# Leeb PT

HORSCH

*Farming with passion*

PT 280
PT 330/350

## EFFICIENCY AND PRECISION

# CONTENT



* Leeb PT 330: TIER 3a only available in Low Regulated Markets (LRC), e. g. Russia.
Leeb PT 350: TIER 4f available in all High Regulated Markets (HRC) (EU etc.).

# Leeb PT
## NEW IN PLANT PROTECTION TECHNOLOGY

To achieve top performance and optimum application with only few machines in a very short time – among other things it is due to this strategy that companies manage to work economically and successfully, and remain competitive.

This inevitably leads to more and more powerful, flexible machines and the engineers are facing a completely new challenge.

How can we make use of the maximum achievement potential while at the same time reducing the machine use to a minimum?

How can the loss caused by wind and thermal be reduced to a minimum?

**Our answer are our Leeb sprayers with the revolutionary boom control system BoomControl.** Our two self-propelled sprayer lines **PT 280** and **PT 330*/350** excel due to their high efficiency.

The **PT 280** stands out due to its tank size and the mechanical four-wheel drive. It is ideal for large arable farms that grow cereals, rape and root crops.

Due to its hydraulic drive the **PT 330*/350** allows for an extended use in other crops: The height adjustment allows for driving also in high crops, e. g. maize, the track adjustment to up to 3 m allows for working safely and even faster with a high clearance.

Due to BoomControl both self-propelled sprayers are able to keep the boom at a height of significantly below 50 cm and thus achieve the highest possible application precision.

**Leeb PT – Top performance combined with top precision**

* 330: TIER 3a only available in Low Regulated Markets (LRC), e. g. Russia.
350: TIER 4f available in all High Regulated Markets (HRC). (EU etc.)

**Theodor Leeb:**
"Using optimum application windows for a highly efficient and precise plant protection requires powerful technology."

**Leeb PT 280**

**Leeb PT 330*/350**

# Leeb PT 280

## NEW IN PLANT PROTECTION TECHNOLOGY

Higher output with less machines in the shortest possible time. With this strategy professional farmers are today able to run their business successfully while remaining competitive. This inevitably paves the path to more and more powerful, more flexible machines and confronts engineers with completely new challenges.

How can one make full use of the maximum performance potential with minimal use of machines?
**Our answer – the Leeb PT 280.**

### Higher efficiency

- Excellent fuel economy due to the chassis concept with mechanically driven axles and travelling at low engine speed
- Performance proven value: annual output of up to 25 000 ha
- 8 000 litre tank capacity
- Working speed up to 25 km/h
- Outstanding daily output
- Many agricultural enterprises replaced two trailed sprayers with just one self-propelled machine

### Bigger vehicle footprint

- Four identically sized wheels with a diameter of up to 2.05 m ensure maximum footprint with well adapted tyre pressure
- Reduces the pressure on the soil and guarantees optimum traction even in difficult conditions
- High manoeuvrability due to the optional four-wheel steering
- Internal turning radius diameter of only 5.3 m (with four-wheel steering, depending on the tyres)

### Higher permissible total weight

- Curb weight including design and boom: approx. 11 tonnes
- 18 to 20[1] tons of total weight for 40 to 25 km/h on the road, optional: 50 km/h
- When used in the field both frame and axles enable a total weight of 22 tonnes

[1] Exemption required for Germany

### The chassis

- Front and rear axles have air suspension
- In combination with the level compensation the 150 mm spring deflection ensures a smooth and comfortable travel behaviour
- Field work at high speeds does not pose any problems
- Active chassis stabilisation ensures high travel and centre of gravity stability, also on sideways slopes
- The weight of the self-propelled machine is carried by the frame and evenly distributed to the four identically sized wheels
- Mechanical drive axles with many advantages: better fuel economy – selectable diff lock between front and rear axle enables maximum power transmission even under toughest conditions – each axle is able to transfer the full engine power
- Fully supporting frame

### New engine

- Powerful 7.7 litre six cylinder MTU (Mercedes) engine
- Common-Rail system highly convincing at speeds ranging from 1 400 to 1 700 rpm with an astonishing power of max. 280 HP/210 KW
- Maximum torque of 1 150 Nm starting at 1 200 rpm
- 40/50 km/h on the road with 1 400 rpm
- Emission standard EU level TIER IV final

### Gearbox

- Modern stepless Hydroshift gearbox (2-stage gearbox in combination with a BoschRexroth hydrostatic)
- Perfectly suitable for various travel strategies
- Convenient control via the multi-function lever

# MAXIMUM POWER
## AT DAY AND NIGHT!

**All-wheel steering (optional)**

— Due to its four-wheel steering the **Leeb PT 280** is very manoeuvrable
— Automatic rear axle steering
— Convenient activation of the rear axle steering via foot switch on the headlands or via the “Autoturn“ function
— Crabwalk steering function – driving with front and rear axles offset to one another reliably prevents slipping
— Once deactivated, the rear axle automatically centres in middle position again

**Heavy-duty hydraulic system**

— A powerful axial piston pump with 200 bar operating pressure is the heart of the Load-Sensing system
— Delivery rate of 200 litres of oil per minute
— Enough hydraulic capacity to supply the “components“, e. g. steering system, spraying pumps and boom with oil, even at low engine speed

**NightLight:**

**Optimal spraying control during the night (optional)**

— Innovative LED technology ensures optimal illumination
— Highly focused light penetrates all spraying nozzle patterns
— Highly focused light penetrates all spraying nozzle patterns
— One strong LED spotlight per boom wing
— 100 % control of nozzle function – also in half-section mode
— More safety and efficiency during spraying work around the clock
— No extensive maintenance and cleaning work
— Automatic cleaning with a washing system




# WE FOCUS ON THE REQUIREMENTS OF THE DRIVER

**Travel strategies**
All components of the **Leeb PT 280** have been designed for tough every day use.
Depending on prevailing conditions you can drive the self-propelled machine in two different ways.

**MANUAL mode:**
- Engine speed and transmission ratio are determined independently via pedal and multi-function lever
- Speed can be adjusted steplessly – depending on the gear from 0–25 km/h resp. 0–40 km/h, optional: 50 km/h
- The engine speed is adjusted by foot throttle or electronic manual throttle
- The acceleration can be on the travel lever in 4 stages

**AUTOMOTIV 1 mode:**
- You only operate the travel pedal
- You drive the **Leeb PT 280** like any automatic car
- The throttle pedal regulates the travel speed
- The travel electronics adapts the engine speed, looks after the travel electronics and maintains the engine speed in the optimal range

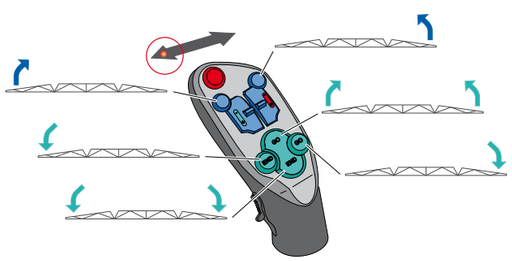
**AUTOMOTIV 2 mode:**
- Controlled speed control with adapted number of revolutions
- Determination of two travel speeds for spraying and headland speed
- Reversal of speeds via the headland management

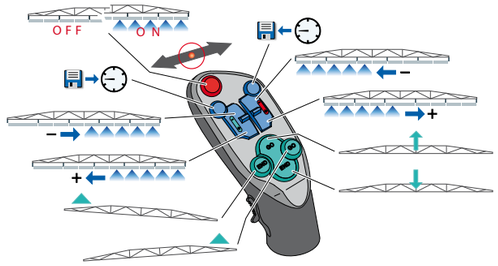
**Autoturn: Headland management**
- Ideal for turning at the headland of the field
- Convenient control of various functions via one switch

**Autoturn – pressing just one button is enough:**
- Spraying on/off
- Boom up/down
- Rear axle steering on/off
- Cruise control off/on
- Memory speed of diesel engine off/on
- Modern technology simply managed

- With the multi-function handle you operate the **Leeb PT 280** intuitively
- Control of all important machine functions by the push of a button

**Less switches for considerably more functions:**
- Spraying on/off
- Half-section control
- Slope compensation
- Boom up/down
- Spray quantity ± 10 % /100 % (incremental)
- Angle lift up/down
- Save/retrieve cruise control






Both in **AUTOMOTIVE mode** and in **MANUAL mode** the highest speed can be reached with an engine speed of 1 400 rpm.

# COMFORT CAB

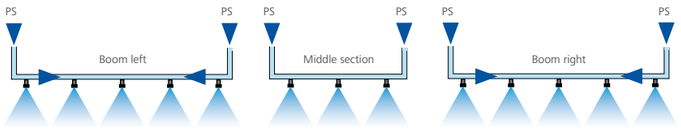
- Comfortable and spacious work place
- Cabin with optimum all round visibility
- Vibration dampened cab and pneumatic suspension ensure a smooth travel behaviour
- Due to the excellent insulation dust and noise stay out
- Powerful Climatronic ensures a continuously pleasant cab climate
- Removable cool box
- High power through day and night: The headlight system optimally illuminates the working environment
- Standard: eight front and four rear working lights in addition to the headlight
- LED headlights are available as an option




# OUR STANDARD:
# NO HOSE IS THE BEST HOSE.

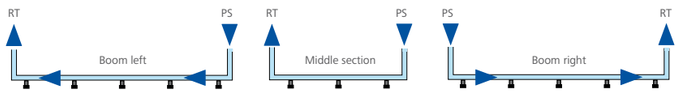
**Sprayers**

PS = Pressure Supply



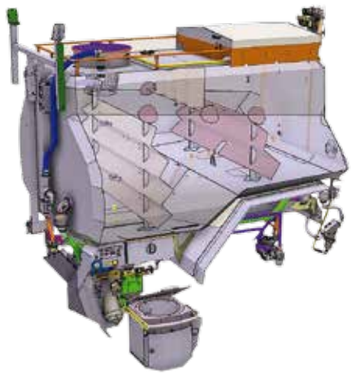

**Circulation**

PS = Pressure Supply, RT = Return flow tank




## Intensive agitator

— Hydraulic agitator
— Infinitely adjustable via the terminal
— Simple adjustment to individual tank mix
— Due to the automatic switch-off, if the tank content is below 200 litre the residual quantity decreases additionally

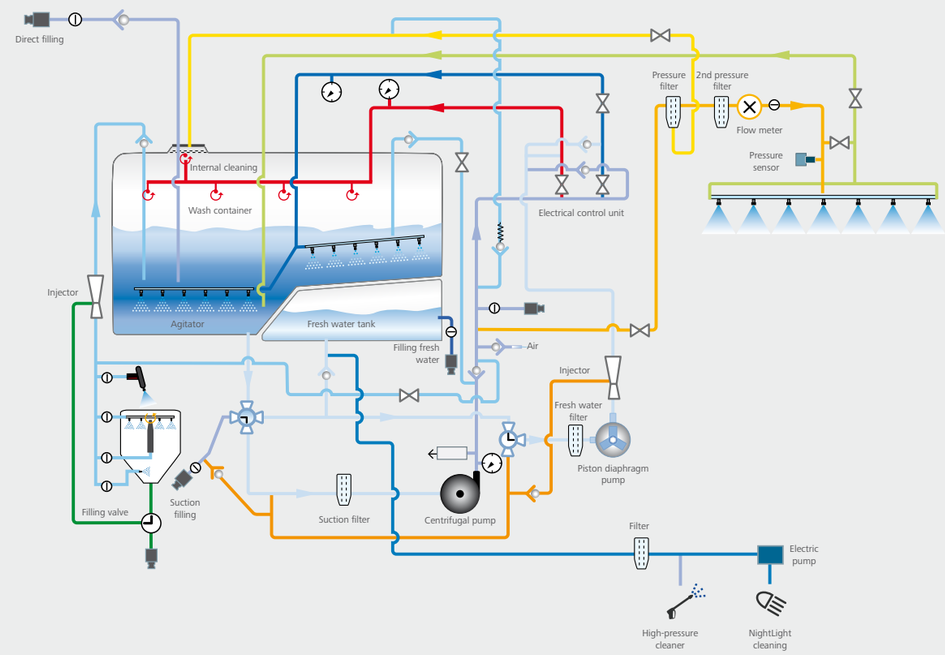


## Circulation system + nozzle cleaning

— Permanent circulation of the chemical solution through the complete nozzle tube as soon as the spraying pump is switched on
— Spraying fluid is therefore always at the nozzle, even with the spraying apparatus is switched off
— When switching on a half-section or the entire spraying line for the first time, the tank mix solution is directly and well mixed available in the partial system or in the entire spraying system
— Prevents deposits and blockages
— Enables simple cleaning: The suction side of the pump is set to fresh water – the nozzle line is thus flushed with clear water – then keep spraying for about 3 seconds to clean all nozzles
— Quick – simple and reliable: All this is done from the driver's seat!



## Liquid plan
## PT 280




## Stainless steel tank – no residues

— Uncompromising – high-quality long-lasting stainless steel tank
— Easy cleaning and residue free inside walls
— Welded from inside and outside
— Three baffles keep the tank contents and the machine steady even in hilly terrain and when driving fast on the road.
— 450 litre fresh water tank: Enough water for one complete inside cleaning. This quantity is enough because of the low residual amounts in the system.
— Tank capacity 8 000 litre

## Stainless steel induction tank

— Direction induction tank with gas pressure damper
— Stainless steel symbol bar with coloured control levers
— Circular positioned nozzles and impact nozzles for quick and safe dissolving of powdery agents
— Rotating canister cleaning nozzle
— External connection for aspirating bulk containers

The pressure gauge unit at the front of the tank indicates contamination of the pressure filter in due time, as well as the intensity of the agitator.

# SIMPLE
# TO OPERATE.





**Only the best**
- Almost maintenance-free and long-lasting
- No additional hoses and pressure relief valve, items that are very hard to clean on diaphragm pumps
- High performance – short filling time: 1 000 l/min
- Automatic filling system stops exactly when reaching the number of litres that has previously been entered into the computer – also when entering two quantities, e. g. AHL followed by water
- New pressure regulation via pump speed
- Quicker and energy saving
- The pump only delivers the amount of fluid required for spraying, plus the pre-determined amount for the agitator
- No return line for excessive quantities necessary

**Control centre C-box**
- Comfortable C-box for all necessary functions
- Distinct symbols mark the suction side, the four pressure outlets as well as the filling (see plan on page 15)
- Several functions can be operated simultaneously, e. g. filling valve and intensive agitator
- Operator friendly above the induction tank
- Even higher comfort: All essential functions like “fresh water switchover” or “Inside cleaning” can also be activated from the cabin
- TankControl measures the filling level and switches off automatically when the pre-selected content is reached

**Continuous inside cleaning**
**Continuous Cleaning System CCS**
- Quick sprayer cleaning process without having to get off the machine
- Complete control of the cleaning process from the cabin
- Function: Displacement instead of dilution
- An additional cleaning pump feeds clear water into the pipeline system. The spraying pump sucks this water in and uses it to force the spraying mixture residue through the nozzles out of the pipeline system.
- Quick, thorough and water consumption optimized cleaning

**Terminals**
- Müller Elektronik ISOBUS COMFORT-Terminal or Touch 1200 are available
- Optimum view of all control elements
- Full control due to the integrated monitoring system, which displays all types of malfunctions and warning messages independently
- All information can be accessed comfortably via the terminal.
- Large and easy to read colour screen
- All adjustments can be changed while driving
- All options like for example ParallelTracking, AutoSteering, order processing and a GPS-controlled section control are possible.

| **Symbols C-box** | Filling process | Internal cleaning | Pressure agitator |
|---|---|---|---|
| Injector of easy stowing induction tank | Functional sprayers | Spraying mixture container | Clear water tank |


# THE LEEB BOOM:

## MATURED TECHNOLOGY, WELL THOUGHT OUT DOWN TO THE SMALLEST DETAIL

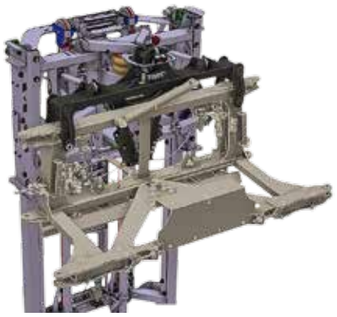
Years of experience with the self-propelled machine **PT** used in large-scale farming and the demand for daily output rates of up to 600 ha and annual outputs of up to 25 000 ha served as basis for the Leeb boom. The targets previously achieved in this area (daily output up to 450 ha, annual output more than 20 000 ha) served as a benchmark.

### Advantages of the boom series

- Weight optimized design
- Aluminium protector provides reliable protection of nozzles, nozzle bodies and lines against damage
- Three overload protections per wing: 3 m collision protection – overload protection of outer wings to the rear – overload protection of inner wings to front and rear
- Highly stable, wear-free turret guide

### Patented suspension concept

- The patented suspension with active pneumatic control of the middle section prevents submersion during cornering at the headland
- **BoomControl:** Extremely stable boom position, even when driving in very uneven tracks and with high working speed

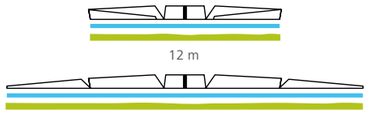


Patented suspension concept

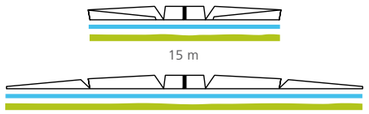
### Boom variants

- Basic boom variants in working widths ranging from 24 to 36 meters
- Different folding variants enable individual solutions with respect to working widths

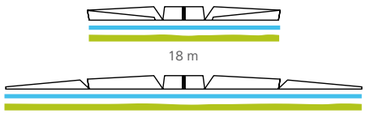
Boom: 5 sect. with reduced working width 12 m



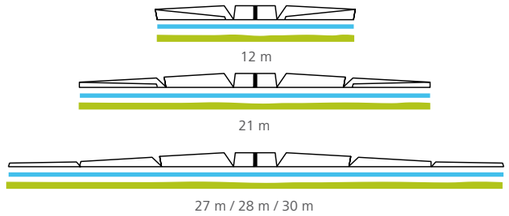

Boom: 5 sect. with reduced working width 15 m



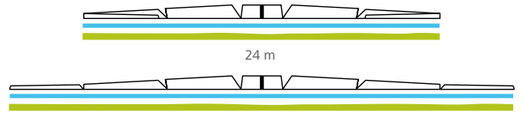

Boom: 5 sect. with reduced working width 18 m




Boom: 7 sect. with reduced working width 12 m and 21 m




Boom: 7 sect. with reduced working width 24 m





# AUTOMATIC BOOM CONTROL

### BoomControl Eco

— Automatic boom control to maintain an exact, lowest possible working height even at high operational speeds in flat or slightly hilly terrain

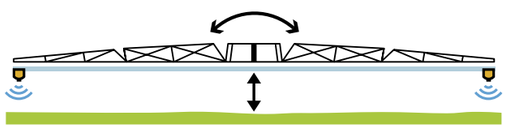
— Safe and stable boom control below a target area height of 40 cm

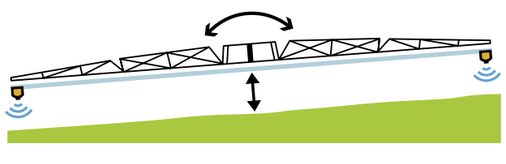
— Prerequisite for minimum drift

— Boom is completely decoupled from the vehicle

— No compromise between damped and freely suspended boom

— Active adaption of the boom to the terrain by 2 sensors. Can be extended by 2 sensors for row crops and to increase the field of view.





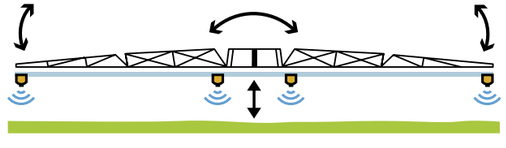
### BoomControl Pro

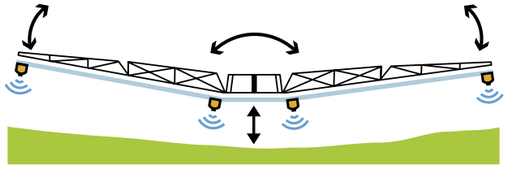
— Automatic boom control to maintain the exact, lowest possible working height even at a high operational speed and in very hilly terrain.

— Safe and stable boom control below a target area height of 40 cm

— Prerequisite for minimum drift

— Boom is completely decoupled from the vehicle

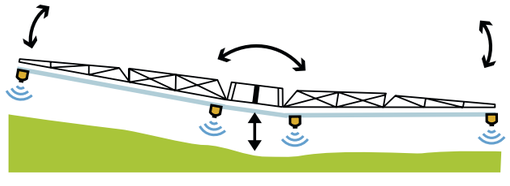


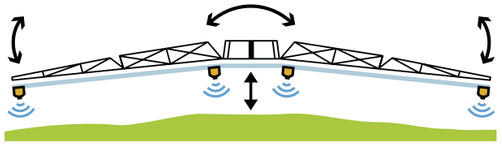


— No compromise between damped and freely suspended boom

— Active boom adjustment via the height control of the central part

— Adaption to the terrain due to parallel bending of the boom arms combined with a turning of the central part (controlled by 4 sensors). Can be extended by 2 sensors for row crops and to increase the field of view.





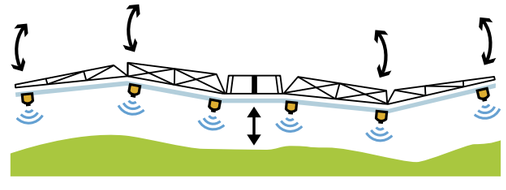
### BoomControl ProPlus

— Active boom adjustment via the height control of the central part

— Safe and stable boom control even below 40 cm

— Independent bending of both boom arms

— Additional independent bending (lifting and lowering) of both outside wings



Due to the sensitive responding behaviour of the proportionate control with 6 sensors the individual boom sections adapt “smoothly” to the contours of the terrain.

# MAXIMUM OUTPUT
## DUE TO INTELLIGENT APPLICATION TECHNOLOGY


**Due to the spacing of 25 cm between the nozzles and HORSCH BoomControl the target area spacing can be reduced to significantly below 50 cm. Less drift and excellent wetting!**

**Power by diversity**

- With a 25 cm nozzle spacing the target area distance is reduced to an optimum
- Pneumatic individual nozzle control enables individual and intelligent application technologies
- Outstanding penetration and wetting of the crop

**Variable nozzle body combinations**
**(pneumatically switchable)**

- 1-0 one single nozzle body every 50 cm
- 1-0 (3M) one manual triple nozzle body every 50 cm
- 1-1 one single nozzle body every 25 cm
- 1-1 (3M) one manual triple nozzle body every 25 cm
- 2-0 one dual nozzle body every 50 cm
- 2-0 (4M) one manual quadruple nozzle body every 50 cm
- 2-1 one dual nozzle body every 50 cm, one single nozzle body as intermediate nozzle
- 2-2 one dual nozzle body every 25 cm
- 2-2 (4M) one manual quadruple nozzle body every 25 cm
- 4-0 one quadruple nozzle body every 50 cm
- 4-1 one quadruple nozzle body every 50 cm one single nozzle body as intermediate nozzle
- 4-2 one quadruple nozzle body every 50 cm one double nozzle body as intermediate nozzle

**MultiSelect System**

- Up to 4 nozzles per nozzle holder
- Switchable form the cab
- Always setting the optimal pressure range and the matching drop size without having to interrupt work
- Control of nozzle size and nozzle combination while matching the spraying quantity at the same time
- Targeted switching individual nozzles or nozzle combinations on or off
- Optimal distance specification management along waters and terrestrial structures
- Wide offer of nozzles from different manufacturers

**GPS-controlled section control**

- Saving potentials: Less overlaps on the headlands result in product savings of up to 3 %

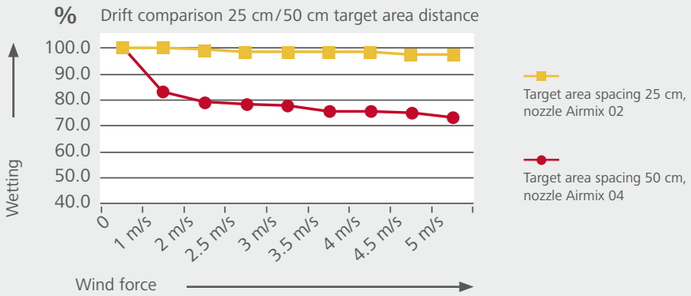
**Parallel tracking**

- Uses corrected GPS-signals
- Determines the position of the machine and shows this information in the display
- A movable guide-line in the display shows the driver whether he is exactly on track
- Recommended in case of pre-emergence treatment
- Without tramlines or for treatments on rough fields in spring

**AutoSteering**

- The **PT 280** can optionally be equipped with automatic steering. The control unit is in this case connected to the steering hydraulics of the machine and interferes in the steering actuation
- Activation at the terminal – switch-off by moving the steering wheel

**Comprehensive tests in our wind tunnel show the differences in the drift behaviour depending on the target area spacing**




MultiSelect System


The complete spraying technology is “put through its paces” on the sprayer test bench before delivery.
A vast range of products from different manufacturers is available for selecting nozzles.

# STRONG PROS
## for the Leeb PT 280

- Full frame design for highest load bearing capacity
- TRAC concept with four identical size wheels – with a diameter of more than 2 m
- 7.7 l – six-cylinder MTU (Mercedes) with 285 hp
- Maximum torque of 1 150 Nm between 1 200 and 1 600 rpm
- Stepless Hydroshift gearbox with 2 travel speed ranges
- Permanent, mechanical four-wheel drive with longitudinal differential
- 50 km/h top speed
- Fuel economy due to reduced engine speed
- Powerful hydraulic system with 200 l/min
- High clearance for rape and cereals
- Minimized slippage and ground contact pressure due to large tyre diameter
- Climatized large space cab with excellent all-around vision
- Speed control function
- Boom widths up to 36 m
- 8 000 l stainless steel tank for longest lifetime and easy inside cleaning
- Optimal boom position even at higher speeds due to the excellent air suspension of the chassis and up-to-date boom suspension
- Boom control system: BoomControl Eco, Pro or Pro Plus
- Most modern application technique
- Various terminals – intuitive operation – future-proof
- C-box – all valves can be controlled centrally from one spot
- Automatic GPS-controlled half-section control
- AutoSteering – automatic steering via GPS

# SELECTION
## OF OPTIONS

- Towing hitch (16 to at 25 km/h)
- Camera system to check spray nozzles and towing hitch
- High pressure cleaner with hose reel for external cleaning
- LED work lights for illuminating the area around the machine
- Four-wheel steering for max. manoeuvrability – turning circle **5.3 m** (with all-wheel steering)
- LED work lights with washing system for spraying cone illumination
- Underfloor covering
- Wind meter
- Radar
- Special boom folding mechanisms
- Exhaust function for residual quantity

# TECHNICAL DETAILS

## Leeb PT 280

| HORSCH Leeb | PT 280 |
|---|---|
| **Motor** | |
| Water-cooled motor | MTU (Mercedes) OM 936 |
| Power (kW/HP) | 210/285 |
| Number of cylinders/cooling | 6/water/turbo with intercooler |
| Displacement (cm³) | 7 700 |
| Nominal speed (rpm) | 2 200 |
| Max. torque (Nm/speed) | 1 150/1 400 |
| Control | Elektronic EMR |
| Tank capacity Diesel/AdBlue (l) | Approx. 420/25 |
| Emission standard | TIER 4 f |
| **Gearbox** | |
| Gearbox type | Hydroshift |
| Working range | Field/road |
| Transmission | Hydrostatic stepless |
| Speeds | Field: 0 to 23 km/h, road: 0 to 40 km/h/optional: 50 km/h, maximum speed respectively possible at 1 400 rpm |
| All wheel drive | Permanent with inter-axle differential and differential lock |
| **Chassis/axles** | |
| Front axle FA | Outer planetary axle, steerable |
| Rear axle RA | Outer planetary axle, rigid or steerable |
| Suspension | FA and RA pneumatic with level control and active side stabilization |
| **Steering** | |
| Front axle | Hydraulic |
| Rear axle | Hydraulic-electric steering (with steerable RA), automatic centring and interlocking during road travel |
| Steering types | Only FA/all-wheel steering/crabwalk/RA manual/via foot switch for headland |
| **Brake system** | |
| Service brake | FA and RA with integrated wet multi-disc brake |
| Parking brake | Cardanic brake with spring accumulator, hydraulically operated |
| **Hydraulic system** | |
| Main pump | Variable displacement pump, volume controlled LS |
| Power (l/min) | 200 |
| Working pressure (bar) | 200 |
| Interfaces | Pressure/return flow/LS-signal |
| Optional pumps | Steering pump (50 l/min) for RA pre-tensioned cooling pump (50 l/min) |
| **Electric system** | |
| Voltage (V) | 12/24 |
| Wiring | CAN-Bus/ISO-Bus |
| Alternator (V) | 14/28 |
| Interface to superstructure | ISO-Bus with voltage supply |

| HORSCH Leeb | PT 280 |
|---|---|
| **Travel control** | |
| Electronic travel control | |
| Load-limit control | |
| Over revving control when braking via hydrostatic drive | |
| Automatic swashing back of travel pump when operating the service brake | |
| Acceleration pre-selection in 4 stages | |
| Cruise control function | |
| Automotive driving (speed only via throttle pedal; engine speed and hydrostatic drive regulate themselves automatically) | |
| Travelling with reduced engine speed (top speed at 1 400 rpm possible) | |
| **Cab** | |
| Front cabin with optimum view | |
| Air conditioning/heater | |
| Comfort seat with air suspension | |
| Passenger seat | |
| Travel lever integrated in arm rest | |
| Radio with bluetooth interface | |
| ISO terminal to display vehicle data and superstructure data | |
| **Tyres standard (other tyres on request)** | |
| Front axle | VF 520/85 R 46 |
| Rear axle | VF 520/85 R 46 |
| **Dimensions and weights** | |
| Curb weight (kg) | Approx. 7 600 without attachment/21 000 (epending on the tyres), approx. 11 000 with attachment |
| Max. allowed total weight (kg) | 18 000 on 40 km/h/50 km/h (20 000[1]) |
| Max. total weight field (kg) | 21 000 (depending on the tyres) |
| Ground clearance (mm) | Approx. 850 below axle |
| Wheel base (mm) | 3 300 |
| Track width (mm) | 2 000/2 250 by turning over the wheels |
| Length without spraying equipment (mm) | Approx. 7 200 |
| Height without spraying equipment (mm) | Approx. 3 000 |
| Length with spraying equipment (mm) | Approx. 9 000 |
| Height with spraying equipment (mm) | Approx. 3 950 |
| Total width (mm) | Approx. 2 800 (depending on track and tyres) |
| **Tank attachments** | |
| Tank | Stainless steel tank welded from inside and outside with three baffle walls |
| Capacity of tank (l) | 8 000 |
| Fresh water tank | Stainless steel tank welded from outside |
| Capacity of fresh water tank (l) | 450 |
| **Towing hitch (optional)** | |
| Towing hitch | Rockinger automatic |
| Towed load | 16 t at 25 km/h/no vertical load |
| Compressed air brake | 2-circuit brake system; automatic control when vehicle is braked by hydrostatic drive |

[1] Exemption required for Germany

# Leeb PT 330*/350

## COMBINES MAXIMUM HECTARE OUTPUT AND PRECISE PLANT PROTECTION EVEN IN HIGHER CROPS.

**More economic**

- Operational speed up to 30 km/h in the field
- Maximum daily output
- Working in the field with high speeds does not cause any problems
- Tank capacity 5 000 l

**Chassis design**

- Stepless hydrostatic traction drive
- Independent wheel suspension with hydropneumatic individual wheel suspension with level regulation and chassis stabilisation
- Four equal size tyres with a diameter of up to 2.05 m guarantee maximum contact area and high clearance that can be adjusted from 140 to 160 cm – hydraulically and continuously
- High manoeuvrability due to the electro-hydraulic four-wheel steering with automatic axle centring
- Air-conditioned middle positioned cabin

**Motor**

- Strong 7.7 litre six-cylinder (PT 350) from MTU (Mercedes)
- Common-Rail system impresses by a rotation speed between 1 400 and 1 700 revolutions with an output of max. 354 PS/260 kW (PT 350)
- Maximum torque even with speeds below 1 500 rpm
- Up to 60 km/h on the road
- TIER 4 f

**Gear unit**

- Stepless hydrostatic traction drive with automatic load depending motor regulation and hill start assistant (AutoHold)
- Ideal for various driving strategies
- Comfortable control via the multi-function lever or via the accelerator like in a car with automatic transmission
- Speed control functions and various driving strategies

* 330: TIER 3a only available in Low Regulated Markets (LRC), e. g. Russia.
350: TIER 4f available in all High Regulated Markets (HRC) (EU etc.).

# BOOM LIGHTING
# **NightLight**

**Optimal spraying control during the night**

— Innovative LED technology ensures optimal illumination
— Highly focused light penetrates all spraying cones
— Optimal spraying control also during dusk and night
— One strong LED spotlight per boom side
— 100 % control of nozzle function –
also in half-section mode
— More safety and efficiency during spraying work
around the clock
— No extensive maintenance and cleaning work
— Automatic cleaning with a washing system
— LED light strip at the induction centre
— LED apron lighting

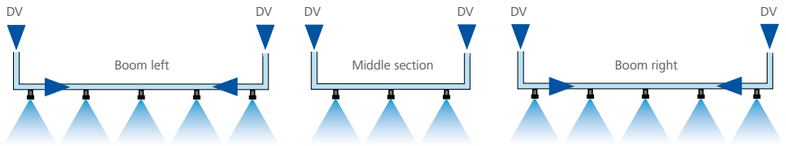
# COMFORT CAB

- Large, spacious cabin with sufficient space
- Many storage facilities
- No dust and noise in the cabin due to excellent insulation
- Powerful Climatronic for an constantly comfortable in cab climate
- High output during day and night: headlight system illuminates the working range in an optimum way
- Standard: front and apron lighting headlights in addition to the headlights (also LEDs)
- Steering column can be swivelled completely to the front
- Multifunction arm rest for comfortable operation


# OUR STANDARD:
# NO HOSE IS THE BEST HOSE.

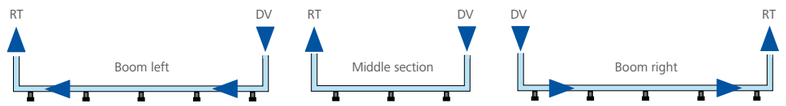
**Sprayers**

PS = Pressure Supply



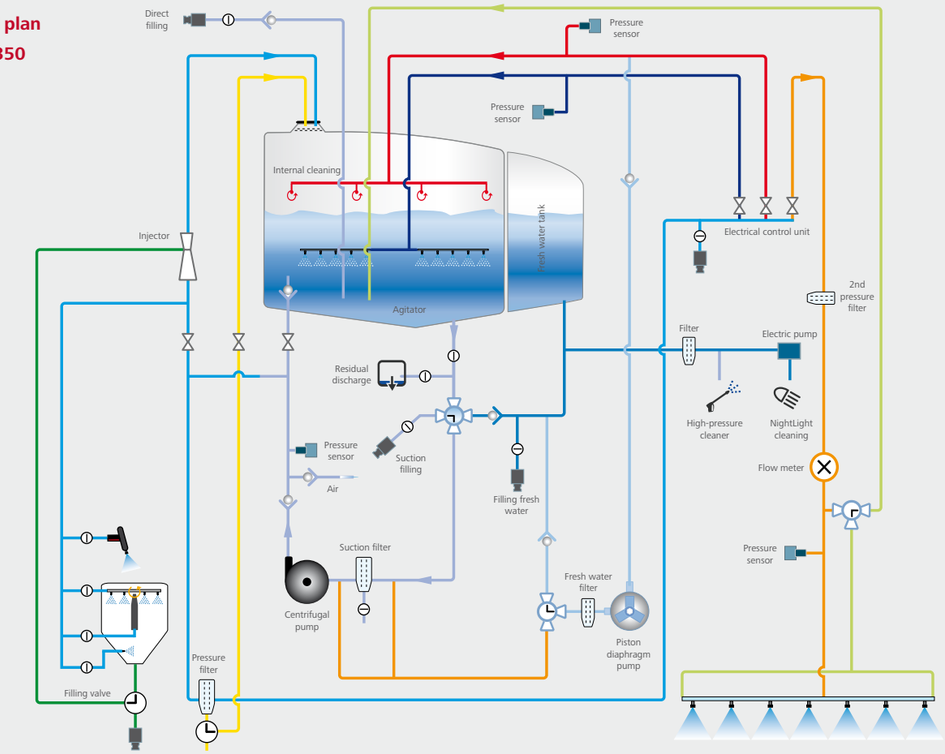

**Circulation**

PS = Pressure Supply, RT = Return flow tank






**Liquid plan**
**330*/350**




**Standard: continuous inside cleaning**
**Continuous Cleaning System CCS Pro**

- Quick cleaning process of the sprayer without having to leave the tractor cabin
- Complete control of the cleaning process from the cabin
- Functioning: displacement instead of dilution
- An additional cleaning pump feeds clean water to the cleaning nozzles of the main tank. The spraying pump then sprays the remaining mixture through the nozzles out of the line system.
- Quick, thorough and water-consumption-optimised cleaning
- Various cleaning and rinsing programs are automated

**Circulation system + nozzle cleaning**

- Hydraulic agitator: Circulation of the chemical solution through the complete nozzle tube
- Thus, there constantly spraying liquid at the nozzle even if the nozzles are switched off
- When switching on the sections or the whole spraying line for the first time, the mixed chemical solution is immediately available
- Prevents deposits and deposits
- Cleaning programs support the cleaning process. Cleaning progress is displayed in the terminal
- Fast – simple and safe: Everything can be handled from the driver's seat

**Stainless steel tank**

- No compromises – high-quality and long-life 5 000 litre stainless steel tank
- Easy and quick cleaning of the inside walls
- Welded on the inside and on the outside
- Baffles keep the tank content and the machine steady even in hilly terrain and when driving fast on the road
- 500-liter fresh water tank:
  Enough water for one complete inside cleaning.
  This quantity is sufficient as the residual quantities that remain in the system are extremely low.

**Induction tank**

- Swivelling induction tank with gas shock absorber, after folding up can be integrated completely
- Stainless steel taskbar with coloured operating levers
- Full ring line for quick and safe dissolving of powder chemicals
- Rotating canister cleaning nozzle
- External connection for aspirating bulk containers

# SIMPLE
# TO OPERATE.

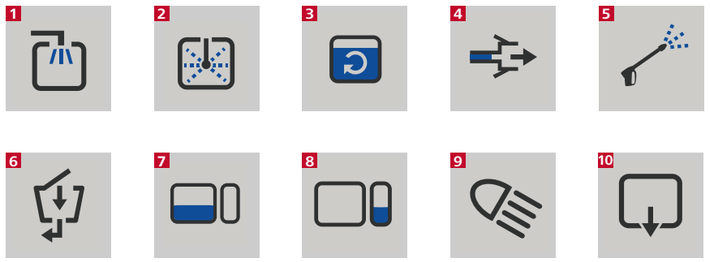
### Only the best

- Spraying pump max. 1 000 l/min
- Almost maintenance-free and long-lasting
- No additional hoses and pressure relief valve, items that are very hard to clean on diaphragm pumps
- High performance – short filling time: It only takes a very short time to fill the 5 000-litre tank.
- Automatic filling system stops exactly when reaching the number of litres that has previously been entered into the computer – also when entering two quantities, e. g. AHL followed by water
- New pressure regulation via pump speed
- Quicker and energy saving
- The pump only delivers the amount of fluid required for spraying, plus the pre-determined amount for the agitator
- No return line for excessive quantities necessary

### External control terminal

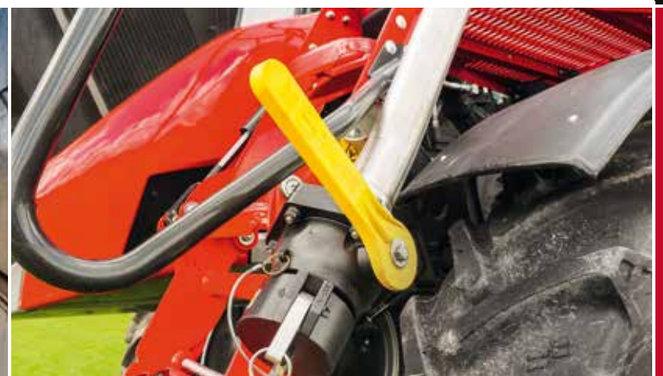
- Advanced external control terminal for all relevant filling functions
- User-friendly above the induction tank
- More functionality and ease of use due to a monitor in the range of the induction tank
- Even more comfort: Essential functions can be controlled via the external or the tractor terminal while filling

### Symbols external control terminal




1. Filling process
2. Internal cleaning
3. Pressure agitator
4. Suction
5. Outside cleaning
6. Injector of easy stowing induction tank
7. Wash container
8. Clear water tank
9. Lighting induction centre
10. Draining of residues



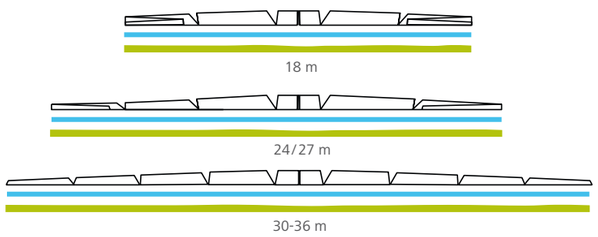



# THE LEEB BOOM:
## MATURED TECHNOLOGY, WELL THOUGHT OUT DOWN TO THE SMALLEST DETAIL

**Boom versions**

— Basic boom versions in working width from 30 to 36 meter
— Different folding versions allow for individual solutions with regard to the working width
— Only reaches to the cabin

Boom: 9 sect. with reduced working width 24/27 m





# AUTOMATIC BOOM CONTROL



**BoomControl Pro**

— Automatic boom control to maintain the exact, lowest possible working height even at a high operational speed and in very hilly terrain.

— Safe and stable boom control below a target area height of 40 cm

— Prerequisite for minimum drift

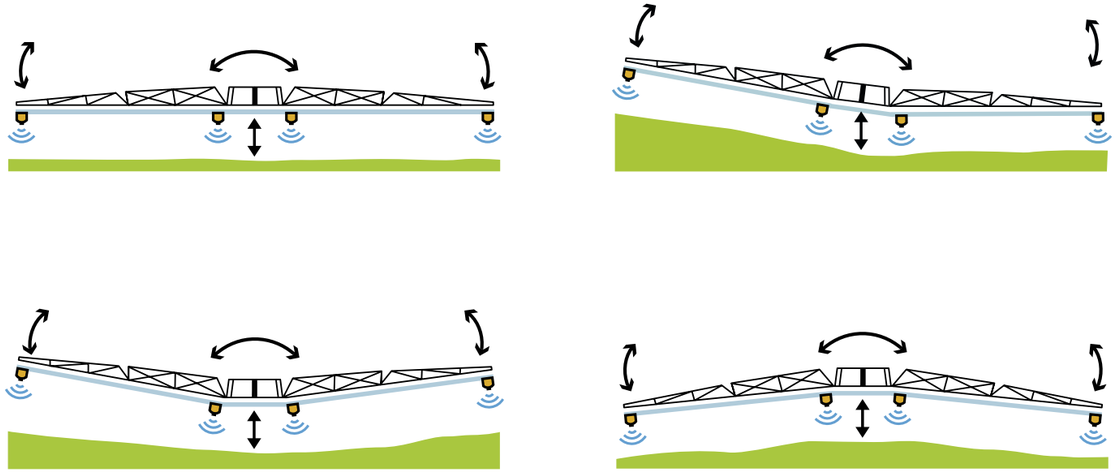
— Boom is completely decoupled from the vehicle

— No compromise between damped and freely suspended boom

— Active boom adjustment via the height control of the central part

— Adaption to the terrain by parallel angling of the boom arms in combination with a turning of the middle part (controlled by 4 sensors). Can be extended by 2 sensors for row crops or corrections of the field of view.

**BoomControl Pro**




The boom control is operated via the terminal.

The target area distance is individually adjusted according to prevailing conditions.

The actual distance can be continuously checked in the terminal.

At the terminal all functions can be monitored and if necessary modified comfortably while working.

# MAXIMUM POWER
## DUE TO INTELLIGENT APPLICATION TECHNOLOGY

**Due to the spacing of 25 cm between the nozzles and HORSCH BoomControl the target area spacing can be reduced to significantly below 50 cm. Less drift and excellent wetting!**

**Power by diversity**

- Variable nozzle spacing
- With a 25 cm nozzle spacing the target area distance is reduced to an optimum
- Pneumatic individual nozzle control enables individual and intelligent application technologies
- Outstanding penetration and wetting of the crop

**Variable nozzle body combinations (pneumatically switchable)**

| | |
|---|---|
| 1-0 | one single nozzle body every 50 cm |
| 1-0 (3M) | one manual triple nozzle body every 50 cm |
| 1-1 | one single nozzle body every 25 cm |
| 1-1 (3M) | one manual triple nozzle body every 25 cm |
| 2-0 | one dual nozzle body every 50 cm |
| 2-0 (4M) | one manual quadruple nozzle body every 50 cm |
| 2-1 | one dual nozzle body every 50 cm, one single nozzle body as intermediate nozzle |
| 2-2 | one dual nozzle body every 25 cm |
| 2-2 (4M) | one manual quadruple nozzle body every 25 cm |
| 4-0 | one quadruple nozzle body every 50 cm |
| 4-1 | one quadruple nozzle body every 50 cm one single nozzle body as intermediate nozzle |
| 4-2 | one quadruple nozzle body every 50 cm one double nozzle body as intermediate nozzle |

**AutoSelect System**

- Various combination possibilities
- Can be switched on or off from the cabin
- Constantly adjusts the optimum pressure range and the corresponding nozzle size without interrupting your work
- Manual control: targeted switching on or off of individual nozzles or nozzle combinations
- Fully automatic AutoSelect control (optional): Controls the nozzle size or nozzle combination while at the same time adapting the application rate
- Optimum management of the spacing requirements along waters and terrestrial structures
- Wide range of nozzles of different manufacturers

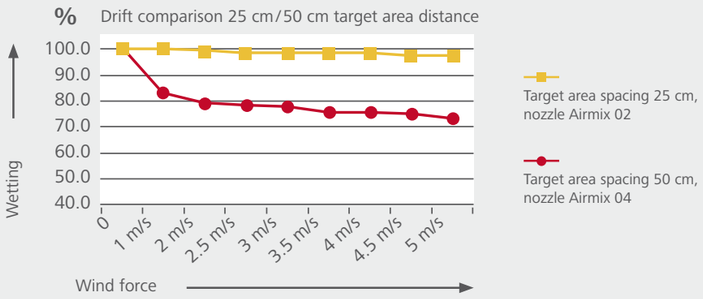
**GPS-controlled section control**

- Saving potentials: Less overlaps on the headlands result in product savings of up to 3 %

**AutoSteering**

- The **PT 330*/350** can additionally be prepared for a automatic steering. The control device is connected to the steering hydraulics of the machine and intervenes in the steering process.

**Comprehensive tests in our wind tunnel show the differences in the drift behaviour depending on the target area spacing**




# STRONG PROS
## for the Leeb PT 330*/350

- TRAC concept with four identical size wheels – with a diameter of more than 2 m
- 7.2 l – six-cylinder MTU (Mercedes) with 326 hp (330*)
- 7.7 l – six-cylinder MTU (Mercedes) with 354 hp (350)
- Maximum torque of 1 150 Nm between 1 400 rpm
- Stepless hydrostatic traction drive
- Hydro-pneumatic independent wheel suspension
- 60 km/h top speed
- Fuel economy due to reduced engine speed
- Powerful hydraulic system with 200 l/min
- Internal turning radius diameter of 9 m (with four-wheel steering and 2.25 m track, depending on the tyres)
- High ground clearance (up to 1.60 m)
- Minimized slippage and ground contact pressure due to large tyre diameter
- Large, air-conditioned cabin with good view
- Speed control function
- Boom widths up to 36 m
- 5 000 l stainless steel tank for longest lifetime and easy inside cleaning
- Optimal boom position even at higher speeds due to the excellent air suspension of the chassis and up-to-date boom suspension
- Boom control system: BoomControl Pro
- Most modern application technique
- Touch Terminal – intuitive operation – future-proof
- External control terminal – all valves can be controlled centrally and comfortably from one spot
- Automatic GPS-controlled half-section control

* 330: TIER 3a only available in Low Regulated Markets (LRC), e. g. Russia.
350: TIER 4f available in all High Regulated Markets (HRC) (EU etc.).

# SELECTION OF OPTIONS

- Camera system for safety and control
- LED headlight with washing device for spraying cone lighting
- High-pressure cleaner for outside cleaning
- 3" external filling connection

# TECHNICAL DETAILS

## Leeb PT 330*/350

| HORSCH Leeb | PT 330* | PT 350 |
|---|---|---|
| **Type/Motor** | | |
| **Motor** | MTU (Mercedes) OM 926 LA | MTU (Mercedes) OM 936 LA |
| **Power (KW/HP)** | 240/326 | 260/354 |
| **Number of cylinders/cooling** | 6/water/turbo with intercooler | 6/water/turbo with intercooler |
| **Displacement (cm³)** | 7 201 | 7 698 |
| **Nominal speed (rpm)** | 2 200 | 2 200 |
| **Max. torque (Nm/speed)** | 1 300/1 200–1 600 | 1 400/1 200–1 600 |
| **Control** | Electronic EMR | Electronic EMR |
| **Tank capacity Diesel/AdBlue (l)** | Approx. 650/--- | Approx. 480/40 |
| **Emission standard** | TIER 3 a | TIER 4 f |
| **Gearbox** | | |
| **Gearbox type** | Stepless hydrostatic traction drive with automatic load depending motor regulation and hill start assistant (AutoHold) | |
| **Working range** | Field/road | |
| **Transmission** | Hydrostatic stepless | |
| **Speeds** | Field: 0 – 30 km/h, road: 0 – 40 km/h, 50 km/h or 60 km/h (depending on the registration) | |
| **All wheel drive** | Permanent four-wheel drive with traction control | |
| **Chassis/axles** | | |
| **Suspension** | Hydro-pneumatic independent wheel suspension with automatic damper setting, level compensation and chassis stabilisation | |
| **Steering** | | |
| **Steering** | Hydraulic-electric all wheel drive steering | |
| **Brake system** | | |
| **Service brake** | Disc brakes at the front axle and hydrostatic brake unit at the front and at the rear axle with ABS | |
| **Parking brake** | Wet multi-disc brake on all 4 wheels | |
| **Hydraulic system** | | |
| **Hydraulic system** | Variable displacement pump, volume controlled LS | |
| **Power (l/min)** | 200 | |
| **Working pressure (bar)** | 200 | |
| **Optional pumps** | Steering pump (60 l/min) for RA pre-tensioned cooling pump (60 l/min) | |
| **Electric system** | | |
| **Voltage (V)** | 12/24 | |
| **Alternator (V)** | 14/28 | |
| **Wiring** | CAN-Bus/ISO-Bus | |
| **Interface to superstructure** | ISO-Bus with voltage supply | |

| HORSCH Leeb PT 330*/350 | |
|---|---|
| **Travel control** | |
| **Electronic travel control** | |
| **Load-limit control** | |
| **Over revving control when braking via hydrostatic drive** | |
| **Automatic swashing back of travel pump when operating the service brake** | |
| **Two cruise control functions** | |
| **Automotive driving (speed only via throttle pedal; engine speed and hydrostatic drive regulate themselves automatically)** | |
| **Travelling with reduced engine speed (top speed at 1 500 rpm possible)** | |
| **Cab** | |
| **Large cabin with activated carbon filter** | |
| **Air conditioning/heater** | |
| **Comfort seat with air suspension** | |
| **Passenger seat** | |
| **Travel lever integrated in arm rest** | |
| **Radio with bluetooth interface** | |
| **ISO terminal to display vehicle data and superstructure data** | |
| **Standard tyres** | |
| **Front axle** | VF 480/80 R 50 Alliance |
| **Rear axle** | VF 480/80 R 50 Alliance |
| **Dimensions and weights** | |
| **Curb weight (kg)** | 13 500 |
| **Max. allowed total weight (kg)** | 18 000 |
| **Ground clearance (mm)** | 1 400–1 600 (on 480/80 R 50) |
| **Wheel base (mm)** | 4 600 |
| **Track width (mm)** | 2 250–3 000 |
| **Length without spraying equipment (mm)** | 7 700 |
| **Height without spraying equipment (mm)** | 3 950 |
| **Length with spraying equipment (mm)** | Approx. 9 000 |
| **Height with spraying equipment (mm)** | Approx. 3 950 |
| **Total width road travel (mm)** | Approx. 2 950 |
| **Tank attachments** | |
| **Tank** | Stainless steel tank welded from inside and outside with baffle walls |
| **Capacity of tank (l)** | 5 000 |
| **Fresh water tank** | Stainless steel tank welded from outside |
| **Capacity of fresh water tank (l)** | 500 |

* 330: TIER 3a only available in Low Regulated Markets (LRC), e. g. Russia.
350: TIER 4f available in all High Regulated Markets (HRC) (EU etc.).

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www.horsch.com

Your distributor:

HORSCH

**HORSCH LEEB**
**Application Systems GmbH**
Plattlinger Straße 21
94562 Oberpöring

Phone: +49 9937 95963-0
Fax: +49 9937 95963-66
E-Mail: info.leeb@horsch.com

**HORSCH LEEB**
**Werk Landau**
Kleegartenstraße 54
94405 Landau an der Isar