

## Leeb PT



The clearance of up to 1.35 m in combination with the all-over underbody cover protects the plan population even in an advanced stage of vegetation, like for example to treat the rape blossoms.

To achieve more in a shorter time with less machines – due to this strategy companies today manage to work successfully and to remain competitive. As a manufacturer of plant production technology it is our objective to support the farmers with efficient and precise technology.

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Our engineers work hard to find the appropriate solutions for the special requirements on application technology in the plant protection sector and to design an efficient and flexible machine for a wide range of use.

The result is a new generation of the Leeb PT that combines driving comfort, performance and maximum application efficiency. The new PT leaves nothing to be desired and offer even more possibilities than before: more clearance, more driving comfort, more climbing power, a wider selection with regard to the working width. In short: The PT offers almost infinite variability for highest requirements on technology and on driving experience.

#### Large tyres - optimised ground pressure

- and a width of up to 71 cm guarantee maximum contact area with an adapted air pressure.
- Optimum traction even in difficult conditions
- Traction control system (TCS) for optimum traction control

#### **Excellent manoeuvrability**

- Excellent manoeuvrability due to standard all-wheel steering
- The central tube frame allows for a turning radius of only 3 m.

#### Low maintenance

— No greasing spots at the whole basic machine as only maintenance-free bearing are used.

- Four equally sized tyres with a diameter of up to 2.18 m

Automatic level regulation: every tyre is spring-loaded and balanced in an hydro-pneumatic way.

#### ComfortDrive chassis

- The front cabin on the central tube frame and the boom in parallelogramm suspension guarantee an optimum weight distribution - on the road and in the field.
- The arrangement allows for enough space for a tank capacity of up to 8 000 liter and a constantly high driving stability with an optimum weight distribution of 50:50.
- At the standard chassis ComfortDrive every tyre is mounted individually at a double control arm suspension. Thus, the driving comfort is similar to the one of a car.
- The hydropneumatic single wheel suspension adapts automatically to the ground in a levelling way. This guarantees an extremely comfortable driving experience and the BoomControl is supported positively.
- Due to the smooth driving characteristics, the boom control system easily manages to keep the balance even at higher speeds.
- The flexible clearance of up to 1.35 m (depending on the tyres) allows for protecting the plants while working even in high populations.

#### **Automotive drive control**

- Automotive drive control with standard equipment:
- Maximum load control
- Overspeed control
- Driving with reduced motor speed
- Speed control
- Headland management
- The hardness of the suspension set-up is automatically adapted when changing from road to field mode.
- The driving strategy can either be determined with the accelerator pedal or with the control lever. For changing you do not have to switch.

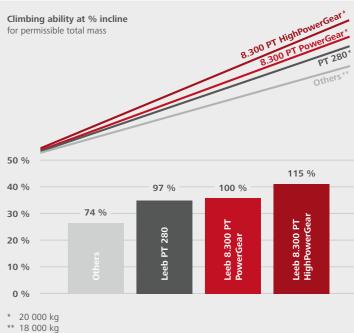
#### **New motor**

- Stage V according to current EU exhaust emission standard
- 6.7 liter six-cylinder FPT engine
- Turbo motor with charge air cooling
- The Common-Rail system convinces with an impressive performance of max. 230 kW/310 hp.
- Maximum torque of 1 160 Nm as of 1 400 rpm
- 40 resp. 50 km/h on the read with 1 700 rpm
- In field mode up to 25 km/h with a engine rotation speed of 1 300 rpm and a load-dependent adaption

#### PowerGear wheels gears with intelligent drive

- Infinitely variable from 0-50 km/h
- The efficiency factor in the main working range has been specially optimised for the use in the plant protection sector
- Intelligent all-wheel drive: dynamically distributed drive torque – powerful and efficient
- Selective traction control for every tyre
- Due to larger wheel motors at the rear axle and the corresponding higher driving power, the PT easily manages any terrain.
- Two gear box versions, depending on the field of application:
- PowerGear with powerful drive even at steep slopes
- HighPowerGear for more torque at the wheel and highest requirements in the field







"Maximum efficiency combined with unique driving comfort and optimum performance parameters characterise



Chassis ComfortDrive: comfortable due to individual wheel suspension; light and stable due to straight design

# **Leeb PT**DETAILS

#### **Leeb PT details**

- 6 000 liter tank made of polyethylene or 8 000 liter tank made of stainless steel
- Optimised weight distribution due to the arrangement at the central tube frame with individual wheel suspension, front cabin and parallelogram suspension of the boom
- Automatic level regulation of the chassis with a clearance of up to 1.35 m
- Automotive drive control
- Optimised hose laying reduces hose lengths to a minimum
- Boom suspension has been designed as a parallelogram suspension – spring-loaded and damped hydraulically.
- Soft and smooth boom position even in hilly terrain and at a high operational speed
- The geometry of the parallelogram has been designed in such a way that the boom is kept close to the axle. The suspension is extremely warp resistant and thus ideal for the automatic boom control systems Leeb BoomControl.
- Nozzle protection against mechanical damage of the nozzles and wind protection when a spraying fan develops

#### High-efficiency hydraulic system

— The core of the Load Sensing system is a powerful axial piston pump with an operating pressure of 210 bar.





## COMFORT, SAFETY AND FUNCTIONALITY

#### **Comfort cabin**

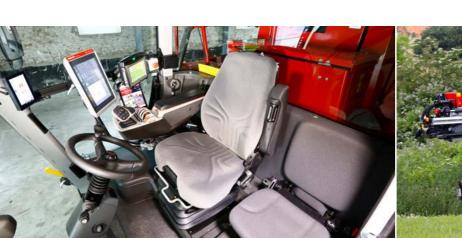
- Comfort and functionality are important characteristics of the new HORSCH Leeb PT: A lot of features like the individual wheel suspension, seat and armrest suspension, driving dynamics and the large cabin interior guarantee a new dimension of driving experience.
- The spacious cabin offers an optimum view on the machine and the population and the inside leaves nothing to be desired.
- A premium comfort seat: active vibration damping, seat heating and seat ventilation guarantee the driver a luxury driving experience.
- Due to the excellent insulation, dust and noise remain outside.
- A powerful automatic air-conditioning with heating guarantees a comfortable indoor climate.
- Cabin filter Cat. IV to protect the user from dust, aerosols and steam
- Heatable power mirrors
- The height and the inclination of the steering column can be adjusted.
- The display for the vehicle functions and the speedometer are located at the A column.
- The ISOBUS terminal for the spraying function is integrated in the armrest.
- The ErgoControl armrest can be adjusted in height and in length and is equipped with integrated ergonomic control elements and a joystick.
- Passenger seat as well as numerous compartments and cooling compartment
- Radio with bluetooth interface
- Sunblinds

#### Optimum working conditions at night

- Four working lights are mounted on the cabin roof as a standard.
- Four working lights incl. TrackFinder are available additionally.

### There are sufficient storage compartment everywhere on and in the cabin of the PT

- Dust- and splash-proof boxes are integrated at the control centre and at the diesel tank.
- A storage compartment for for example tools is located below the cabin.









### **OUR STANDARD:**

### NO HOSE IS THE BEST HOSE.

#### **Distribution system**

- Optimal supply of boom, induction hopper, intensive agitator and inside tank cleaning
- Only one hose for the entire boom width and one return flow hose for wash circulation in the boom
- No deposits and easy cleaning

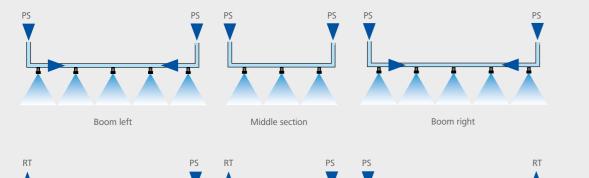
#### **Induction hopper**

- Powerful injector filling
- Swivelling induction hopper with gas shock absorber
- Operation with coloured levers
- Upper and lower rinsing nozzles guarantee a whirl-like circulation for quick flushing-in of liquids and are also suitable for granulate.
- Canister cleaning nozzle
- Optional: Induction hopper lining is made of stainless steel with more capacity and additional impact nozzle

#### Circulation system + nozzle cleaning

- 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 the sections or the whole spraying line for the first time, the mixed chemical solution is immediately available
- Prevents deposits and blockages
- Allows for simple cleaning: The suction side of the pump is set to fresh water – the nozzle line is flushed with clear water – then keep spraying for a few seconds to clean all nozzles.

#### **Circulation system**



## Circulation

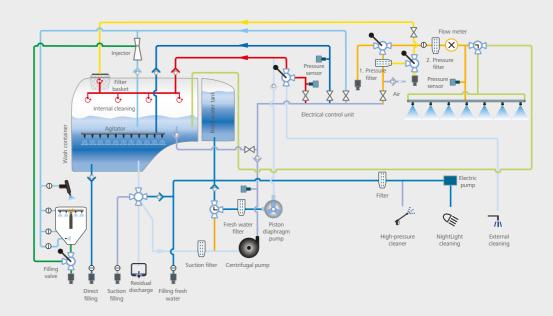
PS = Pressure Supply, RT = Return flow tank

PS = Pressure Supply

#### **CCS Pro cleaning programs**

- Several selectable cleaning programs can be started simply and comfortably by pressing a button in the cabin:
  - **1. Complete cleaning:** Rinses injector line via the filter to the boom completely with fresh water and then continues with the continuous inside cleaning (CCS) for mixture tank and boom.
- 2. Dilution: Dilute the spraying mixture in the desired ratio without much effort
- 3. Intensive washing program: For a particularly thorough cleaning recommended for example when changing between critical crops
- **4. Boom cleaning:** Automatic rinsing of the boom e. g. when the work is interrupted for several hours
- **5. Background cleaning:** Intelligent, continuous inside cleaning that cleans the inside wall of the tank with fresh water while spraying. This prevents deposits at the barrel wall.
- Due to the standard automatic two filling limits the filling procedure is rather relaxed
- Agitator works and switches off automatically depending on the filling level

#### **CCS Pro**



#### Only the best - water system CCS Pro

- High efficiency short filling time:
   rotary pump made of stainless steel with 1 000 l/min
- CCS piston diaphragm pump for continuous inside cleaning
- Pressure regulation vis pump speed
- Energy-saving: pump only conveys the amount of liquid that is required for spraying plus the defined quantity for the agitator.
- Filling connection 3", as of 5-way valve 2" lines on the suction side

- Pressure sensors for pump, agitator, inside cleaning and boom
- Continuous inside cleaning CCS with different cleaning and rinsing programs, can be operated in the cabin
- Operated by large external control terminal with all important functions for jetting
- Electric level indicator in the fresh water and mixture tank for automatic washing programs and automatic switchoff.







### External control terminal Symbols external control terminal CCS Pro



- 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

#### On the joystick

- Sprayer main switch
- Switch half-widths on/off
- BoomControl on/off
- Lift/lower boom

- Adjust boom slope compensation
- Speed control selection
- GPS steering on/off
- Freely configurable buttons

#### On the armrest

- Rear axle steering on/off
- Manual rear axle steering
- Automatic slope control
- Optimised suspension on slopes
- Steps up/down

- Transport position of the chassis (suspension strut moves to lowest position)
- Angle boom
- Freely programmable buttons



#### Terminal – you can choose between

- Terminal Touch 1200 including ISOBUS-TC, Track Leader II and SectionControl
- Terminal TopCon X35 including SectionControl
- It is possible to use various external terminals (not ex factory).

#### **Control panel**

- Comfortable external control terminal for all necessary functions
- Clear symbols mark the suction side, the four pressure outlets as well as filling (see p. 9).
- Several functions can be switched at the same time, e. g. induction hopper and intensive agitator
- User-friendly above the induction tank
- Even more comfort: all essential functions like "fresh water changeover" or "inside cleaning" can also be operated in the cabin.
- The level is measured electrically and is switched off automatically as soon as the preselected content level has been reached.

#### **Parallel Tracking**

- Uses corrected GPS signals
- Determines the position of the machine and shows this information on the display
- Laying of a track system by means of an
   AB line that helps the driver to find the track.
- Recommended for pre-emergence treatments without track markings

#### **GPS** controlled half-width control

- Saving potentials: Due to less overlapping on the headlands, savings on spraying agents of up to 3 % are possible.
- A partition in up to 42 sections is possible.

#### Job management

 Job management and the use of application maps via ISO XML files are possible

#### AutoSteering

- Additionally, the Leeb PT can be equipped with an automatic steering.
- Ex factory, a mounted and configured TopCon steering system incl. a GPS receiver is available and can be operated comfortably via the ErgoControl armrest.
- Free CanBus interface for different automatic steering systems is available

#### Vehicle display

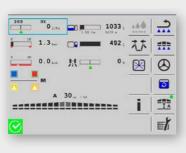
- In the vehicle display all important data with regard to the chassis, e. g. Speedometer display, suspension position and steering angle, outside temperature, diesel tank level etc.
- The display details adapt to field resp. road mode.
- Important functions like speed control, spring position and steering are adjusted by a simple navigation with a modern push-turn knob with display are adjusted in the display.
- The key assignment on the joystick of the ErgoControl armrest can easily be adjusted and customised.
- The intensity of the filter for the Cat. IV filter system can be adjusted in the submenu cabin filter.
- Adjustment with regard to the headland management can also be adjusted in the vehicle display in the A column.

## The ErgoControl joystick – a control lever for all important functions

- Ergonomic control lever with integrated buttons to control the most important spraying functions and to activate the speed control and the headland management
- Freely configurable buttons, the functions of which can be simply selected via the vehicle display
- Intuitive driving with the joystick on the ErgoControl armrest:
- Increase speed:push control lever into the set direction of travel
- Reduce speed:
   push control lever into the opposite direction
- Reverse: press control lever to the left
- Headland management on/off: press control lever to the right
- This is paralleled among the self-propelled sprayers:
   change between driving with the accelerator pedal and
   the joystick without switching practical and intuitive!







Clearly arranged user interface



Comfortable external control terminal at the control centre



The function of freely configurable keys on the joystick of the ErgoControl can be selected via the vehicle display



Adjustment options for the cabin filter Cat. IV: automatic or manual mode with intensity adaption



Two speed controls can be saved with an accuracy of 0.1 km/h



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Simple navigation in the vehicle display with the push-turn-knob

### **MAXIMUM OUTPUT**

## DUE TO INTELLIGENT APPLICATION TECHNOLOGY

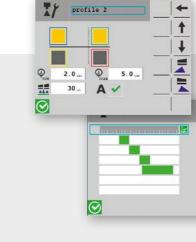
#### Power by diversity

- Efficiency by variety nozzle spacings of 25 and 50 cm are available
- 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 every 50 cm
- As a standard, all nozzle body combinations are equipped with nozzle holders for edge/border nozzles.

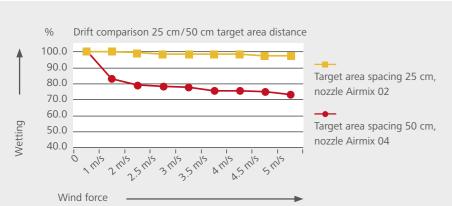
#### **AutoSelect System**

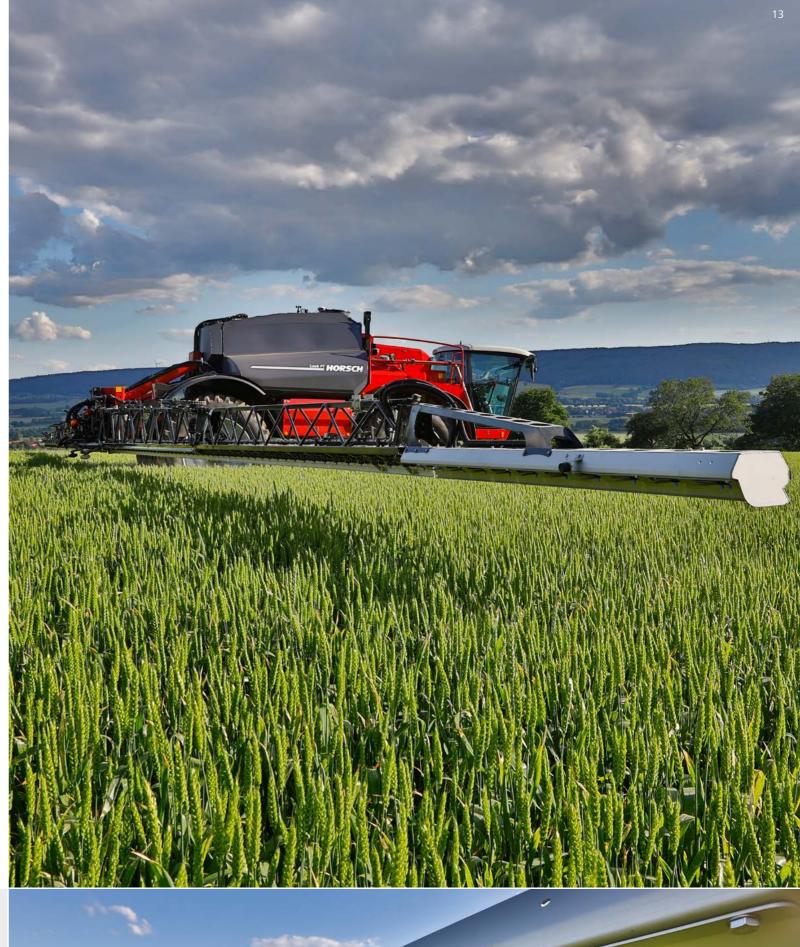
- Various combination possibilities with up to
   16 different nozzle profiles that can be saved
- Can be switched on or off from the cabin
- If the work is not interrupted, the optimum pressure range and the corresponding nozzle size are controlled automatically continuously.
- Automatic adaption of the boom height depending on the defined nozzle profiles based on the nozzle spacings that are defined in the nozzles profiles. Thus, with more nozzles the farmer has a wide range of options.
- Fully automatic AutoSelect control:
   Controls the nozzle size or nozzle combination while at the same time adapting the application rate
- High comfort and safety for an optimum management of the distance requirements along waters and terrestrial structures

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



AutoSelect menu in the terminal



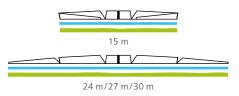




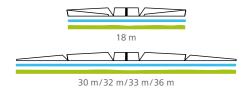


With regard to the boom of the new PT we rely on the well-proven system incl. the parallel suspension and the well-proven boom control system BoomControl.

Boom: 5 sect. with reduced working width 15 m



Boom: 5 sect. with reduced working width 18 m

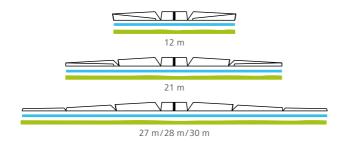


Folding of the machine

#### **Boom versions**

- Basic boom versions in working width from 24 to 42 meter
- The appropriate boom for any farm structure: different folding versions allow for individual solutions with regard to the working width.

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



#### Advantages of the boom line

- Weight-optimised, stable design
- A stable alu profile protects the nozzles, nozzle bodies and lines against damages
- Overload protection and damping of the wings: anti-collision protection – overload protection of the wings backwards – damping of the inside wings forwards and backwards

24 m

30 m/32 m/33 m/36 m

— Well-proven parallelogram suspension

#### **Patented suspension concept**

- The patented suspension with active pneumatic control of the middle section prevents boom diving during cornering at the headland
- **BoomControl**: Extremely smooth boom position even in very hilly terrain and at a high operational speed

Boom: 7 sect. with reduced working width 24 m Boom: 7 sect. with reduced working width 27/28 m



38 m/39 m/40 m/42 m





## **LED lighting:**

## OPTIMAL SPRAYING CONTROL DURING THE NIGHT

#### NightLight

- 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
- Automatic light function: Deactivation of NightLight on the headlands to avoid blinding for example passers-by

#### **Additional lighting**

- LED light strip at the induction centre
- LED apron lighting















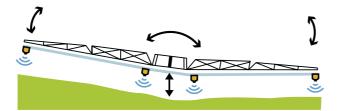
#### BoomControl Eco

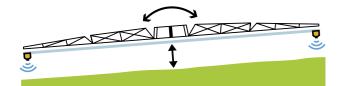
- Automatic BoomControl to maintain an exact, lowest possible working height even at high operational speeds in flat or slightly hilly terrain
- Safe and stable BoomControl below a target area height of 40 cm
- Prerequisite for minimum drift
- Boom is completely decoupled from the vehicle
- No compromise between damped and freely suspended boom
- Active adaption of the boom to the terrain due to 2 sensors

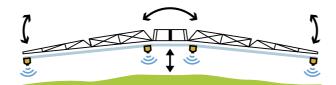
#### **BoomControl Pro**

- Automatic BoomControl to maintain the exact, lowest possible working height even at a high operational speed and in very hilly terrain
- Safe and stable BoomControl 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 section (control via 4 sensors)







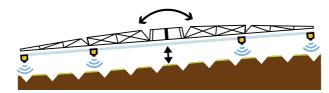


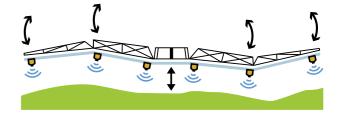
#### **BoomControl** extension

- Active adaption of the boom to the terrain due to two additional sensors
- To increase the field of vision, also ideal for row and ridge crops

#### **BoomControl ProPlus**

- Active boom adjustment via the height control of the central part
- Safe and stable BoomControl 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.











Easy-to-clean 8 000 liter stainless steel

#### Option

- Camera system with monitor as a rearview camera and to control the spraying nozzles at the middle section of the boom
- LED headlights for boom apron lighting
- LED working lights on cabin roof incl. TrackFinder and cornering light
- NightLight for nozzle cone lighting incl. cleaning
- Rotating signal lights
- Splash guard tarpaulins at the boom behind the wheels
- Exhaust function for residual quantity
- Induction hopper made of stainless steel

- Outside cleaning
- Wind gauge
- SectionBox
- Drag hose system
- Cat. IV filter system for cabin
- Safety kit with reflective vest,
- warning light and first-aid-kit — Fire exinguisher
- Support for N sensor

Large tyres with a diameter of up to 2.18 m

Several spacious storage compartments

mixture tank with integrated baffle

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# TECHNICAL SPECIFICATIONS



HORSCH Leeb	6.300 PT 8.300 PT		
Motor			
Water-cooled motor	FPT (Fiat Powertrain Technologies) N67		
Power (kW/HP)	230/310		
Number of cylinders/cooling	6/water/turbo with intercooler		
Displacement (cm³)	6 700		
Nominal speed (rpm)	2 000		
Max. torque (Nm/speed)	1 160/1 400		
Control	Elektronic EMR		
Tank capacity Diesel/AdBlue (I)	450/45		
Emission standard	Level V		
Gearbox			
Gearbox type	Wheel hub drive		
Working range	Field/road		
Transmission	Hydrostatic stepless		
Speeds	Field: 0–25 km/h; road: 0–40 km/h resp. 0–50 km/h; top speed possible at 1 700 rpm		
All wheel drive	Permanent, rear axle swith-off in road mode beyond 30 km/h		
Chassis			
Chassis suspension	Suspension via double control arm and portal		
Axle suspension	Hydropneumatic suspension with active level regulation, automatic switching between soft and hard suspension set-up when changing between field and road mode		
Underbody	Continuously smooth, plant protecting vehicle underside		
Steering			
Front axle	Hydraulic		
Rear axle	Hydraulic-electric steering, automatic centring and locking during road transport		
Types of steering	Only front axle steering (road mode), all-wheel steering (field mode), automatic slope steering, manual rear axle steering also possible		
Brake system			
Service brake	Hydrostatic high-performance brake, front axle with integrated, wet multi-disc brake		
Parking brake	Multiple disc brake, operated hydraulically via spring accumulator		
Hydraulic system			
Traction drive pump (cm³)	175		
Working hydraulics pump (cm³)	160		
Power (l/min)	320		
Working pressure (bar)	200		
Electric system			
Voltage (V)	12		
Alternator (V)	14/200		
Battery (Ah/A)	180/1 000		
Wiring	CAN-Bus/ISOBUS		
Interface to superstructure	ISOBUS with voltage supply		
Travel control			
Electronic travel control			
Load-limit control			
Over revving control			
Cruise control function			
	al or control lever (speed via pedal or joystick; emselves automatically)		

HORSCH Leeb	6.300 PT	8.300 PT			
Cab					
Front cabin with an interior volume of 3.5 m <sup>3</sup> and a glass surface of 7.0 m <sup>2</sup>					
Automatic climate control/heating					
Comfort seat with air suspension, vibration da	mping and seat ventilation				
Passenger seat					
Numerous compartments and a cooling compa	artment				
Control lever is integraed in the ergonomic cor	ntrol armrest				
Radio with bluetooth interface					
Display field in A column for vehicle functions	and speedometer				
ISOBUS terminal for spraying functions is integ	grated in the control armrest				
Optional: Automatic Cat. IV cabin filter system					
Standard tyres (other tyres upon request)					
VF 520/85 R46					
Measures and weights					
Unladen weight (kg)	approx. 11 200 (depending on the equipment)				
Max. allowed total weight (kg)	Wheel drive PowerGear 18 000 kg/Wheel drive HighPowerGear 20 000 kg				
Max. total weight field (kg)	24 000 (depending on the tyres)				
Ground clearance (mm)	approx. 1 250 depending on the tyres and the position of the suspension				
Wheel base (mm)	3 900				
Track width (mm)	200-225				
Length (mm)	approx. 9 800 (depending on the boom version and the tyres)				
Height (mm)	3 980				
Total width (mm)	2 550 (tyres and mudguards can be wider)				
Barrel mountings					
Mixture tank	Polyethylene (PE)	Stainless steel			
Mixture tank nominal capacity (I)	6 000	8 000			
Mixture tank actual capacity (I)	6 350	8 450			
Fresh water tank (I)	550	550			
Hand-wash tank (I)	15	15			
Spraying boom					
Working widths	24/15 5 sect.				
	27/15 5 sect.				
	30/15 5 sect.				
	30/18 5 sect.				
	32/18 5 sect.				
	33/18 5 sect.				
	36/18 5 sect.				
	27/21/12 7 sect.				
	28/21/12 7 sect.				
	30/21/12 7 sect.				
	30/24/(12) 7 sect.				
	32/24/(12) 7 sect.				
	33/24/(12) 7 sect.				
	36/24/(12) 7 sect.				
	38/27/(14) 7 sect.				
	39/27/(14) 7 sect.				
	40/28/(14) 7 sect.				
Section min /may (piece)	42/28/(14) 7 sect. 6–42				
Section, min./max. (piece)	0.3-2.5				
Working height (m) Pump output (l/min)	1 000				
Working pressure, max. (bar)	8				
Operational speed (km/h)	4-20				
operational speed (KIII/II)	- 20				



Your distributor:

## HORSCH

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