The all-round cultivator for your fields

FENIX

FO, FO_L, FN, FN_L

+ **ALFA DRILL**

General description

MAIN ADVANTAGES OF THE MACHINE

- The double central frame (150×100 mm / 120×120 mm) enables **deep tillage of up to 35 cm.**
- The overal robustness of the machine has been improved by **the lock system** that links frames type FO (120×120 mm) and type FO_L (100×100 mm).
- **The spring auto-reset system of tines** works smoothly even in very tough conditions.
- **The integrated axle between the tines** allows you to work without rear packers.
- **Points for deep loosening, wings for shallow stubble cultivation** and versatility. **Hard wearing points** (Long Life**).**
- **Frame clearance of 86 cm** results in a high machine throughput that can handle high crop residues.
- **The working depth is set by hydraulic control** from the tractor.

AGRONOMIC ADVANTAGES OF THE MACHINE

- **Loosens deeper** than standard cultivators, it can reach **a working depth of up to 35 cm.**
- Covers and **mixes plant residue evenly** through the soil after the harvest.
- **A high crumbling effect** due to the large number of tines on the machine.
- **A level surface is left behind the cultivator.**
- **Consolidation of the worked surface** ensures the germination of volunteer plants and weeds.
- **Can even be used in wet and soggy conditions** without rear packers.
- **Ensures your agro-technical deadlines,** allowing you to work in waterlogged conditions.

BEDNAR FENIX FO and FO_L are versatile 4-row cultivators with cleverly located tines. The transport axle is situated in the middle of the machine and tines are located behind the transport wheels. This gives you the option of working without rear packers. Turning at the headlands has also become easier thanks to axle in the centre.

The location and shape of the working components ensures intensive tillage, whilst mixing the organic matter evenly from depths of 5 cm to 35 cm. The identical geometry of each tine facilitates easy soil penetration regardless of tough conditions, ensures the desired mixing and loosening. The tilled and cultivated surface is levelled with levelling discs and subsequently consolidates the soil with the rear roller.

“If you’re looking for a multi-purpose tillage machine, a machine for shallow stubble cultivation, basic tillage or deeper loosening… then the Fenix is the tool for you. A short compact machine suitable for the majority of field work, and can be used in almost any weather conditions.”

Ladislav Bednar

FENIX FO, FO_L

Benefits

Cost saving benefits resulting in higher profits:

- **Mixes crop residue intensively into the soil** in a single pass.
- **Saves time** – significantly reduce the amount of man hours needed in comparison to traditional tilling equipment (ploughs) by using the Fenix. The Fenix prepares the soil in a way that minimises the need for additional preparation work on the soil.
- **Deeper tillage with lower fuel consumption** – Thanks to the fixed tines geometry, it's easy to prepare a deep soil layer whilst still keeping fuel costs at an affordable level.
- **Requires low tractive force** – The Fenix is defined by its low tractive force requirement, due to the correct positioning of the tines in relation to the soil.
- **Costs of wearable parts** are noticeably lower than for traditional ploughs.
- **A short and compact design** – Provides comfortable and safe transportation on the road, hassle-free driving onto the land, improved overall manoeuvrability compared to its rivals.

Jacob Justensen
Braedstrup (Denmark)

area: **350 ha**
machine: **FENIX FO 5000 with Alfa Drill**

"The great advantage of the Fenix is the location of the axle between the tines. I want to till some of my fields before the winter without compaction. Small ridges are usually left behind on the fields and freeze. In springtime, these ridges dry out faster because they have a greater surface area than a flat surface. I also really appreciate the length of the machine. The machine is short and compact and it allows me to work comfortably between the individual plots."

Jacob Justensen, owner

FENIX FO, FO_L

Utilisation

You can use the FENIX for:

- **Shallow cultivation** with shares that prevent capillary action over the whole width of the machine.
- **Medium depth tillage** using points with wings achieves evenly mixed crop residue through the soil profile.
- **Deep intensive loosening** using chisels, creates a quality soil climate and breaks up the compacted layers.
- **The incorporation of large crop residue** in one pass due to the intensive mixing.
- **Soil consolidation by using the packer**, which prevents moisture loss.
- **Work in waterlogged conditions**, e.g. in late autumn or winter, the Fenix FO/FO_L has a high throughput and can be used without rear packers.

And much more…

TILLING WHEAT STUBBLE

- cultivation depth: 15 cm
- working speed: 12 km/h
- fuel consumption: 11–12 l/ha

TILLING RAPE VOLUNTEER PLANTS

- cultivation depth: 20 cm
- working speed: 12 km/h
- fuel consumption: 12 –14 l/ha

TILLING MAIZE STUBBLE

- cultivation depth: 25 cm
- working speed: 10 km/h
- fuel consumption: 18 l/ha

"Shallow stubble cultiva tion or deep loosening"

FENIX FO, FO_L

Superior mixing of crop residues after harvest

THE V-SHAPED CONFIGURATION OF THE TINES REDUCES THE TENSILE RESISTANCE AND FUEL CONSUMPTION

Excellent and measurable results of the covered soil with the crop residue

The even accurate balanced and fast cultivation are the main attributes of the Fenix. Even mixing of crop residue improves the rate of biological degradation. Covering the crop residue with soil can be measured using the **pattern analysis** that shows soil surficiality with residue.

The pattern analysis serves to express the percentage of surficiality with crop residue on the soil top. The measurement is conducted right after the machinery has passed over the land. A template sized 0,5×0,5 m is placed on the land to define 0,25 m² area. This designated area will be photographed and pattern analysis will be used to determine the surface coverage with crop residue. The template is laid onto land askew to the direction the machine is travelling in, as indicated by the arrow, in order to ensure the best and most authentic illustration of the dispersion of crop residue over the fields surface. The selection is done randomly.

Fenix cultivators achieve excellent results when covering crop residue with an average surficiality rate of 18,7 %.

*Repeated measurements were taken on 3 plots using the Fenix FO 5000 fitted with 80 mm Long Life points with wings and mould boards – the 1st plot after harvest of winter wheat with a yield of 7,9 t/ha, the 2nd plot after harvest of winter wheat with a yield of 8,2 t/ha, the 3rd plot after harvest of winter barley with a yield of 7,2 t/ha. Straw and tailings were spread on the field evenly by using a six-rowed shredder on a crop harvester.

FENIX FO, FO_L

Machine performance

The bottom profile of the cultivated soil is the basis of quality soil preparation

The bottom soil profile depends on the selected soil engaging parts. Sufficient overlapping, their shape and angle then play a significant role in the appearance of the cultivated soil. Fenix cultivators feature high overlap of points and wings which ensures a flat bottom. The bottom levelness can be measured by thoroughly cleaning cultivated soil from the furrow bottom. The same method can also be used to ensure the operation depth is maintained throughout the entire machine`s width. **The Fenix is fitted with points and wings that guarantee a flat bottom and constant operation depth throughout the entire width. Tested and proven in practice!**

Planarity of cultivated surface

Uniformly level profile of the soil surface processed by the cultivator is the result of just how well the rotary discs fitted behind the tines work. Channels or ridges cannot be eliminated even with heavy packers. The soil must be levelled before the packers. The levelling discs on the Fenix are adjustable and ensure the flatness of the soil surface.

“An all-purpose cultivator – stubble cultivation, basic tillage and loosening”

FENIX FO, FO_L

Work under extreme conditions

Work under extreme conditions thanks to the integrated axle

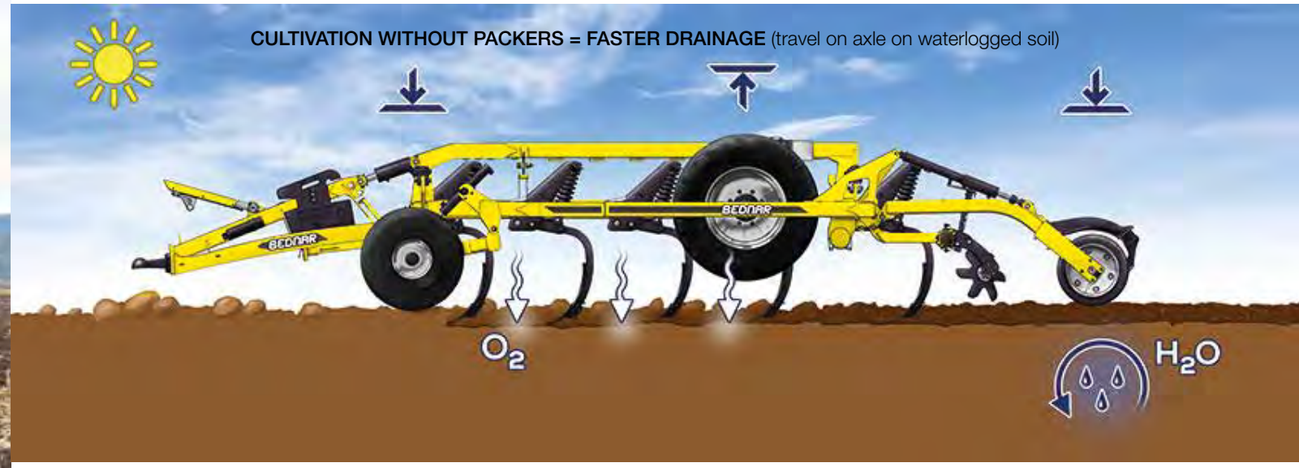
The integrated axle is located between the operating tines which enables the machine to operate without a rear packer (additional tines work begind the transport wheels). Packers can be removed in wet conditions for processing the soil without compacting. This advantage can be used to prepare the soil before winter, when it usually requires no rolling. Another advantage of the integrated axle is the improved dexterity of the machine at the headlands (shorter turning radius).

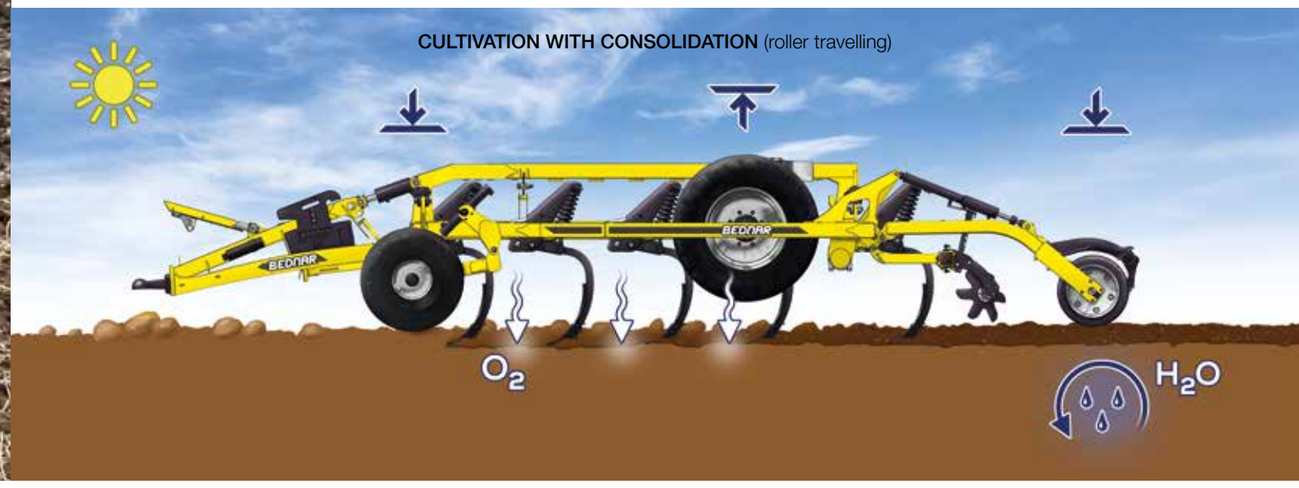
The Fenix is a simple solution to waterlogging

Even if you may not have managed to cultivate your soil before torrential rains, and the subsequent result is your fields become waterlogged, the Fenix can be deployed immediately. These situations mainly occur in the summer periods and approach the deadlines for the sowing of winter crops. With its hydraulic controls (front supporting wheels, rear packers), the Fenix enables a prompt response to waterlogging by raising the rear packers (jamming risk), the machine operates on its axle to cultivate the wetter parts of the field and contributes to drainage of problematic areas. After cultivating the wet area, the rear packers can be re-engaged instantly to complete the fields cultivation with soil consolidation.

FENIX FO, FO_L

Experience





Kojal Krasenko
District of Vyskov

area: **1,620 ha**
machine: **Fenix FO 5000**

"I see the greatest advantage of this machine is in the location of the axle being in front of the compacting rollers enabling the machine to operate even with these rollers disengaged, leaving the soil in a nice cultivated state without compacting, so the machine can be used as an alternative to ploughing. The integrated axle also contributes to the reduction of the turning radius, which improves the dexterity of this machine especially for turning at the headlands," says the company's agronomist, Ladislav Matuska.

Basic machine description
Working parts

Spring auto-reset tines

Easy setting of the working depth of the Fenix using hydro-clips. Depending on the choice of features working depth can also be set hydraulically during work

Spacious frame design. Working tines are spaced at 80 cm with a span of 31 cm

The Fenix **can be attached to a tractor using lift arms (two point drawbar), towing eyes or ball coupling (K80)**

The high frame clearance of 86 cm enables it to easily pass a large volume of straw and other crop residue.

4 rows of tines with a fixed geometry, making it easy to work in heavy soils. The fixed geometry of tines reduces the pulling requirement of the machine, saving fuel.

Various types of rear packers for different soil types

The integrated transport axle allows it to operate without rear packers. The surface behind the wheels is handled by tines to eliminate any tracks

Levelling discs for perfect surface levelling. The discs are secured with rubber segments and are easily adjustable

SUPPORTING WHEELS

Supporting wheels allow the machine to operate at a constant working depth at high operational speeds. This improves the consistancy of mixing thoughout the soil profile. The supporting wheels can be controlled via the tractor hydraulics.

SPACIOUS MOUNTING OF THE INTEGRATED AXLE

The design engineers fitted the axle into the frame to make sufficient space between the axle frame and wheels.

HYDRAULICALLY CONTROLLED MACHINE

Packers with hydraulic control can be disengaged immediately, e.g. on waterlogged sections of the field. The rear packers on the non-hydraulic models can be locked out.

FENIX		FO 4000 L / FO 4000	FO 5000 L / FO 5000	FO 6000 L / FO 6000
Working width	m	4	5	6
Transport width	m	3	3	3
Transport length	m	8,1	8,1	8,1
Working depth*	cm	5–35	5–35	5–35
Number of tines	pcs	13	15	19
Spacing of tines	cm	31	31	31
Total weight**	kg	4 300–6 000 / 5 650–7 150	4 700–6 550 / 6 150–7 800	5 200–7 400 / 6 960–8 900
Recommended output*	HP	150–220	200–270	250–320

*depends on soil conditions **depends on the machine accessories

General description

MAIN ADVANTAGES OF THE MACHINE

- **The spacious triple-girder frame** ensures its high strength.
- **Frame clearance height of 80 cm** results in a lenghthy machine throughput that can handle high crops or intercrops.
- **The auto-reset system of tines works smoothly e**ven in very tough conditions.
- **Points for deep cultivation, points and wings for shallow stubble ploughing, Long Life chisels** (carbide + hardface).
- **Comfortably set the working depth** by using the hydraulic cylinder in the tractor cabin.
- **Various types of rear packers** and a single-row bar harrowing tool to finish the job.

AGRONOMIC ADVANTAGES OF THE MACHINE

- **Versatile machine** for shallow stubble cultivation, basic preparation and cultivation.
- Covers and **mixes plant residue evenly** through the soil profile after the harvest.
- **High crumbling effect** via the rear packers.
- **A level finish** is left behind the machine.
- **Consolidation of the worked surface** ensures the germination of volunteer plants and weeds.
- **Can even be used in wet conditions** without rear packers.
- **Ensure your agro-technical deadlines are met,** allowing you to work in waterlogged conditions.

BEDNAR FENIX FN and FN_L (Light) is a simple 3-row versatile cultivator designed for small and medium farms seeking versatility. The solution comes in the form of the mounted Fenix cultivator which is suitable for performing several field operations simultaneously.

The simple adjustment of the machine to match existing soil conditions and the operation task required are some of the advantages provided by the Fenix and appreciated by every farmer. The convenient layout and shape of the work bodies enables intense soil processing. This includes blending organic matter within the depth interval from 5 cm to 35 cm. The fixed alignment of the individual tines ensures easy soil penetration into the surface even under very demanding conditions, while achieving the required blending and cultivating effect.

"The mounted Fenix FN is a versatile machine for multi-purpose usage in smaller farms. The design of the tines and their placement induces an intense mixing effect and coverage of crop residue. The various soil engaging parts makes this machine a suitable cultivator for shallow, medium and deep cultivation."

Jan Bednar

Fenix FN cultivator – one tool, three functions

1. The loosening and mixing of the soil via tines arranged into three rows with individual spacing of 30 cm and row offset at 80 cm. This arrangement guarantees the perfect overlap of the tines and very good passability of material through the machine.
2. Levelling the surface by spring steel levellers or levelling rotary discs in front of the rear packer.
3. Re-consolidation and depth control via packer rollers (select the packers to match the soil conditions).

HYDRAULIC DEPTH ADJUSTMENT

Hydraulic adjustment of the working depth via a hydraulic cylinder that links the rear packer with the main frame of the machine. The working depth can be adjusted using hydro-clips on the cylinder.

MECHANICAL DEPTH ADJUSTMENT

Mechanical adjustment of working depth is easy and comfortable via the adjustable rod connecting the machine frame and the rear packer frame.

FENIX FN 4000 FOLDING

The Fenix FN 4000 model is provided with hydraulic lateral folding frames. The transport width of this model is up to 3 m and complies with EU standards.

Roland Schellhorn
Goesselborn (Ilmtal)

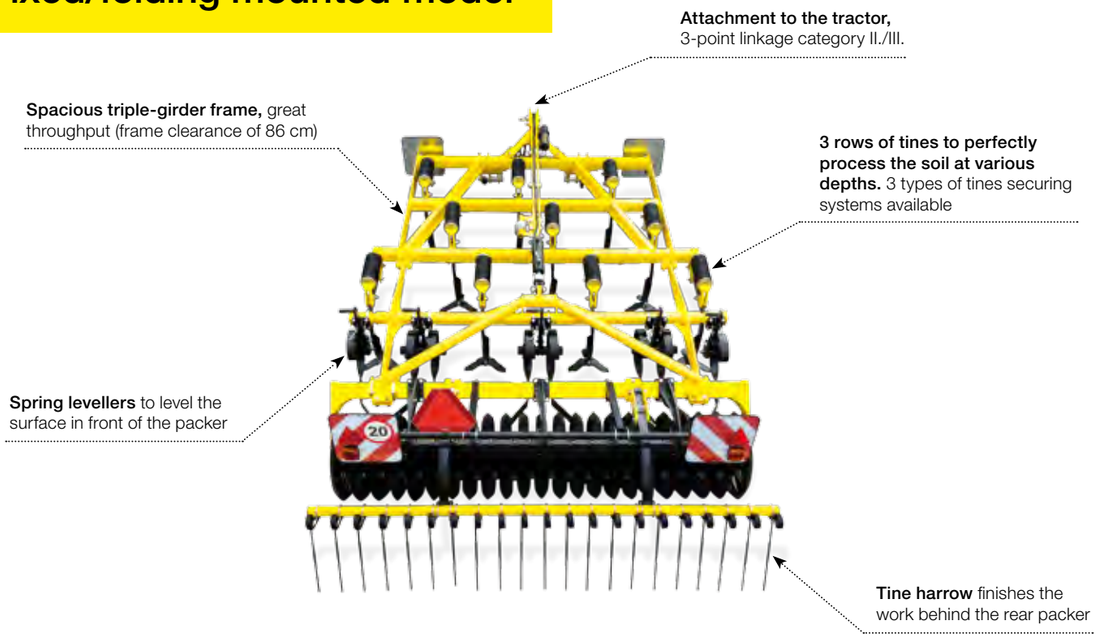
area: **110 ha**
machine: **Fenix FN 3000 L**

"We farm in a hilly area where the fields are full of stones. We chos the Fenix FN 3000 L because the machine is equipped with a maintenance free auto-reset securing system. Moreover during a demo field testing we found out how easily the machine enters hard soil. We use the Fenix with our 130 HP tractor for soil preparation ito a depth of 15 cm with tines and wings and without wings to a depth of 20 cm," says the owner Roland Scherllorn.

"Compactness, versatility, quality"

FENIX FN, FN_L

Fixed/folding mounted model

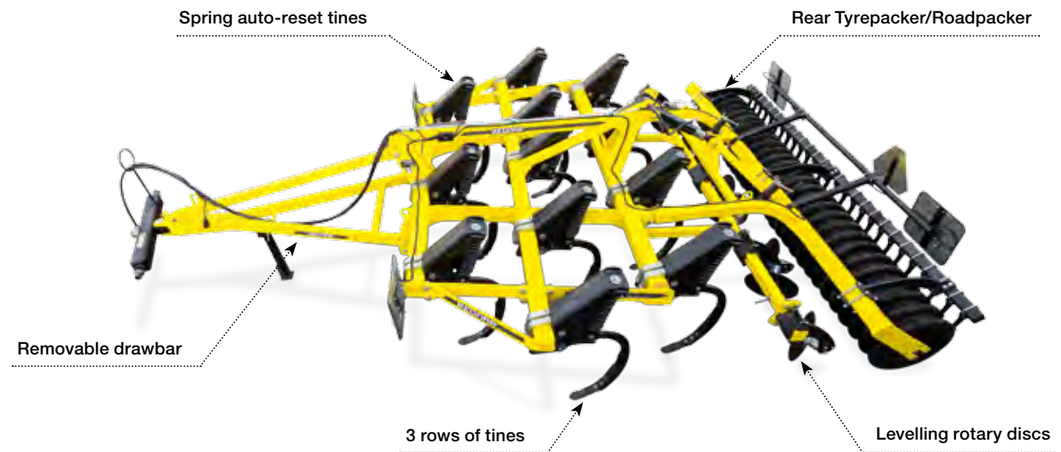


FENIX		FN 3000 L / FN 3000	FN 3500 L / FN 3500	FN 4000 L / FN 4000
Working width	m	3	3,5	4
Transport width	m	3	3	3
Transport length	m	3,58/3,88*** / 3,88	3,58/3,88*** / 3,88	3,92
Working depth*	cm	5–35	5–35	5–35
Number of tines	pcs	10	12	13
Spacing of tines	cm	30	30	30
Total weight**	kg	1 350–2 700	1 550–3 050	2 300–3 800
Recommended output*	HP	150–225	160–240	170–255

*depends on soil conditions **depends on the machine accessories ***FN 3000 L (securing – shear bolt) / FN 3000 L (securing – horizontal spring auto-reset system)

FENIX FN_RT

Mounted/semi-mounted model



FENIX		FN 3000 RT	FN 3500 RT
Working width	m	3	3,5
Transport width	m	3	3,5
Transport length	m	6,3	6,3
Working depth*	cm	5–35	5–35
Number of tines	pcs	10	12
Spacing of tines	cm	30	30
Total weight**	kg	2 550–2 650	2 900–3 050
Recommended output*	HP	120–170	150–200

*depends on soil conditions **depends on the machine accessories

SPRING STEEL LEVELLERS

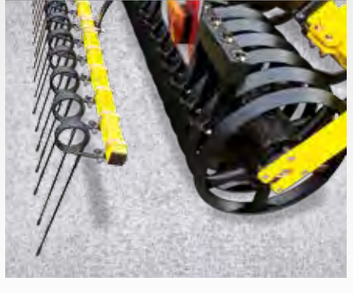
These are some of the basic accessories of the Fenix FN/FN_L and serve to level the surface in front of the rear packer.

LEVELLING ROTARY DISCS

Levelling rotary discs that perfectly level the surface are adjustable depending on the soil conditions. The discs are protected from overload by means of rubber segments.

SINGLE-ROW TINE HARROW

To create optimal soil structure, the Fenix can be fitted with a single-row tine harrow that performs a levelling function at the same time. It can be also used to create the seedbed.



FENIX

Secured tines for various soil conditions

Maintenance-free safety system for extreme conditions

Fenix machinery can be fitted with three types of overload protection – vertical (Fenix FO and FN), horizontal or a shear bolt arrangement (Fenix FO_L and FN_L). The machine type and safety system should be selected with respect to the specific farm soil conditions to ensure maximum compliance and continuity of its service operation.

VERTICAL SPRING AUTO-RESET SYSTEM FOR THE FENIX FO AND FENIX FN

Fixed tines are protected against overload by means of a double-spring vertical maintenance-free auto-reset system. Springs are pre-tensioned to resist a load of 450 kg, with a maximum cap at 750 kg, which guarantees the fixed alignment of the tines even in drought ridden soils. The safety system is engaged upon contact with an obstacle, e.g. a stone, with a max. lift of 30 cm. Until then, the tine will keep its fixed alignment and work within an accurately designated space without any vibrations or thrusts.

Suitability – heavy, dry and rocky soils

HORIZONTAL SPRING AUTO-RESET SYSTEM FOR THE FENIX FO_L AND FENIX FN_L (LIGHT)

The horizontal single spring auto-reset system protects tines from overload. Horizontal spring auto-reset system is maintenance-free. Springs are pre-tensioned to resistance load of 400 kg, with the maximum capped at 450 kg. Fixed alignment under medium conditions. The auto-reset system is engaged upon contact with an obstacle, e.g. a stone, with the max. lift of 25 cm. Until then, the tine will keep its fixed alignment and work within an accurately designated space without any vibrations or thrusts.

Suitability – medium-weight and sandy soils

SHEAR BOLT FOR THE FENIX FO_L AND FENIX FN_L (LIGHT)

Overload protection of the tines is ensured by a shear bolt that breaks under an excessive load. This method of securing is simple and cheap.

Suitability – light and stone-free soils

FENIX

Working parts for various work operations

LONG LIFE CHISELS

Reinforced Long Life chisels with an extended service life are fitted with carbide plates and improved protection at the bottom part and around bolts. The service life of these chisels spans several times more compared to the conventional ones, this is suitable mainly for abrasive soils. The time normally spent on chisel replacement may be used more effectively. Long Life for your comfort and lower total cost.

Size: **40 and 80 mm**

Shallow stubble – working depth of 5–10 cm

CLIP-ON SHARES

Shares of 280 mm in width are convenient tools for shallow stubble and for undercutting of the soil profile across a full working width and mixing it with the crop residue. This activates the second growth and weed for their subsequent elimination.

Medium-depth stubble – working depth of 10–20 cm

MULCH CHISELS WITH WINGS

The chisel (40 or 80 mm) can be fitted with wings (125 or 185 mm - Long Life) for perfect cultivation of the soil down to medium depths, followed by the even mixing of crop residue. The wings improve this mixing effect and ensure the undercutting of the soil across the full machine width.

Deep cultivation – working depth of 20–35 cm

MULCH CHISELS WITH MOULDBOAR

Suitable for the deep intense cultivation of the full profile meaning a prompt and cheap restoration of the soil stucture. The combination of chisels (40 or 80 mm) and the mouldboard induces a high mixing effect at low machine resistance to the soil.

FENIX

Correct soil consolidation

Correct use of packers

The work performed by the machines packer effects the final work of the machine. The selection of a suitable packer is of vital importance. It is also necessary to realise the correct time for the packers application. Where as, the soil should rather be compacted during the summer season to initiate a more controlled second growth and the sealing of the soil to prevent vaporization, the works during the winter season should be done without compaction and with some ridges left behind to catch the snowfall. The moisture from precipitation is then used for the improved germination of spring crops. The Fenix cultivator allows you to work with or without packers before the winter.

Compacting the fields before winter often means loss of moisture that can be obtained from snowfall. Snowfall is blown off the fields by wind.

Uncompacted fields with ridges will capture precipitation that is required for the germination of crops in spring.

FENIX

Packers and rollers

TYREPACKER

A packer made up of tyres (27×8,5 15 8PR) suitable for medium heavy soils with a good throughput in wet conditions.

weight: 180 kg/m
diameter: 700 mm

STEEL RING

Heavy steel packer suitable for any soil type to ensure the aggressive compacting and crumbling of clods.

weight: 177 kg/m (including the scraper system)
diameter: 525 mm

ROADPACKER

The roadpacker is a solid packer made from hard natural rubber, suitable in any conditions. The levelling effect supported by packer weight is literally excellent. Scrapers ensure almost zero adhesion of the soil to the packer.

weight: 193 kg/m (including the scraper system)
diameter: 585 mm

SPRING

A spring packer with a very good tensioning effect and reduced jamming risk, for soils of higher humidity. Springs work intensively - breaking, blending and compacting the soil.

weight: 134 kg/m
diameter: 530 mm

V-RING

The V-ring is a V-shaped arch packer. This design ensures low adhesion of particles to the packer. This effect is further boosted by scrapers to prevent clogging of the packer during operation.

weight: 160/176 kg/m (including the scraper system)
diameter: 530/630 mm

U-RING

A steel packer for all soil types with high quality break-up and low stickiness due to the “U” rim profile.

weight: 130/155 kg/m (including the scraper system)
diameter: 500/600 mm

DOUBLE U-RING

A double row steel packer with self-cleaning effect, excellent break-up and low stickiness due to the “U” rim profile.

weight: 126/163 kg/m
diameter: 500/600 mm

DOUBLEPACKER

This tool comprises of the front pipe packer with diameter of 470 mm and one slatted packer with diameter of 370 mm. A combination of these two cylinders results in a rotary cultivator effect with excellent break-up parameters.

weight: 238 kg/m
diameter: 370/470 mm

SEEDING UNIT
ALFA DRILL

CORE BENEFITS

- **Sows cover crops and grasses**, combines the workflows.
- **Limits soil erosion.**
- **Weed disposal.**
- **Increases the nitrogen in the soil** due to the cover crops.
- **Improves the soil structure** by intercropping.
- **Increases biological activity.**

ALFA DRILL is a seed drill unit for sowing cover crops or grasses and can be mounted on various types of BEDNAR machines. The hopper which has a capacity of 200 l is easily accessible via a comfortable stairway, allowing for an easy refill. In the area under the metering system we can find the metering shaft, which can, depending on type of seeds or on quantity of seeding volume, be equipped with standard metering rollers or rollers for fine seeds.

ALFA DRILL		ALFA 3000*	ALFA 4000	ALFA 5000	ALFA 6000
Working width	m	3	4	5	6
Number of hoses	pcs	8	8	8	8
Fan		electric	electric	electric	electric/hydraulical
Capacity	l	200		200	200
Total weight	kg	290**	445***	455***	460***

*only designed for Terraland TN 3000 RT
**weight including distributions and supporting frame
***weight including distributions, supporting frame and weights balance for the drawbar (200 kg)

SIMPLE AND SAFE ACCESS TO THE HOPPER

DISTRIBUTION FLAP

HOPPER 200 L

JOY
OF FARMING

Product range

The technical data and illustrations are approximate.
Reservations are made for any design changes.

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TILLAGE

Straw harrows **STRIEGEL-PRO**

Disc cultivators **SWIFTERDISC**

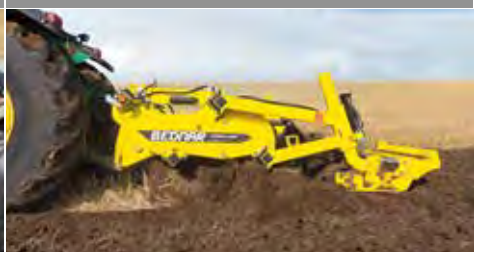
Disc cultivators **ATLAS**

TILLAGE

Seedbed cultivators **SWIFTER**

Versatile cultivators **FENIX**

Chisel ploughs **TERRALAND**



TILLAGE

Trailed packers
CUTTERPACK, PRESSPACK, GALAXY

INTER-ROW CULTIVATION

Inter-row cultivator **ROW-MASTER**

SOWING AND FERTILISING

Seed drills **OMEGA**

Fertliser hopper **FERTI-BOX**

ROTARY CUTTERS

Rotary cutters **MULCHER**

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