



POLONEZ

MECHANICAL SEED DRILL

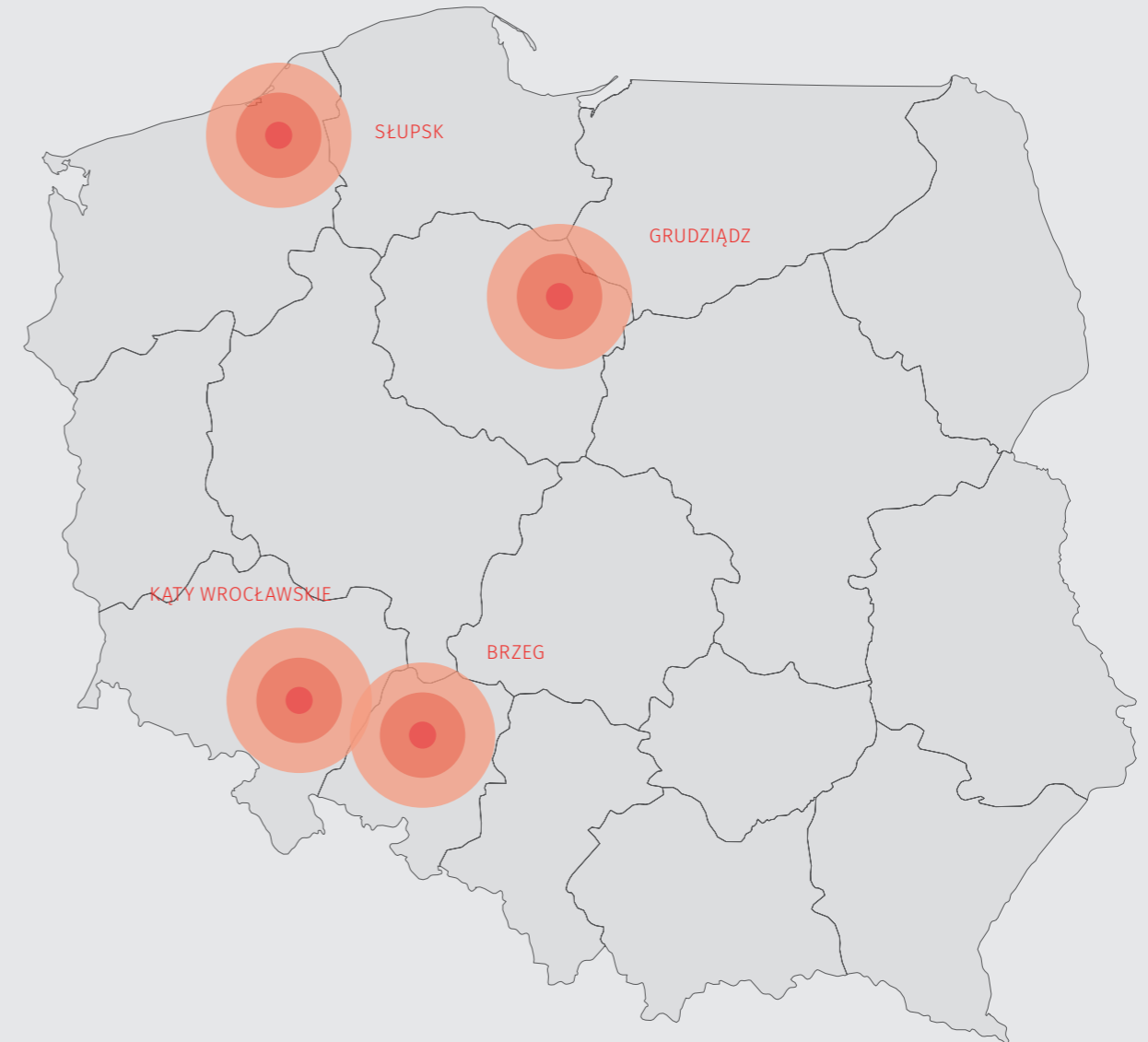




UNIA is the largest Polish manufacturer of agricultural machinery. It manufactures nearly 25,000 of machines per year, of which over 10,000 are exported to 60 countries around the world. To build them, it uses 100,000 tonnes of top quality steel per year.

FOUR FACTORIES

UNIA produces its machines and farm products in four factories (Grudziądz, Brzeg, Słupsk and Kąty Wrocławskie). Their total production area is 11.5 hectares with almost 1,000 employees. The employees are equipped with modern design offices, machining centres and lasers to maintain excellent part repeatability. The apple mark is now well recognised on many European and world markets, and Polish farmers do not associate it with the ploughs of the former Unia Grudziądz only any longer.



POLONEZ

MODERN DESIGN

POLONEZ seed drills are the flagship cereal seed drills with mechanical seeding system manufactured by UNIA. They are characterised by modern technical solutions and generous selection of standard and optional equipment.

POLONEZ is a modern seed drill created by UNIA for demanding farmers. POLONEZ seed drills are manufactured in two widths of 3.0 and 4.0 metres and they can work either solo or with combined units to form a combination seed drill.



Main features of the new POLONEZ seed drill:

- Broad selection of sowing coulters including the modern V-TECH and SHELL coulters with ground-following wheels
- Universal seed sowing apparatus for fine and coarse seeds
- Precise stepless three-cam gearbox
- Large loading boxes from 550 to 1100 dm³
- Simple and quick calibration test for sowing
- Modern and intuitive controllers
- Full width platform
- Thorough key firmer
- Hydraulic markers with overload protection
- DUPL0 version – simultaneous sowing of seed and fertiliser
- LED road lighting

SOWING COULTERS

THERE IS A CHOICE FOR EVERY CONDITION

There are three types of sowing coulters to choose for POLONEZ drill:

- Hoe
- Disc V-TECH
- Disc SHELL



The basic coulters on the POLONEZ seed drill is a light hoe coulters, called trailed coulters. It is recommended for traditional cultivation with small amounts of harvest residues on light and medium compacted soils maintained in good culture.



The "SHELL" alternating coulters have two 300 mm diameter discs, which are offset in relation to each other, so that the coulters are self-cleaning during operation. The maximum pressure of the "SHELL" coulters is also approx. 25 kG and they can be additionally equipped with 330 x 50 mm diameter ground-following wheels.



However, at present, farmers most often choose the modern "V-TECH" or "SHELL" disc coulters, which can be used in simplified cultivation and sowing technology on soils with an average amount of harvest residues. "V-TECH" coulters are double disc coulters with a disc diameter of 300 mm and a maximum pressure of 25 kG. The plates arranged in a V-shape have internal cleaning scrapers. "V-TECH" coulters can be equipped with ground-following wheels of 250 x 42 mm.

GEARBOX

THE HEART OF THE SEED DRILL

One of the most important elements of a modern seed drill is a precise gearbox. In the POLONEZ seed drill, UNIA installs modern three-cam cast iron boxes, which guarantee high seeding accuracy even in small seed doses. The approximate seed rate is set on the stepless gearbox according to the enclosed distribution table, while the exact seed rate setting is determined by a "calibration test".





LARGE LOADING BOX

GREATER EFFICIENCY

Manufactured in two widths of 3.0 and 4.0 metres, the seed drill is equipped with loading boxes of 550 and 800 litres capacity respectively.



In addition, the boxes can be extended with extensions the capacity of which may amount up to 750 and 1100 litres. The large loading box saves time during loading and increases productivity in the field.

The bent lid of the box additionally reinforces the structure. Gas springs make it easy to raise the lid and provide access to a wide loading opening – loading from BIG-BAGs is possible. The grating inside the box facilitates mechanical loading of the seed. Inside, the box is equipped with chutes that direct the seed to the seed sowing apparatus; thus, practically we can sow to the “last seed”.



MODULAR DESIGN OF POLONEZ SEED DRILL

DETAILS MATTER

The construction of the POLONEZ seed drill is based on a support frame with 6 x 16 wheels with an agricultural protector, to which the sowing coulters and a loading hopper with seed sowing apparatuses are attached. Wheels in the size of 10 x 15 are recommended for seed drills with extensions.



The solid construction of the support frame is both stable and robust. The frame has a movable hitch beam which makes it easy to combine the seed drill.



The robust construction of the crossing marker is protected against mechanical damage by a shear bolt. Each marker is controlled individually by a hydraulic cylinder.



Very stable stairs make it easy to climb the platform.

Special handles are mounted at the box to allow access to the platform. The entire width of the lid of the box is equipped with a tube which is the handle of the lid, but it also serves as an important point of support when staying on the platform. LED lighting is also standard equipment in POLONEZ seed drills.



DUPLO

SOIL-APPLIED SPREADING OF FERTILISER

In POLONEZ Duplo seed drills, it is possible to sow grain and the starting dose of fertilizer at the same time.



DUPLO version is equipped with special seeding apparatus with divided valves for sowing fine and coarse seeds. In addition, the apparatuses are equipped with weather shields.

For spreading fertiliser, special fertiliser spreading apparatuses with one valve are used, which are driven by a second gearbox. Like the apparatuses for seed, they have a reinforced construction and covers which also prevent the fertiliser from "dusting".



The sown seed and fertiliser goes to a special hopper, which directs the seed and fertiliser to a single coulters (soil-applied spreading of seed and fertiliser).

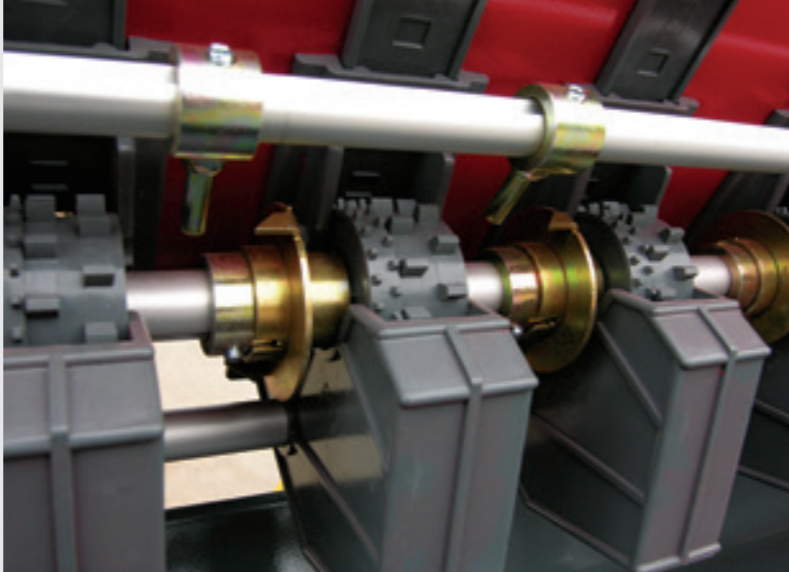
With POLONEZ Duplo seed drills, we have the possibility to sow the seed and the starting amount of fertiliser simultaneously. The boxes in these seed drill versions are divided by a special partition. The front part stores fertiliser and the seed is in the back.



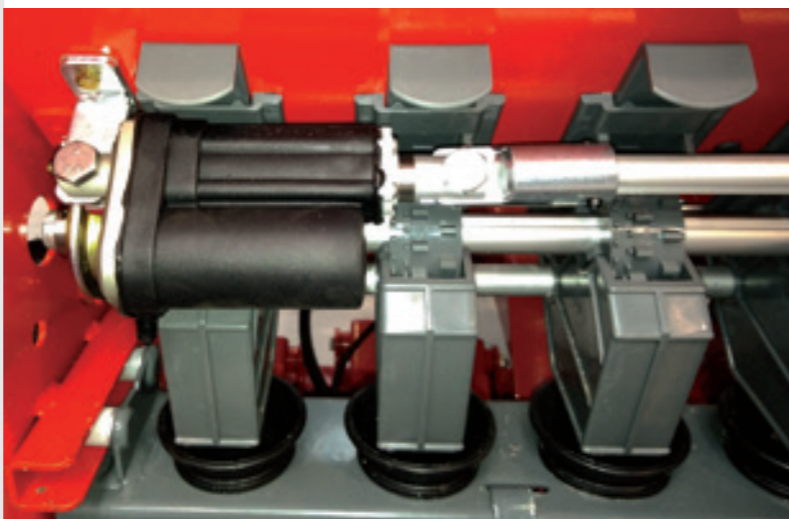
PROCESS PATHS

ELECTRONICALLY CONTROLLED

Process paths (pathways) on cereal seed drills are necessary to ensure that the trails of an agricultural tractor with a cultivator (e.g. sprayer or fertiliser spreader) can be travelled freely in the future. Thanks to these pathways, the tractor doesn't damage the crop and the rides are easier.



During marking out the pathways, the wheels of the seed sowing apparatus (2 or 3) are locked. This ensures that there will be no emergence on the sections and a "trace" is left for the wheels of the agricultural tractor.



The electric servo-motor closes and opens the process paths system which marks out the pathways for sprayers and fertiliser spreaders.



ADJUSTMENT OF SEEDING COULTERS

INDIVIDUAL, CENTRAL PRESSURE, SUPPORTING BEAM

POLONEZ seeders are equipped with a special supporting beam for adjusting the seeding coulters position. All coulters have got pressure regulated individually and centrally.

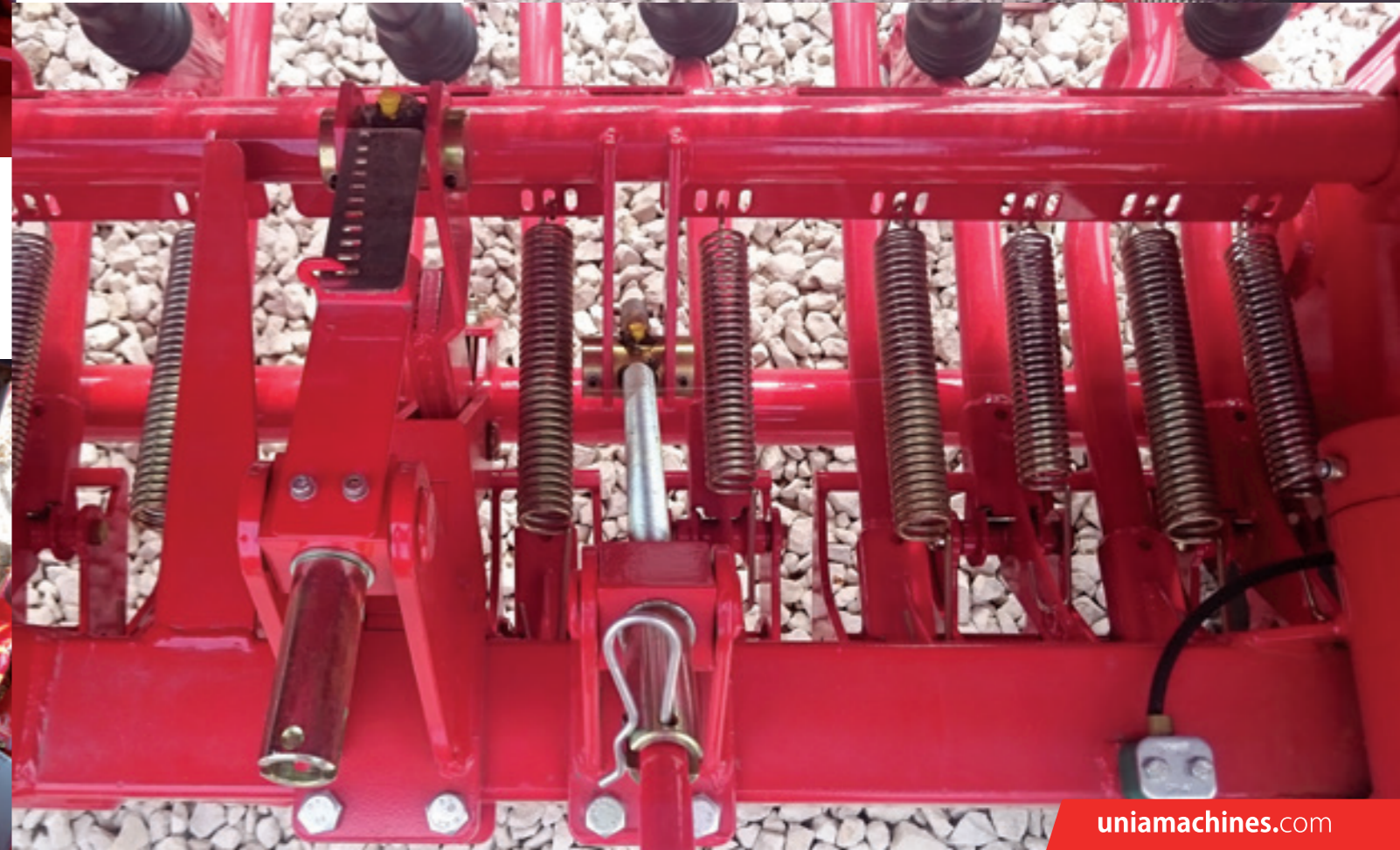


Support beam for sowing coulters

Rotary beam of coulters central pressure



Height of the support beam position and the degree of tension of the coulters springs we regulate smoothly by means of screw adjustments.



POLONEZ

STANDARD EQUIPMENT:

- Suspension axle 28-675/28 mm
- Hoe coulters
- Double disc coulters V-TECH (version D), discs 300 mm, pressure P = 25 kG
- 50/50 split fertiliser/seed box (DUPL0 version)
- Central seeding depth adjustment
- Hydraulic marker shifter on two cylinders
- Electric technological lines
- STARTER SEED controller
- Two-component integrated metering rollers for cereals and rape
- One-component wheels for spreading fertiliser (DUPL0 version)
- Stepless gearbox
- Firmer with individual clamping (key)
- 6 x 16 wheels (3.0 m version)
- 10 x 15 wheels (4.0 m version)
- Loading platform over the entire seed drill width
- Road lighting

OPTIONAL EQUIPMENT:

- PILOT SEED computer
- SUPERIOR computer
- SHELL alternating coulters 300 mm discs, clamping force P = 26 kG
- Hydraulic pre-emergence process paths
- Loading box extension 200 dm³ (3.0 m version)
- Loading box extension 300 dm³ (4.0 m version)
- 10.00/80-12 wheels (recommended for 3.0 m version with extension)
- Track rippers
- Pressing and ground following unit 250 x 42 mm (for V-TECH coulters)
- Pressing and ground following unit 300 x 50 mm (for SHELL coulters)

Technical specifications

POLONEZ	550/3	550/3D	550/3D DUPL0	800/4	800/4D	800/4D DUPL0
Working width [m]	3	3	3	4	4	4
Hopper capacity [dm ³]	550	550	550	800	800	800
Type of coulters	HOE	DISC	DISC	HOE	DISC	DISC
No. of coulters [pc.]	25	25	25	31	31	31
Sowing depth [cm]	0÷7	0÷7	0÷7	0÷7	0÷7	0÷7
No of rows of coulters [pcs]	2	2	2	2	2	2
Power demand [HP]	80	80	80	90	90	90
Weight [kg]	710	850	900	950	1150	1200



POLONEZ PREMIUM

PREMIUM SPECIAL VERSION

POLONEZ premium seed drills are a special version of the seeder. POLONEZ prepared for very difficult field conditions. In this version seeder is 3m wide with 550 dm³ hopper.

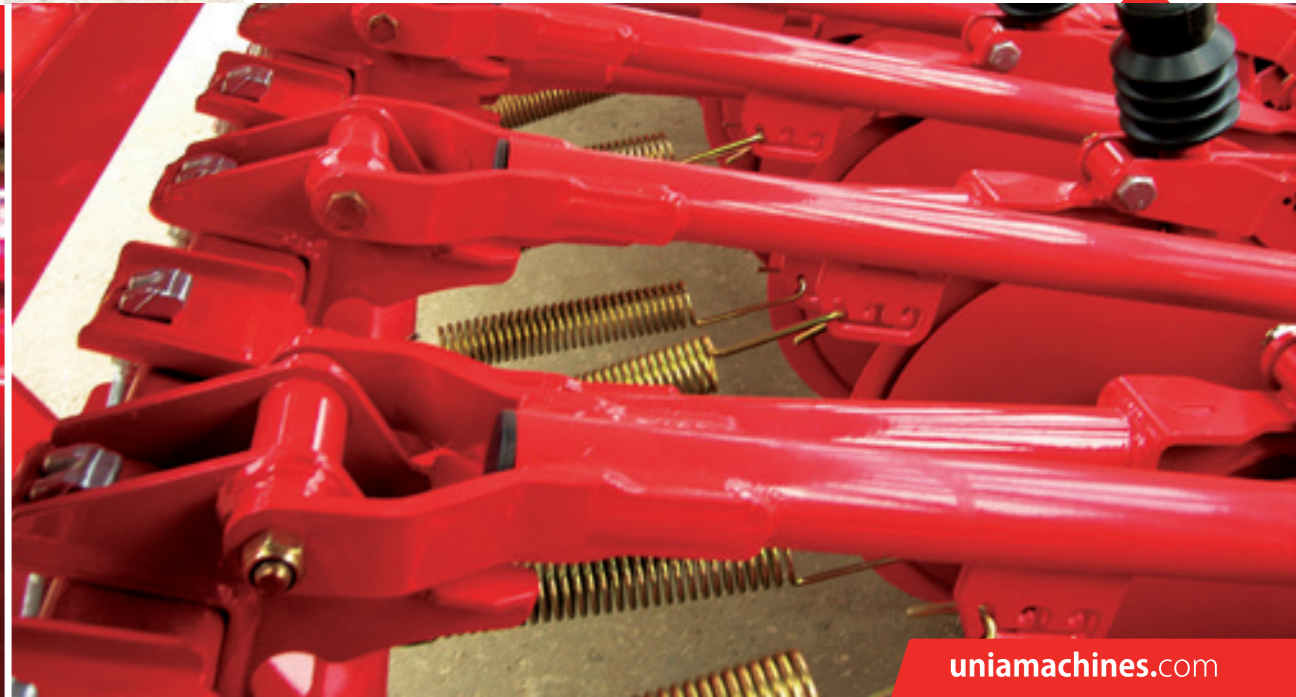
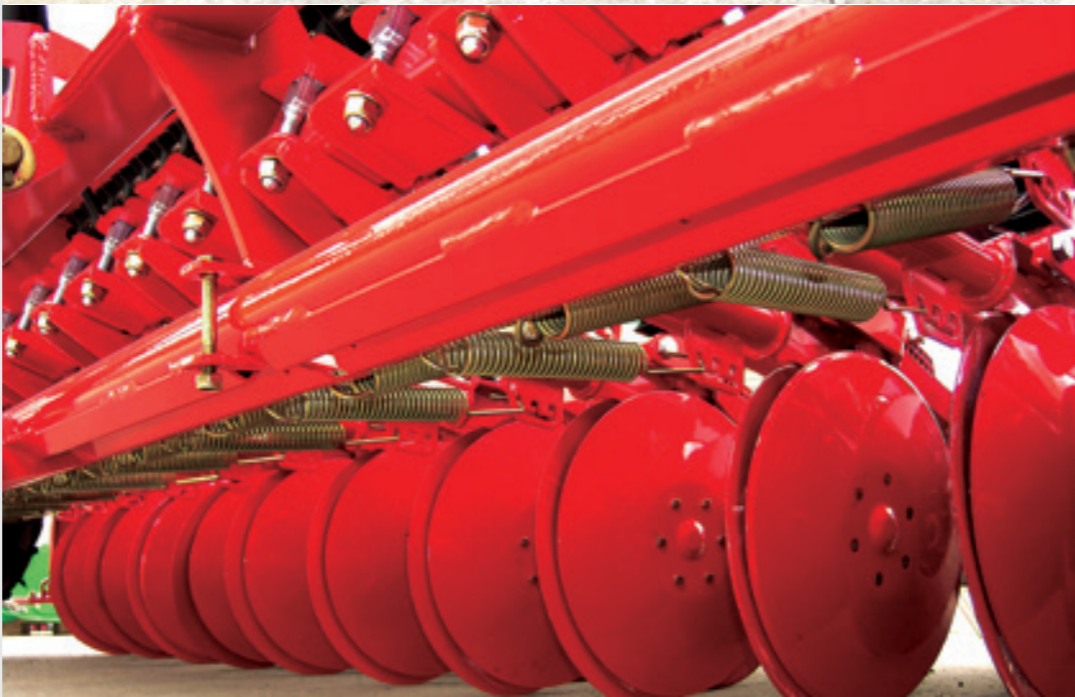
Special equipment of premium version:

- heavy double-disc SHELL coulters of 350mm diameter with maximum pressure P = 35 kg
- strong pressing -&-copying wheel of 330x50mm diameter
- hydraulic central pressure of coulters



POLONEZ in premium version is a flagship UNIA seed drill designed for professional farms. Hydraulic cylinder allows smooth adjustment of sowing coulters central pressure.

Massive SHELL coulters mounted in POLONEZ PREMIUM seeders is designed for work in difficult conditions.



POLONEZ PREMIUM

STANDARD EQUIPMENT:

- Suspension axle 28-675 / 28mm
- SHELL double-disc coulters, 350 mm discs, pressure P = 35 kg
- Compacting and copying unit 330x50mm
- Hydraulic central pressure of coulters
- Hydraulic marker trigger on two cylinders
- Electrical technological paths
- STARTER SEED driver
- Two-piece integrated seed wheels for cereals and rape
- Variable gearbox
- Harrow with individual pressure (key)
- 6x16 wheels
- Loading platform across the entire width of the drill
- Road lighting

EQUIPMENT AT EXTRA CHARGE:

- PILOT SEED computer
- SUPERIOR computer
- Pre-emergence hydraulic technological paths
- Extension for loading hopper 200 dm³
- Wheels 10.00 / 80-12 (recommended for 3m version with an extension)
- Track looseners

Technical specifications

POLONEZ PREMIUM	550/3D
Working width [m]	3
Hopper capacity [dm ³]	550
Type of coulters	DISCS SHELL 350
No. of coulters [pcs.]	25
Sowing depth [cm]	0-7
No of rows of coulters [pcs]	2
Power demand [HP]	80
Weight [kg]	900





SOLO OR IN A SET

POLONEZ seeders can work independently or with aggregates, creating cultivation and sowing sets.



CONTROLLERS USED IN POLONEZ SEED DRILLS



STARTER SEED Computer:

- Automatically passages counting from markers
- Automatic setting of technological paths



PILOT SEED computer:

- Automatically passages counting from markers
- Automatic setting of technological paths
- Hectare counter, daily and summary
- Indication of the minimum level of seeds in hopper
- Working time indication
- Work productivity indication
- Speed indication
- Error indication
- Statistics of 10 fields



SUPERIOR computer:

- Current control of sowing dose
- Percentage level control of seeds
- Fan speed rate
- Automatically passages counting from markers
- Automatic setting of technological paths
- Hectare counter, daily and summary
- Working time indication
- Work productivity indication
- Speed indication
- Error indication
- Statistics of 10 fields



UNIA



UNIA Sp. z o.o.

ul. Szosa Toruńska 32/38, 86-300 GRUDZIĄDZ
export@uniamachines.com

September 2020

uniamachines.com