubble height shall not exceed	15 cm
All-inclusive field preparation to seeding:	
While seeding just after harvesting grain-crops	combines must be equipped with the choppers cutting plant residues to pieces not more than 10 cm size
While seeding just after harvesting corn and sunflower	it is necessary before seeding to preliminary disk a field and chop plant residues, seedlings of seeds fall and weeds not more than 10 cm size
While seeding across the weedy field having big time interval between harvesting and seeding	it is necessary before seeding to preliminary disk a field and chop plant residues, seedlings of seeds fall and weeds not more than 10 cm size
Soil moisture shall not exceed	25%

CAUTION! Before to start working it is important to dry up the air system and dosimeters, blasting them free with the stream of air at the working fan.

CAUTION! In rainy or foggy weather it is forbidden to work in order to prevent the air system and dosimeters clogging with damped grains and mineral fertilizers.



The seeder may be equipped with operating tools of four types:

- chisel-shaped anchor plough for the drill seeding with 19 mm row width;
- blades for the drill seeding with 57 mm row width;
- T-shaped anchor plough for strip seeding with 100 mm strip width;
- 305 mm wide blades for strip seeding with 100 mm strip width that may also be used for continuous cultivation.

The operating tools are set on C-shaped spring tines protecting the operating tools from breakage at coming up against an obstacle.



The operation tools location on the planter toolbar in 4 rows in the direction of move staggering with 254 mm row width provides high passability of the seeder in the fields fouled with ground crop residues and weeds.

The planter toolbar consisting of three parts — the central one and two wings, provides necessary lengthwise and transverse soil gauging with the 12° angle wings adaptability.



A seed tank of 5250 litres capacity and a fertilizer tank of 3480 litres capacity are set on the pneumatic seeder trailer. Total tankage capacity is 8700 litres. The expanded tankage capacity significantly reduces the time for load in the tight agro-schedule of seeding.

A pneumatic seeder trailer is supplied with a power mechanism of seed dispensers and power mechanism disconnection, that lets change smoothly the seeding rate by simple shiftable sprockets.

- of seeds from 0,2 to 400 kg/ha;
- of fertilizers from 25 to 200 kg/ha.

TECHNICAL CHARACTERISTICS

Power source capacity*	hp	280...380
Rated capacity for 1 hour of the principal time	ha/hour	10
Operating speed (depending on the used operating tools and seeding depth)	km/hour	from 8 to 10
Roading speed	km/hour	20
Coverage	m	10
Number of operating tools rows lengthwise	pcs.	4
Distance between operating tools in the direction of move	mm	920
Number of operating tools	pcs.	40
Row-width spacing	mm	254
Seeding depth	mm	30...80
Fertilizing depth	mm	30...80
Cultivating depth	mm	120...200
Seeding rate	kg/ha	0,2 ... 400
Fertilizing rate	kg/ha	25...200
Seed tank capacity	l.	5250
Fertilizer tank capacity	l.	3480
Overall dimensions in the working position (length *width * height), without considering marker offset	mm	13800*10500*4000
Overall dimensions in over-the-road position (length *width * height)	mm	14000*6200*4220

Additional Conditions

* **Sirius 10 is aggregated with the tractors:** K 744-02, K 744-03, «Belarus 3022-DV» or foreign tractors with 280 - 380 hp power capacity depending on the used operating tools, seeding depth, soil type and moisture.

** **The tractor hydraulic system** shall have three pairs of output for connecting the aggregate hydraulic system.



The seeding system consists of:

- a fan with a driving gear of autonomous internal-combustion engine with the 24 hp power capacity;
- two roller feeds;
- air tubes, seed drill tubes and horizontal dividing heads.

The seeder may be supplied with a fan with a driving gear hydraulic motor or with a fan with a driving gear of autonomous internal-combustion engine that provides 5000 r/pm and excludes dependence of the fan rotation frequency and, consequently, of the air flow pressure and seeding quality on the tractor hydraulic system work.



Horizontal dividing heads, unlike vertical ones, do not demand strong airflow for transportation of seeding materials and fertilizers.

It gives opportunity to make separate seeding and fertilizing through separate seed and fertilizer conductors that excludes their clogging, it lets do seeding without fertilizers or introduce them from minimal starting dose to the full one.



Loading of seed tanks and fertilizer tanks is made by a hydraulic screw charger. The time of full tanks loading is – 45-60 minutes depending on the way of seeds delivery into the screw charger receiving tank.

Sirius 10 hydraulic seeder-cultivator is supplied with hydraulic markers. Control of the seeding and cultivation technological process is made by a machine-operator from a tractor cab.

Adjustable mechanism permits to smoothly vary the cultivation depth from 3 to 20 cm.



For packing of soil in seeded rows, the seeder is completed with two kinds of soil compactors:

- smooth one for the row seeding;
- star-wheeled one for the strip seeding.

Soil compactors are assembled into eight sections. The sections are articulated to the frame of the cultivator with the help of forks. The articulation permits the soil compactors to copy the surface of the field.

For cultivation, the seeder is assembled with spring-tooth harrows, which provide smoothing of the soil and covering seed grain with the soft soil.



The seeder is mobile. For opportunity to transport it to the point of use with the aid of hydraulic system not laborious transition into transportation state and backwards is made.

After not labor-consuming reequipment (disconnection of the pneumatic seed tank), the seeder may be used as a highly productive cultivator of the continuous soil tillage with the cultivation depth to 20 cm and with 10 hectares per hour productivity.

Model 7000

Pneumatic Tank



The model 7000 pneumatic tank is an ideal solution for the farms interested in both productivity and reliability of machinery, and its economic effectiveness.

The tank configuration

The model 7000 tank is divided into two sections with capacities 60% and 40% of the total capacity. This division is the most optimal for the simultaneous seeding and fertilizing.

Fast setting of the seeding rate

The seeding rate is regulated by means of quick-shift sprockets change, which is made in less than two minutes. In the seeding rate table attached to the tank operating instructions the typical rates of the products usage and recommended sprockets are mentioned.

Stationary calibration

Performing the stationary calibration is possible by means of the calibration shaft handle rotation.

Dosing units

On the model 7000 dosing units not demanding special service are used, durable plastic dosing screws provide the accurate mea-

surement of a product. The dosing units are meant for the work with different products. At the product change there is no need in the substitution of the dosing unit inner components.

Stable running gear

The special tanker stability and flotation are provided by the running gear design. Thanks to the wide wheels setout model 7000 is an ideal tool for working on hilly plots.

Loading/unloading convenience

Model 7000 is supplied with a loading screw 203 mm in diameter. The screw can turn 180 degrees, that lets use it for the tank unloading through receiving sections of dosimeters. In the transportation state the screw is fixed with the

help of a lock, which is simple and easy in use. The cup-shaped form of the receiving tray provides the fullest product removal from the tray.

Tank hoods

Model 7000 has big tank hoods of reinforced structure. Enlarged tank hoods openings permit filling in the tank with seeds and fertilizers more easily and fully.

Convenient working platforms

Model 7000 is supplied with two-level platform with oversized banisters and sites. Thanks to that safety and convenience of lifting on tank is provided. Upper banisters can be folded for decreasing dimension.

Total tank capacity	l.	7048
Front section	l.	4229
Back section	l.	2819
Height *Width *Length	m	3,8 * 3,5 * 9,3
Weight	kg	2948
Loading screw (diameter)	mm	203
Tires (131 kPa)		21,5 * 16,1 of high flotation
Receiving screw tray	cm	18 (mesh of cells 13 mm)
Back Trailed implement		Option
A driving gear fan		Piston hydraulic motor
Oil pressure	kPa	Working 15510 ... maximal 17930
Rate of oil flow	l/min	Working 45.4 ... maximal 56.8

SZ-5,4

Grain-Fertilizer Seeder



The SZ-5,4 seeder is intended for the drill seeding of grain-crops (wheat, rye, barley, and oats), leguminous plants (pea haricot beans, soya beans, pea everlasting, beans, lentil, chickpea, lupine) with the simultaneous fertilizing. It may be used for seeding of other crops similar to grain ones by the size of seeds and seeding rate (buckwheat, millet, sorghum, etc.).

The seeder is aggregated with tractors of the 1,4 pulling force tractive class.

It is preferable for use in the 40-70 ha fields.

Due to the coverage width increase the productivity grows in 1,5 times in comparison with the SZ-3,6A base model. The engine of MTZ -80 tractor is loaded to 85% of its power, that gives to 20%.of fuel savings

The two-seeder aggregate with the SP-10,8-01 hitch increases productivity in 1,5–2 times.

The hitch is aggregated with tractors of the 3 pulling force tractive class in a trailer way. It is completed with hydraulic markers controlled from the tractor cab.

The seeder is completed with different openers and sets of covering operating tools, thanks to which it can be re-equipped from one form into another one under conditions of a farm.



SZ-5,4— is intended for the drill seeding , it is completed with double-disk openers and finger earthing devices.

SZ-5,4-01 — is intended for winter crops supplementary seeding and fertilizing, it is completed with single-disk openers;

SZ-5,4-02 — is intended for seeding flax, it is completed with drill coulter point two-row openers and earthing devices. It can be used for sowing the seeds of grain and leguminous crops with the seeding depth from 10 to 30 mm;

SZ-5,4-03 — for seeding on light soils, it is completed with drill coulter point one-row openers;

SZ-5,4-04 — for close drill seeding, it is completed with double-disk openers and finger earthing devices;



SZ-5,4-06 is for close drill seeding , it is completed with double-disk two-row openers and finger earthing devices.

The united construction of the unit (“an opener and a soil compactor”) permits adjusting an opener to the specific seeding depth with 1cm interval. The retention of the seeding depth parameter contributes to even germinability and to productivity increase.

Coverage width	m	5,4
Rows Quantity	pcs	36(72)
Row-spacing width	cm	15(7,5)
Seeding rate:	kg/ha	
- for seeds		5-400
- for fertilizers		25-200
Operating speed	km/hr	9-12
Productivity	ha/hr	4,9-6,5
Tank capacity (total):	dm ³	
- for seeds		680
- for fertilizers		318
Overall dimensions	mm	2950*6750*2750
Mass	kg	2190
It is aggregated with the tractors with the power of	hp	up to 85

SZT-5,4

Combined Grain-Grass-Fertilizer Seeder



The SZT-5,4 seeder is intended for the drill seeding of grain and leguminous crops using both separate and simultaneous seeding of free running grass seeds and introducing granulated mineral fertilizers.

The seeder produces seeding of grain and leguminous crops from the basic tanks through the disk openers.

From the grass tanks through drill coulter point openers the small seeds of the following grasses are sown:

- free running seeds (lucerne, clover, timothy grass, rape);
- medium-free running (esparcet, wheatgrass, fescue grass);
- not free running seeds (brome grass, ryegrass, etc.).

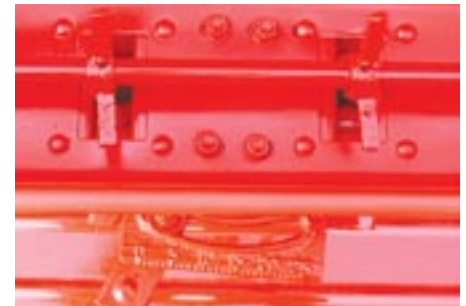
It is preferable for use in 40-70 ha fields. Due to the coverage width increase the productivity grows in 1,5 times in comparison with the SZT -3,6A base model. Engine of the MTZ - 80 tractor is loaded to 85% of its power, that gives to 20%.of fuel savings.

The two-seeder aggregate with the SP-10,8-01 hitch increases productivity in 1,5–2 times.

The hitch is aggregated with tractors of the 3 pulling force tractive class in a trailer way. It is completed with hydraulic markers controlled from the tractor cab



The grain seeder tank is equipped with the grain agitator, the neck of the sowing apparatus has a supercharger. The shutters of technological windows are established in the grain-fertilizer tank partition.



The seeder is equipped with an adjuster to the rate of introducing grass seeds. The neck of the sowing apparatus of the grass tank has a supercharger.



Drill coulter point for seeding seed or grasses is completed with earthing devices.

Coverage width	m	5,4
Rows quantity	pcs	36/35
Row-spacing width	sm	15(7,5)
Seeding rate:	kg/ha	
- for seeds		5-400
- for fertilizers		25-200
- for grass		5-90
Operating speed	km/hr	9-12
Productivity	ha/hr	4,9-6,5
Tank capacity (total):	dm ³	
- for seeds		680
- for fertilizers		318
- for grass		130
Overall dimensions	mm	2950*6750*2750
Mass	kg	2950

SZP-3,6B

Grain-Fertilizer Roller-Seeder



The SZP-3,6B Grain-fertilizer roller-seeder is intended for the drill seeding of grain-crops and leguminous crops with the simultaneous introducing granulated mineral fertilizers into the sown drill rows.

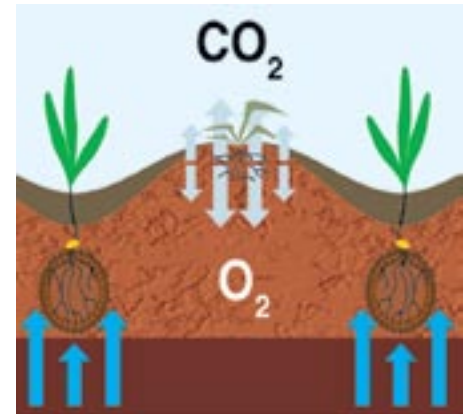
The seeder construction is based on the modular principle. According to the rank scheme modules are connected between themselves into the sowing aggregates with the aid of the special adjustments.

The seeder is produced in the following forms:

- with double-disk openers on 4 supporting driving wheels;
- with double-disk openers on 4 supporting driving wheels and with soil compactors.



The disk soil compactors are assembled into four sections. The sections are articulated to the seeder frame with the aid of forks. Such connection of the soil compactors sections to the frame gives the possibility to the soil compactors to copy the field relief. The outside soil compactors sections serve for the drive of the sowing apparatus shafts.



Compacting soil in rows is produced for creating contact between the sowed seeds and the moist soil on the bottom of seed furrows. It provides the capillary rise of moisture in dense zones, that creates favorable conditions for the earlier and friendlier germination of seeds at sowing in dry regions and regions subjected to the wind soil erosion.

Gas exchange happens thanks to the open zone that contributes not only to the earlier germination of seeds, but also to the loss of weeds in unconsolidated hillocks.



On the seeder a countershaft with free-wheeling clutches and a disconnecter are established. The presence of the freewheeling clutches makes it possible to transfer rotation to the shaft from two outside sections of the soil compactors or from both driving seeder wheels. The disconnecter serves for turning off the transfer mechanism in the transport position.

Coverage width	m	3,6
Rows quantity	pcs	24
Row-spacing width	sm	15
Seeding rate:	kg/ha	
- for seeds		5-400
- for fertilizers		25-200
Operating speed	km/hr	9-12
Productivity	ha/hr	3,2-4,3
Tank capacity (total):	dm ³	
- for seeds		453
- for fertilizers		212
Overall dimensions	mm	3985*3710*1755
Mass	kg	1635
It is aggregated with the tractors with the power of	hp	up to 85

SZT-3,6A

Combined Grain-Grass-Fertilizer Seeder



The SZT-3,6A seeder is intended for the drill seeding of grain and leguminous crops using both separate and simultaneous seeding of free running grass seeds and introducing granulated mineral fertilizers.

The seeder produces seeding of grain and leguminous crops from the basic tanks through the disk openers.

From the grass tanks through drill coulter point openers the small seeds of the following grasses are sown:

- free running seeds (lucerne, clover, timothy grass, rape);
- medium-free running seeds (esparcet, wheatgrass, fescue grass);
- not free running seeds (brome grass, ryegrass, etc.).

Three SZT-3,6A seeders with the SGP-10,8 hitch compose a hydraulic wide-level aggregate (seeders are connected in the staggered order) for seeding grain-crops.

The hitch is aggregated with tractors of the 3 pulling force tractive class in a trailer way

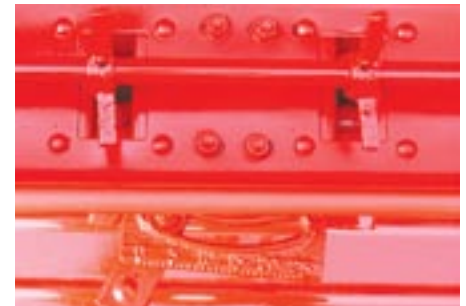
It is completed with the hydraulic markers controlled from the tractor cab.

In the transport position the width of the hitch is 2,4 m, that makes it possible to move it along the roads of the general purpose.

The aggregate with the SGP -10,8 hitch increases productivity in 1,5-2 times.



The grain seeder tank is equipped with the grain agitator, the neck of the sowing apparatus has a supercharger. The shutters of technological windows are established in the grain-fertilizer tank partition.



The seeder is equipped with an adjuster to the rate of introducing grass seeds. The neck of the sowing apparatus of the grass tank has a supercharger.

Drill coulter point for seeding seed or grasses is completed with earthing devices.

Coverage width	m	3,6
Rows quantity	pcs	24(48)
Row-spacing width	sm	15(7,5)
Seeding rate:	kg/ha	
- for seeds		5-400
- for fertilizers		25-200
- for grass		5-90
Operating speed	km/hr	9-12
Productivity	ha/hr	3,2-4,3
Tank capacity (total):	dm ³	
- for seeds		453
- for fertilizers		212
- for grass		86
Overall dimensions	mm	4300*3700*1650
Mass	kg	1690

SZ-3,6A

Grain-Fertilizer Seeder



The SZ-3,6A seeder is intended for the drill seeding of grain (wheat, rye, barley, oats) and leguminous crops (pea, haricot beans, soya beans, pea everlasting, beans, lentil, chickpea, and lupine) with the simultaneous fertilizing.

The SZ -3,6A seeder is the base machine of the grain drill seeders series. It is preferable for use in the single-row variant in the fields with the area to 40 ha.

The seeder is equipped with the device of overlapping some part of the grain sowing apparatuses for forming the technological track at intensive technologies of agricultural crops cultivation.

It is completed with different openers and sets of covering operating tools, thanks to which it can be re-equipped from one form into another one under conditions of a farm.

Three SZ -3,6A seeders with the SGP-10,8 hitch compose a hydraulic wide-level aggregate (seeders are connected in the staggered order) for seeding grain-crops.

The hitch is aggregated with tractors of the 3 pulling force tractive class in a trailer way

It is completed with the hydraulic markers controlled from the tractor cab.

In the transport position the width of the hitch is 2,4 m, that makes it possible to move it along the roads of the general purpose.

The aggregate with the SGP-10,8 hitch increases productivity in 1,5 – 2 times.

SZ -3,6A — for drill seeding is completed with double-disk openers and earthing devices;

SZ -3,6A-01 — for winter crops supplementary seeding and fertilizing without preliminary soil tillage it is completed with single-disk openers;

SZ -3,6A-02 — is intended for seeding flax, it is completed with drill coulter point two-row openers and earthing devices. It can be used for sowing the seeds of grain and leguminous crops with the seeding depth from 10 to 30 mm;

SZ -3,6A-03 — is for seeding on light soils, it is completed with drill coulter point openers for light soils and earthing devices;

SZ -3,6A-04 — is for close drill seeding, it is completed with double-disk two-row openers and chain earthing devices.



The seeding rate is set by adjustment of the operating coil length, by the group adjustment of seeding apparatus valves, and by frequency change of the seeding apparatus shaft rotation. Fertilizing rate setting is made by a handle.

Reducer has three base speeds, which are switched with the aid of the lever; a cassette is substituted to the open gear drive. In reducers the mechanically processed steel gears are established that increases reliability of their operation.

Coverage width	m	3,6
Rows Quantity	pcs	24(48)
Row-spacing width	sm	15(7,5)
Seeding rate:	kg/ha	
- for seeds		5-400
- for fertilizers		25-200
Operating speed	km/hr	9-12
Productivity	ha/hr	3,2-4,3
Tank capacity (total):	dm ³	
- for seeds		453
- for fertilizers		212
Overall dimensions	mm	4300*3700*1650
Mass	kg	1380
It is aggregated with the tractors with the power of	hp	up to 85

Vega-8

All-Crop Pneumatic Seeder



Vega-8 – is the seeder, which ideally fits with purposes of modern agriculture with maximum productivity at minimum expenses. According to its technical characteristics, Vega-8 provides qualitative work on the prepared soil in the fields with minimum preparation, including work in the stubble-field in the presence of ground plant remainders.

Vega-8 all-crop pneumatic seeder is intended for single-seed sowing of graded and ungraded seeds of corn, sunflower, castor oil plant, sorghum, soya beans, and also seeds of stern beans, haricot beans, and lupine with simultaneous, separate from seeds, introducing granulated mineral fertilizers and soil compacting in rows.

The precise spacing seed drill provides seeding onto the final seeding density without usage of manual labor while forming the necessary interval between plants.

Each marker is operated independently and has a separate hydraulic cylinder.

The semitrailer seeder is completed with conveying appliance that makes it possible to move the seeder along the roads of general purpose without using additional transportation means.

It is aggregated with tractors of class 1,4... 2 pulling force



The seeder is equipped with the centrifugal blower with the drive from VOM tractor or from the hydraulic drive of 540 r/min.

For creating even rarefaction that is necessary while seeding heavy seeds of legume crops (soya and others) the fan of the seeder is equipped with the additional air blast pipe, which provides air blast stabilization along the full length of the seeder receiver and guarantees even seeding in each section.

For regulating air blast rarefaction there is a shutter on the fan.



On the seeder, the sowing section of True-V construction with the soil compacting system and a ripple-edge cutting disk are used. The seed drill distributor is built into the carcass of the sowing section that excludes the load effect of operating tools construction elements. Screw depth control of the sowing section reduces labor inputs during adjustment

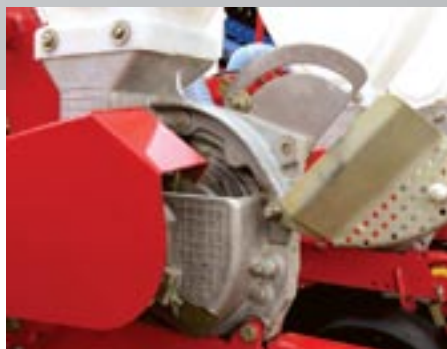
The V-shaped soil compactor with adjustable width of packing and compacting the soil provides drafting moisture into the zone of sowing, pressing seeds into the soil, but for all that, leaving not compacted soil layer over the seeding material that facilitates earlier and friendlier seed germination and increase in productivity.



For the work on unprocessed soil the sowing section is equipped with a special ripple-edge cutting disk (a disk cutter), which cuts soil for the subsequent formation of the sowing bed. While entering the soil, the disk ripple-edges are located perpendicular to the soil surface that maximally increases the cutting ability at the minimum of required pressure. While leaving the soil, the disk ripple-edges are located in parallel to the soil surface that prevents the moist soil adhesion. The ripple-edge cutting disk is characterized by better capability of soil stratification with the minimum effort for pressing crop residues into the soil with the speed from 5,5 to 12,0 km/h. Due to such disk construction, the strip of loosened soil is formed just in front of the sowing section.



A fertilizing device is added as an option consisting of fertilizer distributors, fertilizer openers, reducers and a drive. The seeder construction permits removing and installing the device.



The quantity of seeds falling from the tank into the sowing camera is regulated by a shutter. The comb-type spare seeds ejector provides the accurate single-seed sowing. The agitator facilitating better suction of seeds into the disk openings and improving quality of sowing is established on the sowing disk.

The seeder is equipped with the "Niva 23" system regulating seeding.

For the rapid removal of seeds from the seed drill distributor camera, the unloading hatchway is provided.



The chain shift mechanism of the seed drill distributors has 15 ratios.

The gearshift mechanism onto the fertilizer distributors has 12 ratios.



The distinguishing feature of the seeder is that seeding is produced practically in the zone of supporting wheels of the seeding section; thus, soil roughness completely stops influencing the seeding depth.

The sight port presence permits visual controlling work quality in the process of setting the seed drill distributor.



The telescopic hitch tongue construction gives the opportunity to reduce overall dimensions of the seeder during transportation.

Coverage width	m	5,6
Rows Quantity	pcs .	8
Row-spacing width	mm	700
Operating speed	km/hr	3,6-9
Operating speed	ha/hr	2-5,04
Tank capacity (total):	dm ³	
- for seeds		214,4
- for fertilizers		204,4
Seeding rates:		
- for seeds	pcs/ rm	2-43
- for fertilizers	kg/ha	50-250
Seeding depth	mm	20-120

UPS-8 and UPS-6

All-Crop Precise Spacing Pneumatic Seeders.



UPS-8 and UPS-6 pneumatic seeders are intended for single-seed sowing of graded and ungraded seeds of corn, sunflower, castor oil plant, sorghum, soya beans, and also seeds of stern beans, haricot beans, and lupine with simultaneous, separate from seeds, introducing granulated mineral fertilizers and soil compacting in rows.

The precise spacing seed drills provide seeding onto the final seeding density without usage of manual labor while forming the necessary interval between plants.

The pneumatic precise spacing seed drill distributors reduce the percentage of crushing seeds in 10 times in comparison with the mechanical ones.

All drive shafts of the seed and fertilizer distributors are installed on the antifriction bearings.

Due to arrangement of supporting driving wheels axle on the same line with grain openers the simultaneous copying of the field relief is achieved by means of both the frame and the sowing section.

A protector with the cleats on the tires of supporting-driving wheels decreases their slippage that pro-

vides stated interval between the seeds.

Seeders are supplied with the durable hydraulic marker with the disk of the larger diameter, which has the capability to change attack angle for obtaining the well visible track.

Completing the seeder with a transport unit permits moving it along the roads of the general purpose without using additional transportation means.



A semiautomatic hitch provides rapid and safe connection of the seeder with a tractor.

The hitch has the capability of displacement along the beam frame that allows seeding with 450-mm row width by tractors with unchangeable track spacing (for example, T-70S).



For creating even rarefaction that is necessary while seeding heavy seeds of legume crops (soya and others) the fan of the seeder is equipped with the additional air blast pipe. The frame beam of the seeder is the receiver of the seeder pneumatic system, it decreases the air blast pulsation that guarantees even seeding in each section.

The fan is supplied with the free-wheeling clutch, preventing the belt drive from the increased wear.



The sight port presence permits visual controlling work quality in the process of setting the seed drill distributor.

The comb-type double seeds ejector provides the accurate single-seed sowing. An agitator is established on the sowing disk.

The seed drill distributor provides the accurate single-seed sowing of different crops with the seeding rate from 2 to 43 pieces per running meter.



For the rapid removal of seeds from the seed drill distributor camera, the unloading hatchway is provided.



In the tank, a vault down-faller preventing the hovering of seeds is established.



Through fertilizer openers, a fertilizer-distributing system provides the possibility of introducing mineral fertilizers beside the row with the necessary amount of displacement that excludes the harmful effect of mineral fertilizers on seeds.

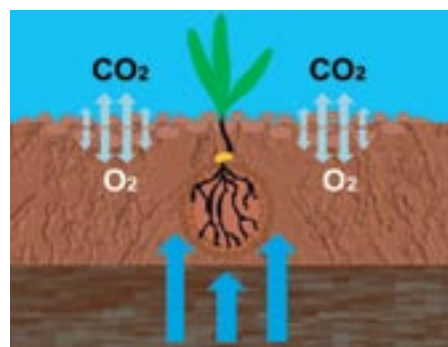


In the fertilizer tank, the plastic bushings preventing optional spilling of mineral fertilizers are established.

For removal of the mineral fertilizers remainders, an unloading hatchway is provided in the fertilizer tank.



For improvement of the seed covering and the sowing sections stability wide compacting, rakes and covering racks are used in the section during the maize seeders work.



Compacting soil in the seeded rows improves contact between seeds and the moist soil on the bottom of seed furrows, provides capillary lift of moisture and creates favorable conditions for earlier and friendlier germination of seeds.

Gas exchange is accomplished due to open zones.

Indices		UPS-6	UPS-8
Coverage width	m	4,2	5,6
Rows Quantity	pcs	6	8
Row-spacing width	mm	450,600,700,900	450,600,700,900 450*900, 600*1200
Operating speed	km/hr	3,6-9	3,6-9
Productivity	ha/hr	2,26-3,78	2-5,04
Tank capacity (total):	dm ³		
- for seeds		160,8	214,4
- for fertilizers		204,4	204,4
Seeding rates:			
- for seeds	pcs/ rm .m.	2-43	2-43
- for fertilizers	kg/ha	50-250	50-250
Seeding depth	mm	40-120	40-120
Overall dimensions	mm		
In operating position		1700*4900*1600	1700*6250*1430
In transport position		5450*2300*2360	6800*2300*3010
Mass	kg	1149	1454

UPS-12

All-Crop Pneumatic Seeder



The UPS-12 seeder is intended for the precise sowing of graded, coated and usual seeds of sugar and fodder beets, soya, corn, sunflower, castor oil plant, sorghum, stern beans, haricot beans and other seeds close to them in sizes.



In front of the operating section, the clod sweep removing lumps and dry layer of soil from the zone of sowing is established. The front soil compactor of the section provides packing and smoothing of soil in front of the opener for better sowing quality.

Completing the UPS-12-seeder with disks for sowing different crops.

The sowed crop	Diameter of the opening mm	Quantity of openings pcs	Quantity of disks pcs
1 Beets, sorghum	2,2	40	1
2 Beets, sorghum	2,2	60	1
3 Sunflower	3	40	1
4 Sunflower	3	30	1
5 Corn	4	30	1
6 Corn	5,5	30	1
7 Soya	4	60	1
8 Soya	4	72	1
9 Soya	4	80	1



The UPS-12 seeder opener for seeding beets. For the rapid removal of seeds from the seed drill distributor camera, the unloading hatchway is provided.

Besides the regular opener for sowing beet, the delivery set includes the opener for sowing corn.



The screw regulation of the seeding section depth reduces labor input of the section adjustment.

The V-shaped soil compactor has an adjustment of soil packing width; it provides drafting moisture into the zone of sowing, pressing seeds into the soil, but for all that, leaving not compacted soil layer over the seed that facilitates earlier seed germination. A covering stub smoothes soil in the row.

Coverage width	m	5,4 - 5,6
Rows Quantity	pcs	8
Row-spacing width	mm	450,600,700,900 450*900, 600*1200
Operating speed	km/hr	3,6-9
Productivity	ha/hr	2-5,04
Tank capacity (total):	dm ³	
- for seeds		321,6
- for fertilizers		306,6
Seeding rates:		
- for seeds	pcs/ rm .m.	2-43
- for fertilizers	kg/ha	50-250
Seeding depth	mm	20-60
Overall dimensions	mm	
In operating position		1700*6250*1430
In transport position		6800*2300*3010
Mass	kg	1695



KRNV-5,6 (-4,2)

Mounted High-Clearance Cultivator-Fertilizer



Cultivator KRNV-5,6 (4,2) is intended for inter-row cultivation of row-crops sowings with the simultaneous introduction of granulated mineral fertilizers.

It provides qualitative soil tillage in rows spacing at a given depth with weed destruction.

- KRNV-4,2 is for cultivation of 6-row sowings of corn, sunflower and other cultures seeded with the 70 cm row space .
- KRNV-5,6-04 is for cultivation of 8-row sowings of corn, sunflower and other cultures seeded with the 70 cm row space.
- KRNV-5,6-02 is for cultivation of 12-row sowings of soya, beets and other cultures seeded with the 45 cm row space .

On customer's request, it is completed with coverers, seed-furrow opening frames and shielding disks.

It is aggregated with tractors of 1,4 pulling force class.

A transport unit presence permits moving it along the roads of general purpose with the 2,5 m overall size.



The parallelogram mounting of the operating units sections provides the soil relief copying. The atmospheric pressure tires of the supporting-driving wheels and of rubbered cultivator rollers provide their stuck dirt self-cleaning.



There is an option of using the cultivator for the complete cultivation , including hilling, with razor hoes. The steel holders of the mounting hoe racks can stand significant loads. 65G steel hoes have sormite built-up cutting edges that provide their self-sharpen ability and longevity.



The seeding rate is set with the help of the gear mechanisms with tensioning rollers. Rotation is transferred through a reducer from the supporting-driving wheels to the shaft of the fertilizer distributor.



In the fertilizer tank, the plastic bushings preventing optional spilling of mineral fertilizers are established. For removal of the mineral fertilizers remainders, an unloading hatchway is provided in the fertilizer tank.



Model	Productivity ha/hr	Coverage width m	Seeding rate of fertilizers kg/ha	Operating speed km/hr	Cultivation depth cm	Overall dimensions mm*	Mass kg
KRNV-4,2	4,2	4,2	50-250	5-10	6-16	4875*2100*1700	720
KRNV-5,6-04(02)	5,6	5,6	50-250	5-10	6-16	6500*2100*1700	925

* in operation position

Sirius 10

Cultivator



The **Sirius 10** cultivator is intended for complete presowing cultivation of soil and fallows with the simultaneous harrowing.

It provides qualitative soil tillage at the stated depth (12-20 cm) with weed destruction.

The operating tools are set on C-shaped spring tines protecting the operating tools from breakage at coming up against an obstacle.

The cultivator toolbar consisting of three parts — the central one and two wings, provides necessary lengthwise and transverse soil gauging with the 12° angle wings adaptability.

Cultivator in the complex with a seed and fertilizer tank equipped with pneumatic system makes up a pneumatic seeder, which is intended for sowing by zero and minimal agro-technologies.



Location of hoes on the cultivator toolbar in four rows in the direction of move staggering with 254 mm row width provides qualitative cultivation of soil.

For opportunity to transport the cultivator to the point of use by means of the hydraulic system not laborious transition into transport position and backwards is made.

Productivity	ha/hr	10
Operating speed	km/hr	from 8 to 10
Transport speed	km/hr	20
Coverage width	m	10
The number of operating tools rows*	pcs	4
The space between operating tools rows *	mm	920
The number of operating tools	pcs	40
Flat hoe coverage width	mm	305
Row spacing width	mm	254
Cultivation depth	mm	120...200
Utility Power **	hp	280...380

* - lengthwise the cultivator direction of move

** - depending on the used operating tools, depths of sowing, soil type and moisture.

KPS -8

Cultivator



The KPS-8 cultivator is intended for complete presowing cultivation of soil and fallows with the simultaneous harrowing.

It is equipped with the device for the connection of tooth or spring harrows.

It provides qualitative soil tillage at a given depth (5-12 cm) with weed destruction.

It is aggregated with tractors of 3 pulling force class. (T-150, T-150K, MTZ-1223)

The hydraulically folding toolbar permits:

- to decrease the transport width to 4 m;
- to save some time for the additional preparation to work;
- to exclude the necessity of the additional transport for the delivery of two cultivators and a hitch.



The radial mounting of the operating tools provides the soil relief copying. The center hoes are made from 65G steel, the cutting edges are built-up with sormite.



The reinforced toolbar (beam 100*100mm instead of 80*80mm), and the use of strut rods exclude the possibility of bending. The steel holders of the mounting hoe racks can stand significant loads.



The reinforced hitch tongue excludes the possibility of trailer device fracture.

The KPS-8 trailer cultivator is provided with the complete set of hydraulic system (hydraulic cylinder high-pressure hoses, a choke, a connector).

Model	Productivity ha/hr	Coverage width m	Operating speed km/hr	Cultivation depth cm	Overall dimensions mm*	Mass kg
KPS-8	6,4-9,6	8	8-12	5-12	4100*8100*1100	1850

* in operating position

KPSN (P)-4

Cultivator



The **KPSN(P)-4** cultivator is intended for complete presowing cultivation of soil and fallows with the simultaneous harrowing on different types of soil,.

It is equipped with the device for connection of tooth or spring harrows.

It provides qualitative soil tillage of the preliminary plowed soil at a given depth (5-12 cm) with weed destruction.

It is produced in mounted (**KPSP**) and trailer (**KPSP**) types.

It is aggregated with tractors of 1,4 pulling force (**T-70S**, **MTZ**, **UMZ**).

With the **SGP-10,8** hitch it is possible to create the tractor hydraulic broad-range aggregate of two or three **KPSP-4** cultivators (cultivators are connected between themselves by the rank scheme).

The hitch is aggregated with tractors of the 3 pulling force class in a trailer way. It is completed with hydraulic markers controlled from the tractor cab.

Aggregate with the **SGP-10,8** hitch increases productivity in 1,5–2 times.



The reinforced hitch tongue of **KPSP** excludes the possibility of trailer device fracture.

Wheels with pneumatic tires provide smoothness of the cultivator motion, and exclude the possibility of soil adhesion.



The radial mounting of the operating tools provides the soil relief copying.

The steel holders of the mounting hoe racks can stand significant loads. 65G steel hoes have sormite built-up cutting edges that provide their self-sharpen ability and longevity.



The **KPSP** trailer cultivator is provided with the complete set of hydraulic system (hydraulic cylinder high-pressure hoses, a choke, a connector).

Cultivator is provided with an additional set of spare hoes, hoe racks, and holders.

Model	Productivity ha/hr	Coverage width m	Operating speed km/hr	Cultivation depth cm	Overall dimensions mm*	Mass kg
KPSP-4	до 4,8	4	12	5-12	4900*4080*1100	880
KPSN-4	до 4,8	4	12	5-12	4100*4080*1200	660

*in operating position