

AGROTRON TTV 410 • 420 • 430



EVOLVING AGRICULTURE.

POWER

EFFICIENCY

THE INTEGRATED EFFICIENCY OF ALL SYSTEMS.



40 km/h at ultra low crankshaft speed

The maximum speed can be programmed and is reached with the motor at low speed. This allows fuel to be saved.

Transmission oil quickly up to operating temperature

The cooling circuit of the oil for the gearbox has a thermostatic valve which ensures the operating temperature is reached quickly, even at low temperatures.

eVisco Fan

The electronically controlled viscodynamic fan regulates the flow of cooling air according to the effective requirement. This ensures that fuel is saved in any given operating situation.

DEUTZ DCR engines

The 16 valve DEUTZ, Common Rail engines stand out because of their reliability, working life, power and low fuel consumption.

Eco/Power mode

Performance can be matched to fuel consumption or to maximum power output, under any operating conditions.

Separate hydraulic oil tank

The hydraulic oil tank, completely independent from the transmission, allows the oil to be kept cleaner in the gearbox, increasing the service interval time.

Economy power take-off speeds

With four power take-off speeds, including two economical ones (540 E/1,000 E), the Agrotion TTV 410/420/430 saves up to 18% of fuel when working at PTO.

Load Sensing hydraulic system

Hydraulic power only when needed, up to 120 litres/min.

Power Brake

The increase in the distance between brakes and discs (compensated by the Power Brake) results in less absorption of power, less wear and tear on the parts and lower heating of the oil.



“Power Efficiency” is the philosophy applied today by DEUTZ-FAHR in designing, improving and developing all its products. Nothing is left to chance: every component, device or system incorporated into

DEUTZ-FAHR tractors is designed to optimize efficiency, reduce power demand, minimize energy consumption, increase performance and maximize care for the environment.

Agrotion TTV tractors are a clear example of this philosophy: the integrated efficiency of all systems optimizing the overall performance of the machine and creating added value for the customer.

MODERN STYLE, TECHNOLOGICALLY CUTTING EDGE COMPONENTS.

ADVANTAGES

- Modern and functional style
- Optimum visibility for control of implements and work in hand
- Running costs always under control



A generously proportioned glass roof hatch, with sunshade, allows excellent visibility when using a front loader.

Design and versatility

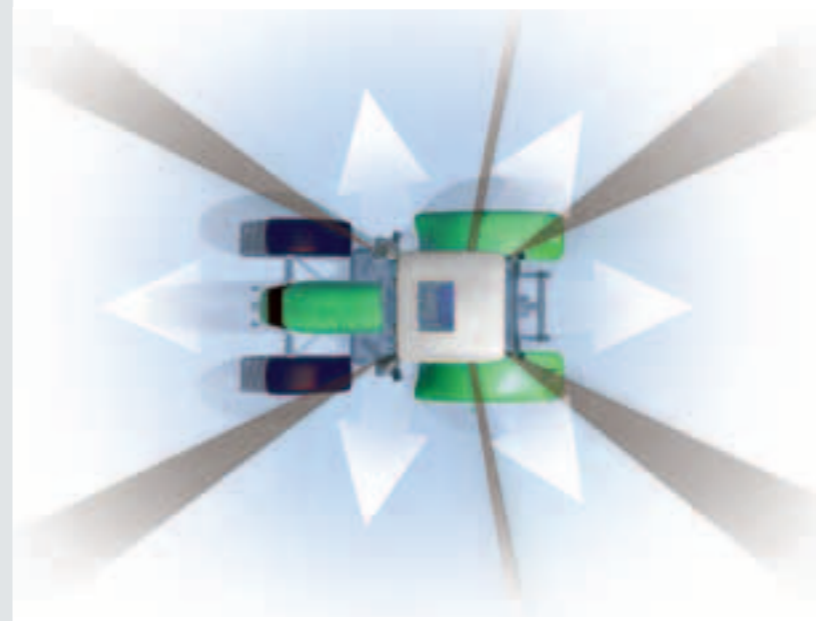
The aggressive-looking front grille, the modern styling of the hood and the innovative design of the cab on the Agrotion TTV create a stunning visual impact and convey an image of high quality in design.

The cutting edge technical characteristics of the Agrotion TTV guarantee versatility and adaptability under any work condition: in the large cereal companies where the tractors are used to the maximum of their operating capacity; in breeding of dairy cattle to adapt completely to the operating diversity that characterize these

companies (from mowing to preparation of the unifeed). Furthermore, with the front loader for multi-task handling, the Agrotion TTVs stand out for their flexibility and comfort.

Equipped with modern DEUTZ 2012 series 4-cylinder engines, TTV continuously variable transmission capable of 50km/h top speed, and a powerful hydraulic system rated 120l/min, these are machines equal to any challenge. The package is completed by a four speed PDO, and a cab among the most spacious and comfortable in its class. En-

gines of high efficiency ensure low fuel consumption, whatever the type of use. Agrotion TTV 410/420/430 models are also notable for their low running costs, achieved by virtue of long maintenance intervals and competitively priced original replacement parts. This impacts positively on general operating costs, given that the primary objective is to obtain maximum Return On Investment.



Plunging hood lines and large expanses of glass give excellent all round visibility.



New style for the front, modern and appealing.

COMFORT STEALS THE SHOW.

ADVANTAGES

- ▶ Entry and exit without obstacles
- ▶ High safety
- ▶ Optimum night vision for control of implements and work in hand. Higher productivity
- ▶ Driver's seat with adjustment based on weight and height of the operator
- ▶ Uniform distribution of air inside the cab, and complete isolation from dust and pollutants
- ▶ Drinks always chilled even during the warmest periods and documentation always in order and within reach
- ▶ Cables routed into the cab without opening the rear window; simple and secure connection of external equipment



Twin pairs of lights incorporated at roof level, with extra wide beam provided by 14 powerful halogen lamps (Xenon lamps also available as optional accessory) able to illuminate a cultivation area of 600 m².



The drinks cooler compartment runs off the air-conditioning system and can hold 1 large bottle (2 litres) + 1 can. The storage compartment has a capacity of 7 dm³ and will accommodate a DIN standard first aid box.



Access point for cables and Power sockets on the same side: 4-pin standard implement connector; external power socket; socket allowing transfer of data between tractor and implement.

The atmosphere inside

Access to the cab is by way of large non-slip galvanized metal steps. Full length handrails fitted to the cab posts and further rails on the insides of the doors provide an easy and comfortable grip. Doors with plenty of height and width create a big opening for ease of access. The volume of the S-Class cab guarantees unparalleled spaciousness. The wraparound driver seat, upholstered in non-slip fabric, has Deluxe air suspension and is proportioned with comfort firmly in mind. The driver seat is also available in an AEROMAT MAXIMO version that represents the ultimate in comfort, guaranteed to make even the bumpiest ride a pleasurable

experience thanks to 11 independent adjustments that can be customized to support different parts of the body.

Ventilation system with a powerful 4 speed fan unit rated 580 m³/h. Air is drawn into the cab from a "neutral" and therefore less dusty area of the exterior, through 2 filters incorporated into the door pillars, then circulated around the cab by way of 14 vents, each adjustable for volume and direction to cater for personal preference and provide notable flexibility of use. The air vents are located at the top of the pillars and posts, so that the temperature in the cab can be regulated swiftly to the required level.

The cab is also pressurized internally by the ventilation system, so that whenever the doors are closed, the higher pressure within the enclosure will minimize the risk of exposure to pollen and chemicals.

Sound insulation

The Agrotron TTV cab is among the quietest on the market, with an internal noise level of just 72 db(A), achieved through high standards of design; a one-piece cab structure, welded and sealed with absolute precision; floor mat made of new sound absorbent and sound insulating materials; lower front window panels with double sealed units. And quieter running engines.



The driver's seat with Deluxe pneumatic suspension is generously sized, the wrap around type, covered in nonslip fabric.

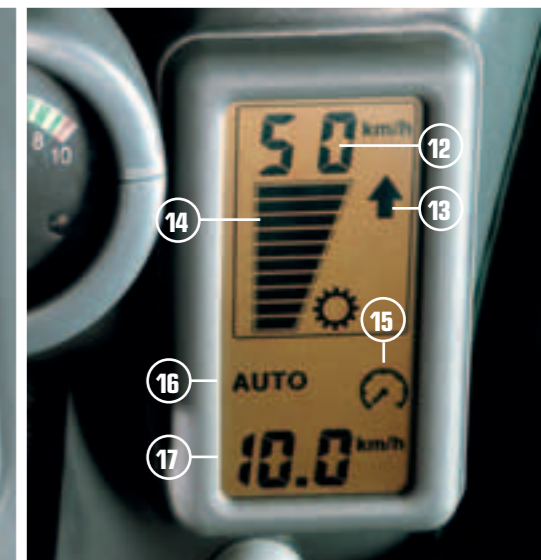


Ventilation system with a powerful installation with 4 speeds and a flow of 580 m³/h.

EASY AND INTUITIVE USE OF THE TRACTOR.

ADVANTAGES

- ▶ Ergonomic design emulating that of road cars
- ▶ Swift adaptation to different driving conditions
- ▶ Quick identification of warnings, supported by exact information, ensures that data can be displayed almost instantaneously
- ▶ The most frequently used controls are located to the right of the driver



- 1 Rev counter (tachometer)
- 2 Fuel level
- 3 Engine temperature
- 4 Warning and indicator lamps
- 5 Digital display
- 6 Warning and indicator lamps

- 7 Operating hours counter
- 8 Travelling speed
- 9 Speed of front PTO
- 10 Speed of rear PTO
- 11 Wheel Slip
- 12 Pre-selected speed

- 13 Direction of travel forwards/reverse
- 14 Speed increase indicator
- 15 Cruise Control indication
- 16 Driving mode
- 17 Travelling speed

Anyone looking to work smoothly and productively needs to have complete ease of movement, and a logical sequence of controls. The controls of the Agrotion TTV have no hidden secrets. The driver can understand quickly how everything works, with no special instructions needed. All the levers and switches are easily identifiable, thanks to their different shape and colouring, and grouped together clearly and logically on a console to the right of the driving position, located within functional groups according to their frequency of use. All the instrumentation is positioned within the driver's direct line of vision. Accordingly, the driving position has been optimized, with the controls safe and logical, allowing the driver to produce a higher work rate.

The steering wheel is infinitely adjustable for height and for/aft tilt, by means of a gas spring mechanism. The steering

wheel itself is covered in non-slip material and proportioned to give optimum grip. Controls mounted to the steering column include two levers, one incorporating washer and wiper controls for the front and rear windcreens, and another with switches for the road lights, direction indicators and horn, and a shuttle lever (FWD/REV).

Infocenter

Simple but comprehensively efficient, this provides all the information needed to control the tractor and monitor productivity. Area with analogue indicators: for quick and detailed operating information of the tractor; "signal lights" area: indicating the current status of the tractor; digital displays + performance monitor: information relating to the use of the transmission and PTOs, and to productivity. The instrumentation also provides information on maintenance intervals, sequential pro-

gramming of repetitive operations – Comfortip – and displays the speed of the rear PTO (and the front PTO if installed). Emergency conditions are indicated by a special warning light and an audible signal. Clear and reliable display of information is assured, even in bright weather conditions, by a non-reflective glass.

A display mounted to the right hand post of the S-Class cab provides the driver with a quick overview of the vehicle's speed, and the main transmission parameters, namely: selected speed settings, actual speed, Cruise Control and driving mode.

READY TO GO STRAIGHT AWAY.

ADVANTAGES

- ▶ No oscillation of the PowerComV lever relative to the driver, ensuring easy selection and operation of the various controls even when operating on rough terrain
- ▶ Faster sequential operation of controls: no need to reach for levers and switches located in different parts of the cab
- ▶ Maximum ergonomic advantage, even varying the position of the driver seat



Today, it is almost impossible to operate a modern hi-tech tractor without the aid of endless explanations and instructions. In an effort to overcome these difficulties, DEUTZ-FAHR engineers have concentrated on the functionality of the tractor, and ease of use. The ergonomic PowerComV multifunction joystick can be used to control all the frequently used functions of the tractor: acceleration, deceleration, rear hitch lift controls, auxiliary spool valves and power shuttle. Due to the introduction of this lever, all operations and checks can be performed with one hand only. The advantages are numerous – time saving, safety, quicker reactiontime during operation – as the controls respond almost immediately. And with Cruise Control, a chosen ground speed can be selected and maintained in any operating conditions.

Multifunction armrest

All the important controls used for activation of the electronic spool valves, automatic traction control (Axle System Management), electronic engine management (EMC) and hand throttle are incorporated into the right armrest. Switches and controls are arranged on the basis of priority, and easily identifiable by their different shape and colour. The multifunction armrest is adjustable to suit the needs and preferences of the operator.

- 1 PowerComV joystick
- 2 Cruise Control
- 3 Powershuttle buttons
- 4 Electrohydraulic control, auxiliary spool valve 1
- 5 Electrohydraulic control, auxiliary spool valve 2
- 6 Lift Up/Down/Quick drop, EHR (electronic hitch) activation
- 7 Electronic engine management

- 8 Electronic hand throttlett
- 9 Transmissionneutral
- 10 Differential lock
- 11 Four wheel drive engagement
- 12 Joystick, spool valves 3 and 4
- 13 Automatic control of 4WD and differential lock functions
- 14 Engage/disengage front axle suspension

- 15 Transmission mode management automatic/manual/PTO
- 16 Acceleration rate
- 17 ECO/Power mode management
- 18 Timer (spool valves 1 and 2)
- 19 Flow control valve (spool valves 1 and 2)
- 20 Flow control valve (spool valves 3 and 4)
- 21 Tractor parameters configuration

- 22 PTO speed selection lever Eco/normal and 540/1,000 rpm
- 23 Auto PTO engage/disengage
- 24 Rear PTO selection and enable
- 25 Front PTO selection and enable
- 26 Lock/release spool valves
- 27 Enable button
- 28 Ground speed control

- 29 Comfortip: repetitive operations memory function
- 30 iMonitor
- 31 iMonitor thumbwheel
- 32 iMonitor memory button console
- 33 Proportional electrohydraulic controls, spool valves 5-6-7

INTEGRATED SUSPENSION.

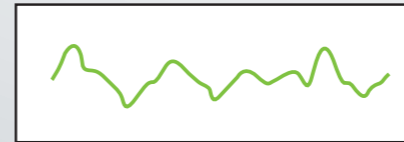
AGROTON TTV OFFERS THE MAXIMUM DRIVING COMFORT EVEN AT 50* KM / H THANKS TO THE INTEGRATED SUSPENSIONS SYSTEM.



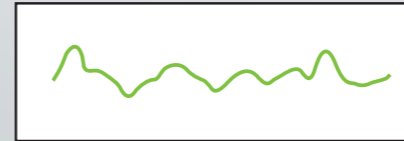
ADVANTAGES

- Superior comfort on the road
- Fast reaction
- No swaying or pitching movement when using a front loader
- Components unaffected by wear and maintenance-free
- No limitation of spring action even with maximum axle oscillation
- Streamlined and compact structure with no limitation of steering angle and turning circle
- Notable reduction of vibrations felt by the driver
- Automatic adjustment of suspension to suit different loads and conditions

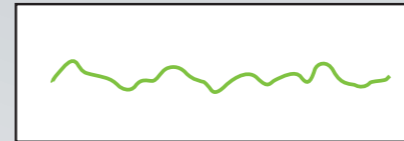
Systems compared



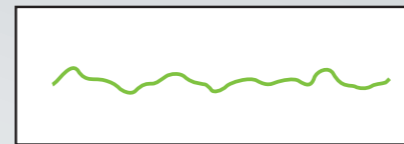
Suspension: systems compared
100 %



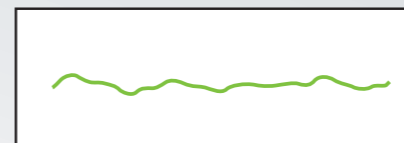
...without suspension
86 %



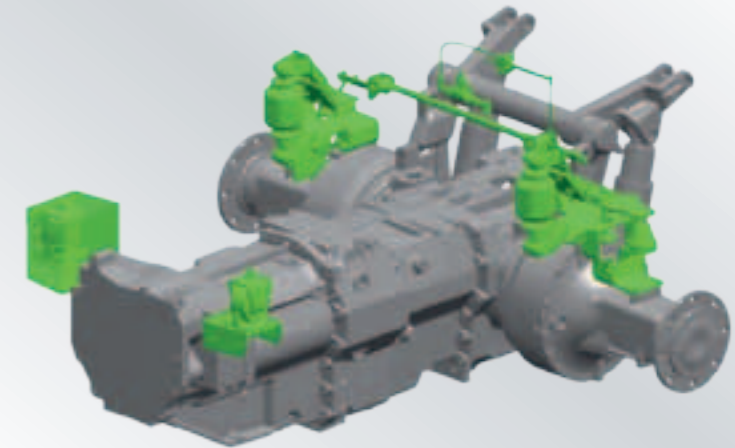
...front axle suspension
67 %



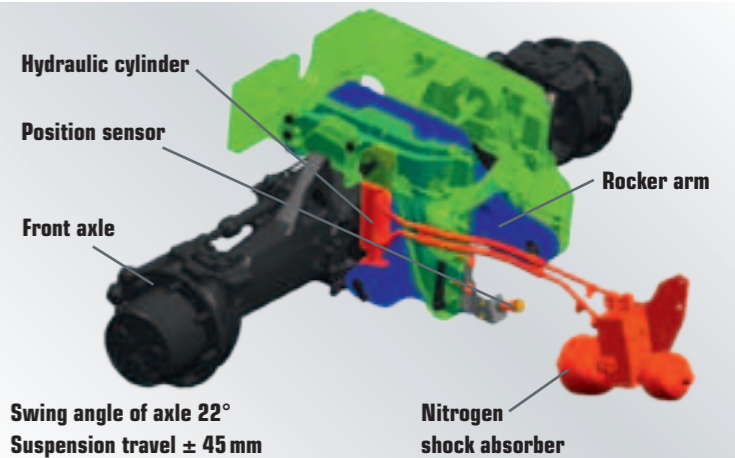
...cab suspension
60 %



...suspension of front axle and cab



Unparalleled driving comfort guaranteed by the exclusive pneumatic cab suspension.



Swing angle of axle 22°
Suspension travel ± 45 mm

Hydropneumatic front axle suspension.

Front axle suspension

The electronically controlled front axle suspension system has been developed adopting an innovative approach. Characteristic parameters such as the steering angle and the oscillation movement of the front angle remain unchanged. Engineering solutions introduced: two hydraulic cylinders, a specially designed trunnion mounting and three nitrogen filled dampers combine to give superior driving comfort and ride stability, even at high speeds and over rough terrain. The electronic control system ensures that the suspension is always maintained at the optimum

level, regardless of the load on the front end of the machine, by exploiting the full travel of the dampers. When traction is more important than comfort, the suspension system can be deactivated to lock the front axle 'rigid', for increased grip.

Pneumatic cab suspension

The cab is equipped with a self-adjusting and effective pneumatic suspension system. Compressed air is pumped automatically into the pneumatic springs according to the weight carried by the cab, keeping the suspension at the optimum level by utilising the full travel of the

springs. With variations in the load on the cab (different size operators) detected by a position sensor, the system automatically adjusts and stabilizes the travel of the suspension. Two hydraulic dampers absorb any bouncing movement of the cab – even the most extreme – with the pitch and roll cancelled out by a Panhard rod.

The basis of a unique experience

The combined effect of a suspended cab and a suspended front axle is to optimize performance and comfort even when travelling fast over rough terrain.

* Depending on the national standards.

LITTLE DETAILS, IMPORTANT SOLUTIONS.

ADVANTAGES

- ▶ ASM – ultra safe operation, with wheels transferring drive power to the ground
- ▶ Simplicity, ease of use, fast programming of single control functions
- ▶ Settings suitable for ANY operating conditions, with 3 transmission control modes, and lower fuel consumption achieved by achieving optimum crankshaft speeds
- ▶ Less operator fatigue
- ▶ Better concentration on working operation



A simple pushbutton activates the programmed cruise speed.



A button and two dials on the multifunction armrest are used to activate and control the various driving strategies, combining transmission and engine settings to best advantage.



- | | | |
|-------------------------|---|-----------------------------------|
| Forward speed | Deactivate Cruise Control | Lift the plough |
| Lower plough | Recall the memorized engine working speed | Turn the plough (Control valve 1) |
| Activate Cruise Control | Deactivate memorized engine working speed | Engage reverse gear |

During arable cultivation, a number of single operations will be performed on the completion of one pass and before the start of the next. This requires the operator to repeatedly perform sequences of various commands which takes greater concentration with the possibility of mistakes. The Agrotion TTV 410/420/430 range features a number of functions allowing the user to memorize, retrieve and automate these repetitive operations.

Axle System Management (ASM)

This is an electronic system, activated by a button on the multifunction armrest, which manages the 4WD and differential lock functions automatically dependent

on speed and steering angle parameters monitored and processed by a set of sensors and an electronic control unit. On models equipped with wheelslip control, the ASM system will lock the differentials automatically whenever wheelslip exceeds 25%.

Comfortip (Sequential programming of repetitive operations)

To simplify repetitive control operations, the on-board computer allows the operator to save and retrieve a set sequence of commands. Up to 16 operations can be stored in sequence and retrieved. Shifting the PowerComV lever to the left, the operator can either program or retrieve a

sequence of operations, thereby reducing the repetitive tasks performed when making headland turns to a single movement. The selected operations are programmed quickly and simply, in just 3 easy steps. Press the activation button in front of the lever and simultaneously push the lever to the left, holding for at least 3 seconds. Having decided on the sequence of operations the tractor is to perform, the user simply presses the buttons of the corresponding functions on the multifunction armrest. A window on the Infocenter instrument panel displays the icons of the selected functions in the sequence they have been entered. To confirm the selection and exit programming mode, the driv-

er simply presses the enable button and shifts the lever momentarily to the left.

To activate the Comfortip function, the driver presses the enable button and shifts the lever momentarily to the left. The sequence will start from the first function programmed. During operation, the operator can scroll through the steps of the programmed sequence to move to the next simply by moving the lever repeatedly to the left. When Comfortip mode is active, other functions can be operated manually.

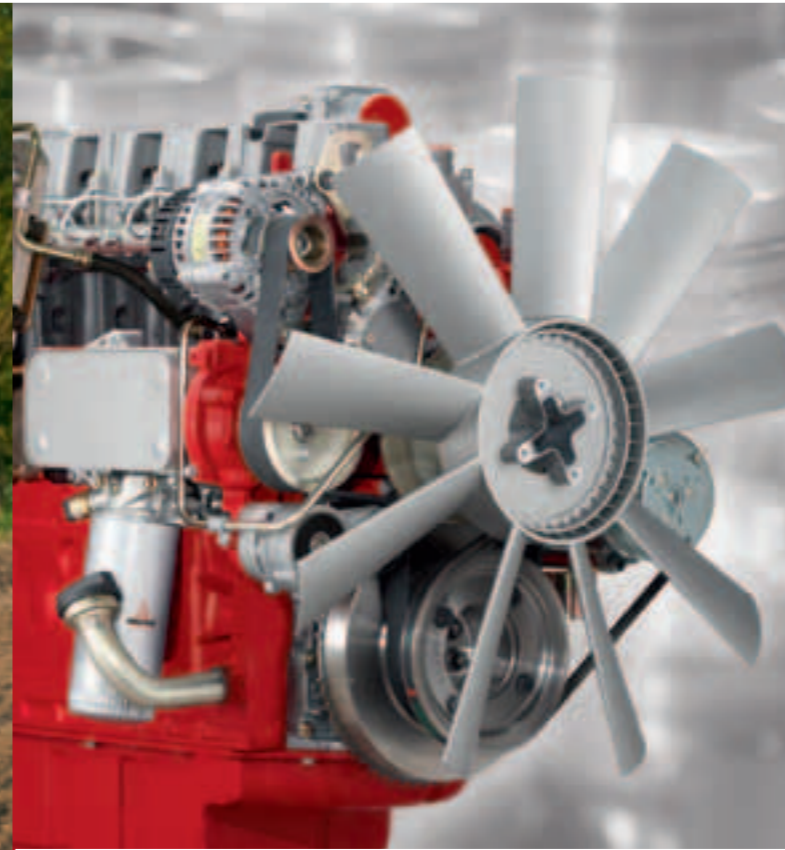


Every function of the Comfortip in sight.

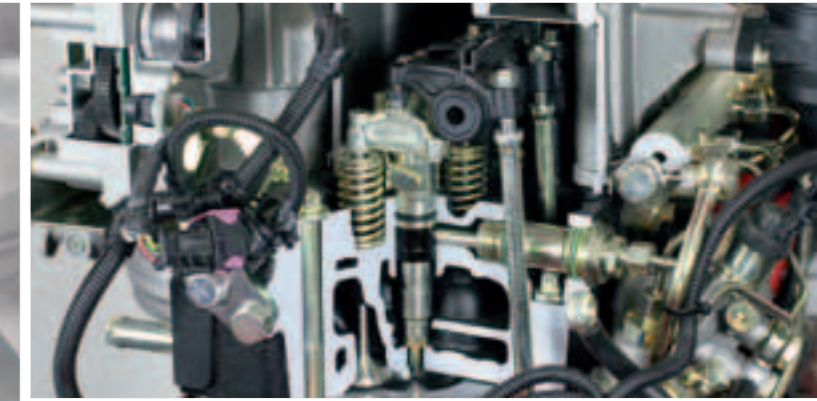
ESSENCE OF POWER.

ADVANTAGES

- ▶ DEUTZ Common Rail EURO 3 engines, 4 cylinders, 16 valves, turbo intercooler, with electronic regulator and external recirculation system of the exhaust gases
- ▶ The DCR (DEUTZ Common Rail) fuel injection system operates at pressures up to 1.600 bar and is fitted with two wet pumps
- ▶ The exhaust gas recirculation system optimizes fuel consumption and minimizes emissions
- ▶ 100% compatible with biodiesel fuel (B100)

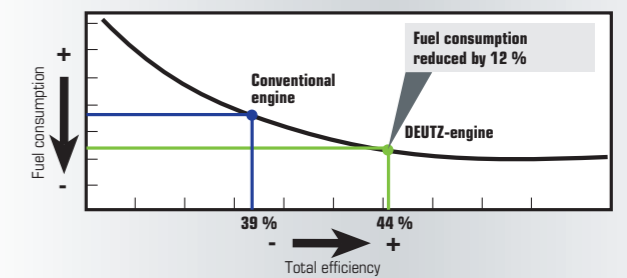


The electronic control viscstatic fan (E-Visco-fan) operates at variable speeds depending on the temperatures and the loads. It is a low energy consumption system which is activated only when needed.



The 16 valve distribution permits a perfect filling of the cylinder and an optimization of the air-diesel oil mixture.

Low fuel consumption



An engine delivering constantly high torque is exceptionally flexible in operation, and generates maximum traction even when working with power-hungry implements in tough conditions.

With their DEUTZ engines, Agrotion TTV 410/420/430 models are able to economize on fuel from the very first hour of operation, through a combination of features: torque maintained across a broad range of crankshaft speeds, economy mode (40km/h at 1,400 rpm), DEUTZ Common Rail (DCR) fuel system, four valves per cylinder, external EGR (exhaust gas recirculation), turbocharge with intercooler, high pressure electronic fuel injection, and fuel cooler. These are some of the main characteristics of the turbo diesel 4 cylinder engines of the new Agrotion TTV 410/420/430. Thanks to the new fuel injection system, utilizing two wet pumps (immersed in the engine oil) and combustion chambers with new geometry, engines of the 2012 series guarantee high performance even in the trickiest

traction conditions. The electronic injection system, generating pressures of up to 1,600 bar, ensures rapid response and high torque rise even at low crankshaft speeds. With rated horsepowers of 114HP/84 kW (TTV 410), 124HP/91 kW (TTV 420) and 134HP/98,5 kW (TTV 430), Agrotion TTV tractors are the ideal multipurpose machines for agricultural businesses and contractors. With 16-valve timing, the cylinder fills perfectly on the intake stroke, and blending of the fuel-air mixture is optimized. Moreover, the design of the cylinder head is such that the injector can be positioned centrally and vertically, directing fuel onto the central area of the piston where ignition typically occurs, optimizing power and fuel consumption. The engines of the TTV range are equipped with an elec-

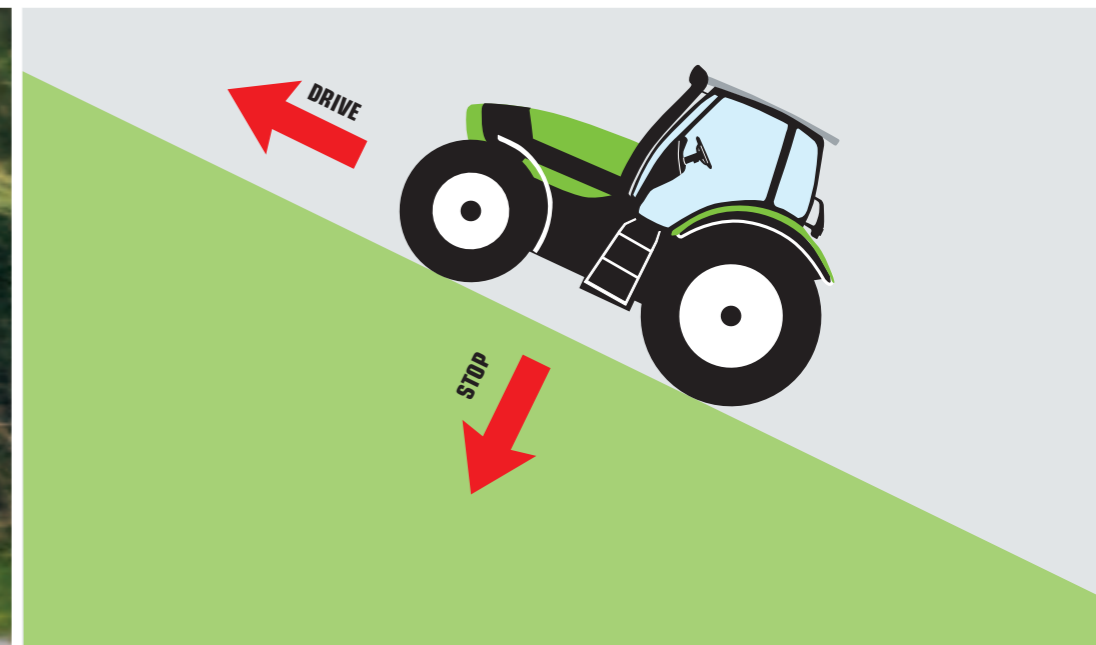
tronically controlled viscstatic cooling fan that operates at variable speed, dictated by temperature and load conditions. The speed of rotation of the fan is controlled by a viscous coupling, interlocked to an electronic system that guarantees quick reaction times, so that the flow of cooling air can be proportioned to the effective requirement. As a result, the working temperature of the engine coolant can be kept within an optimum range of values, the engine is protected more reliably from overheating, and the right amount of air is supplied to all radiators and coolers, thereby reducing the power demand from the fan and consequently helping to minimize fuel consumption.



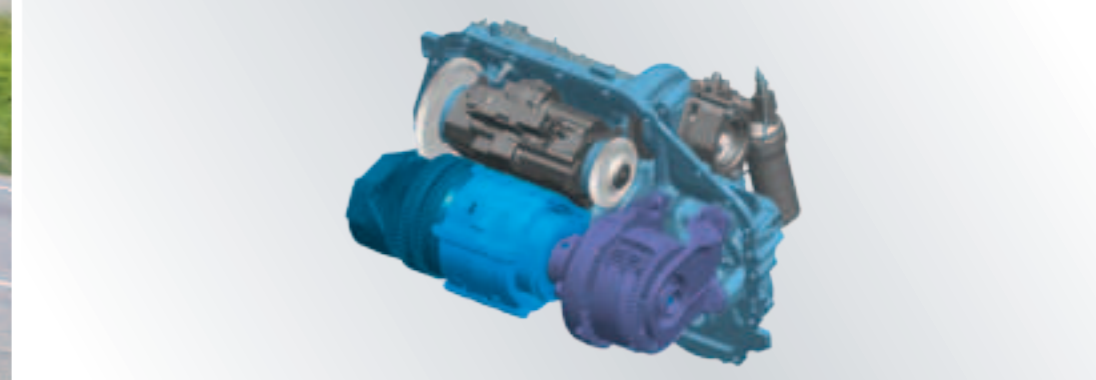
TOTAL CONTROL OF EFFICIENCY AND SPEED.

ADVANTAGES

- ▶ High level of economy, with maximum efficiency assured in all four speed ranges
- ▶ Ease of control and immediate adaptability
- ▶ Dependability and durability
- ▶ Longer service life, thanks to the use of oil-immersed multidisc clutches absorbing minimal power
- ▶ Maximum effectiveness, due to the predominantly mechanical operating characteristic of the transmission



With the PowerZero function, the tractor can be held stationary on any terrain, regardless of gradient and load conditions.



Ideal combination. The variable displacement pump of the hydrostatic unit is driven directly by the engine, and with the combination of hydrostatic motor, four speed ranges and electronic management, maximum efficiency is assured.

There are numerous transmissions by which power can be transferred from an engine to the wheels of a vehicle through a variable speed drive. In the majority of cases, there are two main factors that differentiate one system from another: the electronics utilized, and the overall efficiency – reflected in the extent to which the hydrostatic or mechanical component predominates. The transmission of the Agrottron TTV 410/420/430 range achieves new goals in the technology applied to continuously variable systems.

In effect, electronic management provides the user with different driving strategies: automatic, PTO and manual, with efficiency optimized by the interaction between engine, sensors and control software, according to the traction force required. Operating the continuously variable transmission of Agrottron TTV models, within each operating range, the transmission reaches a speed ratio at which the hydrostatic power component is reduced to zero, leaving the mechanical transmission component to take over

entirely. There is a greater emphasis on the “mechanical” transmission which results in higher efficiency especially in jobs that require high traction capacity. The 4 ranges are designed to optimize efficiency at different operating speeds. A typical example is that of heavy tillage, whether subsoiling and deep ploughing (with the tractor proceeding at a speed of between 3 and 5 km/h), or “traditional” ploughing (at ground speeds of between 5 and 9 km/h), where the machine has to operate at full power for long periods of time. Only mini-

mal hydrostatic power is utilized, which results in increased tractor performance.

Operation is simple. The mechanical and hydrostatic components comprises of an epicyclic speed reducer and a hydrostatic drive, assembled in a configuration of meticulously engineered design. The speed reducer is made up of four distinct epicyclic gear trains, each ensuring continuity within a specific speed range. The variable displacement pump of the hydrostatic unit, driven directly by the engine,

determines the speed of the hydraulic motor and consequently the speed of the tractor, which varies steplessly. The combined operation of the four gear trains, coupled through oil immersed clutches, enables the transmission to shift from one speed range to another without no break in continuity, optimizing productivity. The progression from 0 to 50 km/h is seamless, with the optimum gear ratio selected at every stage.

PowerZero

With the engine running and Automatic or PTO mode selected, the PowerZero (active stop) function will also come into operation: the transmission holds the tractor stationary without any need to apply the parking brake, even with the engine idling, and independent of gradient or load factors.

4-SPEED PTO: EXCEPTIONAL VALUE.

ADVANTAGES

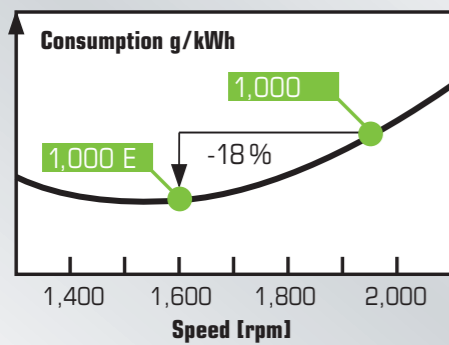
- ▶ High efficiency with lower fuel consumption
- ▶ 4-speed rear PTO for increased versatility
- ▶ Interchangeable flange-mounted PTO shaft, allowing easy changeover to implements with different splines
- ▶ Modulated start, contributing to longer life of components



The PTO mode of the transmission is automatically activated when the PTO is engaged.



In PTO auto mode, the rear power take-off is deactivated the moment the rear lift comes into operation.



With economy PTO available, the Agrotion can operate within a speed band optimized to minimize energy consumption.



The PTO speed is easily changed by operating the yellow lever to the right of the driving position.

The hallmark of Agrotion TTV 410/420/430 tractors is versatility. With four rear PTO speeds (540/540E; 1,000/1,000E) and the option of independent ground speed PTO, adaptability to every kind of implement is assured.

The PTO is engaged by an oil-immersed multidisc clutch, electrohydraulically operated with modulation control, which guarantees maximum reliability even when using implements with a high torque demand. It is also generously proportioned,

to absorb the peak loads generated by demanding implements without difficulty. The electrohydraulic PTO clutch control is located on the console to the right of the driver, and duplicated on both rear fenders. The clutch can be operated either manually or using the automatic control, which engages and disengages the PTO according to the height of the implement. Economy PTO speeds (540 E and 1,000 E, obtained at low engine revolutions) can be selected when using PTO-driven implements with a medium-low power demand

– which in practice are the majority. Economy speeds give good performance and use less fuel, as well as generating lower noise levels and less stresses.

Powerful front PTO

The front power take-off (optional), driven directly from the engine and operating at a speed of 1,000 rpm, is activated electrohydraulically at the touch of a button. The front PTO operates independently of the rear PTO.



SMART HYDRAULIC POWER.

ADVANTAGES

- Simple and effective controls
- Quick and continuous adaptation to different types of soil/implements sensitive response, even to minimal variations in load
- High efficiency, favouring lower fuel consumption
- Oil supplied as and when needed
- Easy hitching and unhitching in any conditions
- Rear end of the tractor kept permanently clean – no spillage of oil signifying greater care for the environment



Maximum practical convenience in controlling the main functions of the auxiliary spool valves.



Multifunction joystick with integrated hitch controls.



Lift movements and settings are selected from a side console and indicated by a digital display on the main instrument panel, in which the driver can view the various operating parameters.



Up to 7 hydraulic spool valves with a total of 10 rear ports and 2 front ports, plus control of the front lift.

Hydraulic power delivered as and when needed, by an intelligent Load Sensing system. The clever part is the introduction of a separate hydraulic oil tank holding 50 litres. Up to 36 litres can be drawn at any one time. This additional tank, which is entirely independent of the transmission, supplies oil to the lift and the auxiliary spool valves and has its own filtration system. When using implements equipped with complex control circuits and increasingly high oil flow demands, Agrotion TTV 410/420/430 models are equipped

with a hydraulic system rated 120l/min that can accommodate up to 7 auxiliary spool valves (5 rear + 2 front). The spool valves all incorporate flow control and timer functions, and are operated by a combination of pushbuttons on the PowerComV lever, a joystick on the multifunction armrest, and thumbwheels on the side console. With Load Sensing, hydraulic power generated by the system is adapted continuously to the required demand; the oil flow rate can be proportioned, continuously if required, in such a way as to maintain a steady

operating pressure. In practice, the variable displacement hydraulic pump supplies only the amount of oil actually needed at any given time, with the result that less power is wasted and hydraulic components last longer. The external ports are specified with push-pull type quick couplers, so that oil lines can be connected under pressure. A special container collects any oil that may drip from the couplers when the hoses of implements are attached and removed.

High lifting capacity

The electronic rear lift with radar ensures accurate and automatic control of hitched implements through continuous analysis of input data from sensors. During transport at high speed carrying heavy implements, there is always the risk of strong swaying motion that could jeopardize the comfort and safety of the ride. The electronic lift of Agrotion TTV tractors incorporates an oscillation damping system that comes into operation at speeds above 8 km/h. Lifting capacity 6,200 kg.

Electronic hitch control

All Agrotion TTV tractors are equipped with the EHR electronic lift providing draft, position, mix and wheelslip control. Whenever the lift is activated, the system automatically runs an auto-test procedure using an integrated diagnostics program. The basic setting for the EHR system is easily accomplished by way of a control unit that will automatically check out the following functions: draft control and position control, 'mix' control, quick drop, float, wheelslip, oscillation damping, transport lock,

maximum lift height and rate-of-drop. The control used to operate the rear lift is incorporated into the PowerComV lever.

A REAL CONTROL TERMINAL.

ADVANTAGES

- Display easy to read in all light conditions
- Clear and informative graphics
- Simple symbols, immediately understandable
- Easily updated software
- Thumbwheel control similar to those found in cars
- Main menu always readily accessible
- Built-in MP3 Player
- Built-in FM/AM radio
- CCTV camera displaying work area to the rear



All the main functions are grouped together in the opening menu.



Thanks to the monitor, the management of the comfort tip allows up to 32 operations to be set and 100 different sequences to be stored.



With the control panel located on a console to the right of the driving position, the operator can navigate easily through the menus using the dial.



Power socket on the same side as the cable access point, and data transmission socket for dialogue between tractor and implements.

An innovative control system

For maximum control and the customization of various functions, it is possible to equip the TTV with the monitor, the innovative multimedia interface (ISOBUS compatible) easy and intuitive. The following functions are integrated: main menu

controlling all machine functions (lift, PTO, spool valves, engine and transmission, ASM and cab suspension); performance monitor (fuel consumption, productivity and area-tillage information); ISOBUS monitor allowing the use of ISOBUS compatible implements; MP3 player and bluetooth

hands-free speakerphone. The iMonitor is operated by way of a Multicontroller with a dial that is pressed and turned to scroll the individual tractor menus where they can be set and/or checked by the operator. This kind of control features the same operating principle as used by leading auto-

mobile makers for navigation systems and other similar menu-driven devices. Easy to see, and easy to understand. An attractive graphic display on a black screen creates a reassuring sense of order and clarity, and uses conventional symbols to ensure that users can quickly familiarize themselves

and gain expertise with the instrument. Among the many practical advantages is that the operator's forearm can remain comfortably positioned on the armrest. This eliminates errors attributable to involuntary hand movements when driving. For the first time, a tractor equipped with

hands-free bluetooth, MP3 player, radio and automatic CCTV reversing camera: features available hitherto only on other vehicles. The iMonitor can also be used for appliances controlled by ISOBUS commands, which means that the operator need keep an eye on one terminal only.

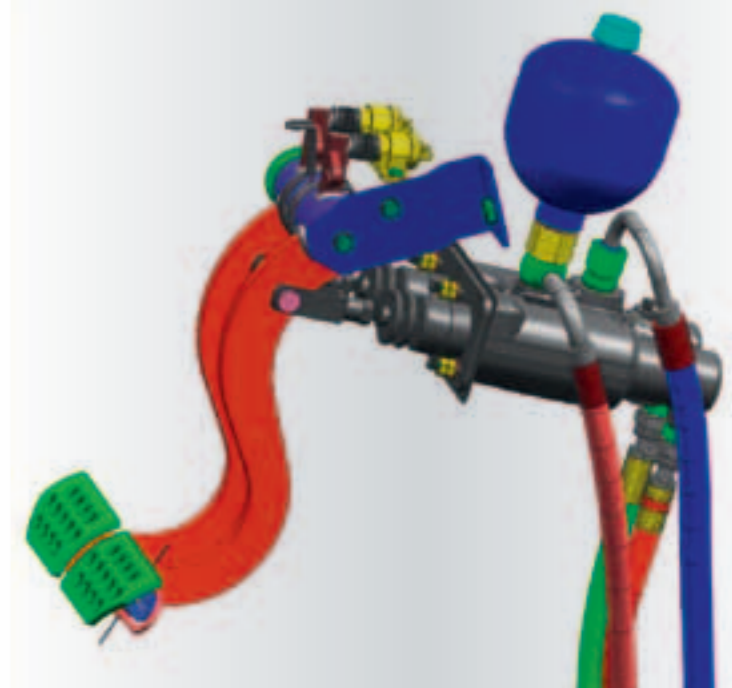
AGROTRON TTV TRACTORS AND SAFETY IN OPERATION.

ADVANTAGES

- Slick steering action, even with heavy front-end loading and low engine revolutions
- Tight turning circles
- Superior handling
- Excellent driving comfort
- High braking power, with pedal effort applied proportionally and progressively
- Longer component life and no wear
- Maximum safety assured by dependable braking power on gradients, even with heavy mounted implements



The TrailerStretch function, activated by a button in the cab, allows you to have a dual braking (transmission + brakes) in "Auto" mode.



The new Power Brake braking system allows the operator to press the brake pedals with minimum effort obtaining an immediate, powerful and modulable response, even with the engine off.

The trunnion mount creates a fulcrum coinciding with the centre line of the axle, allowing an oscillation of 22° at either end to negotiate even the roughest terrain.

The original front axle, compact engine and tapered lines of the side panels combine to guarantee a tight turning circle, with a steering angle of 55°. The hydrostatic power steering has its own independent hydraulic circuit with a 37 l/min pump and 2 powerful double acting steering rams, ensuring a light touch even at low engine revolutions. The Power Brake ensures that minimal effort applied by the operator when depressing the brake

pedal will produce an instant, powerful and controllable response, thanks to the constant pressure characteristic of the hydraulic circuit. The Power Brake system also includes an auxiliary accumulator for emergency situations, which will guarantee up to 10 brake applications in complete safety, even without the engine running. With an increased distance between brakes and discs (compensated by the servo), there is less power absorbed,

less wear on parts, and less risk of the oil overheating. Brake system utilizing oil-immersed discs on all 4 drive wheels (all-wheel braking optional). Hydrostatic operation produces a braking action proportional to the effort exerted on the pedals, so that braking force can be applied with maximum precision.



ACCESSORIES FOR IMPROVING PRODUCTIVITY.



Whilst the standard equipment packages supplied with tractors of the Agrottron TTV range are generous, they can be enhanced with further options, designed to increase productivity and make life even easier for the operator.

1 Front-end loader:
Option of fitting a front loader and extending the versatility of the Agrottron TTV.

2, 3, 4 Trailer hitch brackets:
Types of towing bracket specified for different markets.

5, 6 Ballast:
Option of increased front ballasting depending on the needs.

7 Agrosky:
Availability of Agrosky satellite systems with processing procession from 2 to 30 cm.

8 The rear video camera:
Provides for totally safe manoeuvring.

9 ISOBUS:
The ISOBUS connection allows all the compatible equipment to be connected quickly.

10 Front hitch:
The front hitch with integrated PTO expands the ability of the TTVs for all combined operations.

QUICK AND SIMPLE MAINTENANCE.

ADVANTAGES

- Long maintenance intervals
- Ease of access, with no tools required
- Low maintenance costs



Quick and simple maintenance

Maintenance operations are carried out quickly and with ease, due to the one-piece hood hinged at the rear, which can be raised to completely expose the engine compartment. The hood is held safely in the open position by special gas-filled struts. All the important components and assemblies are easily accessible for the purposes of routine

maintenance, with no tools required. The engine oil level can be checked without opening the hood, and a sight glass indicates the level of oil in the transmission housing.

Long maintenance intervals

The engine oil need only be changed after every 500 hours operation, and the valves serviced every 1,500 hours.

1 Maintenance of the cooling system is straightforward, as all radiators and coolers are mounted on hinge pivots to swing open.

2 The engine air cleaner is serviced easily and in minutes.

3 All fuses and relays are located in a dedicated housing on the right inner fender, easily accessible and well protected.

4 The cab air filters are incorporated into the door pillars for ease of access and servicing, with no tools required.

5 The battery disconnect allows the tractor to be stored safely, for long periods of time. Less risk of skidding and as a result less overheating.

6 The air compressor is coupled directly to the engine. No interconnecting drive belt, for greater reliability in operation.

7 Checking and topping up the engine oil is quick and simple.

8 The external sight glass allows a rapid and accurate inspection of the oil level.

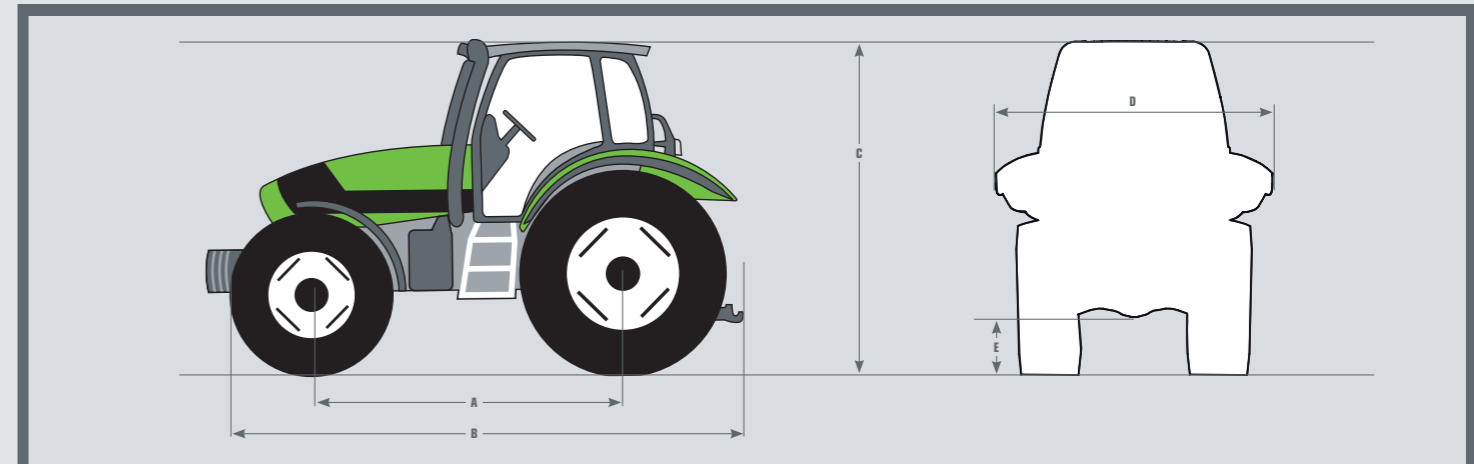
TECHNICAL DATA.

Type	TTV 410	TTV 420	TTV 430
Engine			
Engine model	TCD 2012 L04 4V DCR	TCD 2012 L04 4V DCR	TCD 2012 L04 4V DCR
Cylinders/Cylinder capacity	n°/cc	4/4,038	4/4,038
Turbo Intercooler Aspiration		Standard	
Max. homologated power	kW/hp	84/114.2	91/123.8
Maximum torque	Nm/Kgm	519/52.9	563,9/57.5
Maximum torque speed	rpm	1,500	1,400
Torque increase	%	26.4	26.62
Minimum speed	rpm		750
Maximum power engine speed	rpm		1,900
Maximum speed (nominal)	rpm		2,100
Electronic engine regulator		Standard	
Liquid cooled		Standard	
Heat exchanger		Standard	
Fuel radiator		Standard	
Air cleaner with dust ejector		Standard	
Silencer with exhaust on cab pillar		Standard	
Clutch			
Electro-hydraulically controlled clutch		Standard	
Transmission			
Electro-hydraulically controlled shuttle		Standard	
Forced lubrication		Standard	
Oil cooler		Standard	
Continuously variable transmission		Standard	
Rear PTO			
Oil-immersed multi-plate clutch with electro-hydraulic control		Standard	
Shaft diameter		1" 3/8	
PTO shaft splines		6/21	
PTO 540	rpm	1.996	
PTO 540ECO	rpm	1.543	
PTO 1.000	rpm	1.946	
PTO 1.000ECO	rpm	1.512	
Groundspeed PTO (tyres)	rpm	Standard	
Control on fender		Standard	

Type	TTV 410	TTV 420	TTV 430
Front PTO			
Front PTO		Optional	
Oil-immersed multi-plate clutch with electro-hydraulic control		Standard	
Shaft diameter		1" 3/8	
PTO shaft splines		6	
Front axle			
Electrohydraulic control of front and rear differential lock		Standard	
Automatic traction and differential control		Standard	
Transmission ratio: front wheel revolutions for each rear wheel revolution		1.3548	
Steering front fenders		Optional	
Brakes			
Integral braking on all four wheels (4WD)		Optional	
Parking brake		Standard	
Hydraulic trailer braking valve		Optional	
Steering			
Hydrostatic with tilt adjustable telescopic steering wheel		Standard	
Pump capacity	l/min	37	
Rear hydraulic lift			
Electrohydraulically controlled rear lift		Standard	
Right hand lifting rod and mechanical top link		Standard	
Auto hitch link arms		Standard	
Fender controls		Standard	
Hydraulic top link		Optional	
Maximum lifting capacity	kg	6,200	

TECHNICAL DATA.

Type	TTV 410	TTV 420	TTV 430
Front lift			
Mechanical front lift with folding link arms		Optional	
Maximum lifting capacity	kg	3,600	
Quick couplers		Optional	
Remote control valves			
Pump output at max. power engine rpm	l/min	120	
Remote control valves - max. n° of ways		10	
Operating pressure	bar	210	
Electrical system			
Voltage	V	12	
Battery, standard	V/Ah/A	12/143/660	
Battery for cold climates	V/Ah/A	12/180/800	
Alternator	V/Ah	14/150	
Starter motor	V/kW	12/4	
Auxiliary power socket		Standard	
Supplementary power socket.		Standard	
Fuel tank			
Tank capacity	l	210	
Cab/ROPS			
Cab with pneumatic suspension		Standard	
Ventilation and heating		Standard	
Air conditioning		Standard	
Hazardous substances protection category CAB		2	



Type	TTV 410	TTV 420	TTV 430
Tyres			
With front tyres		480/70R28"	
With rear tyres		580/70R38"	
Dimensions			
Wheelbase (A)	mm	2,419	
Length (B)	mm	4,280 - 4,544	
Height (C)	mm	2,899 - 3,054	
Min-max width (D)		2,068 - 2,550	
Ground clearance (E)	mm	430 - 485	
Unladen weight**			
Unladen weight on front axle	kg	1,688 - 2,235	
Unladen weight on rear axle	kg	3,006 - 3,090	
Total unladen weight	kg	4,693 - 5,325	
Maximum permissible weight at 40 km/h*			
Maximum permissible weight on front axle	kg	3,800	
Maximum permissible weight on rear axle	kg	5,450 - 6,600	
Total maximum permissible weight	kg	8,500	8,750 - 9,000
Maximum permissible weight at 10 km/h*			
Maximum permissible weight on front axle	kg	5,500	
Maximum permissible weight on rear axle	kg	4,950 - 6,600	
Total maximum permissible weight	kg	7,950 - 8,500	7,950 - 9,000
Maximum permissible weight at 50 km/h*			
Maximum permissible weight on front axle	kg	3,800	
Maximum permissible weight on rear axle	kg	4,950 - 6,600	
Total maximum permissible weight	kg	7,950 - 8,500	7,950 - 9,000

* The maximum permissible weights require the standard track width.

** The unladen weight of the tractor is an approximate value as it varies according to the equipment level and accessories installed; the exact weight should be determined by weighing the tractor.
Continuously variable transmission with speed electronically limited to 40km/h or 50km/h.

SURE AND SAFE WITH ORIGINAL DEUTZ-FAHR SERVICE AND PARTS.



Original service is wise.

Only your DEUTZ-FAHR specialist dealer knows your tractor inside and out. Only your dealer has regularly trained mechanics and experts on call. Only dealers have the special tools and diagnostic equipment required for competent diagnosis and inspection. All this gives you peace of mind – without doubt.

Original parts make good sense.

As you placed your trust in the original tractor, we recommend you use original parts when required. Only these comply with the high quality and safety standards of DEUTZ-FAHR and ensure correct function and operation without problems – guaranteed.

DEUTZ-FAHR lubricants.

We recommend genuine DEUTZ-FAHR lubricants. The outstanding quality of this product range, which is made exclusively for DEUTZ-FAHR, ensures that your tractor always receives exactly what it needs.



Your DEUTZ-FAHR dealer will be pleased to answer your questions:

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