Trailed shallow cultivator
PLANO

PÖTTINGER

Precision in every centimetre

97+219.EN.1024

Precision in every centimetre

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.

It is a well known credo that less is often more. The PLANO trailed shallow cultivator also follows this line of thinking. Because it moves the whole surface, this shallow form of tillage is perfect for conserving ground water, mechanically controlling weeds, and incorporating cover crops. The PLANO is also suitable for primary tillage up to a working depth of 15 cm.

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The best soil

For optimum plant growth

Soil is the source

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

Healthy soil with a natural 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. Shallow cultivation conserves the soil structure stabilised by plant roots and soil organisms in the deeper soil layers. It also causes less disturbance to soil life habitat, as there is much less deep movement of the soil.

Conserving soil water

Water is the most important site-specific factor in arable farming. Especially during dry periods, the availability of water is essential for germination, plant development and crop yield. Differences are particularly noticeable from one location to another and it is essential that cultivation methods are implemented that conserve water.

With the help of shallow tillage and a crumbly soil surface, the capillary rise of water to the soil surface can be interrupted. This keeps the water in the soil and prevents unproductive water evaporation while the soil is ready to be planted. That is how moisture can be retained in the soil so that it is available to the plants.

In addition, ultra-shallow tillage minimises the volume of surface loosened soil that causes evaporation. This also saves valuable soil water.

Conserving the soil

Shallow tillage ensures that organic matter is distributed on the soil surface, because it is not incorporated into deeper layers. This ground cover protects the soil from direct sunlight, creates shade and conserves the soil water.

Protection against erosion is just as important. Even on slopes with a gradual gradient, there is risk of soil erosion in the event of heavy rainfall. The organic material on the surface dissipates the energy of the water droplets so that the soil beneath is not directly exposed to the full force of the rain. The soil particles are protected from extreme weather conditions. This also prevents ponding and conserves the surface structure. The natural infiltration capacity of the soil is retained. In addition, the material on the surface significantly slows down rainwater run-off and prevents the water from displacing the soil.

Sustainable and cost effective

"As shallow as possible, as deep as necessary" is one of the principle rules of tillage. With the PÖTTINGER shallow cultivator, the whole surface can be moved even at the shallowest working depth. This means that less soil needs to be moved. This saves fuel and time. For every centimetre of working depth saved, around 100 to 160 tonnes of soil per hectare less has to be moved, depending on the density of the soil.

New strategies are needed to cope with the increasingly stringent regulations in chemical plant protection and resistance of weeds to herbicides. Shallow yet full-surface tillage plays an important role here. Weeds are encouraged to germinate quickly by the shallow tillage so that they can be controlled in a further step. Weed control measures with repeated cutting are also possible for the sustainable reduction of root weeds.

Ingenious precision

Shallow to medium depth tillage

The design of the frame, tines, coulter tools and precise depth control across the entire working area combine perfectly to deliver full-surface shallow tillage. The PLANO unites all these features while remaining compact.

The trailed shallow cultivator from PÖTTINGER ensures full-surface movement, even at working depths as shallow as 3 cm. But shallow is not the only thing the PLANO can do. Working depths of up to 15 cm are possible too. The range of tasks it can perform is therefore wide, providing completely flexible operation all the year round.

Neat and tidy

Uniform and optimised working results across the entire width of the machine are crucial for a successful tillage pass. To prevent side pull and the resulting disadvantages, the tines on the frame sections are arranged symmetrically either side of the central pull line. There are also advantages in terms of running costs thanks to lower fuel consumption and uniform wear.

The optimised tine configuration in combination with the 6-row layout and the large underframe clearance ensures there is plenty of space between the tines and the frame. This ensures blockage-free operation even with high volumes of organic material.

Precision guided

Precise depth control and maintaining the set depth is essential, especially during shallow cultivation. That is how the capillaries, weeds, volunteers and cover crops can be cut as shallow as possible over the entire surface so that the roots are cleanly separated from the shoot and vegetation point. This, as well as ensuring that as little soil as possible remains on the plants above ground, is a sure way of making sure unwanted plants perish.

Uniform cultivation across the entire width of the machine is ensured to make sure that all plants and weeds are accounted for. The PLANO achieves the best ground tracking by controlling the working depth using a choice of depth wheels at the front, and the roller to the rear. For maximum convenience, the working depth is simply adjusted hydraulically from the tractor cab.

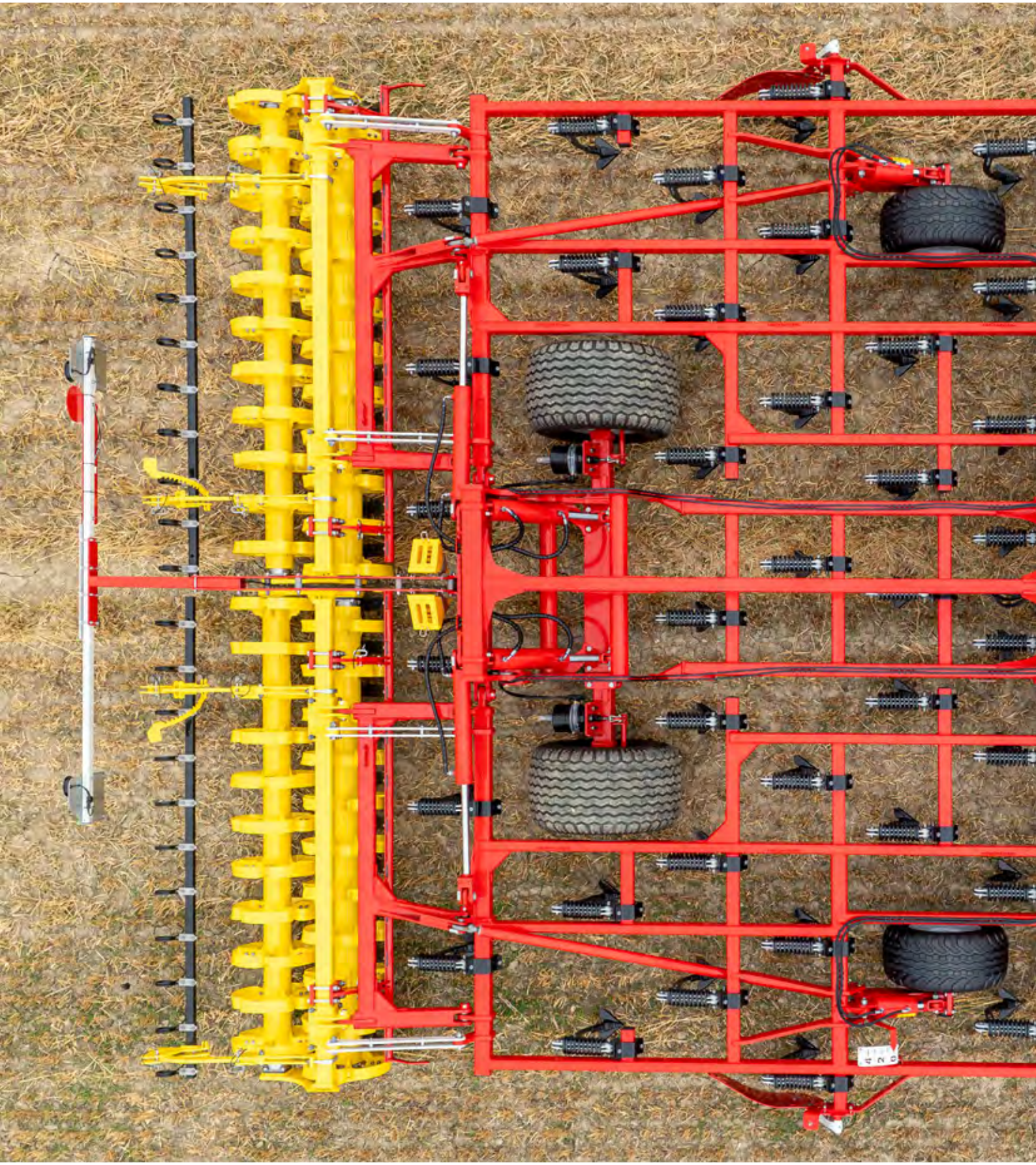
Choice of tillage tools

At the heart of every PLANO is the tine system. The arrangement and properties of the tines greatly influence the tillage process and the working results. This is why the PLANO is equipped with a tine system that stays in line during operation.

The tine system can be equipped with DURASTAR PLUS duck foot shares or DURASTAR chisel points. The shape of the duck foot shares makes them ideal for shallow, full-surface movement with a slicing action. The chisel points are particularly suitable for deeper tillage and intensive mixing, although they can also be used for shallow stubble cultivation.

Ingenious precision

Tine configuration



Large clearance

The PLANO tine section consists of a fixed centre section with a folding frame section on each side and has a 6-gang configuration. The gang beams are spaced 65 cm apart for a compact design. A central through-way of 73 cm with an underframe clearance of 60 cm enables blockage-free tillage even with high volumes of organic material.

Symmetrical configuration

The tines are arranged symmetrically on the six beams either side of the central pull line. Crabbing is prevented as a result. This means less pulling power is needed, the tillage tools wear evenly, the implement delivers consistent working results and its entire working width is utilised, along with precise adjacent passes.

The PLANO VT 6060 is equipped with 37 tines across its six metre working width mounted on clamped brackets. The tines are spaced at 16.2 cm for a very good crumbling effect, mixing and levelling. The optimised configuration of the tillage tools amplifies this effect. The close tine spacing also has a positive effect on slicing through root balls in very heavily rooted plants.

Ingenious precision

Tine system

Compression spring tines

These rigid tines are protected against overloading by a compression spring. If the tines collide with obstacles, the stone protection system responds at a triggering force above 200 kg. When it is triggered, the tine has a trip clearance of up to 19 cm in order to create sufficient clearance over large rocks and other obstacles.

Straight down the line

The outstanding advantage of these pre-tensioned tines is that they work in a straight line no matter what. They are configured in such a way that lateral movement is prevented, thanks also to the width of the clamped mounting brackets. As a result, the tines and shares always stay in position, and yet there are no blockages from plant residues. This characteristic enables precise, full surface movement during reliable shallow work. By maintaining the set working depth, the full potential of ultra-shallow tillage can be utilised. In addition, the overlap is constant with duck foot shares to ensure complete movement of the soil surface across the full width of the machine.

For minimum depth

For stubble cultivation and simultaneous control of problematic weeds, the PLANO moves the full surface area of the soil even at a minimum working depth. As a consequence, only a few roots remain on the above-ground plant material, making further growth or regrowth virtually impossible. The plants inevitably perish. This effect is also put to good use when incorporating greening crops and cover crops.

Overview of compression spring tines

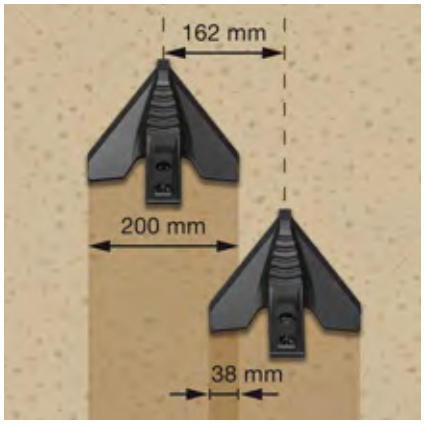
- No line deviation
- Consistent working depth
- Exact overlap
- Stone protection with 200 kg triggering pressure
- 19 cm trip clearance
- Reliable working results down to a depth of 15 cm

Ingenious precision

Shares

Shallow working duck foot shares

Full surface shallow slicing is the aim of many cultivation steps in arable farming. The geometry of the shares and the angle they are set in relation to the soil are important factors in making sure that this happens reliably. Moreover, these duck foot shares are 20 cm wide.



Precise overlap

With a tine spacing of 16.2 cm, there is an overlap band of 3.8 cm on either side that is processed twice. That is how even stubborn weeds and plants are reliably cut right through. This can reduce the use of herbicides for weed control. Due to the durability of the duck foot shares in terms of wear, the extent of the overlap has been optimised in terms of the resistance generated in the soil. This results in a lower pulling power requirement, as well as less fuel consumption and wear. In addition, the shares remain at a constant depth in the soil thanks to the lower soil resistance.

Optimised mixing performance

The duck foot shares are set at a slightly aggressive angle to ensure a sufficient mixing effect during deeper tillage, in addition to the shallow slicing action achieved nearer the surface. This means that these shares can also be used on passes after the first stubble cultivation step. Mixing and covering the organic material with soil, and thus with inoculant bacteria and fungi, accelerates the decomposition process. Promoting rapid rotting improves the conditions sowing the next crop and reduces the potential for diseases.

Versatile applications

Duck foot shares are particularly suitable for stubble cultivation due to their ability to cut shallow while mixing the whole surface area. The focus is on moving the entire surface to control weeds and interrupt the capillary effect to retain soil water. These shares are also recommended for the tillage of cover crops and tackling weeds. Above-ground vegetation is reliably separated from the plant roots and soil adhering to the roots is largely removed. This is a basic prerequisite for making sure that the plants perish.

Chisel points from shallow to deep

Shallow working is not needed, necessary or useful for every type of tillage. Where this is the case, the chisel points are the ideal alternative to the duck foot shares.

Versatile applications

With a width of 5 cm, these points are ideal for medium-deep loosening during seedbed preparation as well as the second stubble cultivation pass. During the first pass, the chisel points produce a high proportion of fine soil, causing weeds and volunteers to emerge reliably. Especially in damp conditions, smearing of the soil surface is prevented and an open pore structure is retained.

Drying out damp soil

In spring, the ground is often too damp for optimum seed drill conditions and it is not likely to dry out any time soon. In order to be able to still sow on time, it is necessary to break up the partially encrusted soil. A pass with the chisel points opens up the surface structure of the soil, providing a larger surface area to promoting drying. Because the points do not move the soil across the whole width of the machine, the surface is broken up rather than cut right through. In more damp conditions, this prevents smearing of the soil layers and promotes an exchange of water and air.

Optimum seedbed

Following primary tillage with a cultivator or plough, the seedbed needs to be prepared ahead of the seed drill. Since the soil has already been tilled intensively, the aim of the next step is to create a tilth and level it. The steeper angle of the chisel points makes them ideal for achieving this effect because they enable the soil to be worked through more intensively.

If sowing takes place in the autumn on soil that already has a good structure, medium-depth loosening up to 15 cm can be carried out using the chisel points. These points can also be used for subsequent seedbed preparation in an offset row seeding process.

Ingenious precision

Depth guidance

Precise depth control

Precise depth control is essential for maintaining the required working depth of the whole machine. This is especially important when aiming to cut through the soil as shallow and evenly as possible. The PLANO ensures this using the depth control wheels at the front, together with the rear roller.

Clever solution

To adjust the rear roller to match the depth wheels at the front, without having to adjust the roller again, the change in setting at the jockey wheels is transferred to the rear roller by a linkage rod. This ensures that the rear roller is automatically and precisely adjusted in tandem with the jockey wheels so that the PLANO is always parallel to the ground. While increasing operating convenience it also prevents setting errors.

Fully hydraulic for maximum convenience

The optimum cultivation depth requires precise and fine tuning, especially during shallow tillage. Depth adjustment on the PLANO is fully hydraulic for fast adjustment to different working depths and maximum convenience. The clearly readable scale on the right-hand jockey wheel helps find the correct setting.

Single jockey wheels

The PLANO is fitted with jockey wheels integrated into the tine section as standard. This not only guarantees the most compact design possible for the shallow cultivator, but also enables a selection of additional tillage tools to be mounted in front. The two individual jockey wheels are 340/55-16 and have an implement profile.

Dual jockey wheels

The optional dual jockey wheels provide impressive performance with double the surface area of contact. Especially in areas with light soils and soils with a low load-bearing capacity, the dual jockey wheels really come into a class of their own. In addition, these jockey wheels are positioned in front of the tine section, so they track the ground that has not yet been cultivated. The four dual jockey wheels are fitted with the same 340/55-16 tyres as the single jockey wheels.

Custom-tailored

Custom-tailored to your specifications

Reliable and flexible deployment of machines is essential for successful job completion and cost effective machine utilisation. That is why, in addition to a choice of shares and points, the PLANO can be equipped with various rear rollers, different leading tillage tools and levelling tines. This not only enables a wider range of applications to be covered, but also ensures more efficient and reliable operation.

Enhanced reliability

High volumes of organic matter and long stalks of plant residues present a particular challenge during tillage and can often limit the effectiveness of an application. This makes the optimum distribution and cutting of organic material all the more important. If this has not been carried out by the previous harvest machine, the PLANO can also be used to initiate a uniform decomposition process and ensure reliable operation. The equipment options include a knife roller for extra versatility and efficiency.

A level finish

A perfectly prepared seedbed features a uniform, level finish, an ideal proportion of tilth and optimum consolidation. These are the perfect conditions for rapid and uniform plant growth. As a passive tillage implement, the PLANO creates precisely these conditions. The front board supports the levelling and crumbling of the soil in front of the tine system. The optional levelling board provides an additional crumbling effect for an even smoother surface finish. A choice of rear rollers enhances the tilth quality and provides the necessary consolidation of varying intensity.

Weeds dry out reliably

During the mechanical control of weeds and the tillage of cover crops that have not been wilted by frost, it is crucial that the roots and shoots are cut through and deposited on the soil surface. The optional tine harrow can be used to rake plant residues away from the level surface. Due to the additional effect of removing soil from the roots, plants dry out reliably and perish.

Custom-tailored

Tillage tools

Levelling and crumbling or cutting

Whether distributing straw and harvest residues, levelling and crumbling the soil, or intensively cutting up organic material: The optional leading tillage tools handle the first step in soil cultivation to provide the tine system with optimum conditions for cutting and mixing. This expands the range of applications covered by the PLANO. Whether seedbed preparation, stubble cultivation or turning in a cover crop, you can react individually to the prevailing conditions. The integration of the front jockey wheels into the tine section makes for a compact design that allows additional tools to be mounted in front of the tine system.

Leading knife roller

The PLANO combined with the 350 mm diameter knife roller stands for high operational reliability and is all set for a wide range of applications. The knife roller demonstrates its cutting effect particularly well when there are high volumes of organic matter, such as oil seed rape stubble or a cover crop. The additional cutting effect improves incorporation, significantly accelerates the organic decomposition process and makes it more difficult for harmful organisms to overwinter as a result.

Hydraulic adjustment allows the working depth to be set conveniently or the entire knife roller to be pivoted away from the work area. Rubber elements protect the knife roller against overload and impact with large stones. The spiral arrangement of the knives ensure the roller rotates smoothly because it is in constant contact with the ground and produces a high load on the cutting edge. The knives are made of a special low-wear Hardox steel to ensure cost effective operation and to preserve the cutting edge on the knives.

Front board breaks up clumps

To create an even more level seedbed and optimum tilth when preparing seedbeds on ploughed land, the front board can be selected as an optional extra. This is equipped with sturdy drag tines that crush even coarse clumps. Adjustable and replaceable wear plates are fitted to the tines.

If the front board is not required, it can be folded away completely out of the working area so that it does not contact the soil. The front board is adjusted hydraulically.

Custom-tailored

Rear rollers

Wide choice of rear rollers

In addition to precise depth control, the rear roller is also responsible for achieving the necessary consolidation. This is essential for optimising the germination conditions for volunteers and weeds, and also to prevent the soil from drying out, especially in the summer months. The soil is further crumbled and levelled by the roller. It also has a positive influence 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. It's your choice.

PLANO

Requirements	Cage roller	Double cage roller	Pack ring roller	Rubber packer roller	CONOROLL roller	Tandem CONOROLL roller	Tandem U profile roller
Consolidation	o	o	++	++	+	++	++
Damp conditions	o	o	++	+	++	+	+
Dry conditions	++	++	++	++	++	++	+++
Crumbling effect	+	++	++	++	++	++	+
Load capacity	+	++	++	++	+	++	++
Self-propulsion	++	++	++	+	+	++	+
Applicability for stones	+	o	++	o	++	++	+
Scrapers	No	No	yes	yes	yes	No	No
Tare weight for 6 m working width	650 kg	1,040 kg	1,190 kg	1,120 kg	860 kg	1,370 kg	1,300 kg
diameter	660 mm	540 / 420 mm	550 mm	590 mm	540 mm	560 mm	600 mm

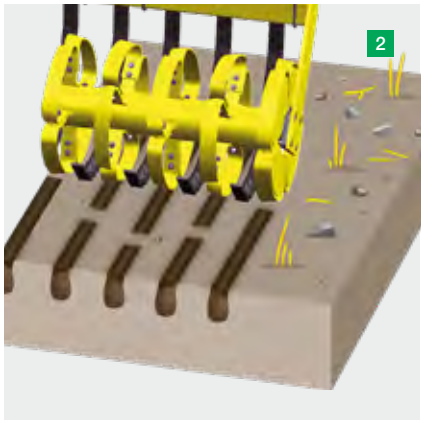
++ ideally suited, + well suited, o suitable, - not suitable

Custom-tailored

Rear rollers

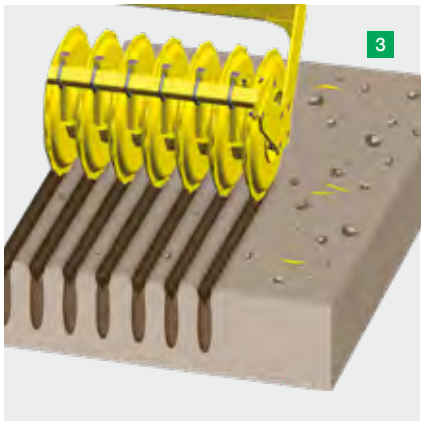
1 Cage roller

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. With a diameter of 660 mm, the cage roller is equipped with twelve horizontal bars that provide the necessary self-propulsion.



2 CONOROLL roller

Four individually bolted segments form a 540 mm diameter ring. The segments are conical and offset to the left and right. This produces consolidated ridges with alternating indentations to the left and right of each groove. Rainwater can seep into these indentations so that it is prevented from running off the surface. In addition, the loose soil between the rings can absorb water better. The optimised structure on the soil surface prevents erosion caused by rain. Spring-loaded scrapers are mounted between the rings, and these also produce a fine tilth thanks to their conical shape.



3 Pack ring roller

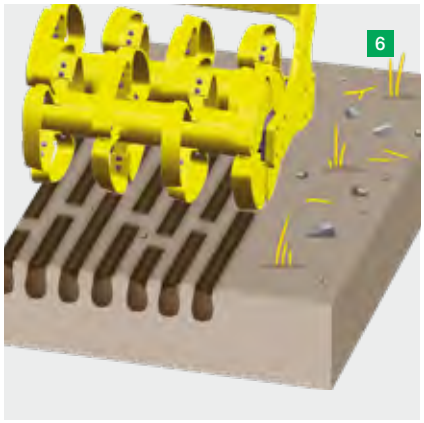
The pack ring roller consists of eight pack rings with solid rims per metre of working width. The roller produces consolidated ridges to promote drainage and let the soil breathe. The roller achieves solid working results even on stony or damp soil with high volumes of organic material. In dry conditions, the deep consolidation has a positive effect on seed germination conditions. The coated scrapers mounted between the rings ensure the roller keeps rotating even on sticky soil.

4 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. The roller has a diameter of 590 mm and offers a high load-bearing capacity. The scrapers are coated and ensure neat and tidy operation.

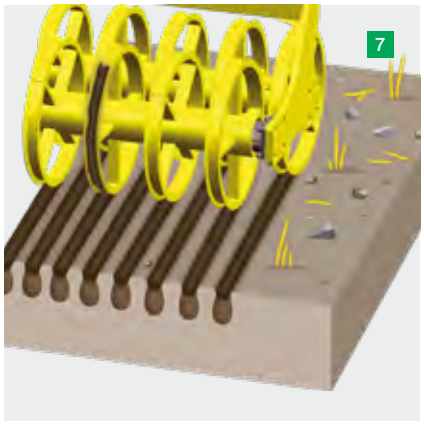
5 Double cage roller

The double cage roller consists of two rollers with different diameters. The front cage roller has a diameter of 540 mm, while the rear roller is 420 mm. The two rollers are mounted on floating suspension for optimum ground tracking. The second roller increases the crumbling effect and the proportion of fine soil. It also increases the load-bearing capacity thanks to the larger ground contact area.



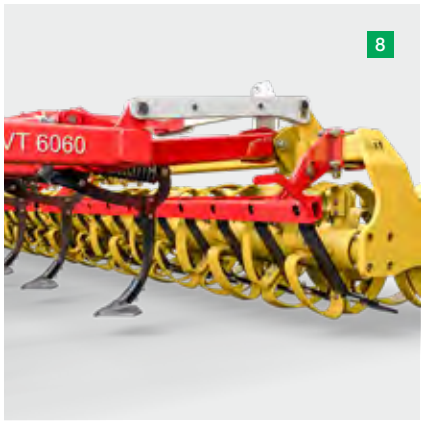
6 Tandem CONOROLL roller

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. Both rollers have a diameter of 560 mm. With a ring width of 70 mm, the tandem roller configuration offers an impressive load-bearing capacity, especially on lighter soils, and has good self-cleaning properties. The freedom of movement and the angle of the rear roller can be adjusted to match the operating conditions for optimum ground tracking.



7 Tandem U profile roller

The U-profiles on each ring with a diameter of 600 mm fill with soil during operation. This results in direct earth-to-earth contact, ensuring well-formed consolidated ridges, while conserving the soil structure. In addition, it achieves good self-propulsion and the adhering layer of soil reduces wear. The tandem rear roller configuration guarantees a high load capacity, making this tandem U-profile roller equally suitable for fields with light soil types. The angle of the rear roller can be adjusted to match different operating conditions.



8 Levelling board

When fitted with the tandem CONOROLL roller or the tandem U-profile roller, the PLANO can also be equipped with a levelling board between the last row of tines and the roller. The spring-mounted drag tines with replaceable wear plates level and crumble the soil. Depth control is always synchronised with the rear roller. The work intensity is adjusted mechanically.

Custom-tailored

Levelling tines

Remove 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. All set with optimum conditions for sustainable weed control.

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. In addition, the structure left behind by the rollers is levelled again and only crumbled on the surface to prevent capillary action right up to the surface so that the water remains in the soil.

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.

Efficient and cost effective

Wear parts and TRACTION CONTROL

Durability

When cultivating the soil, the tillage tools are subject to unavoidable wear. This depends on various factors. Factors that cannot be influenced are the soil type, the different grain size distributions, 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. On PÖTTINGER tillage tools, tungsten carbide coatings guarantee the highest possible wear protection for more consistent work quality and a long service life.

DURASTAR and DURASTAR PLUS

The duck foot shares are made using DURASTAR PLUS grade material and are equipped with hardened plates at the point and along the horizontal shins. Thanks to their wear resistance, sharp cutting edges and shin geometry are maintained over the service life of the shares. This ensures consistent overlap while the pulling power requirement is kept low and there is no risk of smearing caused by blunt tools.

To ensure a long service life, the DURASTAR chisel points are equipped with two extremely wear-resistant hardened plates at the point. This significantly reduces wear and maintains the shape and length of the chisel points for a long time. They ensure a consistent quality of working results over their service life.

Both the shares and the points have a scale pattern on the front edge, which is designed to fill with soil. The soil-to-soil contact reduces friction and wear, protecting the base metal.

Traction booster

As an option, the drawbar can be equipped with the TRACTION CONTROL hydraulic pulling power booster. This system transfers weight from the cultivator to the rear axle of the tractor. The pressure in the drawbar cylinder can be adapted for different working depths, and deactivated completely for very shallow work. The shift in weight of up to 1100 kg increases traction and eliminates possible wheel slip while reducing fuel consumption. Ultimately, the system reduces operating costs and increases the efficiency of your machine. The integrated nitrogen accumulator provides the necessary ground tracking along the axis of the machine.

The drawbar is equipped with a variable hydraulic cylinder as standard that can be set to either floating or, by engaging swing clips, rigid. In rigid mode, the weight of the machine is transferred to the tractor rear axle. In floating mode, the stubble cultivator follows the contours of the field for perfect ground tracking.

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, cover crops and micro-granules can be distributed during tillage to save the number of passes.

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, unproductive water evaporation is prevented. Likewise, excess nitrogen in the soil is absorbed by the plants and retained on site. Improving and stabilising the soil structure with organisms increases water infiltration while reducing the risk of erosion.

Efficient and cost effective

TEGOSEM

PLANO and TEGOSEM 500

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 flexible TEGOSEM hopper with a capacity of 500 litres is equipped with an adaptable metering shaft, which is electrically controlled depending on the driving speed, and switches off automatically at the headland.

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 on the drawbar to the distribution plates. Due to the distance that the material needs to be conveyed, the fan on the PLANO is driven hydraulically. 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 input 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.

Convenient and safe

Hydraulic control

To ensure the best working quality, it is essential that the machine is easy to set up precisely and that the working depth can be adapted during operation to match changing conditions in the field. Especially during ultra-shallow tillage, precision adjustment is crucial for finding the optimum working depth. With its fully hydraulic depth adjustment, the PLANO guarantees the highest precision and maximum convenience when setting the machine.

Optimised edging board

A level surface from pass to pass forms the basis for optimum drilling. Thanks to its solid design, the optional edging board ensures that the soil is reliably kept within the working width. This creates a neat and tidy finish by preventing the formation of ridges between passes, or along the edge of the field. The set height, angle and position can all be conveniently adjusted. If there is a collision with any obstacles, the edging board can fold to the rear. In addition, spiral springs allow the edging boards to deviate to the side, and they do not need to be folded or interlocked during road transport. Ultimately, there is no need to leave the tractor cab when changing fields.

Integrated chassis

The chassis wheels are located inside the work area between the tillage tools, so the PLANO has a compact overall length. The compact dimensions and good manoeuvrability make the machine easy to handle while working in the field. Likewise, neat and tidy working results are achieved right into the tightest corner with an excellent level of ground tracking. The special chassis linkage enables quick lifting and lowering at headlands. The chassis is fitted with 500/50-17 tyres for maximum soil conservation.

Long replacement intervals

The high-strength wear resistant DURASTAR and DURASTAR PLUS grade tillage tools do more than offer cost effective operation. Thanks to their long service life, the replacement frequency, and consequently the work required to change the shares and points, are reduced. Especially during busy phases and demanding work, you won't be held up by changing the tillage tools. As a result, every available minute can be used for productive operation without interruption.

Convenient and safe

Versatile mounting options

The PLANO can be coupled to the tractor either using the lower linkages or a ring hitch. Lower linkage attachment is standard for Cat. 2 and 3; optional for Cat. 4N and 4. The ring hitch version is available with a diameter of 40, 50 or 70 mm. Thanks to the narrow design of the drawbar, a turning angle of 90° is possible for high manoeuvrability. The support leg on the drawbar is operated mechanically.

Safety during road transport

While reliable operation in the field is indispensable, so is safety during road transport. A ground clearance of 35 cm when raised and the optional air brake system contribute to enhancing safety. LED lighting is provided as standard to give the necessary visibility at night. A tine guard is also available for an extra level of safety on the road.

Simple distributor technology

Thanks to its refined design, only three double-acting hydraulic connections are needed to operate the basic version of the PLANO. Double-acting hydraulic connections are required for the optional knife roller and front board. A high level of operating convenience is ensured as a result thanks to a neatly laid out hydraulic system and quick coupling.

Overview of hydraulic functions

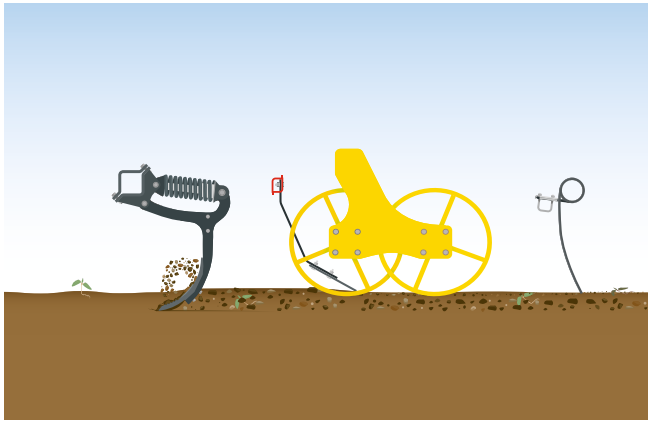
- Folding system
- Transport chassis
- Working depth adjustment
- Optional: Depth adjustment of leading tillage tools
- Optional: TEGOSEM fan

Maximum versatility

PLANO

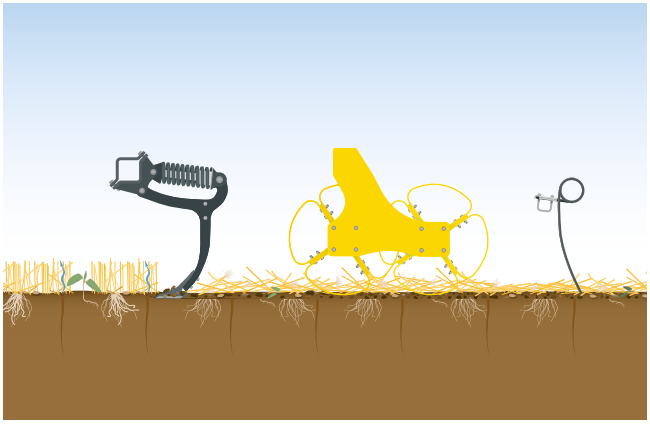
Maximum versatility

The wide choice of equipment options makes the PLANO an extremely versatile tillage tool. The spectrum of applications ranges from seedbed preparation and stubble cultivation to deeper, soil loosening tillage down to a depth of 15 cm. Just some of the possible applications are represented below.



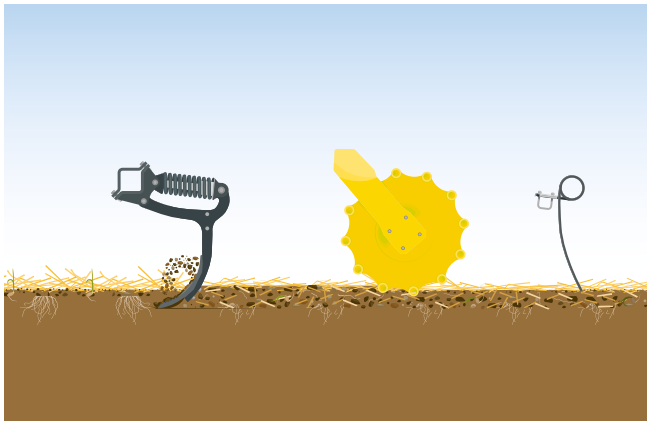
Seedbed preparation

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



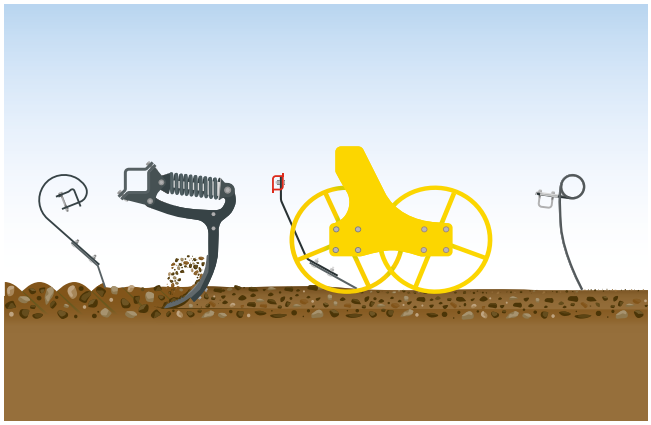
Shallow stubble cultivation

The focus of shallow stubble cultivation starting at a depth of 3 cm is to slice through the stubble, weeds and capillaries over the entire surface. This prevents unproductive 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.



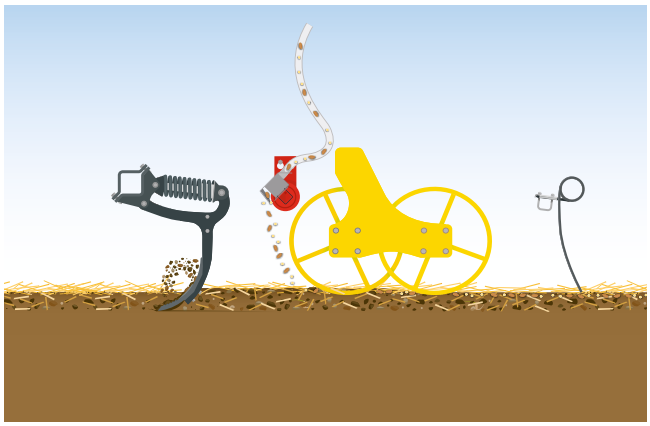
Medium-depth stubble cultivation

Medium-depth stubble cultivation with the PLANO combines loosening the soil to a depth of 15 cm 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.



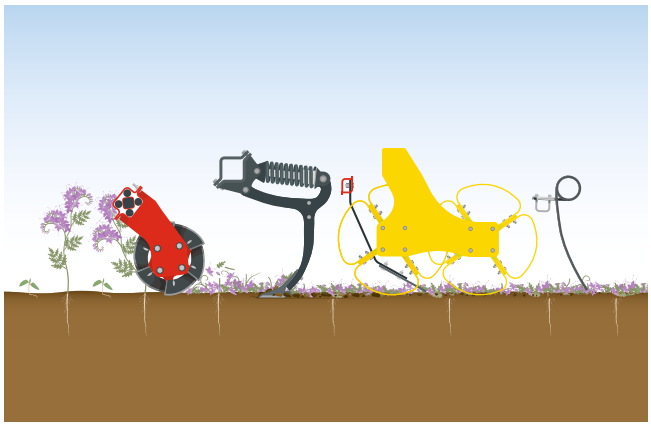
Seedbed preparation after ploughing

After ploughing, it is important that clumps are broken up and levelled, while the soil is crumbled and consolidated. In dry weather conditions, water is retained in the soil and the field is optimally prepared for the seed drill.



Sowing a cover crop

Using the flexible TEGOSEM hopper, a cover crop can be sown 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.



Cover crop incorporation

When incorporating cover crops, the focus is on the reliable control and incorporation of wilted plants and weeds and green cover. The plants are sliced right through and separated from the soil and their roots over the full surface. Because the soil is also reliably removed from their roots as they are deposited on the surface, the plants are sure to perish.

Equipment options

Tine system Compression spring tines

DURASTAR PLUS duck foot share

DURASTAR chisel points

Single jockey wheel 340/55-16

Dual jockey wheel 2 x 340/55-16

PLANO 6060 VT	■	■	□	■	□

Lower linkage mounting Cat. 2 and Cat. 3

Lower linkage mounting Cat. 4N and Cat. 4

Ring hitch 40 / 50 / 70 mm

Long drawbar

TRACTION CONTROL

PLANO 6060 VT	■	□	□	□	□

■ = Standard, □ = Optional

Front board

□

knife roller

□

Edging board

□

TEGOSEM 500

□

Levelling board

□

Rear harrow

□

Pneumatic brakes

□

Lighting

■

Tine transport protection

□

Technical data

PLANO	6060 VT
Working width	6.0 m
Number of rows	6
Number of tines	37
Line spacing	16.2 cm
Row spacing	65 cm
Underframe clearance	60 cm
Frame tube dimensions	100 x 100 mm, 80 x 80 mm
Working depth	3 – 15 cm
Jockey wheel tyres	340/55-16
Chassis tyres	500/50-17
Mounting category	Cat. 2, Cat. 3, Cat. 4N, Cat. 4
Ring hitch diameter	40 / 50 / 70 mm
Transport width	3.0 m
Transport height	3.6 m
Transport length[1]	8.0 m
Basic weight[2]	3,900 kg
Power requirement	180 – 350 hp

[1] Minimum transport length incl. tandem rear roller and lights, without levelling tines

[2] Basic weight without tine system, rear roller and additional equipment

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

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PÖTTINGER Original Parts meet the highest demands in terms of functionality, reliability and performance. These are characteristics that PÖTTINGER is committed to delivering.

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We have been listening to our customers and now offer three different lines – CLASSIC, DURASTAR and DURASTAR PLUS – to make sure you have the right part to meet every requirement. Original parts are worth every cent, because know-how cannot be copied.

Your advantages

- Immediate and long-term availability.
- Maximum durability thanks to innovative production processes and the use of the highest quality materials.
- Avoidance of malfunctions due to a perfect fit.
- The best working results thanks to optimum match to the overall system of the machine.
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- Comprehensive quality testing.
- Ongoing advancement through research and development.
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- Attractive, competitive prices for all spare parts.

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The CLASSIC line is for standard duty applications. With these ORIGINAL INSIDE parts we have defined the benchmark for quality, best price/ performance ratio and reliability.

DURASTAR is the innovation on the wear components market – durable, high quality, productive and reliable.

Are you used to putting your machines to work in the most extreme conditions? Then the DURASTAR PLUS line is the right choice for you.

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More success with PÖTTINGER

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

Precision in every centimetre

- Water-conserving tillage thanks to full-surface, shallow soil movement starting at a working depth of 3 cm and intensive mixing down to a depth of 15 cm
- Mechanical control of problematic weeds and incorporation of cover crops by shallow slicing that removes soil from their roots
- Compression spring tines that stay in line during operation
- Cost effective solution that conserves the soil and protects the environment

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