Mounted Reversible Ploughs

Kverneland

Quality Ploughs for the Professional Farmer

He´s Confident. He has the Best Plough in

Kverneland is world renowned and unequalled in producing ploughs with high performance and low operating costs

Innovation from the start

In 1879 at the age of 25, Ole Gabriel Kverneland founded his smithy business in a small village south of Stavanger, Norway. As he was brought up on a farm and educated in agriculture he subsequently understood all the machinery requirements of farmers. He strongly believed in innovation and realized that a mouldboard plough must be able to withstand the very tough stony soil conditions of Norway. Over the years, he together with his team of engineers developed special steel heat treatment processes to allow his ploughs to work in the toughest of soil. Using these new steels of unique strength, Kverneland succeeded in manufacturing robust ploughs thus gaining a strong reputation for quality. Today, Kverneland is the leading manufacturer of ploughs and has a very strong market position throughout the world.

The World!

Contents

Customer orientated
The tradition of customer orientated product development has resulted in the long record of innovations and in becoming a leading plough brand in the industry. High priority is given to building close relationships with end users. Systematic follow-up of individual customer experiences helps Kverneland to adapt products to better match farmer's requirements.

Kverneland's unique steel
130 years of experience in developing special steels and heat treatment processes have resulted in unsurpassed quality and wear resistance - "Kverneland steel" is unique.
Lighter than our competitors and extremely robust after Kverneland's special heat treatments. This process is carried out and adapted not to a few selected plough parts but to the complete plough.

Kverneland's unique heat treatment is a guarantee of the Kverneland ploughs outstanding performance, quality and longevity.

Systems That Improve
Your Work Day

Systems that – if combined with the right equipment – give the individual farmer the opportunity to carry out his work quicker and more cost efficiently.

Vibromat System
Ploughs with an inbuilt shock absorber system.

Vari-Width® System
Infinitely variable adjustment of furrow width.

Auto-Reset System
Ploughs with a fully automatic auto-reset system.

Kverneland Headstocks
Headstocks that cope with the demand from larger and heavier mounted reversible ploughs and bigger and stronger tractors.

The Kverneland Vibromat System
Eliminates Vibrations in Hard Conditions

Kverneland's Vibromat system works efficiently even in the harshest of conditions. The vibrations are absorbed which consequently protects the plough and the tractor from excessive wear.

A strong shock absorber is able to absorb vibrations very efficiently. It works on the same principle as the shock absorbers on a car. The legs are fitted with shearbolts for additional safety.

Many Kverneland ploughs work on stone-free land and therefore do not need an auto-reset system. However, on very hard and dry land, and on thin brashy soils, strong vibrations may occur during ploughing.

Both the plough and the tractor are exposed to extraordinary wear and tear, and the vibrations are very irritating to the operator. Kverneland's Vibromat system eliminates this problem and, once again, Kverneland was the first to find a solution, which is clever yet, simple.

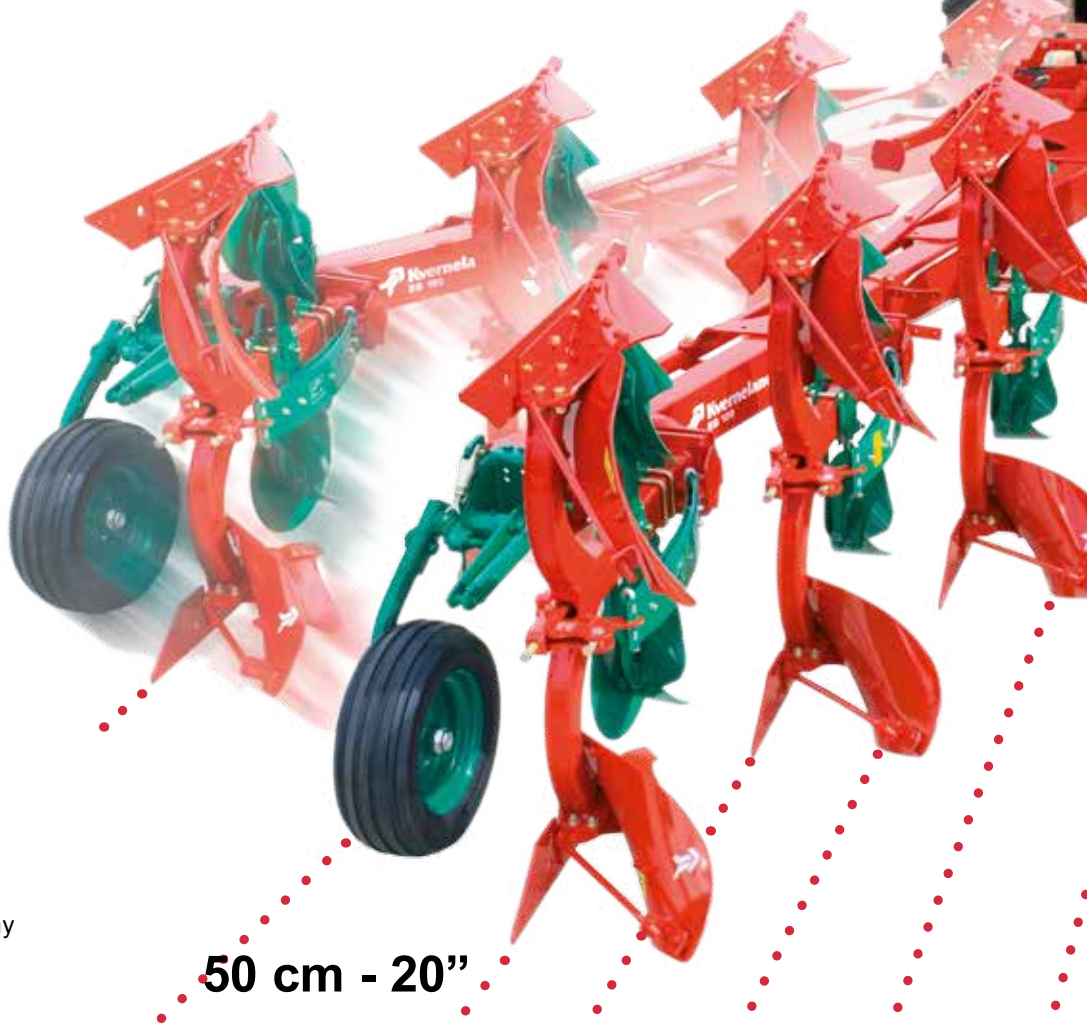
The Vibromat system is available for LD and RN ploughs (mechanical furrow width adjustment models).

The Kverneland Vari-Width® System

Variation On the Move

Kverneland Vari-Width® is a world-patented system for mechanical or hydraulic furrow width adjustment. The system allows the optimal match between tractor, implement and soil conditions. By using the Vari-Width® system, you can plough wider, quicker, better and at lower cost.

The Kverneland Vari-Width® allows a typical increase in output of up to 30%



The system that changed thinking

Kverneland’s Vari-Width® system has been the market leader for many years. The experiences of satisfied users and the tests carried out by several international research institutes have demonstrated that the system is without question one which has permanently changed the thinking on ploughing techniques.

Increased capacity by more than 30%

The Vari-Width® concept is based on gaining maximum output. As the ploughing width can be constantly varied, on the move and at will (hydraulic version), the full power and traction of the tractor can be utilised at all times, taking varying soil conditions and difficult terrain in its stride.

Cost saving

Kverneland Vari-Width® offers cost saving and output related advantages in addition to the practical fact that the work can be done more easily. In terms of capacity, it is of great benefit to be able to vary the ploughing width. By increasing the furrow width from 35 cm to 45 cm (14” to 18”), the overall ploughing width is increased by an impressive 30%.

In terms of fuel used, the consumption of diesel in relation to the increased output is reduced by as much as 18%.

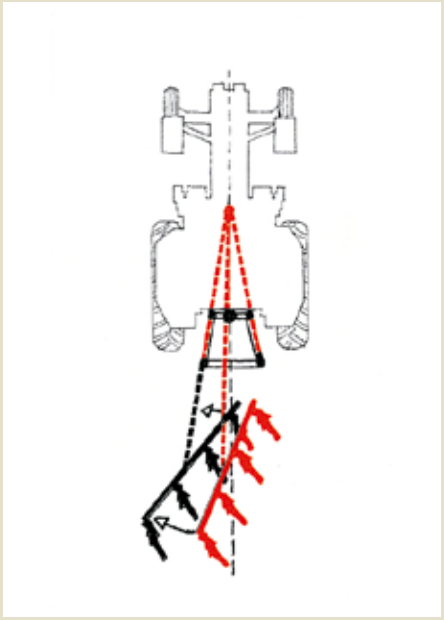
Ability to vary the ploughing width

The degree of ‘finish’ of the furrows and the capacity of the plough can be adjusted by regulating the ploughing width. For example, increasing the ploughing width also gives more ‘clearance’, making it easier to handle stripped or chopped straw, whereas shallow ploughing with a greater ploughing width is also made possible by increasing the furrow width.

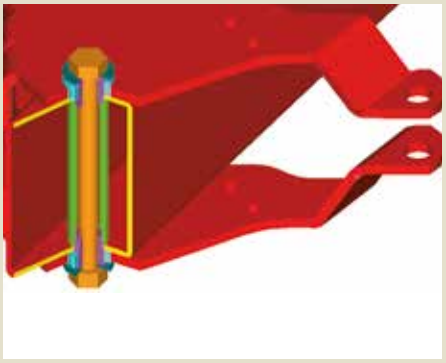
Infinite adjustment of working width from 30 to 50 cm (12”-20”), depending on models.

With Kverneland Vari-Width®, the working width can be infinitely hydraulically adjusted from the driver’s seat while on the move.

Kverneland’s patented Vari-Width® system has the correct parallel linkage along the whole length of the plough. That is why you always get the right line of pull, which in turn leads to a lower draft requirement and less wear and tear.



Two different systems
Kverneland Vari-Width® is available in two variants – with hydraulic or mechanical adjustment of the furrow width. The hydraulic variant allows adjustment of the furrow width from the driver’s seat ‘on the move’. The practicality of being able to determine not only the depth, but also the width of the furrows is crucial if the best results are to be achieved.



Minimum wear
The Kverneland Vari-Width® system has a unique non-wearing linkage joint between the beams and the mainframe section.
The system consists of a robust 24mm bolt, a distance tube, and two special heat-treated cones and hardened replaceable bushes.

The heat-treatment of high quality steels, and exacting manufacturing accuracy, guarantee perfect beam and body alignment with minimum wear.

The heat-treated mainframe together with the bolt, distance tube, two cones and hardened bushes ensure a unique non-wearing pivot joint between the beams and the mainframe.

Easier to make a better job
With Kverneland Vari-Width® it is easier to make a better job. The work can be kept straighter more easily, and it is easier to work up to hedges, fences, trees and ditches.

Vari-Width® saves time
By increasing the ploughing capacity by more than 30%, the work can be finished quicker.

The Kverneland Auto-reset System
Unbeatable in Stony Conditions

The simplest and most reliable auto-reset system on the market.

With Kverneland's auto-reset system, you just keep on going. Whenever the plough meets an obstruction, each leg releases over it and then returns to the correct ploughing depth. Simple and efficient.

Kverneland's fully automatic non-stop auto-reset system has always been unbeatable when it comes to trouble-free ploughing in stony conditions.

The simple multi-leaf spring system allows the plough legs to release over stones and other solid objects in the ground in a smooth and efficient manner. This avoids sudden jolts and possible damage.
Once the obstruction has been passed, the plough body automatically returns to the correct ploughing depth.

Quicker than ever

With today's demands for higher output, both tractor and plough are expected to perform quicker than ever before. This makes more arduous demands on the equipment, particularly on the safety systems designed

Taylor-made boron steel

+ Unique Kverneland heat treatment technology

= Kverneland unequalled strength

to protect the tractor, plough and driver against the dangers encountered whenever the plough meets hidden obstructions in the ground.

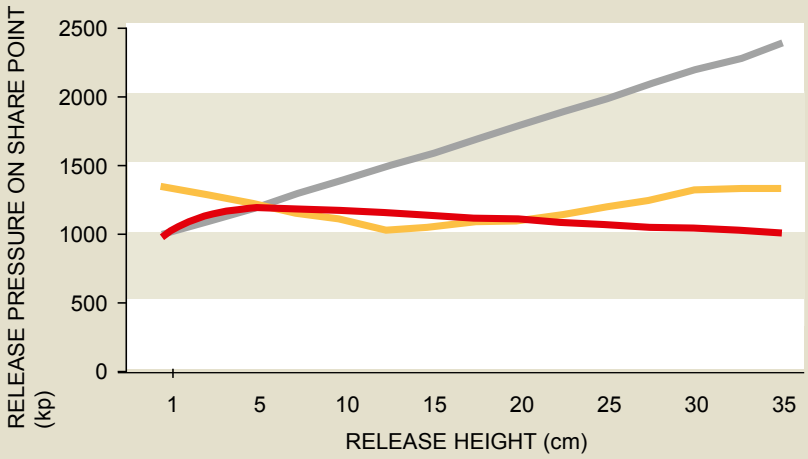
Simple and easy

Kverneland's auto-reset system is a very simple construction and yet is able to withstand these punishing forces year in, year out, with a minimum of maintenance.

Release characteristics

The diagram shows:

- the differences between three different auto reset systems, (Hydraulic system, Coil spring system and the Unique Kverneland leaf spring system)
- how the pressure varies as the body rises (1 cm)



Hydraulic System Coil Spring System Kverneland Auto-Reset

Benefits

The Kverneland leaf spring Auto-Reset system is highly recommended. When hitting an obstacle, the pressure on the point, frame, plough parts, decreases. The stress on the plough is therefore reduced which guarantees a longer life to the plough and ensures a better ploughing.

Extra leaves when needed

The standard Auto-Reset system includes 7 Kverneland heat treated springs (640Kp).
For heavier to extreme soil conditions, extra leaf springs are added for up to 1400kp.
The leaves are easily fixed with one central bolt only.

Standard spring
- with 7 leaves (640 kp)

Double spring package
- with 14 leaves (1400 kp)

Kverneland Headstocks
To Meet the Demand of Modern Farming

Kverneland headstocks
are designed to cope with the increasing demand from bigger and heavier mounted reversible ploughs and bigger and stronger tractors with up to 300 HP.

They are manufactured from the highest quality steel, and heat-treated for maximum strength according to Kverneland's exacting standards.

Headstock 200
To ensure years of trouble-free operation, the headstock is mounted on a robust 120mm shaft fitted with sealed roller bearings.

Headstock 300
A robust 150mm, specially heat-treated main shaft with sealed roller bearings will provide years of trouble-free work. The significant development here is that the shaft is fixed, with the front support moving around it. Headstock 300 is for bigger 5-, 6- and 7-furrow mounted reversible ploughs and should be the first choice for large scale farms and for contractors planning intensive use. Those that value an efficient work and cost efficiency.

Smooth and safe turnover
Both headstocks employ a strong 80-mm turnover cylinder positioned at the rear of the headstock mast, to give correct and safe turnover, even for the largest ploughs.
The design retains the proven Kverneland concept of having the centre of gravity close to the tractor in order to minimise lift requirement and to improve stability.

Front furrow width adjustment
As standard equipment, front furrow width adjustment is via a turnbuckle. Hydraulic cylinders can be specified as an option.

Elegant layout of hoses
To avoid the risk of hose damage during the turnover operation, the majority of the hoses pass through the main support axle – no hoses pass over the turning point of the headstock. Even the valve block is integrated.

Transport lock
All big and heavy mounted reversible ploughs should be transported on a combined depth and transport wheel. Therefore the headstocks are equipped with an integrated transport lock to transport the plough in the "butterfly" position.

Turnover flexibility
The headstocks allow turning of the plough either with the bodies over or under the frame.

Very easy individual level adjustment
The adjustment of the plough's operating angle can be easily achieved with individual manually altered screw adjusters on each side.

Packomat suitability
Both headstocks are suitable for immediate use with a Packomat or trailed soil packers.

Cross shaft
For headstocks 150 and 200, Cat II and Cat III are available. For headstock 300, Cat III and IV are available.

Headstock 200

Headstock 300

Kverneland Headstocks

Bring the Centre of Gravity of the Plough Nearer to the Tractor

Headstock 150

Heat-treated for maximum strength

The quality and service life of a reversible plough is largely dependent on the headstock. During both work and transport, the headstock is exposed to enormous stresses.

This means that the plough is mounted as close to the tractor as possible, thereby reducing the tractor lift requirement, especially when compared with other makes.

It also means that Kverneland ploughs can be handled by many different tractors.

Three different headstocks

The Kverneland program has three different headstocks with the designations 150, 200 and 300. All of them are constructed from the highest quality steel and are subjected to Kverneland's special heat treatment processes which infuse additional properties such as strength and hardness. Strong sealed roller bearings are used for years of trouble-free and maintenance free service.

Headstock 150

"One piece concept" and specially heat treated 110 mm Ø main shaft for better resistance. Cross shaft category II or III with possible quick coupling.

Headstock 200

The 200 headstock is recommended for ploughs up to five furrows and for tractors up to 200 HP.

Headstock 300

The 300 headstock is designed for the largest ploughs and for tractors with up to 300 HP. To make the turning as even, smooth and safe as possible, the 200 and 300 headstocks can be supplied with a sequential valve and an alignment valve.

Sequence valve

The sequence valve controls the reversing cycle of the plough. It automatically activates an alignment valve which 'narrows' the plough prior to reversal. After reversal, the plough returns to its working position. This system gives a smoother reversal of the plough bodies and is supplied as standard on all five and six furrow ED/LD ploughs.

Memory valve

The memory valve together with the memory-sequence valve, which is used on the large Vari-Width® ploughs, is also activated during reversal; it closes the plough down to the narrowest ploughing width of 12" (30cm) before reversing.

Once the cycle is completed, it returns automatically to the pre-set furrow width.

The memory valve is fitted to all five and six furrow EG/LB models.
Also available for 4 furrow EG/LB and 4-5 furrow ES/LS models, depending on countries.

Kverneland Plough Bodies
Excellent Ploughing Quality

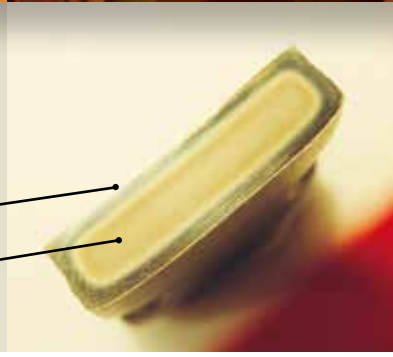
A complete range of bodies to suit all types of conditions. They are renowned all over the world for their excellent ploughing quality, outstanding wear resistance and low draft requirements.

Body 28

Especially for tractors with wide tyres. It gives good turning and produces a wide furrow bottom.

Kverneland plough bodies are made of the unique Kverneland steel. The 12 hours carburising heat treatment process result in:

- the optimum wear resistance (sharp as a diamond)
- the necessary flexibility to absorb impacts



Body No. 8

A general purpose body from medium to light soils. Capable of working at varying depths 15cm to 30cm (6 to 12 inches) and widths 30cm to 50cm (12 to 20 inches) with good cleaning and soil inversion characteristics.

Body No. 9

Like the No. 8, but even more highly “tuned”. Designed for wider and deeper ploughing at depths of 15 to 35 cm (6 to 14 inches). Suitable for heavier land where well turned and packed furrows are required.

Body No. 14

A plough body with a plastic mouldboard, for use in organic soils where sticking can be an acute problem. Similar performance to body No.19

Body No. 19

Specially designed for heavy soil, No.19 is also very good for burying large quantities of chopped or stripped straw. The angle of the mouldboard increases the clearance between the bodies in a very efficient manner. It also gives a totally inverted furrow which seals in the trash. The finished work is more broken, making secondary cultivation operations more efficient.

Body No. 28

Body No. 28 suits all soil types. Longer than body No.8, it creates a flatter profile for improved tilth. Its shape and action moves the soil further away from the landside, increases the furrow bottom width by as much as 25%. This allows wide tractor tyres to work in the furrow without rolling down the previous furrow. Suitable for depths of 15 to 30cm (6 to 12 inches) and widths from 35 to 50cm (14 to 20 inches).

Body No. 30

Finger mouldboard especially designed for sticky-stony soils. Capable of working between 20 cm and 35 cm deep (8 to 14”).

Kverneland Plough Program
Ploughs that show on the Bottom-line

Kverneland offers a plough range from small to big, from simple to advanced, from 2 to 14 furrows.
They all have the ability to make soil preparation more profitable.
Kverneland ploughs increase output, save time, fuel and money.

Kverneland 150 B/S
Designed for light to medium soil conditions and smaller tractors.

Kverneland EM&LM
Designed for farmers who want a robust reversible plough with fixed ploughing width.

Kverneland ED&LD and ED-FR
A range of heavy duty ploughs with manual furrow width adjustment. Strongly built for efficient low cost ploughing in medium to heavy soil conditions.

Kverneland ES&LS
Fitted with variable furrow width adjustment. Can easily be adapted to suit different soil types regardless of weather or crop conditions.

Kverneland EG&LB
All models feature the Kverneland Vari-Width® system, which not only increases output, but also saves time, fuel and money whilst improving ploughing and trash burying performance.

Kverneland EO&LO
This on-land/in-furrow version was the very first 7-furrow mounted reversible plough with auto-reset system in the world !
Designed for high output and bigger tractors with wheel or tracks.

The complete range
Kverneland's plough range consists of ploughs of all types and sizes – from the small two-furrow plough to the biggest, most advanced, trailed, articulated reversible fourteen furrow plough.

Kverneland 150 B/S

Perfect Choice for Light to Medium Soil Conditions

Kverneland 150 B/S
is a light and robust mounted reversible plough with step wise width adjustments. Kverneland 150 S is equipped with the renown Kverneland leaf Spring auto-reset system (efficient and no maintenance!). Kverneland 150 B benefits from the reliable shear Bolt leg protection : 3.400 kp. Its specific design guarantees low lift requirements and an easy pulling for high performance in light to medium soils. The Kverneland 150 B/S is easy to operate and economic to run.

Light, robust, long lasting
The combination of lightness and robustness results from Kverneland's 130 year expertise in developing unique heat treatment processes for unsurpassed quality and wear resistance. Such treatments apply to the complete plough from bolt to frame. Since every part of a plough endures different stress conditions during its working life, Kverneland uses close to 100 machines for customized steel heat treatments.

Taylor-made boron steel
+ Unique Kverneland heat treatment technology
= Kverneland unequalled strength

For example :

Frame induction heat treatment.

12 hours carburising heat treatment for each mouldboard.

100% heat treated.

New legs for the 150 B.
The shape of the heat treated hollow square tube and the high under beam clearance enable the plough to handle big amounts of straw and residues.

Robust frame section
The main frame is induction heat treated, thus providing the necessary strength and support for the toughest conditions. Kverneland 150 S : 150x150mm for 3-5 furrows (*). Kverneland 150 B : 100x150mm for 3-4 furrows or 150x150mm for 3-5. Both S and B models are extendable by one furrow (max 5 furrow plough). (*) depending on interbody clearance

Headstock serie 150 designed for tractors up to 150 HP ”One piece concept” with a specially heat treated 110 Ø main shaft for maximum strength. Choice of cross shaft, category II an III or quick coupling option.

Independent left/right adjustments

Easy to operate
The furrow width adjustment not only increases ploughing output but reduces fuel consumption in relation to output. This means greater utilization of the tractor according to field conditions.

Simple working width adjustment in steps (35,40,45,50cm=14,16,18,20”) by repositioning the bolt in each leg assembly.

Easy front furrow adjustment.
The front furrow can easily be adapted to different tractor brands and wheel width settings. This is done via a parallelogram, manually adjusted by a turnbuckle. Optional hydraulic cylinder.

Independent left / right settings for the depth wheel.

The Kverneland auto-line system always provides the correct pull line irrespective of wheel settings.

Optional hydraulic alignment of the frame for safer turning of the plough.

Kverneland EM & LM
Simple and User-friendly

A reversible plough that is constructed by using the essential components from other proven Kverneland models, yet without some of the more complex features.

Available as: 3 to 5 furrows

Maximum strength and durability
The construction is very simple. Designed for farmers who want a robust reversible plough with fixed ploughing width, with no need for the flexibility of adjustable working widths.

For maximum strength and durability, the EM/LM has a one-piece 150x150 mm box section mainframe. Induction heat-treated for extra strength and flexibility. The frame has the plough-beams bolted directly to it; hence the fixed ploughing width.

Fixed ploughing width
The working width is 35 or 40cm (14'' or 16'') on ploughs with 85cm interbody clearance and 40 or 45cm (16 or 18'') for ploughs with 100cm.

The ploughs are equipped with the heavy duty 200 headstock, see page 39.

One-piece mainframe for strength and flexibility.

Kverneland LM is equipped with shearbolt protection.

When fitted with the Packomat the EM/LM will plough and pack a seedbed all in one operation.

EM/LM differences

The EM is equipped with the simplest and most efficient auto-reset system on the market. The unit comprises a robust multi-leaf spring, which allows non-stop ploughing in stony conditions. One or more bodies can release at the same time, while continuing to plough efficiently.

The Kverneland LM is equipped with fixed legs fitted with shear-bolt protections.

3, 4 or 5 furrows

The Kverneland EM/LM is available as: 3, 4 and 5 furrow models, extendable by 1 body (max. 5 furrows).

All models are suitable for use with the Kverneland Packomat without modification.

All models can be equipped with different types of disc coulter, skimmers and depth wheels. See pages 36, 37 and 38. For technical specifications, see page 39.

Kverneland ED & LD
Superb Strength to Weight Ratio

Both models are strongly built for efficient low cost ploughing in medium to heavy soil conditions.
Available from 2 to 6 furrows.

Heavy duty construction
They are constructed around a heavy duty specially heat-treated frame made of a 100 x 200-mm box section tube. The design is very similar to that used in the technically advanced EG and LB Vari-Width® ploughs.
When working in extra heavy conditions, the ED/LD HD (Heavy Duty) is recomended: 120 x 200mm mainframe, heavier front support and headstock 300.

ED/LD main differences
The Kverneland ED is equipped with the unique Kverneland auto-reset system, whereas the LD has replaceable shearbolt protections.

In addition, a special version of the LD is available with the Vibromat system for hard dry conditions.

All models give a peace of mind. Kverneland has designed a range of tough reversible ploughs for outstanding all round performance.

The furrow width can be increased from 30 to 50cm (12” to 20”), depending on model, by repositioning a bolt in the frame of each leg assembly.
This will make you save time and money. The hence increased output will be achieved with less fuel consumption per hectare.

Kverneland ED-FR
The ED-FR plough is available in a front mounted version with 2- or 3-furrows. By using a front mounted plough the capacity can be increased by more than 50% without increasing the tractor size.

Further information, p. 36, 37, 38.
Technical specifications, p. 39.

The Kverneland LD plough.

Manual Furrow Width Adjustment

These models can operate with ploughing widths from 30 to 50cm (12-20”), depending on the type of body, and ploughing width. By repositioning a bolt located in each leg assembly, the ploughing width can be adjusted in steps of 5cm (2”) from 30cm to 50cm (12” to 20”), depending on model. In this way, the ploughing output can be optimized in relation to soil conditions and tractor sizes.

Reduced stress
Generally, large ploughs impose high forces on the tractor’s transmission and rear linkage, especially during turnover. To avoid this potential problem, Kverneland offers (on its 5 to 6 furrow models) a frame alignment cylinder, which automatically narrows the plough prior to turnover. It centralises the mainframe to reduce the stress on both the tractor and the plough.

Standard and available equipment
The ED/LD is fitted with the 200 or 300 headstock depending on size of the plough, see page 39.

As with all Kverneland reversible ploughs, manual front furrow width adjustment is standard. A hydraulic cylinder for ‘on the move’ adjustment is available as an option.

Most models can be equipped with Kverneland Packomat. Both models, ED and LD, can be fitted with different types of disc coulter, skimmers and depth wheels. See page 36, 37 and 38. For technical specifications, see page 39.

Under the Paint
Only Heat Treated Parts

Kverneland Heat Treatment Technology

130 years of experience in developing unique heat treatment processes for unsurpassed quality and wear resistance.

Kverneland is unequalled in producing ploughs with high performance and low operating costs.


Kverneland

Kverneland ES & LS variable width plough
Easily Adaptable to Different Soils and Tractors

Strong main frame, 150x150mm for 3 to 6 furrow models. Robust front support assembly together with the options of 85cm or 100cm interbody clearance.

The ES model is fitted with the well proven Kverneland auto-reset system for stony conditions, whilst the LS has shearbolt protection.

Both models are fitted with variable furrow width adjustment, operated by means of a turnbuckle or a hydraulic cylinder. With the hydraulic version, the working width can be adjusted on the move. It saves you time and maximises efficiency. The furrow width can be changed from 30 to 50cm (12 - 20") on ES 85, and 35 to 55cm (14 - 22") on ES 100, by simply adjusting the frame angle according to the field conditions. Front furrow width adjustment is by means of a separate turnbuckle or hydraulic cylinder.

Advantages
The first assembly, being mounted to the main support, allows the plough to be as close as possible to the tractor. Therefore the lift requirements are significantly reduced compared to other brands. Both models can be ordered with a frame mounted wheel and with Packomat. The Packomat is available up to 5 furrow ploughs.

Constructed for year in, year out performance
For maximum strength and durability, the mainframe of the plough is constructed from one piece induction heat-treated box-section steel.

Robustly constructed for year in, year out performance with a minimum of maintenance, the mainframe is attached directly to the headstock-mounting bracket. This design moves the weight of the plough forward, considerably reducing the lift requirement. Tractor and plough stability is therefore greatly improved - a particularly valuable feature on hilly ground. The ES/LS is available with the 200 headstock, see page 39.

Suits all tractor models
The reliability and service life of a reversible plough is largely dependent on the headstock. During both work and transport, this critical part of the plough is exposed to enormous stresses. The design of the headstock means that the plough can easily be adapted to suit all tractor models, irrespective of wheel widths or linkage geometry.

Add-on system
The ES/LS ploughs, 150 x 150 mm frame, are supplied with the same add-on body system as other Kverneland ploughs. Any 3, 4 and 5 furrow models can be extended by one body, max 6 furrow plough.

The variable width adjustment enables you to maximise your ploughing efficiency.

20 - 40% extra performance can be achieved when compared to a plough with fixed furrow width.

All models can be equipped with different types of disc coulter, skimmers and depth wheels.

See pages 36, 37 and 38. Both models are designed to work with Kverneland Packomat. For technical specifications, see page 39.

Kverneland EG & LB Vari-Width®

Save Time, Fuel and Money

Available from: 3 to 6 furrows.

The Kverneland EG & LB have become an important factor in making soil preparation more profitable.

They are built around a specially heat-treated box section frame, giving the necessary strength and durability when working in arduous conditions.

EG & LB are available in a standard version with a mainframe of 100 x 200 mm as 3-4 furrows, and in a heavy-duty version with a mainframe of 120 x 200mm as 5-6 furrows. The HD version also features a reinforced front section and the robust headstock 300.

Increased output with Vari-Width®

All models feature the Kverneland Vari-Width® system, which not only increases output but also saves time, fuel and money whilst improving ploughing and trash burying performance.

The ingenious linkage system allows infinite hydraulic adjustment of the furrow width, from 30 to 50cm (12” to 20”), depending on model, by using a single lever with fingertip control, all from the tractor seat.

Automatic front furrow adjustment

The Vari-Width® system on EG&LB allows the front furrow to be automatically repositioned. Therefore, the working width is kept equal from first to last body. It guarantees the precision of the overall ploughing performance.
Kverneland Vari-Width® also means that the increased output is achieved by consumming less fuel per hectare.

EG/LB main differences

The LB plough is equipped with fixed legs protected by individual shearbolts, while the EG model is fitted with the well proven Kverneland auto-reset system : fully automatic non-stop ploughing in all conditions; no maintenance.

Reduced stress during turnover

As with other Kverneland heavy duty, mounted reversible ploughs, an alignment cylinder is incorporated within the mainframe to reduce stress on both the tractor and the plough during turnover. This, together with a unique memory system, ensures that the desired furrow width setting is always maintained following the plough’s reversing cycle.

Mechanical front furrow width adjustment is standard. However, a hydraulic cylinder is available and is recommended for ploughing on side slopes to control the front furrow width ‘on the move’.

The Kverneland EG/LB is available with the 200 or 300 headstock depending on the version and on the size of the plough, see page 39.

Most models can be equipped with Kverneland Packomat. For different equipment, see pages 36, 37 and 38.

The Kverneland LB : a robust and efficient reversible plough for medium to heavy soil conditions.

Special Heat Treatment

The EG & LB models benefit from a specially heat-treated box section mainframe. This gives the necessary strength to withstand working in the toughest conditions, year after year.

Kverneland EO & LO Heavy-Duty Vari-Width®

The High Performance Plough for On-Land and In-Furrow Operations

EO/LO meet all the criteria necessary for modern farming. Available from 4 to 7 furrows.

Unique construction

The designers at Kverneland have succeeded in constructing this ultimate large plough by using the highest steel quality which combined to the unique Kverneland heat treatment technology guarantees the plough and tractor longevity.

One of the main features when ploughing in the furrow, is that the special hydraulic and parallel linkage system move the main frame into a balanced position to enable the correct turnover operation in a smooth manner (optional sequence valve is required for this operation). This alignement function avoids high turnover forces and extra tractor linkage loading.
It's hard to believe that such a large reversible plough can be turned so easily.

The turning effort is comparable to the one required for a 4 or 5 furrow Kverneland plough only.

On-land/In-furrow

The model EO and LO are specially constructed with the necessary strength for in-furrow and on-land ploughing for tractors having dual wheels or rubber tracks.
For the on-land configuration the ploughs massive offset, up to 1.42m from the headstock center to the point of the first furrow (depending on model and ploughing width) allows the tractor to be positioned exactly to the drivers' requirements.

To convert the EO/LO from on-land to in-furrow operations, the driver has fingertip control. He simply hydraulically moves the mainframe to the desired position.

Low lift requirement
The lifting requirement for a 3 point linkage tractor for a 7 furrow mounted reversible plough can be enormous. The special construction and clever design of the EO/LO plough, reduces the weight by 10-20% and hence the overall lifting demand when compared to many other ploughs on the market.

Headstock 300 provides the necessary turning power
for both EO and LO ploughs. Its robust design is centred on a 150mm fixed axle, allowing the plough to rotate effortlessly and smoothly yet having the capacity of tractors of 300 horsepower. Together with the special heat-treated 120x200mm mainframe and heavy-duty 300 headstock, the EO/LO plough is built to withstand all the forces encountered during operation for trouble-free ploughing.

Increase output - save time, fuel and money
Both models feature the unique Kverneland Vari-Width® system. Hydraulic furrow width adjustment which not only increases ploughing output, but also saves time, fuel and money whilst improving ploughing and trash burying performance. The ingenious linkage system allows infinite hydraulic adjustment of the furrow width from 30 to 50cm (12”-20”) using a single lever with fingertip control, all from the tractor seat.

EO/LO differences
LO is equipped with individual leg protection via a shearbolt, while the EO model is equipped with the well known Kverneland auto-reset system allowing Non-Stop ploughing in stony conditions; and no maintenance. All Models can be extended by 1 body to a maximum of 7 furrows

Stepwise furrow width adjustment
The EO/LO is also available with manual furrow width adjustment from 30 to 45 cm (12-18”) in steps of 5 cm (2”).

All models can be equipped with disc coulters and skimmers. See pages 36, 37 and 38.

The complete range

Different Needs, Different Ploughs

Kverneland's plough range consists of ploughs of all types and sizes – from the small 2-furrow plough to the biggest, most advanced, trailed, articulated reversible 14-furrow plough.

Kverneland PW/RW Vari-Width®,
7-14 furrows, semi-mounted reversible
wagon plough

Kverneland PN semi-mounted reversible plough
with centre-mounted wheel, 5-9 furrows

Kverneland PB Vari-Width®,
4-8 furrows, semi-mounted reversible plough

Kverneland BE Vari-Width®,
5-8 furrows, semi-mounted plough

Kverneland AB/AD Vari-Width®,
2-5 furrows, conventional plough

Kverneland Options

Extras That Keep Your Business Running

Kverneland offers improved systems and unbeatable ploughs.
Equipment like our Packomat and soil packers make soil preparation even more cost efficient.

We have a complete range of accessories. Our original wearing parts are always available.

Kverneland Packomat

The Packomat is making the soil preparation much easier. This special packer is integrated in the plough and follows the plough in work, in turning and in transport.

Soil packer arm

Our full range of strong and dependable soil packer arms are attached directly to the headstock to reduce plough side forces.

Original wearing parts

Through a revolutionary new process Kverneland has developed a brand new plough share with outstanding wear characteristics. The result is a share hard enough to withstand the most punishing conditions.

Kverneland Quick-Fit

A complete new plough share system allowing share point change within a few seconds. The only tools needed are a special taper drift and a hammer.

Accessories

Kverneland offers a complete range of accessories for all the different plough models.

Kverneland Packomat

The Perfect Seedbed While You Plough

Kverneland has developed a piece of equipment to make soil preparation even more cost efficient. Packomat is an integrated soil packer which is coupled directly to the plough.

On many soils the perfect seedbed is made while ploughing. This combination of plough and packer is both efficient and environmentally friendly.

Weeds are controlled mechanically, the number of operations is reduced and the soil structure is immediately re-established.

The traditional packer is a trailed implement which is towed by a plough. Kverneland has refined this implement and made it an integral part of the plough.

Efficient and user friendly
Kverneland's Packomat works in all soil conditions. Whatever gets ploughed is also packed. Moreover, you need not worry about releasing the packer and reconnecting it on the headland. It changes sides automatically in the plough reversing process.

The Packomat follows the plough
Compared with traditional packers which are trailed behind the plough, the integrated Packomat is rigidly mounted via a packer arm made of specially hardened spring steel. By means of this arm, weight transfer takes place from the plough to the Packomat to ensure that the packer works the soil with the right 'field pressure'. More than 1,000 kg pressure gets easily regulated by means of a turnbuckle or an optional hydraulic cylinder.

The small diameter of the packer wheels gives an excellent levelling effect. In fact the wheels carry a small amount of soil in front of them which also helps the packing effect.

Fine and smooth seedbed
The geometric relationship between the plough and the packer is constant at all times. This means efficient crushing of clods. When combined with a simple finger harrow, the packer makes a fine and smooth seedbed. On light and medium soils, the packed soil is simply ready for seed drilling. Actually on heavy soils, the Packomat reduces the necessary time for an eventual seedbed operation.

Less wear and less pulling effort
With the support of the depth wheel on the one side and the Packomat on the other side, the plough is better balanced. Hence there is less landside pressure, less wear and a reduction in the draft requirement. In comparison with a conventional soil packer, Kverneland's Packomat requires 25% less pulling effort. Fuel consumption is therefore substantially reduced.

Perfect water conductivity
Kverneland's Packomat works with a pressure of more than 1,000 kg. The wedge-shaped discs cut their way through the furrows, crush clods, push down stones, level and pack the soil, and ensure a quick re-establishment of the capillary water conductivity.

This is the best way to get germination started as early as necessary. It also reduces the problems associated to post-drilling droughts.

Kverneland Soil Packer Arm
Strong and Dependable

Adapts to any soil conditions
The Packomat is designed for ploughs from 3 to 14 furrows. In depth-recompaction is ensured by one ring section of either 480mm or 600mm Ø rings and one row of either 16mm tines with reversible points or 20mm tines with blade points.

Kverneland heat-treated steel
Specially hardened spring steel. Like all Kverneland ploughs, the Packomat is not an exception. It benefits from the unique Kverneland heat-treatment processes for unequalled robustness and wear resistance.

The Kverneland soil packer arm is attached directly to the headstock to reduce plough side forces. This overcomes the problems associated with using a traditional furrow press connected to the plough frame.

Kverneland's heat treatment process gives added strength to the headstock and packer arm to ensure trouble-free operation.

For quick and easy operations, the Kverneland soil packer arm is supplied with a hydraulic release system. An optional hydraulic alignment cylinder is also available.

Spring System

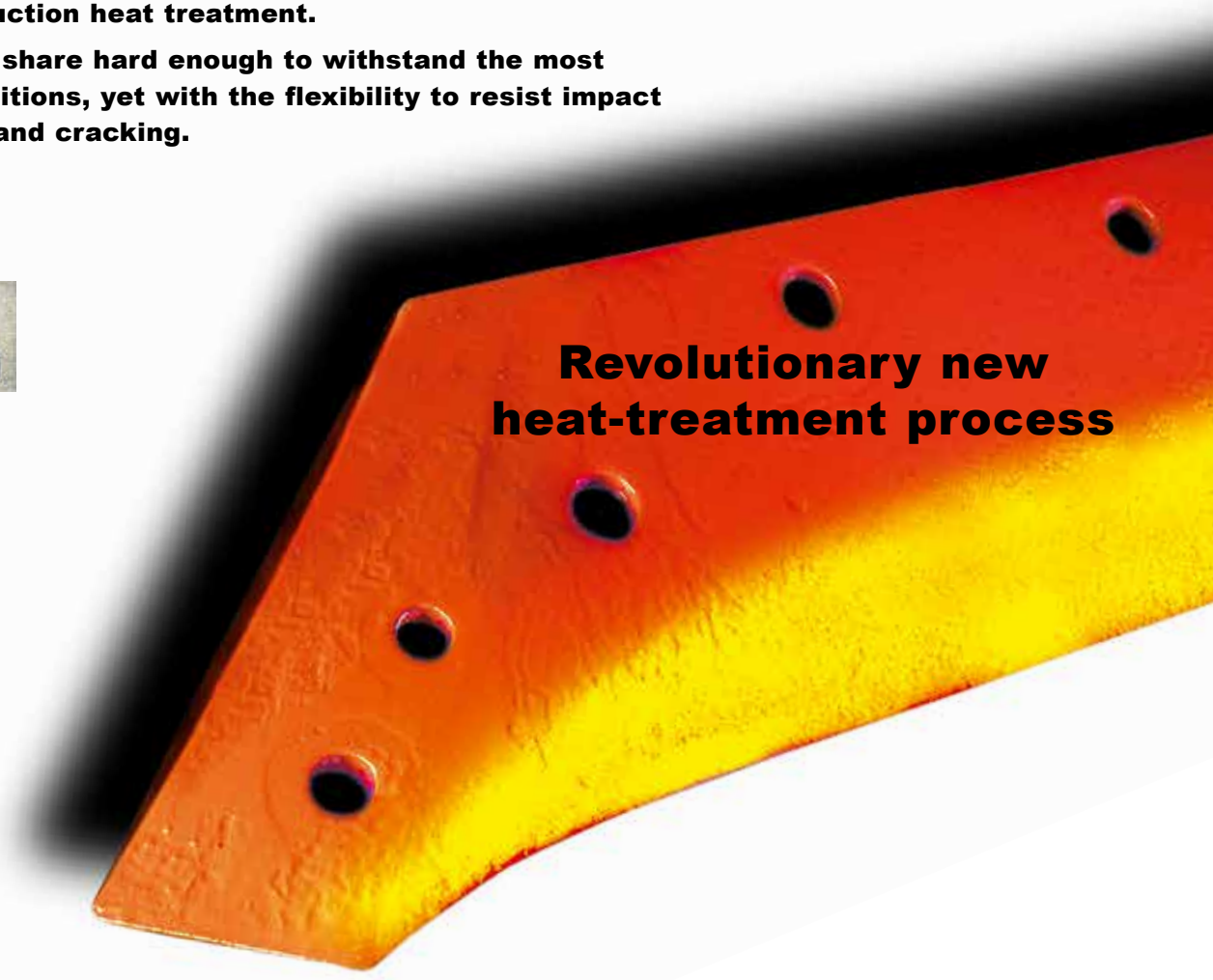
Kverneland original wearing parts

Make Life Much Easier

The plough shares from Kverneland are well known for their outstanding wear characteristics. At each share's heart is the finest steel in Europe, which undergoes a revolutionary process of induction heat treatment.

The result is a share hard enough to withstand the most punishing conditions, yet with the flexibility to resist impact shock loading and cracking.

Look for the Kverneland arrow. It's your guarantee of fitting Original Parts. - The Best Parts on Earth.

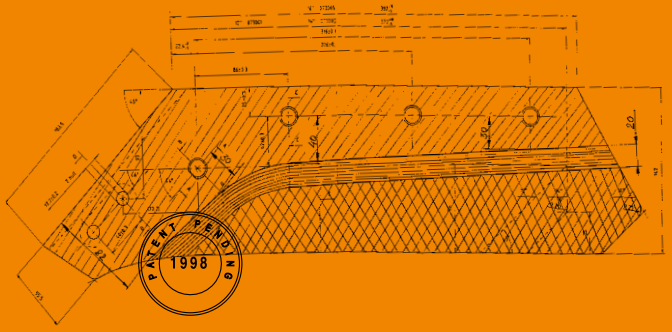


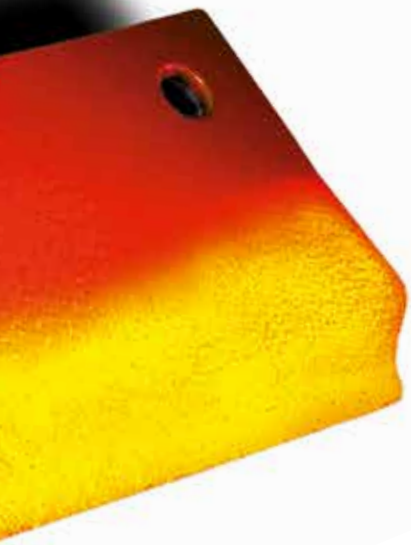
A secret process
The outstanding wearing characteristics can be explained by two factors. First of all, the wearing regions of the share are hardened far beyond any levels achieved previously. A second hardening process guarantees a certain degree of flexibility around the bolt holes to avoid stress fractures. This subtle hardening combination ensures an extended life of the shares of at least 20-25%. The soil gets penetrated just as efficiently.

The benefits :
The extended life time to Kverneland shares makes you save time by not having to replace them so often, get the work finished earlier, in order words, contribute to keep costs low.

Quality and reliability
Kverneland has been developing its unique steel heat treatment methods for more than 130 years. The millions of mouldboards still turning soil around the world are acknowledging the quality and reliability of these techniques. The wear rates less than half of competitors'.

The heat is on
Kverneland succeeded in developing a special new way of heat treating reversible plough share points, to give them dramatically better life expectancy without increasing the incidence of stress fractures. The task for the engineers was extremely difficult, because the improvements that technology could achieve at that time were near the limit. The breakthrough came with an ingenious new method of induction heat treatment, which was able to confer varying degrees of hardness to different parts of the metal under test.





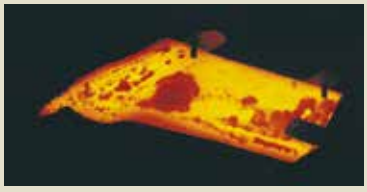
New share

Used share - how to increase life time

Production of shares - stage by stage

Stage 1

Stage 2



Stage 3

Stage 4

Stage 5

Still a secret

Stage 6

The Wearing Parts Competitors cannot Match

The big challenge was to make shares with the greatest resistance in the wearing regions. How could we adapt the process to treat shares in the same way as the points? After an investment of more than € 1,5 M. , Kverneland engineers have managed to refine the technique into a revolutionary new heat-treatment process. New and more resistant shares are now available from your Kverneland dealer.

In their attempt to produce wearing parts with the same hardness and wear resistance as ours, competitors frequently resort to the use of thicker steel, albeit of lower quality. More steel may look initially appealing. But the result is invariably very disappointing. The shares wear more quickly and the plough becomes unbalanced, as many of the forces and loads act against the natural line of draft, hampering penetration and making the plough harder to pull.

The plough shares from Kverneland have been designed from the outset to maintain consistent penetration as they gradually wear. They are specifically designed to fit Kverneland plough bodies and should in all conditions give the best results.

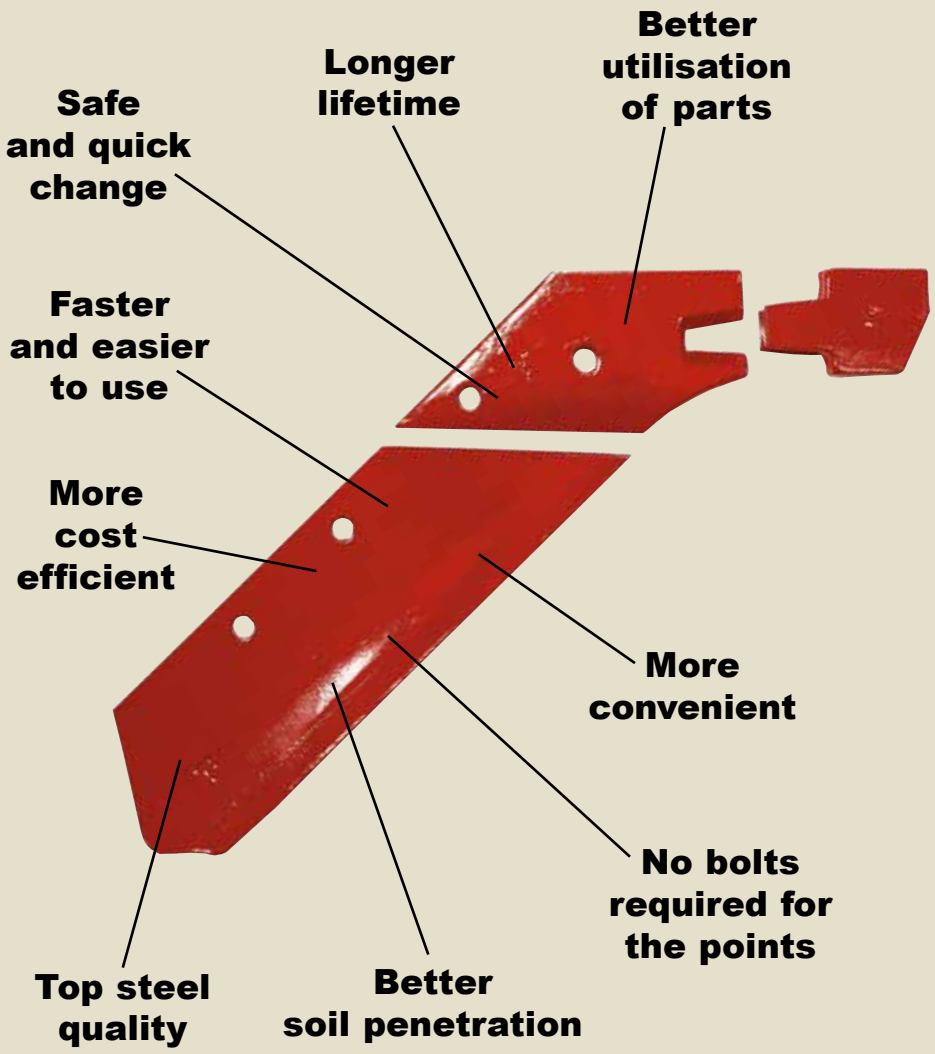
Kverneland Quick-Fit System

The fastest Pit Stop for plough point change ever

Within a few minutes
change to a new set of points.
The only tools needed are a hammer and a shisel !

Kverneland Quick-Fit

The unique plough share system



The patented Quick-Fit system from Kverneland consists of a share, a special holder and a very unique point. All made of Kverneland Top Quality Steel and heat-treated after Kverneland special recipe.

The share and the holder are bolted to the body, while the Quick-Fit point is fitted to the holder by a unique locking system. Just by a few sharp taps with the hammer and it is fitted. And not to forget, when the points need to be changed, it is simply removed by means of the taper drift and the hammer.

Back in work quicker when the points wear

The Quick-Fit points take far less time to change than conventional equivalents, so the machine is back in work much quicker.
Ian Hall from Warter Priory Farm, North Yorkshire, UK comments “We have reduced downtime from about 30 minutes to five minutes when changing points on our 8-furrow reversible plough.

And the knock-on system is also quite versatile. If we are in some very hard, dry conditions and are struggling for penetration, we can simply knock-off a set of partly worn points and put on new ones while in the field, to get the plough in the ground,”

Accessories

Choose the correct equipment

For optimal operations, the plough needs to be equipped with the correct accessories to suit the particular soil type and field conditions.
Kverneland offers a complete range of accessories for all the different plough models.

New easy adjustable skimmer

To ensure optimum positioning of the skimmer a new quick adjusting system is now incorporated on all plough models.

The new skimmer is very easy to adjust and can be moved in all directions to suit field conditions. Special indentations on the skimmer arm provide correct location and depth setting.

As the fixing bracket and stalk is fixed to the plough's leg assembly, the skimmer is easily adjusted up or down by loosening only one bolt. Once adjusted the bolt is tightened and locked to ensure a correct and rigid assembly.

The new skimmer will be available in two versions: standard manure and maize skimmer for those difficult conditions with large amounts of trash.

Skimmers are recommended for efficient burial of stubble, grass, straw and weeds to provide a trash free finish prior to seed bed preparation.

Trashboards
Particularly useful when large quantities of surface trash - manure, straw, etc. are present. The use of trashboards increases the clearance between the bodies when compared to the use of skimmers.

Hydraulic Front Furrow Width Adjustment
For easier "on the move" adjustment especially when ploughing on sloping ground.

Quick Release Coupling
All headstocks can be supplied with a quick release coupling to facilitate easy hitching and unhitching.

Cross Shafts
Kverneland headstocks are built with simple adjustments to suit all types of tractors and wheel width settings. Cat. II and Cat. III cross shafts are available in various lengths - 825, 860, 935 and 965mm.

Accessories

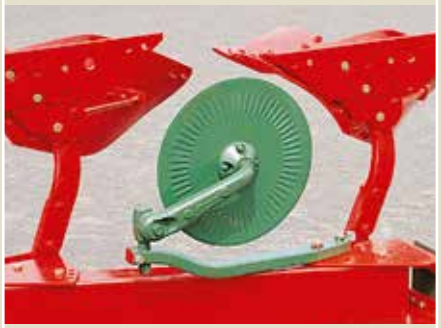
Sword Share Knives
These are an alternative to disc coulters, where reduction in weight may be necessary or where blockage from trash or stones is likely. Can only be used on ploughs fitted with reversible points.

Shares with Reversible Points
The most cost effective 'share' system for ploughing hard and abrasive soil and under generally difficult conditions.

Shares with Flush Fit Points
Recommended for ploughing in sticky soil conditions. The point is fixed by means of a single bolt and is therefore quickly replaced.

Landside Knives
A very good alternative to disc coulters, where reduction in weight may be necessary or where blockage from trash or stones is likely. Good in combination with skimmers.

Quick-Fit
The Quick-Fit point system can be fitted to all Kverneland plough bodies and reduces the down time in replacing earth wearing parts.



Disc Coulters
Disc coulters are available in sizes of 45 and 50cm (18 or 20 in.) diameter, plain or notched. They are mounted on single arms and are easy to adjust to suit all conditions.

Eco share
A special new share for working 10cm below the normal ploughing depth. Also as an alternative for up to 10cm narrower ploughing depth.

Furrow Splitter
Bolted to any part of the mouldboard or share, the furrow splitter is designed to cut through heavy soils making it easier for following operations.

Furrow Opener
For use on the rear body to increase the width of the furrow bottom in order to accept tractors with larger tyres - up to 30" wide, for example. Particularelly for use in conjunction with the No.19 body.

Accessories – wheels

Depth wheel
A simple depth wheel for smaller models with steel wheel (165 x 500).

Depth wheel, rear mounted
A robust rubber depth wheel for all models and sizes. With mechanical or hydraulic shock absorber to prevent shock loads when turning. (200 x 14,5) *

Hydraulic depth and transport wheel
Designed for in-cab hydraulic control of the ploughing depth. Ideal for ploughing headlands when a shallowing finish is required. (320/60-12) *

Depth wheel
A simple depth wheel for smaller models with rubber wheel (6.00 x 9).

Depth wheel, frame mounted
This frame mounted depth wheel is available for most 4 and 5 furrow ploughs and 6 furrow LD models. (200 x 14,5) *

Depth wheel with hydraulic shock absorber, rear or frame mounted
Telescopic arm to cover various ploughing depths and leg heights.
Rubber wheel dimensions: 200x14,5, 320/60-12TT, 6.00x9. Steel wheel dimension: 500x165

Depth and transport wheel, double
All large mounted reversible ploughs should be transported on a combined depth and transport wheel. This combined depth and transport wheel is fitted on all 5 -, 6 - and 7-furrows EO/LO models. Can also be fitted on other large models. (200 x 14,5) *

Depth and transport wheel, rear mounted
A robust rear mounted depth/transport wheel for most plough models. Easy adjustment from working to transport position. Equipped with shock absorber in working position. For transport in 'butterfly' position. (200 x 14,5) *

Depth and transport wheel, frame mounted
A robust frame mounted depth/transport wheel for most 4 and 5 furrow ploughs and 6 furrow LD ploughs. For ES/LS a special rear bracket is necessary for transport. (200 x 14,5) *

* Also available in dimensions 200 x 14,5, 320/60-12

Specifications

MODEL			Type of beam	Working width cm	Under-beam clearance	No. of furrows	Weight (Kg)					Lift requirement (Kg)				
TYPE	Interbody clearance cm	Head-stock					2-F	3-F	4-F	5-F	6-F	2-F	3-F	4-F	5-F	6-F
EM	85/100	200	Autom.	35/40/45	70/75	3 - 5	-	1040	1390	1550	-	-	2450	3100	4050	-
LM	85/100	200	Shearbolt	35/40/45	70/80	3 - 5	-	970	1170	1330	-	-	2200	3200	3700	-
ES	85/100	200	Autom.	30 - 50	70/75	3 - 6	-	1200	1360	1700	1950	-	2700	3900	5200	6500
LS	85/100	200	Shearbolt	30 - 50	70/80	3 - 6	-	1060	1200	1570	1800	-	2260	3300	4200	6000
LS	115	200	″	35 - 55	70/80	3 - 4	-	1100	1340	-	-	-	3200	4200	-	-
ED	85/100	200	Autom.	30 - 50	70/75	3 - 5	-	1050	1220	1720	-	-	2600	3600	5400	-
ED	115	200	″	40 - 55	70/75	3 - 4	-	1200	1490	-	-	-	2800	4200	-	-
ED	85/100	300	″	30 - 50	70/75	4 - 6	-		1650	1900	2200	-		4600	6000	8000
ED	115	300	″	40 - 55	70/75	4 - 5	-	-	1900	2100	-	-	-	4800	6600	-
ED-FR	85/100	200	″	30 - 50	70/75	2 - 3	1110	1430	-	-	-	2800	3700	-	-	-
LD	85/100	200	Shearbolt	30 - 50	70/80	3 - 5	-	1020	1200	1460	-	-	2500	2900	4400	-
LD	115	200	″	40 - 55	70/80	2 - 4	810	1100	1290	-	-	1800	2900	3600	-	-
LD	85/100	300	″	30 - 45	70/80	4 - 6	-	-	1350	1550	2000	-	-	3300	4600	5600
LD	115	300	″	40 - 55	70/80	4 - 5	-	-	1660	1980	-	-	-	3900	5900	-
EG	85/100	200	Autom.	30 - 52	70/75	3 - 5	-	1180	1470	-	-	-	3100	4300	-	-
EG	85/100	300	″	30 - 52	70/75	4 - 6	-	-	1700	2000	2300	-	-	4900	6300	8200
EG	115	200	″			3 - 4										
LB	85/100	200	Shearbolt	30 - 52	70/80	3 - 5	-	1120	1290	1450	-	-	2500	3700	4800	-
LB	115	200	″	35 - 55	70/80	3 - 4	-	1180	1380	-	-	-	2900	3800	-	-
LB	85/100	300	″	30 - 52	70/80	4 - 6	-	-	1650	1850	2050	-	-	3900	5800	6700
150B	85/100	150	Shearbolt	35 - 50	80	3 - 5	-	820	1050	1165	-	-	1700	3100	3700	-
150S	85/100	150	Autom.	35 - 50	70/75	3 - 5	-	820	1050	1165	-	-	1700	3100	3700	-
									5-F		7-F			5-F		7-F
EO	85/100	300	Autom.	30 - 50	70/75	4 - 7		2000	2200	2400	2680		5500	6200	7700	10300
LO	85/100	300	Shearbolt	30 - 50	70/80	4 - 7		1800	2000	2200	2400		4700	5200	6200	8600

Most models can be extended by one body. All weights are given without optional equipment (net weights).

The lift-requirements are given with the following equipment: depth wheel, one coulter and skimmers for all furrows.

Weights and lifting requirements are given for ploughs with 85cm ‘interbody clearance’. For ploughs with 100cm clearance, please adjust according to the following: Weight + 15 Kgs/body, lifting requirement + 50 Kgs/body.

Most ploughs with stepless ploughing width and interbody clearance of 85 cm have a working width between 30-45 cm, while ploughs with 100 cm have a working width between 35-50 cm.

kverneland group

Kverneland Group

Kverneland Group is a leading international company developing, producing and distributing agricultural machinery and services.

Strong focus on innovation allows us to provide a unique and broad product range with high quality. Kverneland Group offers an extensive package of systems and solutions to the professional farming community. The offering covers soil preparation, seeding, forage- and bale equipment, spreading and spraying.

Original Spare Parts

Kverneland Group spare parts are designed to give reliable, safe and optimal machinery performance - whilst ensuring a low cost life-cycle. High quality standards are achieved by using innovative production methods and patented processes in all our production sites.

Kverneland Group has a very professional network of partners to support you with service, technical knowledge and genuine parts. To assist our partners, we provide high quality spare parts and an efficient spare parts distribution worldwide.

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