



BOLKO

POTATO AND VEGETABLE HARVESTER

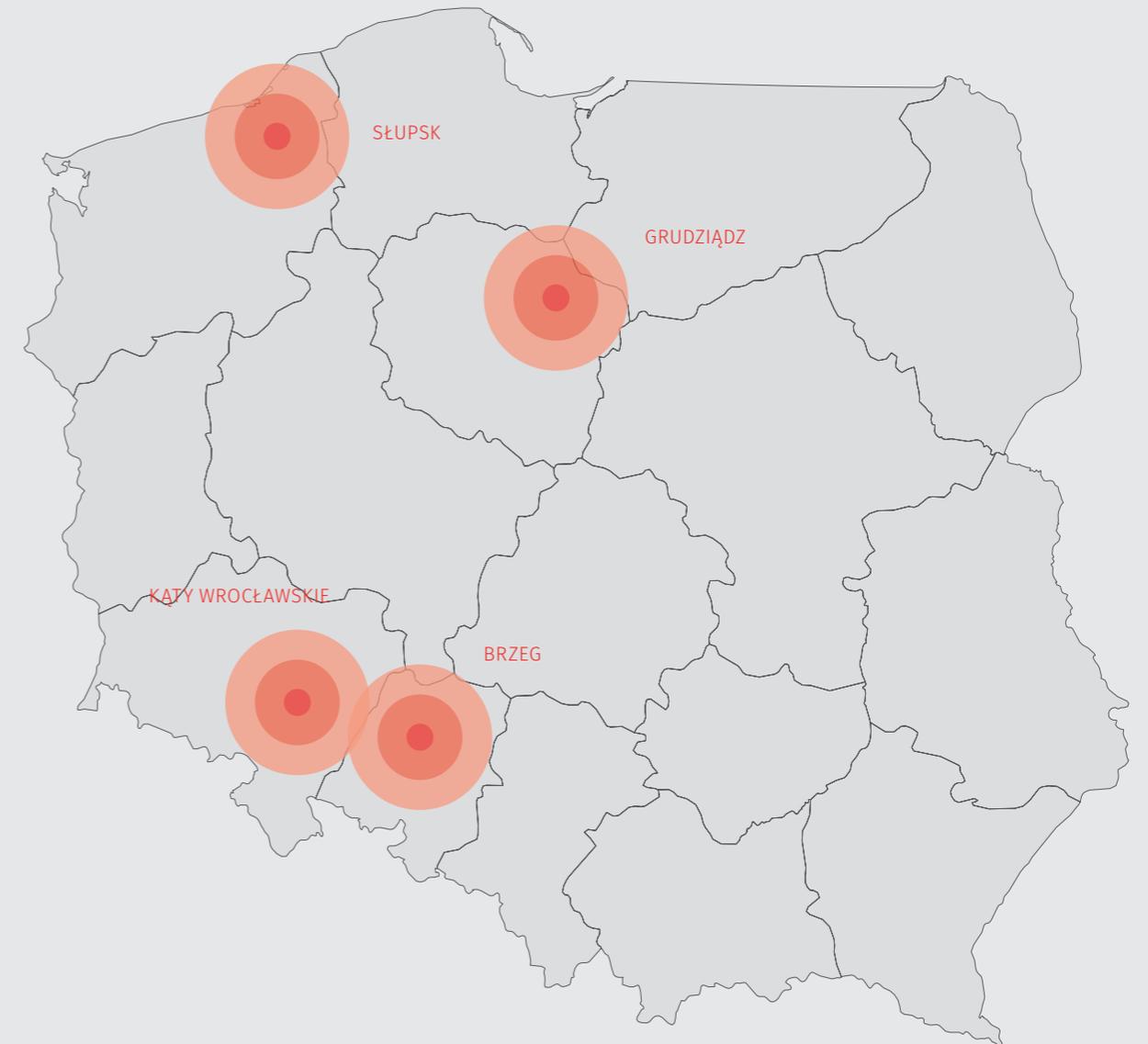




UNIA is the largest Polish manufacturer of agricultural machines. We produce nearly 25 000 machines per year, out of which over 10 000 are exported to 60 countries around the world. In order to build them, we use 100 000 tonnes of high quality steel annually.

FOUR FACTORIES

UNIA produces its machines and agricultural equipment in four factories (Grudziądz, Brzeg, Słupsk, Kąty Wrocławskie).. Nearly 1,000 people work in four factories with a total production area of 11.5 ha. They have got to their disposal modern design offices, processing centres and lasers that allow to maintain excellent repeatability of elements. The sign of an apple is perfectly recognisable in many European and world markets, and the Polish farmers no longer associate it only with ploughs of the former Unia Grudziądz brand.



BOLKO

COMPACT STRUCTURE UNIVERSAL USE

BOLKO harvester is used for harvesting (digging) of potatoes, separating soil clods, stalks and weeds from the potatoes, collecting bulbs in the hopper and unloading them into trailers. After mounting a platform and a bagging machine, it can also be used for harvesting early potatoes into bags. A replaceable ground-following roller enables carrot digging, while a spongy roller facilitates onion picking from the previously dug rows.

Owing to the uniform, compact design of the harvester, it is a lightweight structure with power demand of ca. 30 HP. Hydraulically controlled drawbar facilitates the harvester maneuvering during operation and unloading. This single-row harvester ensures the working width from 0.625 to 0.75 m. The machine clearance is 250 mm and it ensures the harvester maneuvering in any field conditions. The recommended working speed ranges from 1.5 to 5 km/h, which results in the harvester mean capacity of ca. 0.15 ha/h (depending on the interrow width).





SMALL HARVESTER

GREAT POTENTIAL

The electrical system in BOLKO is fed with 12 V voltage, while the hydraulic drive is fed with one hydraulic couple from the tractor. The hydraulic system requires the tractor pump capacity of ca. 30 l/min, and the nominal pressure in the system is ca. 16 MPa. The complete harvester weight is only 1971 kg. Dimensions: length - 5950 mm, width - 2420/4035 mm, height - 2690 mm.



BOLKO

UNIVERSAL HARVESTER OWING TO REPLACEABLE ROLLERS OF THE DIGGER

The ground-following roller is the first element of the digger - it follows the ridge shape and height, and sets the share operation. The picking-up width is 55 cm, while the maximum working depth of the share is 25 cm.



Options to be ordered with BOLKO harvester: carrot digging roller or spongy roller for picking up onion from rows.



SOLID DIGGER

First element of harvester is a digger made of ground-following roller and digging share with disc coulters. Standard version of machine is equipped with potatoes harvesting roller, at extra charge harvester can be equipped with carrots harvesting roller and spongy roller for harvesting onions in rows.



PLATE SHARE

BOLKO is equipped with a three-section plate share. It enables the digger operation up to the depth of 25 cm.

ROLLING COULTERS AND INTAKE ROLLERS

Rolling coulters with 570 mm diameter, working on both sides of the roller, cut off the dug ridge and reduce the quantity of the collected soil. BOLKO is featured with rubber intake rollers.



DIGGER AND SIEVE

ADJUSTMENT AND SETTING



SOIL SIEVING ON THE SIEVE IS ADJUSTED BY:

- modifying the sieve shaking intensity – a lever is used for adjusting the position of elliptical shakers or
- modifying the clearance between the sieve bars – by putting or removing the bar covers



The operation of the ground-following roller is adjusted with a tensioning screw, while the whole digger is hydraulically lifted and lowered.



SIEVE

RUBBER FINGERS AND FLAPS

Rubber fingers loosen the ridge and roughly crush soil clods, while rubber flaps – aprons – limit sliding of the potatoes down the sieve and help to sieve the soil. The sieve width is 650 mm, while the bar pitch is 44 mm. The distance between the bars in the covers is 23.5 mm, while the distance between the bars without the covers is 28.5 mm.



CLEANING OF STALKS

EASY SEPARATION SYSTEM

BOLKO standard version is equipped with a stalk bar separator. The gap between the sieve bars and the separator intake roller should be 6 - 10 mm. A smaller gap is used for dry stalks and when the stalk quantity is low. The gap between the intake roller and the scraping slat should be as small as possible, whereby the roller should not rub against the slat.



The gap between the intake roller and the scraping slat should be as small as possible, whereby the roller should not rub against the slat. The gap is adjusted by moving the slat aside or towards the roller, after loosening the screws. If stems wind around the intake roller (wide gap between the roller and the slat), they can be removed by being cut with the hook which is the harvester equipment.



SWINGING OR CIRCULATION SCRAPER

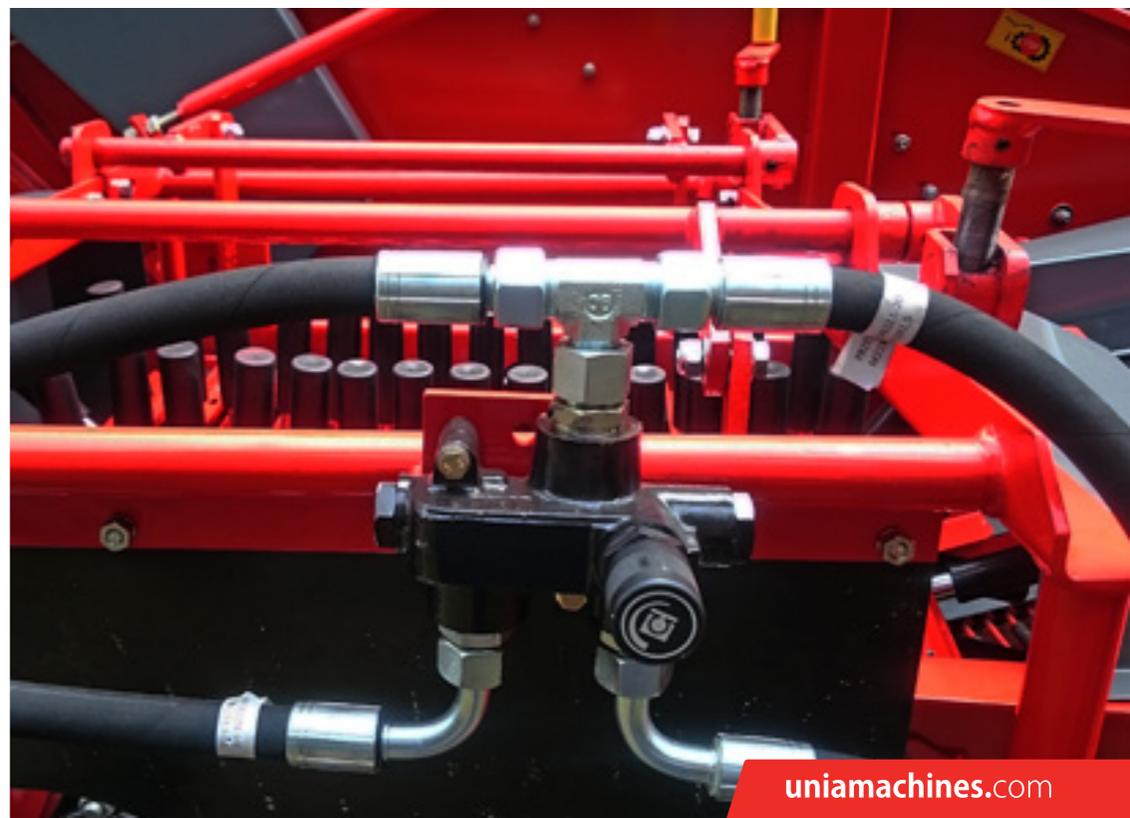
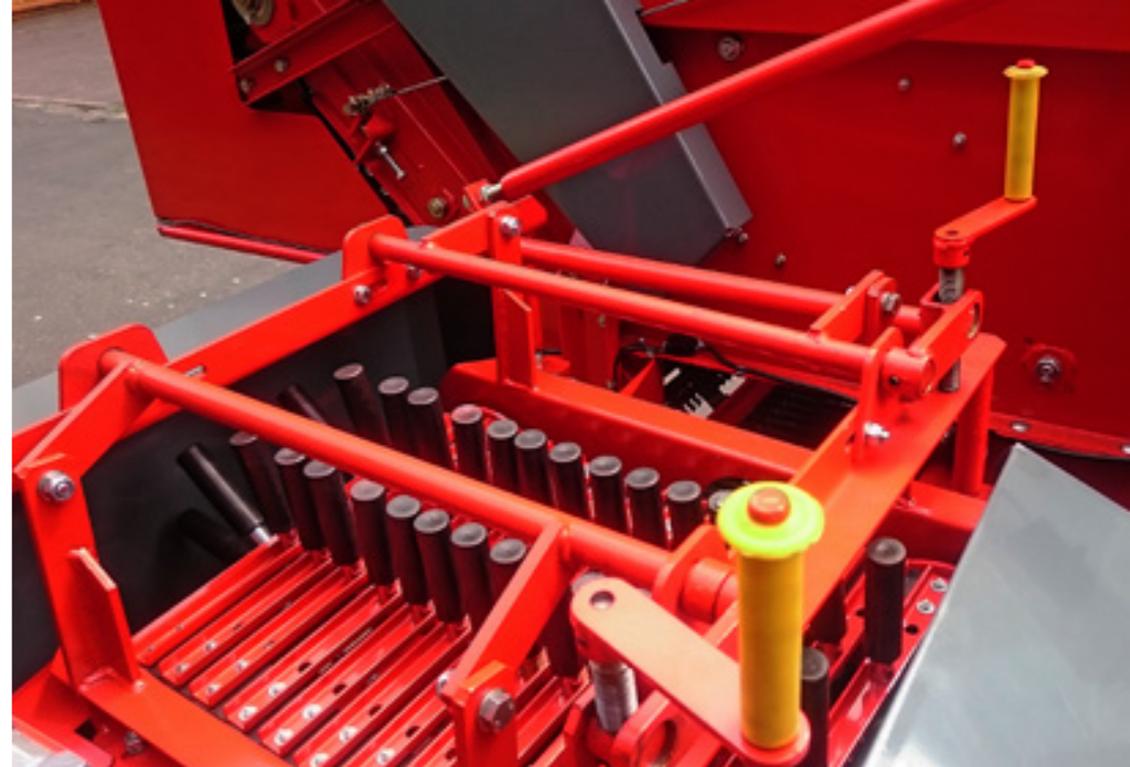
FINAL SEPARATION OF WASTE AND POTATOES

BOLKO is equipped with a swinging (slat) scraper as a standard.

The slats are adjusted mechanically with a crank and they slide the potatoes down onto the sorting table.

BOLKO can be optionally equipped with a finger (circulation) scraper, which directs potatoes from the transverse conveyor onto the sorting table. Two rows of the scraper fingers are adjusted to the working width with a crank.

The rotational speed of the scraper is hydraulically adjusted. The transverse conveyor removes all fine waste to the field.



SORTING TABLE OPERATION

The platform for the harvester staff ensures comfortable work of two persons at the sorting table. Two troughs are fixed at the table - one to collect soil clods which are then returned to the field, and the other one to collect stones - it leads to a tank with the load capacity of ca. 200 kg.



DISC SIEVE STONE TANK

BOLKO has one disc sieve roller which sieves fine material at the end. The factory-set pitch of the sieve discs is 31.5 mm. Using the spare parts of the sieve being the harvester equipment the pitch can be reduced to 26.5 mm.



BOLKO features a tilt stone tank. It makes it easier for the sorting table staff to collect stones and drop them in a dedicated place.



DRAWBAR AND AXLE SYSTEM

The size of BOLKO ground wheels is 11.5/80 - 15.3 10 PR. The wheel track is adjustable within the 1975 - 2160 mm range. The wheels in the harvester delivered from the factory are set closer to one another for transport at 1975 mm (67.5 cm wheel track). In order to adapt the harvester for operation at the interrow width of 75 cm (70 cm), spread the right wheel aside to 2160 mm (2035).



The harvester drawbar is featured with a hydraulic cylinder which enables shifting the harvester to a working position and facilitates maneuvering during transport or potato unloading.



POTATO HOPPER

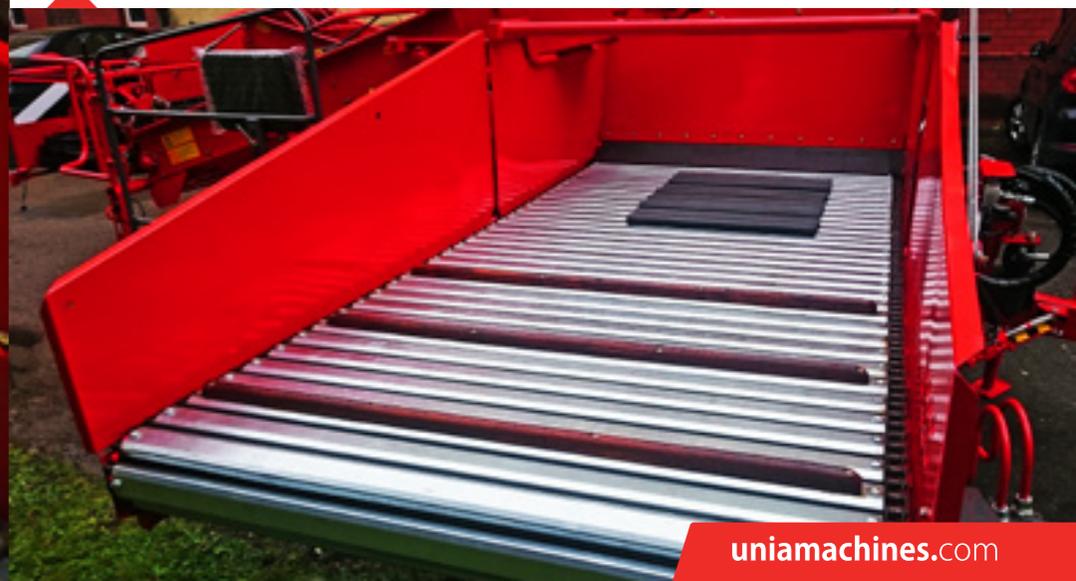


To avoid potato damage, the floor conveyor is equipped with ca. 80 cm long rubber guards.



BOLKO is equipped with a potato hopper with the maximum load capacity of 1250 kg. The hopper is unfolded and folded mechanically with a special crank.

The unloading height ranges from 1350 to 2700 mm. The unloading operation is carried out at a standstill, after starting the floor conveyor belt.



STANDARD EQUIPMENT

BOLKO has a complete lighting and sound signalling system.

The sorting table staff activate the sound alarm with a push button in case of emergency.

The cord at the sorting table is used for disconnecting the sieve drive.



HARVESTER CONTROL

SKZ controller controls the solenoid valve block. All functions of the harvester hydraulics can be accessed from the tractor cabin.

The harvester divider controlled with solenoid valves enables supplying only one unit at a time, e.g. If the engine drive is on, the hopper cannot be lifted.

Functions of the hydraulic system:

- Lifting and lowering of the digger assembly
- Lifting and lowering of the potato hopper
- Drive of the potato hopper floor conveyor
- Drawbar control



BOLKO S

HARVESTER WITH A PLATFORM AND BAGGING MACHINE

BOLKO S - a harvester version in which instead of the potato hopper there is a platform for potatoes packed in bags or into a chest-pallet. A bagging machine on the last conveyor significantly facilitates working.

Bag loader allows discharging potatoes straight to bags which makes harvesting of early potatoes faster and less complicated. Platform loading capacity is around 500kg.



BOLKO

STANDARD EQUIPMENT:

- hydraulic drive of the potato hopper conveyor drive
- hydraulically controlled drawbar
- hydraulic lifting of the digger
- swinging scraper
- lighting system
- power input connection (250 Nm L. nom. 1650)
- loading platform with a bagging machine (BOLKO S)

EQUIPMENT AT AN EXTRA CHARGE:

- onion picking tool
- carrot digger
- circulation scraper
- chute
- SKZ controller

TECHNICAL SPECIFICATIONS

TYP	BOLKO	BOLKO S
Working width [m]	0,625÷ 0,75	0,625÷ 0,75
No. of rows	1	1
Working speed [km/h]	1,5÷5,0	1,5÷5,0
Efficiency [ha/h]	do 0,15	do 0,15
Potato hopper capacity [kg]	1250	–
Width of loading channel [mm]	–	–
Platform load capacity [kg]	–	500
Dimensions [m]	length	5,95
	width	2,42
	height	2,69
Discharge height [m]	1,1÷2,5	–
Operators	2 osoby	2 osoby
Power demand [HP]	od 40	od 30
Weight [kg]	1971	1531



