Cultivation

VÄDERSTAD

A farmer saw an opportunity

The first product was created on the Stark family farm in the 1960's. That little 30-hectare holding needed a better implement, so Rune Stark took matters into his own hands and manufactured a steel harrow. The change of material was unique, since at that time harrows were made of wood and a new one had to be made every season. The neighbours asked if they could buy the new harrow and so the Väderstad company was born. Through curiosity and a constant desire to make machines better and work simpler for farmers, the little company continued to grow into the international concern it is today.

Väderstad presented its first harrow in 1967. It was a unique construction for its time and it became very successful.

In 1976, boundaries were moved with SH-2, a 14.8 m wide harrow for very large farms.

The NZ harrow is probably the most successful series of harrows ever made. It is characterised by high capacity, great sustainability and a need for fewer passes than previously.

Simpler work and better results

The spirit of our founder lives on to the highest possible degree in the company. We continue to be curious and to look for technical solutions that simplify the everyday life of farmers. Our driving ambition is to develop machines that carry out several tasks, at a high work rate, in a single pass. The advantages of this are obvious. Fields are ready for drilling at the right time and provide the best conditions for maximum yield, while there are savings in terms of time, energy and money for the farmer.

We develop tillage methods and produce seed drills, cultivators, harrows and rollers suitable for different climate zones, from the sands of Australia to the clays of Northern Europe. Different crops place different demands on seed placement and soil tillage, a dimension Väderstad machines are designed to cover. Much of the testing work on new machines is carried out in close partnership with farmers around the world. This type of shared development work is important for us, since the feedback often leads to improvements and new ways of thinking.

Quality provides security
'Make it last' was an expression coined by Rune Stark. It is something we adhere closely to through our extensive testing of machines and components. The tests include field testing, mechanical testing, stress testing and laboratory testing. We feel so secure about our quality that we provide a two-year warranty on all our machines. Therefore you can feel extra confident about your investment.

A complete range in cultivation

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NZ Aggressive page 72-81

Rollex/Rexius page 82-93

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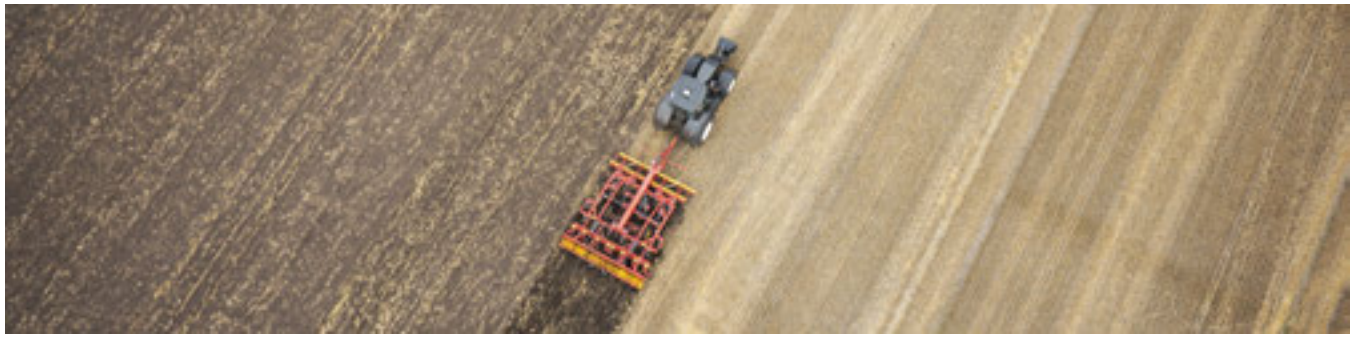


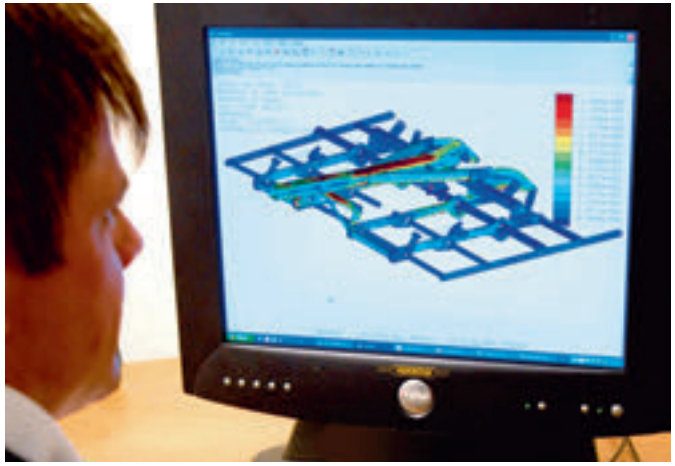
Year 2 Warranty

Our two-year guarantee on all machines gives extra security in your investment.

Tough tests lead to smart solutions and higher quality

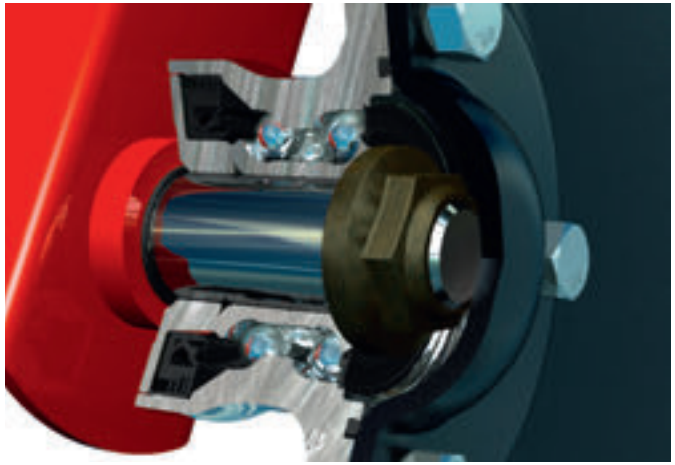
Materials and constructions have to withstand difficult conditions on thousands of hectares of abrasive sandy soils or heavy clay soils. Our engineers continually work on developments and innovations which lead to improvements to all parts of our machines. Computer simulations are used to show how force fields move along the frame, which is then tested in practice in the field. Wearing parts are tested in the laboratory day after day in different conditions to identify the weakest links to make improvements and adaptations.

The machines are not only tested in the laboratory and in the field, but are also driven for lap after lap in a gravel pit and a rock quarry. There the machines are exposed to more ruthless treatment than they will ever encounter again, but it uncovers possible weaknesses that can be remedied. That leads to long life and good overall economy.



The main frame is built up around heavy duty square-profile high quality steel, which is incredibly resistant to warp and imparts great stability to the constructions. The frames are fully welded to avoid loose bolt fittings and the associated wear that can arise when driving at high speeds.

Väderstad was the first on the European agricultural machinery market to use rubber cushioning, which dampens impacts. Our experience of the construction and function of this type of rubber cushioning is unparalleled.



The discs have permanently lubricated bearings, saving time on maintenance. The bearings unit has a special seal that efficiently protects it against intrusion by moisture or pollutants.

Small details are very important too. For example, the ingenious construction that allows incredibly stable, gap-free attachment of tines, irrespective of wear.

Why cultivate?

The long-term aim with soil cultivation is to create a topsoil layer that has an optimal distribution of pores and solid material through which the crop roots can grow and obtain moisture and nutrients. In order to achieve this, it is necessary to thoroughly mix harvest trash into the soil, breaking up any hardened layers and create a seedbed in which the crop seeds can germinate.

It is important not to cultivate any deeper than absolutely necessary, since every extra centimetre involves moving more soil and therefore using more diesel. When deeper cultivation is necessary, it is important to choose the correct tine point option.

Mix in harvest trash and create a false seedbed
Mixing in harvest trash is extremely important for speeding up all forms of decomposition and also for restricting the spread of disease in intensive crop rotations. A quick, shallow cultivation after harvesting when there is still moisture in the soil has three effects. It initiates rapid decomposition of harvest trash, controls slugs and encourages weeds and volunteer seeds to germinate. The weed and volunteer seedlings can then be controlled by a second cultivation or during drilling. Another advantage of shallow cultivation in which straw is left in the surface layer is that the straw acts as an efficient barrier to soil crusting and erosion.

Break up pans and hard layers
In tillage systems which create a pan that restricts root establishment and soil drainage, the soil may need to be broken up with the help of deep soil loosening by a cultivator. Deep loosening requires narrower points so that the draught requirement is not unreasonably high. In addition, narrow points do not disturb the soil as much, protecting earth worms.

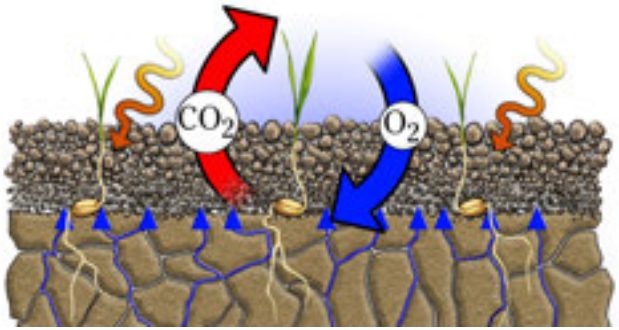
It is in the upper 5 cm of the topsoil that micro-organisms are most active and rapidly break down harvest trash.

Small clods together with good reconsolidation are important for optimal germinability of weeds and volunteers.

Discs or tines?

Seedbed preparation
The last step in soil tillage is to prepare for drilling by creating a seedbed. As the name indicates, the seedbed is the layer of soil in which the seed is placed. On lighter soils there is often no need for specific seedbed preparation except soil reconsolidation before drilling, and the seed drill then places the seed at the intended depth.

On heavier, more clay soils, seedbed preparation is somewhat more complicated. Here the surface layer is very sensitive to drying out and so it is necessary to slice the seed down into moist soil to ensure high germination rates. To fully benefit from the good depth control of the seed drill, it is extremely important to have a level seedbed. There should be as much fine material as possible around the seed and the seed itself should be placed at the base of the seedbed to ensure good soil contact. The uppermost layer can however be left with a slightly coarser texture to prevent crusting and erosion.



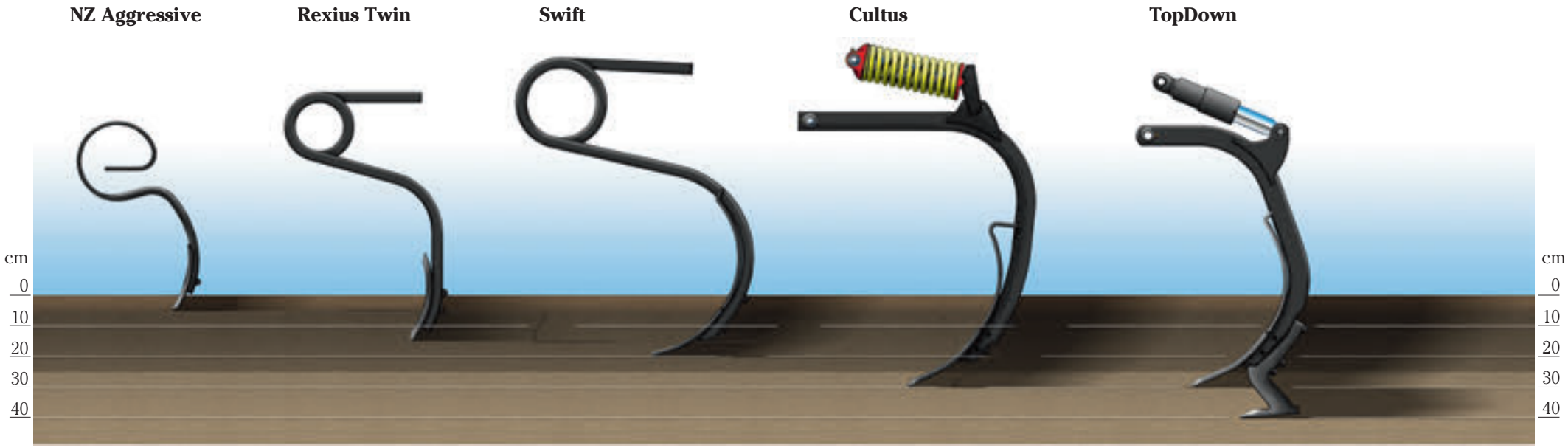
The seedbed must be sufficiently loosened to allow crop roots to penetrate and access water and nutrients.

Tines function best when:
- straw needs to be spread out and mixed in
- deep loosening is required
- conditions are wet
- there is a risk of creating a pan
- harder layers have to be broken up and the soil lifted

Discs function best when:
- harvest trash must be sliced up
- clods should not be too large, particularly on dry heavy soils
- when there are many stones on the surface – the discs press stones down into the soil
- draught requirement is important

Väderstad offers different systems with discs, tines and combinations of both in order to optimise crop production. Both tines and discs are tools that release capacity in relation to the alternative, the plough. The choice between disc and tine depends on the task to be carried out by the machine. As the expert within soil tillage, Väderstad always endeavours to provide the widest possible range of choice.

Väderstad can provide tine cultivators for all requirements, from deep loosening to seedbed preparation. When choosing between these, it is important to consider the conditions on a particular farm. For shallower tillage, spring tines are an excellent choice. With their intensive movement they give slightly lower depth precision, but the draught requirement is lower. For greater working depths, more than 20 cm, the best choice is to use rigid tines, such as those on Cultus or TopDown. Through their high stone release pressure, those tines keep their points in place in the soil.



Two different shin types
Väderstad has two main lines as regards tine shins, MixIn or Twist. MixIn is factory standard on machines and is a very flexible shin that works material forward. It is the best choice where straw is unevenly distributed or on heavy soils. As the shin throws the soil forward, it is mixed several times, creating a finer soil structure. Trials have shown that another advantage is that straw is effectively moved around by up to 9 m from its starting position.

The Twist shin has a different agronomic function and moves the material straight up before letting it fall back into place. The advantage of this type of cultivation is that it incorporates more straw into the surface layer than the MixIn shin, providing good protection against erosion and surface crusting after heavy rain. An additional advantage is the straw at the surface is broken down quickly. The Twist shin is ideal for farms with a longer growing season where there is enough time for straw to be broken down by microorganisms.

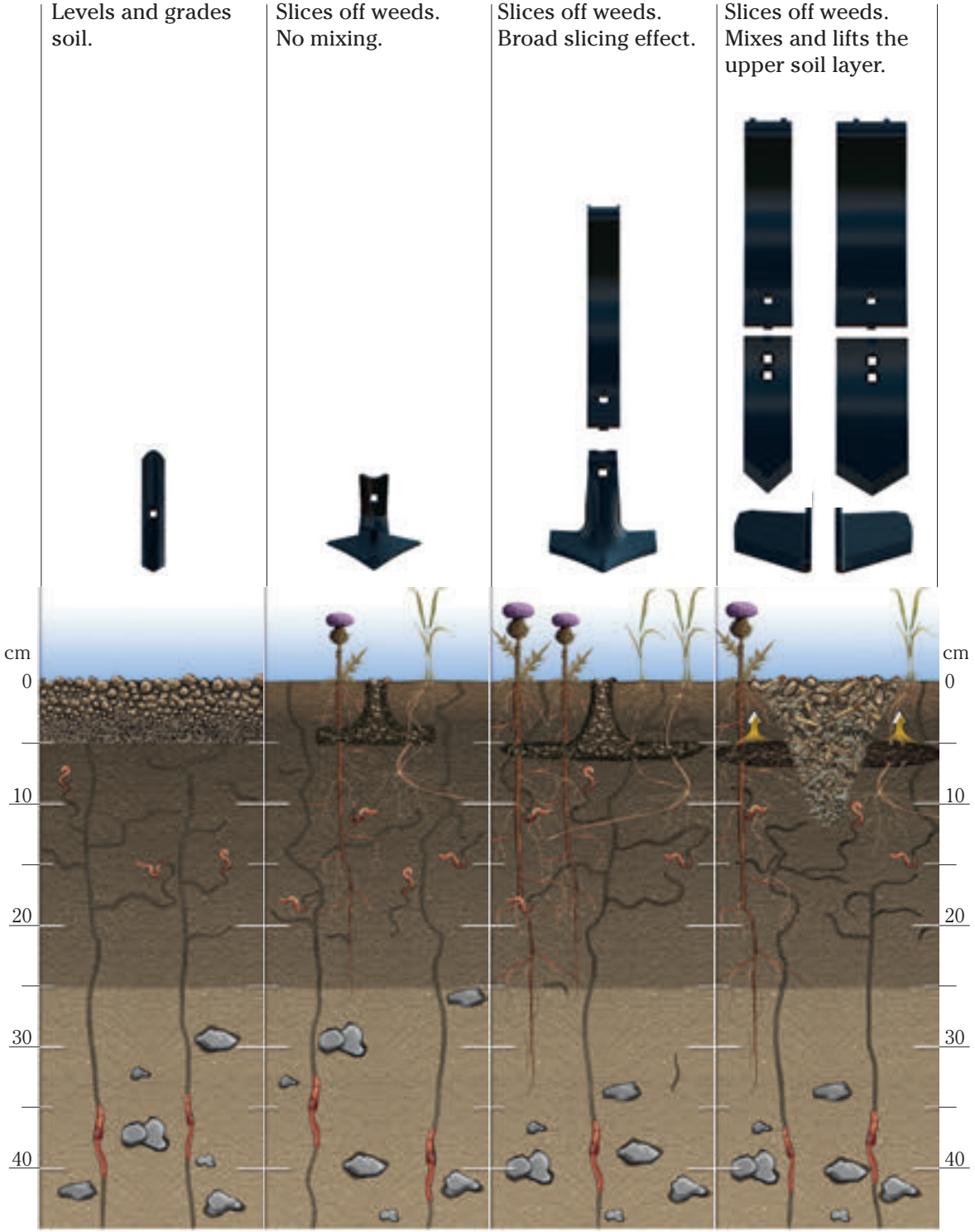
The shin and point are separated to obtain uniform cultivation over time as the shin wears down at a much slower rate than the point. When changing from narrow to broad points or vice versa, bear in mind that it may also be necessary to change shins.

The point is attached by a bolt made of hardened steel making it very easy to change.The point and shin are separated to obtain uniform cultivation over time and maintain precision.

Points for different purposes

Each point is designed for a specific area of use. Väderstad aims to provide as complete a range of points as possible in order to meet all requirements.

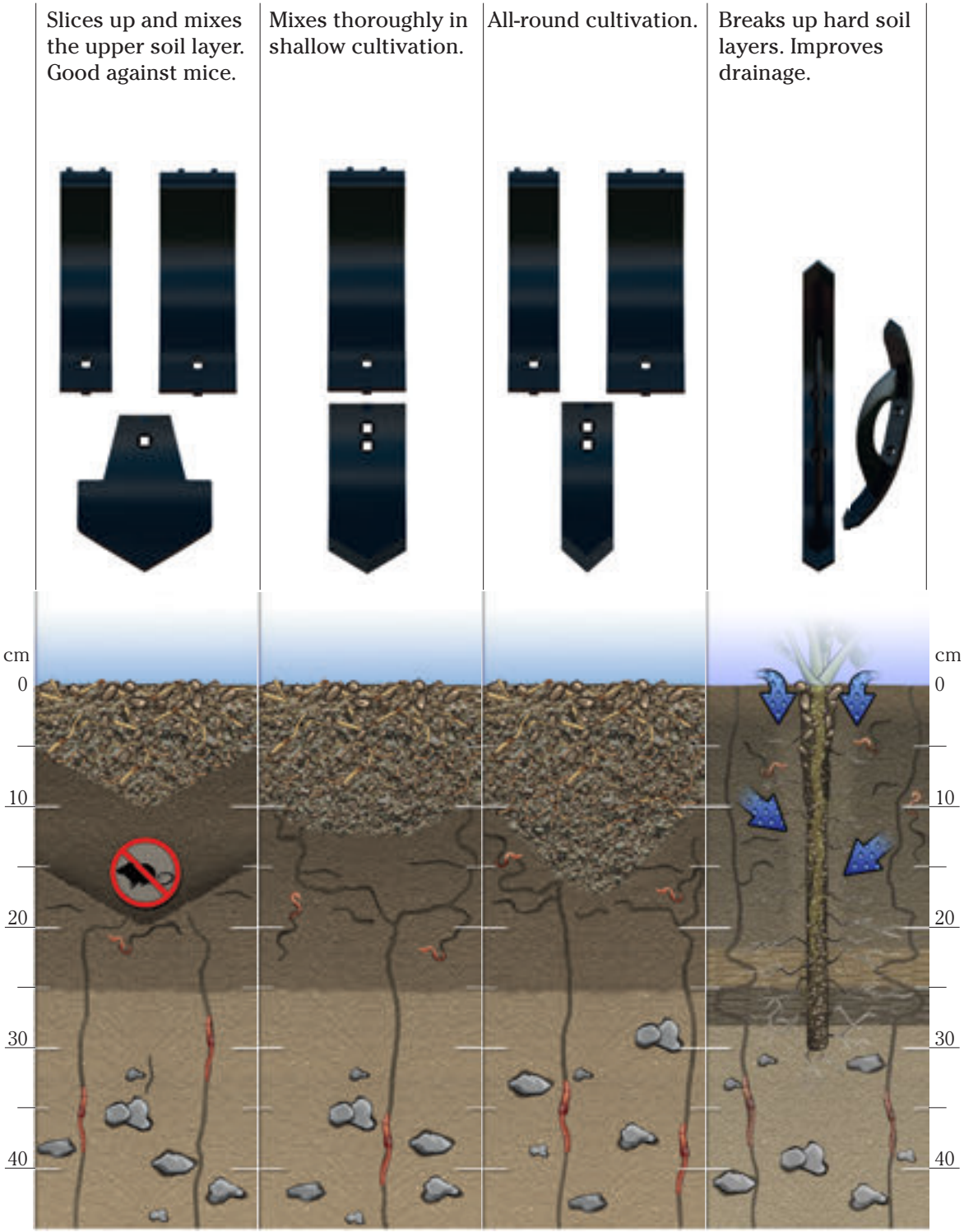
Root slicing points
Väderstad has two different designs of root-slicing points, duckfoot or wing share. The difference is in the angle of the share. The duckfoot share is completely horizontal and is optimised for slicing only. The rear part of the wing share is angled slightly upwards so it slices through the soil but also lifts it, giving a loosening action and clearly cutting off the water supply to the weeds. The wing shares are mounted on existing points and carry out some cultivating. They can be fitted on either breaking or mixing points to give the desired work outcome. Considerable work has been carried out to produce wing shares that undergo precisely the same degree of wear as the share, which greatly reduces service time.



Mixing points
Mixing points are the type most commonly used in minimum tillage and are normally employed by those looking for an alternative to the plough. Mixing the soil up with a cultivator avoids all types of pan formation, since the soil is broken loose. The fracture planes leave fine cracks in the base of the cultivated layer. These cracks allow drainage of water and access by roots to deeper soil layers. A wide range of mixing points are available to suit all requirements. In general, broader points are better for shallow cultivation, while narrower points are better for deeper cultivation. The more harvest trash there is, the deeper the cultivation required.

Mixing and breaking points
The upper part of the point is designed to work and mix harvest trash into the upper few centimetres of the soil where the air and numerous microorganisms decompose the trash extra fast. The lower, oxygen-deficient regions are carefully fractured but not disturbed any more than necessary in order to protect the soil's best cultivation resource – earthworms.

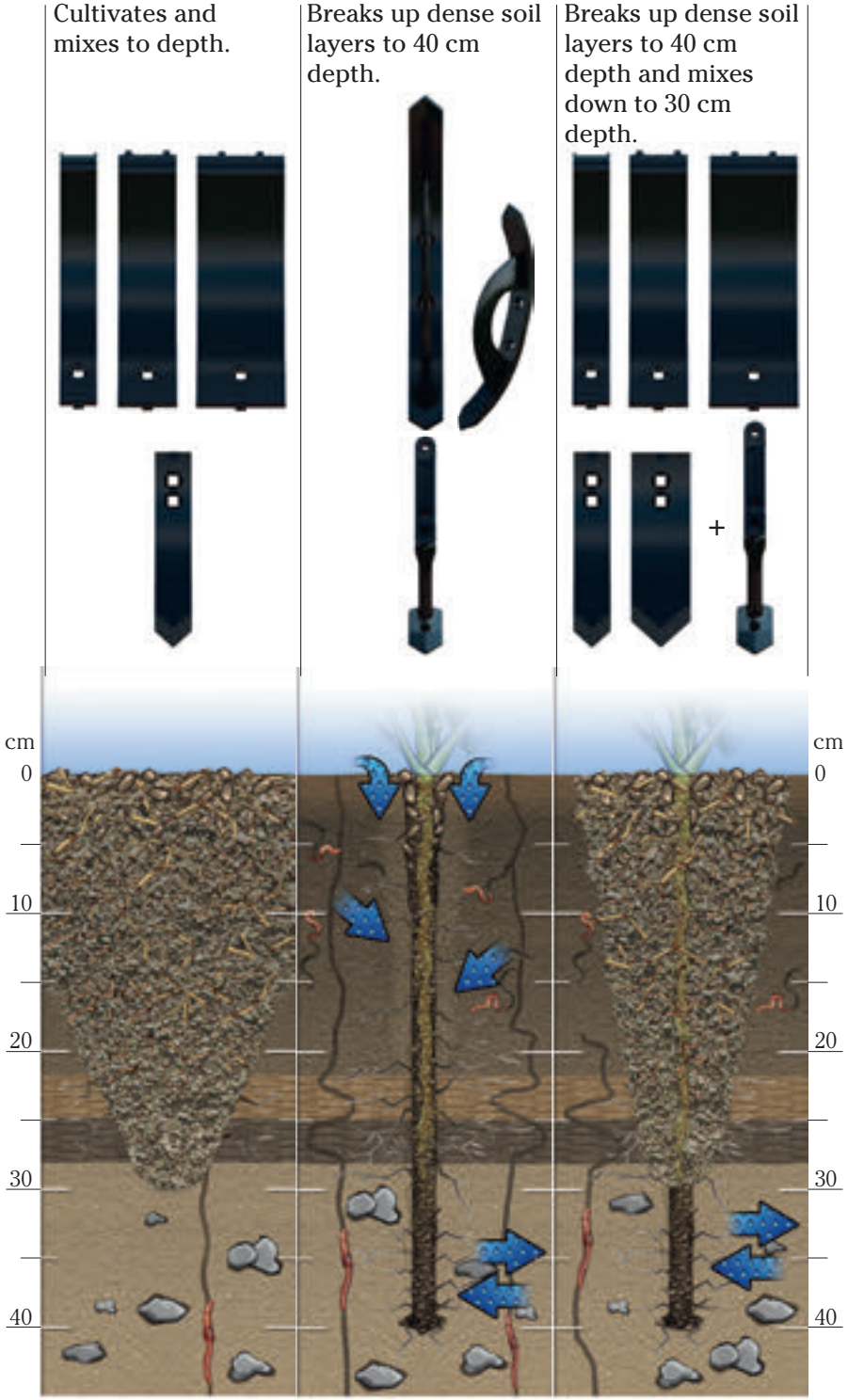
Combining Deep Loosening with a standard point allows thorough mixing while at the same time slicing through any tillage pan that has formed at depth.



Breaking points
Repeated cultivation to the same depth in unfavourable conditions leads to the formation of tillage pans and hardened layers in the soil. This results in yield decreases, since the soil drains more slowly after rain and root access to water during dry periods is restricted. For a clay soil in a region with warm summers and/or cold winters, nature can do part of the work of breaking up pans, but soils with a higher sand content tend to become naturally denser over time, for example. To reduce the draught requirement the standard point can be exchanged for a Low Disturbance point.

All types of barrier to root development or water transport are yield-limiting and the aim should therefore be to improve the situation as much as possible through soil cultivation.

Marathon saves time
Marathon points last much longer than standard points. This saves time since the points do not need to be replaced as often. Points on different parts of a cultivator suffer different degrees of wear. Points with a flatter surface do a better job and create a steadier flow of soil.



Advantages of discs

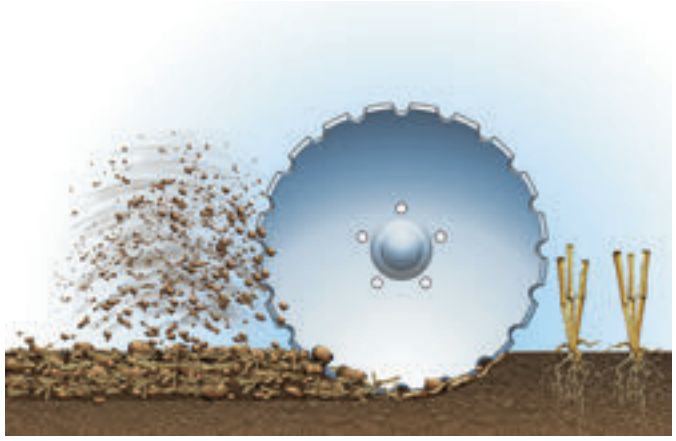
Disc cultivation has a number of advantages. For example, the draught requirement is relatively low, cultivation can be carried out at speeds of up to 15 km/h giving high capacity, and stones are pressed down instead of being pulled up to the surface.

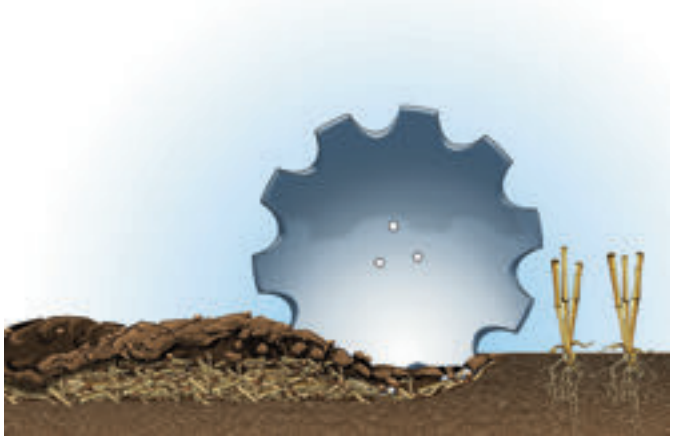
Väderstad has an extensive knowledge of disc implements and was the first to introduce a compact disc machine with the wide scale launch of the Carrier concept in 1999. Carrier machines have since been bought in large numbers throughout the world.

The new Carrier XL is designed primarily for farmers with large amounts of harvest trash, after high yields of maize for example. The True-Cut discs have sharpened edges that slice through harvest trash easily and maintain shape throughout their entire life. The adjustable cutting angle known as MultiSet allows the discs to be set at its optimal position for the desired working depth.

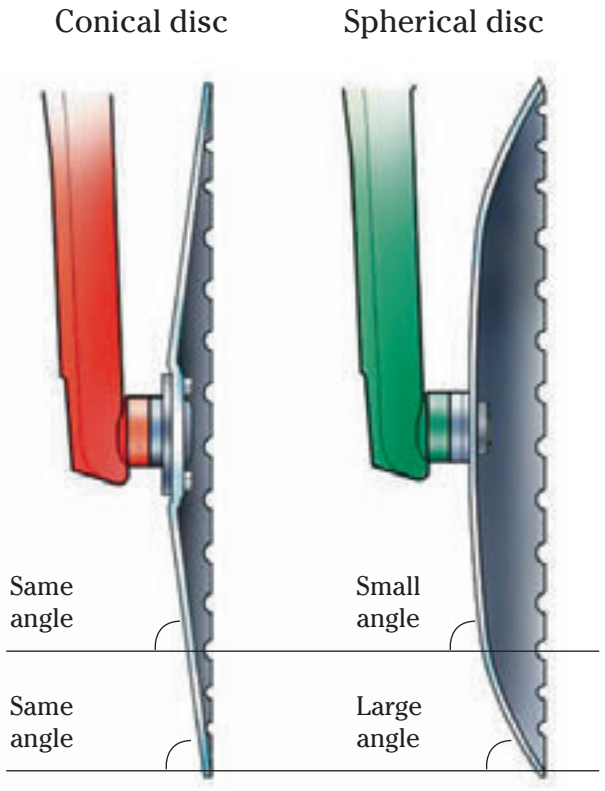
Conical shape – uniform cultivation
Väderstad works with conical discs. The discs always maintain the same working angle, irrespective of working depth or degree or wear. A spherical disc has a completely different angle when it is worn down.

Greaseless bearings save time
Bearings are always a sensitive point on any machine, particularly where long life must be achieved in an extremely aggressive environment. Since all the bearing units are located on the rear side of the discs, they are protected from much of the flow of material. This has a positive effect on their life. Väderstad bearings are tested in extreme conditions to ensure that our customers are provided with top class bearings that last a long time





The conical disc breaks loose soil and crumbles it better than a bowl-shaped disc.



Väderstad genuine bearings are fitted with x-seals.These maintenance-free seals efficiently prevent dirt from entering the bearing.

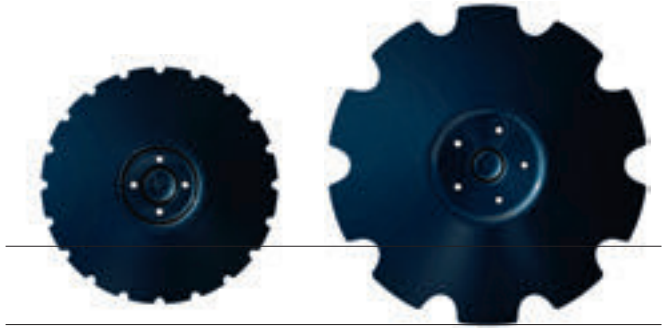
Individual mounting increases precision
The disc can recoil up to 125 mm and the very high release pressure maintains accurate depth control. The individually mounted discs ensure good through flow during primary cultivation when in dense intercrops or heavy weed infestation. The rubber suspension is constructed to maintain good lateral stability which in turn produces an even work result.

Small or large disc
Choice of disc type is rather simple, since it is mainly a question of the amount of harvest trash that has to be incorporated. If there are very large quantities of trash, the smaller disc reaches the limit of what it can mix into the soil and the XL disc should be used instead.

If conditions permit, the small disc is preferable, since its smaller diameter gives better penetration. The high rotation acceleration also means that the optimum speed is quickly reached and helps mix the material more efficiently, while creating smaller clods. An advantage of the XL disc is its longer life, as there is more steel to wear through.

V55- a guarantee of long life
All discs are made from Väderstad's own specialist hardened Swedish V55 steel. It is harder than the normal disc steel, giving a considerably longer life. More time in the field and longer intervals between disc replacement contribute to good cropping economics. The serrated edge of the discs ensures that they always achieve good grip. All disc manufacturing is fully automated and is carried out in-house to ensure consistent quality.

The discs are individually mounted in maintenance-free rubber cushioning. This improves the precision at depth and laterally which in turn extends disc life.



The working depth of a disc is approx. 25% of the diameter.

The discs are positioned in an X-shape, ensuring that the machine runs straight behind the tractor. This is essential when using GPS and to avoid overlapping.

Carrier

Carrier is a soil tillage multi-tool for rational crop production. The discs are positioned in an X-shape, which means that the machine runs straight and stable behind the tractor. An arm for every disc gives good depth precision and through-flow in the machine. The following roller ensures that harvest trash makes good contact with the soil.

The disc arm leaves plenty of space for the neighbouring discs. This increases the ability to process plant residues and straw heaps and allows excellent through-flow. Individual disc suspension gives precision in tillage.

The rubber cushioning in the steel roller absorbs impacts and gives the frame a long life.

ZONE 3

In shallow tillage it is important to leave the soil surface well compacted in order to create optimal conditions for volunteer and weed seeds to germinate and for the straw to be broken down. Carrier is equipped with a reconsolidating roller made of steel, rubber or ribbed rings that efficiently press down the soil and finishes off the work. The roller diameter is 550 or 600 mm depending on model.

ZONE 2

Two rows of 450 mm conical discs aggressively slice through the soil and harvest trash down to a maximum of 12 cm depth. Working with 450 mm discs gives a considerably higher speed of rotation. The effect is easy to see in the finely distributed structure, the intensive mixing and the level soil surface that the machine leaves behind. Certain Carrier models have Crossboard, in which case the straw harrow is omitted.

ZONE 1

A straw harrow in front of Carrier helps to draw the straw out over a larger area, particularly if cultivation is carried out at a slight angle to the direction of harvesting. For best results in the stubble left by oilseeds, sunflower and maize, the straw harrow can be replaced with Crosscutter.

Multifunctional tool carrier

Straw harrow for uniform emergence
With today's increasingly wide combine harvesters, problems can arise in the pattern of straw distribution left behind. The wider the cutter head, the more uneven the distribution of straw. Uneven clumps of straw are more susceptible to wind movement, further complicating the problem. The result is limited plant development in places that have more straw buried, owing to lack of oxygen and nitrogen arising during decomposition of the straw.

For Carrier, Väderstad has developed a straw harrow that that efficiently distributes the straw. It works in combination with the unrivalled disc implement to create a false seedbed.

The straw harrow efficiently distributes straw across the field.

To test whether you have good straw distribution after the combine harvester, simply rake together a 1 m strip across the entire width of the combine and check to see if the density of the strip is even.

Poor straw distribution leads to an uneven stand and impaired root development.

Crosscutter – ultra-shallow tillage
In order to meet the needs of modern agriculture for cost-effective machinery, Väderstad has developed the concept of ultra-shallow tillage. By equipping Carrier with a Crosscutter, the plant material can be sliced from two directions. This efficiently breaks up plant material and simultaneously incorporates it into the upper soil layer.

Having Crosscutter as a complement further increases Carrier's already broad area of application, which includes highly specialised work in intercrops, rape and cereal stubble.

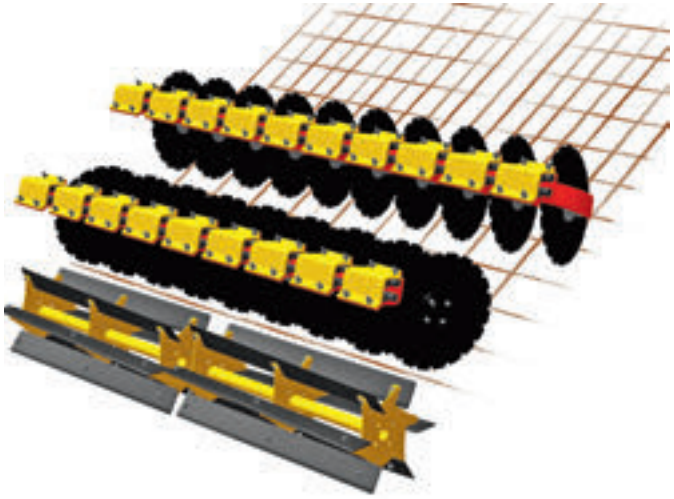
Takes care of catch crops and stubble
Crosscutter efficiently breaks up the stems of catch crops. The discs and roller then mix the green biomass down into a shallow soil layer where it is rapidly decomposed. Even the tough stubble left by maize and sunflower is efficiently broken up. This means that higher stubble can be left during harvesting of cereals and rape. The result is better straw distribution and higher capacity in harvesting.

Väderstad's ultra-shallow cultivation action with Crosscutter at the forefront is a solution for creating a false seedbed to encourage a large part of the rape seedbank to germinate. This results in fast emergence of volunteer rape, which can be tilled under in a second pass.

Well-designed construction
Crosscutter has relatively small knife rollers so that they can quickly reach the correct working speed after turning on headlands. Larger rollers would require more speed for optimal effect, resulting in large areas of the field not being cultivated correctly.

The knife segments are short, in order to allow the contours of the soil to be followed optimally. They are mounted in the Väderstad Triforce rubber cushioning, which through its exceptional rebound capacity maintains working depth perfectly, even in very uneven fields. The knives themselves are made from Väderstad's specially hardened Swedish V55 steel, giving long life. They are reversible too, keeping the costs low. Crosscutter is also available for older models.

Crosscutter creates a false seedbed and efficiently chops up harvest trash.



Crosscutter leaves a fully covering chequerboard chopping pattern.

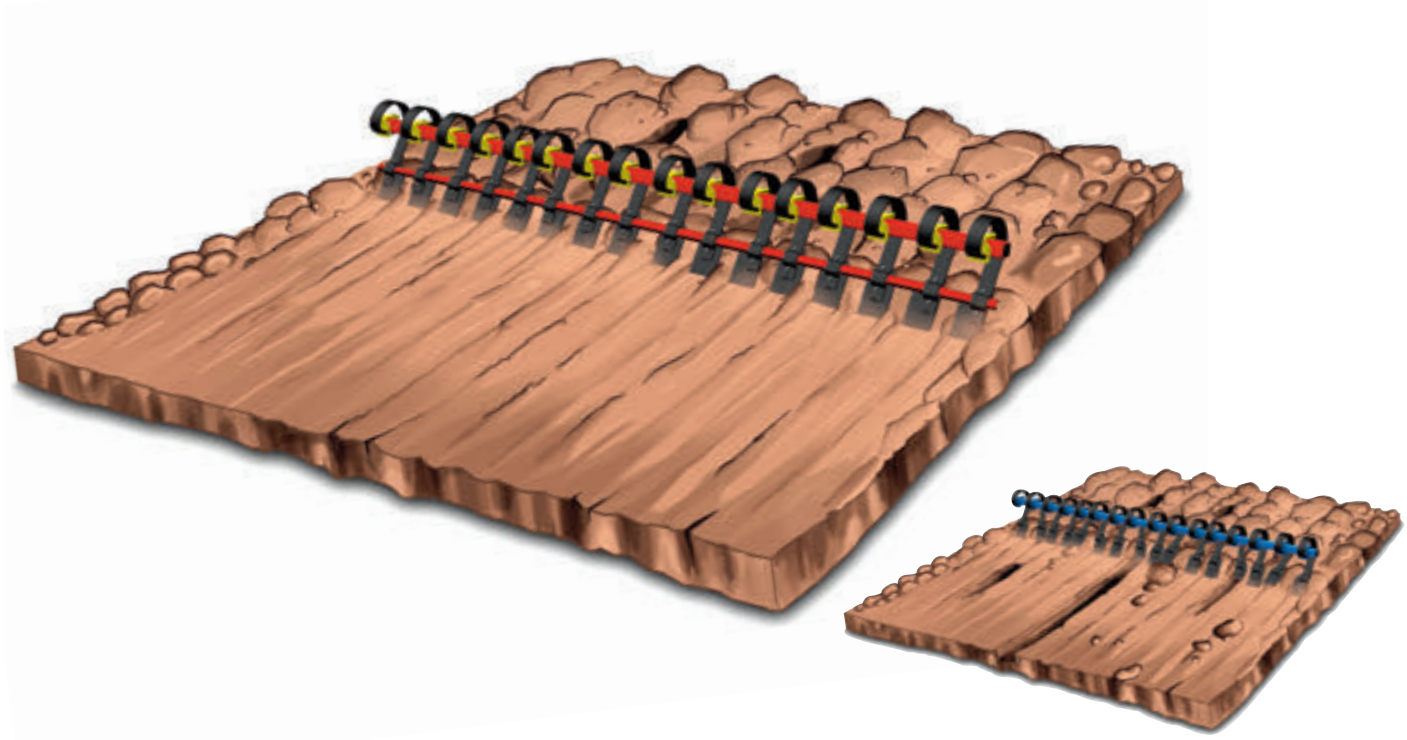
Crosscutter is controlled hydraulically from the tractor cab.


TRELLEBORG

Crossboard
The latest Crossboard was developed from the old levelling board to further optimise the grinding and levelling effect of soil tillage implements. This was achieved by combining individual tines into a single implement, Crossboard. The secret lies in the continuous vibrations which allow Crossboard to maintain the pre-set working depth very accurately whilst throwing soil clods to the front, where they are efficiently crushed against each other.

Stabiliser bar
With the double-acting stabiliser bar in place, levelling is carried out in two directions, backwards and forwards. Instead of allowing the tines to work individually, Väderstad has bound them together with a double-acting stabiliser bar which forces the entire row of tines to work as a single unit. This radically increases the strength and therefore the ability to crush clods whilst simultaneously moving fine soil around to create a level surface. Binding together the tines also provides considerable benefits in levelling, since it prevents large clods from making their way through or end furrows being created, which can otherwise occur with separately mounted tines. The stabiliser bar is made from specially hardened boron steel and is designed to withstand hard use.

Knife tool for slicing effect
For difficult conditions and on tough soils, there is the knife tool Single Knife. With this in place, the slicing effect is radically increased, which is a major advantage for those wanting to cut down on cultivations in difficult autumns. Single Knife can easily be fitted in place at the desired working depth behind Crossboard, without any need for tools.



The double-acting stabiliser bar ensures that Crossboard efficiently levels out humps and hollows.

To further strengthen the levelling and crushing effect of Crossboard, it can be equipped with the sharp, hardened knife we call Single-Knife. These can be easily attached without tools with the Väderstad Quickchange system.

Carrier has a unique range of applications, including stubble cultivation, seedbed preparation, reconsolidation and rolling, soil cultivation and furrow levelling.

Powerful cultivation

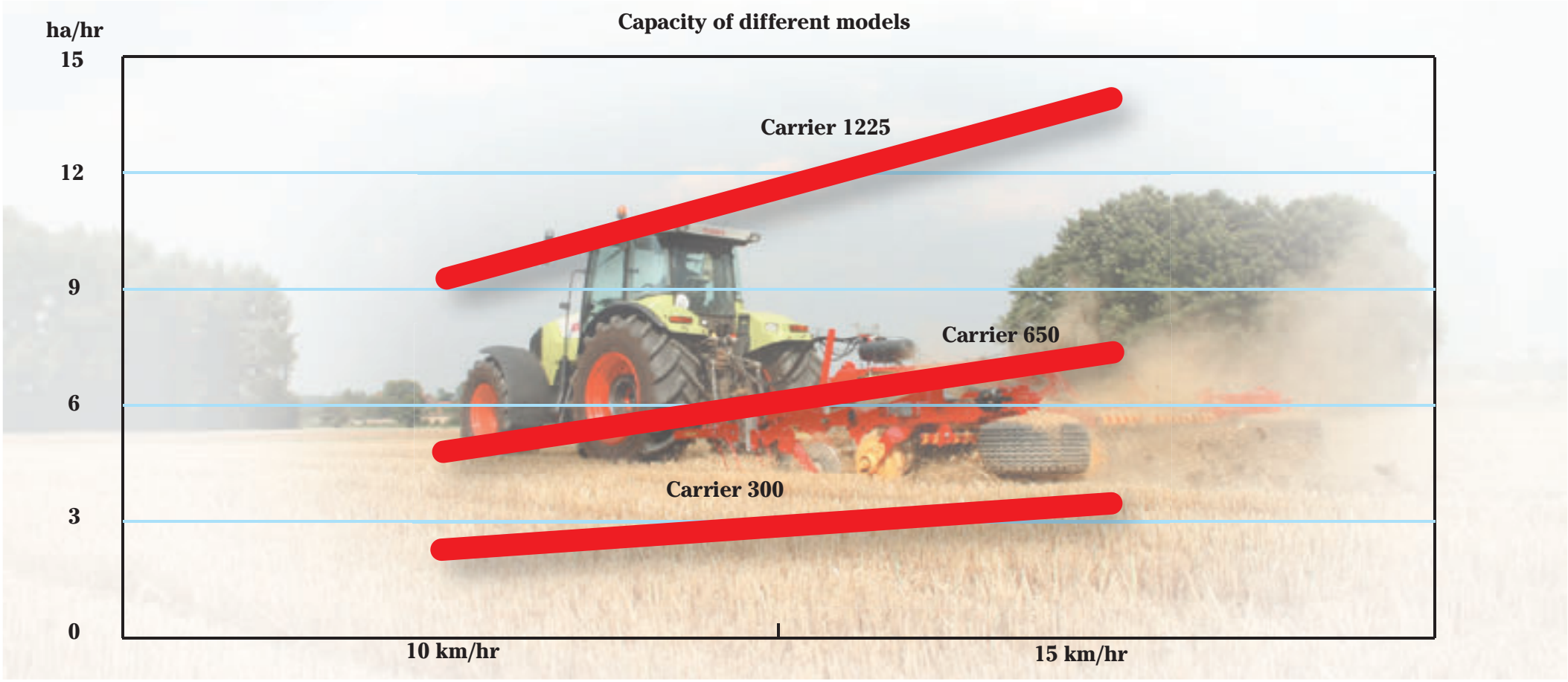
Carrier is equipped with conical V-55 discs in Swedish quality steel, for maximum durability and life length. Each disc is mounted on a separate arm, allowing high through-flow and uncompromising precision in tillage. Carrier exerts a weight of up to 125 kg per disc. This weight can be used to force the discs into the soil in hard, dry conditions or to slice through thick layers of harvest trash.

Carrier's weight keeps the discs at the pre-set depth and gives complete slicing across the cultivation range 3-12 cm. The working depth is easily set with the help of clips or electric depth stops that limit the area of movement of the hydraulic cylinder.

The X-shaped design ensures that Carrier runs straight behind the tractor. This is a major advantage when using GPS or on sloping fields.

The powerful frame gives Carrier weight and keeps the discs at the pre-set depth.The axles are adjustable in the lateral direction for optimal work results.

The X-shape gives the machine a soil-hugging action and impressive penetrative force.
The X-discs are positioned in the tractor tracks to give as level a finish as possible.



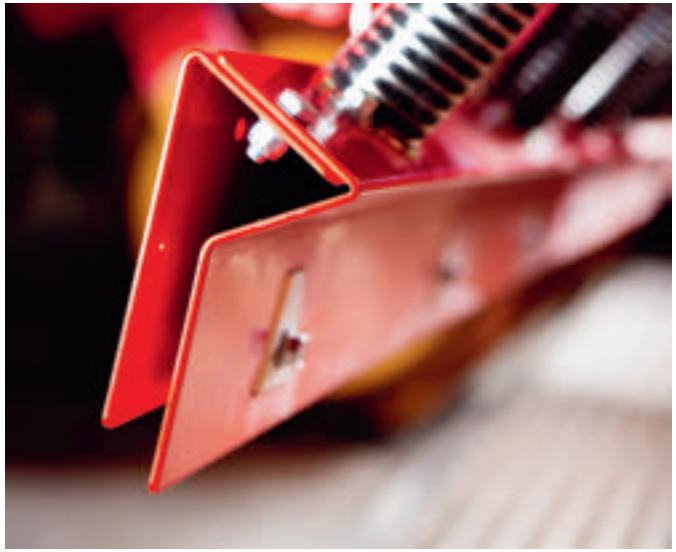
Width and speed determine the capacity.

High capacity

Time is a limiting factor. However, it is also the key to successful crop production. With Carrier on the farm there is great potential for rationalising crop production. Shallow tillage increases the capacity in soil preparation several-fold compared with ploughing. The change in work capacity is determined by the amount of horsepower the tractor can provide and the working width of Carrier. Carrier does its best work at 12-15 km/hr.

BioDrill
With BioDrill in place, Carrier can be converted into a seed drill for small-seeded crops.The major advantage with BioDrill is that drilling can be carried out directly after harvesting, saving time in a hectic period. Compared with the conventional establishment system involving ploughing and a number of cultivations, the benefits in time and diesel are enormous.

Large seedbox
The seedbox can hold 180-360 litres depending on model. The seedbox is positioned at a low height so that it is easily accessible for refilling. It is also easy to empty out leftover seed after sowing is completed.



The seed is broadcast with spreader plates or seed pipes, which distribute the seeds in a uniform arc in the flow of soil behind the discs.The seed hoses are firmly attached, which guarantees uniform distribution.The seed is covered by the roller, ensuring good emergence.

BioDrill BDX 180 and 250 is a flexible seedbox with a studded roller metering system that allows the seeds to fall by their own weight.

BioDrill BDA 360 is a flexible pneumatic seedbox for small-seeded species, which are sown in the same pass as cultivation.

Carrier 420-1225
For everything from stubble to ploughed soil. Optional straw harrow or Crosscutter.

Carrier 420, 500, 650 and 925 with Crossboard for stubble to heavy plough furrows.

Carrier 300-400 trailed with or without Crossboard in a flexible, powerful format.

Carrier 300-400 hydraulically carried, perfect format for small, irregular fields.

CR X 425-625 hydraulically carried and flexible, with impressive working width.

CARRIER TRAILED TECHNICAL DATA

Model	300	350	400	420	500	650	820	1225
Draught requirement (hp)	85	100	110	120	150	190	250	370
Working width (m)	2,64	3,19	3,66	3,94	4,94	6,44	7,94	11,94
Roller width (m)	3,0	3,5	4,0	4,2	5,0	6,5	8,2	12,25
Transport width (m)	3,0	3,5	4,0	2,5	2,5	2,5	2,5	2,5
Transport height (m)	-	-	-	3,0	3,0	3,0	3,0	4,0
Weight with rubber roller (kg)	1900	2100	2300	3400	4050	4990	5960	9750
Weight with steel roller (kg)	-	-	-	4000	4850	6100	7400	11200
Hydraulic requirement	1-2 DA	1-2 DA	1-2 DA	2 DA	2 DA	2 DA	2 DA	2 DA
Steel roller	-	-	-	☐	☐	☐	☐	☑
Rubber roller	☑	☑	☑	☐	☐	☐	☐	-

CARRIER CROSSBOARD TECHNICAL DATA

Model	420	500	650	925
Draught requirement (hp)	120	150	180	260
Working width (m)	3,94	4,94	6,44	8,94
Roller width (m)	4,2	5,0	6,5	9,25
Transport width (m)	2,5	2,5	2,5	2,5
Transport height (m)	3,8	3,8	3,8	4,0
Weight with rubber roller (kg)	4000	4600	5690	-
Weight with steel roller (kg)	4600	5400	6800	9720
Hydraulic requirement	3 DA	3 DA	3 DA	3 DA
Steel roller	☐	☐	☐	☑
Rubber roller	☐	☐	☐	-

CARRIER CARRIED TECHNICAL DATA

Model	300	350	400	425	525	625
Draught requirement (hp)	85	100	110	150	200	250
Working width (m)	2,64	3,19	3,66	4,25	5,25	6,25
Roller width (m)	3,0	3,5	4,0	4,43	5,47	6,47
Transport width (m)	3,0	3,5	4,0	2,4	2,4	2,4
Transport height (m)	-	-	-	3,0	3,5	4,0
Weight with rubber roller (kg)	1600	1800	2000	-	-	-
Weight with steel roller (kg)	1800	2000	2200	2850	3450	3850
Hydraulic requirement	1 DA	1 DA	1 DA	2 DA	2 DA	2 DA
Steel roller	☐	☐	☐	☐	☐	☐
Rubber roller	☐	☐	☐	-	-	-
Cage roller	☐	☐		☐	☐	☐

DA = Double-acting

-

☐ = Optional Extra ☑ = Standard Fitment

CARRIER ACCESSORIES

40 mm

50 mm

80 mm

D=41/52.5/57/72.5 mm

Straw harrow available as option for trailed Carrier 420-1225

Crossboard available as option for trailed Carrier 300-400

Crosscutter available as option for trailed Carrier 500, 650 and 1225

Extra weight package of 400/800 kg available as option for Carrier 300-400

Carrier XL

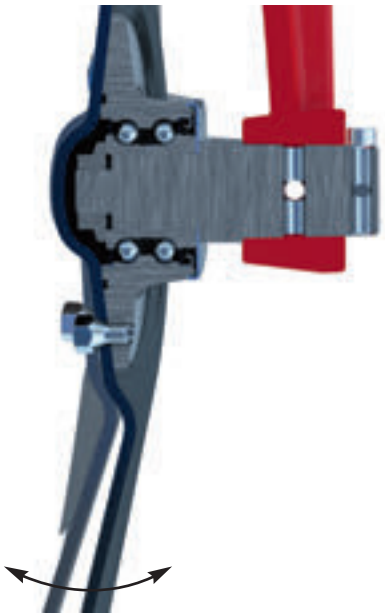
With its large cone-shaped discs and working depth down to 15 cm, Carrier XL is the expert on large amounts of harvest trash and farmyard manure. The disc angle can be adjusted to give optimal results at different working depths. The conical shape of the discs means that the soil is finely distributed and efficiently mixed, irrespective of working depth and wear. The aggressive steel roller ensures that harvest trash comes into good contact with the soil.

Carrier XL is equipped with broad tandem wheels that give a smooth ride during road transport.

The powerful frame has its weight evenly distributed so that every disc works with the same pressure.

	ZONE 2	ZONE 1
	An aggressive steel roller that cultivates and reconsolidates at depth. The rubber cushioned mounting gives the roller a smooth ride that is gentle on the frame. The roller is fitted with dangling scrapers.	Discs of V-55 steel are positioned in an X-shape with a spacing of 12.5 cm. The axles are adjustable, as is the working angle of the discs, allowing the degree of aggression in cultivation to be regulated. The conical shape of the discs means that they maintain the same angle of attack, irrespective of wear. The discs are carried on the cutting edge, ensuring they cannot slide along the base and create a hardened pan layer.

The robust frame and 61 cm wide discs give Carrier XL the weight and power that are so greatly needed on fields with heavy harvest trash.

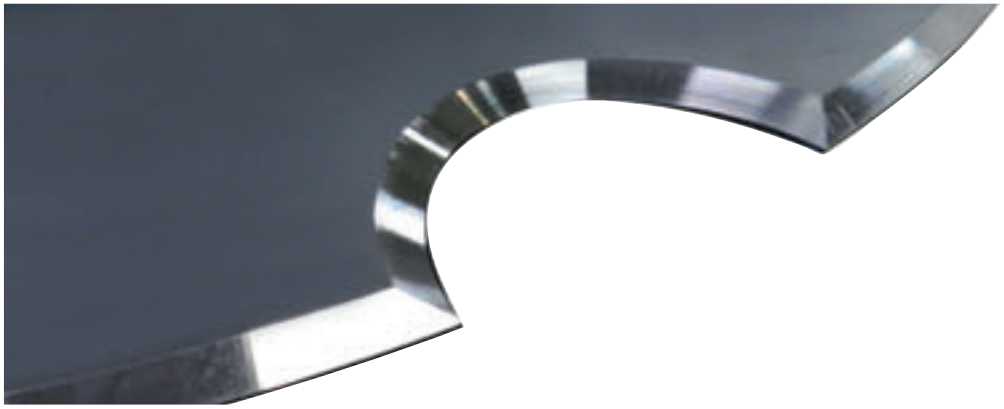


Carrier XL is equipped with MultiSet disc hubs, where the angle can easily be adjusted. In the past, the angle has had to be optimised to a single working depth, but with Carrier XL the disc angle is adapted perfectly for the relevant working depth. The shallower the depth, the more aggressive the working angle.

Carrier XL – large discs with full flexibility

Carrier XL is the latest addition to the Väderstad product range of soil cultivating machines. It has the same well-tested construction as the ordinary Carrier X, but the major difference is the discs. The 61 cm discs efficiently cut through large amounts of farmyard manure or harvest trash, for example that left by maize and sunflower, heavy straw or catch crops.

Carrier XL is designed with the focus on flexibility and good economy in operation. The X-shaped disc pattern means that the machine runs straight and avoids expensive overlaps. Through its adjustable MultiSet hubs, the machine can produce perfect work results in both shallow and deep tillage. The specialist hardened steel in the discs keeps the running costs down. All parts in direct contact with the soil are mounted in rubber cushioning, which absorbs impacts and extends the life of the frame.



The TrueCut discs are honed even within the notches, so that they can slice up harvest trash more thoroughly and efficiently. An additional advantage is that the wear is the same across the entire disc, so it retains its shape throughout its entire life. The TrueCut discs are made from specially hardened Swedish steel of V55 quality for maximum life.

The conical shape of the discs means that the angle of attack remains the same, irrespective of working depth and wear. The shape also helps to crumble the soil instead of inverting it. The sharp angle of attack means that a tillage pan is avoided.

Carrier 925-1225 has a frame of enormous dimensions, designed to cope with the extreme stresses the machine is exposed to over thousands of hectares of work in difficult conditions.

CARRIER ACCESSORIES

Cultivate and drill at the same time
Väderstad BioDrill, a modern and very precise seed drill for small-seeded crops, is also available as an option for Carrier XL. Being able to cultivate and drill in the same pass conserves soil moisture and saves time and diesel. The seed metering system is the same as on Väderstad Spirit and is radar-guided for the highest possible precision.

CARRIER XL TECHNICAL DATA

Model	925	1225
Draught requirement (hp) from	340	400
Working width (m)	9,25	12,25
Transport width (m)	3,0	3,0
Transport height (m)	3,95	3,95
Disc spacing (cm)	12,5	12,5
Weight (kg)	10 500	13 100
Weight per metre (kg)	1135	1069
Hydraulic requirement	2 DA	2 DA

DA = Double-Acting

Swift

An effective cultivator for both wet and dry years that works down to 20 cm. The vibrating tines create a flow of fine soil crumbs that lower the draught requirement and reduce the fuel consumption. The spacious construction can handle large amounts of harvest trash.

The greaseless rotating levellers are mounted in rubber cushioning on a triangular axle, TriForce. The rubber cushioning absorbs impacts and vibrations, which in turn protects the frame.

The 77 cm frame clearance gives a spacious machine that can allow large amounts of soil and harvest trash to flow through. The machine has a strong main frame that can cope with stresses, giving it a longer life.

Swift has large support wheels that are controlled hydraulically on models 560-870.

ZONE 3	ZONE 2	ZONE 1	
Swift can be equipped with a following harrow, fitted with either following harrow tines (12 mm) or strong, rebounding tiller tines (9.5 x 45 mm).	The star-shaped levellers are manufactured from specialist hardened V-55 steel, which can cope with greater wear. The levellers can be set to the correct position hydraulically on the move from the tractor cab.	Swift has a distance of 19.3 cm between its tines, a smaller tine spacing than on most other cultivators on the market. Since the tine and point are constantly vibrating, there is plenty of space for soil to be well worked and passed through. The vibrating mode of action also helps lower the draught requirement.	

High capacity and low draught requirement

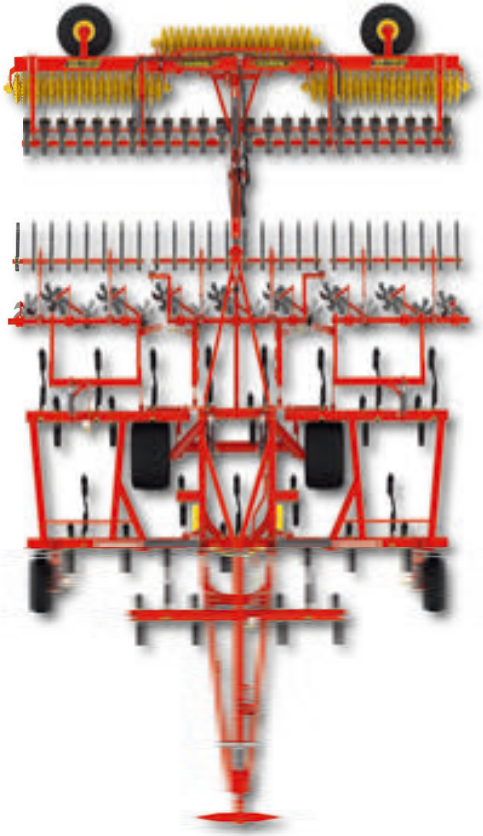
Swift is an efficient stubble cultivator with a high capacity, designed for stubble cultivation down to 20 cm. The unique construction with two frame axles, each of which carries two rows of vibrating tines, gives excellent through-flow of large amounts of harvest trash. A smaller front axle complements the cultivator with a row of forward-angled tines. The Swift cultivator has a strong construction that leads to long life, while also requiring little maintenance. The constant movement of the tines gives the machine a low draught requirement (from 30 hp/m). Optimising the tractor to this gives high capacity when time is scarce in autumn tillage. The long life and the moderate draught requirement also make the machine very cost-effective.

The greaseless rotating levellers are mounted in rubber cushioning on a triangular axle, TriForce. TriForce gives stable rebound with constant force, which results in a responsive soil levelling action. The rubber cushioning absorbs impacts and vibrations, protecting the frame.

A large, distinct scale clearly displays the working depth, which is set hydraulically from the cab on the move.

Flexible in the field

Swift is suitable for both ploughed and ploughless tillage systems. It works well in damp conditions and can cope with all types of soil. The machine leaves the soil loosened and fairly level. If the degree of reconsolidation is not sufficient, it is easy to hitch on a roller behind the machine.



Swift can be equipped with a hitch-on drawbar.This makes it easy to hitch a Rollex or Rexius roller on behind to increase the reconsolidating effect.

Väderstad Swift is a cultivator that does its best work at over 10 km/h.


VÄDERSTAD
Swift 5

3-year warranty

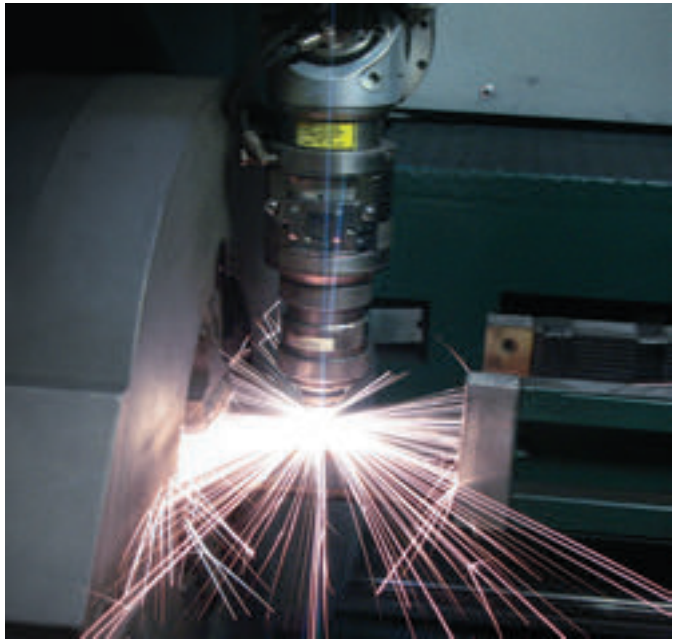
The vibrating tines with their unique shape, 19.3 cm tine spacing and MixIn shin rail, efficiently mix in large amounts of straw, while at the same time creating an intensive flow of soil that is thrown forward and broken down into fine crumbs. The vibrating tines were developed following intensive testing at Väderstad. We have a specially constructed rig that can replicate movements previously recorded in field measurements with different types of soil and driving styles, allowing the tines to be tested over the equivalent of thousands of hectares. Thanks to this testing, we can offer our customers a three-year warranty against breakages of our cultivator tines.

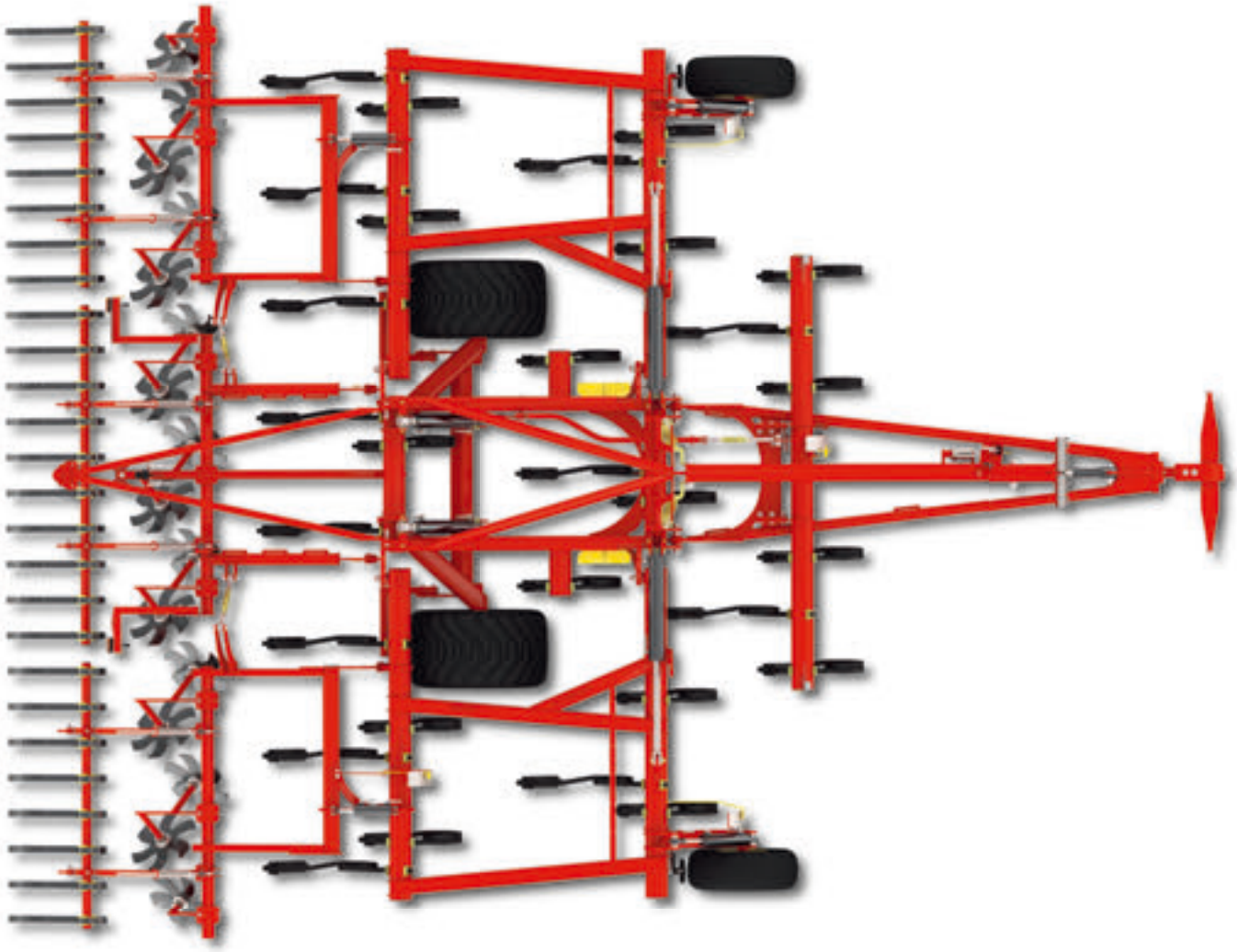
Thanks to intensive testing, we are able to issue a three-year guarantee against cultivator tine fractures.

Strong, warp-resistant frame gives long life

With the help of 3D robot laser technology, all conceivable shapes of hole can be created in three different dimensions. The laser beams cut the steel with extreme precision, this gives a 100 percent match in shape for all components and a very strong, reliable construction.

Round pipe axles are fitted through square-profile pipes. This creates a frame construction with stronger welds and higher durability. Round pipes give a strong, warp-resistant frame and are better at absorbing loads. In round pipes there are no concentrations of stress, since they have the same properties in all directions.





Swift 560 has the option of large pivoting support wheels.These support wheels are controlled hydraulically with a master/slave system. Swift 720 and 870 are equipped with large 520/50x17 support wheels as standard.

Stable ride

The support wheels ensure a uniform working depth with excellent soil contouring and a stable ride during intensive cultivation at high speed.

The hydraulically fixed support wheels on Swift 560 can be controlled over a separate hydraulic function during work from the tractor cab. Clear scales give the driver a fast, direct indication of the pre-set working depth.

Swift 560 is equipped with fixed support wheels with hydraulic setting from the cab as standard.

Swift 400/440 has extra wide 520 mm carrying wheels for a stable ride even at high speed on cloddy soils.

Swift can be fitted with either following harrow tines (12 mm) or powerful, rebounding tilling tines (9.5 x 45 mm). The following harrow tines give a finer finish to the soil than the tiller tines.

Swift 400, 440 and 560 with fixed support wheels can be equipped with either a two-point drawbar or a hitch drawbar. Swift 560 with pivoting support wheels and Swift 720 and 870 are supplied with a hitch drawbar as standard.

40 mm

50 mm

80 mm

D=41/52.5/57/72.5 mm

50 mm point

80 mm point

240 mm Goosefoot

SWIFT TECHNICAL DATA

Model	400	440	560	720	870
Draught requirement (hp) from	130	140	170	220	260
Working width (m)	4,06	4,45	5,60	7,15	8,70
Transport width (m)	3,0	3,0	3,0	3,0	3,0
Transport height (m)	2,8	3,0	3,6	3,7	4,0
Number of tines	21	23	29	37	45
Tine spacing (cm)	19,3	19,3	19,3	19,3	19,3
Weight (kg)	3000	3100	3500	4600	5100
Hydraulic requirement	3-4 DA	3-4 DA	3-4 DA	3-4 DA	3-4 DA

DA=Double-acting

Cultus 420-500

The cultivator for those looking for power, performance and durability. The construction of Cultus, with its close tine spacing and MixIn shins, means that the soil is worked several times in a single pass, while large amounts of harvest trash are mixed in. The field is ready for drilling after one pass.

The rubber cushioning in the steel roller absorbs impacts and gives the frame, roller and axle a long life.

The machine is spacious and has a frame height of 85 cm, which means that it can allow large amounts of soil and plant residues to flow through. The powerful main frame can cope with stresses, giving it a long life.

ZONE 3	ZONE 2	ZONE 1
The most aggressive steel roller on the market, which efficiently re-consolidates to depth while actively cultivating the soil at the same time. The large rubber roller with a diameter of 800 mm ensures that the machine runs smoothly even on the lightest soils.	The levelling discs leave a very smooth surface. The greaseless bearings mean that the discs are maintenance-free. Tine levellers are available as an option for Cultus 420. These tine levellers have a simple construction and works well on light soils with only a little harvest trash.	The working depth can easily be adjusted hydraulically from the tractor cab, which is perfect for adapting the cultivation effect on fields with varying soils. The 400 mm wide support wheels give a stable ride. Cultus has four axles and a unique solution where two tines are displaced forward on a fifth bonus axle. The machine thereby allows very good through-flow of harvest trash, even in wet conditions. Cultus 420 has a tine spacing of 22 cm and the larger model, Cultus 500, has 20 cm tine spacing.

Performance and reliability

Cultus is a winning combination of performance and reliability. Cultus combines the efficiency needed for reliable soil cultivation with a simple but robust construction. The results are convincing, as farmers who have seen Cultus transform newly harvested fields with heavy crop trash to a finished seedbed in only one or two passes can testify. The leading role of Cultus at the cutting edge of development relates to its flexibility. Cultus can be tailor-made to suit the needs of a particular farm. Working width, tine spacing, points, wing-shares, levellers and roller type can be varied. This means that creative crop producers can convert their ideas on soil tillage into practice using Cultus.

Working depth set from the cab
The maximal working depth for Cultus is 25 cm, but the machine can also work very well in shallow cultivation. On Cultus 420-500 the working depth is controlled hydraulically from the cab, which makes Cultus a flexible implement for fields or farms with varying soil types.

The folding tines allow the tine spacing and working width to be adjusted so that the cultivator can work to greater depth without increasing the draught requirement.

The tine spacing and MixIn shin create a large flow through the cultivator, where the soil is mixed several times as it is thrown forward.

The working depth is adjusted hydraulically from the cab and the changes are displayed on a clear, numbered scale.

The tine fittings are welded fast on the frame. For stable, gap-free attachment, the tine is held in place by an ingenious construction based on a sleeve with conical ends, against which two concave sleeves are tightened with a bolt.

Quality in construction and results

Cultus is well-known to be effective in cultivating the soil and mixing in harvest trash at both low and high speed. Cultus leaves behind a level soil ready for drilling. The work results, robust design and simple handling are impressive. Equally impressive are the individual details on Cultus. They result in long machine life and low maintenance costs.

Durable frame
The main frame on Cultus 420-500 is made from square-profile steel with dimensions 200x100x10 mm. This construction gives it great durability and the ability to withstand stresses over many hectares of tough work.

Careful testing
The R&D department exhaustively tested many versions of tines and springs before it produced the perfect solution. The life of the springs has been documented over many tens of thousands of impacts in the test rig and they have been tested on countless hectares in the field on working farms before being released onto the market.

The shape and position of the tines are two of the secrets behind the impressive ability of Cultus to mix soil and harvest trash.


VÄDERSTAD

Front support wheels maintain working depth

The broad front support wheels give Cultus a smooth ride and ensure that the cultivator has excellent depth control. The reconsolidation roller is hydraulically linked with the support wheels, so no separate adjustments of the support wheels and the roller are needed when the depth is being set. The impressively level surface left by Cultus allows immediate Rapid drilling without any additional cultivation.

Cultus works best in the range 10-14 km/h, when the soil is thrown forward and harvest trash is thoroughly mixed into the soil profile. A fine tilth is also created at optimal speed, making the following drilling easier to perform.

In difficult conditions, a hydraulic arm drawbar on Cultus and a well-balanced drawbar setting can transfer over 1-1.5 tons of weight from the cultivator and its soil tillage action to the tractor. The lifting arms are slightly raised to remove some load from the support wheels. This markedly lowers the draught requirement.

It is easy to optimise cultivation depth hydraulically from the cab. This is essential for good cultivation on fields with varying soil type.

With the hydraulic arm drawbar well adjusted, the draught requirement is lowered.

Intensive cultivation

The Cultus Cobra tine is the result of intensive development work. Owing to the shape and curve of the Cultus Cobra, the soil is directed upward along the tine. The point breaks loose the soil, which is transported freely up until the flow of soil is broken into a cascade of finely distributed soil and crop trash.

MixIn shins increase the degree of cultivation
The bowed shape of the deflector makes it a phenomenal soil cultivator. The soil is lifted up, thrown forward in a circular movement and mixed once again when it lands, as the tine reaches it and throws it up again. This means that a single pass with Cultus actually has a double cultivation effect.

The tine has a release force of 450 kg. When a stone is hit and the tine force exceeds 450 kg, the tine will spring up by a maximum of 30 cm. When the obstacle has been passed over, the tine instantly returns to the working position.

Reliable reconsolidation

Reconsolidation is important in encouraging weed and volunteer seeds to germinate and in creating good contact between straw and soil for faster decomposition.

Rubber roller
The rubber roller with 800 mm diameter gives good reconsolidation and is suitable for most conditions. On light soils the rubber roller is completely superior thanks to its large diameter. The roller also has very low inertia and the risk of soil drag is practically eliminated. The roller is very durable and has been tested over 6000 km in road transport.

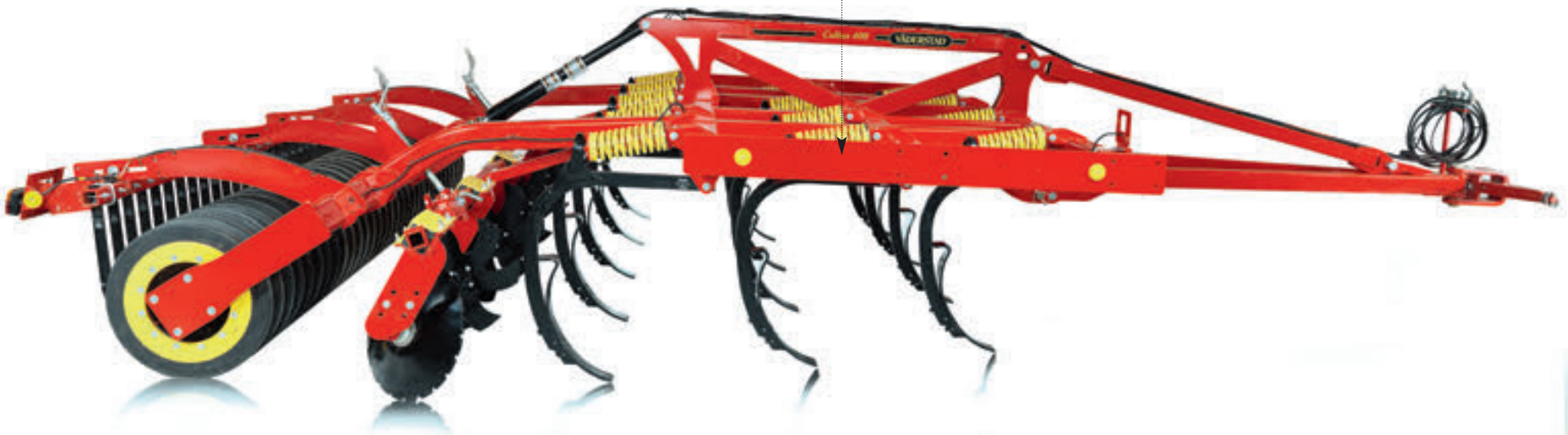
Steel roller
The 600 mm diameter steel roller is the best choice when more aggressive reconsolidation is required, on heavier soils for example. The steel roller has a good ability to run clean, even in wetter conditions. The steel rings are manufactured from hardened specialist steel for longer life. The profile of the rings has a slicing and cultivating effect on crop trash and soil clods, while at the same time reconsolidating to depth.

The responsive scrapers are suspended from their mountings, which means that the roller can be kept clean under demanding and difficult conditions.

Cultus 300-400

The same uncompromising design of tines and MixIn shins as the larger Cultus 420-500. A very powerful and spacious frame construction and a large free-rolling rubber roller give Cultus 300-400 fantastic soil cultivation ability, irrespective of soil type. Working depth is easy to set, which is an advantage in varying conditions.

The machine is spacious and has a frame height of 85 cm, which means that it can allow large amounts of soil and crop residues to flow through. The powerful main frame, which is manufactured from square-profile pipe (dim. 100x100x10mm) can withstand stresses and has a long life.



ZONE 3	ZONE 2	ZONE 1
The trailed model is transported on the roller, so the rubber roller is supplied as standard. The roller has a diameter of 586 mm. For the hydraulically carried model, a ribbed roller, steel roller and rubber roller are available as options.	Levelling discs leave an excellent work result. The greaseless bearings mean that the discs are maintenance-free. Tine levellers are available as an option. These tine levellers have a simple construction and works well on light soils with only small amounts of harvest trash.	Working depth is set hydraulically from the tractor. The same points and wing-shares as on the large models can be fitted on the tines. Cultus 300-400 has three axles and a tine spacing of 30 cm. The trailed Cultus models can be fitted with support wheels.

Powerful and responsive

Cultus 300, 350 and 400 are generally based on the same components as the Cultus series. The smaller Cultus models have three axles, 30 cm tine spacing and the same strong, efficient tines. Cultus 300 and 350 are available as hydraulically carried models. The trailed model is available in all three widths. The MixIn deflector is standard on all models.

Cage, steel and rubber roller
The trailed model is transported on the roller, so the rubber roller is supplied as standard. The rubber roller gives good reconsolidation and leaves a level surface. It also gives the machine a smooth and safe passage during transport. For the hydraulically carried model, the cage, steel and rubber roller are available as options.

Setting the depth from the tractor
On the carried Cultus 300-350, the depth is set steplessly with the hydraulics. On the trailed Cultus 300-400, the depth is also set from the cab, but the bottom level is marked with clips on the machine. The same points and wingshares as on the larger models can be fitted on the tines. The three axles are 80 cm apart, and the distance between the tines on each axle is 90 cm for maximal through-flow.

CULTUS ACCESSORIES

40 mm

50 mm

80 mm

D=41/52.5/57/72.5 mm

50 mm point

80 mm point

300 mm Wing-share

Low Disturbance

Marathon 50 mm

Marathon 80 mm

Wing-share Marathon

BioDrill 180 and 250 are intended for the smaller, trailed Cultus 300-400.

BioDrill 360 with pneumatic seed hopper is intended to be fitted on the larger Cultus models.

Drilling with BioDrill

The efficient cultivation action of Cultus mixes in harvest trash and creates a fine finish, which provides good conditions for sowing rape and other small-seeded crops. With BioDrill, all this can be done in one action. The seeds are released in front of the roller and well covered during rolling. Cultus leaves a smooth, fine surface in which the seeds can germinate on a seedbed that saves soil moisture.

CULTUS TECHNICAL DATA

	Hydraulically carried		Trailed		
Model	300	350	300	350	400
Draught requirement (hp)	90-140	120-160	90-140	120-160	120-200
Working width (m)	3,0	3,5	3,0	3,5	4,0
Transport width (m)	3,0	3,5	3,0	3,5	4,0
Tine distribution (cm)	30	30	30	30	30
Weight (kg)	2100	2300	2400	2600	2800
Hydraulic requirement	1 DA	1 DA	1 DA	1 DA	1 DA

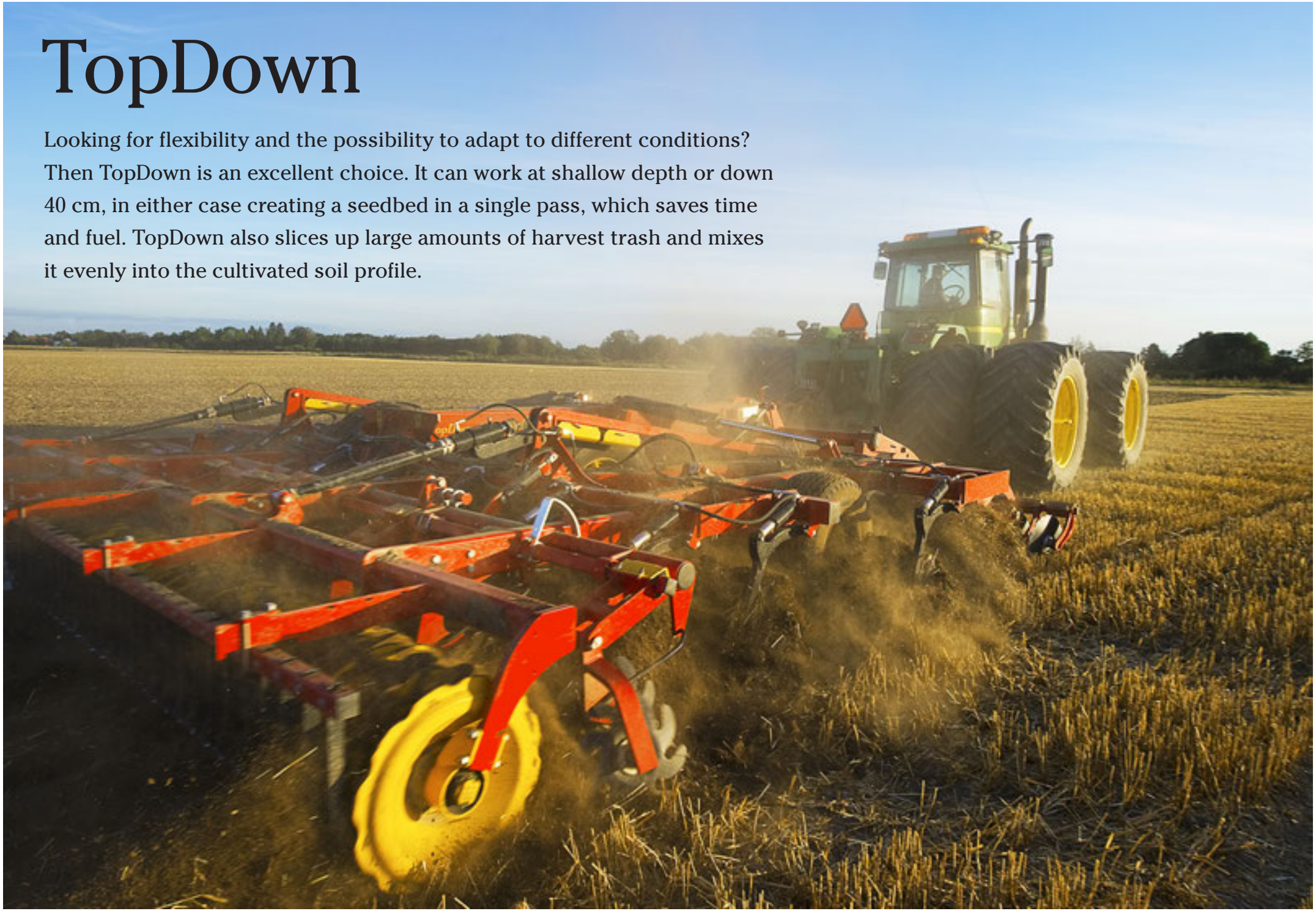
Model	420	500
Draught requirement (hp)	210-290	250-350
Working width (m)	4,2	5,0
Transport width (m)	3,0	3,0
Tine distribution (cm)	22	20
Weight (kg)	5600	6550
Hydraulic requirement	3-4 DA	3-4 DA

DA = double-acting

For the trailed smaller Cultus models, support wheels are available as an option. The support wheels give better depth control.

TopDown

Looking for flexibility and the possibility to adapt to different conditions? Then TopDown is an excellent choice. It can work at shallow depth or down 40 cm, in either case creating a seedbed in a single pass, which saves time and fuel. TopDown also slices up large amounts of harvest trash and mixes it evenly into the cultivated soil profile.



Rubber cushioning in the steel roller absorbs impacts and gives the frame a longer life.

The placement of the wheels makes the machine responsive on headlands.

The machine is spacious and has a frame height of 80 cm, which means that it can allow large amounts of soil and harvest trash to flow through. The powerful main frame can cope with stresses, giving it a longer life.

ZONE 4	ZONE 3	ZONE 2	ZONE 1
The most aggressive steel roller on the market, which can re-compact efficiently at depth, while at the same time actively cultivating the soil.	The levelling discs leave a smooth soil surface. The greaseless bearings mean that the discs are maintenance-free. The levellers are controlled hydraulically from the tractor cab on the move.	The cultivator part of TopDown consists of three rows of permanent tines designed to loosen the soil and mix in harvest trash. The tines can be fitted with different point options according to requirements. One of the advantages of having discs and cultivator tines in a two-stage process is that the total draught requirement is lowered. In addition, fewer large clods are drawn up to the soil surface.	At the front there are two rows of serrated, conical discs with a diameter of 450 mm, manufactured from the rigid, durable V-55 steel. This steel extends the working life and lowers the operating costs. The discs slice up harvest trash and mix them into the upper part of the soil. The working depth of the discs can be set steplessly on the move.

Flexibility gives three machines in one

Reduced tillage working with nature. In addition to saving fuel and time, in the long run the humus content in the upper topsoil is increased, which makes the soil easier to cultivate, decreases the risk of crust formation and increases the earthworm population. The wormholes increase the permeability of the soil profile, improving the conditions for root development. TopDown is designed to slice up the entire soil surface, mix in harvest trash and loosen to depth, all in a single pass. Finally the surface is levelled, any remaining clods are crushed and the soil is efficiently reconsolidated by the large, heavy steel roller. The secret of the construction is that the amount of clods is decreased and the seedbed can therefore be prepared in a single pass.

A seedbed in one pass.

The front discs are suitable for shallow cultivation directly behind the harvester in order to mix in harvest trash and encourage volunteer and weed seeds to germinate. The cultivator tines are kept in the raised position during this procedure. The conical discs of specialist hardened Swedish V-55 steel work best when driven at 10-15km/h. This gives full mixing of harvest trash, since it allows the discs to throw soil energetically to the side.

Shallow cultivation.

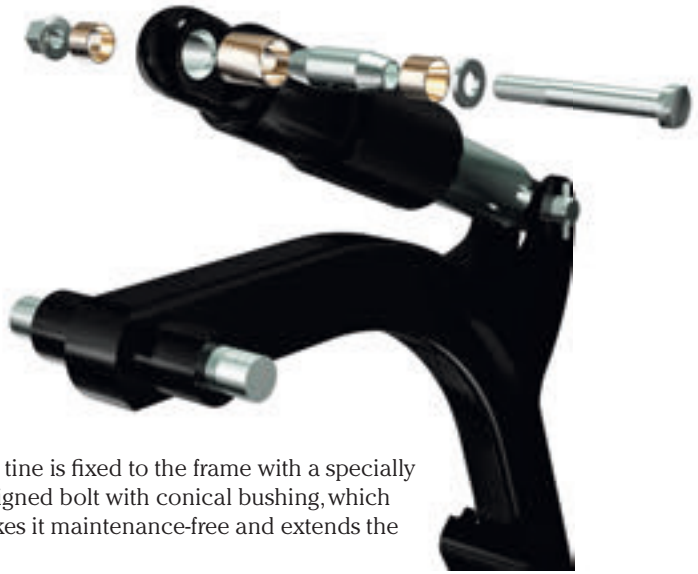
To use TopDown as a classical cultivator, the discs are lifted and the tines do the work. This type of operation can be used to break up a plough pan or hardened soil layer. To work deeper down into the subsoil, deep loosening points can be fitted on the rear tines. The tine spacing is 27 cm, which generates only small clods. The clearance is high in order to cope with large amounts of harvest trash.

Classical cultivator.

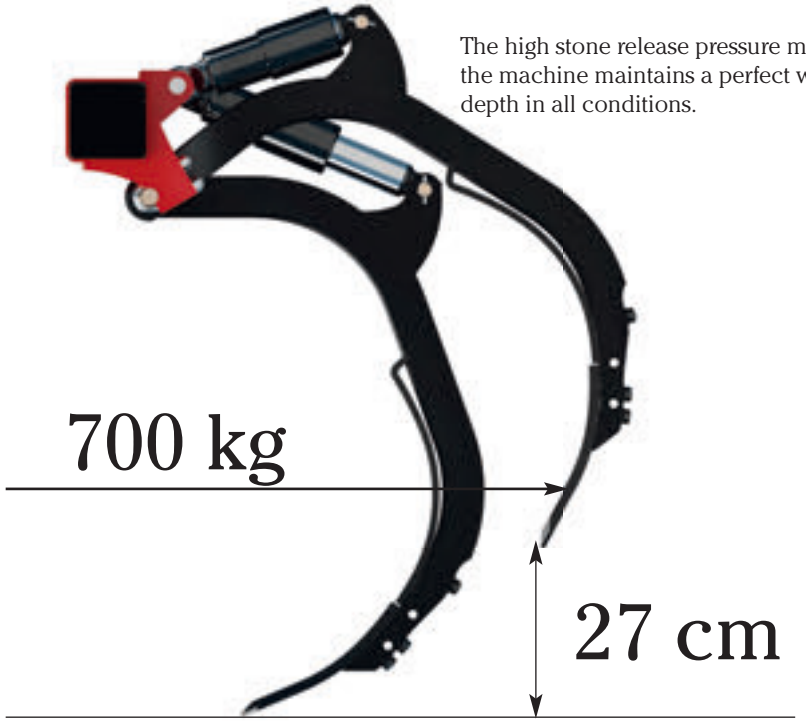
Effective mixing

The tines are fitted with a split point and MixIn shin rail. Since an ordinary point is worn down many times faster than the MixIn shin, the split construction ensures a constant mixing action. MixIn throws the soil forward instead of upwards which in turn mixes and finely tills the soil. The point's angle of approach is optimised to give as little clod formation as possible. This construction results in effective cultivation and mixing in of harvest trash, since the soil is mixed several times in a single pass.

The tines are fitted with hydraulic stone release and can be adjusted variably by up to 700kg point force in order to prevent stress on the frame. This pressure allows the working depth to be kept constant even on the heaviest soils.



The tine is fixed to the frame with a specially designed bolt with conical bushing, which makes it maintenance-free and extends the life.



The high stone release pressure means that the machine maintains a perfect working depth in all conditions.

In dry conditions, the entire weight of the machine can be carried on the roller.

On lighter soils, the roller is raised so that it just runs on the surface.

In wet conditions, when less weight is needed on the machine, the entire roller can be removed.

The steel roller breaks up straw lying near the surface and presses it into a shallow soil layer in order to achieve an optimal decomposition rate.

Flexible roller

The strong, heavy roller rings with 600 mm diameter reconsolidate the soil surface and thoroughly crush clods. The rings are made from the same material as the discs, which gives them a long life. In addition, each ring acts as a spring plate, which eliminates the need to re-tension the roller package. The smooth sides of the rings give them a phenomenal ability to forge their way through moist or wet soil without getting clogged by clay or straw.

Irrespective of the work being done by the front components of TopDown, the rubber-mounted aggressive steel roller can be adjusted to the different conditions. The steel rings have aggressive combs that work and break up straw lying near the surface and press it into a shallow soil layer in order to promote an optimal decomposition rate. In dry conditions, powerful reconsolidation is needed to get decomposition started and to encourage volunteer and weed seeds to germinate quickly. In that case, the entire weight of the machine can be carried on the roller rings. On lighter soils the aim is not to let the roller work too deep, so it can be set to float over the surface using only its own intrinsic weight.

In wet conditions on heavy soil, e.g. in autumn tillage ahead of spring drilling, the roller can be removed completely. However, if there are only a few wet patches in the field, the roller can be raised in those areas so that it does not run on the soil.

TopDown has a richness of variation and a range of use that covers most functions that could be required from a modern soil cultivation implement.

Make TopDown a seed drill with BioDrill

TopDown has a richness of variation and a range of use that covers most functions that could be required from a modern soil cultivation implement. Equipped with BioDrill it can also become an efficient seed drill, allowing fast establishment of crops such as winter rape and catch crops.

Seed covered by BioDrill
When the machine is in work, the seeds are placed in front of the roller and are covered over during reconsolidation. With TopDown 300 the seeds fall to the ground, while with TopDown 400-700 they are distributed evenly by spreader plates.

Sowing rape and catch crops
Early establishment in the right moisture conditions and thoroughly incorporated straw are important for winter rape. The right establishment time with sufficient heat means that the crop can develop to the optimum. TopDown with BioDrill provides a good starting point for successful sowing of winter rape and catch crops.

BioDrill 360 for TopDown 400-700.

Early sowing (right) is important in achieving good development before winter.

BioDrill 180 is compatible with TopDown 300

TOPDOWN ACCESSORIES

40 mm

50 mm

80 mm

D=41/52.5/57/72.5 mm

50 mm point

80 mm point

120 mm point

300 mm Wing share Marathon

Marathon 50 mm

Marathon 80 mm

Deep loosening

Low Disturbance

Folding tines decrease the draught requirement and allow deeper cultivation to be carried out using the same tractor.

TOPDOWN TECHNICAL DATA

Model	300	400	500	600	700	900
Draught requirement (hp) from	150	200	250	300	350	400
Working width (m)	2,65	3,75	4,80	5,75	6,75	9,10
Roller width (m)	3,0	4,0	5,0	6,0	7,0	9,0
Transport width (m)	3,0	3,0	3,0	3,0	3,0	5,0
Tine spacing (cm)	27	27	27	27	27	27
Basic weight (kg)	4400	6200	7000	9100	9900	13200
Hydraulic requirement	4 DA	4 DA	4 DA	4 DA	4 DA	4 DA

DA = double-acting

NZ Aggressive

Looking for a machine that makes soil cultivation easier and has a guaranteed longer life? Then NZ Aggressive is the right choice. Its exceptional soil tillage ability saves passes and frees up capacity. The OffSet-bogie wheels give excellent manoeuvrability and consistent working depth, which can be simply adjusted from the cab.

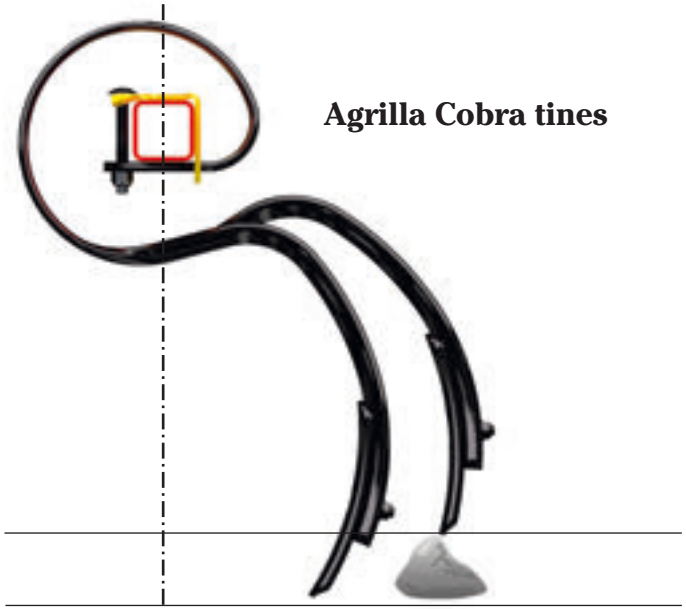
Väderstad's clever foldback function folds back the following harrow in the event of accidental reversing.

NZ Aggressive has 7.5 cm tine spacing, distributed across 5 or 6 axles, which allows very good through-flow and intensive seedbed cultivation. The cultivator can deal with very light soils covered with dense harvest trash without any problems as a result of its long frame.

NZA is equipped with a standard interface for towing eyes and can be supplied according to the customer's requirements.

ZONE 5	ZONE 4	ZONE 3	ZONE 2	ZONE 1
The spring-mounted following harrow loosens the surface and creates effective protection against crusting. Both the angle and force of approach of the following harrow can be quickly adjusted.	Rear Crossboard is available as an option and can easily be retrofitted on the cultivator (does not apply to 6 axles).	The five or six axles of vibrating Agrilla Cobra tines slice, loosen and level off the soil for quick drilling. The intensive vibrations of the tines grade the soil and level out hollows at the same time. The seedbed is so well worked that even small-seeded crops have optimal conditions for germination.	Crossboard with a double-action stabiliser bar in specialist hardened steel grinds and crushes clods. Crossboard carries fine soil along at the same time and therefore levels off the soil surface. For tough soils there is Single-Knife, a cultivator tool that further increases the slicing power of Crossboard.	Aggressive Agrilla tines loosen up tractor tracks with their slicing points. The negative effect of tracks on the seedbed is completely eradicated.

Väderstad Crossboard is supplied with a stabiliser bar made from specialist hardened steel as standard.



Due to their construction, the Agrilla Cobra tines have an impressive release height combined with good depth maintenance.

Maximum cultivation with high through-flow

Crossboard with its stabiliser bar of specialist hardened brush steel comes as standard on NZA. The bar ensures that all the Crossboard tines work to the pre-set depth and carry out maximum cultivation. The bar is easy to remove when working on lighter soil or if greater through-flow is desired.

The intensively vibrating Agrilla Cobra tines are made from specially hardened spring steel of 10x45 mm dimensions. They are strong and have a unique ability to maintain working depth.

NZ Aggressive has 7.5 cm tine spacing, distributed across 5 or 6 axles. The clearance height and the tine distribution provide impressive through-flow in combination with intensive seedbed cultivation.

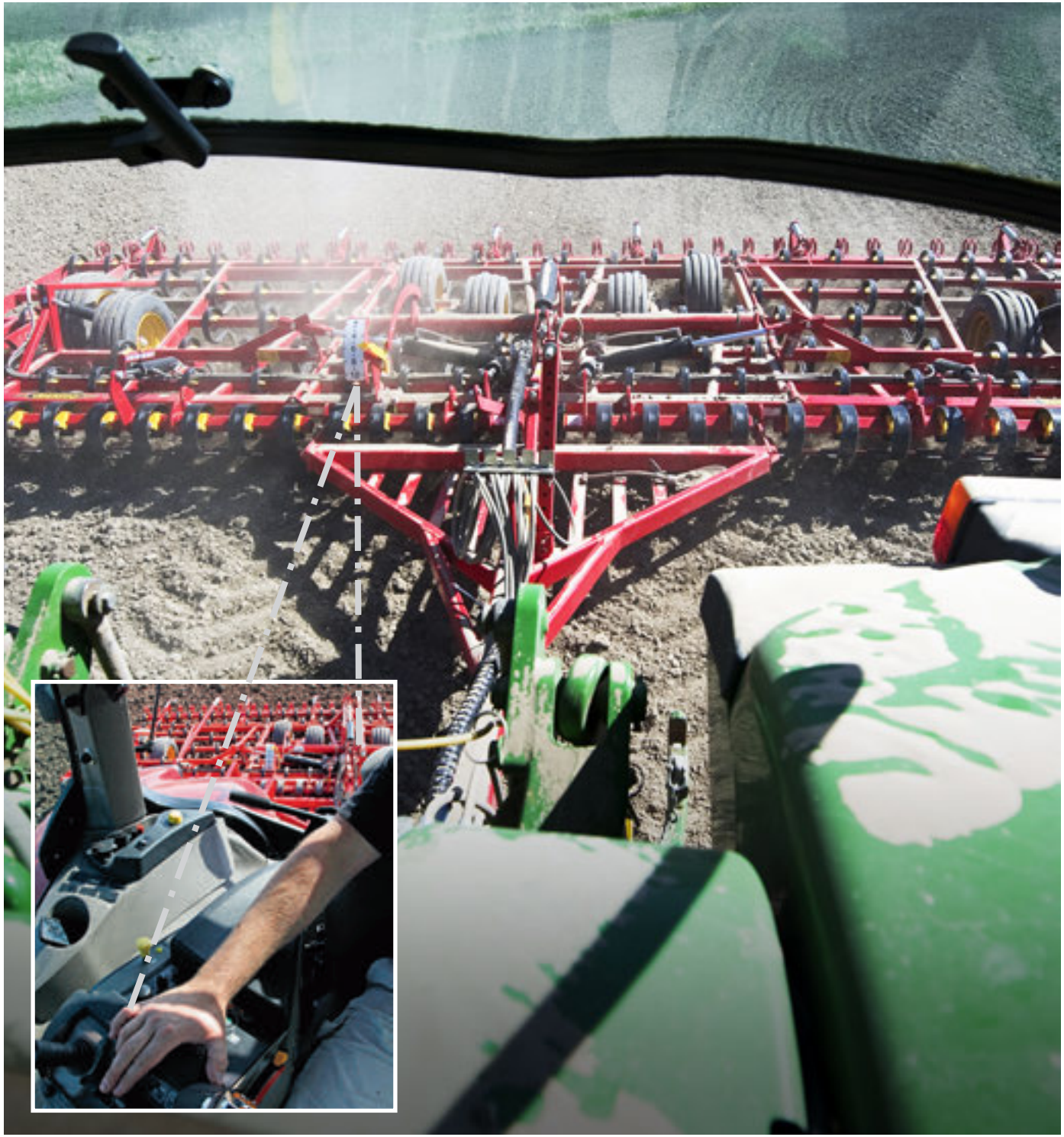
The following harrow on NZA is built to suit all soil types and requirements. It is an easy task to set the working angle and specific working force. An effective reversing guard prevents damage and costly repairs.

The responsive, spring-mounted following harrow can easily be adjusted for optimal working depth.

Superior depth control

The Control function on NZA allows the working depth to be adjusted on the move. With the help of this, the cultivator can be set to work slightly harder on headlands or in areas where somewhat deeper cultivation is required.

The Control cylinder is actually a cylinder with an adjustable bottom position. During work, the main cylinder is always in the bottom position. By adding or removing oil, the bottom position can be raised or lowered, respectively. This allows the driver to adjust the working depth on the move and the machine ‘remembers’ the last working depth set, which makes it easy to return to the pre-set working depth. The large scale gives the driver exact information about the pre-set depth, with each mark on the scale indicating a change of 1 centimetre. The Control function is standard on NZA 600-1000.

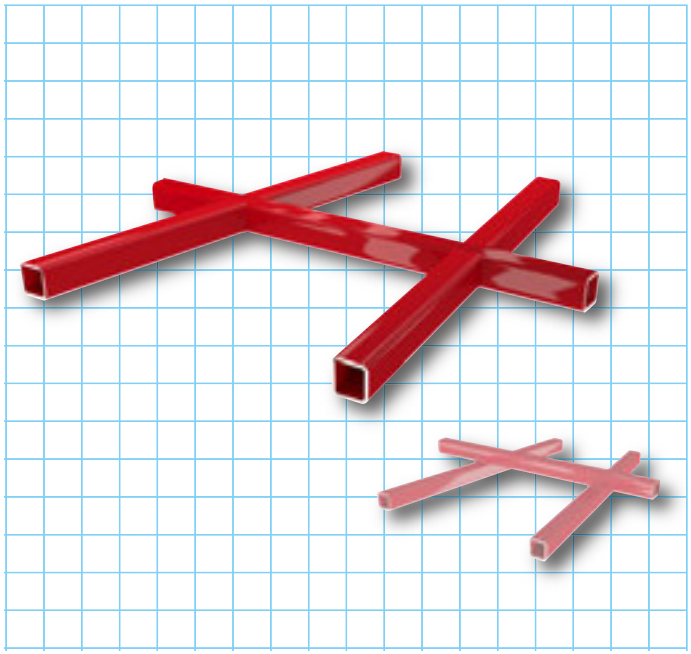


Quality and steady ride

The lattice design gives a high quality framework structure of square profile steel lying in-line. Each weld is carefully applied and creates a uniformly strong, flexing construction, which prevents stress failures and cracking in welds and material. In addition, the pipes are angled so that they can absorb impacts and stresses in an optimal way.

The bogie units are offset in order to give the frame two carrying lines. This makes the cultivator stable lengthwise and ensures that the tines on the first row work just as deep as those on the last row. The bogie is mounted in an angular contact ball bearing unit (that needs lubricating only once a year), which provides stable attachment while allowing the bogie to work friction-free.

Having 40% of the load on the front bogie wheels and 60% on the rear gives impressive contouring on the soil and a 'fast' bogie that efficiently deals with uneven ground.



The lattice-work solution is more weld-intensive than the traditional method of placing the pipes straight 'on each other'.The lattice-work construction is 40% stronger.

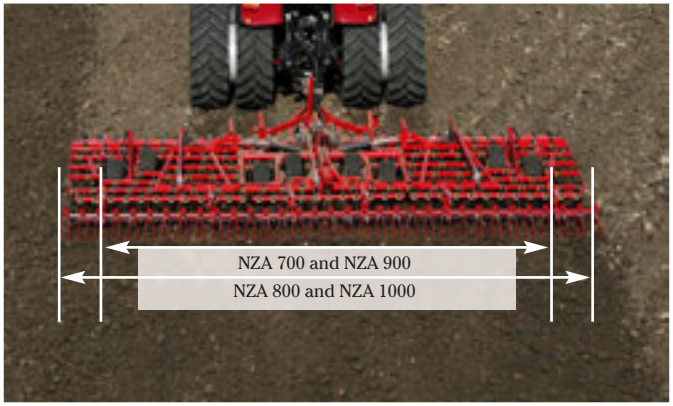
The OffSet bogie units also give a very steady ride even at high speed on uneven surfaces.

The angular contact ball bearing units efficiently absorb any disruptive lateral forces that may arise.The bearings are maintenance-free and normally require no after-adjustment.

Our different cultivators

NZ Aggressive 500ST, 600T, 600
NZA-ST and T are the simpler models in the NZA-series. The ST model has single wheels on the wing sections. The working depth is adjusted with index-marked crank handles and a control unit on the centre cylinder. NZA 600T has bogie wheels on the wing sections and a hydraulic Master-and-Slave system controls the working depth. Otherwise, the 5 and 6 m models have the same outstanding properties as the larger NZA cultivators.

NZ Aggressive 700-1000
NZA 700-1000 are extraordinary seedbed cultivators designed for farmers who want to have the absolute best on the market. Strong Agrilla Cobra tines on a powerful frame structure are distributed over 5 or 6 axles, at a tine spacing of 7.5 cm. The cultivation effect is phenomenal, and cultivation work is often complete after the first pass.



NZA 700 can easily be extended to 800 and NZA 900 can be extended to 1000.

NZ Aggressive 600 T


NZ Aggressive 900

All parts of the cultivator contribute to creating something that is appreciated by farmers all over Europe. A perfect seedbed.

If the cultivator is used for weed control, a duckfoot point is the obvious choice. It slices off all roots and effectively starves out weeds, which are left lying on the surface. An excellent choice in organic cropping.

Hitch a Crosskill roller behind the NZ cultivator

Hitching the roller on behind the cultivator reduces the number of passes and gives a better seedbed with less driving. The roller is greatly appreciated by seed and sugarbeet growers. In the autumn, when the soil is often cloddy and wet, the Crosskill roller has its rightful place behind the cultivator.

The hitch-on drawbar further increases the flexibility of NZ Aggressive, since it allows a roller to be drawn behind the machine. The hitch-on drawbar is available as an option.

Extra spare wheel available as an option, providing extra security by always being on hand.


40 mm


50 mm


80 mm


D=41/52.5/57/72.5 mm


With the cultivator tool Single-Knife fitted on Crossboard, the cultivation effect receives an additional upgrade. Using the Väderstad Quickchange system, these knives can be fitted without any tools being required.

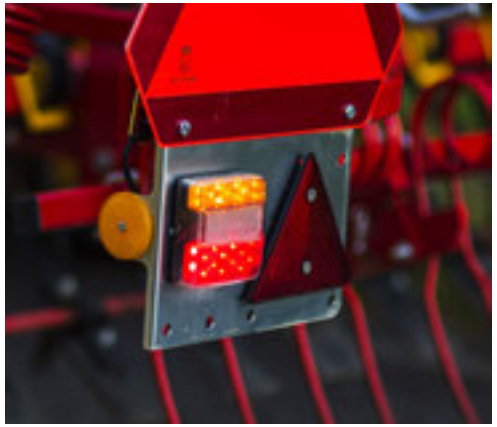

The track eradicators efficiently eliminate the tracks left by the tractor and can be individually adjusted to the desired depth. Track eradicators are available for standard wheels (2x2 tines) and for dual wheels (4x2 tines).


Super (standard)


Agrilla


Marathon 18


Marathon 25


A high-quality lighting kit is available as an option and can easily be retro-fitted on existing machines. LED-type lights are used, for long life in demanding environments.

NZ AGGRESSIVE ACCESSORIES

Rear Crossboard with stabiliser bar is recommended on heavier soils, where an extra levelling is often an advantage. A rear Crossboard can be fitted on NZA 600-1000 (does not apply to 6 axles). It can be set steplessly in relation to the front Crossboard.

NZ AGGRESSIVE TECHNICAL DATA

Model	500ST	600T	600	700	800	900	1000
Draught requirement (hp) from	100	110	120	140	160	180	210
Working width (m)	4,95	5,95	5,95	6,95	7,90	8,95	9,90
Transport width (m)	3,0	3,0	3,0	3,6	3,6	3,9	3,9
Transport height (m)	2,3	2,9	2,9	3,1	3,6	3,9	4,4
Tine spacing (cm)	7,5	7,5	7,5	7,5	7,5	7,5	7,5
Depth Control	-	Yes	Yes	Yes	Yes	Yes	Yes
Weight incl. double CB (kg)	2050	2400	2900	3400	3900	4400	4900
Hydraulic requirement	1 DA+1 SA	3 DA	3 DA	3 DA	3 DA	3 DA	3 DA
Accessories							
Track eradicators	☐	☐	☐	☐	☐	☐	☐
Spare wheel	☐	☐	☐	☐	☐	☐	☐
Rear Crossboard	☐	☐	☐	☐	☐	☐	☐
Following harrow	☐	☐	☐	☐	☐	☐	☐
Hitch-on drawbar	☐	☐	☐	☐	☐	☐	☐
Rear lighting	☐	☐	☐	☐	☐	☐	☐

Local conditions, e.g. sloping fields, can increase the draught requirement.
DA=Double-acting SA=Single-acting
NZA 6-axles cannot be fitted with a rear Crossboard

☐ = Optional extra

Rollex/Rexius

A simple and yet multifunctional roller with rubber cushioning to extend its life. It can be equipped with Crossboard and BioDrill. Crossboard has master and slave hydraulics, ensuring perfect depth control across the entire working width.

Powerful frame with large stone trays as an option and automatic locking device. The locking device prevents accidental unfolding of the roller during reversing. Conversion from transport to working mode can be controlled from the tractor cab.

The hitch-on drawbar is available in different lengths, so that the roller can be combined with Crossboard or attached behind another implement.

	ZONE 2	ZONE 1
	The roller rings are available in different designs. A maintenance-free rubber cushioning system absorbs impacts and vibrations, increasing the durability of the roller.	Crossboard with stabiliser bar, which is adjusted hydraulically from the cab, crushes clods and levels the field. Crossboard can be equipped with single or double knife tools for increased slicing/crushing action. This implement is available as an option.

Why roll?

Crushing clods and levelling ploughed soil are perhaps the main tasks of the roller. Equipping the roller with Crosskill rings and Crossboard with a stabiliser bar creates a high calibre furrow-levelling unit. On extreme soils it may be appropriate to combine a cultivator with a following Rexius. A following Crosskill roller combines efficient cultivation with level reconsolidation and few passes, which is equally interesting in spring and autumn. The Crosskill rings give the roller a unique ability to self-clean even when the soil is relatively wet, as it often is immediately after a harrow or cultivator.

With Crossboard, the roller becomes an efficient furrow leveller.

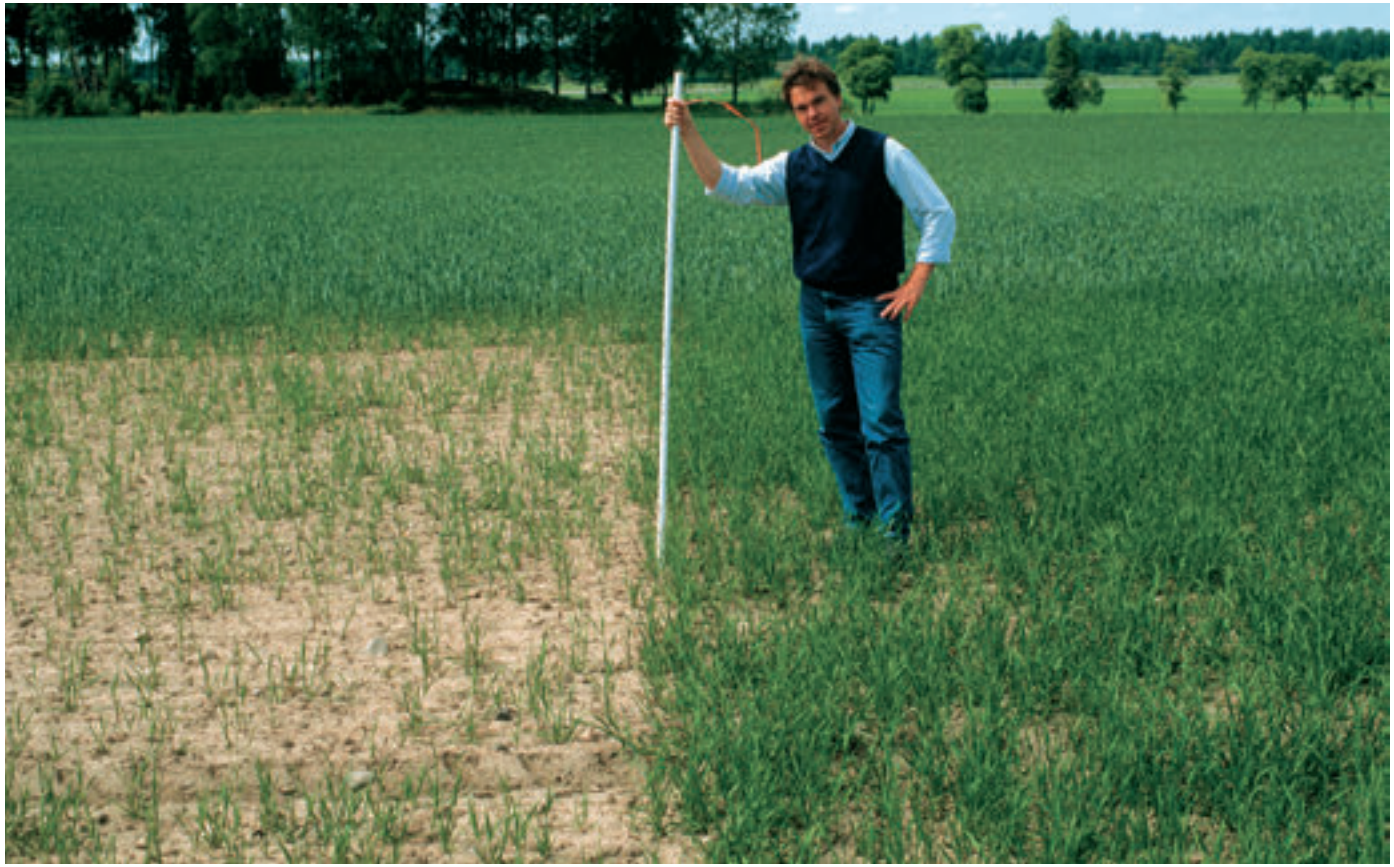
Rolling in the spring presses down stones on the surface, which can otherwise be a problem.

A following Crosskill roller ensures level consolidation after NZ Aggressive.

Roll after spring drilling
A pass with the Rexius roller fitted with Crosskill rings after spring drilling creates optimal germination conditions around the seed. Stones are pressed down but the soil is left loosened, which prevents silting over of the surface after heavy rain.

Roll autumn-sown crops in spring
The aggressive Crosskill rings break up the surface hardening which often arises in spring on autumn-sown crops. This allows air transport down to the root system and stimulates growth. The roller also presses down stones.

Crust breaking
Rain between drilling and emergence can completely compromise establishment if a surface crust is created. In such cases, rapid and resolute action is essential to rescue emergence and secure crop yield. Where a hard crust has developed, the Rexius roller with Crosskill rings and the crust-breaking tool Double-Knife gives a dramatic increase in yield. The advantage with Double-Knife is that it allows strong cultivation to be carried out without ripping up the soil, as the movement is directed forwards. On a more brittle crust, Rexius roller works just as well without crust-breaking tools.



The Double-Knife cutting tool efficiently breaks up a hard crust.Trials have shown that yield can be more than halved if the crust is not broken up.

The roller creates optimal germination conditions after drilling.

Rolling a winter crop in spring improves air transport to the root system.

Crossboard with superior levelling

The powerful Crossboard with a stabiliser bar of high-grade spring steel produces a levelling effect that is well-suited to the heaviest and most difficult clay soil. Clods are efficiently crushed against each other and Crossboard leaves behind a level soil with good structure. The force applied can be adjusted hydraulically from the cab and Crossboard is equipped with a master and slave system to ensure that the different segments of the roller maintain the same position.

A range of different tine points is available depending on the work Crossboard is expected to perform. The angled points can also be reversed so that the flat side rests on the soil, to give an even better levelling effect on light soils.

Crossboard can be equipped with sharp, hardened knife tools, Single-Knife. These efficiently slice through furrows and underlying hard clods, so the fine soil fraction is graded and ends up deeper in the soil profile. With the Quickchange system, the knife tools can be attached/removed quickly and easily.

Knife tools can be fitted quickly and without the need for tools, thanks to Quickchange.

Crossboard with a stabiliser bar makes the roller an effective cultivating implement.

The Master & Slave hydraulics ensure precisely the same depth control for all Crossboard segments.

Responsive roller

All Väderstad rollers are jointed around bearing units to give good responsiveness in the field. This is important in ensuring that all soil receives the same rolling effect and that the same results can be achieved irrespective of the shape of the field. In addition to responsiveness, length of life is critical in the jointed construction. Rollex and Rexius rollers are both fitted with the same heavy-duty joints and bearing units.

The roller sections are connected to each other by free joints. This construction allows large obstacles to be overcome in the field without affecting the responsiveness of the roller.

Pick up stones when you see them

Rolling is often a perfect opportunity to clear the field of stones that have come up to the surface during tillage or frost periods. With optional stone trays filled on the roller, large amounts of stones can be picked up quickly and easily, leaving the field ready for drilling or harvesting with no risk of stone damage to machinery.

The stone trays are ergonomically positioned and easily accessible.

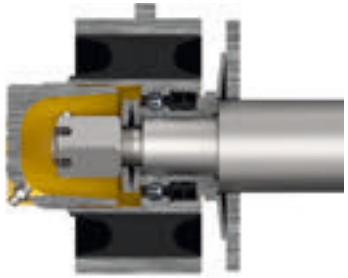
High capacity means fewer stops for emptying.

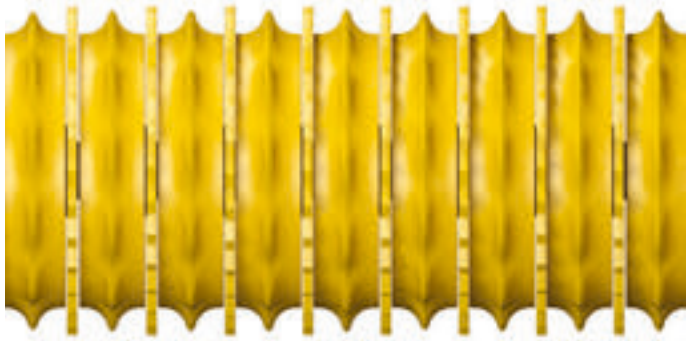
The trays are easily emptied from the cab using the roller's hydraulics.

An efficient roller always leaves fine, level fields.

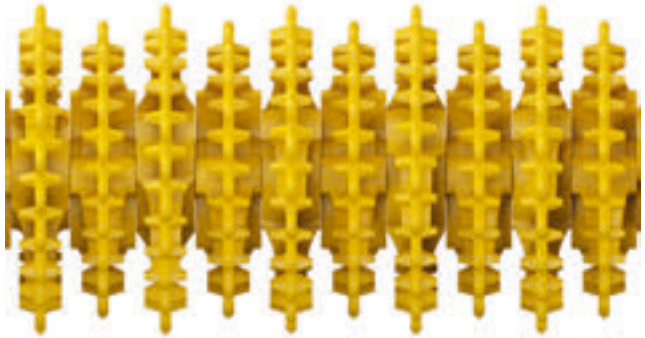
Match the rings to the task

The rubber cushioning is a unique Väderstad construction that gives superior durability.

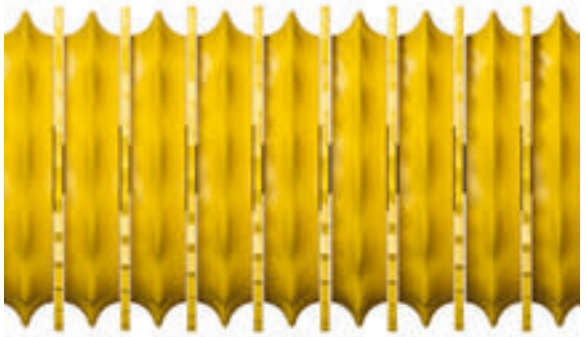




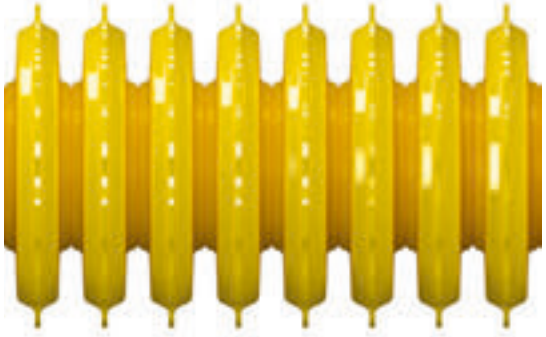
Cambridge (480/485 mm diameter)
This ring is for traditional rolling of leys or growing crops, after drilling or in spring. The rings have moderate soil cultivating ability and are cleaned by the larger serrated ring. They have a low draught requirement, since the rings run on the surface and the teeth on the rings provide the drive. Axle diameter 55 mm.



Crosskill (470/520 mm diameter)
Soil cultivating ring with aggressive profile that leaves a loose, crusting resistant surface while reconsolidating the soil at depth. The great difference in ring diameter not only gives a self-cleaning effect but also offset behaviour, processing more soil in light conditions and therefore lowering the draught requirement. Axle diameter 55 mm.

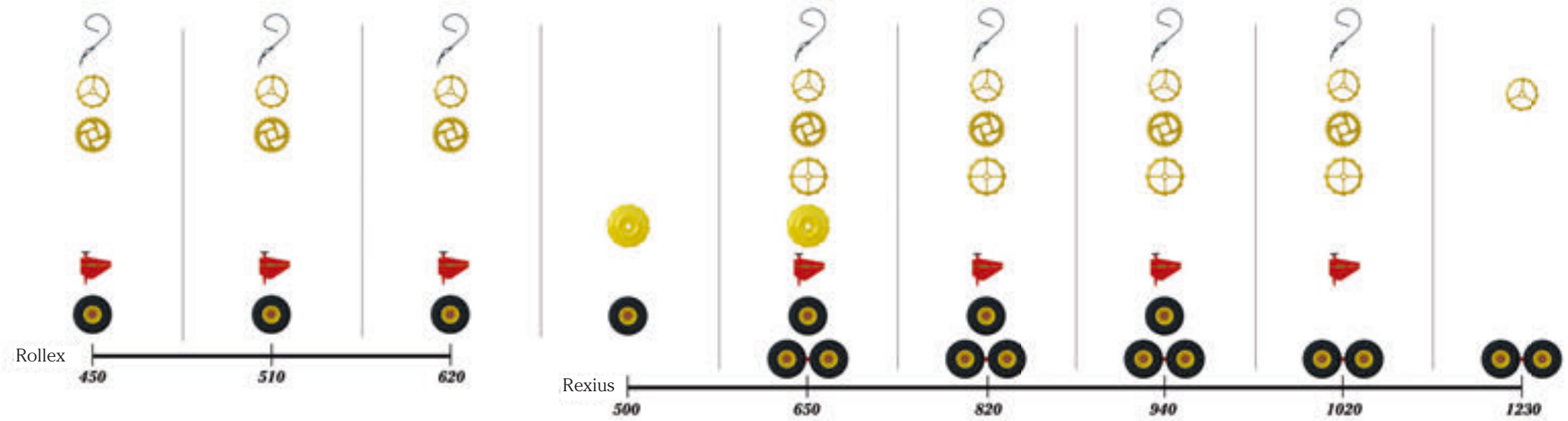


Heavy Duty (550/565 mm diameter)
For heavier soils with autumn tillage, where an extra reconsolidating effect is required. The larger diameter decreases inertia. Axle diameter 60 mm.



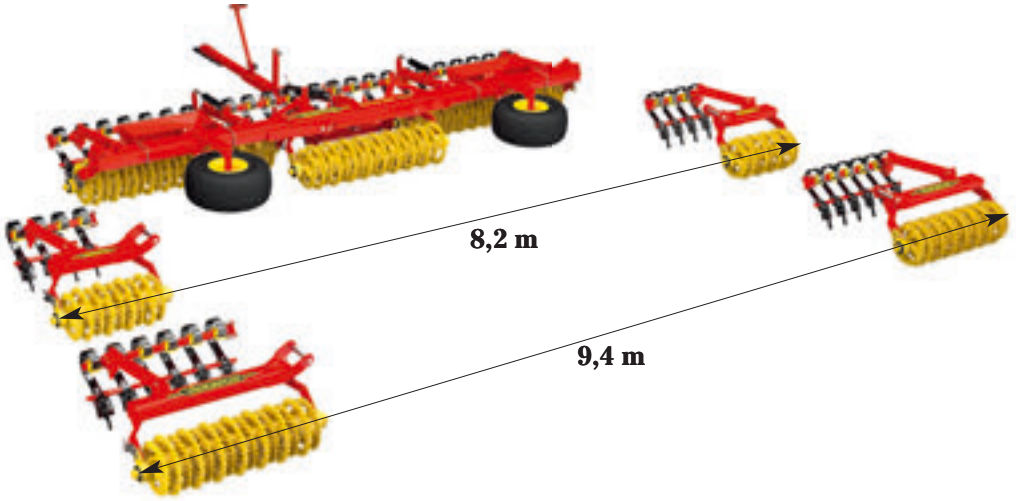
Steel ring (550 mm diameter) only Rexius 500-650
Aggressive soil cultivating roller with high point pressure through the deep profile. Reconsolidates at depth and at the surface and leaves a free-draining, crust-protected surface. Fitted with dangling scrapers that keep the roller clean even in very wet conditions. Axle diameter 60 mm.

Specific advantages of the rollers



Rexius
The Rexius rollers are built around a very substantial frame (250x150x10 mm) to withstand tough conditions. The frame also gives a higher weight per metre, up to 800 kg, which is an advantage during rolling. Rexius is available in up to 12.3 m working width and has a range of different roller options to choose from. The 6.5 m model can be extended to an 8.2 or 9.4 m working width. Rexius has an impressively narrow transport width of 2.5 m and comes supplied with sturdy 400 mm wide wheels, with tandem wheels either as standard or an option.

Rollex
Rollex is the flexible roller in the narrower segment with a 4.5-6.2 m working width. Owing to the narrower working width, the roller has a somewhat lighter frame than the larger models, although it is very well-dimensioned (200x100x10 mm) for the working widths of Rollex. The transport wheels are 25.4 cm wide and perfectly adapted to the weight of Rollex. Rollex has a transport width of 2.8 m.



Rexius is extendable.This is a great cost saving advantage if you increase your farm size and require a larger machine.

BioDrill

With BioDrill on a Väderstad roller it is possible to sow grasses, catch crops and other small-seeded crops. This saves passes, time and money. The seeds are metered out with great precision by the tried and tested Fenix system. The seed nozzles are positioned in front of the roller and ensure even spread. The roller then buries the seeds in the upper 2 cm of the soil, where the conditions for germination are at their best.

ROLLEX AND REXIUS ACCESSORIES


40 mm


50 mm


80 mm


D=41/52.5/57/72.5 mm

To further enhance the cultivating and crushing effect of Crossboard, it can be fitted with sharp, hardened steel knife tools, Single-Knife. The crust-breaking Double-Knife tools can break through the surface hardening that often arises on silty soils after heavy rain. These tools can be attached without the use of tools with the Väderstad Quickchange system.

ROLLEX TECHNICAL DATA

Model	450	510	620
Draught requirement (hp) from	55	60	70
Working width (m)	4,5	5,1	6,2
Number of sections	3	3	3
Transport width (m)	2,3	2,8	2,8
Weight** incl. CB (kg)	2000	2310	2800
Hydraulic requirement	1-2 DA	1-2 DA	1-2 DA

** Crosskill or Cambridge

REXIUS TECHNICAL DATA

Model	650	820	940	1020	1230
Draught requirement (hp) from	70	90	100	110	100*
Working width (m)	6,5	8,2	9,4	10,2	12,3
Transport width (m)	2,5	2,5	2,5	2,5	2,5
Weight** incl. CB (kg)	3820	4800	5200	5550	5800*
Weight*** incl. CB (kg)	4820	6100	7000	7350	-
Hydraulic requirement	1-2 DA	1-2 DA	1-2 DA	1-2 DA	1-2 DA

DA= Double-Acting

* Cannot be equipped with Crossboard. For other models the draught requirement specified is with Crossboard

** Crosskill or Cambridge

*** Heavy Duty

Rexius Twin

If the soil is cloddy, hard and difficult, the Rexius Twin concept solves the problem and levels out furrows. The roller both cultivates and reconsolidates the soil, leaving a surface that is suitable for drilling.

Powerfully built frame with 60 cm clearance.

Reversible hitch eye that can be adapted to the hitch hook on the tractor.

ZONE 3	ZONE 2	ZONE 1
The sharp and heavy rings, which are positioned alternately in the roller, force the remaining coarse clods through/under the rings, giving an extreme crushing effect. The rings are slightly wavy in shape to give a driving force and leave a loose surface. The diameter is 730 mm with a spacing of 200 mm.	Heavy Crossboard with stabiliser bar, which can be adjusted hydraulically from the cab, crushes clods and levels the field. Crossboard can be equipped with single or double shares for increased slicing/crushing effect.	Vibrating Raptor tines with 22 cm tine spacing and 44 cm between the axles create a good flow of soil and harvest trash. The standard points are 40 mm wide and 17 mm thick. They work to best effect in ploughed soil. The machine works down to 15 cm. A third row of tines is available as an option.

Rexius Twin - a multifunctional heavyweight

Whether the soil is light or heavy, there is great potential for rationalisation with Rexius Twin. It can level and almost earth-move if necessary; crushes clods and reconsolidates at a speed and intensity that are unique.

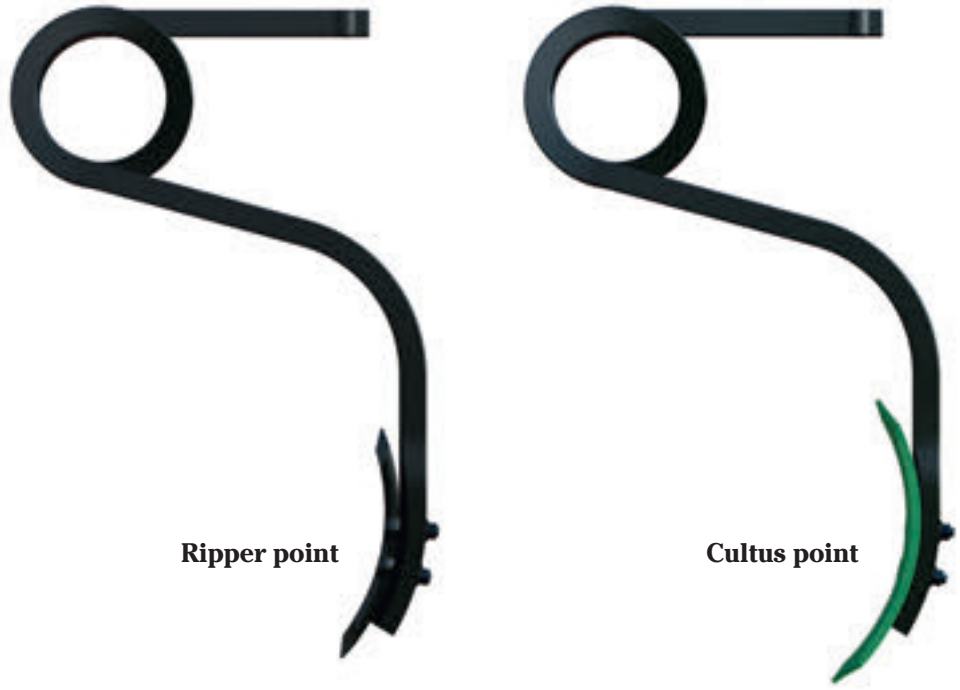
The vibrating tines are in continual movement and lower the draught requirement of the machine, while at the same time giving a high soil cultivating capacity down to 15 cm. When the tines have done their work and ripped apart plough furrows, Crossboard takes over and efficiently crushes clods. Crossboard is fitted with a stabiliser bar which causes it to work evenly across its entire width. Crossboard is adjusted hydraulically from the cab.

Rexius Twin is built for thorough reconsolidation on both heavy and light soils. The alternating roller rings were designed after rigorous testing in a wide range of conditions. The broad shoulder of the rings combined with an aggressive edge efficiently break up stone-hard clods, while giving phenomenal carrying capacity on wet and dry soils, despite the weight of 1400 kg/m. The shoulder also means that the draught requirement is moderate even on loose surfaces. The toolbar and rings leave behind a surface that is well-prepared for drilling.

Rexius Twin concept

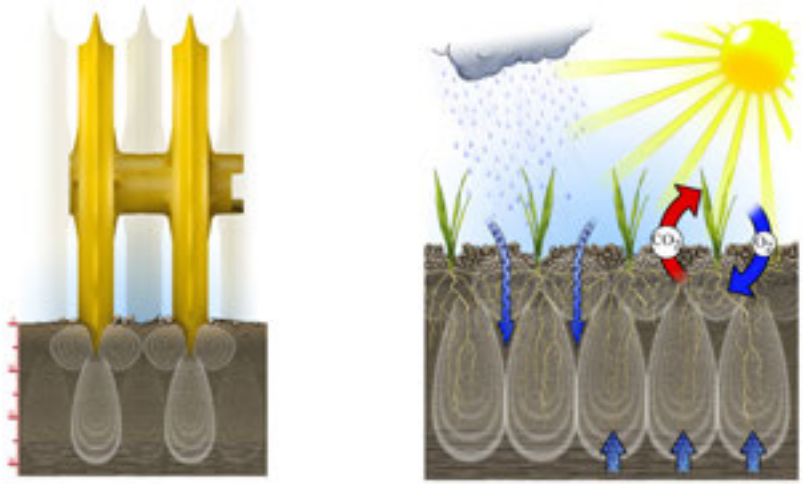
It is a well-known fact that deep-tilled soil is too loose and needs to be reconsolidated in order to achieve optimal yield. Reconsolidating the soil a day or so after ploughing or other deep tillage decreases the risk of the soil drying out and becoming cloddy in dry years.

Light clays, silty clays and clay loams are often difficult to cultivate directly after ploughing and risk being impossible to manage in a dry or very wet autumn. Ploughing or other deep tillage, directly followed by Rexius Twin and then drilling can be a weatherproof system with high capacity on these soils. Leaving heavy soil in the furrow after ploughing is a risky strategy. If heavy soil dries out it becomes as hard as concrete and it if gets wet it can be impossible to handle. Heavy soil must be levelled, reconsolidated and left with a slightly drilled-up surface, with large clods pressed down into the fine tilth, as soon as the soil is workable after ploughing or other deep tillage.



The tines can be used in soil cultivation on stubble or ploughed soil. The Ripper points transport the soil forward and are therefore designed for shallower work on plough furrows, while the Cultus points have mixing abilities and are mainly designed for stubble cultivation.

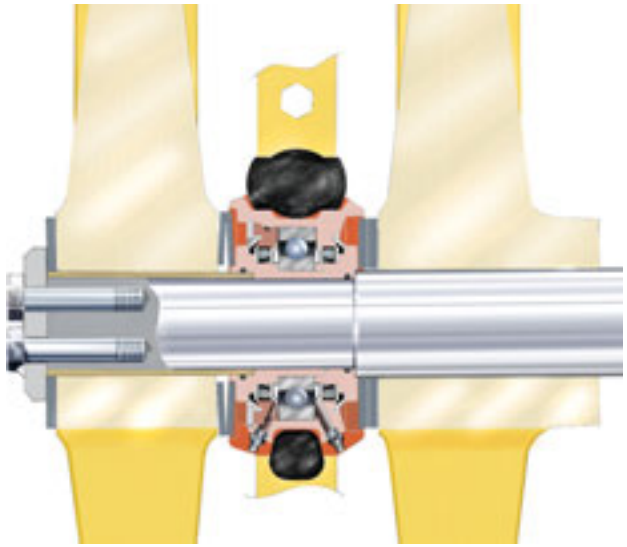
Crossboard with double-acting stabiliser bar is used after ploughing to crush clods and level. If it is used for levelling in stubble cultivation, this work should be done without the stabiliser bar to facilitate the through-flow of harvest trash.



The roller shoulders help to reconsolidate the surface soil, while at the same time giving very good carrying capacity. The pointed comb efficiently crushes clods. A correctly reconsolidated soil secures moisture transport and gives roots the right conditions to develop.

Well-designed roller

Always driving
The powerful rings take a firm interlocking grip, so they always help each other to be driven round during work. This means that the sections do not drag on light or wet soils, and instead aim to rotate and cultivate. The spring continually compensates for any wear on the rings.



Spring-loaded bearings and long life
A combination of an axle of 65 mm diameter fitted with high quality spring-loaded bearings to absorb shock loads, result in problem-free seasons year after year. The bearing units also have multiple seals and can be lubricated on both sides. Several of the bearing components are manufactured from hardened specialist steel.

Double roller
The overlapping rings are self-cleaning and together with the scrapers permit work in wet conditions. The shape of the wheels and the broad shoulder give high carrying capacity.

REXIUS TWIN ACCESSORIES

To further enhance the cultivating and crushing effect of Crossboard, it can be fitted with sharp, hardened steel knife tools, Single-Knife. The crust-breaking Double-Knife tools can break through the surface hardening that often arises on silty soils after heavy rain. These tools can be attached without the use of tools with the Väderstad Quickchange system.

Track eradicators

To increase the tine spacing in the toolbar, the roller can be upgraded by being extended with a third axle. This gives better soil flow and more through-flow of straw and harvest trash.

Ripper point
40 mm standard

Marathon point
25 mm

Cultus point
70 mm

REXIUS TWIN TECHNICAL DATA

Model	450	550	630	830	1030
Draught requirement (hp) from	140	160	200	270	350
Working width (m)	4,5	5,5	6,3	8,3	10,3
Transport width (m)	3,0	3,0	3,0	3,0	3,0
Weight incl. CB (kg)	7400	8700	9700	13800	15000
Hydraulic requirement	3 DA	3 DA	3 DA	3 DA	3 DA

DA=Double Acting

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