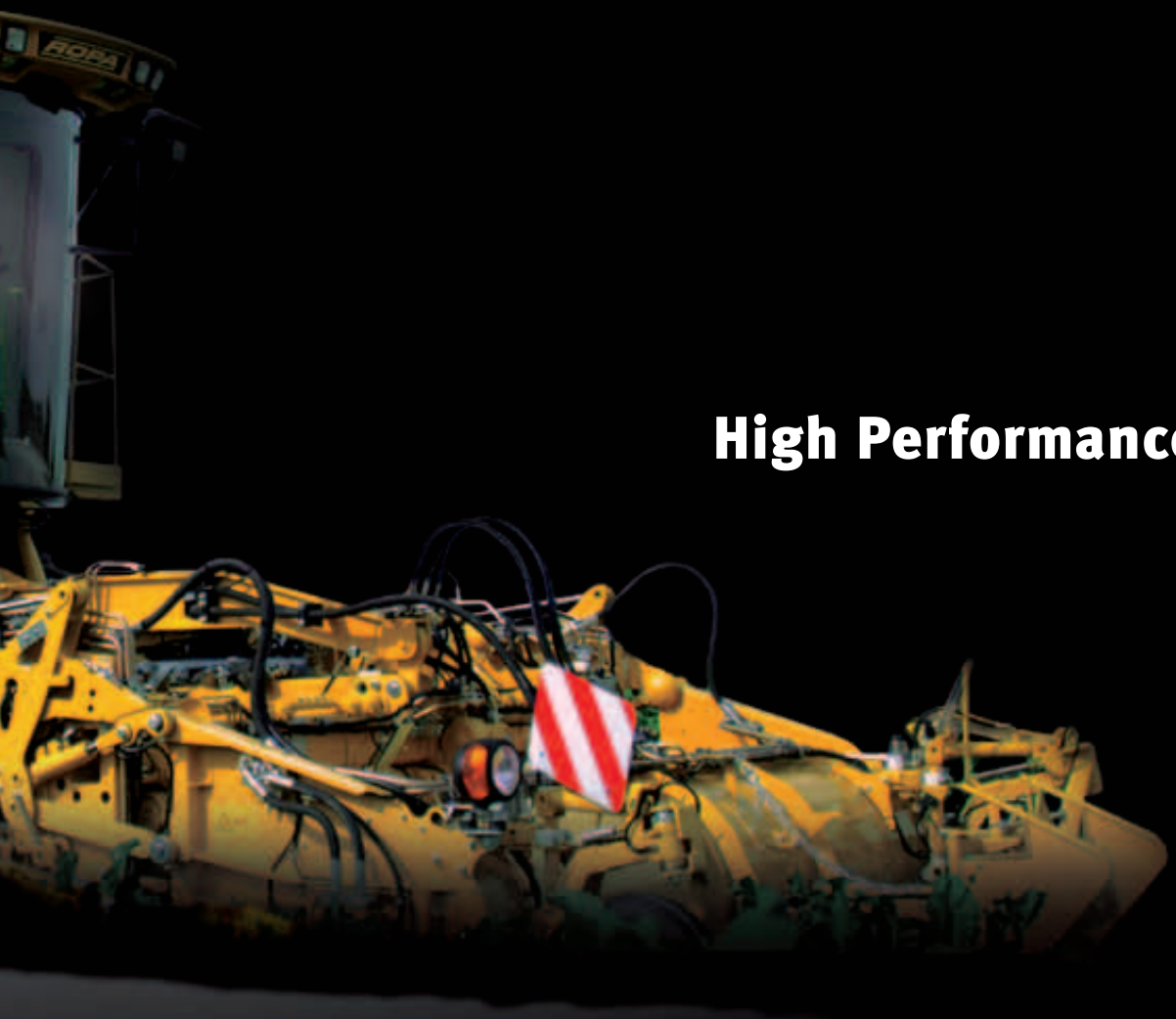
ROPA

innovative technology
for Sugar Beet harvesting

euro-Tiger V8-3


ROPA
TIGER



High Performance

ROPA

Euro-Tiger V8-3

- Practical innovation
- Precision finish
- High quality components
- Durable

Large beet tank capacity

High daily output

Saving in transport and wage costs

Saving in energy costs

Minimum stress on soil

Minimum follow-on costs when preparing seed beds

Optimal operator comfort

20% less wear

Efficient

Leaf Topping

Proven and Precise

PISh

Defoliator flail unit

PSh integral flail unit: depth control is achieved via 2 sensor wheels mounted directly at the front of the flail housing. The setting can be altered individually right and left or synchronized with the joystick. The operator monitors the set depth by means of two display scales.

The adjustable hydraulic loading of the flail unit is shown on the colour terminal.

For maintenance and installation the defoliator unit can be hydraulically lifted upwards by up to 90° above the harvesting unit.

Three different types of defoliator unit can be supplied depending on requirement.

PISh – integral defoliator:

The chopped leaf is mulched and spread between the rows using leaf deflectors. Row after row working from one side can then be harvested. This standard model is recommended for normal conditions.

PBSWh – with lateral leaf ejection auger and leaf spreader:

The cutting flails throw the leaf on to the auger which conveys it onto the leaf spreader. The chopped leaf is then scattered from the spreader to the left of the harvested area. This unit type is recommended particularly for harvesting conditions with a high weed concentration or on extremely stoney ground.

PBSWh

Hydraulic Flail Drive

The speed of the flail unit can be adjusted from the terminal to suit harvesting conditioins, independant of the engine speed.

PBSOh – special defoliation unit for extremely difficult conditions:

The unit has 4 sensor wheels set on staggered rows which adjust optimally to soil unevenness and ensure that uniform height control is maintained particularly on uneven ground.

The reinforced leaf auger with its durable and sharp 8 mm spiral pushes the leaf to the left onto the leaf spreader.

Comfortable maintenance position of the defoliator unit

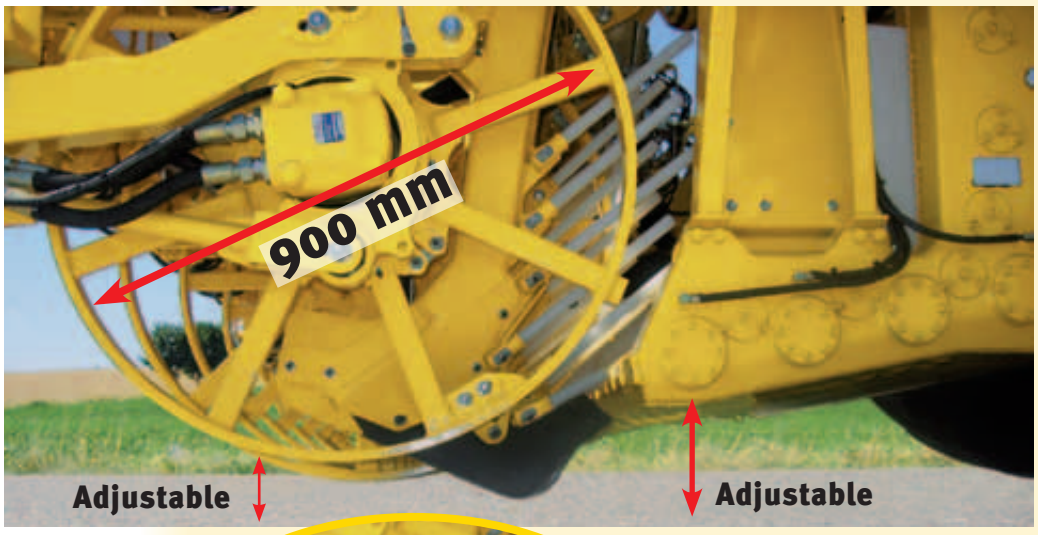
The leaf spreader defoliators can be raised up to 90° to provide access for maintenance, including knives and shares.

This can be operated from controls in the cab or at ground level at the unit.

Optimal scalping unit A parallel topping knife with an automatically regulated cutting angle ensures precise topping. The adjustment of the scalping can be easily made and observed by the operator seated in the cab.

Lifting

Effective and gentle



Optimal positioning of the depth sensor wheels to the lifting shares

Hydraulic stone protection on top of frame, maintenance-free linear guide

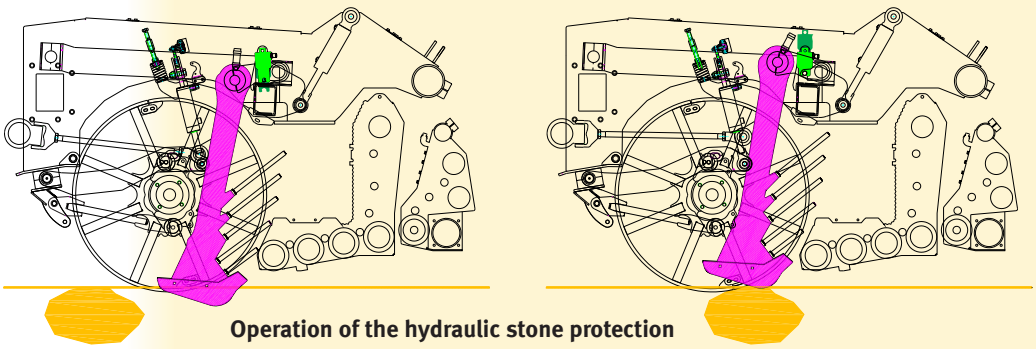
Lifting unit

PRh-lifting unit: equipped with tangentially oscillating shares and hydraulic stone protection. The impact pressure of the stone protection is electronically set from the operator in cab terminal.

Stone protection is achieved by a hydraulic cylinder pressing from above onto the share body. This system totally eliminates incidental movement at the front of the share body where most incedents occur.

The speed of the oscillating shares drive is adjustable during operation.

The oscillating shares are driven by a spur gear mechanism. The bearing box is equipped with high quality, adjustable roller bearings.



Operation of the hydraulic stone protection

By adjusting the roller bearings (every 1000 – 2000 hectares depending on harvesting conditions) their operating time – compared to traditional systems – is extended many times over.

Lifting units are available with fixed row widths, harvesting 6, 8 or 9 rows in one run. A 6-row variable unit is also available with 45 cm and 50 cm widths.

The harvesting depth of the shares and their positioning left and right can be adjusted manually or synchronized with the joystick.

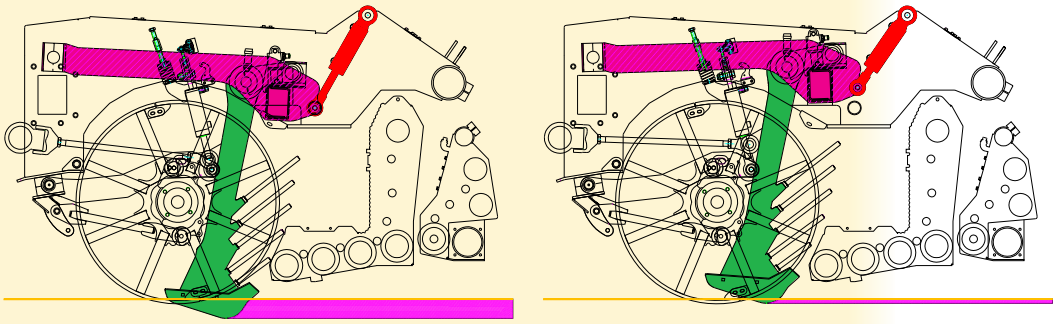
Long connecting rods

Maintenance-free linear guide

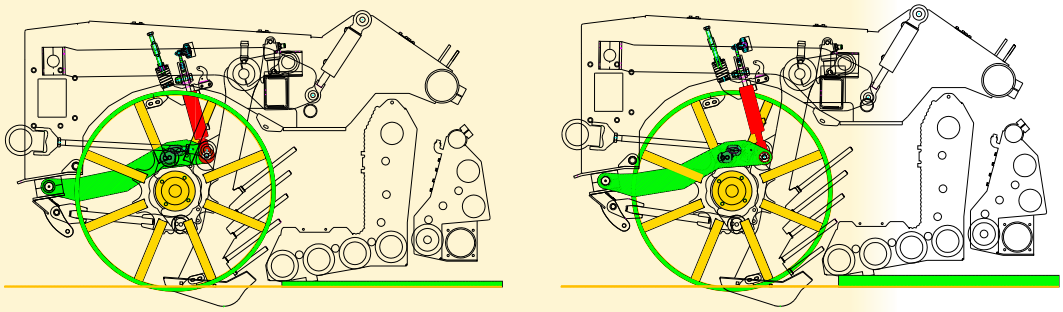
Adjustable gear bearing

Oscillating share motion with spur gear drive

Hydraulic adjustment upwards of the share beam



Hydraulic adjustment upwards of the harvester roller gear



Clear view into the lifting unit

Owing to its optimal positioning, the sensor depth wheels tackles weed growth ahead of the lifting shares. Weed and leaf is pressed down before the shares cut through it. The advance action of the sensor depth wheels is set from the cabin with a toggle switch. Each share unit eqipped with a maintenance-free linear guide adjusts up to 70 mm sidways to the row of beet. Long hinged connecting rods minimize transverse force and improve row alignment.

To ensure that the righthand front wheel maintains a wider distance from the next row the first four lifting rollers and the lifting unit can be moved 20 cm right or left, depending on direction, following initial lifting with the 6-row harvester (this applies only to row widths of 45 cm a/o 50 cm).

The 5th and 6th lifting rollers do not adjust. By this arrangement optimal quick conveyance of the beet onto the infeed conveyer is ensured. Two short, overlapping lifting rollers, right and left at the rear of the unit, ensure that under heavy soil conditions optimal conveying and cleaning is achieved. Lifting units of the PR-XL series have a 7th roller and cannot be adjusted. The speed of the four front rollers is continuously adjustable to optimize cleaning.

Independent of the harvesting depth the rollers of all PRh lifting units can be adjusted hydraulically. This ensures that less earth, stones or beet leaf penetrate the machine even when harvesting comparatively deeply.

PR-XL
System Solution
Easy transport on roads

Ropa have now developed a new transport and coupling system for their harvesters of the PR-XL series (8 or 9 rows with a choice of row widths) for transport on roads. The (extra)-wide units are loaded along the length of a compressed air-operated transporter and with its lifting unit raised high, can be towed by the euro Tiger. As shown in the picture (a euro Tiger V8-3 with a 9 x 45 cm PR-XL harvesting unit on the trailer) this unit will in future be a popular choice.

The operater can hitch up the trailer with the help of the reversing camera by viewing the operation on the colour monitor. In this way the trailer can be coupled quickly without further assistance.

Despite its large size, this machine can be easily navigated around narrow bends. The rear axle steering mechanism of the euro Tiger guides the transporter optimally around bends. The reversing camera shows the movement of the two front wheels of the trailer whilst also the roadside can be seen.

For docking the harvesting unit the three-point coupler is lowered, inserted into the trailer socket and then slightly raised. The unit is then suspended in the three-point coupler of the euro Tiger in the same way as the cutting mechanism is on a combine. Finally, two bolts are slotted in for secure fastening.

euro TIGER XL

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For operating the harvesting unit an 8-fold hydraulic and an electronic multi-coupler are attached on the lefthand side. Finally, 4 main oil supply lines must be connected on the righthand side.

euro-Tiger V8-3 with 9x45 PR-XL harvesting unit

The harvesting unit is hooked on to the transporter in three places. For unhitching the assembly first the lifting unit is hydraulically lowered from the cabin, then the harvesting unit is raised by approximately 10 cm and driven out at the rear.

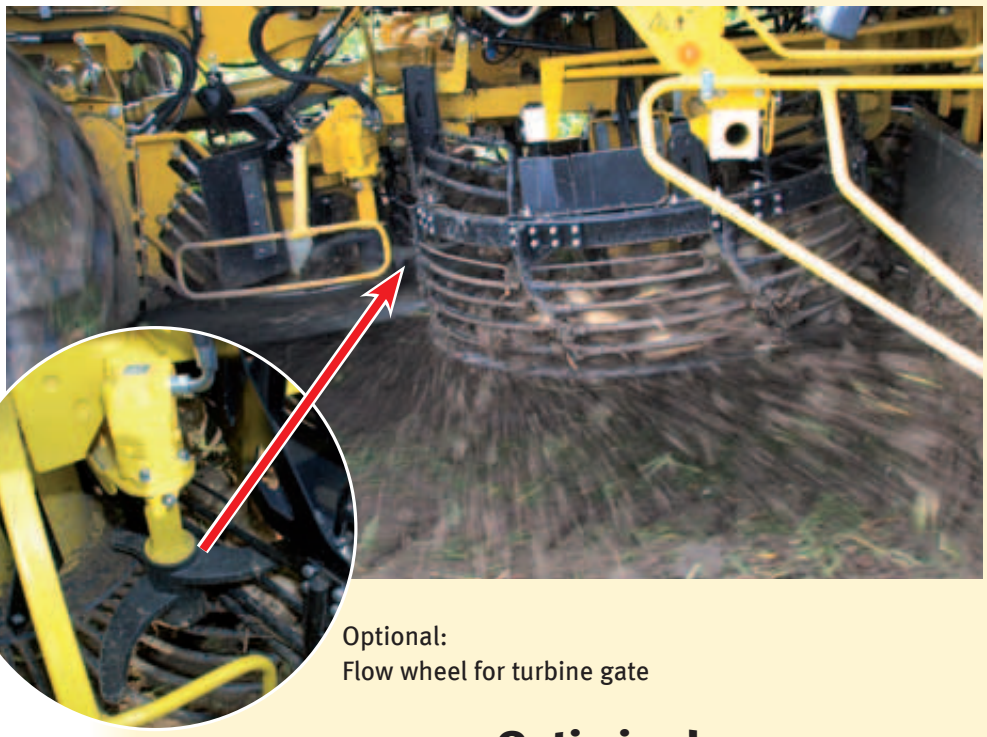
The entire process takes only a few minutes.

You will appreciate the benefits of the wide PR-XL harvesting unit when in action in beet fields.

Higher efficiency per unit area at a reduced lifting speed, lower fuel consumption and increased leaf topping are clearly noticeable and significant benefits of this system. For deploying wide PR-XL harvesting units the front axle of the euro Tiger can be fitted with even wider and super soil protective 900/60R 32 or 1050/50 R32 Terra tyres. Fewer runs and turning maneouvres will further contribute to soil conservation.

Cleaning unit

Thorough, flexible and reliable

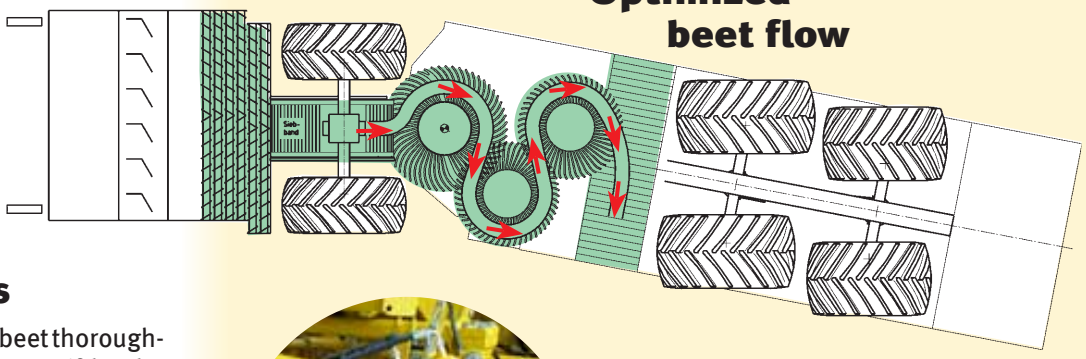


Transfer Conveyer

The hydraulically tensioned conveyor transfers the beet quickly to the first cleaning turbine. Owing to the high front axle the clearance throughput of beet is ensured without stopping the flow or damaging them. The operator can continuously adjust the speed of the transfer conveyer and, if necessary, reverse it.

Optional:
Flow wheel for turbine gate

Optimized beet flow



Cleaning Turbines

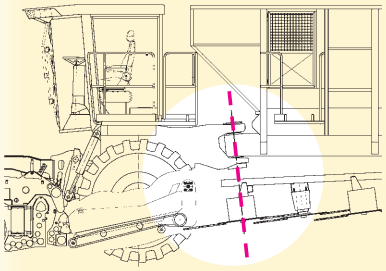
Three turbines clean the beet thoroughly and then convey them on swiftly. The first turbine with a diameter of 170 cm is mounted on the same axis and below the pivot articulation. From this position it can easily take the entire beet flow from the transfer conveyer and clean them independent of the position of the pivot articulation. This is an enormous advantage when driving into rows of beet after coming from the headlands.

Ten cleaning programmes are available which can be set in advance (from extremely light to very intensive). Any turbine adjustment is made via a +/- button. Control of the turbines is coupled with an automatic rev adjustment. This eliminates interruptions in the cleaning process.

The guide rails consisting of gates or pig tail tines (or a combination of both) can be hydraulically adjusted upwards from the seat. This enhances the cleaning intensity.

Separate hydraulic height adjustment for flow gate in first turbine

Spring tins



Optimal positioning of the first turbine below the pivot articulation of the euro-Tiger V8-3

Gates

Beet Tank

large volume and flexible

Automatic control for the emptying of the beet tank - with 2 preset delivery heights

(Ring) Elevator

The sugar beet are conveyed gently into the beet tank via a 900 mm wide elevator at an hydraulically adjustable speed. For driving on the road the ring elevator, the unloading conveyer, the beet tank auger, with an adjustable height to the rear and front, and the two beet tank stabilizers fold hydraulically into the tank.

Beet Tank

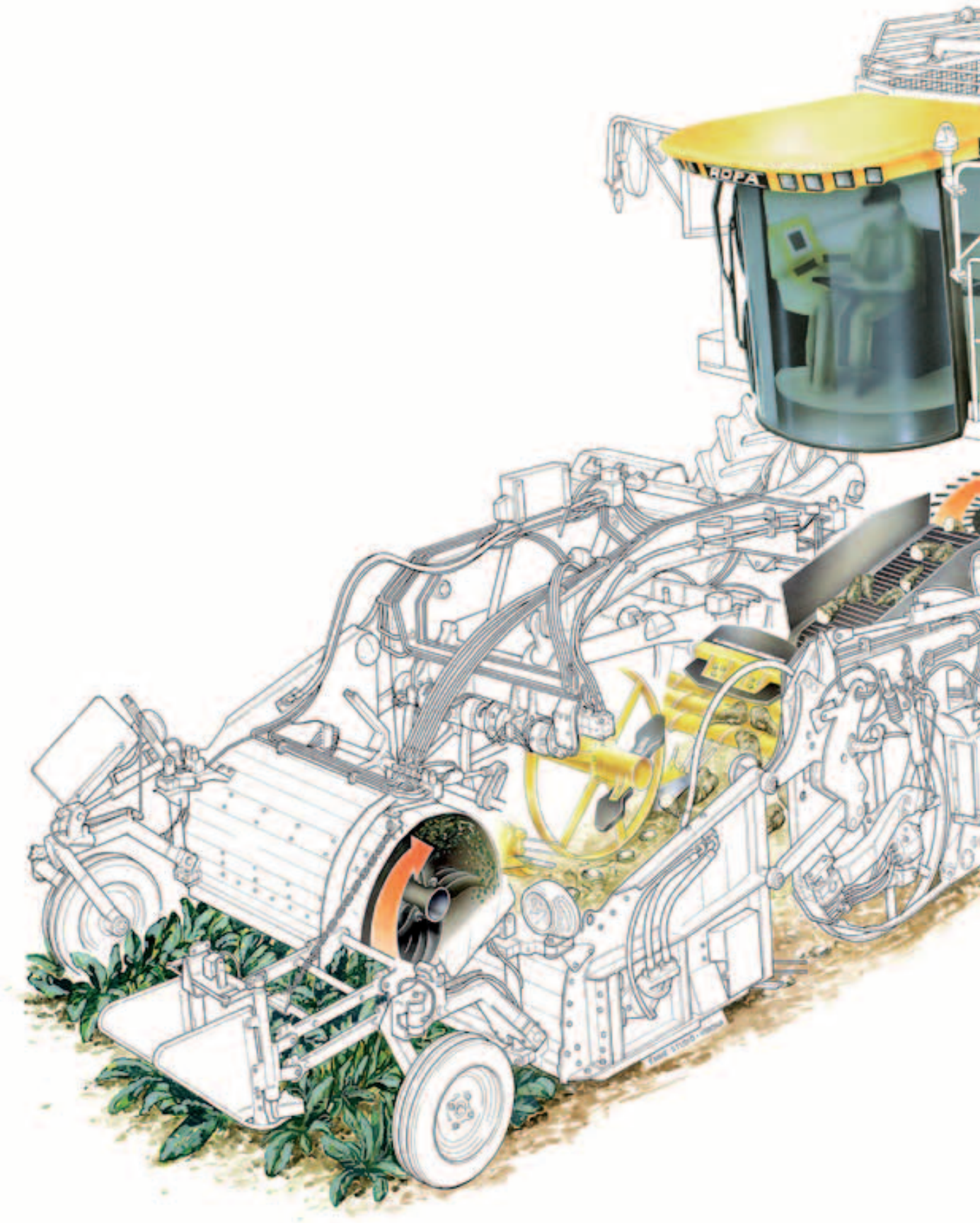
The beet tank has a capacity of more than 40m³. The beet is conveyed to the rear of the beet tank by means of the auger. This ensures an even weight distribution of the beet over the two rear axles. When the rear of the tank is full (approx. 80% of the tank volume) the auger which is controlled by ultra-sound sensors, switches over (changes direction) and fills the front part of the beet tank. The load level of the tank is shown at the full colour terminal.

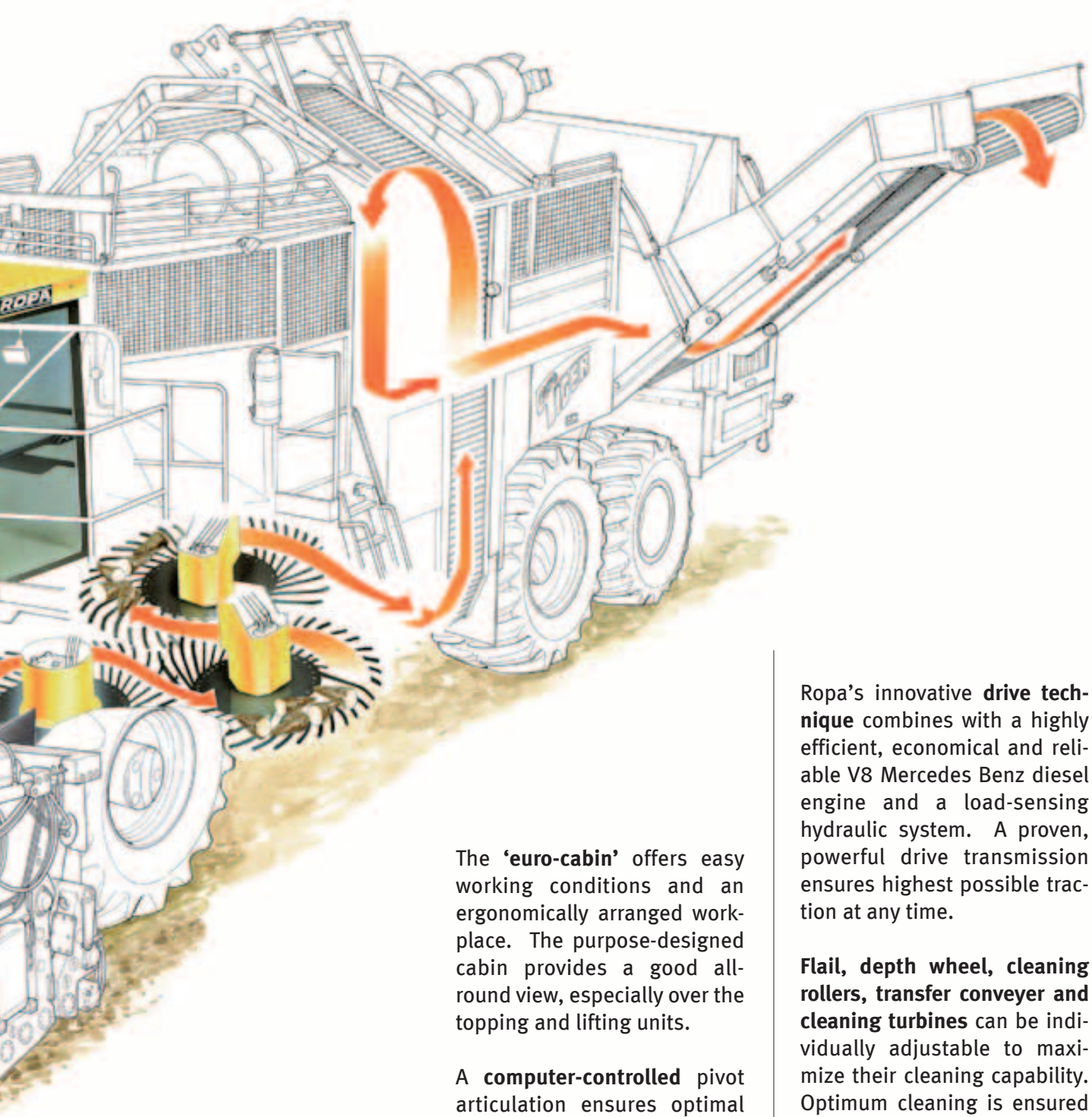
The unloading conveyer can empty more than 40m3 beet tank in one minute. The unloading speed is continuously adjustable. In this way the overloading onto vehicles driving alongside is easily possible. With a transfer height of up to 3.8 m piles can be built accurately. To achieve simpler transfer into storage unloading can be initiated from variable positions of the unloading conveyer.

The hydraulically driven length and sideways cross conveyers are equipped with hardened drive chains as well as with spring steel formed slats. High quality materials add to floor durability and increase the working life of the machine. The unloading procedure can be carried out easily by automatic unloading control.

Controls & operation

robust, reliable and economical





The **'euro-cabin'** offers easy working conditions and an ergonomically arranged workplace. The purpose-designed cabin provides a good all-round view, especially over the topping and lifting units.

A **computer-controlled** pivot articulation ensures optimal efficiency. This also gives excellent manoeuvrability for driving on roads. The 60° pivot articulation (30° left and right) allows for the smallest possible turning circle.

The **beet tank volume of 40m³** is effectively distributed over 3 axles through axle load control and can be unloaded efficiently in approximately 60 seconds.

Ropa's innovative **drive technique** combines with a highly efficient, economical and reliable V8 Mercedes Benz diesel engine and a load-sensing hydraulic system. A proven, powerful drive transmission ensures highest possible traction at any time.

Flail, depth wheel, cleaning rollers, transfer conveyer and cleaning turbines can be individually adjustable to maximize their cleaning capability. Optimum cleaning is ensured by automatic speed adjustment.

The **integral flail or flail with auger and leaf spreader** ensures a nutrient-orientated leaf distribution.

The newly-developed **PRh unit** provides clean and effective harvesting; it is maintenance-friendly and low in wear and tear.

Cabin

driver comfort and all-round vision

Cabin

The euro-cabin combines modern design, functional layout of controls and an ergonomic work-place. The large curved front screen provides an excellent all-round view – without distortion. Due to low-line vision the operator has an optimal view over the topper, scalpers and lifting rollers. In short: he controls the entire beet flow in the harvesting unit whilst maintaining a comfortable position at all times. He can constantly monitor the reversing and turbine camera (optional) on the LCD colour monitor. Powerful floodlights ensure optimal lighting at night.

The operator can choose his most comfortable, individual seating position thanks to an air-sprung driving seat and an adjustable steering wheel. Combined with standard climate control air conditioning, heating and ventilation the euro-cabin is a work-place offering highest comfort. The wing-mirrors are heated and fold pneumatically in and out.

Terminal

The clearly designed control console with its colour-coded terminal is located to the right of the seat. The crucial setting options of the euro-Tiger can be easily preset by two rotating switches and adjusted with a +/- button. The colour display shows continuous actual data of the operational state of the machine.

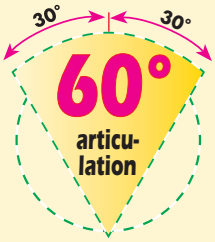
Some information, such as pressure in the cleaning system are given acoustically as well as visually. This enables the operator to act promptly.

The operating functions of the euro-Tiger are controlled with the joystick. The operator has the whole machine under his control.

Steering

reliable, variable and automatic

Inner diameter of turning circle: 7.44 m



Auto pilot / Cruise Control

An auto pilot steers the euro-Tiger through beet fields. The shares and row sensors guide the euro-Tiger reliably through the beet. The cruise control keeps the machine at a constant preset speed. When the cruise control operates the joystick can comfortably and accurately be used instead of the accelerator.

Steering / Handling

Various steering methods can be used for driving in fields and on roads.

For driving on public roads the synchronized steering is activated which enables steering by articulation and front axle. Narrow access roads and turnings are easily navigated.

For driving in the field: three steering methods are operated with the joystick.

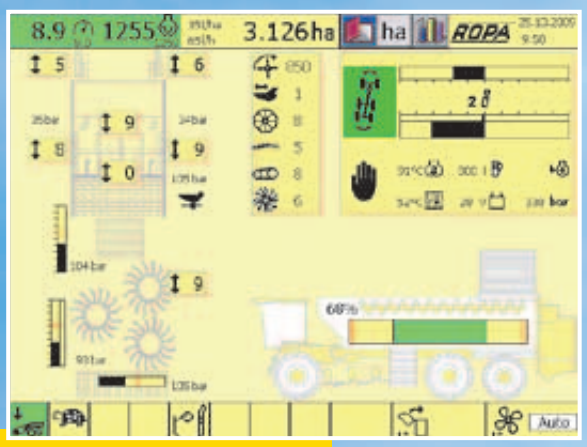
Total-steer position (with a turning angle of 30° each side) allows for a narrow turning circle by steering with the pivot articulation and axles inclined towards one another. The small turning circle of the euro-Tiger offers superb manoeuvrability on headlands.

In all-wheel-steer runs the axles steer with one another. The pivot articulation goes to 0° and is inactive.

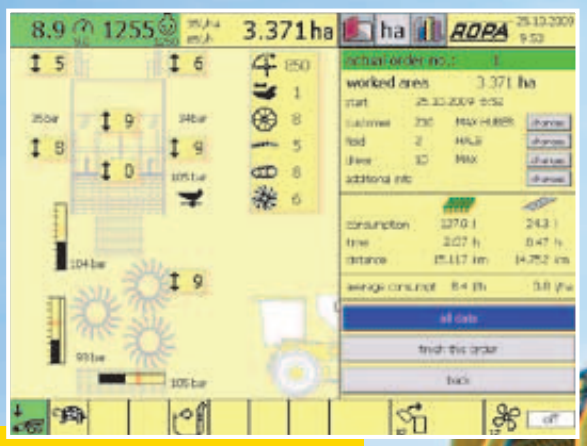
The offset-steer (stepping out of the machine) is available for harvesting and has three possible levels: 0, I or II operating in both left hand or right hand directions. Level 0 (no articulation) is set for opening out the crop. Level II allows for the maximum foot print of the machine, a width of 4.40 m. This gives optimum results at minimum soil compaction with even weight distribution. When in offset-steer the third axle keeps a distance of up to 1.40 m to the next row of beet. This is crucial for return runs – particularly on a side slope.

Comfort

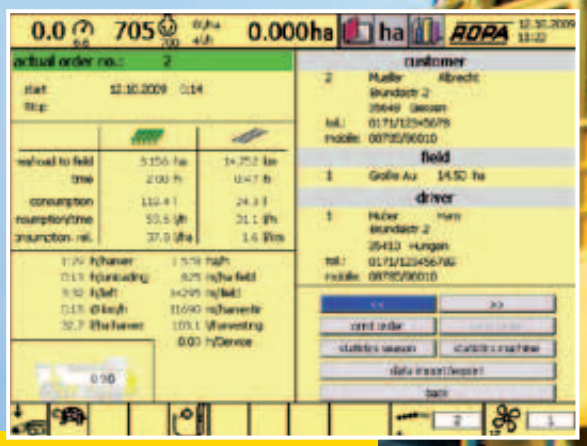
More yield through use of memory function



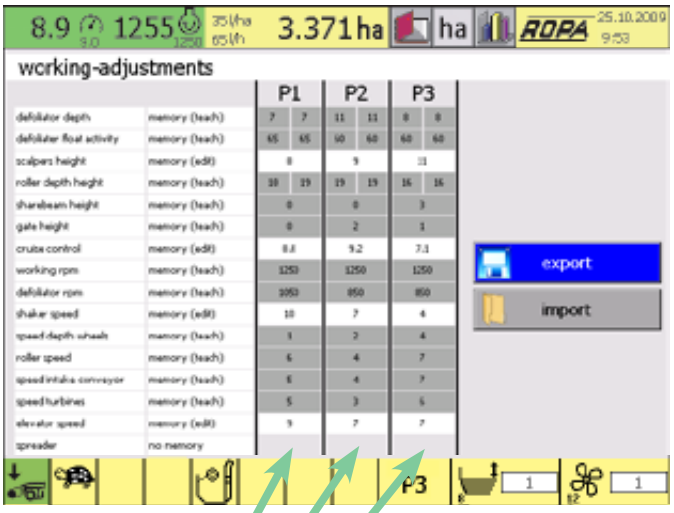
Standard view of the terminal



Changing harvesting settings



Record of work analysis



The euro-Tiger V8-3 is equipped with a joystick with 3 programming keys which can be operated individually. Variable combinations of machine settings for certain – recurring – harvesting conditions or soil types can be stored and recalled by simply pressing a button. By pressing only one button the selected machine settings are changed automatically for achieving optimal harvesting results.

In practice the machine operators work according to the following principle: "Normal growth - heavy weed growth – low growth", "uphill harvesting – downhill harvesting - normal harvesting", "good yield - medium yield – low yield", "heavy soil – normal soil condition – sandy soil" ...

Harvesting through swift and easy machine adjustment therefore saves fuel whilst at the same time achieving a maximum yield. Through the use of programming buttons earlier losses caused by wrong flailing and scalping methods have been eliminated.

Technical facts

Engine:
Mercedes Benz V8 diesel engine OM502LA, 444 kw (604 HP) at 1690 r/min. operating speed at 1,250 r/min, max 1,650 1/min, fully electronic steering with fuel consumption display l/ha and l/h at the terminal.
fuel tank: 1,440 litres, separate connection for filling by tanker

Propulsion:
Continuous hydrostatic propulsion via 2-gear drive with all-wheel switching
1st gear 0 - 13.5 km/h
2nd gear 0 - 20 km/h, or 25 km/hr (optional)
3 mechanically operated axles with differential locking, axle load control for the 3rd axle, lockable hydraulic hillside stabilisation on the front axle, automotive driving and harvesting, top load control, pressure cut-off

Cabin:
sound-proof tinted all-round glazing, heating and ventilation system with climate control air-conditioning, console with colour terminal, joystick operation, autopilot, cruise control, engine control, comfortable air-sprung Grammer seat

Tyres:
1st axle 800/65 R 32
900/55 R 32 optional, only possible for row widths of 50 cm
900/60 R 32 only for 6 x 30" and 8/9 row lifting units
1050/50 R 32 only for 6 x 30" and 8/9 row lifting units
2nd axle 1050/50 R 32
3rd axle 1000/50 R 25

Capacity:
up to 2 ha/hr (6-row); up to more than 2,5 ha/hr (PR-XL 8-/9 row)

Beet tank volume: appr. 40 m³, equivalent of appr. 26-29 tons

Transfer/Unloading height: up to 3.80 m

Topping unit:
PISh with integral flail without leaf ejection, leaf mulched and deposited between the beet rows
optional: PBSWH with left side leaf ejection, only for 6-/8 row 45 cm a/o 50 cm row width
PBSOh with left side leaf ejection and 4 sensor wheels at the flail

Lifting unit:
6-row with 45 cm or 50 cm row widths, optional: variable 45-50 cm
PR-XL: 6-row with 30"
8-row with 45 cm, 50 cm or 22"
9-row with 45 cm, 50 cm or 20"

Cleaning:
transfer conveyer 800 mm wide, pitch 55 mm or 60 mm
1st turbine 1.700 mm dia. / 2nd and 3rd turbine 1.500 mm dia.
elevator 900 mm wide

Electrics/Electronics: Integrated net 24 volt, 2 light units of 100 amps. each
32 super beam working lights of 70 watts each, 2 x 12 volt sockets for radio / telephone communication etc, CAN-BUS computer system with integrated diagnostic facility for all components connected to the terminal, software update possible by laptop

Measurements:
length: 14.95 m
height: 4.00 m (transport position)
width: 3.00 m (6-row at 45 cm row)
3.30 m (6-row at 50 cm per row and 45-50 cm variable)

Standard:
central lubrication system, job assessment at terminal, inc. of fuel consumption counter, climate control air conditioning, rear protection with 2 integral debris catchment chambers (not for the PR-XL)

Optional:
Widia shares, 25 km/hr version, camera for turbines, camera for unloading conveyer, 2 LCD colour monitors, extended unloading conveyer (+40 cm), Oscillating share high speed switch, spring tines in turbines 1-3, bumper wheel in turbine 2, spreader in stone discharger, 4th axle (compulsory in Germany), data printer, data read-out via USB, data input and read-out with job processing via USB, GIS Intersection, GPS speed sensor, leaf collection device (only for PBSh flails), additional hydraulic pump 45 cm³ for additional equipment, bio-hydraulic oil, critical value indicator at diesel tank, air-brake transporter for PR-XL harvesting units and hydraulic fast coupling facility, chicory equipment

Tested by TÜV and cooperative associations, corresponding with CE regulations. Subject to technical alterations.

For improved brochure visibility some fitted safety devices have been removed. The machine must not be operated without these safety devices in position.

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