

DISC CULTIVATORS

BEDNAR

ATLAS AO_PROFI, AE_PROFI

A heavy disc cultivator for processing large quantities of crop residue



JOY
OF FARMING



How to Deal with Crop Residue



The growing yield of most crops is as a result of new methods of soil cultivation, plant protection, plant nutrition, and also new efficient hybrids. The amount of crop residue is also increasing with the growing yield and it has to be processed. Therefore, we developed the ATLAS machine, capable of dealing with a large quantity of crop residue in a single pass. In addition to traditional stubble cultivation, the machine can also be used for other operations on your farm. Universality is the synonym of ATLAS.

Jan Bednar

The ATLAS Machine

The BEDNAR ATLAS machines are short compact disc cultivators with a robust frame, suitable both for minimisation systems of soil cultivation (incorporation of a large quantity of crop residue) and for the traditional method of farming, using plough.

The size of the discs, 620 × 6 mm, enables deep stubble cultivation with intense mixing.

The robustness of the machine, the aggressive position of the discs, the spring protection of the discs, the size and shape of the discs allow ATLAS to easily process very heavy soil with a large quantity of crop residue.



ATLAS AO_PROFI

Why ATLAS?

TECHNICAL ADVANTAGES

- A solid, robust frame enabling deeper stubble cultivation.
- Horizontal maintenance-free spring-loaded auto-reset system.
- 2 rows of discs 620 × 6 mm with precise, non-changing disc guidance in the soil.
- Maintenance-free placement of Flexi-Box discs.
- Serrated discs, or A-discs with a higher capability of cutting and mixing residue.
- Hydraulic machine control.
- The semi-mounted models have an integrated axle (AO_PROFI). The pulled models have an axle in front of the working sections (AE_PROFI).

AGRONOMIC ADVANTAGES

- A universal disc stubble cultivator designed for various types of stubble cultivation.
- Other uses, such as seedbed cultivation, incorporation of cover crop, incorporation of manure etc.
- Work without clogging, even with high amounts of crop residue, including maize.
- Works also in very dry conditions thanks to the aggressive positioning of the discs against soil. The disc spacing allows for work in moist conditions.

BENEFITS THAT MEAN SAVINGS

- Good-quality cultivation in a single pass = one pass instead of several, good-quality cutting and incorporation of crop residue in a single pass, even in cases of large quantities.
- High working speeds = reduction in the required time, easy adherence to agronomic deadlines, better preparation for seed drills.
- Possibility to work in difficult conditions as well = the technical design of the machine enables working in extreme conditions, such as high moisture or drought.
- Reduction in the number of passes = it helps eliminate soil compaction and thus supports the observance of the principles of sustainable agriculture.

USE ATLAS FOR

- Traditional stubble cultivation, even with large quantities of crop residue, including maize.
- Basic seedbed cultivation.
- Incorporation of cover crop as well as establishment of the cover crop using the Alfa Drill unit.
- Incorporation of barnyard manure.
- Incorporation of digestate from biogas stations.

And many more uses...

CROP MANAGEMENT RESIDUE

– Cereals and Oilseed Rape, Sunflower



HIGHER YIELD, WIDER CUTTING PLATFORMS OF COMBINES

In addition to higher yield, we should not forget to mention the increasing outputs of combines. Combines today often have 9 metre long cutting platforms, or even 12 metre long cutting platforms. Chaff spreaders are not able to spread the cut crop residue along the entire width of the cutting

platforms at high output. The combines leaves strips with higher concentration of crop residue, which affects the result of stubble cultivation and uneven emergence of future crop. The robust ATLAS disc cultivator with larger discs of 620 mm is perfect for use in such cases.

THE VOLUME OF CROP RESIDUE GROWS WITH THE YIELD

If we harvested 5.5 t/ha (cereals) five years ago and now we often harvest 8.5 t/ha, and even more, then as a ratio:

does not change. When the yield is 5.5 t/ha of grains, we work with 4.4 t/ha of crop residue. When the yield is 8.5 t/ha, we work with 6.8 t/ha of crop residue. We have to process and incorporate 2.4 t/ha of crop residue more.

0.8 : 1

crop residue : yield (grains)

When the quantity of the crop residue is large, the stubble field needs to be cultivated with large diameter discs, at least 620 mm! Also, the force applied to the discs is very important. The ATLAS PROFI model uses the weight of the machine, plus the force of the spring protection (200 kg).

we need to manage crop residue differently to what we have been doing when the yield was only 5.5 t/ha. The ratio

EXAMPLE OF WORK AFTER WINTER WHEAT



ATLAS AO_PROFI
Yield: 11.2/t
Number of passes: 1
Working speed: 14 km/h
Fuel consumption: 6 L/ha

EXAMPLE OF WORK AFTER MAIZE



ATLAS AE_PROFI
Number of passes: 1
Working speed: 12 km/h
Fuel consumption: 7 L/ha



ATLAS is capable of working in very dry conditions as well.



THE MAIN ADVANTAGES OF ATLAS DISC CULTIVATORS ARE:

- enormous daily output
- high quality of work
- comfort and continuity during use
- high work speeds
- and lastly, easy operation with a low number of lubrication points.

The large serrated concave discs with a six-millimetre-thick wall, mounted in a maintenance-free axial ball bearing, working on maintenance-free spring protection, make the foundation of the excellent quality of work and long service life.

Important Working Parts



HORIZONTAL SPRING-LOADED AUTO-RESET SYSTEM

ATLAS PROFI is equipped with horizontal spring-loaded auto-reset system of disc arms. The spring protection is preloaded to 200 kg. The preloaded springs provide an ideal pressure on the soil. The offset arm with auto-reset system provide for precise guidance of each disc. This model is especially designed for heavier and dry soils.



FLEXI-BOX

Maintenance-free tine-to-frame mounting design. Each pin is fixated in a case with special segments. This design requires no maintenance (no lubrication) and it also absorbs micro-vibrations transferred from the discs to the frames.



MAINTENANCE-FREE MASSIVE DISC BEARINGS

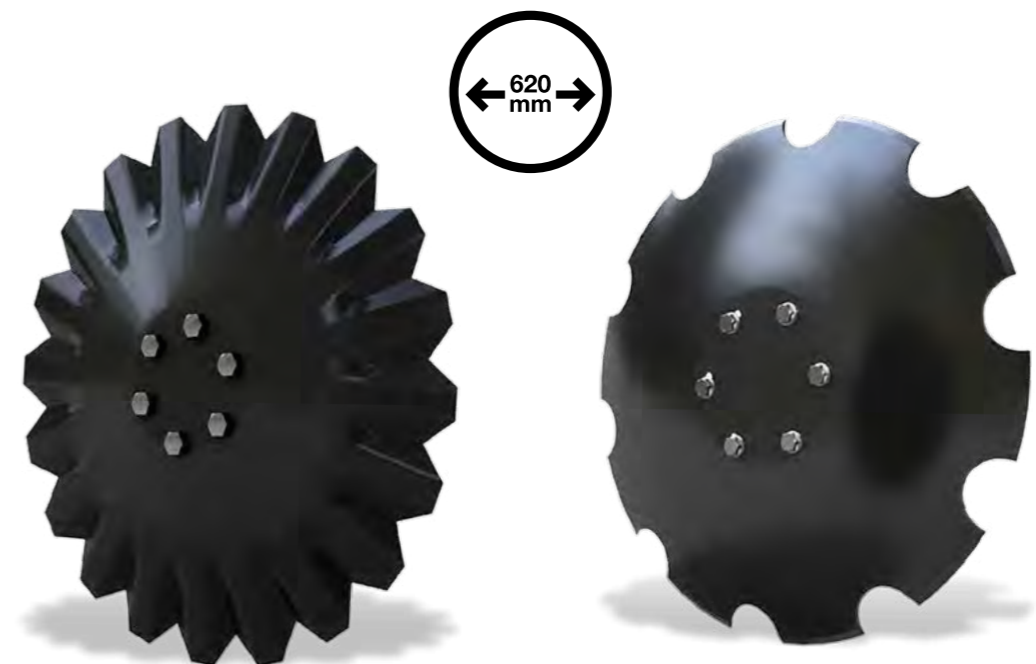
The discs are placed in maintenance-free ball bearings with lifelong charge. The tightness of the bearing is ensured by a cartridge git seal.



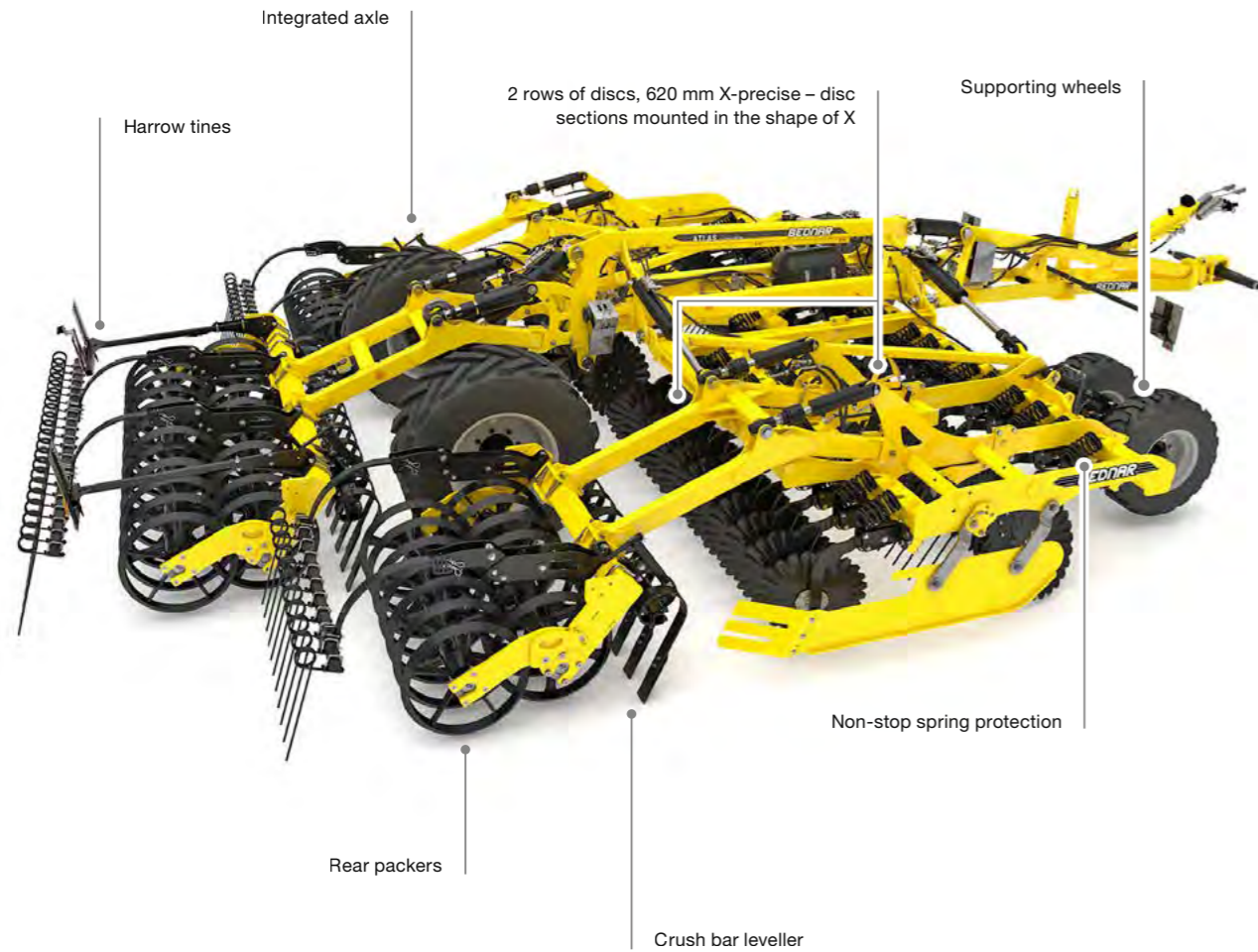
A-DISCS: A NEW DIMENSION OF WORK QUALITY

All ATLAS models can be equipped with specially shaped discs that have a significantly greater cutting and mixing effect when compared with standard serrated discs. The A-discs have a lot of cutting edges along the circumference for easy incorporation of a large quantity of crop residue.

The sharp blades efficiently cut crop residue. Moreover, the sectioned shape allows picking up a large quantity of soil than standard serrated discs. Each protrusion of the disc picks up soil and carries it towards the plant mulch where it is mixed. The result is excellent.



ATLAS AO_PROF1



QUALITY WORK IN ALL CONDITIONS

The discs arranged in two rows in an aggressive position open the soil and provide intense, quality mixing of crop residue with the soil. ATLAS is able to mix soil with a large quantity of crop residue or barnyard manure thanks to the weight of the machine and the aggressive angle of the discs. This allows for the most suitable soil penetration with maximum turning and mixing of soil with the surface material, even in very moist conditions. The discs penetrate soil easily in extremely dry conditions thanks to the overall weight of the machine.

BEDNAR ATLAS AO_PROF1 are semi-mounted, compact disc cultivators with discs with a size of 620 mm. This robust machine is suitable for minimisation systems of soil cultivation (incorporation of large quantities of crop residue) as well as the traditional way of farming using ploughs. The disc sections are mounted in the shape of an X, which guides the machine precisely behind the tractor, allowing the tractor navigation to be used fully and preventing side drifting.

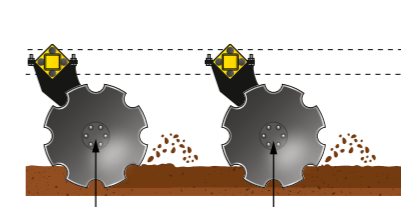
The main advantages of the ATLAS disc cultivators include enormous daily output, high quality of work, comfort and continuity during use, high working speeds and easy operation with a low number of lubrication points.

DISC SPACING OF 25 cm



The disc spacing of 25 cm provides for continuous work without clogging, even in cases of wet conditions and a large quantity of material left on the surface of the field.

HIGH PERMEABILITY



The high frame clearance in combination with suitable disc arrangement allows you to cultivate soil with high quality even in difficult conditions, also in cases of incorporating vegetation for green fertilisation.

ELECTRICAL-HYDRAULIC MACHINE CONTROL



ATLAS can be completely controlled hydraulically from the tractor cabin. The working depth can be set from the tractor using a simple display.

Important Working Parts



TRASH CUTTER

The ATLAS AO_PROFI model can be equipped with the front Trash Cutter roller. The roller is fitted with spiral cutting edges. The cutting effect is enormous. The roller is mainly suitable for those who grow oilseed rape, corn and sunflower.



“We like how the machine works, that’s why we chose it. In my opinion, the main advantage of ATLAS AO_PROFI is the high frame clearance, which is essential due to the large quantities of vegetable residue. I also like the spring-loading of each disc using the non-strop spring protection, and the integrated axle at the centre of the machine. It makes transportation safe and easy to turn. The aggressive discs with a diameter of 620 x 6 mm work beautifully.”

Miroslav Hak, co-owner

PLOTIŠŤSKÁ ZELENINA – HAK s.r.o.
Czech Republic | 120 ha
ATLAS AO 6000 PROFI



X-PRECISE – PRECISE TRACKING

Precise tracking of the tractor by the cultivator is very important. Drifting (movement of the machine outside the tractor tracks) is the largest drawback of short disc cultivators. Generally, the higher the diameter of the discs, the more obvious the problem is. The first row of the discs cultivates the soil to such an extent that the second row does not have a sufficient support in the soil profile. This causes the machine to move out of the tractor tracks. The disc cultivator overlaps soil that has already been processed and does not work in accordance with GPS.

X-PRECISE IS THE SOLUTION

The semi-mounted and pulled ATLAS models have disc sections mounted in the shape of an X. This position balances the forces and helps the cultivator track the tractor, or GPS precisely. No need to spend hours adjusting the cultivator – X-precise is the solution.

ATLAS AO PROFI

		AO 5000 PROFI	AO 6000 PROFI	AO 7000 PROFI
Working width	m	5	6	7
Transport width	m	2,95	2,95	2,95
Transport length	m	9,1	9,1	9,1
Working depth*	cm	6–16	6–16	6-16
Number of discs	pcs	40	48	56
Total weight**	kg	10 400	11 370	12 500
Recommended output*	HP	250–300	300–350	350–400

* depends on soil conditions ** acc. to the equipment

ATLAS AE_PROFI

Precise adherence of working depth along the entire working width thanks to the uniform pressure on the discs, even on the edges of the cultivator with regard to the axle installed in front of the disc sections

Transport axle located in front of the working sections

Front supporting pivoting wheels

Non-stop protection

Rear packers

2 rows of discs, 620 mm X-precise – disc sections mounted in the shape of X



BEDNAR ATLAS AE_PROFI is a heavy pulled and wide disc cultivator of a robust design for stubble cultivation with a large quantity of crop residue. The overall design of the machine allows working at high speeds and the working width of the machine helps achieve enormous daily outputs.

The new series of the ATLAS AE_PROFI disc cultivators is a solution for farms that need to increase the output to meet the agronomic deadlines more easily. The simple construction of the side frames, the easy and simple folding of the machine into the transport position, the ideal spacing between discs, the disc rows and rollers and the easy setting of the machine were the main objectives of our design engineers.

EASY AND FAST MACHINE FOLDING AND UNFOLDING. SAFE TRANSPORT ON ROADS



The ATLAS AE_PROFI machine is folded forward to the drawbar. In the transport position, the machine has a width of 3 m and height of 4 m, including the double V-ring or U-ring rollers. ATLAS AE_PROFI is stable when in the transport position and it can be easily transported between the individual plots of land.

TURNING AT HEADLAND USING REAR ROLLERS



The ATLAS AE_PROFI cultivator is a wide cultivator that is very manoeuvrable thanks to its construction, even at headlands. The machine turns on the rear rollers and the front supporting pivoting wheels. This solution eliminates the negative load on the hitch and unloads the tractor when the machine is in the headland position.

BEDNAR Precision Control



CTF (CONTROLLED TRAFFIC FARMING)

BEDNAR designed the working width of the machines so that they can be used in the modern CTF system, which consists of a smaller number of passes across the field and less soil compaction.



EVEN WEIGHT DISTRIBUTION

Maintaining the set working depth for even soil profile processing is the foundation of quality soil cultivation. ATLAS AE_PROFI disc cultivators provide the same pressure on discs along the entire machine width thanks to the axle moved forward and the concept of two folding side frames. The structural design of the machine reduces the number of hydraulic cylinders where side frame pressure could be lost. This design also reduces the number of points of lubrication, the overall wear of the machine, and it simplifies manipulation with the machine, both in the field and on the road.

X-PRECISE – PRECISE TRACKING

Precise tracking of the tractor by the cultivator is very important. Drifting (movement of the machine outside the tractor tracks) is the largest drawback of short disc cultivators. Generally, the larger the diameter of the disc is, the more obvious the problem is. The first row of the discs cultivates the soil to such an extent that the second row does not have a sufficient support in the soil profile. This causes the machine to move out of the tractor tracks. The disc cultivator overlaps soil that has already been processed and does not work in accordance with GPS.

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Control



ATLAS AE_PROF1

TWO CONTROL OPTIONS OF THE ATLAS AE_PROF1 DISC CULTIVATOR



ATLAS AE_PROF1 MANUAL HYDRAULIC CONTROL

- The individual functions are activated using valves on the machine drawbar, working parameters are set using hydraulic clips on the individual hydraulic cylinders of the machine.



ATLAS AE_PROF1 EASY ELECTRO-HYDRAULIC CONTROL

- A fully automated sequence of folding/unfolding using a single button.
- All the working parameters are set by entering values in the terminal. The hydraulic rollers are automatically set to the correct position.
- Connection to Load Sensing – it ensures that the hydraulic pump in the tractor is always running in an optimal way.
- Possibility to adjust the working depth and other settings of the machine when driving from the tractor cab.



“It took us a long time to choose the wide disc cultivator. We made our decision after we tested the BEDNAR machine. ATLAS AE provides precisely the work we need and that was essential in making the decision.”

Horváth Szabolcs, Machinery Technician

GAMOTA, Hurbanovo Production Cooperative
Slovakia
4200 ha
ATLAS AE 12400 PROF1

ATLAS AE_PROF1

	AE 12400 PROF1	
Working width	m	12,4
Transport width	m	3
Transport length	m	12,7
Working depth*	cm	6–16
Number of discs	pcs	100
Total weight**	kg	15 000
Recommended output*	HP	550–620

* depends on soil conditions ** acc. to the equipment

ALFA DRILL



CONTROL OPTIONS

with ISOBUS

An easy and quick connection of the ALFA DRILL with the tractor ISOBUS socket. The seeding unit equipped with the ISOBUS system can be simply connected to any tractor also equipped with ISOBUS technology.

without ISOBUS

The ALFA DRILL seeding unit without the ISOBUS control system is fed using the electric socket in the tractor cabin. It is an easy solution for tractors not equipped with ISOBUS, when the customer wants to use the ALFA DRILL seeding unit and control it comfortably.

ALFA DRILL is a seeding unit designed for establishing cover crop, additional grasses, or for an all-area application of fertilisers. It can be installed into various BEDNAR machines.

The dispensing area below the hopper contains the time-proven robust stainless metering system from the OMEGA seed drills.



Packers and Rollers

Typ	ATLAS	
	AO_PROFI	AE_PROFI
Tube Packer	1	•
Steel Ring Packer	2	•
Road Packer	3	• •
V-ring Packer 630 mm	4	• •
Double V-Ring 630 mm	5	• •
U-ring Packer 500 mm	6	• •
Double U-ring Packer 600 mm	7	• •
Double Roller	8	• •
Cutpack Packer	9	• •

* váha 130 kg/m (včetně systému stěrek), průměr 500 mm



1
A traditional packer with massive steel rods that provide standard crumbling effect.
weight: 121 kg/m
diameter: 635 mm



2
A packer with massive steel parts for superb compaction suitable for all soil types.
weight: 202 kg/m (including the scraper system)
diameter: 525 mm



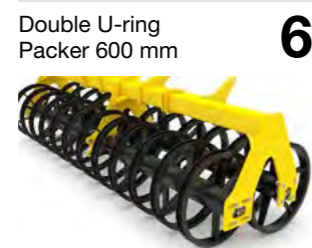
3
A packer from hard natural rubber suitable for all soil conditions with very low tack.
weight: 217 kg/m (including the scraper system)
diameter: 590 mm



4
A heavy steel packer for all soil types for intensive crumbling and compaction of the soil.
weight: 169 kg/m (including the scraper system)
diameter: 630 mm



5
A dual-row heavy steel packer for all types of soil for intense crumbling and compaction of soil.
weight: 162 kg/m
diameter: 630 mm



6
A dual-row steel packer with self-cleaning effect, excellent crumbling and low tack thanks to the "U" rim profile.
weight: 230 kg/m
diameter: 600 mm



7
An ideal roller for quality two-step cultivation of medium and light soils in drier conditions.
weight: 132 kg/m
diameter: 470+370 mm



8
A heavy steel packer with high cutting capability suitable for heavy soils.
weight: 222 kg/m (including the scraper system)
diameter: 630 mm



I did my best, for maximum Yield this year

Soil Cultivation



SWIFTERDISC
Disc Cultivators



ATLAS
Disc Cultivators



FENIX
Versatile Cultivators



VERSATILL
Versatile Cultivators



SWIFTER
Seedbed Cultivators



KATOR
Rotary Harrow



TERRALAND
Chisel Plough



ACTROS
Combined Cultivator



PRESSPACK
Trailed Packers

Seeding and Fertilising



OMEGA
Seed Drills



ALFA DRILL
Seeding Unit



COMBO SYSTEM
Double-Chamber Storage



FERTI-BOX
Hopper for Fertilizer

Inter-row/Line Cultivation Mulching



ROW-MASTER
Inter-row Cultivator



STRIP-MASTER
Line cultivator



STRIEGEL-PRO
Harrows



MULCHER
Rotary Cutters

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Czech Republic



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EUROPEAN UNION
European Regional Development Fund
Operational Programme Enterprise
and Innovations for Competitiveness



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