



# **PANTHER 2**



# **ROPA**

# Anti Shake and Balance System

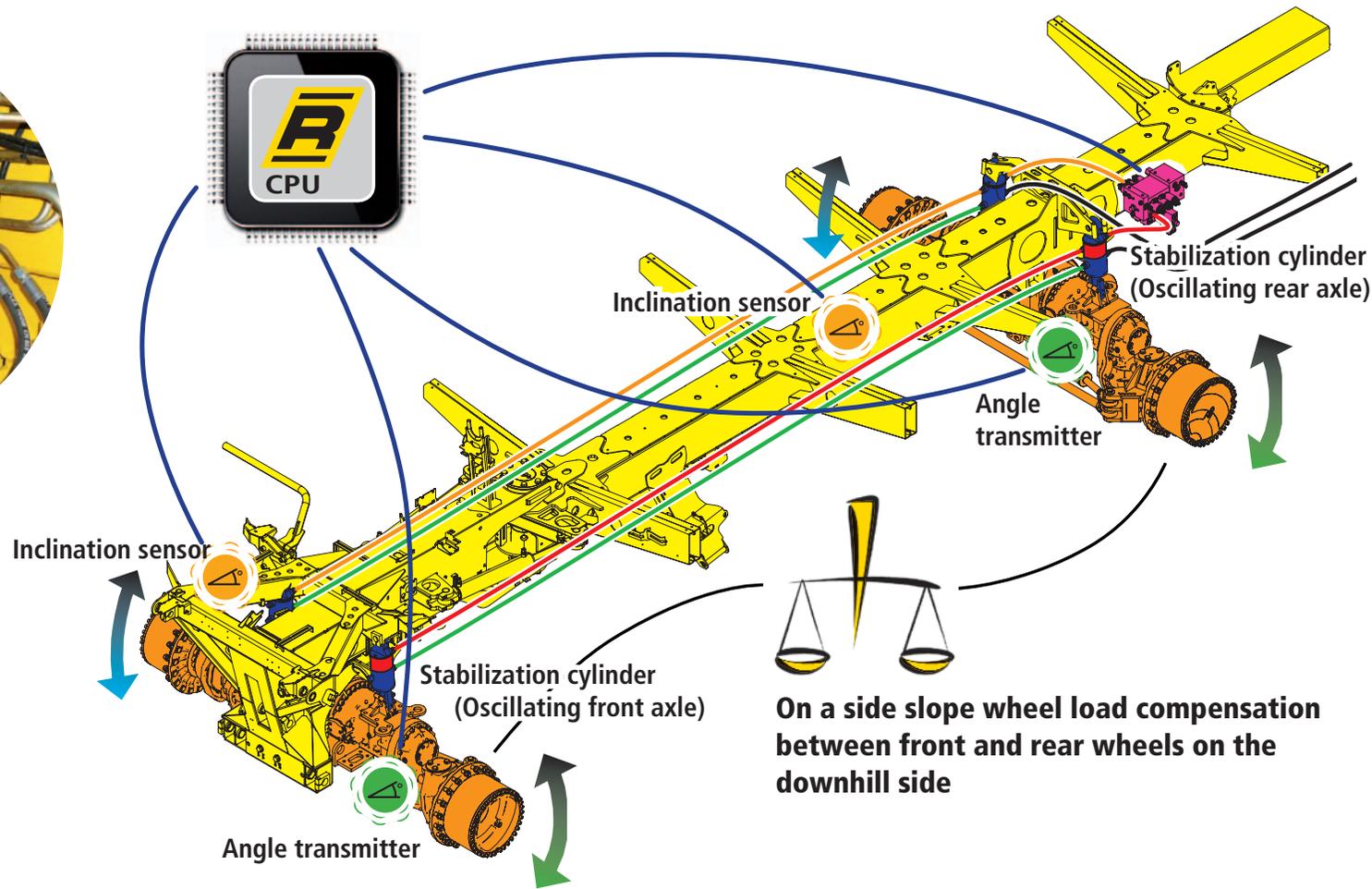
Uneven surfaces (e.g. when driving along a furrow) are only half transmitted to the frame thanks to roll stabilization of the chassis!

Optimal surface contour adaptation with two swing axles with stabilization cylinders - Cabin, bunker and chassis remain horizontal





Stabilization cylinder



## Chassis concept with wheel load compensation system and computer-controlled slope

The ROPA Panther 2 has an innovative chassis concept with 2 floating axles in conjunction with 4 stabilizing cylinders. Compared to conventional chassis of 2-axle beet harvesters this reduces the sway of machine by 50 per cent. The reason

for the improvement is the hydraulic connection of the stabilizing cylinders at the front and rear axles on one side, so unevenness at one wheel at a different level only affects the frame by 50 per cent compared to the previous system.

Thanks to the reduction of the chassis swing, the row and depth control is improved simultaneously, as the frame is averaged to the position of both axles.

# PANTHER 2



## Fully automatic slope compensation

On a side slope the chassis is inclined to the slope.

# Anti Shake and Balance System



## Roll stabilization with fully automatic hydraulic wheel load and slope compensation

- 2 swing axles with 4 stabilization cylinders
- 50% less rolling motion on chassis and three point for more precise row guidance and less damage to beets
- Reduced material wear, extended service life
- Hydraulic connection of the stabilization cylinders from each side
- Compensation of wheel loads between front and rear axles -> better traction and soil protection
- Greater slope stability, less risk of tipping over
- Better lifting depth control, less soil pickup
- Large-size Michelin Ultraflex tires, only 2 bar pressure
- Better driving comfort even on oblique descents and headlands





PANTHER 2



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40

Concept

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## The sporty and agile Panther

- TOP maneuverability with 60° articulation angle
- Optimal articulation position - 65 inches behind the front axle
- The chassis tilts to the center of the circle during fast travel around curves
- Easy harvesting, even on small fields
- Small turning circle
- 25 mph road travel at only 1265 rpm.





Ergonomics and comfort, the driver is at the center.

## R-Cab in the new design

The easy-care, pleasant and attractive interior of the new cabin guarantees the most comfortable operation. There are generously dimensioned shelves, storage compartments and plenty of space around the driver. Standard equipment includes a ROPA Evolution Grammer comfort seat with heating and active ventilation and also a cooling box under the comfortable passenger seat. Extremely powerful fully LED working lights turn night into day.

### R-View video system (optional)

The back part of the machine is displayed on the monitor in the bird's eye view. Obstacles are visible and collisions are avoided.



## **R** Concept

Intuitive dual operating concept - ROPA combines under the name R-Concept its new intuitive operating philosophy. The large 12.1 inch touch screen is the information and command center of the machine. From here the operator monitors the entire machine, receives information about operating conditions and performance data, adjusts functions and the working results of the machine. Dual operation either with fingertip on the touch screen or by turning and pressing the "R-Select" and "R-Direct" rotary buttons. The controls are situated in the ergonomically perfect position on the newly designed control panel and the handle of the multifunctional joystick (with integrated mini joystick). The thin control panel at the driver's position offers numerous adjustment options and supports the ergonomical and comfortable seat position with greatly improved all-round vision.

**A premium workplace for driving pleasure.**

## **R** Select

### Select important working functions

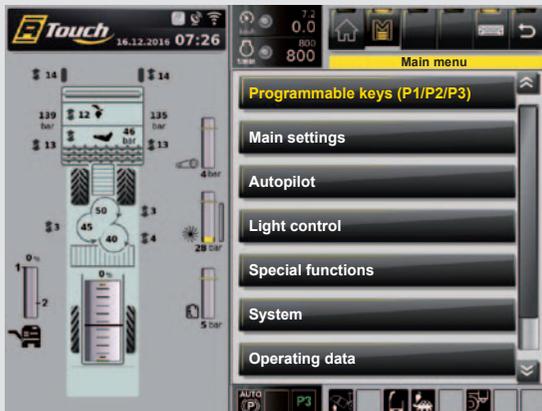
Functional group for intuitive selection and adjustment of all important functions during operation without significant prior knowledge.





## Directly in the terminal menus

Direct access to main menus and to detailed machine settings and data query in submenus.



## Lights menu

One or all working lights can be switched on just by the tap of a finger on the touch terminal. One touch of the finger is enough to back up and recall three different lighting programs.



## Automatic folding

A touch of the button is enough to "transform" the Panther 2 automatically from road drive mode to field mode. Unloading conveyor, 3-foot-wide ring elevator, bunker auger and other groups fold one by one, in some cases simultaneously. The sensor-controlled monitoring systems exclude operating errors and collisions. The entire folding process with simultaneous activation of all functions takes a very short time.







**Powerful LED lights turn night to day**

## **10,000 lumens on the driver's cabin**

The redesigned and very spacious R-Cab driver's cabin has been significantly upgraded and is suspended on hydrobushings. It is oriented to the driver, who has the best overview of the redeveloped lifting unit from a physiologically appropriate and comfortable seating position.

## ROPA RES rubber-defoliator

The two fully hydraulically driven cleaning rotors can be independently adjusted in rotation speed and height – unique! Various settings can be stored and accessed on the joystick using a memory function.







**ROPA**





Tiger 6, defoliator on Panther 2 tractor



Tiger 6, defoliator on Panther 2 tractor

## **RAS leaf ejection**

### **ROPA all-round defoliator with leaf ejection**

The beet leaves are shredded and transported by a leaf scroll to the leaf plate, which spreads them over the harvested area. A press of the button in the cabin switches the machine. An optional leaf collection conveyor can be installed for harvesting beet leaves (biogas or dairy).

## **RAS integral leaf-layer**

### **ROPA all-round defoliator with integrated leaf layer**

The beet leaves are shredded and deposited between the rows. A press of the button in the cabin switches the machine.



## **RIS - ROPA integral defoliator**

**ROPA integral defoliator - standard model for normal harvesting conditions**

Leaves from the beet crowns are mulched with robust defoliator knives and spread between the rows. Therefore, beet leaves with all their nutrients are evenly delivered to the soil, the optimal basis for further soil cultivation as green waste is quickly converted to humus.

## Micro-Topper

The sharp flail cuts off leaves, nothing is wasted, no beets are cut too low.





PANTHER 2





PANTHER 12

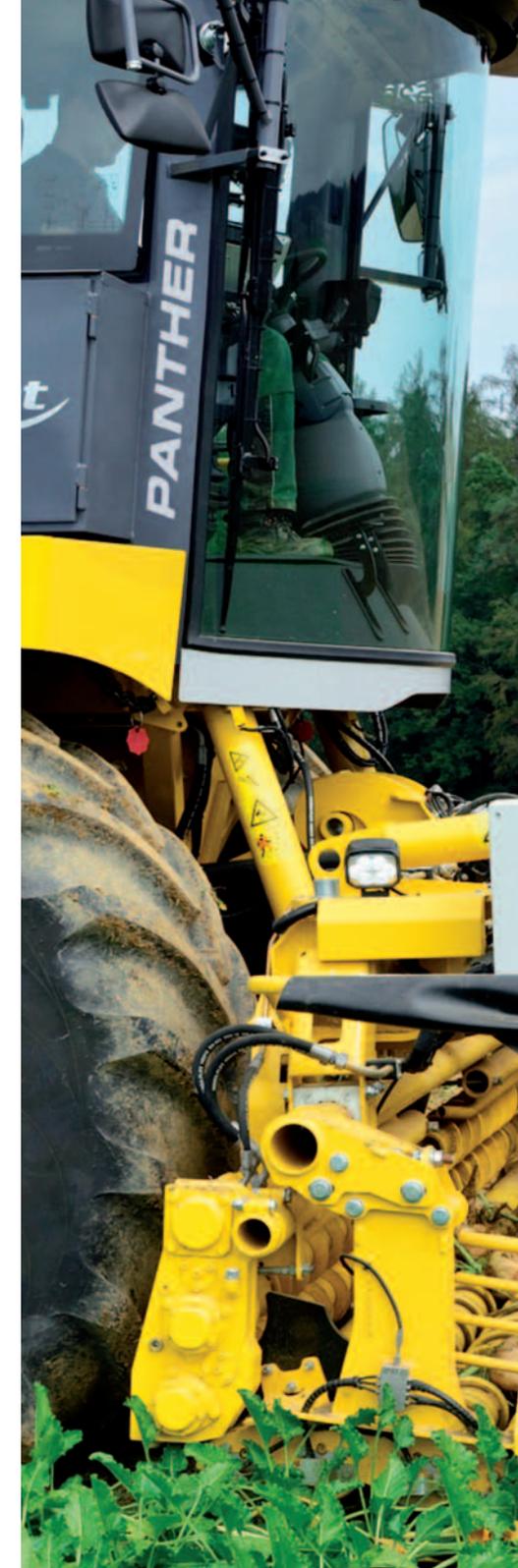
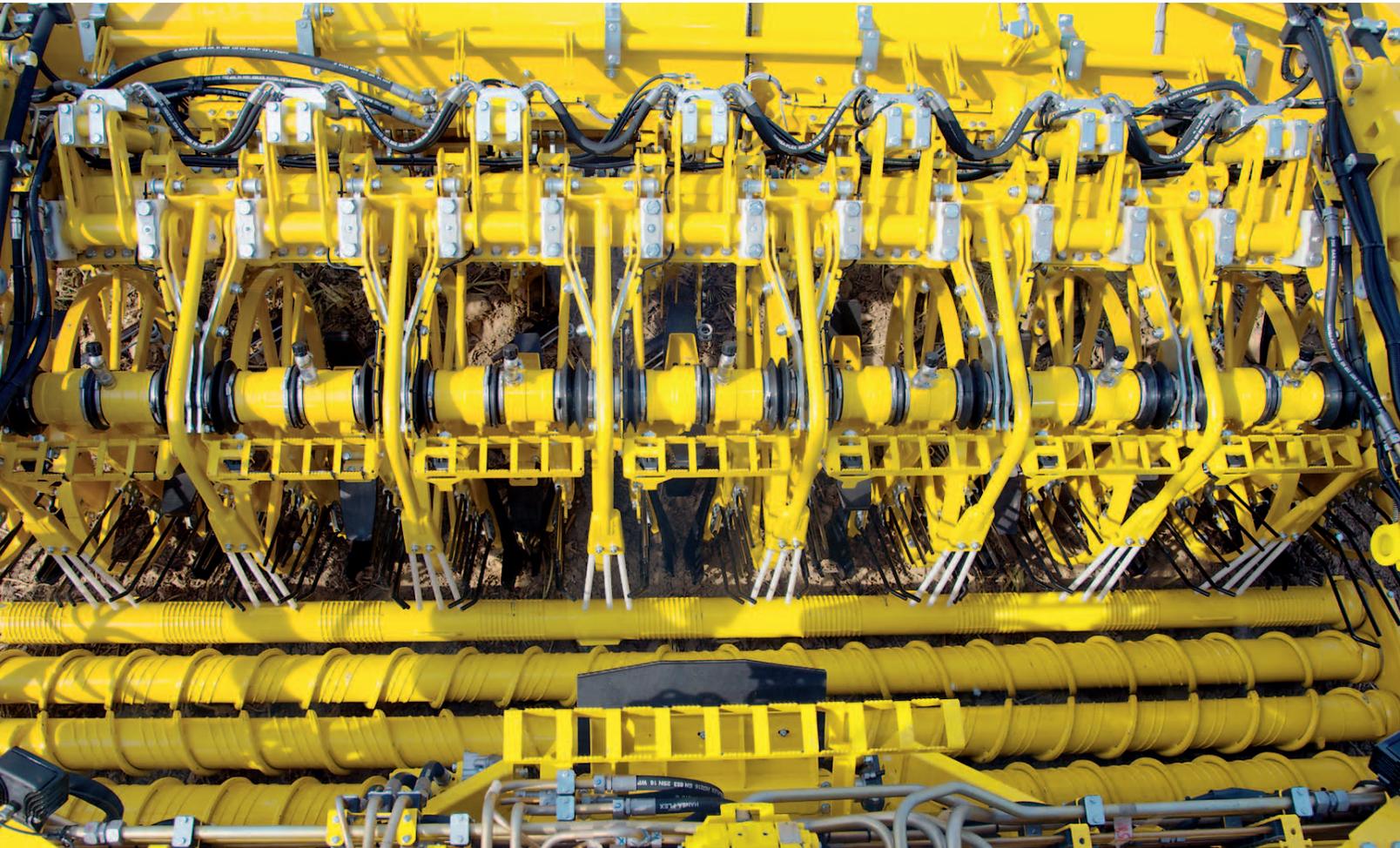


ROPA

ROPA

## Weight-optimized RR lifter with single-row adjustment

The RR lifting unit is equipped with counter-rotating oscillating shares, seven lifting rollers, completely maintenance-free hydraulic stone protection and single-row adjustment of the lifting depth. The large 33-inch depth-control wheels combined with the intelligent three-point suspension guarantee accurate depth control of the lifter. Maintenance costs are minimized with adjustable taper roller bearings in transmissions and the oscillating share drive.





## Convenient maintenance position - RR lifting unit

The convenient maintenance position is the best possible position for inspection and service of defoliator knives, scalper knife and lifting shares. The defoliator and lifting group can be raised to 90 degrees at the touch of a button from the cabin or the ground.



The engine can be started by pressing a button on the lifting unit and then the desired maintenance position can be set.





## Panther 2 XL - efficiency and power

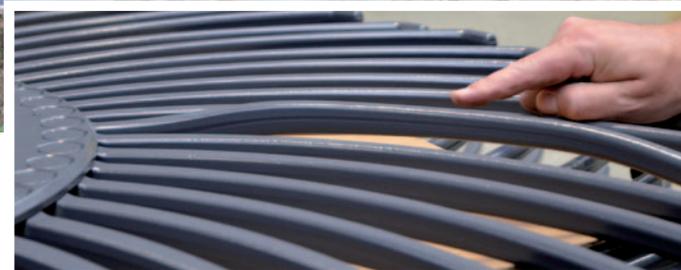
The ROPA Panther 2 equipped with 8 or 9-row wide harvesting unit of the PR-XL series is capable of covering significantly larger areas at reduced harvesting speed. Advantages of this version are reduced fuel consumption, lower fixed costs and an improved topping quality. Attaching the wide PR-XL lifting units to the front axle of the Panther 2 allows the use of even wider and more soil-protective 900/60 R38 Ultraflex tires. Fewer passes and maneuvers also contribute to soil protection.

Significantly higher area performance with reduced fuel consumption leads to lower costs with profitable and efficient sugar beet harvesting. Fewer passes and maneuvers also contribute to better soil protection.

# PANTHER 2 XL







## Increased cleaning area and new stainer wheel cleaning

In accordance with the higher engine power, the cleaning power has also been adapted in the Panther 2. The RR lifting attachment has an additional seventh lifting roller included and therefore offers a cleaning area which is over 15 per cent larger. A wider inlet to the filter belt channel guarantees an even quicker beet flow to the enlarged stainer wheel area. After the first stainer wheel with 68-inch diameter, two more follow, each with a diameter of 61 inches, before the beets are moved gently into the 39-inch wide bunker elevator.

## Large 39 cubic yard beet bunker

The automatic bunker filling allows optimum traction under all harvest conditions by excellent weight distribution. Two ultrasound sensors measure the yield, total the bunker charges, and save the result in the order database.





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## Fast truck loading, gentle and convenient bunker unloading

Gentle polyurethane fingers guarantee high feeding capacity with short unloading times of as little as 50 seconds with a full beet bunker holding around 39 cubic yards. The new extremely long unloading conveyor was based on the length and concept of the Tiger 6.

The unloading conveyor is 63 inches wide and foldable in 3 places. By basing this on the construction of the ROPA Tiger 6, the height could be further reduced despite the increased loading width - a major advantage for lifting under power lines.





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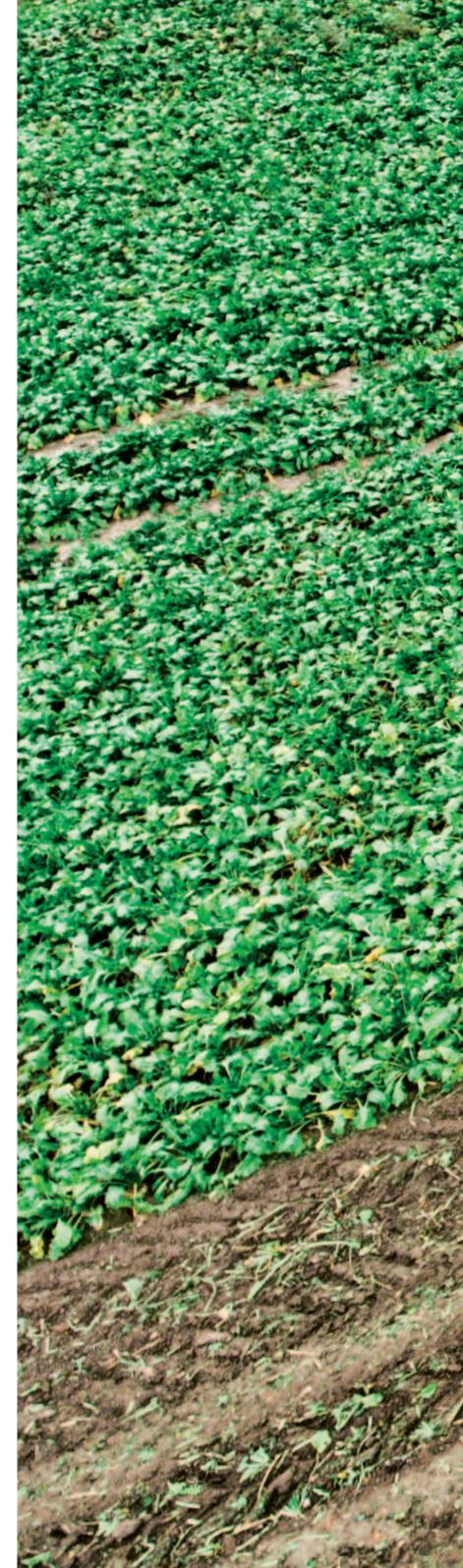
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## Extremely long unloading conveyor - greater safety with greater distance

The significantly extended unloading conveyor is located between both axles immediately behind the articulated joint. The driver has a clear view of the unloading conveyor without additional cameras when loading trucks driving alongside. This allows the driver to load the trucks evenly from an ergonomically relaxed seat position. The best prerequisites for relaxed and loss-free sugar beet harvest, particularly during long days and at night.





## Flat and fast truck loading

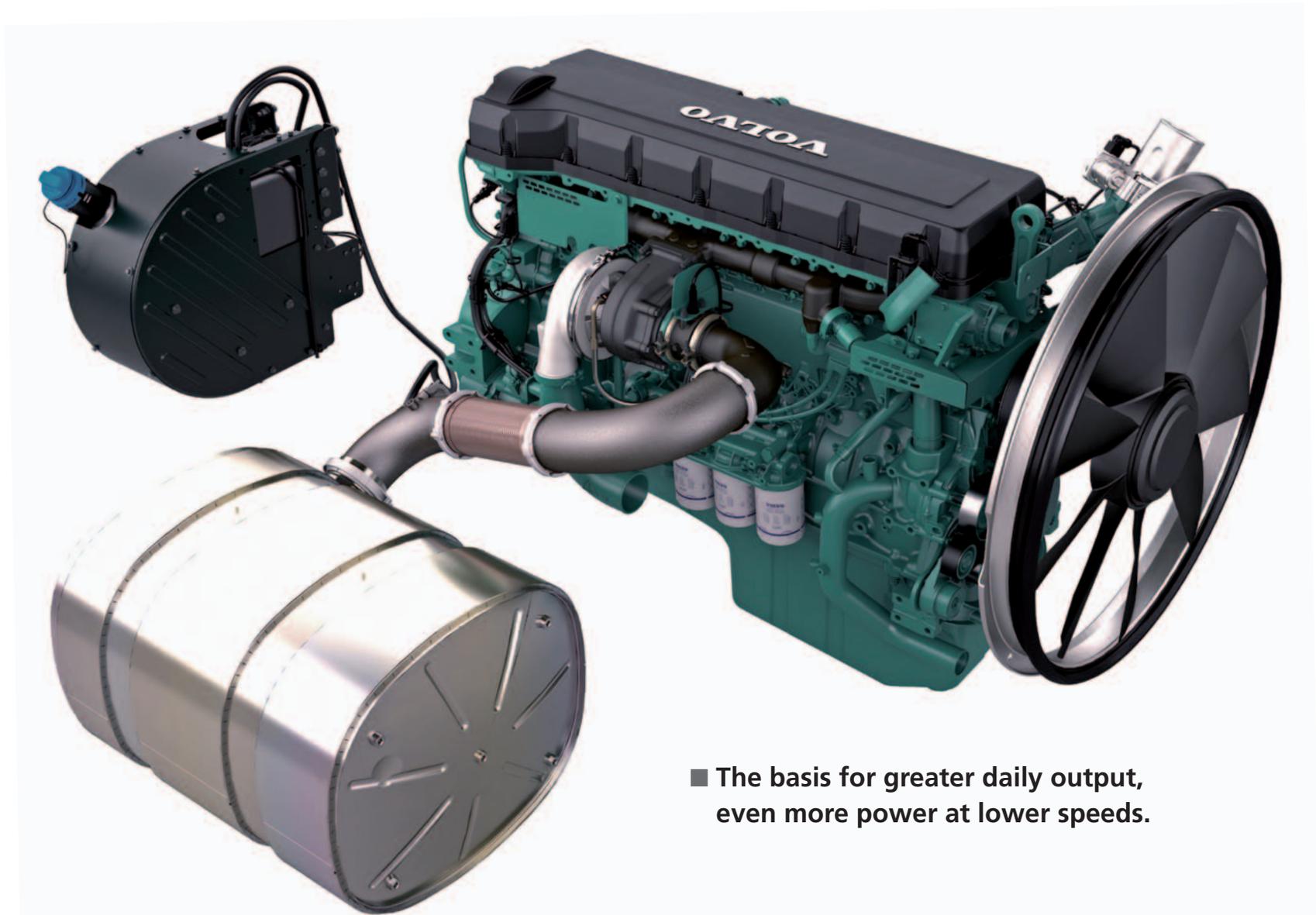
When loading on trailers driving alongside, the transfer angle is shallower. Combined with the faster bunker unloading compared to the Panther 1, this enables even faster truck loading on the move. Even 13-foot-high trailers can be loaded safely and quickly. Two separate unloading conveyor heights can be saved on the bunker control panel for even greater safety.





## Volvo Penta D16 with 700 hp/515 kW and 16.12 liter displacement

Power is transmitted even more efficiently with the 700 hp/515 kW Panther 2 with its Volvo inline 6-cylinder engine (emission level EPA 4 final), 16.12 liter capacity, pump nozzle injection (PNI), SCR catalytic converter and AdBlue. The maximum torque is 3200 Nm at 1260 rpm. From as low as 1000 rpm the engine offers a powerful 3150 Nm of torque. Harvesting is performed at an economical 1100 rpm with 3150 Nm torque - 28 percent better than the Panther 1 at 2450 Nm.



■ The basis for greater daily output, even more power at lower speeds.

Tiger 6, engine identical to Panther 2



## Volvo Penta D16 with 768 hp/565 kW and 16.12 liter displacement

For those who need even more power in the Panther 2, ROPA offers the 768 hp/565 kW Volvo inline 6-cylinder engine (model TAD1643VE-B) with 16.12 liter capacity and pump nozzle injection (PNI) in the range. The robust power pack does not require AdBlue, SCR catalytic converter and exhaust gas recirculation. This reduces logistics requirements for equipment and minimizes downtime. A powerful maximum torque of 3260 Nm - 33 percent greater than the Panther 1 with 2450 Nm - transmits power at optimal efficiency over the continuously variable transmission. The 238 hp/175 kW extra power compared to the Panther 1 results faster hectare coverage, particularly when lifting uphill, during truck loading while moving or with more than 6-row lifting with XL lifter attachments.

- => The basis for even higher daily output, increased operating safety.







## Technical Data: ROPA Panther 2

### Panther 2c engine:

#### Volvo Penta D16, 700 hp/515 kW

16.12 l displacement, 6-cylinder inline engine, pump-nozzle injection (PNI)

EPA Tier 4 final emission level or emission level IV, SCR catalytic converter and AdBlue, maximum fuel sulphur content 15 ppm required to meet exhaust emission standard

Max. torque 3,200 Nm, working speed 1,100 rpm, automotive to max. 1,650 rpm

### Panther 2a engine (not for USA and Canada):

#### Volvo Penta D16, 768 hp/565 kW

16.12 l displacement, 6-cylinder inline engine, pump-nozzle injection (PNI)

WITHOUT AdBlue, WITHOUT exhaust gas recirculation, fuel with sulfur content to max. 5,000 ppm permitted

Max. torque 3,260 Nm, working speed 1,100 rpm, automotive to max. 1,650 rpm

### Cooling system:

Side-by-side arrangement of cooling elements for charge air and water. Dirt-resistant positioning of the cooler at rear top side. Hydrostatically continuous driven and automatically reversible fan

### Traction drive:

First gear:

0 - 10 mph (at 1400 rpm of diesel engine)

Second gear:

0 - 25 mph (at 1265 rpm of diesel engine)

New transmission and axle ratios for low speed of straight drive shafts. Two braked portal axles with

cooled differential gears. Planetary final gears with 19-hole bolt pitch circle (20-inch diameter) with 4 planetary gears

### Chassis - R-Soil Protect:

New chassis concept with 2 swing axles with stabilization cylinders

### Slope adaptation:

the chassis can be inclined 7% to the slope on each side by 4 hydraulic cylinders The slope compensation is automatically regulated by two inclination sensors (optional)

### Chassis roll stabilization:

roll stabilization by hydraulic compensation of the oil level in the stabilization cylinders on one side of the vehicle

### Tires:

First axle 800/70 R 38, second axle 900/60 R 38, large wheel diameter of 80 inches, extremely soil protective and flexible Michelin tires of Ultraflex technology, only 29 psi pressure at full bunker load, large surface area offers high operational safety even under wet conditions and on slopes.

### Hydraulics:

Pump distributor drive with pressurized lubrication and transmission oil cooling, Bosch-Rexroth propulsion with 17 cubic inch drive pump, generous capacity operational load sensing hydraulics from Bosch-Rexroth, Bucher and Hydac.

### Cabin:

sound-insulated and tinted all-round glass with low-line vision, full-surface window wipers, quiet stepless fan in heating and ventilation system (climate control air-conditioning), air-sprung GRAMMER ROPA Evolution seat with heating and active ventilation, autopilot, cruise control, base console for telephone, AM/FM/CD/USB/Bluetooth/DAB+ radio with external microphone for hands-free system, 3.6 gallon cooling box

### Operation:

R-Concept operating console, joystick operation, 12.1" R-Touch color terminal, machine diagnostics including DM1 error messages from diesel engine in plain text fully integrated in R-Touch, 2 LED interior lights, color display for reverse camera

### Defoliator unit:

**RIS** - integral defoliator unit with leaf spreading between beet rows, 2 depth-control wheels

**RAS** - all-round defoliator unit, push-button operation from the driver's seat, can be changed for either integral topping or leaf ejection to the left, 2 depth-control wheels (4 depth-control wheels as option)

**RBS** - defoliator with leaf ejection to the left, leaf spreader and 4 depth-control wheels

**RES** - rubber defoliator with leaf spreading between beet rows, 2 depth-control wheels

### RR lifting unit:

6, 8 or 9-row, 45 cm, 50 cm or variable (6-row

only) hydraulic single-row adjustment of lifting depth, hydraulic stone protection, 85 cm depth-control wheels, 7 lifting rollers, fast, stepless shaking share drive with axial piston motor, adjustable taper roller bearings in shaking share drive and lifting gears, excellent view of lifting unit and scalper without additional cameras, service position allows defoliator and lifting group to be raised 90 degrees for best possible inspection and service of defoliator knives, scalping knives and lifting shares

### Cleaning:

Sieve conveyor: 30 inches wide, 2-inch pitch  
1st strainer wheel: 68-inch diameter  
2nd strainer wheel: 61-inch diameter  
3rd strainer wheel: 61-inch diameter  
Forged strainer wheel prongs

### Guide grids:

height independently adjustable at 1st, 2nd, 3rd strainer wheels, guide grids can be replaced with spring tines segment by segment

### Elevator: 39 inches wide

### Unloading conveyor:

3-fold conveyor for easy layout of 33-foot-wide piles. PU-fingers 4 inches long for high throughput and short unloading time, unloading conveyor width 63 inches for easier trailer loading, fast bunker unloading in less than a minute.  
Overloading height: up to 13 feet



**Bunker capacity:**  
approx. 39 cubic yards / 21 t

**Yield indicator:**  
2 ultrasound sensors measure the bunker content, full bunkers (and partly loaded bunkers) are added up and automatically recorded in the database.

**Measurements:**  
Length: 44,39 ft  
Height: 13 ft (transport mode)  
Width: 10 ft (6-row at 18 inches per row,  
11 ft (6-rows at 20 inches per row  
and 18-20 inches variable)

**Fuel tank:**  
343 gallons, fuel consumption displayed in gallons/acre and gallons/h on the terminal

**AdBlue tank:**  
38 gallons (Volvo Penta 700 hp/515 kW only)

**Electrics:**  
24 V vehicle system, 150 A alternator, 24 Hella LED operating lights, coming home light function, 3 x 12 volt sockets for radio or telephone etc., CAN-BUS computer system with integrated diagnosis of all components connected to the terminal, software update per USB interface possible

**Equipment:**  
*standard*  
Central lubrication system, fuel consumption measurement, air-conditioning, manual slope compensation, 40 km/h  
*Optional*  
Leaf spreader with stone protection, reinforced defoliator plates for integral defoliator, skids at scalper, Widia forged lifting shares, hard-welded lifting rollers, guide grid segments with spring tines in strainer wheels 1-3, agitator 2nd strainer wheel, trainer wheel camera, unloading conveyor camera on 2nd video display left, 2 LED high-beam headlights, data printer, R-Transfer Basic with data export to ROPA app or USB stick, R-Transfer Professional with data import and export to the ROPA app or USB stick, R-View video system (bird's eye view), GPS speed sensor, leaf pile equipment (only with defoliator with leaf auger), automatic slope compensation, contour marking package, maximum speed governed at 20 mph, 15 mph, automatic slope compensation, level sensor in diesel fuel tank, elevator for chicory harvesting

Correspond to TÜV, Trade and CE regulations.  
Subject to technical changes.

Existing protective covers have been partially dismantled for better imaging. The machine must not be operated without these covers!





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