

POTATO TECHNOLOGY
BEET TECHNOLOGY
VEGETABLE TECHNOLOGY

GRIMME
HARVESTING SUCCESS!

GT 170

In all conditions: 2-row harvesting – harvesting success!



The multi-talent: the GT 170

One of the most noticeable advantages of the GT 170 harvester is the completely new chassis design and drive construction which provides excellent visibility to the sieving area. But you should also have a look at the other innovative developments. One is the reduced operating costs because of the reduces maintenance requirements and the reduced wear. Another is the multitude of

original Grimme options available. With these it is easy to adjust this 2-row elevator harvester to the optimum for different harvest conditions. A further contributor to high output and quality is the innovative Grimme Terra Control depth control system, which is gentle to your crop and maximizes output – and because of the latest design of the Grimme

MultiSep separator and the powerful Double-MultiSep, this reliable machine works in all conditions. The GT 170 harvester. Relaxed harvest – and harvesting success!

Innovation Award presented at the Royal Highland Show in Scotland: the 2-row elevator harvester GT 170



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CHASSIS AND DRIVE CONSTRUCTION

Guaranteed for successful harvesting and easy operation: the innovative chassis and drive construction from Grimme

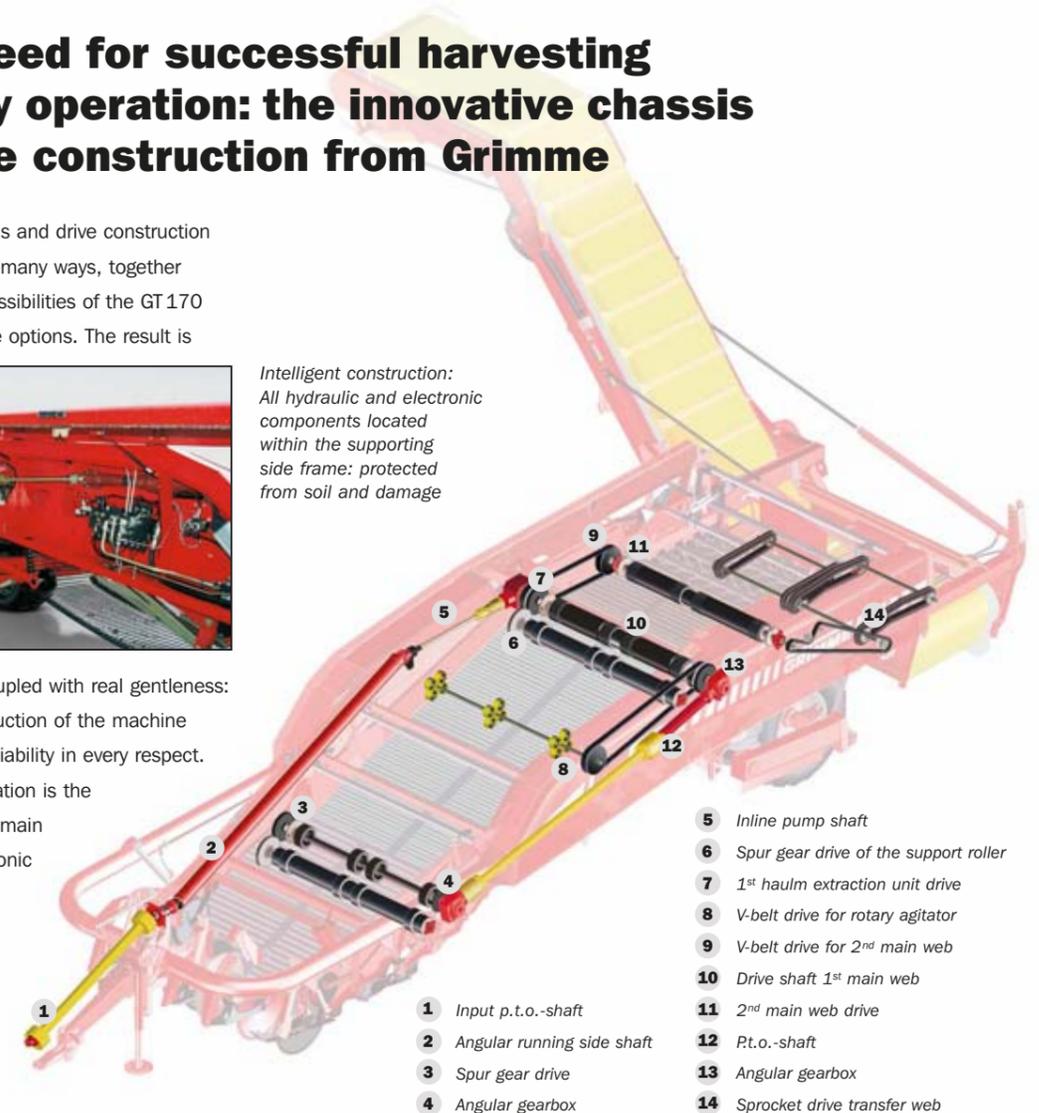
The innovative chassis and drive construction shows its benefits in many ways, together with configuration possibilities of the GT 170 from many innovative options. The result is



Intelligent construction: All hydraulic and electronic components located within the supporting side frame: protected from soil and damage

optimized output, coupled with real gentleness: the intelligent construction of the machine impresses with its reliability in every respect. One important innovation is the positioning of all the main hydraulics and electronic components within the side frame of the machine to guard them from soil and damage and ensure smooth running.

The heavy-duty p.t.o.-shafts and v-belts drives guarantee smooth operation of the harvester; reduce operating costs and increase reliability. For maintenance the wide opening side panels and the unique chassis design guarantee easy access to all components! Also the position of the main drive shaft allows excellent visibility of the intake and sieving area. Even more comfort is generated by the enclosed hydraulic pumps, ensuring reduce noise levels. – Therefore: good work!



- 1 Input p.t.o.-shaft
- 2 Angular running side shaft
- 3 Spur gear drive
- 4 Angular gearbox
- 5 Inline pump shaft
- 6 Spur gear drive of the support roller
- 7 1st haulm extraction unit drive
- 8 V-belt drive for rotary agitator
- 9 V-belt drive for 2nd main web
- 10 Drive shaft 1st main web
- 11 2nd main web drive
- 12 Pt.o.-shaft
- 13 Angular gearbox
- 14 Sprocket drive transfer web



Innovative. Long lasting. Efficient. The drive construction benefits from the use of tough angular gearboxes and low maintenance v-belt drives.



Everything in one place: The wide opening side panels ensure easy access to all important components.

Because individual solutions are ideal solutions: your Grimme options!

Different weather. Variable ground conditions. Various varieties of potatoes. More and even more different factors. – Or in short: Harvest conditions change campaign by campaign. However you can achieve

optimum results! With the options of the Grimme GT 170. Various settings and options allow the customer to customise the machine to his individual requirements. It is not only possible to choose

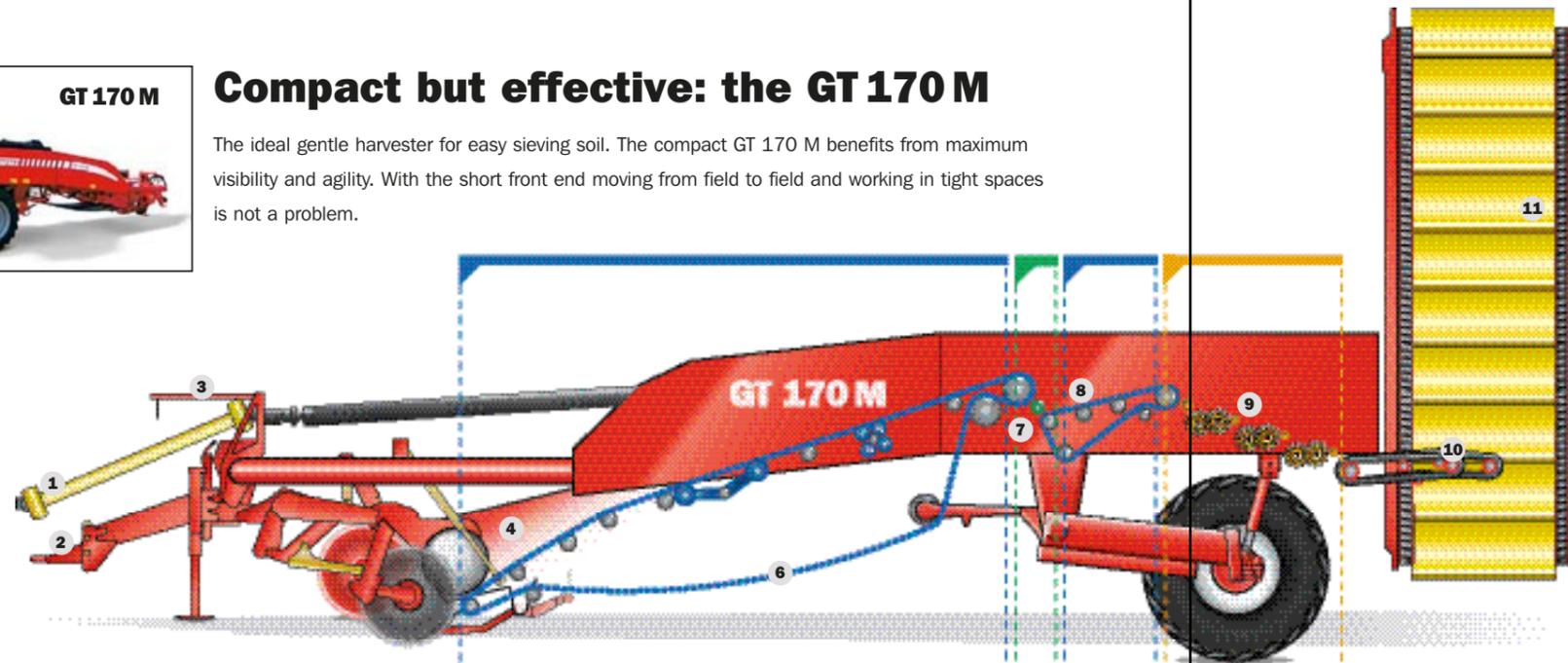
between many different options but also between two machine models: The GT 170 M and GT 170 S.



GT 170 M

Compact but effective: the GT 170 M

The ideal gentle harvester for easy sieving soil. The compact GT 170 M benefits from maximum visibility and agility. With the short front end moving from field to field and working in tight spaces is not a problem.



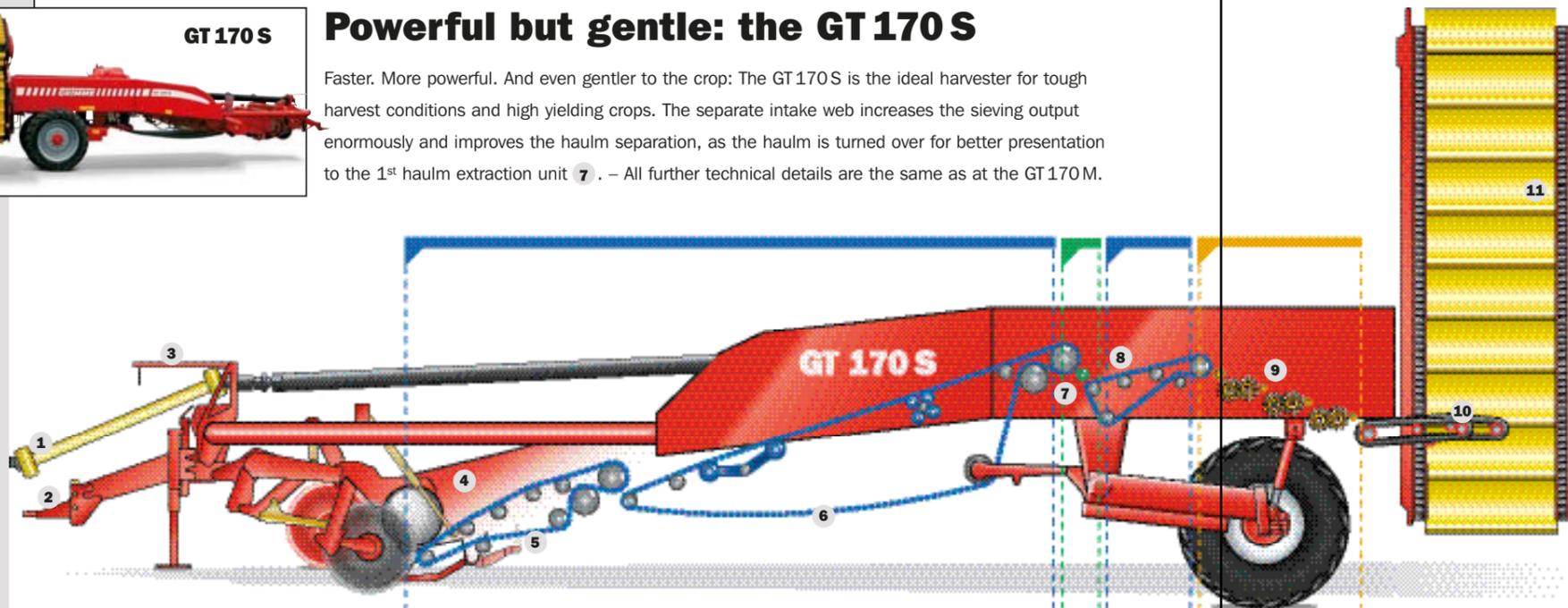
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GT 170 S

Powerful but gentle: the GT 170 S

Faster. More powerful. And even gentler to the crop: The GT 170 S is the ideal harvester for tough harvest conditions and high yielding crops. The separate intake web increases the sieving output enormously and improves the haulm separation, as the haulm is turned over for better presentation to the 1st haulm extraction unit 7. – All further technical details are the same as at the GT 170 M.



- 1 Tractor drive 540 or 1000 r.p.m.
- 2 Drawbar eye below or hitch

- 3 Cable channel to cover the electric cables and hydraulic pipes
- 4 Swing frame with intake unit

- 5 Intake web (only at GT 170 S)
- 6 1st main web with various agitators

- 7 Haulm extracting roller against 1st main web
- 8 2nd main web

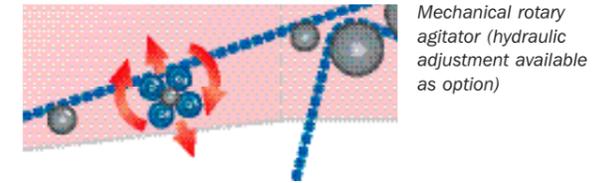
- 9 Star roller separator (standard)
- 10 Transfer web (one short and one long distribution web)
- 11 Cart elevator

SIEVING SUPPORT

Efficiency: the Grimme sieving options

Already for a high standard: the standard equipment

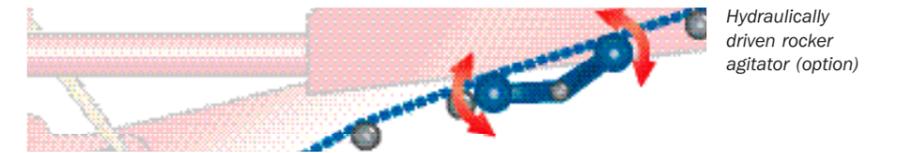
A mechanically driven rotary agitator is fitted as standard equipment to the GT 170 M and GT 170 S. Manual height adjustment in relation to the main web – to change the intensity of the agitation – without changing the web angle. Hydraulic adjustment is available as option, to adjust the agitator while in work.



Mechanical rotary agitator (hydraulic adjustment available as option)

Increased sieving: the hydraulic rocker agitator

An option, which soon pays itself: the additional hydraulically driven rocker agitator, which maximizes the sieving capacity. The infinite adjustment ensures very gentle harvesting, even in changeable conditions.



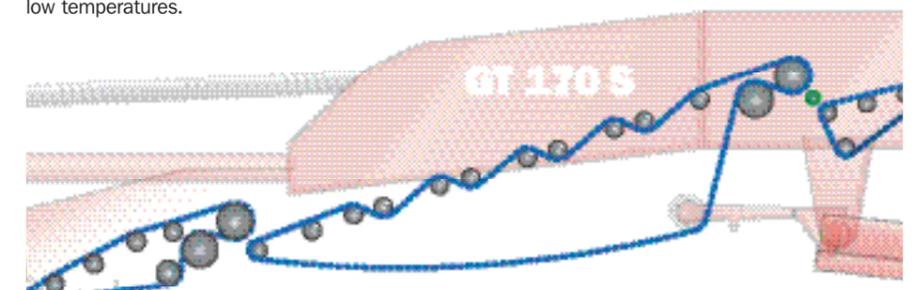
Hydraulically driven rocker agitator (option)

Patent Patented harvesting system: the Grimme CASCADESYSTEM

High technology you can trust: the Grimme CASCADESYSTEM, another option for the GT 170 S. This unique patented “wavy-web”-system performs in a powerful, effective and distinctly gentle way. The field proven CASCADESYSTEM replaces conventional agitators and can even be operated gently for large and heavy potatoes as well as in low temperatures.



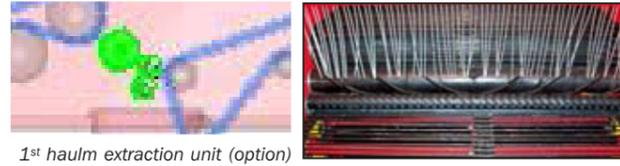
Grimme CASCADESYSTEM (option for GT 170 S)



Trash-free separation without any losses: original Grimme separation system

Simple – and simple good: 1st haulm extraction unit

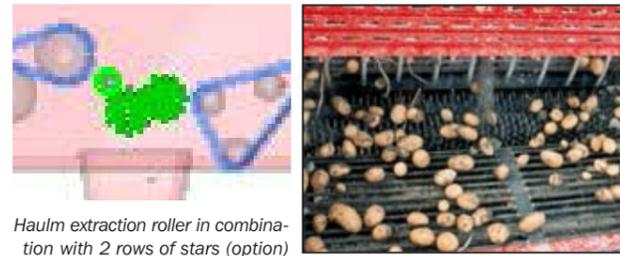
An ideal option for very gentle haulm separation: the combination of one row of spiral segments with haulm roller and scraper roller – non-specific to the main web pitch.



1st haulm extraction unit (option)

Three times as practical: haulm extraction roller in combination with two rows of stars

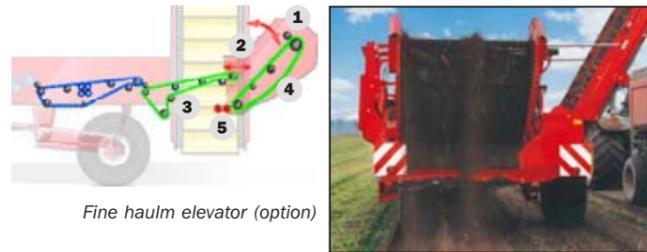
Another option is two rows of stars between the first haulm roller and the 2nd main web. This has three benefits: additional soil sieving capacity, gentle crop transfer and improved crop spread.



Haulm extraction roller in combination with 2 rows of stars (option)

Fine option: the fine haulm elevator

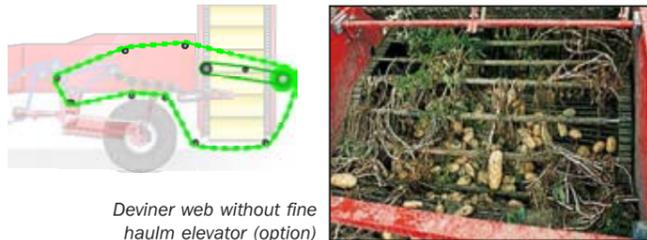
It is possible to fit a fine haulm elevator* 1 in lieu of the separator modules (not possible with picking table); inclusive with mechanical drive and hydraulic angle adjustment 2. To minimize crop losses remains the distance between the transfer web 3 and the hedgehog web 4 at the angle adjustment constant. Further options: mechanical distribution rollers 5 and hydraulic drive to the fine elevator.



Fine haulm elevator (option)

Under control: the deviner web without fine haulm elevator

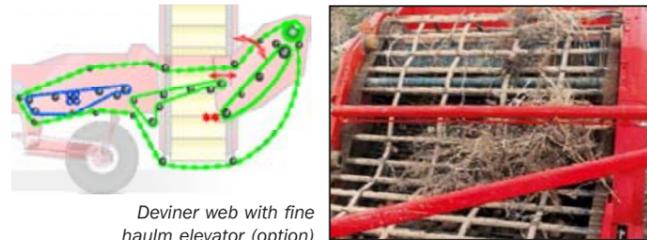
Another alternative, the deviner web, suitable for harvesting potatoes with a lot of haulm without using a haulm topper (not possible with picking table)



Deviner web without fine haulm elevator (option)

Optimum for coarse and fine: the deviner web with fine haulm elevator

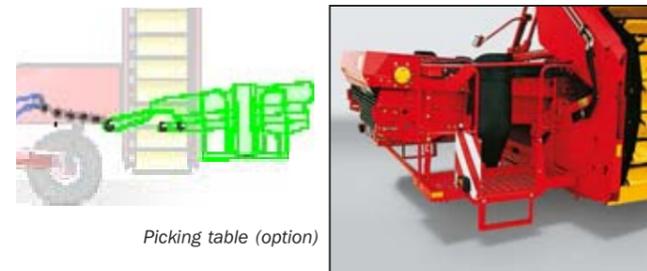
A combination of the deviner web together with the fine haulm elevator* is possible in lieu of the separator module. This combination is suggested especially for small potatoes on light soils. A simple solution: and easy to set up by adjustment of the fine haulm elevator angle.



Deviner web with fine haulm elevator (option)

Hand picked quality: the picking table

Another original Grimme option: the picking table for 2+2 people. The convenient table is equipped with easy picking chutes and warning device for the driver. Furthermore there is a control box to work all relevant functions directly from the picking table. – Fitting to machines with fine haulm elevator and/or deviner web is not possible.



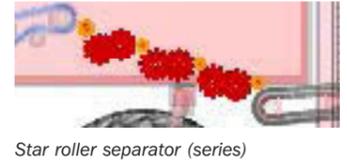
Picking table (option)

* Additional to the fine haulm elevator, a longer 2nd main web with rotary agitator is included.

At home in all conditions: with the separator from Grimme

Clean solution: the star roller separator

The solution for light to medium soils! Three pairs of star rollers with choice of 6, 12 or 18 finger stars; between each pair is a contra rotating steel plain roller for soil and haulm separation. Mechanical drive with manual adjustments for distance, height and levelling – or hydraulic angle adjustment as an option.



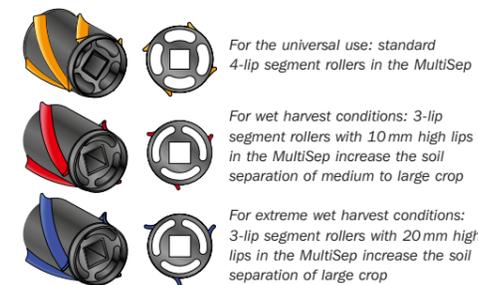
Star roller separator (series)

MultiSep – the all-rounder for the universal use

The **MultiSep** from Grimme ensures that with cloddy, sticky and soil with small stones good trash separation occurs. 4 roller pairs, each with a PU-segment roller and one plain rubber roller clean the crop. A powerful couple: the **Double-MultiSep** with 8 roller pairs each allows an independent setting of the following settings from the operator terminal: hydraulic levelling adjustment, speed of the roller pairs, height and distance adjustment of the cold rollers and drive direction of the clod rollers. Or manual setting: reduced plain roller speed based on the spiral segment roller.



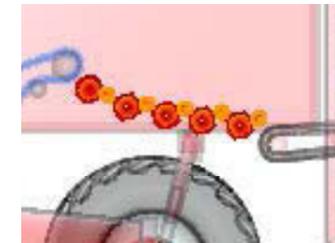
MultiSep (option)



For the universal use: standard 4-lip segment rollers in the MultiSep

For wet harvest conditions: 3-lip segment rollers with 10 mm high lips in the MultiSep increase the soil separation of medium to large crop

For extreme wet harvest conditions: 3-lip segment rollers with 20 mm high lips in the MultiSep increase the soil separation of large crop



MultiSep (option)



Double-MultiSep (option)

For tough conditions: the RS roller separator

Even extremely heavy and sticky soils are not a problem for this powerful **separator**. Nine pairs (one plain and one spiral) of rubber coated rollers work in longitudinal direction to produce a clean crop. Easy adjustment to the various harvesting conditions with the patented **Vario-RS**, the hydraulically speed, levelling and distance adjustment of the axial rollers.



Roller separator (option)



DLG-awarded: Vario-RS (option)



1 2 3 4 5 6 7 8

Roller for Roller Separator

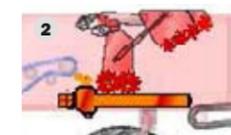
- 1 Steel spiral roller for dry soils with stones and hard clods
- 2 Rubber spiral roller (basic equipment) for universal use
- 3 Rubber plain roller \varnothing 90 mm
- 4 Rubber plain roller \varnothing 85 mm

- 5 Rubber plain roller \varnothing 80 mm
- 6 Rubber plain roller \varnothing 75 mm
- 7 Rubber plain roller \varnothing 70 mm
- 8 Steel plain roller for the use on dry soil

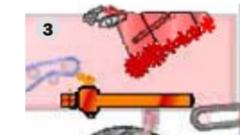
TwinSep/Bypass-kit: optional equipment for dry harvest conditions, potatoes with very loose skins, vegetables (eg. onions) or in stony conditions to bypass either part or all of the RS separator. Hydraulically driven and operated from the drivers cab. An additional option is the 6th shaft for the TwinSep.



1 Either both TwinSep units lowered...



2 ...or only the front element of the TwinSep is lowered: The crop flows over only half of the RS separator.



3 Or: TwinSep completely lifted out of operation allowing the RS separator to work as normal (6th shaft (red) as an extra option)



INTAKE

Innovation which pays itself: Terra Control and hydraulic ridge pressure relief



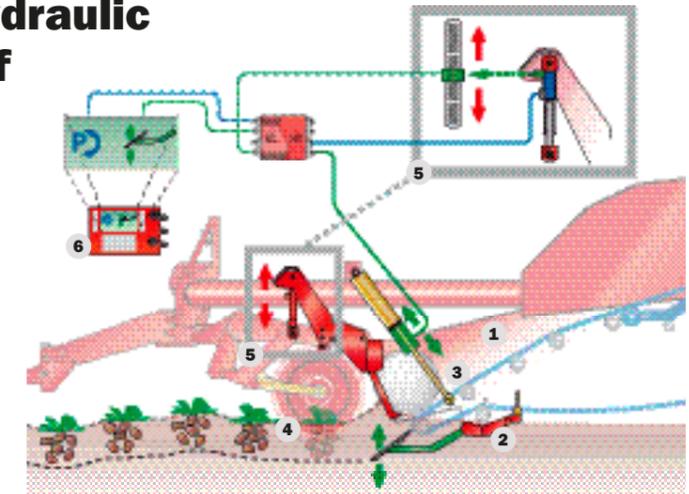
The DLG-awarded "Grimme Innovation 2005": Terra Control!

An even more effective GT 170: with optional Terra Control. Hydraulic depth control with integrated fully adjustable ridge pressure system. On one hand you increase your harvest power and on the other hand you increase your output because the depth of the shares always remains constant. Damage to the crop and losses are minimized with Terra Control. Furthermore the integrated ridge pressure system greatly reduces the pressure of the diablo on the ridge. The result: the crop is not squeezed and the soil not compacted.

How does Terra Control work? The shares **2** are mounted from underneath the swinging frame **1**; its position is controlled via hydraulic cylinders **3** on the left and right of the frame. The diablo rollers **4** are mounted forward of the shares. These are adjusted in relation to the swinging frame via two special hydraulic cylinders **5**, which

An alternative option: hydraulic ridge pressure relief

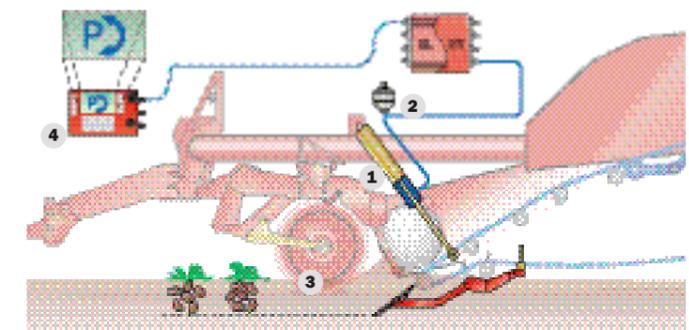
The cheaper alternative for as gentle harvesting! With this hydraulic ridge pressure relief system you can avoid unnecessary pressure on the ridge. For this option the cylinders **1** controlling the swinging frame are set to hydraulic pressure via a nitrogen accumulator **2**. They hereby operate as "hydraulic springs". The memory maintains the ridge pressure almost constant while the piston rods move and can be adjusted via the control terminal **4**. The remaining weight of the swinging frame is supported by the diablo rollers **3** running on the potato ridges.



have integrated linear measuring and pressure reading systems. Each cylinder reads every variation to the ridge height and sends an electronic signal to the left or right cylinders which control the swinging frame. The result: the digging depth remains the same all the time, irrespective of how uneven the ground is – and is even independent for each row!

All settings are made directly through the control terminal **6** and because of their independent mounting the diablo rollers move independently to the swinging frame.

More success. More ridge protection. More comfort: Terra Control. – "Terra" for the low ridge pressure on all soil conditions and "Control" for the constant depth control



Better working without pressure. And better harvest.

The right connection: our drawbar and intake options



Hydraulic drawbar adjustment (option)
Digging on the right track: the hydraulic drawbar (1) adjustment keeps the GT170 in line, even on hillsides.

Adjustable centre share (option)
Many advantages: adjustable centre share (2) to intake windrowed potatoes between the rows – 2+2 or 2+4 system



Windrow intake (option)
Very gentle intake of potatoes and other vegetables with the rubber drum. Special: the innovative high-elastic polyurethane cover – for long durability and reduced wear costs



Carrot intake (option)
The robust carrot share works with large, distance adjustable support wheels and a manual depth adjustment. Various row distances available on request



Towing eye
We only bring you good things: towing eyes on top Grimme quality. To connect the GT170 to the tractor we have three different systems in our programme:
A with ø 40 mm eye,
B with ø 50 mm eye or
C extra long hitch coupling with ø 50 mm eye

MORE SIEVING SYSTEMS

More than effective: more sieving systems from Grimme



Oscillator (option)
Double efficient: the oscillator device. In wet conditions adding an oscillator above the 1st main web increases the sieving power in two ways: firstly by evenly distributing the intake ridges across the full width of the web – and secondly by breaking the bigger clods



Cleaning cage (option)
Clean option: Cleaning cage keeps the main web running free, even in sticky soils.



Clod breaker (option)
Breaking through. An option for very cloddy soils

Driving to success line: with the Grimme wheel drive

Easy handling of heavy harvest conditions with the hydrostatic wheel drive. When necessary just turn on the hydrostatic wheel drive to avoid spinning of the tractor wheels. – More and more operators now use this professional system. And for good reasons: as well as higher security in wet years and the possibility for gentle harvesting on hillside locations it offers another feature. – Less damage to the crop at the ridge edges because narrower tractor wheels are possible



Automatic levelling (option)
Always in balance: Automatic levelling during harvest is another option for working on hillside location.



Hydrostatic wheel drive (option)
Easier harvesting – even in heavy conditions: with the hydrostatic wheel drive



Suitable tyres for all applications:

- 1** 16.0/70-20 AS (series)
- 2** 500/60-22.5
- 3** 600/50-22.5
- 4** 12.4x32AS
- 5** 600/55-26.5

MACHINE CONTROL

Simple. Comfortabel. Intelligent: control systems from Grimme

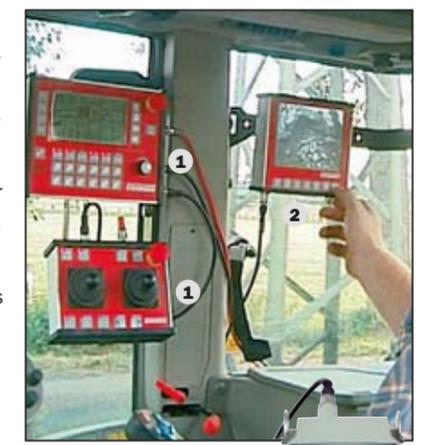
From axle steering, through hydraulic levelling, to the cart elevator: with the standard SKE control terminal it is possible to operate all of the main operations. For more functions, convenience and the facility to locate and solve errors, there are the options of the GBT 2100 professional control terminal and a camera monitoring system. Faster reaction: with the option CAN-Bus operated



SKE standard operator terminal
Always under control: operating from the tractor seat with the detachable SKE operator terminal

monitoring control system Visual Protect. The system detects a problem in the machine. Besides the warning signal at the operator terminal there is also a signal sent to the new developed monitoring system, the so named Multiplexer. This signal then allows the monitor to automatically switch over to the respective camera so the operator can see initially the problem besides hearing the warning signals from the terminal. This innovative system is also available for all CAN-Bus operated Grimme machines for spring, harvesting, handling and sugar beet technology.

GBT2100 operator terminal (option)
Our "business class" for more convenience: the GBT2100 (1) operator terminal. Additional options include the ability to programme the "field in" and "field out" functions. – And with the integrated diagnostic system there is a service capability.



Monitor (option)
Useful visual aid: with two cameras (3) and one monitor (2) do not miss anything during digging

CART ELEVATOR

Maximum loading – high flexibility: innovative elevator technology

Good and even: the transfer into the cart elevator. A two-piece rubber covered transfer web consisting of a short and a long web provides an even distribution of the crop across the full width of the cart elevator.



Reversing: cart elevator reversing kit with delivery chute for windrowing between adjoining rows



Very gentle conveying. Highest possible flexibility. And 120 t/h loading capacity! – That makes the cart elevator of the GT special. Due to the extremely high output of the machine it is possible to employ the so-called “2+4 windrowing method”, lifting the crop from 4 rows and digging a further 2 rows. Active side panels as well as the length and flexibility of the elevator ensure a smooth and gentle discharge of the crop. The standard lateral reach of the elevator and extra length of the swan-neck section enables it to reach well down into modern high-sided trailers. The large flexible PVC transport pockets of the elevator open slowly at the delivery point and release the crop gently onto the crop cone

without flicking. During operation, the PVC of the pockets flexes constantly, producing a self-cleaning effect. A windrowing kit to discharge the crop to the left hand side is also available as an option. However, irrespective of whether a windrowing kit is fitted or not the cart elevator folds hydraulically to a compact position to minimize overall machine width for road transport.



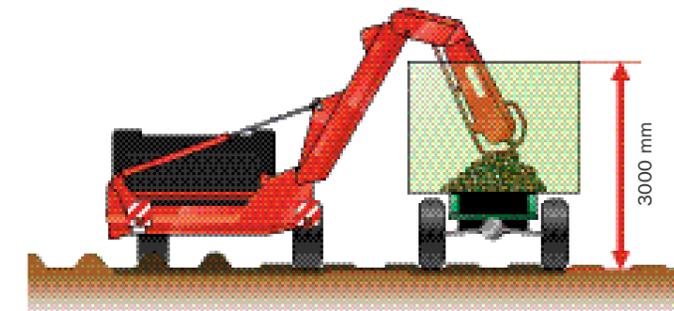
Without deflection from the target: the optional box filling chute with easy attachment to the cart elevator head. For trouble-free filling directly into potato boxes or as a fall breaker into tall trailers



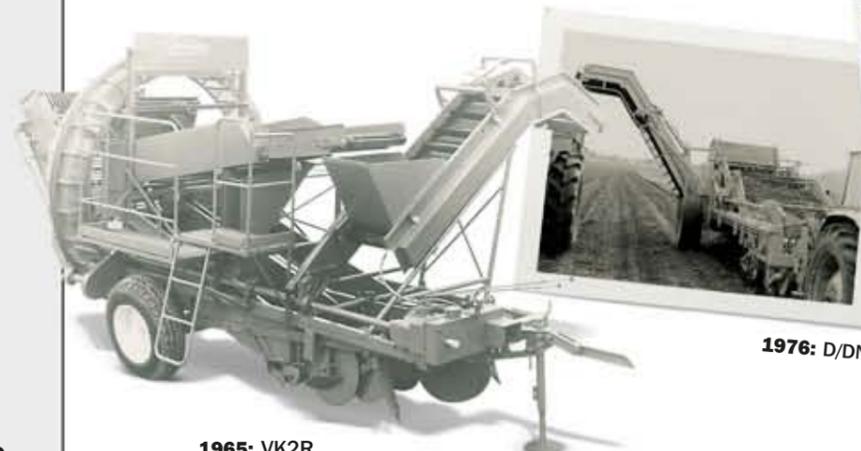
Ready for the road: For road transport the cart elevator folds hydraulically to a compact position.



Successfully gentle harvest: The large PVC transport pockets of the elevator release the crop gently onto the crop cone – without any damage.



One step better: The large elevator ensures accurate filling, even in high-sided trailers. The swan-neck section reaches well down into the trailer and with the optional automatic height adjustment it is possible to maintain a minimum drop height throughout the filling procedure.



1965: VK2R

Better than a long story: a long track record

Innovation, a tradition from Grimme – ever since 1861 Franz Carl Heinrich Grimme founded the company four generations ago. But not only that: the way in which innovations are developed has also become a tradition. This has come from the continuous exchange of ideas between: our practical specialists on one side and Grimme engineering specialists on the other side. Only in that way we can develop new products “from the practice for the practice”. No wonder that in 1965 Grimme became the first ever producer of a high capacity 2-row elevator potato harvester – the “VK2R”. In 1982, to satisfy the needs and

Harvesting success! From the beginning: Grimme offers you the individual and complete solutions – from bed cultivation and planting technology to harvest and storage technology.



The location: Grimme belongs to Damme as the red belongs to our machines.



1982: DL 1500

1986: GB 1500/1700

1976: D/DN

1984: DL 1500-2



1988: DSL

1993: DL 1700

2001: SF 1700 DLS

2005: GT 170



2007: VARITRON 200/270

Over 110 countries. 5 continents. 1 goal: all over satisfied customers

No matter whether it is far away in Argentina or Australia or in our domestic market Germany: all around the world users can appreciate Grimme technology. This is all the more remarkable considering the different climates, which set varying demands on the machines.

How does Grimme meet the demands of it customers in more than 110 countries? The secret has been perfected by Grimme over the decades. Two special factors enable it to develop the right products for every market. Firstly the continuous exchange of ideas between our practical specialists and our engineering specialists and secondly the constant exchange of experiences between all Grimme employees with staff from our sales and service subsidiaries around the world. One important example of this can be seen in the product development team. As well as the product engineers, various employees from other departments are involved in it as well. This ensures that our product is tested and looked at from all perspectives. This results in Grimme products, which will work every day throughout the season: from bed cultivation and planting technology to harvest and storage technology Grimme offers effective and



complete solutions. In the meantime the company has also developed into a specialist for sugar beet harvest technology. Another contributor to the company's international success has been the Grimme service concept. Our independent sales partners, as well as Grimme owned service subsidiaries, provide 24 hours a day, 7 days a week certified service in over 110 countries, with original Grimme spare parts and reliable advice. In this way we work with you to achieve – season by season – our common goal: harvesting success!

Innovative technology from Grimme – working in more than 110 countries around the world





Technical data

	GT 170 M	GT 170 S
Measurement		
Length	From 9795 mm	From 10730 mm
Width	From 3090 mm	From 3090 mm
Height	3360 mm	3360 mm
Weight	From 5960 kg depending on options	From 6730 kg depending on options
Required power	From 60 kW	From 70 kW

	Basic equipment	Option
Axle	Hydraulic axle steering (indicated on control panel) Levelling on one axle l/h-side	Axle self-centering Hydraulic wheel drive 2 nd levelling for axle l/h-side Automatic levelling
Tyres	16.0/70-20 AS (standard) 500/60-22.5 (standard for wheel drive)	600/50-22.5; 12.4 x 32 AS; 600/55-26.5 Air brakes (standard in Germany) Hydraulic brakes (standard in some countries)
Drawbar	Choice of towing eye with \varnothing 40 mm, \varnothing 50 mm or extra long hitch coupling with \varnothing 50 mm	Hydraulic drawbar adjustment
Intake	2 shares, 2- or 3-piece 540, 580 or 620 mm intake width per row, 750 to 900 mm row width Pulled diablo rollers and disc coulter	Adjustable centre share Stone protection Windrow intake Bed digging device Vegetable digging device Grimme Terra Control (hydraulic depth control with integrated ridge pressure relief) Hydraulic ridge pressure relief
Intake web	Only for GT 170 S	1631 mm wide, Sieving area 2.4 m ² Choice of pitch 28/32/35/40/45/50 mm
1st main web	1631 mm wide Sieving area (GT 170 M = 6.2 m ² ; GT 170 S = 5.0 m ²) Choice of pitch 28/32/35/40/45/50 mm Rod \varnothing 9/10/10/10/11/11 mm Mechanical rotor agitator, height adjustable Pitch independent rubber drive	Rubber covered bars Additional agitator Hydraulically driven, set from operator terminal Hydraulic height adjustable rotor agitator Further options: Oscillating device, cleaning basket, clod breaker Only for GT 170 S: Grimme CASCADESYSTEM (4 hydraulically adjustable cascades)
1st separator	Extracting roller against 1 st main web	Extracting unit: segment roller with double roller Extracting roller against main web with 2 nd star roller Deviner web
2nd main web	1631 mm wide, sieving area 1.3 m ² Choice of pitch 28/32/35/40/45/50 mm	Rubber covered bars
Separator for trash and haulm separation	Star roller separator	Grimme MultiSep Roller separator TwinSep/Bypass-kit (for roller separator)
2nd separator	Extracting roller against 2 nd main web	Fine haulm elevator Deviner web with fine haulm elevator
Picking table	–	2 hydraulically driven picking webs, picking area 2.5 m ² , Total width of 1630 mm, 2 picking platforms for 2 persons each side, incl. Picking chutes, control panel and warning device
Transfer	One long and one short transfer web for constant filling of cart elevator	Windrowing kit with delivery chute between the neighbouring rows l/h-side Box filling chute
Cart elevator	Hydraulic infinite drive, capacity 120 t/h, loading distance 3500 mm, loading height 4000 mm	–
Machine operation	SKE standard operator terminal	Operator terminal GBT 2100 Monitor with 2 cameras Visual Protect

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HARVESTING SUCCESS!