

Fendt 400 Vario



FENDT

A powerful family



With the newly developed 400 Vario, Fendt offers the perfect all-round tractor for mixed and grassland farms. Lightweight, compact and manoeuvrable, it represents the award-winning Vario stepless drive in the middle power segment between 115 and 155 HP maximum power. Optionally, it can also be equipped with all the technology that was until now reserved for the upper mid-sized class and high horsepower tractors. With a broad operating spectrum, it maximises utilisation in agricultural contracting businesses or cooperatives – without compromises. Its particular strength lies in PTO operations. Its exceptional manoeuvrability is a special benefit, particularly in areas with smaller farms.



Fendt 411 Vario	115 hp	85 kW
Fendt 412 Vario	125 hp	92 kW
Fendt 413 Vario	135 hp	99 kW
Fendt 414 Vario	145 hp	107 kW
Fendt 415 Vario	155 hp	114 kW

Maximum power acc. to ECE R24

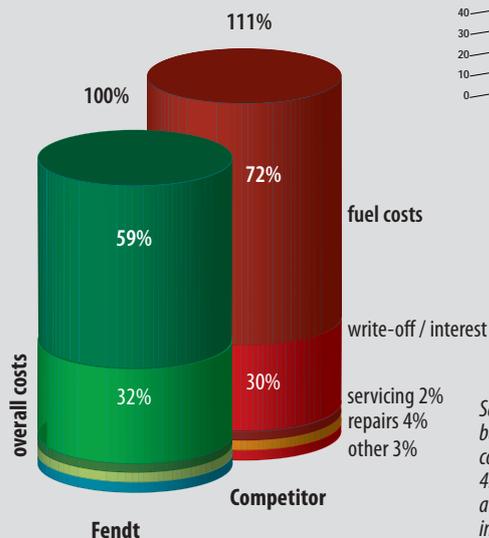
Contents

<i>Introduction</i>	2 - 3	<i>Tyres, 4WD and differential locks</i>	18 - 19
<i>Economical vehicle concept</i>	4 - 5	<i>PTO drives</i>	20 - 21
<i>Comfort cab with well-planned driver station</i>	6 - 7	<i>Powerful hydraulics</i>	22 - 23
<i>Simple, intelligent operation</i>	8 - 9	<i>Front loader operation like a wheeled loader</i>	24 - 25
<i>Engines for maximum economy</i>	10 - 11	<i>Extra Fendt features</i>	26 - 27
<i>Vario transmission – benefits in all areas</i>	12 - 13	<i>Services offered</i>	28 - 29
<i>Cutaway view 400 Vario</i>	14 - 15	<i>Technical specifications</i>	30
<i>Ride comfort and safety</i>	16 - 17	<i>Standard and optional equipment</i>	31

High productivity starts with low costs per hour

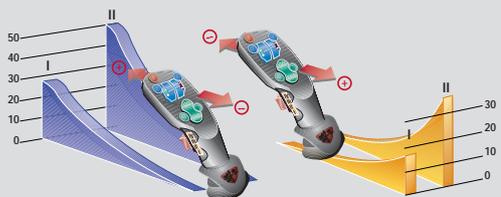
Low costs per hour

In order to compare the actual costs involved in investing in a tractor, the overall costs and operating costs per hour or hectare must be considered. These include fuel consumption, which is the single greatest factor amounting to over 50% of costs, write-off, including resale value, servicing, repairs and miscellaneous costs such as insurance or housing.



One joystick instead of many levers

With the joystick, you can accelerate the 400 Vario from standstill to the desired speed steplessly. Move the joystick in the opposite direction, and the tractor decelerates. Stepless from 0-50 km/h forward and 0-40 km/h reverse – without crawler or group gears.



Sample calculation that appeared in top agrar 12/2004, based on fuel consumption data for a Fendt Vario and a competitor's tractor. (Competitor's fuel consumption is 4.4 litres per hour more than Fendt's). Calculations based on a diesel price of 1 euro per litre and 8000 operating hours in 10 years.

Superior productivity – the added-value of a stepless drive

Farm type	Area (ha)	Operating time	Fuel saved
Mixed production	50	-2.7%	-6.5%
	100	-3.3%	-6.5%
	200	-4.3%	-6.8%
Fodder production	50	-6.8%	-8.7%
	100	-6.6%	-8.3%
	200	-5.5%	-8.0%
Market crop production	50	-4.4%	-6.5%
	100	-4.6%	-6.4%
	200	-4.4%	-6.4%

Compared to drive concepts with power shift transmissions, the stepless drive technology offers savings potential for all types and sizes of farming businesses.

Source: Landwirtschaftliches Wochenblatt Westfalen-Lippe, 5/2001



The success of modern farming businesses depends on economically optimised production procedures. A top requirement here is the use of suitable mechanisation. With the 400 Vario, Fendt offers an extremely productive and economical universal machine for low-cost handling of all work waiting to be done.

Powerful all-rounder

Compared to the previous model, the 400 Vario range has been developed further in all important areas, power has been increased and the range has been expanded with new models. The result is an exceptionally compact tractor in the medium power class, with enormous power reserves. The tyre options have been adapted to optimise power transfer and soil protection.



- Excellent power-to-weight ratio of 35 kg/hp (415 Vario)
- High payload reserves thanks to permissible gross weight of:
 - 9000 kg (411 - 413 Vario)
 - 9500 kg (414 - 415 Vario)
- Latest high horsepower tractor technology for the drive train ensures low operating costs
- Low variable costs through low fuel consumption (203 g/kWh for 414 Vario)
- Absolute productivity and profitability in the overall cost calculation

Basic equipment or fully equipped?

In the basic version, the 400 Vario is equipped with all the main Variotronic features – including electric proportional valves. Optionally you can configure the 400 Vario with all the enhanced functions. For example, you can equip the 400 Vario with TMS and the headland management Variotronic^{TI}, the technical highlights of state-of-the-art high-horsepower tractors.

Impressive profitability

An excellent return on investment is the key benefit of Vario tractors. The initially higher purchase price is offset by higher performance and lower fuel costs during every hour of operation. A further plus in the overall profitability calculation is the good resale value of a Fendt. Benefit from the exceptional overall profitability of the 400 Vario!

Also available for the compact class with all the convenience

The Fendt Varioterminal: Information and command centre

Colour information display

Display bar for menu navigation

Pushbuttons for menu navigation

Rotary control for fine adjustments



The multiple award-winning Fendt Varioterminal offers you simple and logical controls. It makes simple operations even easier and also aids the experienced driver during complex operations. This is where you make fine adjustments to all the EPC and hydraulic control valve functions, program engine speeds and the cruise control memories and adapt the automatic maximum output control to your work. These settings can be saved permanently for four different operations or implements. Moreover, the Varioterminal contains an on-board computer that logs all important parameters, such as the distance driven or area worked, and has a standard-equipped fuel consumption indicator as well.

Ergonomics paired with well thought-out operating logic on the right-hand side console

Crossgate lever for 2 electric proportional control valves

4WD/differential lock engagement

Front axle suspension and cruise control preselection

PTO speed preselection

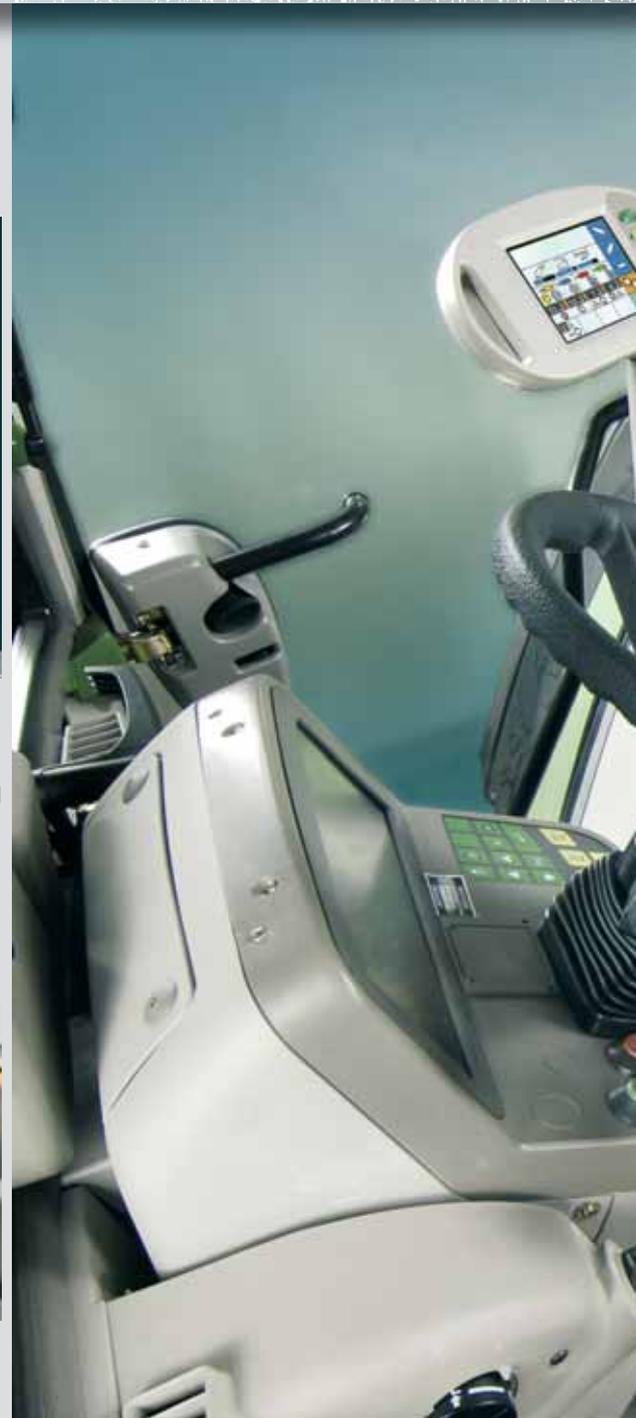


Multi-function joystick

Engine speed memory keys

EPC rear power lift controls and rear PTO engagement

Hand throttle



Ever-increasing working hours at a stretch and higher tractor utilisation require optimum working conditions to aid in protecting the driver's health and combating fatigue. The 400 Vario meets this objective perfectly. Well thought-out ergonomics and a logical, productive control philosophy simplify all the work waiting to be done.

Welcome to a first-rate workplace

In the cab on the 400 Vario, all control elements are grouped logically and arranged ergonomically so that you can concentrate better on the essentials while driving on the road or working in the field. All the control elements for the rear power lift and PTO engagement are integrated in the right-hand side console. Directly next to them are the hand throttle and the membrane keypad for the controls for the 4WD, differential locks, front



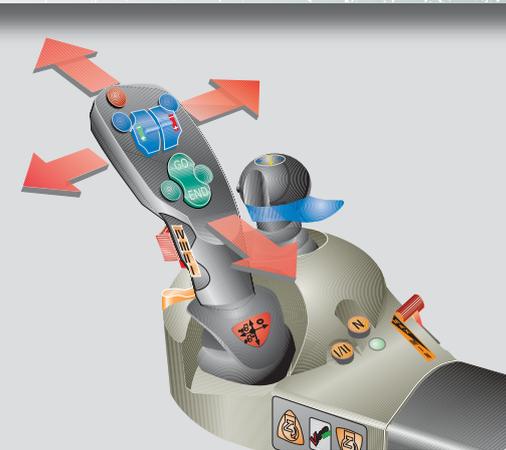
- Tidy cab design that concentrates on the essentials
- Pleasantly quiet work place; free-standing exhaust is isolated from the cab
- Perfect ergonomics and logical controls
- Height and tilt-adjustable steering wheel
- Comfort engagement controls with automatic modes for 4WD, differential locks and PTO
- Varioterminal for fine adjustments
- TMS and Variotronic^{TI} available as option
- Fold-down passenger seat

axle suspension, cruise control preselection and PTO speeds. In addition to transmission controls, the joystick, which is integrated in the right armrest, also includes the control keys for 2 hydraulic valves and the activating keys for the automatic functions. Also integrated in the armrest are the engine speed memory keys and the crossgate lever.

Optionally available with high horsepower tractor technology

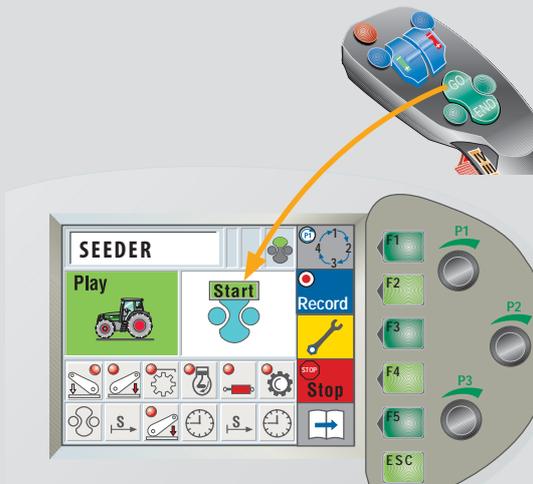
The 400 Vario is available with the optional TMS Tractor Management System and Variotronic^{TI} Headland Management System. They allow you to carry out your work easier and more comfortably. Whether you are a beginner or professional, with these systems, you automatically perform your work at maximum efficiency and have more time to monitor your implements.

Operating comfort that you will appreciate more with every working hour



The top choice for operating comfort

Push the joystick forward to accelerate the Vario. To slow down, simply pull the speed control lever back again. Driving in reverse is just as easy – only the other way around. Do you need to reverse quickly? Simply move the joystick to the left – the Vario decelerates to a standstill and drives off again in the opposite direction. Activate the cruise control with a simple movement to the right. Driving with Fendt Vario: ingeniously simple – simply ingenious



Ergonomic benefits: Located directly next to the speed control lever are the crossgate lever for operating two hydraulic valves, the engine speed memory keys, the sliding control and the key for setting and activating the TMS (optional).

Variotronic™

A touch of a button on the joystick triggers automatic procedures at the headland. They save time and prevent operating errors on long work days. Sixteen sequences with up to 13 functions each can be saved permanently for four implements.

Fendt has received many international awards for the Variotronic operating concept. Comprising a joystick, Varioterminal and control console, the Variotronic impresses through its simple, ingenious handling. For you, this means greater economic benefits and productivity in practical use.

Simple, intelligent operation

In the basic version, the 400 Vario already comes with several automatic modes that do the work for you. For example, automatic PTO engagement, which automatically engages and disengages the PTO dependent on the height of the power lift. And also 4WD and differential lock engagement, which is speed and steering angle dependent and simplifies your work every time you are at the headlands.



- Convenient operation with the Fendt multi-function joystick
- Cruise control functions
- Stepless reversing (shuttle gears) with stop-and-go function
- Convenient engagement controls with automatic modes for 4WD, differential locks and PTO
- Engine speed memory
- ISO BUS implement control (optional)
- Variotronic™ headland management system (optional)

ISO BUS implement control

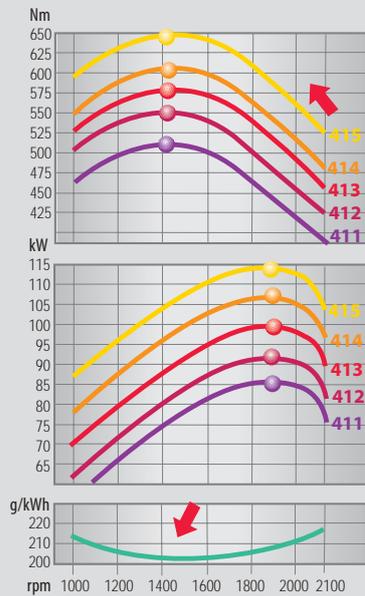
With the optional Fendt implement control, you profit from lower purchase costs and enhanced operating comfort. Without implement control, a separate control terminal is required for each implement. With implement control on the 400 Vario, you can control all ISO and LBS implements conveniently with the Varioterminal and the joystick. This enables uniform and simple operating logic with optimum operating ergonomics.

Variotronic™ headland management system

The 400 Vario is available with the optional TMS Tractor Management System and Variotronic™ Headland Management System. These allow you to carry out your work easier and more comfortably. Whether you are a beginner or professional, with these systems, you can automatically perform your work at maximum efficiency and have more time to monitor your implements.

So powerful and yet so economical thanks to the latest engine technology

A 657 Nm torque, 125 HP max. power at 1,800 rpm and a specific fuel consumption of 204 g/kWh for the 415 Vario thanks to implementation of the latest technology.



The external EGR system provides targeted cooling of recirculated exhaust, which lowers fuel consumption considerably compared to internal recirculation systems.



A fuel consumption indicator is integrated in the Varioterminale on the 400 Vario. This shows the current as well as average fuel consumption and has two sum counters. Fuel consumption per hectare can also be logged at the same time in the on-board computer.

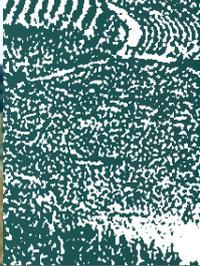


On the new generation 400 Varios, the cooling system has been adapted to the increased power. At the same time, accessibility for servicing has been improved significantly. The cooling units for hydraulic oil, transmission oil, fuel and air-conditioning can be swung up away from the radiator to give you better access.



Whether you operate your tractor on the road or in the field, for grassland operations or row crop work, in any case you are dependent on superior overall profitability. Today the main factor here is fuel consumption. The 400 Varios have quiet state-of-the-art engines with long servicing intervals. With a fuel tank capacity of 245 litres, there is no need to refuel on long working days.

Power and economy from 4-cylinders
Fendt employs a high-tech four-cylinder Deutz engine with four-valve technology for greater economy. Thanks to the four-cylinder engine, the 400 Vario has an incredibly compact construction, which gives it unprecedented manoeuvrability for this power class. The engine has a speed-independent common rail high-pressure injection system and electronic engine control.



- 4-valve engine with 4.04 l displacement: 155 HP max. power at 1900 rpm (ECE R24) and 657 Nm torque (415 Vario)
- Common rail high-pressure fuel injection system with injection pressures up to 1,600 bar
- Electronic engine control EDC 7
- External exhaust gas recirculation system for lowest fuel consumption and best environmental compatibility
- Viscous fan for optimum engine cooling
- Low specific fuel consumption of 204 g/kWh
- 245-litre tank capacity for long work days
- Servicing interval every 500 operating hours
- One hundred percent RME operation possible thanks to two oil lubricated high-pressure injection pumps

AGReX – economical and environmentally-friendly

The high-tech injection system and the first-rate external exhaust gas recirculation system complement each other. Cooling and metering of recirculated exhaust optimises the combustion process substantially and fuel consumption is reduced significantly compared to simple internal exhaust gas recirculation systems.

Fully approved for RME fuel

The 400 Vario is also approved for RME fuel without restrictions, as are all Fendt tractors starting with the 1995 models. The use of rape methyl ester according to DIN EN 14214 is fully approved by Fendt as standard specification. You profit from the cost benefits – the tractor does not need to be converted, nor is costly additional insurance required.

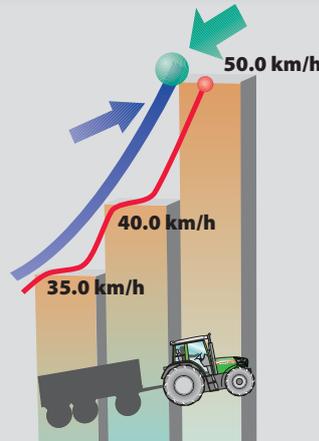


Experience the Vario advantages – on the road, in the field and at the filling station

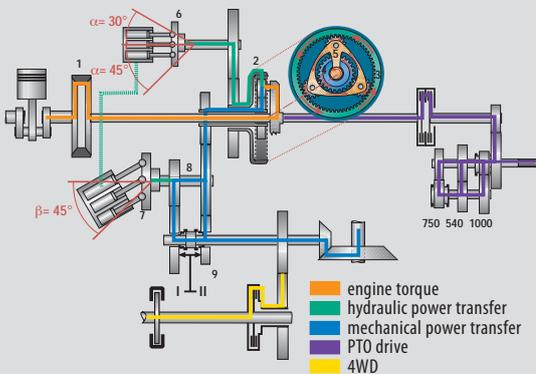
Operation	Operating time	Fuel consumption
Mowing	-10%	-10%
Chopping silage maize	-10%	-10%
Harvesting potatoes	-5%	-10%
Harrowing/drilling	-5%	-10%
Weeding	-5%	-10%
Ripping	-3%	-3%
Ploughing	-3%	-3%

The savings potential for various working procedures is clearly noticeable. You save valuable working time through higher area coverage and also profit from low fuel consumption.

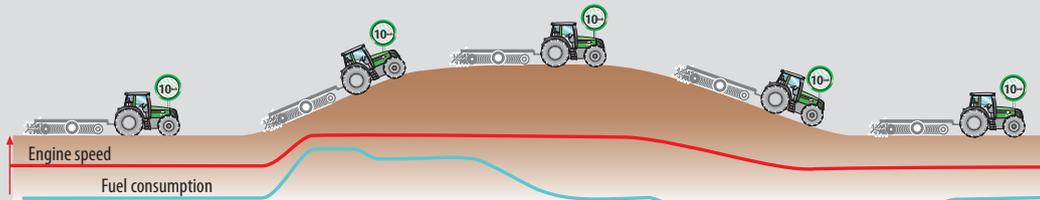
Source: Nürtingen University



Fendt Vario – better than any power shift transmission. It allows you to utilise power reserves that are not even available to modern power shift transmissions.



1. Torsional vibration damper
2. Planetary gear set
3. Ring gear
4. Sun wheel
5. Planet carrier
6. Hydro pump
7. Hydro motor
8. Collecting shaft



Automatically drive economically with the optional TMS Tractor Management System

When TMS (Tractor Management System) is activated, the tractor electronics control the engine and transmission. This significantly increases operating comfort for the driver. The driver only needs to set the desired speed, TMS controls the rest. In the above graphic, one can see that the tractor drives at a reduced engine speed on level ground.

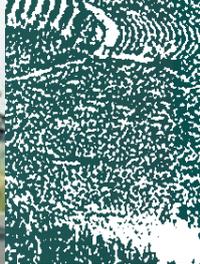
On the slope, the load increases, so TMS increases the engine speed. As soon as the load decreases (on level ground or downhill), the quantity of fuel injected is reduced. This maintains an economical driving style, since TMS drives the tractor at the lowest engine speed possible.

The productivity of a tractor, and therefore also the return on investment, is determined in great part by fuel consumption. This requires an economical engine. To keep it working at its economical optimum, while achieving the greatest area coverage possible, is the transmission's job. No problem for the Vario drive from Fendt.

Uncompromising in all applications

This kind of flexibility is only possible with Fendt Vario transmissions. From 30 metres per hour to 50 km/h, every speed is possible over the whole range, without steps. The 400 Vario is therefore predestined for operations in mixed farms. The stepless drive on the manoeuvrable 400 Vario and its powerful PTO drive are very useful, especially for grassland work and row crop operations.





- Maximum working capacity with optimum fuel consumption
- Up to 10 percent more area coverage thanks to optimally adapted travel speed
- 50 km/h top speed at a fuel-saving 1700 rpm
- Up to 10 percent in fuel savings
- Super crawler gears included (from 30 m/h)
- Joystick operation instead of multiple levers
- Turboclutch feature for greater driving comfort
- Stepless reversing of travel direction (shuttle gears) without wear
- Stop-and-go function
- Optionally available with the Tractor Management System TMS for even greater ease of operation

Fendt Vario: better than power shift

With stepless variable speed, you can utilise power reserves that are not even available to modern power shift transmissions. With conventional transmissions you are always one gear too high or too low, because of the steps. Vario allows you to mobilise the power reserves that are hidden in between the steps. That means power flow without interruptions.

Special equipment included

In addition to economic benefits, the stepless drive also offers you a one-of-a-kind benefit in operating comfort. A crawler gearbox is no longer necessary, since it is integrated in the Vario drive. To increase driving comfort, the 400 Vario has a turboclutch feature, which prevents engine stalling.

Overview of technology

The second generation Fendt 400 Varios are a new development of the perfect all-round tractor for mixed and grassland farms. With five models in the power output range from 115 hp to 155 hp maximum power, the 400 Vario impresses through exceptional manoeuvrability for a broad range of applications.

1. Front drive axle with 52° steering lock
2. Hydropneumatic front axle suspension with level control (lockable)
3. Front power lift (optional)
4. Front PTO (optional)
5. Planetary final drives
6. 4.04-litre Deutz engine with 4-valve technology
7. Intercooler
8. AGReX external exhaust gas recirculation
9. Stepless Vario transmission
10. Planetary gear set
11. Hydro motor
12. Hydro pump
13. Enclosed 4-WD clutch
14. Nitrogen pressure accumulator (suspension)
15. 245-l fuel tank
16. Planetary axle
17. Multi-disc brake for rear wheels
18. Removable toolbox
19. Tilttable comfort cab
20. Front cab bearing is silent bearing
21. Mechanical cab suspension (optional pneumatic cab suspension)
22. Air-sprung Fendt comfort seat
23. Multi-function joystick for controlling the stepless Vario transmission
24. Varioterminal
25. Auxiliary work lights

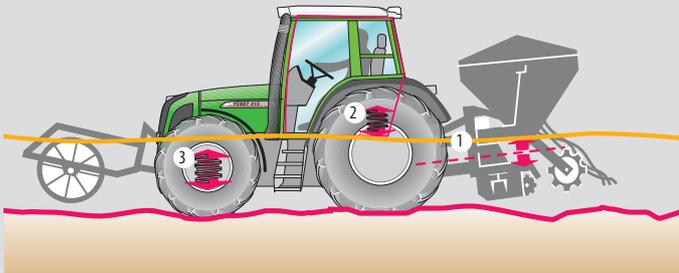




Fast haulage at 50 km/h with maximum comfort and full safety

A combination of suspension systems

The combination of shock load stabilising (1), mechanical cab suspension (2) and front axle suspension with level control (3) provides ride comfort on par with commercial vehicles. It also increases safety substantially, since the vehicle is not in danger of developing bounce when driving with mounted implements. The load on the front axle remains constant and steerability is maintained.

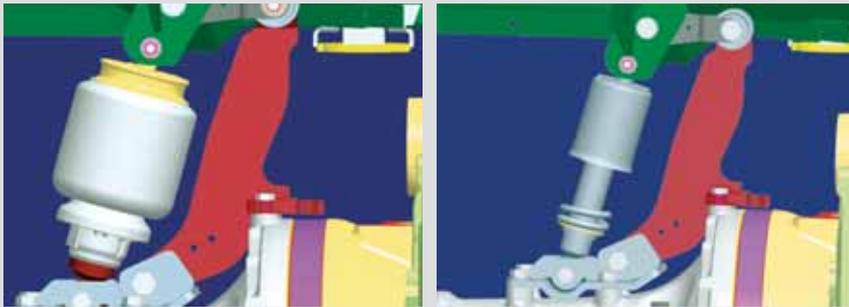


Optional pneumatic cab suspension

The pneumatic cab suspension has air spring dampers on the rear bearing. These feature automatic levelling, which adjusts the suspension to varying loads.

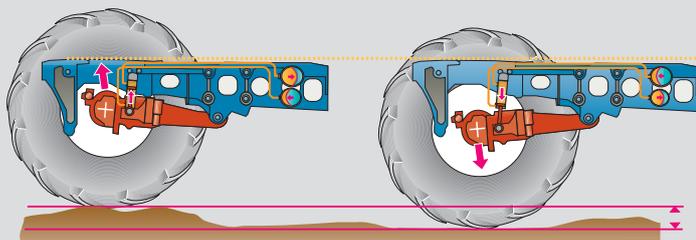
The mechanical cab suspension

The hydraulic suspension at the front, along with sprung struts at the rear, controls the movement of the cab in fore-to-aft direction. The integral lateral stabiliser and the absence of unwanted bounce greatly enhance ride comfort in the cab.



Front axle suspension

The swing axle, centrally located in the swing arm, detects uneven surfaces and transmits these findings to the swing arm. The plungers on the two cylinders displace oil, activating three nitrogen reservoirs which absorb all shocks.



Even for compact standard tractors, the transportation of goods for purchase and sales jobs is gaining importance and today already amounts to over 40 percent of operating hours. The 400 Vario allows you to perform haulage work at 50 km/h at a fuel-saving 1700 rpm while providing maximum ride comfort and driving safety. Three systems work together to provide this comfort.

Highest level of comfort

The combination of front axle suspension with level control, shock load stabilising and mechanical or optional pneumatic cab suspension provides you with exceptional ride comfort, even with heavy mounted implements. At the same time, these systems also increase your safety. Smoother driving behaviour guarantees safer braking and steering of the vehicle at all times.





- 50 km/h haulage speed at reduced engine speed (1700 rpm)
- EPC with shock load stabilising
- Superior driving safety and ride comfort
- Mechanical cab suspension for perfect ride comfort (standard), optional pneumatic cab suspension
- Front axle suspension with level control and locking function that permits front-mounted implements to be guided precisely
- Top-efficiency lifetime braking system: Wet, integral multi-disc brakes
- Robust cast half-frame design

Driving safety in all situations

A practically maintenance-free four-wheel braking system comprising two integrated multi-disc brakes for the rear wheels and 4WD engagement for the front wheels, ensures safe braking. The front axle with level control, a benefit in terms of ride comfort, also contributes to driving safety. The suspension can be locked with the push of a button, so that front-mounted implements can be guided precisely.

Cab suspension for maximum comfort

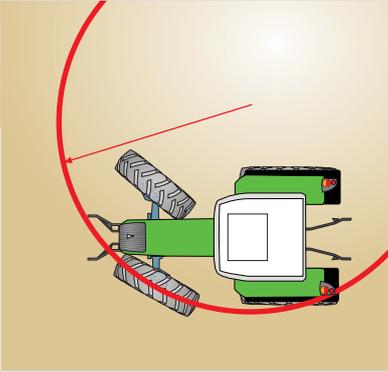
The 400 Vario cab is equipped with mechanical cab suspension as standard. Conical bearings in the front and sprung struts with an integral lateral stabiliser at the rear, absorb annoying shock loads and movements of the cab. The optional pneumatic cab suspension provides an even greater suspension effect. It moves working comfort up another notch, so that the driver remains fit on long work days and the driver's health is protected in the long run.

Tyre options for all requirements – with full manoeuvrability

Superior manoeuvrability thanks to a short wheelbase

A short wheelbase of 2417 mm and a turning circle of 4.95 or resp. 4.75, make the 400 Vario a compact, manoeuvrable powerhouse.

For even greater manoeuvrability, the 400 Vario can be fitted with optional swivelling mudguards for the front wheels (standard on 415), which allow the wheels to be turned to the fullest.



The 400 Vario accepts row crop tyres 270/95 R32 front and 270/95 R48 rear, giving you a ground clearance of 500 mm (for 414 - 415 also 530 mm with 270/95 R36¹⁾ front and 320/90 R50¹⁾ rear). This permits you to carry out plant protection measures and fertilising in late growth stages.



Minimum soil compaction is essential for successful field and grassland operations. The tyre options for the 400 Vario go up to 480/60 R28 front and 650/60 R38 rear (for 414 - 415 Vario also 540/65 R26 front and 650/65 R38 rear). That guarantees the least amount of pressure on the ground.



Intelligent 4WD and differential lock technology

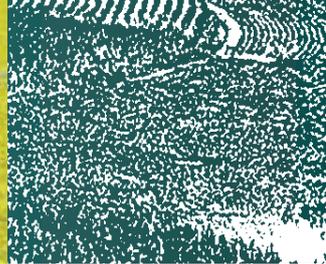
Depending on the setting, 4WD and differential locks can be automatically engaged and disengaged, dependent on steering angle and travel speed. If you choose 100% 4WD or 100% differential locking, these are engaged permanently. Both of these functions can be engaged and disengaged under load in automatic as well as 100 percent modes.

No matter if you operate your tractor for cultivation or grassland operations – in either case soil compaction is a major disadvantage. With the appropriate tyres, you can prevent soil compaction. With the 400 Vario, you profit from an advantageous vehicle weight and a broad selection of tyre options. If required for the application, variable ballasting options are also available.

Universal applicability

The 400 Vario has a power-to-weight ratio of 35 kg/hp (415 Vario), which gives it exceptionally lively handling. With a permissible gross weight of 9000 kg or resp. 9500 kg (414 - 415 Vario), you have adequate payload reserves for your implements. A clever ballasting concept using rim weights on the rear axle and front-mounted weights, is available for draft work or for front loader operations.





- Compact dimensions for maximum manoeuvrability and best overview

- Wheelbase: 2.42 metres

- Turning circle:
4.95 meters (414 Vario and 415 Vario 4.75 meters)

- Large row crop tyres can be used:
320/90 R50 rear¹⁾
270/95 R36 front¹⁾
(414 Vario and 415 Vario)

- Optimally suited for row crop and specialty crop work thanks to stepless drive which starts at 30 m/h

- Electrohydraulic engagement for 4WD and differential lock, can be actuated under load

- 100% locking differential on rear axle

- Locomatic front differential lock

Short, compact and manoeuvrable

Based on four-cylinder engines, the 400 Vario has a compact design that offers you maximum manoeuvrability and best visibility. This manoeuvrability is not only a benefit in tight farmyards – it also helps in grassland operations, since it saves precious time at the headlands.

Tyres for every application

The new 400 Vario has many tyre options. For row crop work, a combination of 270/95 R36¹⁾ front and 320/90 R50¹⁾ rear is possible. That amounts to a wheel diameter of 1847 mm on the rear axle. For the best protection against soil compaction, a combination of 480/60 R28 front and 650/60 R38 rear is possible. Together with the low unladen weight of a 4-cylinder tractor, these are optimum conditions for minimum soil compaction.

¹⁾ Third-party accessory, only 414 - 415

Powerful drives at the front and rear



Standard with three-speed PTO

The 400 Vario is fitted with a three-speed PTO as standard. Depending on the implement, you can switch between 540 rpm, 540E (750 rpm) and 1000 rpm with the buttons in the cab. A flange PTO with 540 rpm and 1000 rpm is available as an option for the 400 Vario instead of the three-speed PTO.



Optional front PTO with excellent efficiency

Optionally with 540 rpm or 1000 rpm. In either case, you benefit from excellent efficiency, since the front PTO is driven directly from the engine's crankshaft.



Save yourself unnecessary steps

The 400 Vario has external controls for the power lift and rear PTO. Mount rear implements easily and save yourself unnecessary steps, for example, when filling the slurry tank.



Never endanger the drive shaft again

Concentrate on the essentials at the headlands. The PTO automatic mode engages and disengages the PTO as soon as the implement has been lowered or raised.



You will appreciate the operating comfort of the 400 Vario, in particular for tillage applications, where you often must operate the PTO controls in addition to the power lift controls. It offers you extensive, high-quality PTO management with start-up control.

Three-speed PTO is standard

The PTO engagement control has 3-speed preselection. It is conveniently operated with keys on the control console. The 400 Vario comes with the PTO speeds 540 rpm, 750 rpm und 1000 rpm at the rear as standard. For less power-hungry operations, the 750-rpm economy PTO "540E" allows smooth working at a reduced engine speed and also saves fuel. The optional front PTO is driven directly from the engine's crankshaft with no loss of power.



- **Three-speed PTO with comfort controls (540/540E/1000 rpm)**
- **Optional with flange PTO at rear (540/1000 rpm)**
- **PTO actuation with start-up control**
- **PTO automatic mode (automatic engagement dependent on height of the power lift)**
- **External PTO actuation at the rear**
- **External PTO-engine speed control (in combination with TMS)**

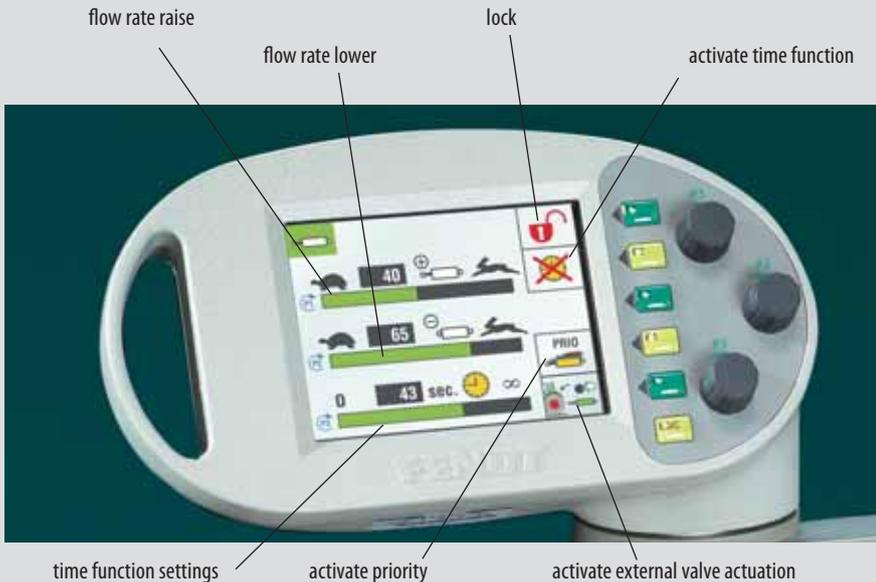
You have the choice of 540 rpm or 1000 rpm. The automatic PTO start-up sensitively controls start-up, according to the power requirements of the implement. This increases the service life of all the PTO components and reduces machine costs.

Automatic modes

The well-known and greatly-appreciated PTO automatic mode is also available as standard on the 400 Vario. It automatically engages and disengages the PTO, depending on the height of the power lift. The 400 Vario offers you operating comfort inside and outside of the cab. The electrohydraulic PTO engagement can be operated externally from the tail lamp bracket.

Powerful hydraulics for modern implements

Electrical valves: first-rate working and operating comfort



The joystick and the crossgate lever control the electric proportional valves. These are all double-acting control units, which can also be used in a single-acting capacity, and feature a floating position. The controls for the first two valves are located on the convenient crossgate lever. Setting the valve functions with the Varioterminal is simple. Using the rotary control and function keys, you can easily and precisely control the flow rates and actuation times of all electric proportional valves, set valve priority or activate external actuation for a valve.



Optional: first-rate front power lift

The optional front power lift on the 400 Vario is an integral part of the tractor design and has been well-thought out in every last detail. For example, the top link can remain on the tractor as it is, even when it is not required.



Optional: external controls for one hydraulic control unit

An external control for one hydraulic control valve is available for the 400 Vario as an option. This facilitates mounting implements using a hydraulic top link, for example.

Modern implements demand ever greater flexibility and performance from the tractor hydraulics. Fast lifting and high oil delivery rates are required for economical operation. The 400 Vario models, with their load sensing hydraulics and electrical hydraulic valves, are well-equipped for convenient operation.

Powerful hydraulics

The 400 Vario is equipped with a load sensing hydraulic system. That means : modern axial piston pumps deliver the exact quantity of hydraulic oil required – up to 75 (110 optional) litres per minute. A maximum of 38 litres of hydraulic oil is available to mounted or trailed implements. The hydraulics and transmission have separate oil supplies, which permit unrestricted use of bio-oils for the hydraulics.





- Load sensing hydraulics
- Hydraulic delivery capacity: 75 l/min (optional 110 l/min)
- Hydraulic oil cooler
- Maximum lift capacities:
Rear: 65.2 kN (74.5 kN for 414 und 415 Vario)
Front: 31.0 kN (optional)
- EPC rear power lift control with
 - shock load stabilising
 - quick lift
 - lift height limiter
 - lowering throttle
 - position, draft and mixed control
 - external actuation
- Integral front power lift (optional), with gas shock absorbers
- Electric hydraulic valves (optional with external actuation)
- Crossgate lever
- Max. available hydraulic oil: 38 l
- Separate oil supplies for transmission and hydraulics
- Bio-oils can be used for hydraulics

EPC rear power lift with reserves

The electrohydraulic rear power lift, which has a maximum lift capacity of 65.2 kN, guarantees that even heavy rear-mounted implements for this power class can be lifted to the fullest lift height without trouble. The standard-equipped shock load stabilising counteracts vehicle bounce by actively raising and lowering the power lift.

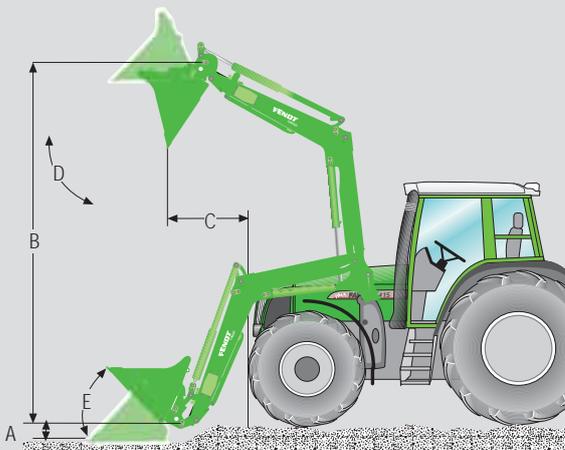
Integral front power lift with damping

The optionally available front power lift for the 400 Vario has a maximum lift capacity of 31.0 kN. It can safely lift front-mounted implements weighing up to 2.1 tonnes. The integral gas shock absorbers ensure that driving safety and ride comfort are maintained at these high loads.

Turn your Vario into a stepless loader with the new Fendt CARGO

With the new Fendt CARGO Lock, you can mount and remove the CARGO front loader from your 400 Vario even faster and easier. Thanks to the semi-automatic lock, you no longer need to deal with inserting locking bolts, which is often difficult. The system also offers optimum operational safety, since the front loader is locked in place immediately after driving into it. Fendt CARGO Lock is self-adjusting and is therefore particularly service-friendly.

The standard-equipped crossgate lever is a plus in operating comfort. Two control valves on the front loader can be operated precisely with just one lever. The optional CARGO comfort controls not only provide controls for a 3rd and 4th hydraulic circuit, but also convenient activation of the hydraulic attachment lock and the front loader damping system using the crossgate lever.



Model	4X/75	4X/80
A Digging depth (mm)	180	180
B Lifting height (mm)	4125	4125
C Dumping distance (mm) B = 3.5 m	1750	1750
C Dumping distance (mm) B = max.	1210	1210
D Angle of emptying	55°	55°
E Angle of backwards tilt	48°	48°
Lift capacity (kN)	19.4	22.6
Max. lift capacity (kN)	22.5	26.2

A 400 Vario equipped with an original CARGO front loader from Fendt permits extremely comfortable front loader operations.

¹⁾ Depends on tyres

As for tractors, the demands on the performance of modern front loaders continue to increase. The answer here is Fendt CARGO. The tailor-made front loader, sporting a new design, was developed specifically for Vario tractors. During development, attention was not only placed on technical specifications. Comfort, safety and service-friendliness also meet the high Fendt standards.

The tailor-made accessory for your 400 Vario
If you upgrade your 400 Vario with FENDT CARGO, you will profit from a perfect combination of all components. During development, all the dimensions and forces of the CARGO were explicitly designed for the Vario. This gives you the operational safety that comes from testing the front loader and tractor as one complete unit. The results are best visibility with balanced force and load distribution for practical operations.



- **Continuous lift capacity:**
19.4 kN (4X/75: 412 - 413)
22.6 kN (4X/80: 414 - 415)
- **Lifting height: 4,125 mm**
- **All pipes run in the frame**
- **Valves and damping are protected in cross bar**
- **Simple retrofit options for the loader**
- **Euro quick-change frame (optional SMS frame)**
- **Comprehensive safety concept**
- **Multi-coupler for mounting front loader (standard)**
- **3rd and 4th hydraulic circuit (optional)**
- **Multi-coupler for 3rd and 4th hydraulic circuit on Euro quick-change frame (optional)**
- **Damping system (optional)**
- **Hydraulic attachment lock (optional)**
- **Wide range of original Fendt attachments (optional)**

Comfort with a capital C

The operating concept was designed for optimum driving comfort. The standard crossgate lever provides precise control of the CARGO. The optional third or fourth hydraulic circuits, are activated via pushbuttons on the crossgate lever and then easily operated with the crossgate lever. The optional damping system can be activated conveniently from the driver seat by simply operating a switch; the optional attachment lock is also controlled in

the same way.

Through a specially designed connection between the front loader and the tractor, all maintenance work can be performed on the 400 Vario tractors while the front loader is attached. Further visible evidence of the perfect symbiosis of tractor and loader is the front window of the 400 Vario, which can be swung out completely at any time during front loader work.

Often small things are what make everyday life with a Fendt so pleasant

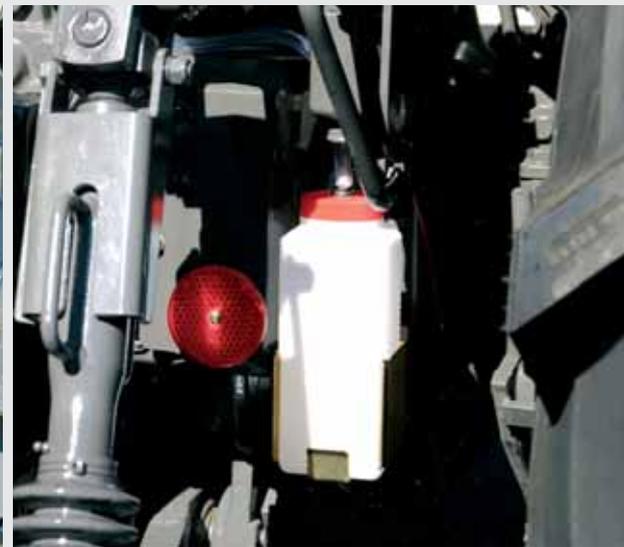
The 400 Vario is equipped with rear work lights as standard. The Twin Power work lights are mounted on the left and right of the cab roof. Their high position gives you exceptional lighting for your rear-mounted implements.



With two simple hand movements, you can set the lower links on the 400 Vario to rigid or swinging position, depending on implement requirements. A robust, sturdy mechanical lateral lock is locked and unlocked with levers on the right and left sides. In the unlocked position, the lift arms are automatically centred in the middle position. By moving just one pin, you can change the width of the lower links between Cat. II and III.



The standard automatic hitch with remote control from Fendt can be adjusted in height quickly and easily. The locking pin is opened with a lever. The hitch can then be lowered or raised on the guide rails – with only one hand.



It is impossible to prevent oil from leaking when coupling hydraulic connections. On the 400 Vario, though, oil leaks run into the casing, which also serves to protect hydraulic couplings from dirt, and are then led through a hose into an easily accessible container.

You have surely experienced this in your day to day work. Whether you have to change implements when you are pressed for time, or have to work many hours in your Vario without breaks during peak work time, often the small detail solutions are what make life easier. Fendt offers you a number of such details.

Benefit from the sum of the small details that a Fendt tractor offers to help you perform your work easier and more comfortably. When designing and developing a vehicle, Fendt engineers always search for solutions that bring you forward. From experts for experts.



The 400 Vario was designed to offer you a large selection of tyres. Wide tyres for soil protection are possible, as are row crop tyres with large outer wheel diameters.

Whether you have control cables for a control terminal or hydraulic lines for hydraulic valves on the implement, the cable lead-through in the Fendt cab is designed to enclose the cable while the window is closed, so that dirt and cold cannot enter the cab. Of course, the cables can be fitted easily without tools.

The 400 Vario is equipped with a removable toolbox as standard. Fast and simple to access on the left side of the tractor, so that you can, for example change the shear bolts, without walking all the way around the tractor. A toolbox with a lock is mounted on the tank and can easily be removed completely.



Fendt tractors have signal lights with auto shut-off. Just like in your car, the turn signal indicator automatically shuts off when the steering wheel is turned back.

The 400 Vario was designed to give you access to all areas necessary for daily maintenance – even when the front loader is mounted.

The steering wheel is height and tilt-adjustable to adapt to the individual requirements of every driver.

Innovative technology, intelligent services – all from one source

Consultation: the way to a tailor-made Fendt

Fendt sales agents are experienced specialists who can provide you with extensive advice and information on technology, equipment and the overall profitability of a Fendt tractor.

More freedom for investments – financing through AGCO FINANCE

Financing through AGCO FINANCE guarantees attractive conditions and flexible repayment periods, customised to meet your needs.



A trial run in the field – experience the difference

You cannot pass judgement on a Fendt tractor without the experience of driving one in the field. Fendt tractors enjoy a first-class reputation for superb driving and working comfort. Not until you have driven a Fendt, do you realise how big the difference really is when compared with other tractors.

Renting gives you freedom

Do you need a vehicle to fill a short-term capacity requirement, or do you want use one over a longer period of time without purchasing? Are you looking for a tax advantage or do you require solvency for other investments? Fendt StarService offers you solutions.

It is clear that you get cutting-edge technology with a Fendt tractor. But that is not enough for a successful business nowadays. That is why Fendt sales partners also offer a wide range of services. All from one source.

Competent customer consultations and demonstrations

Fendt dealers and distributors receive regular training and are specialists for Fendt products. They have in-depth knowledge of the entire product line and will offer you competent consultation. Ask your local Fendt sales partner. Or contact us at www.fendt.com for an individual Fendt demonstration.



Know-how through practical training

Profit by technically and economically optimising operations with your Fendt tractor, whether in the field, on the road or in the books. Professional instructors show you how to utilise top class technology efficiently and safely, in theory and practice.

Fast diagnostics thanks to FENDIAS

The StarService technician uses FENDIAS to gain access to the digital data inside your Fendt. Furthermore, if required, data is gathered and analysed while the machine is running – for example, data from the hydraulics or the transmission. All for the sake of fast error diagnostics and operational availability.

FENDT StarService Emergency Hotline

Available 7 days a week!¹⁾ FENDT StarService partners are mobile and have only one objective: to keep your Fendt operationally available. Should something actually happen, the Emergency Hotline is available for fast and competent help – even on-location at your farm or business!
¹⁾during the harvesting season from May to October



Genuine Fendt parts – from AGCO Parts – so that your Fendt remains 100% Fendt: Original Fendt parts are tailored to your Fendt. They carry the assurance of series quality and are tested for functional reliability. That pays off in many ways: - 12 month warranty on original Fendt parts and their installation - the highest level of operational reliability - top resale value

Mobile expert service
 Every StarService partner has a modern service vehicle. Tried and test, optimised tools, as well as service documentation and FENDIAS, the computer-supported analysis and diagnostics system, are always on board. This allows the mobile StarService technician to localise and rectify errors quickly.

Fendt24 – because your time is invaluable!
 Your StarService partner has the most commonly required parts in stock. If a part is not in stock, we deliver those that are ordered by 6 pm by 8 am the next morning. During the harvesting season¹⁾ your StarService partner has access to Fendt24. Here orders are taken around the clock and are ready for delivery within two hours.

Profitability under contract

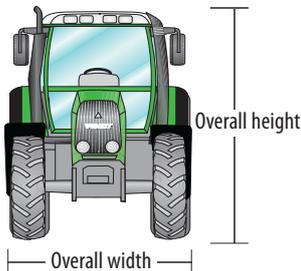
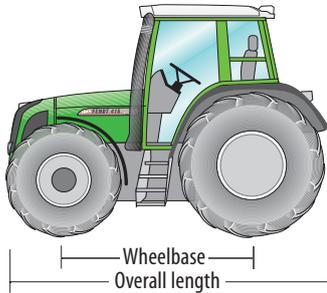
With a Fendt Service Package, you have servicing and repair costs under control. Would you like to have the prescribed servicing work done on the basis of reasonable fixed costs? Or do you want full control of costs per operating hour without unpleasant surprises? Choose between the Service, ProService and FullService packages.

Tractors for rent

Rent a tractor including the Service Package at a fixed cost through your Fendt StarService partner. This frees up your funds and you can easily calculate the costs per hour. We can take over all servicing work, complete insurance coverage and repairs*, if you like.

* Repairs according to Fendt warranty policy; natural wear (e.g. tyres) and malicious damage are excluded.

Technical specifications



	411 Vario	412 Vario	413 Vario	414 Vario	415 Vario
Engine					
Rated power (kW/hp) (ECE R24)	74 / 100	81 / 110	88 / 120	96 / 130	103 / 140
Max. power (kW/hp) (ECE R24)	85 / 115	92 / 125	99 / 135	107 / 145	114 / 155
Rated power (kW/hp) (EC 97/68) ¹⁾	84 / 114	91 / 124	98 / 134	106 / 144	113 / 154
Max. power (kW/hp) (EC 97/68)	88 / 120	96 / 130	103 / 140	110 / 150	118 / 160
No. of cylinders / cooling / aspiration	4 cylinders, four-valve technology / water / turbocharger, intercooler				
Injection / engine control / exhaust recirculation	common rail / EDC / AGReX				
Bore / stroke (mm) / displacement (cm ³)	101/126/4038				
Rated engine speed (rpm)	2100	2100	2100	2100	2100
Speed at max. power (rpm)	1900	1900	1900	1900	1900
Max. torque (Nm/rpm)	505/1400	550/1400	589/1400	613/1400	657/1400
Torque rise (%)	42	42	41	35	35
Optim. fuel consumption (g/kWh)	205	205	204	203	204
Fuel tank (l)	245	245	245	245	245
Oil change interval (op. hrs.) ³⁾	500	500	500	500	500
Transmission and PTO					
Type of gearbox	steppless Vario transmission				
Speed range: Range I (forward / reverse) Range II (forward / reverse)	0.02 to 24 km/h / 0.02 to 17 km/h 0.02 to 50 km/h / 0.02 to 40 km/h				
Max. speed (km/h)	50	50	50	50	50
Rear PTO (rpm) standard:	540 / 540E / 1000				
Front PTO ¹⁾	540 or 1000				
Hydraulics					
Type	load sensing				
Hydraulic pump capacity (l/min)	75 (110 ¹⁾)	75 (110 ¹⁾)	75 (110 ¹⁾)	75 (110 ¹⁾)	75 (110 ¹⁾)
Working pressure (bar)	200	200	200	200	200
Rear power lift control	EPC, lower link control, shock load stabilising				
Auxiliary valves max. (standard) incl. front controls	4 da ⁴⁾ (2 da ⁴⁾) electr. valves / crossgate lever				
Max. lift capacity, rear power lift on the drawbar (kN/kp)	65.2 / 6646	65.2 / 6646	65.2 / 6646	74.5 / 7594	74.5 / 7594
Max. lift capacity, front power lift (kN/kp)	31.0 / 3160	31.0 / 3160	31.0 / 3160	31.0 / 3160	31.0 / 3160
Max. available hydraulic oil (l)	38	38	38	38	38
Brakes					
Rear brakes:	wet, integrated multi-disc brake				
Front brakes:	4WD engagement				
Weights and dimensions					
Unladen weight acc. to DIN 70020 (kg)	5400	5400	5420	5450	5450
Perm. gross weight (kg)	9000 (7500 ¹⁾)	9000 (7500 ¹⁾)	9000 (7500 ¹⁾)	9500 (7500 ¹⁾)	9500 (7500 ¹⁾)
Max. payload (kg)	3600 (2100 ²⁾)	3600 (2100 ²⁾)	3580 (2080 ²⁾)	4050 (2050 ²⁾)	4050 (2050 ²⁾)
Max. hitch load (kg)	2000	2000	2000	2000	2000
Overall length (mm)	4252	4252	4242	4281	4281
Overall width (mm)	2340	2340	2380	2440	2490
Overall height (mm)	2900	2900	2923	2923	2953
Ground clearance ³⁾ (mm)	462	462	482	482	512
Wheelbase (mm)	2417	2417	2417	2417	2417
Front track ³⁾ (mm)	1820	1820	1820	1880	1880
Rear track ³⁾ (mm)	1800	1800	1800	1860	1860
Min. turning circle (m) ⁷⁾	4.95	4.95	4.95	4.75	4.75
Electrical equipment					
Starter (kW)	3.1				
Battery	12V / 90Ah				
Alternator	2100 W / 14V / 150 A				
Cab					
Construction	integral, tiltable safety cell hinged, tinted front, side and rear windows, roof hatch, ventilation system with blower in roof,				
Climate control	hot water heating with 3-speed blower, air-conditioning ¹⁾				

¹⁾ = optional ²⁾ = with perm. gross weight of 7500 kg, ³⁾ = depending on tyres, ⁴⁾ = can also be operated as single-acting, ⁵⁾ = is halved when using RME, ⁶⁾ = definitive specifications for registration ⁷⁾ = without steering brake

	411 Vario		412 Vario		413 Vario		414 Vario		415 Vario	
	front	rear								
Standard tyres	480/65 R24	540/65 R38	480/65 R24	540/65 R38	540/65 R24	600/65 R38	540/65 R24	600/65 R38	540/65 R26	650/65 R38
Optional	270/95 R32	270/95 R48	270/95 R32	270/95 R48	270/95 R32	270/95 R48	320/85 R32	300/95 R46	320/85 R32	300/95 R46
	540/65 R24	600/65 R38	540/65 R24	600/65 R38	480/70 R24	520/70 R38	480/70 R24	520/70 R38	480/70 R24	520/70 R38
	480/60 R28	650/60 R38								

Your Fendt dealer will be pleased to inform you about further tyre options.

Standard and optional equipment



	411	412	413	414	415
Vario controls					
Joystick control (multi-function joystick)	■	■	■	■	■
Varioterminal for fine settings	■	■	■	■	■
Camera for the Varioterminal	□	□	□	□	□
Variotronic Implement control for ISO and LBS implements	□	□	□	□	□
Variotronic ^{TI} - Headland Management System	□	□	□	□	□
Vario ^{TMS} - Engine-Transmission Management System	□	□	□	□	□
Cab					
Mechanical cab suspension	■	■	■	■	■
Pneumatic cab suspension	□	□	□	□	□
Height and tilt-adjustable steering column	■	■	■	■	■
Fendt Comfort Seat, air sprung	■	■	■	■	■
Fendt Super Comfort Seat, air sprung, low frequency suspension	□	□	□	□	□
Radio mounting kit with two stereo speakers	■	■	■	■	■
Radio CD Blaupunkt or CD MP3 Blaupunkt	□	□	□	□	□
Ventilation with steplessly adj. fan in roof	■	■	■	■	■
Air-conditioning system	□	□	□	□	□
Emissions filter (aerosol)	□	□	□	□	□
Rear window wash/wipe	□	□	□	□	□
Twin Power roof work lights rear, front	■	■	■	■	■
Work lights A-pillar, rear mudguard	□	□	□	□	□
Work light Xenon A-pillar, mudguard rear	□	□	□	□	□
Terminal bracket	□	□	□	□	□
Engine					
Air filter precleaner	□	□	□	□	□
Preheater package (engine, transmission, hydraulic oil)	□	□	□	□	□
Exhaust brake	□	□	□	□	□
Transmission					
Turboclutch, automatic maximum output control, cruise control	■	■	■	■	■
Shuttle function, stop and go function	■	■	■	■	■
Acoustic signal when reversing	□	□	□	□	□
Chassis / safety features					
EPC-C with shock load stabilising	■	■	■	■	■
Front axle suspension with level control	■	■	■	■	■
Compressed air system	□	□	□	□	□
4WD / differential locks					
Central 4WD, maintenance-free	■	■	■	■	■
Comfort engagement controls for 4WD / differential locks	■	■	■	■	■
Rear / front differential with 100% disc locking	■	■	■	■	■
Power shift PTO					
Rear: 540/540E/1000 rpm	■	■	■	■	■
Rear: Flange PTO 540/1000 rpm	□	□	□	□	□
Front: 540 rpm or 1000 rpm	■	■	■	■	■
PTO engagement control, electrohydr. preselection	■	■	■	■	■
External controls for rear PTO	■	■	■	■	■
Hydraulics					
Axial piston pump, hydraulic oil cooler	■	■	■	■	■
Electrohydraulic power lift (EPC-C), with external controls	■	■	■	■	■
Upper link QC hydraulic	□	□	□	□	□
Radar-activated wheel slip control	□	□	□	□	□
External hydraulic connection (load sensing)	□	□	□	□	□
External control for hydraulic control unit at rear	□	□	□	□	□
Double connect-under-pressure couplings rear	□	□	□	□	□
Front power lift da with external controls	□	□	□	□	□
Front power lift da with position control and external controls	□	□	□	□	□
Front loader, front loader attachments	□	□	□	□	□
Body					
Rear hitch	■	■	■	■	■
Automatic hitch with remote control, rear	□	□	□	□	□
Ball coupling	□	□	□	□	□
Pickup hitch	□	□	□	□	□
Swinging drawbar	□	□	□	□	□
Piton-fix	□	□	□	□	□
Rotating beacon	□	□	□	□	□
Wide vehicle marker	□	□	□	□	□
Hinged front wheel mudguard	□	□	□	□	■
Twin tyres rear	□	□	□	□	□
Wheel weights, rear wheels	□	□	□	□	□
Front weights, various sizes	□	□	□	□	□

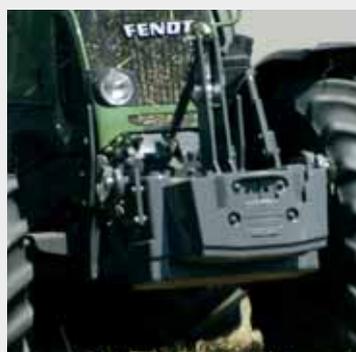
■ = standard □ = optional - = not available

CD or CD MP3 Blaupunkt radio



Double-sided connect-under-pressure couplings; external hydraulic connection (load sensing)

Variotronic Implement Control for ISO and LBS implements



Wide selection of weights for optimum ballasting

Additional Xenon work lights; rotating beacon



External control for hydraulic control unit at rear

Integral front power lift and front PTO implements



Original Fendt CARGO front loader

The Fendt on-line configurator: Put together your own custom Fendt according to your wishes. Visit www.fendt.com.

Leaders drive Fendt



Sales agent:

All data regarding delivery, appearance, performance, dimensions and weight, fuel consumption and running costs of the vehicles correspond with the latest information available at the time of going to press. Changes may be made before the time of purchase. Your Fendt dealer will be pleased to supply you with up-to-date information.



AGCO GmbH
Fendt Marketing
D-87616 Marktobendorf
Fax +49 (0) 8342 / 77-220
www.fendt.com