

Linkage-mounted universal cultivators
SYNKRO

 **PÖTTINGER**

Versatility that runs deeper



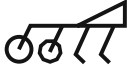
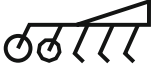
Versatility that runs deeper



All information on technical data, dimensions, weights, output, etc. and the images shown, are approximate and are not binding. The machines shown do not feature country-specific equipment and may include equipment that is not supplied as standard, or is not available in all regions. Your PÖTTINGER dealership would be pleased to provide you with more information.

The linkage-mounted, 2-gang or 3-gang SYNKRO cultivators with a working width of 2.5 m to 3 m or 3 m to 5 m offer universal solutions in conservation tillage. With adjustable tillage tools and a wide range of equipment options, these machines can be configured to match any conditions in the field. They make it easy to carry out shallow stubble cultivation, intensive mixing and incorporation, along with deep soil loosening.

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The best soil



Soil is the source

Fertile soil is the most important resource for agriculture and is only available for arable farming to a limited extent. Therefore it is essential that its conserved very carefully to ensure the production of high-quality food and animal feed over the long term.

Healthy soil with a tilth structure and optimum pore distribution with no harmful compaction allows the crop to develop strong and deep roots.

Tillage is about changing the structure of the soil. Conservation tillage using SYNKRO universal cultivators aims to preserve, as far as possible, the structure in deeper soil layers that is stabilised by plant roots and soil organisms. This helps to make the soil resilient when it is driven over. At the same time, less intensive tillage helps to preserve the habitats of soil organisms.

Soil water balance

Water is one of the most important site-specific factors in arable farming. Especially during dry periods, the availability of water is essential for germination, plant development and crop yield. The soil water balance can differ greatly between one location and another, and measures to reduce water losses are needed.

With the help of conservation tillage with the SYNKRO and a crumbly soil surface, the capillary rise of water to the soil surface can be reduced, without excessive loosening of the soil. This ensures that more water remains available in the soil and that evaporation losses are reduced during phases when the field is not covered with plants. Additional ground cover protects the soil from direct sunlight and creates shade.



Reducing soil erosion

Even on slopes with a gradual gradient, there is risk of soil erosion in the event of heavy rainfall. Organic material maintained on the soil surface during conservation tillage with the SYNKRO reduces the energy of water droplets as they impact the surface. Harvest residues left on the soil surface form a protective layer that helps to conserve the soil structure.

This reduces the risk of ponding, and the soil's permeability remains largely intact. What is more, the material that remains on the surface slows down the run-off of rainwater and reduces the erosion of soil particles.



Promoting soil life

Conservation tillage using the SYNKRO universal cultivator leaves organic matter on the soil surface or incorporates it only into the top layer, making it available as a source of nourishment for soil life. As a result, organic material is decomposed by living organisms and made available again as a nutrient for the next crop.

At the same time, soil organisms can break down organic plant matter into humus. This creates a stable soil structure in the course of living soil stabilisation. The best-known helper here is the earthworm, which, together with bacteria, converts large quantities of organic residues, having a phytosanitary and sanitising effect.

Flexible in operation



Universal

Moving the whole surface of the soil, perfect incorporation, and excellent quality tilth are what make linkage-mounted SYNKRO cultivators so versatile. PÖTTINGER's proven points and shares are available on the 2-gang and 3-gang universal cultivators. These ensure that harvest residues are incorporated into the soil evenly and thoroughly mixed in, while moving the surface of the soil or loosening at a deeper level. With a working depth range of 5 cm to 30 cm, the SYNKRO is suitable for everything from shallow stubble cultivation to intensive primary tillage.

Using the cultivator without subsequent consolidation, i.e. without a rear roller, further expands the range of applications for the SYNKRO. This set up is ideal for deep loosening of the soil in autumn.

The right position for all operating conditions

Together with the shins, the curved legs ensure optimum soil flow. Soil flow can be adjusted using the two positions of the legs, allowing for a flexible match to each tillage application.

Likewise, the wing shares can be fitted in two different positions. This can have a significant influence on the way the tillage tools enter the soil and on their mixing behaviour. The result is a unique and exceptionally level finish with the points set at a less aggressive angle. Consistent surface mixing promotes the emergence of volunteers, weeds, and the next crop.



Consistent working results

Setting up the machine precisely to achieve consistent working results provides the foundation for ensuring the success of each of the follow up process steps. On the SYNKRO, the working depth is maintained by the rear roller, with additional depth wheels available as an option. As a result, the SYNKRO really comes into a class of its own in bumpy fields. Hydraulic depth adjustment is also available for infinitely-variable control.

The soil surface is levelled behind the tillage tools by concave discs or levelling tines and then reconsolidated by the rear roller. There is a wide range of different rear rollers to choose from. Optional side levelling boards create a uniform transition to the adjacent pass.

Reliability in action

Depending on the operating environment, the SYNKRO can be fitted with an overload protection system featuring shear bolts or the NOVA mechanical stone protection system.

In the latter case, a spring unit enables uninterrupted operation in fields with a high proportion of stones. The tillage tools can move upwards to ride over an obstacle and then immediately return to their operating position. This ensures that the soil is worked over as large an area as possible.

Flexible in operation

Frame systems



2-gang system

The 2-gang linkage-mounted SYNKRO universal cultivators have an impressively compact design. Thanks to the short length of these cultivators, they are perfect for tractors with low lifting capacity and for lighter-weight tractors. In the field, the 2-gang cultivator is low draft and manoeuvrable. When working on steep ground, it operates smoothly.

Because the 2-gang SYNKRO models have fewer tines per working width, the space between the tillage tools and the underframe clearance are larger than on the 3-gang models. The tool spacing of 42 cm and 42.5 cm, combined with the 75 cm gap between the two gangs and the underframe clearance of 80 cm, ensure plenty of underframe clearance. This means that it can handle even large quantities of organic material.

2-gang models

The SYNKRO with a 2-gang configuration is available with six tines and a working width of 2.5 m, as well as with a working width of 3 m and seven tines. The advantage of the models with seven tines is that they are arranged symmetrically. This prevents side pull and ensures that the forces are distributed evenly.

Advantages of 2 gangs

- Compact and manoeuvrable
- Light weight
- Smooth running
- High clearance



3-gang system

SYNKRO cultivators with three gangs feature a narrower tillage tool spacing to cover universal applications. That is why they are suitable for shallow working as well as primary tillage, including a range of applications such as stubble cultivation, seedbed preparation and primary tillage.

The tine spacing of between 27 cm and 30.8 cm enables thorough mixing and incorporation of organic material, while producing fine, crumbly and homogeneous working results. The 3-gang configuration, combined with the high number of tines, ensures that harvest residues are distributed evenly. The underframe height of 85 cm provides plenty of clearance for high volumes of organic matter.

3-gang models

The rigid version of the SYNKRO is available with three gangs in working widths of 3 m and 3.5 m. Thanks to their eleven tines, the 3-metre-wide models offer a particularly narrow tine spacing of 27 cm. Twelve tines operate across a working width of 3.5 metres.

The folding 3-gang SYNKRO V models are fitted with 13 tines on the 4-metre-wide version and 17 tines on the 5-metre models. The frame has been optimised for directing force and weight, and consists of a fixed central section and two side frame sections on which the tines are arranged symmetrically. This prevents side pull, reduces the pulling force required, and ensures an excellent level finish.

Advantages of 3 gangs

- High versatility
- Narrow tine spacing
- Intensive mixing
- Good straw distribution

Flexible in operation

Tine systems

1



2



1 Overload protection using shear bolts

On the standard version, the SYNKRO tillage tools are secured against overload by shear bolts. If the point strikes an obstacle, the shear bolt gives way to protect the tine, the tine mounting, and the frame from excessive force. The shear bolts can be replaced quickly and easily.

- Triggering pressure of 2,500 kg at the point
- Quick and easy replacement
- Practical holder for up to eight shear bolts on the frame

2 NOVA mechanical stone protection

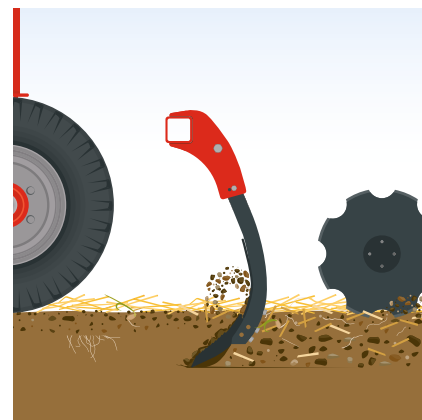
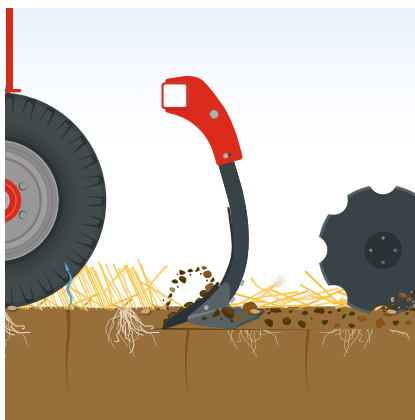
The NOVA mechanical stone protection system is the ultimate solution, especially in fields with frequent obstacles such as large stones and rocks. It is indispensable for meeting the demand for high levels of performance through uninterrupted, reliable operation. A horizontally-mounted, maintenance-free compression spring unit reliably maintains the working depth of the tines on the SYNKRO models with mechanical stone protection.

- Triggering pressure 550 kg
- Trip clearance 30 cm
- Triggering pressure increases for fast reset
- Completely maintenance-free
- Additional shear bolt for large obstacles

Arc-shaped tine legs

Optimum soil flow through the tine section is essential for mixing the soil effectively. That is why the tine legs on SYNKRO universal cultivators are arc-shaped and fitted with curved shins. They have different dimensions depending on the tine spacing and the volume of soil that is moved by each leg:

- 3 gangs: 60 mm x 25 mm
- 2 gangs: 70 mm x 25 mm



Choice of positions

The position of the tine legs can be adjusted using a hole matrix on the leg mountings to match the work process. Altering the angle from steeper to flatter changes their soil entry performance, the intensity of the tillage, and the pulling power required. This allows the machine to adapt to different conditions, such as dry, hard ground. The mounting bolts also act as shear bolts.

Shallow leg angle

- Ideal for shallow tillage depths
- Less aggressive point setting in combination with wing shares
- Reduced pulling power
- Improved flow when handling high volumes of organic material

Steep leg angle

- Intensive mixing due to a more aggressive action
- Good soil entry
- Wider effect in combination with wing shares

Flexible in operation

Shares



Proven tillage tools

To take full advantage of SYNKRO universal cultivators, both tine systems can be fitted with different tillage tools. This means you will find the right tool for every application.

- 1 Chisel point + shin + wing share (shallow setting)
- 2 Chisel point + shin + wing share (steep position)
- 3 Chisel point + shin
- 4 Narrow point

Chisel points

Chisel points are the all-purpose tillage tools fitted to the SYNKRO series, and are suitable for all working depths. This makes them ideally suited to stubble cultivation and primary tillage. Their geometry is designed so that they penetrate the soil easily and, with their curved shins, they ensure intensive mixing and efficient loosening of the soil.

Narrow points

Especially made for deep loosening to a depth of 30 cm with minimal soil movement, these narrow points are the tool of choice. Thanks to their narrow working width, compacted areas can be broken up while requiring only minimal pulling power and without disturbing or mixing the whole tilth layer.

Wing shares

Wing shares are implemented together with chisel points. This combination moves the whole surface of the soil even when operating at shallow working depths. For stubble cultivation, the stubble is ripped across the full working width at the same time as interrupting the capillaries. The wing shares are suitable for working depths of up to 15 cm and ensure a level finish and consistent germination conditions. In addition, the wing shares intensify the mixing effect. Different lengths of wings are available to match the tine spacing and optimise wear resistance, making sure that the full surface area is covered.



Flexible

Two wing share positions ensure complete flexibility. This alters the angle of the wing share and, as a result, the mixing intensity. It also changes the aggressiveness of the chisel points and wing shares, which alters the tillage effect. This makes it possible to achieve different agronomic objectives.

Changing the position is quick and easy, allowing a fast response to the situation in the field. The pair of wings is attached to the point with just one bolt.

Shallow position

The shallow position of the wing shares is ideal for cultivating stubble, as well as terminating weeds and cover crops. Setting the share less aggressively ensures a flat and uniform level finish, without deep grooves and cavities.

- Shallow tillage
- Level finish to worked area
- Moderate mixing effect

Steep position

The steeper setting is ideal for medium-depth and intensive tillage. The mixing effect and incorporation of organic matter is enhanced by the more aggressive angle.

- Medium-depth tillage
- Intensive mixing
- Optimal soil entry

Flexible in operation

Depth guidance



Reliable depth control

Precise depth control is essential for maintaining the required working depth of the whole machine. This is really important during shallow tillage. The standard version of the SYNKRO is depth-controlled by the rear roller. On 3-gang models, additional depth wheels at the front improve depth control. These are essential when the machine is deployed without a rear roller because they regulate the operating depth together with the tractor hitch.



Integrated depth wheels

Depth wheels are available as an option on 3-gang models and mounted on each side of the frame. They are fully integrated into the overall frame concept and run within the working width of the machine. This improves depth control, particularly on sharply undulating terrain and during shallow tillage thanks to the additional points of ground contact.

Fitting the top link into the slotted hole opens up even more possibilities for universal applications. Deployed without a rear roller or for deeper tillage, the integrated depth wheels provide additional support.

The depth wheels are single wheels fitted with 260/70-15.3 tyres.

- Additional depth control
- Uniform working depth
- Consistent tillage quality
- Ideal for undulating fields and shallow tillage

Easy set-up

Depth is adjusted hydraulically as standard using one double-acting spool valve. This means that the machine can be set up in a matter of moments, flexibly and independently of the rear roller. An indicator scale makes it easier to find the correct position.

- Reliable and precise hydraulic adjustment
- Clearly visible scale

Flexible in operation

Working depth adjustment



Wide range of working depths

The SYNKRO adapts flexibly to any application requirement thanks to its wide, adjustable working depth range of up to 30 cm. Ultimately, it is equipped for both shallow stubble cultivation and deep primary tillage. The working depth can therefore be matched to the soil type, the next crop and the farm management strategy. The wide adjustment range makes the SYNKRO a versatile all-rounder for tillage.



Mechanical depth setting

Depth adjustment using the rear roller is mechanical as standard using a 13-position hole matrix. Quick and safe adjustment is possible from the outside of the machine. On SYNKRO models with a rigid frame, the pin-in-hole system on the front of the frame is easily accessible. On the folded SYNKRO V models, the setting is controlled directly by the central adjustment system, which is easily accessible from the side of the machine.

The rear roller can be set to float, or can be locked in place. Locking the depth adjustment system transfers more weight to the cultivator to improve soil entry and consolidation.

- 13-step hole matrix
- Easy-to-access setting
- Floating or locked rear roller

Hydraulic depth setting

Hydraulic depth adjustment provides maximum versatility and convenience. This system allows the working depth to be infinitely adjusted from the tractor cab while driving. A rapid response to changing conditions is possible as a result. This requires a double-acting spool valve on the tractor. Two hydraulic cylinders synchronised by a servo system reliably control the depth setting of the rear roller.

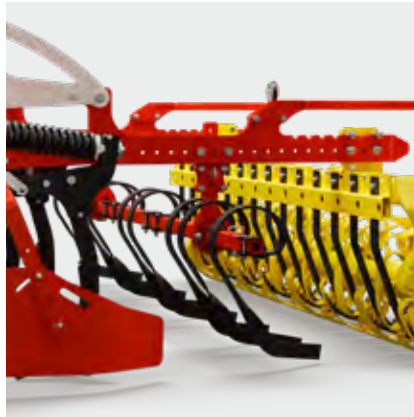
- Continuously variable depth control
- Maximum convenience

Flexible in operation

Levelling tools

Level soil surface

The levelling unit between the tine section and the rear roller ensures the machine leaves a level soil surface. This creates consistent conditions for the next process. Levelling is carried out using concave discs or levelling tines, which are adjusted automatically by the rear roller when the working depth is changed. The position of the unit between the tine section and the rear roller can be adjusted.



Levelling discs

The levelling unit with concave discs is standard on SYNKRO universal cultivators. These operate reliably and blockage-free, even when handling high volumes of organic material. The 400 mm scalloped discs are mounted as standard on elastic rubber elements to protect them against overload. The disc bearings are sealed, reducing maintenance requirements.

Levelling tines

A levelling unit with levelling tines is available as an option. This lighter alternative to concave discs is particularly suitable for locations with light soil types and where there are moderate amounts of harvest residues. The angle and height of the tine unit can be adjusted to get the best working results.

Depth adjustment

The working depth of the levelling unit is adjusted together with the rear roller by the central adjustment mechanism. Being able to adjust the working depth allows the intensity of the levelling effect to be set. On all SYNKRO models with a rigid frame, this is done using a hole matrix on each pair of discs or a hole matrix on the levelling tine carrier. On folding SYNKRO V models, the levelling unit is adjusted centrally for each section of the frame using a turnbuckle accessible from the side of the machine. This ensures quick and convenient adjustment.

Seamless transition between passes

The edging boards and discs available as options on the SYNKRO ensure a neat and tidy finish across the entire width of the machine with a seamless transition between passes. The edging boards or edging discs direct the flow of soil and harvest residues inwards to prevent the formation of ridges.



Edging boards

The edging boards are fitted on both sides, right next to the outermost tines. They prevent material from being ejected from the side of the machine and direct the flow of soil thrown up by the tines straight back into the tine section to be consolidated by the rear roller. To get the best set-up, the edging boards can be adjusted in height, angle and length. If there are any obstacles in the way, they are able to ride upwards and to the side.

Edging discs

The edging discs are mounted on either end of the concave disc levelling unit and actively deflect the flow of soil back under the rear roller. The discs are designed to handle high volumes of organic matter, especially along the edges of fields. Like the discs on the levelling unit, the edging discs are also protected against overload and are height-adjustable. They are also adjusted at the same time as the rear roller. On SYNKRO V models, the edging discs are also telescopic, which allows their position to be adjusted.

Safe during road transport

On SYNKRO models with a rigid frame, the edging boards and edging discs need to be folded upwards so they are within the working width during road transport. On folding models they do not need to be adjusted for road transport.

Flexible in operation

Rear rollers



Extensive range

In addition to depth control, the rear roller is also responsible for achieving the necessary consolidation. Additional crumbling and levelling have a positive effect on the surface structure of the soil. Different soils and soil types have their own specific characteristics. That is why PÖTTINGER offers a wide range of rear rollers, depending on the soil, application and the objective of the tillage pass.

Choice of positions

Thanks to the hook-in mechanism on the rear roller, the gap between the levelling unit and the rear roller can be adjusted easily and with minimal effort. This allows the centre of gravity and underframe clearance of the cultivator to be adjusted to ensure optimum soil flow.

Rear rollers at a glance

	Cage roller 540 mm	Cage roller 660 mm	Double cage roller	Knife ring roller
Consolidation	o	o	o	+
Damp conditions	o	o	o	o
Dry conditions	++	++	++	++
Crumbling effect	+	+	++	++
Load capacity	+	+	++	+
Self-propulsion	++	++	++	+
Suitability for stones	+	+	o	–
Scraper	no	no	no	yes
Weight for 3 m working width	325 kg	425 kg	520 kg	420 kg
diameter	540 mm	660 mm	540 mm, 420 mm	540 mm

++ = ideally suited, + = well suited, o = suitable, – = not suitable



Working without a rear roller

To promote gas exchange and to benefit from frost heave, leaving open, unconsolidated soil in the autumn before winter dormancy can be a useful tillage strategy. Without a rear roller, the SYNKRO can be used for intensive loosening without consolidation as an alternative to ploughing. This helps to retain organic matter on the soil surface.

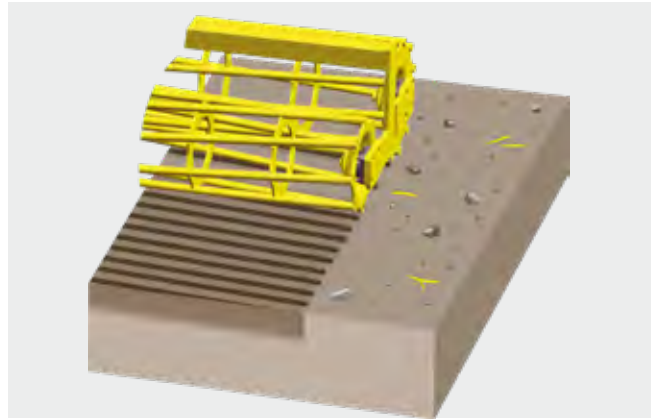
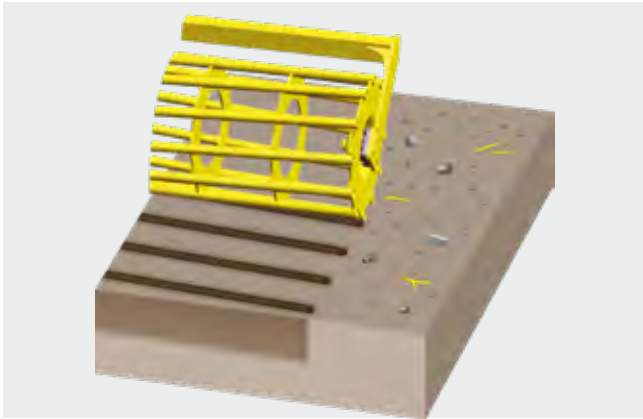
Easy removal

The rear roller on the SYNKRO can easily be removed in just a few simple steps. The levelling unit remains on the machine so that the levelling intensity can still be optimised. The optional depth wheels at the front of the machine control the working depth together with the tractor linkage.

ROTOPACK roller	Pack ring roller	Rubber packer roller	CONOROLL roller	Tandem CONOROLL roller
–	++	++	+	++
0	++	+	++	+
+	++	++	++	++
++	++	++	++	++
+	++	++	+	++
++	++	+	+	++
–	++	0	++	++
no	yes	yes	yes	no
400 kg	595 kg	560 kg	430 kg	685 kg
545 mm	550 mm	590 mm	540 mm	560 mm

Flexible in operation

Rear rollers

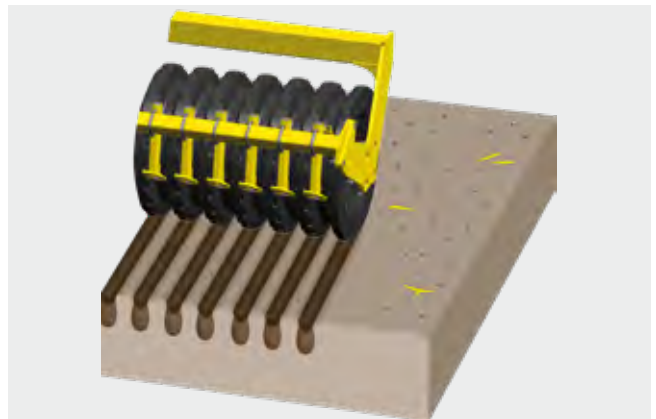
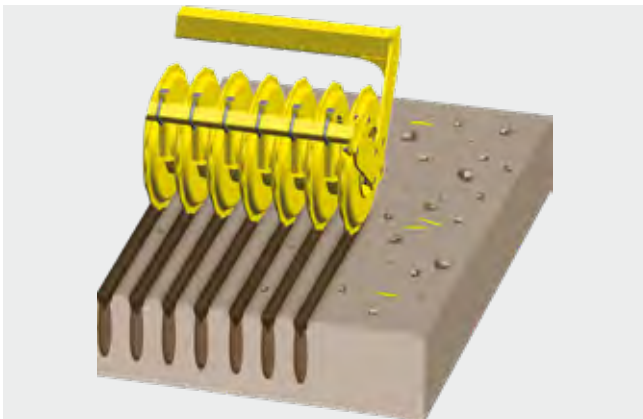


Cage roller

The cage roller is ideal for dealing with dry, non-sticky soils. The strong bars consolidate the soil across the direction of travel, making sure that the roller keeps rotating, while creating a high proportion of fine soil. Cage rollers with a diameter of 540 mm are fitted with eleven horizontal bars; the 660 mm diameter cage roller has twelve bars.

Double cage roller

The double cage roller combines two floating rollers for optimum ground tracking; one with a diameter of 540 mm at the front and the second with a diameter of 420 mm at the rear. The additional roller increases the crumbling effect and the proportion of tilth. At the same time, load-bearing capacity increases thanks to the larger contact area.

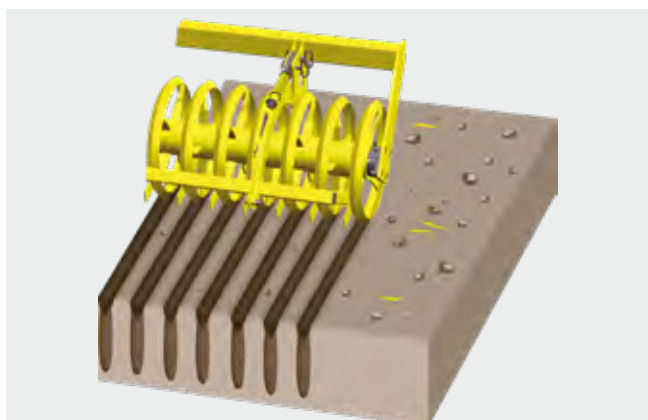


Pack ring roller

The pack ring roller with closed packer rings creates consolidated ridges. The roller delivers solid working results in stony soil and on damp ground, as well as where there are high volumes of organic matter, with scrapers between the rings providing additional support. In dry conditions, the deep consolidation has a positive effect on seed germination conditions.

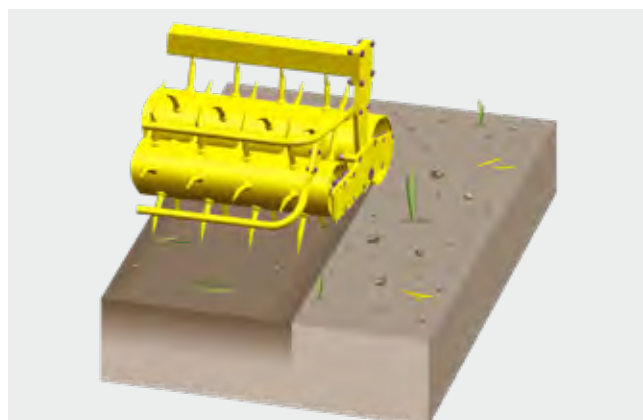
Rubber packer roller

The rubber packer roller is a versatile implement that is able to handle a wide assortment of highly variable soils. The profile of the roller produces consolidated ridges and has a large area of contact with the soil that provides a good load-bearing capacity. The scrapers are coated and ensure neat and tidy operation.



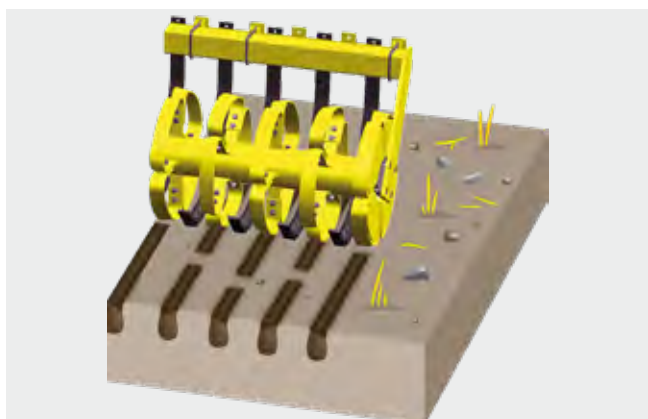
Knife ring roller

The knife ring roller features wedge-shaped rings that produce a good crumbling and packing effect. The knives between the rings clean the gaps between them and break up clumps. Consolidated ridges have the advantage that water can be absorbed better. The right choice for dry and heavy soil.



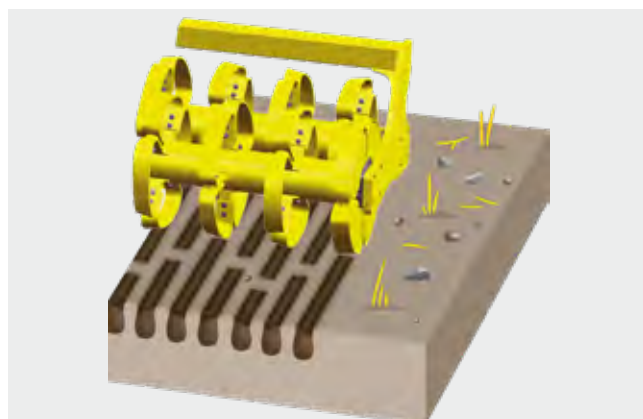
ROTOPACK roller

The ROTOPACK roller is fitted with six rows of harrow tines arranged in a helix. These mix the soil intensively and convey weeds and harvest residues to the surface. Weeds wilt more quickly and the soil remains covered. The roller is suitable for light to heavy, non-sticky soils. The position of the rear roller can be adjusted.



CONOROLL roller

The rings on the CONOROLL roller consist of four conical segments bolted together that are alternately angled to the left and right. The pattern of indents created by the conical segments causes rainwater to seep away gradually rather than allowing it to run off the soil surface. Water can be absorbed more effectively by the loosened soil between the indents. Spring-mounted scrapers between the rings contribute to the production of fine soil.



Tandem CONOROLL roller

Like the single CONOROLL roller, each ring on the tandem CONOROLL roller consists of four segments, two angled to the left and two angled to the right. Each segment creates an indentation in which rainwater can seep into the soil before it runs off the surface. As a tandem roller, it provides an impressive load-bearing capacity, even on lighter soils, and has good self-cleaning characteristics. The amount of float and angle of the rear roller are adjustable.

Flexible in operation

Levelling tines



Removing soil from deposited plants and weeds

To control weeds and unwilted cover crops effectively, a layer of plant and root residues needs to be deposited on the surface of the soil. The optional tine harrow plays a vital role here. In addition to depositing the organic matter on the surface, it also removes soil adhering to the roots. Stubble cultivation helps to distribute organic matter across the soil surface.



Rear harrow

The optional rear harrow with a tine diameter of 12 mm can be mounted behind the rear roller to leave a finely crumbled surface that provides the best germination conditions for seeds and volunteers. At the same time, the rear harrow combs out roots and plant residues pressed into the soil by the rear roller and distributes them across the surface to dry out. What is more, the structure left by the rear roller is levelled out to leave finely crumbled soil on the surface. Capillary action in the topsoil is reduced as a result, which helps to minimise evaporation losses.

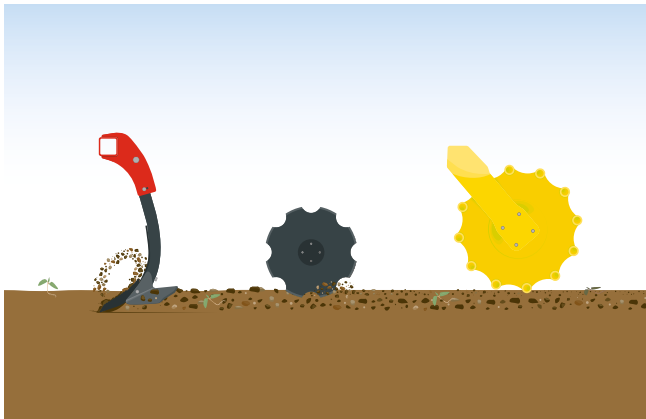
Precision adjustment

Height and position can be easily adjusted using a hole matrix to set the aggressiveness of the rear harrow. This level of precision adjustment helps achieve the best working results.

Flexible in operation

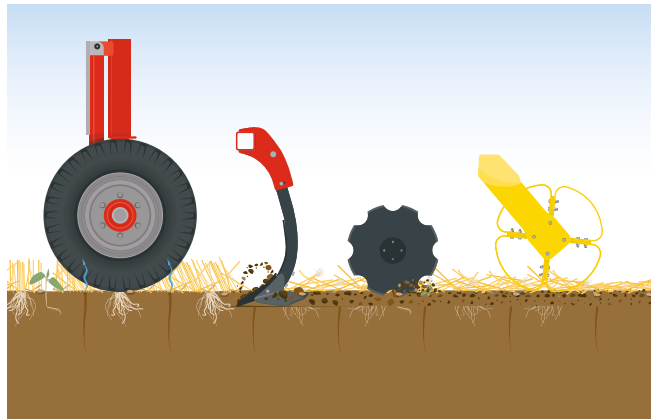


The wide choice of equipment options makes the SYNKRO an extremely versatile tillage tool. The spectrum of applications ranges from stubble cultivation and seedbed preparation to deeper, soil-loosening tillage down to a crumb depth of 30 cm. Just some of the possible applications are represented below.



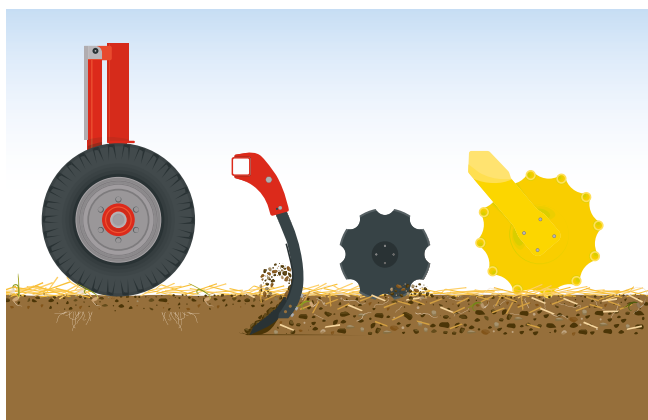
Seedbed preparation in the spring

During seedbed preparation, the objective is to create an even, finely crumbled and optimally reconsolidated topsoil. At the same time, drying of the soil is promoted and weeds controlled. If fertiliser has been distributed on the surface, that can also be incorporated.



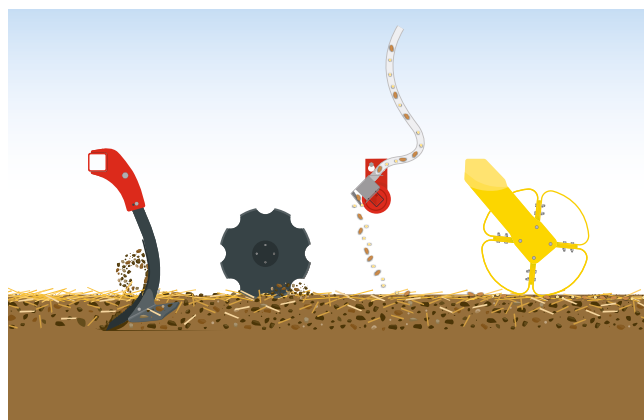
Shallow stubble cultivation

The focus of shallow stubble cultivation starting at a depth of 5 cm is to slice through the stubble, weeds and capillaries over the entire surface. This can help to prevent wasteful water evaporation. At the same time, seeds from weeds and volunteers are encouraged to germinate. Harvest residues are incorporated and inoculant bacteria are activated to start the decomposition process. Several shallow passes can contribute to long-term weed control.



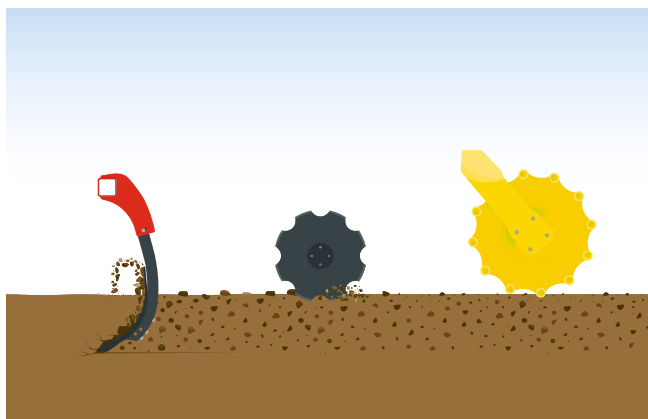
Medium-depth stubble cultivation

Medium-depth stubble cultivation with the SYNKRO combines loosening the soil with intensive mixing of harvest residues and direct weed control by covering germinated plants with soil. Mixing the harvest residues with soil promotes rapid decomposition of the organic matter.



Sowing a cover crop

Using the flexible TEGOSEM hopper, a cover crop can be planted during the same tillage pass. Straw residues and weeds are mixed in, the soil is loosened, crumbled, levelled and consolidated with the seed. Depositing the seed material on the surface of the soil over the full width of the machine ensures fast and full-surface coverage.



Loosening to crumb depth

The SYNKRO can loosen the soil to a working depth of 30 cm. Depending on the tillage strategy, narrow points are available for strip-tilling compacted areas with minimal soil movement, and chisel points can be implemented for deep and intensive incorporation of harvest residues.



Working without a rear roller

Deploying the machine without a rear roller in autumn promotes gas exchange in the soil and takes advantage of frost heave thanks to the open, unconsolidated soil surface. Without a rear roller, the SYNKRO can be used for intensive loosening without consolidation as an alternative to ploughing. This helps to retain organic matter on the soil surface.

Cost effective and convenient



Durability

When cultivating the soil, the tillage tools are subject to unavoidable wear. This is influenced primarily by the soil texture, with its varying grain size patterns, and the mineral composition of the soil. In addition, soil density and soil moisture play an important role. In terms of the ploughing process, the driving speed and the ploughing depth also affect the rate of wear of the wear parts.

Points and shares change their shape and geometry as they become more affected by wear, which can also influence the soil entry angle, the tillage effect and pulling power requirements. Tillage tools are available in different grades to match the soil type and tillage strategy. On PÖTTINGER tillage tools, tungsten carbide coatings are applied to DURASTAR and DURASTAR PLUS parts to guarantee the highest possible wear protection for more consistent work quality and an extended service life.

Combining passes

Efficiency and the ability to combine passes is becoming more and more important due to increasingly shorter time frames for getting out into the field. With the flexible TEGOSEM hopper or mechanical DRILLBOX, seed material and micro-granules can be distributed during tillage to save an additional sowing step.

While making it easier to stay on schedule for planting cover crops after harvest, it also has a number of agronomic advantages. By establishing ground cover rapidly and extensively, wasteful water evaporation is reduced. Likewise, excess nitrogen in the soil is taken up by the plants, reducing the risk of leaching. Improving and stabilising the soil structure with organisms can increase water infiltration at the same time as reducing the risk of erosion.



Versatile mounting options

To ensure the machine is attached to the tractor correctly, a range of mounting positions and mounting categories are available. There are two mounting heights provided for the lower linkages. There are two fixed holes and one slotted hole provided for attaching the top link.

The 2-gang SYNKRO can be mounted using categories 2 and 3N. For the rigid 3-gang version, category 3 is also an option. All SYNKRO V models are available in attachment categories 3N, 3 and 4N.

Space-saving storage

With the optional parking stands, SYNKRO V models can be stored safely and securely in the transport position to save space. The sturdy stands also allow the machine to be parked on uneven ground. The parking stands remain attached to the machine while it is in operation.

Simple hydraulics

The standard version of the rigid models does not need any hydraulic connections. A double-acting connection is required for folding SYNKRO V models. The transport interlock engages by means of a shut-off valve.

Both the optional hydraulic working depth adjustment system and the optional depth wheels require an additional double-acting spool valve. A hose holder is included at the front of the machine to provide tidy storage.

Cost effective and convenient

Wear parts



Dialled-in durability

SYNKROs can be fitted with a choice of tillage tools in different quality grades to match the soil conditions and the application.

1 CLASSIC chisel points

The CLASSIC chisel point with a width of 80 mm impresses in action due to its tapered point with a good soil penetration characteristics even in very hard soils. The flat face of the point lifts the soil between the tip and the optional wings.



2 DURASTAR chisel points

The specially shaped, tapered point ensures low pulling power requirements while achieving effective mixing. The chisel point is equipped with wear-resistant tungsten carbide plates. These ensure a long service life, retain the shape of the point and maintain its sharp tip.

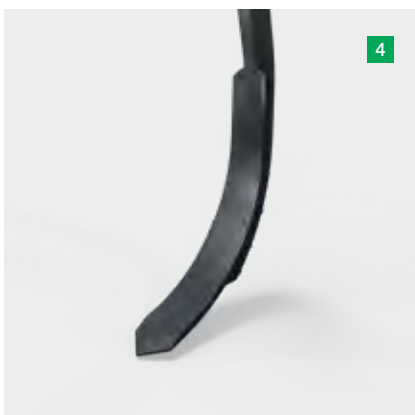
The front face of the point has a scale shape. The resulting soil-on-soil contact reduces frictional wear and protects the substrate material. DURASTAR chisel points last approximately four times longer than CLASSIC points. There is a recess to create a smooth transition between the point and the shin to optimise soil flow.



3 DURASTAR PLUS chisel points

The principle geometry of the DURASTAR PLUS chisel point is similar to that of the DURASTAR version. On this version, the carbide plates cover even more of the substrate material. In addition, the blade of the point is completely covered with a tungsten carbide layer, which is ideal for stony conditions. The extension of the back reduces friction behind it so the point retains a sharp tip for a long time.

Compared to the DURASTAR point, this version offers around twice the service life. These points also have a recess at the shin for a smooth transition.



4 Curved shins

The chisel points are always used together with curved shins. The curved shape deflects the flow of soil through the tine section, ensuring uniform and thorough mixing.

5

5 CLASSIC wing share

The CLASSIC wing shares overlap sufficiently to ensure that the entire surface of the soil is moved. The width of the share is determined by the tine spacing. The wing can be attached to the point in two different positions using one bolt. As a result, the angle in relation to the ground can be optimised to achieve a shallow or intensive mixing effect.

6

6 DURASTAR wing share

The wear resistance of the DURASTAR wing is increased along the back of its cutting edge with a thermal deposition of tungsten carbide particles. Armouring the wing share in this way retains its shape for longer and protects it against stone impact. This doubles its service life compared to the CLASSIC wing share.

7

7 DURASTAR PLUS wing share

With the tungsten carbide plates on the cutting edge, the wear resistance of this wing share is increased fourfold. The original geometry of the wing is retained for a long time so that reliable movement of the soil is guaranteed.

Comparison of wing-share widths

	SYNKRO 2 rows	SYNKRO 3 rows	SYNKRO V 3 rows
CLASSIC	445 mm	290 mm	350 mm
DURASTAR	450 mm	290 mm	350 mm
DURASTAR PLUS	–	290 mm	330 mm

8

8 DURASTAR narrow point

The 40 mm wide DURASTAR narrow point is especially designed for deep loosening to break up compaction without churning the soil. The extended length of the point means that no additional wings are required. The tip of the point is fitted with tungsten carbide plates. Reliable soil penetration and an extended service life are ensured as a result.

8

As with the DURASTAR and DURASTAR PLUS chisel points, part of the face has a scaled surface. This protects the steel by reducing frictional wear due to the soil-on-soil contact.

2-gang linkage-mounted universal cultivators





2-gang linkage-mounted universal cultivators

SYNKRO 2521, 2521 N, 3021, 3021 N



Compact with two gangs

The 2-gang linkage-mounted SYNKRO universal cultivators have an impressively compact design. Thanks to the short length of these cultivators, they are perfect for tractors with low lifting capacity and for lighter-weight tractors. In the field, the 2-gang cultivator is particularly smooth running. Thanks to the high underframe clearance of 80 cm, large quantities of organic material can be handled no problem.

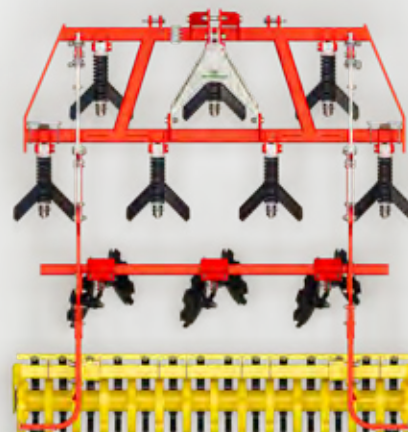
A proven addition

The SYNKRO with a two-gang frame is an ideal addition to conventional soil preparation systems. Used in conjunction with the plough, the two-gang universal cultivator is ideal for cost-effective and efficient farm mechanisation. It really comes into its own on light to medium-heavy soils, from stubble cultivation to primary tillage of the full depth of the tilth.



SYNKRO 2521, SYNKRO 2521 N

With six tines and a tine spacing of 42.5 cm, the SYNKRO 2521 and SYNKRO 2521 N models with NOVA stone protection system have a working width of 2.5 m. This makes them particularly suitable for small and medium-sized farms with tractors in the power class of 70 hp and above.

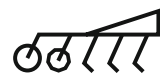


SYNKRO 3021, SYNKRO 3021 N

The working width of 3 m on the SYNKRO 3021 and SYNKRO 3021 N models features seven tines spaced 42 cm apart. Because there is an uneven number of tines, they are distributed symmetrically across the frame. This ensures that the pull line is centred. These models are suitable for tractors with at least 90 hp.

3-gang linkage-mounted universal cultivators





3-gang linkage-mounted universal cultivators

SYNKRO 3031, 3031 N, 3531, 3531 N



Versatile with three gangs

SYNKRO cultivators with three gangs feature a narrower tillage tool spacing to cover universal applications. That is why they are suitable for shallow working as well as primary tillage, including a range of applications such as stubble cultivation, seedbed preparation, and deep loosening.

The narrow tine spacing mixes the soil intensively to incorporate organic materials and produce a crumbly tilth with homogeneous working results.

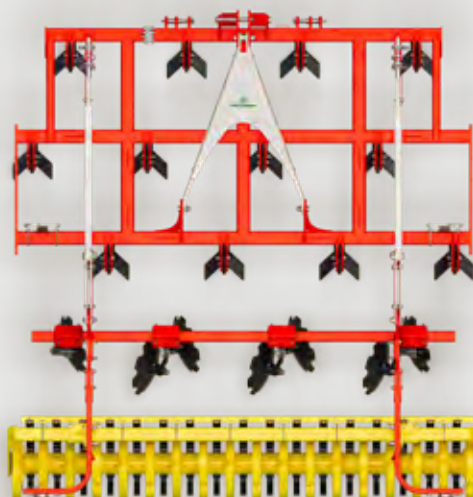
Universal solution

The 3-gang linkage-mounted cultivators set the benchmark for the best working results in the universal cultivator sector. They provide total reliability and are ideally suited for conventional soil preparation as a complement to the plough. At the same time, the 3-gang universal cultivators are among the key machines in min-till mulch drilling systems. Their versatility and capability to be used anywhere make them indispensable in modern arable farming.



SYNKRO 3031, SYNKRO 3031 N

The 3 m wide SYNKRO 3031 and SYNKRO 3031 N have a minimum power requirement of 110 hp. With a configuration of eleven tines, they achieve a particularly close tine spacing of 27 cm. Folding the edging tools up out of the way maintains the transport width of 3 m.



SYNKRO 3531, SYNKRO 3531 N

The SYNKRO 3531 and SYNKRO 3531 N models have a working width of 3.5 m and a rigid frame. These are the ideal machines in terms of high working width and low purchase cost, featuring a robust and simple frame design without a folding mechanism. For road transport, the outer width is 3.5 m.

The twelve tines provide a tine spacing of 28.5 cm. A tractor with at least 130 hp is needed to ensure reliable operation.

3-gang linkage-mounted universal cultivators

SYNKRO V 4031, V 4031 N, V 5031, V 5031 N



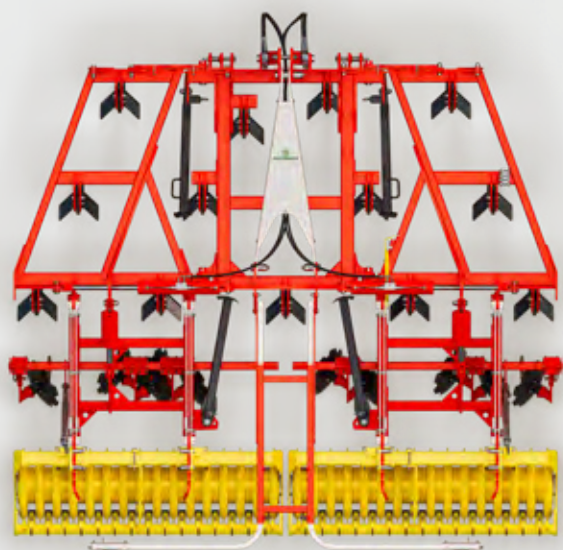
Powerful 3-gang models

The SYNKRO V universal cultivators with three gangs and folding frames are the ideal companion for high output tillage. Thanks to their close tine spacing, they are suitable for a wide range of applications. They are great at shallow to deep tillage, and achieve optimal results with intensive mixing of the soil.

The frame has been optimised for directing force and weight, and consists of a fixed central section with two side frame sections on which the tines are arranged symmetrically. This prevents side pull and reduces the power requirement of the tractor. Consequently, the tillage tools wear more evenly.

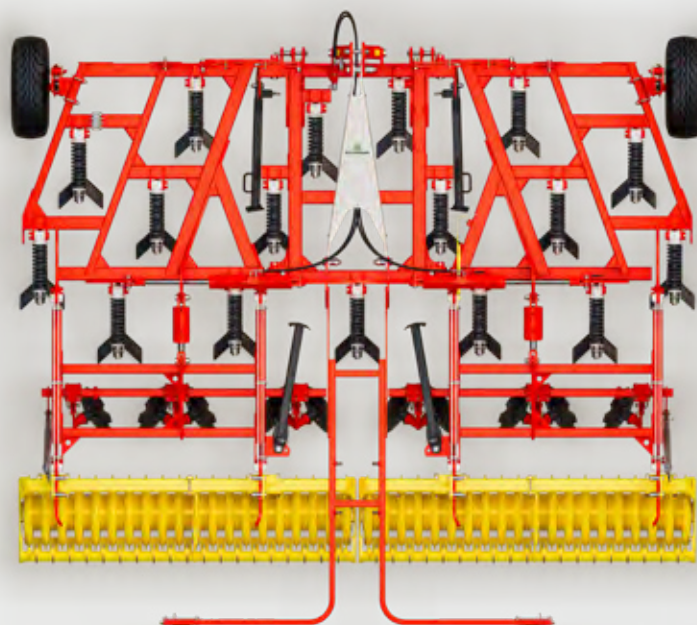
Space-saving storage

With the optional parking stands, all folding SYNKRO V models can be stored safely and securely in the transport position to save space. The sturdy stands also allow the machine to be parked on uneven ground. The parking stands remain attached to the machine while it is in operation. That means they are always ready for use.



SYNKRO V 4031, SYNKRO V 4031 N

The 13 tines result in a tine spacing of 30.8 cm across the 4 m working width of the SYNKRO V 4031 and SYNKRO V 4031 N models. The tines are arranged symmetrically within the folding tine sections, with the outermost tine situated on the last gang to provide the best edge levelling. The 4 m wide universal cultivators have a power requirement of 150 hp.



SYNKRO V 5031, SYNKRO V 5031 N

The SYNKRO V 5031 and SYNKRO V 5031 N have a working width of 5 m and are equipped with 17 tines spaced 29.4 cm apart. The configuration of the tines on the frame sections is also symmetrical. To optimise soil flow, the two outermost tines on each of the frame sections are located at the front. This increases the clearance between the tines.

Compatible products

TEGOSEM



SYNKRO and TEGOSEM 200

The seed material or micro-granules are distributed over the surface by the flexible TEGOSEM hopper, which has outlets close to the ground that spread over a wide area. The rear roller then immediately consolidates the soil and presses the seed down, so the seed is covered for optimum germination conditions. This is a good way to get a cover crop off to a quick start efficiently during the same pass as the tillage. The working time and fuel needed to do this are saved by reducing the number of passes.

Intelligent systems

The TEGOSEM flexible hopper has a capacity of 200 litres. Metering is controlled electrically according to the driving speed. Application stops and starts again automatically when turning at the headland. Metering shafts are easily interchangeable to adapt to different types of seed material.

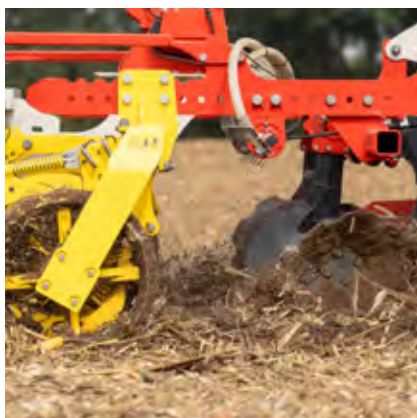
Conveying the material to the distribution system is done pneumatically through hoses. At the distribution system, the material is distributed evenly over the soil by the distribution plates.

A clear and intuitive control terminal is available for operating the flexible TEGOSEM hopper. This is used to optimise the settings according to the operating conditions.



Precision metering

Two different sizes of metering shaft are provided as standard to ensure precision distribution of the seed material or micro-granules. The driving speed controls either the fine or coarse metering shaft, even when low application rates are required. Changing between metering shafts is quick and easy without the need for tools. Before starting work, the system is optimised using a calibration test.



Reliable transport

The material is transported pneumatically through eight spiral hoses from the metering system to the distribution plates. On the SYNKRO, the fan is driven electrically. This provides a continuous flow over the entire length of the hose for reliable transport without causing blockages.

Uniform distribution

Surface application and distribution is carried out by baffle plates close to the ground. This guarantees full surface application regardless of the wind conditions. The distributor plates are adjusted by changing the shaft angle to vary the distribution range.

The shaft with the baffle plates is positioned in front of the rear roller. As a result, the seed is immediately pressed into the soil. Soil contact is established and capillary action for successful seed emergence starts straight away.

Simple operation

The different functions and settings of the flexible TEGOSEM hopper are operated using its dedicated control unit. The settings for precision metering are entered and the calibration test is started at the push of a button.

Sensor signals needed during operation, such as the ground speed and the position of the lower linkage, can be obtained from the tractor. If the tractor cannot provide these signals, add-on sensors are available. For increased convenience, the flexible TEGOSEM hopper is equipped with additional features, including a level sensor.

Equipment options



CLASSIC chisel points



DURASTAR chisel points

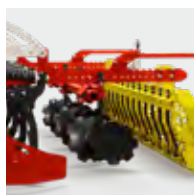


DURASTAR PLUS chisel points

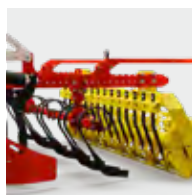


DURASTAR narrow points

SYNKRO 2521, 2521 N	■	□	□	□
SYNKRO 3021, 3021 N	■	□	□	□
SYNKRO 3031, 3031 N	■	□	□	□
SYNKRO 3531, 3531 N	■	□	□	□
SYNKRO V 4031, V 4031 N	■	□	□	□
SYNKRO V 5031, V 5031 N	■	□	□	□



Levelling discs



Levelling tines

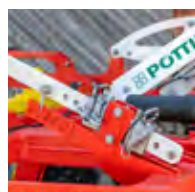


Edging board

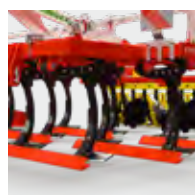
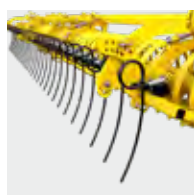


Edging disc

SYNKRO 2521, 2521 N	■	□	□	□
SYNKRO 3021, 3021 N	■	□	□	□
SYNKRO 3031, 3031 N	■	□	□	□
SYNKRO 3531, 3531 N	■	□	□	□
SYNKRO V 4031, V 4031 N	■	□	□	□
SYNKRO V 5031, V 5031 N	■	□	□	□

**CLASSIC
wing share****DURASTAR
wing share****DURASTAR PLUS
wing share****Mechanical depth
setting****Hydraulic depth
setting****Depth wheels
260/70-15.3**

☐	–	☐	■	☐	–
☐	–	☐	■	☐	–
☐	☐	☐	■	☐	☐
☐	☐	☐	■	☐	☐
☐	☐	☐	■	☐	☐
☐	☐	☐	■	☐	☐

**Rear harrow****TEGOSEM 200****DRILLBOX****Tine transport
protection****Parking stands****Warning sign
and lighting**

☐	☐	☐	☐	–	☐
☐	☐	☐	☐	–	☐
☐	☐	☐	☐	–	☐
☐	☐	–	☐	–	☐
☐	–	–	☐	☐	☐
☐	–	–	☐	☐	☐

Configure your own machine

N = NOVA

■ = standard, □ = optional, – = not available

Technical data

	SYNKRO 2521 / SYNKRO 2521 N	SYNKRO 3021 / SYNKRO 3021 N	SYNKRO 3031 / SYNKRO 3031 N
Working width	2.5 m	3 m	3 m
Number of gangs	2	2	3
Number of tools	6	7	11
Tool spacing	42.5 cm	42 cm	27 cm
Wing share width			
CLASSIC	445 mm	445 mm	290 mm
DURASTAR	450 mm	450 mm	290 mm
DURASTAR PLUS	–	–	290 mm
Gang spacing	75 cm	75 cm	75 cm
Underframe clearance	80 cm	80 cm	85 cm
Number of levelling discs	5	6	6
Leg dimensions	70 mm x 25 mm	70 mm x 25 mm	60 mm x 25 mm
Triggering pressure			
Shear bolt	2500 kg / –	2500 kg / –	2500 kg / –
NOVA mechanical stone protection	– / 550 kg	– / 550 kg	– / 550 kg
Triggering pressure		– / 550 kg	– / 550 kg
Tyres on depth wheels	–	–	260/70-15.3
Mounting category	Cat. 2, Cat. 3N	Cat. 2, Cat. 3N	Cat. 2, Cat. 3N, Cat. 3
Transport width	2.5 m	3 m	3 m
Transport length ¹	3.2 m	3.2 m	4.2 m
Basic weight ²	690 kg / 930 kg	795 kg / 1050 kg	1020 kg / 1390 kg
Weight of rear roller			
Cage roller 540 mm	280 kg	325 kg	325 kg
Cage roller 660 mm	317 kg	425 kg	425 kg
Double cage roller	–	520 kg	520 kg
Knife ring roller	360 kg	420 kg	420 kg
ROTOPACK roller	–	400 kg	400 kg
Pack ring roller	500 kg	595 kg	595 kg
Rubber packer roller	–	–	–
CONOROLL roller	370 kg	430 kg	430 kg
Tandem CONOROLL roller	–	685 kg	685 kg
Power requirement	70 hp – 130 hp	90 hp – 170 hp	110 hp – 210 hp

¹ Minimum transport length including rear roller, excluding lights and levelling tines

² Basic weight excluding rear roller and additional equipment

Cat. 2 = dia. 2 / width 2, Cat. 3N = dia. 3 / width 2, Cat. 3 = dia. 3 / width 3, Cat. 4N = dia. 4 / width 3

SYNKRO 3531 / SYNKRO 3531 N	SYNKRO V 4031 / SYNKRO V 4031 N	SYNKRO V 5031 / SYNKRO V 5031 N
3.5 m	4 m	5 m
3	3	3
12	13	17
28.5 cm	30.8 cm	29.4 cm
290 mm	350 mm	350 mm
290 mm	350 mm	350 mm
290 mm	330 mm	330 mm
75 cm	75 cm	75 cm
85 cm	85 cm	85 cm
7	8	10
60 mm x 25 mm	60 mm x 25 mm	60 mm x 25 mm
2500 kg / – – / 550 kg	2500 kg / – – / 550 kg	2500 kg / – – / 550 kg
– / 550 kg	– / 550 kg	– / 550 kg
260/70-15.3	260/70-15.3	260/70-15.3
Cat. 2, Cat. 3N, Cat. 3	Cat. 3N, Cat. 3, Cat. 4N	Cat. 3N, Cat. 3, Cat. 4N
3.5 m	3 m	3 m
4.2 m	4.2 m	4.2 m
1160 kg / 1540 kg	1740 kg / 2290 kg	2105 kg / 2750 kg
–	480 kg	619 kg
–	610 kg	766 kg
–	760 kg	880 kg
470 kg	610 kg	720 kg
–	–	–
710 kg	820 kg	1010 kg
–	–	1000 kg
510 kg	620 kg	740 kg
855 kg	950 kg	–
130 hp – 240 hp	150 hp – 300 hp	200 hp – 360 hp



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Info on the product range

MyPÖTTINGER provides you with machine-specific information for all machines from year of build 1997 onwards.

Scan the QR code on the machine's data plate with a smartphone or tablet or go to www.mypoettinger.com and enter the machine number from the comfort of your own home. You will immediately receive all the information on your machine such as the instruction manual, equipment options, brochures, photos and videos.

If you want it to last,
you want the
original.



This QR code takes you directly
to the website.

 **PÖTTINGER**
Original Parts

ORIGINAL PARTS



Regardless of whether you've got a new machine or a classic, our spare parts logistics centre stocks over 55,000 parts to give our machines an extended service life. Thanks to the many local warehouses in 13 countries and a large network of dealerships, original parts are available in over 60 countries.



Finding the right parts is easy

Our digital services are available free of charge and have largely replaced paper-based spare parts lists:

- www.mypoettinger.com provides free access to machine documentation on your smartphone and tablet.
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No worries with the original

Too short, wrong hole pattern, wears out quickly? You don't get these problems with an original part. And there are many more advantages:

- Immediate and long-term spare parts availability
- Maximum service life
- Perfect fit
- Attractive and competitive prices



More success with PÖTTINGER

- Your reliable partner, as a family-owned company since 1871
- Specialist for arable and grassland
- Future-safe innovation for outstanding working results
- Roots in Austria – at home throughout the world

Versatility that runs deeper

- Perfect soil entry and best mixing effect thanks to adjustable tillage tools
- Versatile applications thanks to a choice of points and shares, a removable rear roller, and a wide range of equipment options
- Perfect ground tracking with optional depth wheels
- Easily accessible and convenient to operate

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