

FENDT

A new dimension in driving

**FENDT 800 VARIO** TMS  
815 • 817 • 818

**VARIO**  
TMS



**FENDT**

# **FENDT 800 VARIO <sup>TMS</sup> – MORE POWERFUL, MORE INTELLIGENT**

*Fendt presents the 800 VARIO <sup>TMS</sup>, a compact heavy-duty tractor range. The performance of high horsepower tractors has been ingeniously combined with the manoeuvrability and visibility of a medium-sized tractor.*

*The new Vario <sup>TMS</sup> drive technology sets new highlights regarding the ease of operation and efficiency of stepless transmissions. This gives you the decisive edge on productivity while providing first class driving comfort.*

*This second-generation stepless drive technology is based on the experience gathered from over 30,000\* Varios that are in operation worldwide today.*

*Fendt offers you this technological experience – compare for yourself !*

*The 800 Vario <sup>TMS</sup> range has been designed to allow you to take care of all your work with perfection – and without compromises.*

*The result is a tractor to be proud of – one with power and intelligence for maximum performance – truly a star athlete.*

*The future will prove it.*

*\* as at November 2003*





## Contents

<i>Introduction</i>	2 - 3
<i>A premium class workplace</i>	4 - 5
<i>The Variotronic – your best worker</i>	6 - 7
<i>A new way to drive – Vario<sup>TMS</sup></i>	8
<i>Driving with Fendt Vario</i>	9
<i>Varioterminal – the command centre</i>	10 - 11
<i>Variotronic Implement Memory</i>	12
<i>Headland Management Variotronic<sup>TM</sup></i>	13
<i>Control console for all functions</i>	14-15
<i>Cutaway diagram</i>	16 - 17
<i>The engine – a robust power house</i>	18 - 19
<i>Vario transmission – design and function</i>	20 - 21
<i>Vehicle concept</i>	22 - 23
<i>Perfectly planned hydraulic system</i>	24
<i>Front loader technology</i>	25
<i>Earn more with the Fendt Vario</i>	26
<i>Optional: Swath guidance system Auto-Guide</i>	27
<i>Superior profitability</i>	28
<i>Fendt service and support</i>	29
<i>Technical specifications</i>	30 - 31

### Maximum power (ECE-R 24)

<i>Fendt 815 Vario<sup>TMS</sup></i>	<b>124 kW (168 HP)</b>
<i>Fendt 817 Vario<sup>TMS</sup></i>	<b>132 kW (180 HP)</b>
<i>Fendt 818 Vario<sup>TMS</sup></i>	<b>143 kW (195 HP)</b>

# PERFECTLY PLANNED WORKPLACE

*Well thought out ergonomics and functionality are essential in the cab of a tractor. The Vario 800 workplace was designed with this in mind. The functions are convenient and very easy to understand. Important details that make life easier for the driver are adapted to the challenges of hard daily operation, and offer comfort for a long working day.*

*Maintaining condition and fitness is essential for the Fendt driver. The intelligent Fendt technology, which enhances the control processes, helps meet these demands. That allows the driver to keep getting the most out of his 800 Vario over a long working day. That makes comfort an economical factor.*

**A well-adapted, comfortable seat – the original Fendt Comfort Seat:**

The original Fendt Comfort Seat features an integrated backrest extension along with legroom and tilt adjustment, allows adaptation to virtually all height requirements. This seat attains a new height of comfort through air suspension, automatic weight adjustment and shock absorbers that can be adjusted, from soft to hard. Other health-benefiting features include a lumbar support and an integrated natural air conditioning featuring an activated carbon filter. Your health is important to us.







Better overview, ingenious controls, utmost comfort

# THE VARIOTRONIC – YOUR BEST WORKER

*Welcome to the Variotronic World. You work many hours on a 800 Vario <sup>TMS</sup> – that is why operating and driving comfort have the highest priority. With its three elements – a joystick, monitor and control console – the new Variotronic not only ensures extraordinary working comfort, but also unparalleled productivity.*

*With the new Variotronic <sup>TI</sup> you can recall previously stored, optimized working processes with a touch of a key – again and again. For you this means: ingeniously simple handling – not just during the test drive. Moreover, you will receive full benefits in profitability and productivity during in-field operation.*

**Joystick:**

*everything under control with one hand*



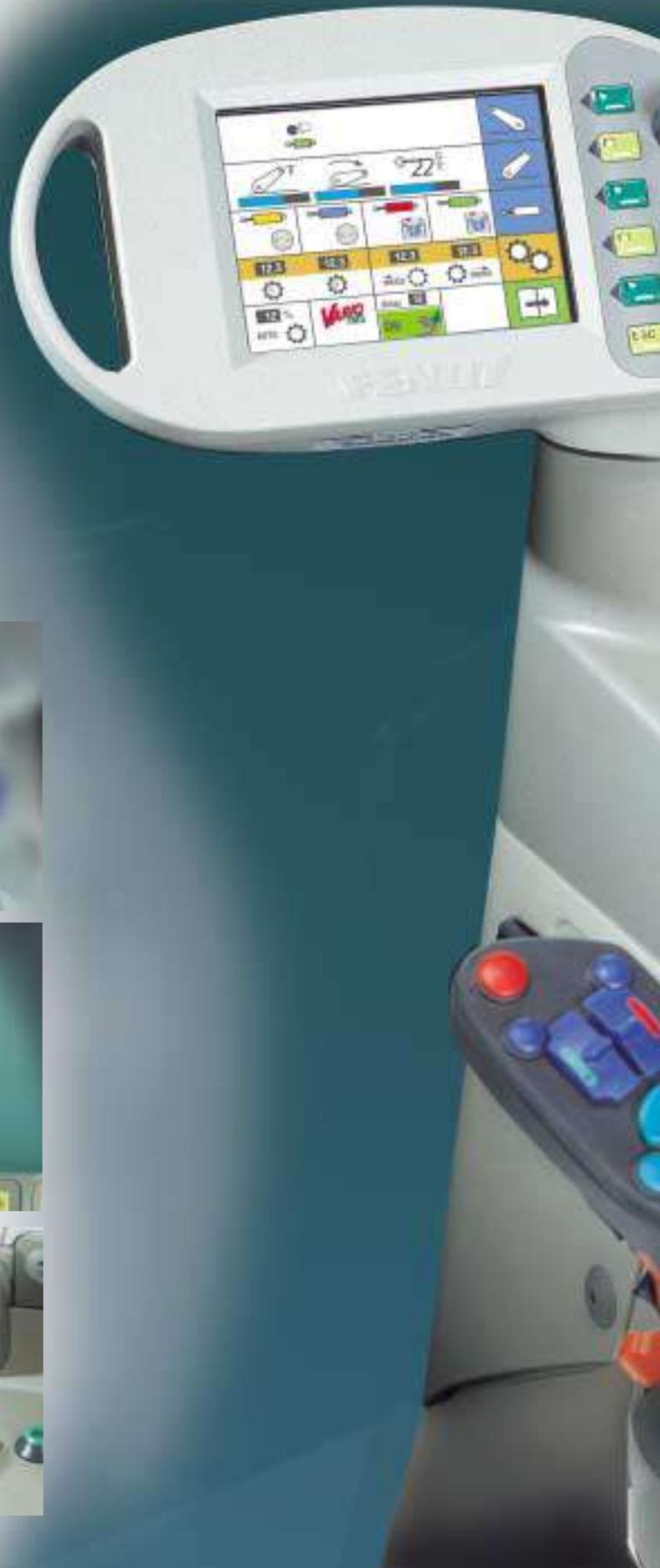
**Variotronic Terminal:**

*information and command centre*



**Vario console:**

*well-organized control units*





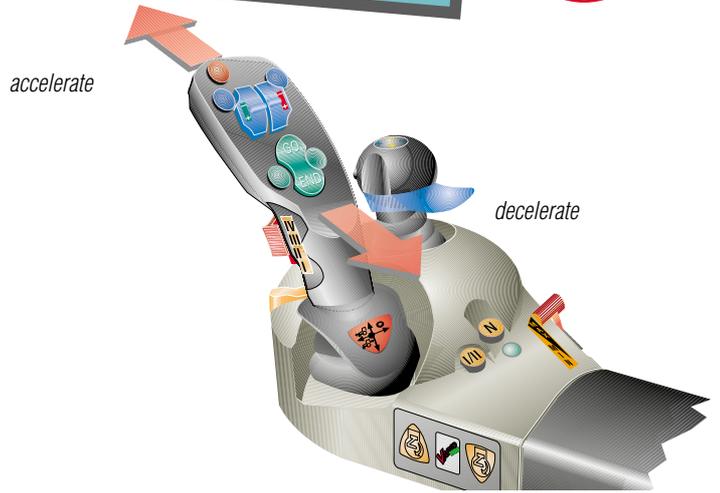
# A NEW WAY TO DRIVE VARIO DRIVING WITH TMS

*Driving a tractor is certainly more than just sitting in it and driving away. You know that most of all. There are different conditions to consider for every operation you carry out with your tractor. That is the reason why you should evaluate an operating concept based on specific operations. This was the practical background which was the basis for the development of the Vario operating concept with the Tractor Management System Vario<sup>TMS</sup>.*

*Compared to operating concepts on other tractors with stepless transmission, the Tractor Management System Vario<sup>TMS</sup> Vario TMS from Fendt provides very convincing concrete benefits. It allows you to carry out your work more comfortably and easily. Beginners find their way around quickly and easily, and the Vario<sup>TMS</sup> concept offers great potential for professionals. Whether you are a beginner or pro – Vario<sup>TMS</sup> allows you to do your work more profitably.*

**Vario<sup>TMS</sup> – typical Fendt**

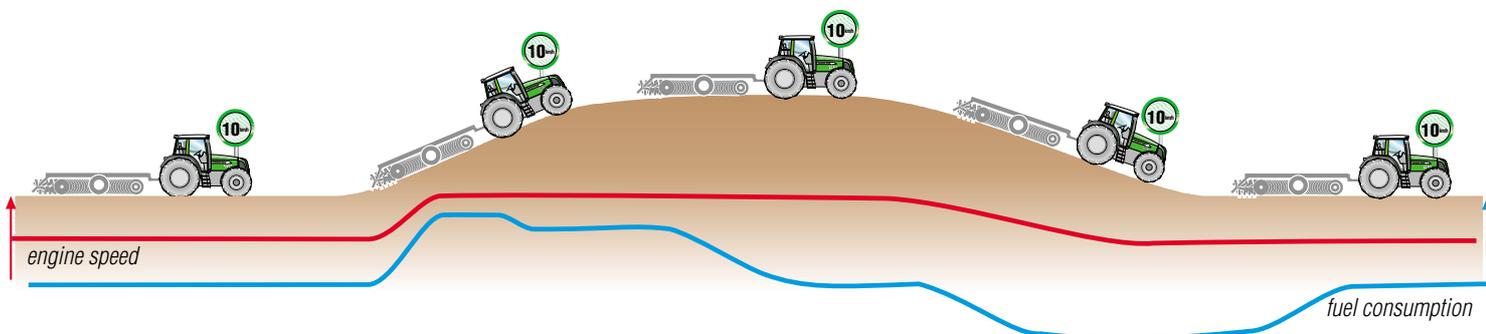
*profi 10/2003*  
*„... the finest technology.“*  
*Pulling power: “And also here, its 268 g/kWh fuel consumption is on par with the most economical manual shift tractors”*



### Driving with the joystick

The ingenious control which allows you can carry out all functions using only your right hand, without having to change grips. You can accelerate, decelerate and reverse as well as activate the Tempomat with only a small movement of the joystick. You can operate all other functions, from the easy-to-use PTO automatic mode to the headland management system, with the ergonomically friendly multi-function buttons.

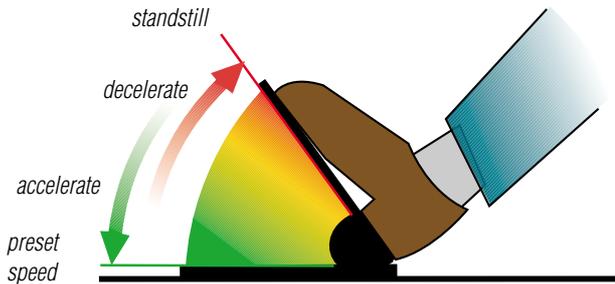
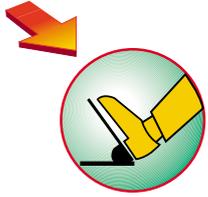
## TRACTOR MANAGEMENT SYSTEM



When the 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; the TMS controls the rest. In the graphic above, one can recognize that the tractor drives on level ground at a reduced

engine speed. On the slope, the load increases, so the 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.

**VARIO  
TMS**



**Driving pedal mode**

Set the direction you would like to drive with your left hand, then all that is needed to start the tractor is to press the driving pedal. In the driving pedal mode, only the right foot is required to drive the tractor – similar to a car with an automatic transmission. The further the pedal is pressed down, the faster the tractor goes. The sliding control on the armrest sets the maximum speed that is attained when the pedal is pressed all the way down. If you release the pressure on the pedal, the 800 Vario™ decelerates.

**NEW:** For an additional engine braking effect, the driver can also take over control of the TMS in the driving pedal mode and reduce the transmission ratio manually.

**NEW: The switch on the steering column adjustment lever has three functions:**

1. Changing directions while driving.
2. Setting travel direction in the driving pedal mode.
3. Stop and go function with active parking function:



If the switch is pressed while moving, the tractor decelerates to a standstill. The tractor only starts to drive again when the switch has been released. This function provides even more comfort for all work which requires frequent short stops.

**VARIO OPERATION – EASY AS EVER**

*Transmission control per joystick and engine control per foot pedal or hand throttle*

**Driving forward**

Push the joystick forward; the Vario accelerates forward from standstill.

**Accelerate forward**

Not fast enough? Then push the joystick forward a bit longer, until you have reached the desired speed.

**Decelerate**

If you are going too fast, pull the joystick back and the Vario 800 brakes the engine and transmission.

**Reverse**

Pull the joystick back and the Vario reverses from standstill. Faster or slower reverse speeds function in the same way as for forward travel.

**Rapid or slow acceleration**

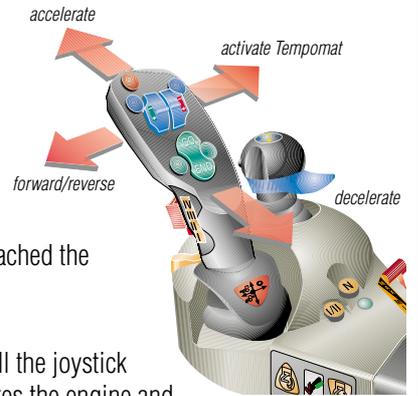
How rapidly or slowly you accelerate or decelerate is determined by which of the four pre-set acceleration rates you select with the thumb control.

**Automatic forward/reverse**

Giving the joystick a quick tap to the left is all that is necessary to change driving direction from forward to reverse or vice versa. The Vario decelerates to a standstill by itself and then accelerates, without jerking, in the opposite direction.

**Tempomat cruise control**

The Tempomat holds the tractor at a constant pre-set speed. All that is required to activate it, is to give the joystick a quick tap to the right.



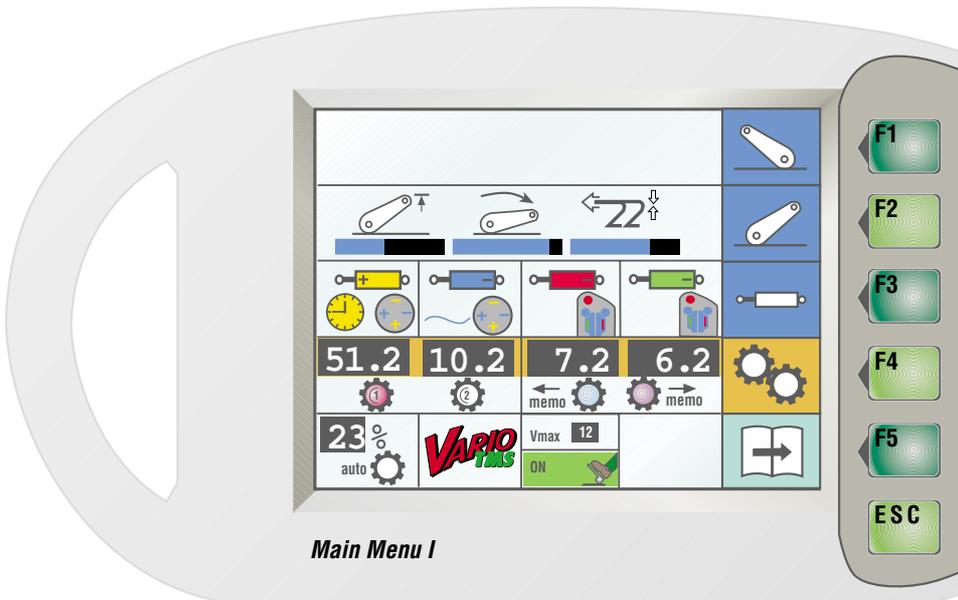


# THE VARIOTERMINAL – 6 KEYS, 3 CONTROLS, IT COULDN'T BE EASIER

With the Varioterminal, Fendt has redefined operating and control comfort. Combining setting and control elements into one functional unit not only makes simple applications even easier, but also aids the experienced driver during complex tasks. Its high degree of customization is a benefit to every driver.  
Ask any Vario driver.



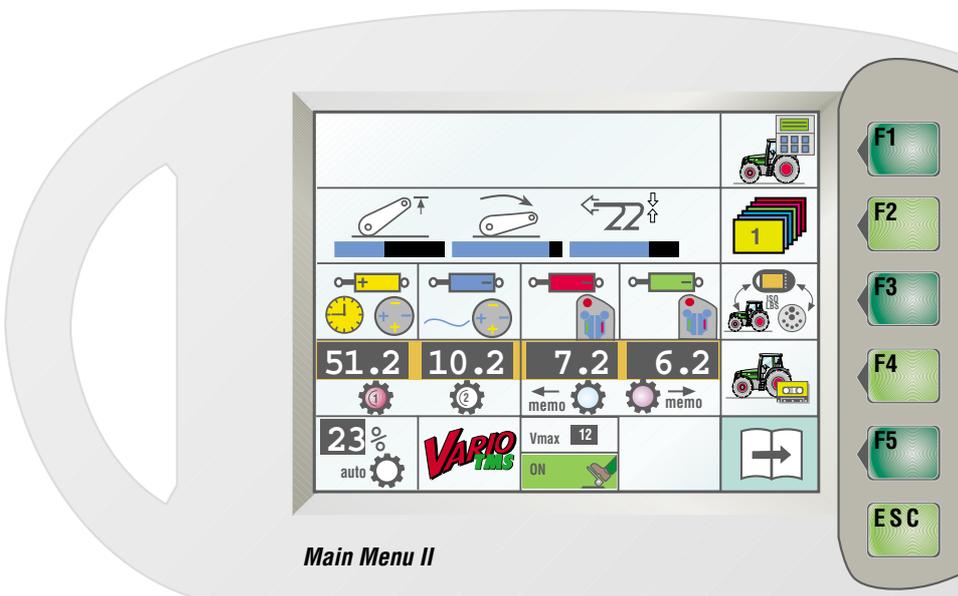
**NEW: last function status – with a single touch of a key**  
All the functions which were used last are reactivated with the touch of a key. That guarantees full operational readiness.



Main Menu I

Function	Settings
<b>F1</b> Front power lift (*)	lift height, lift speed lowering speed
<b>F2</b> Rear power lift	lift height, lowering speed position/draft mixed control
<b>F3</b> Auxiliary control units	flow rates time functions
<b>F4</b> Transmission	Tempomat pre-set optimization of transmission
<b>F5</b> Change menus	Change to Main Menu II

\* optional



Main Menu II

Function	Settings
<b>F1</b> on-board computer	field-specific recording for 4 fields
<b>F2</b> implement memory	storage of 4 implement-specific tractor settings
<b>F3</b> implement control	controls for implements with BUS capability
<b>F4</b> Variotronic™	Headland Management System
<b>F5</b> Change menus	Change to Main Menu I

profi 10/2003

"Fendt is still trendsetter with the Vario-Terminal"

"The hectare counter, with its potentialities, is also unparalleled."

# VALUABLE FUNCTIONS THAT MAKE THE FENDT DIFFERENCE

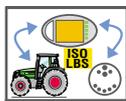


## On-board computer

**standard**

Your performance recorded in black and white.

Everybody is talking about documentation. The on-board computer in the Varioterminal records all of the most important parameters – such as distance travelled, area coverage, time and external impulses – easily and exactly.



## Variotronic Implement Control

**standard**

For the best tractor, implements from the right manufacturer.

Whether manure spreader, baler, plough or loading wagon, with the Variotronic implement control you can control all implements which have ISO-BUS or LBS+ capability with the Variotronic and the joystick.

Advantages of the Fendt Implement Control:

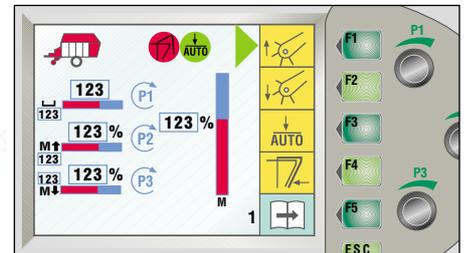
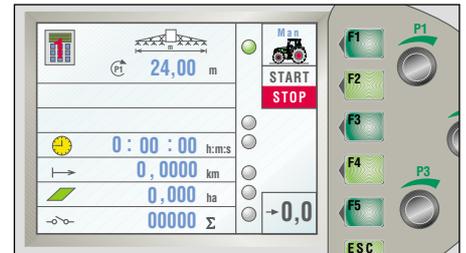
- optimized ergonomics
- one terminal for all implements
- always the same simple control logic
- simple implement changes
- can be updated at any time



## Variotronic camera

**optional**

Control, safety and a great overview – the Variotronic camera, which can be positioned freely, is the right solution for all applications. Its wide-angle picture is super sharp and always gives you a perfect overview.

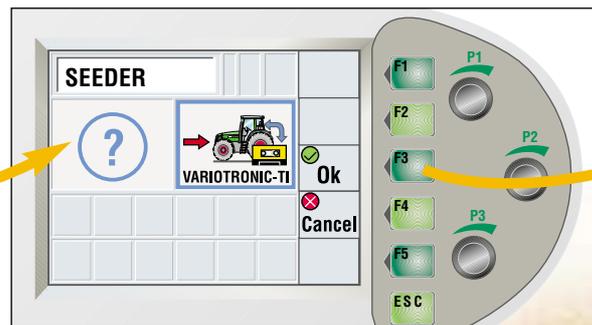




# VARIOTRONIC IMPLEMENT MEMORY OPTIMIZE ONCE, PROFIT AGAIN AND AGAIN

To compare different tractors, it is essential to investigate the use or the consumption of production factors (e.g. working time, fuel, ...) per hectare area coverage. Thanks to Variotronic Implement Memory you can work at full performance during every operation, starting from the very first second. All tractor settings are stored to memory and recalled with a simple touch of a key. That allows you to achieve more. Give it a try!

Vario Implement Memory:  
**NEW: Even easier**  
**NEW: Even faster**  
**NEW: Even more productive**



**1.** All tractor settings (power lift, auxiliary valves, transmission, engine) are optimized once and stored.

**2.** **NEW:** tractor settings combined with the Headland Management System. Yes or no.



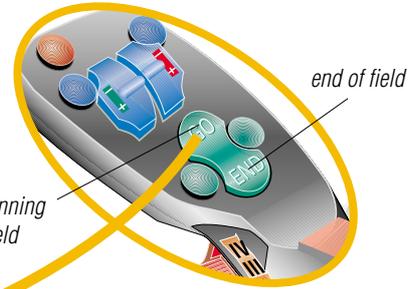
profi 10/2003

"... the Varioterminal and most of all the new Headland Management System "TI" with its unbelievable potential, prove that Fendt sets new standards in many areas."

Even more effective at the headlands

# VARIOTRONIC<sup>TI</sup> - THE HEADLAND MANAGEMENT SYSTEM FOR WINNERS

**3.** A touch of a button on the joystick triggers the automatic procedure at the headland



Ingenious ergonomics joystick with button controls

While others are still at the headland, busy with countless hand movements, you are already back at work in the furrow with your 800 Vario<sup>TMS</sup>.

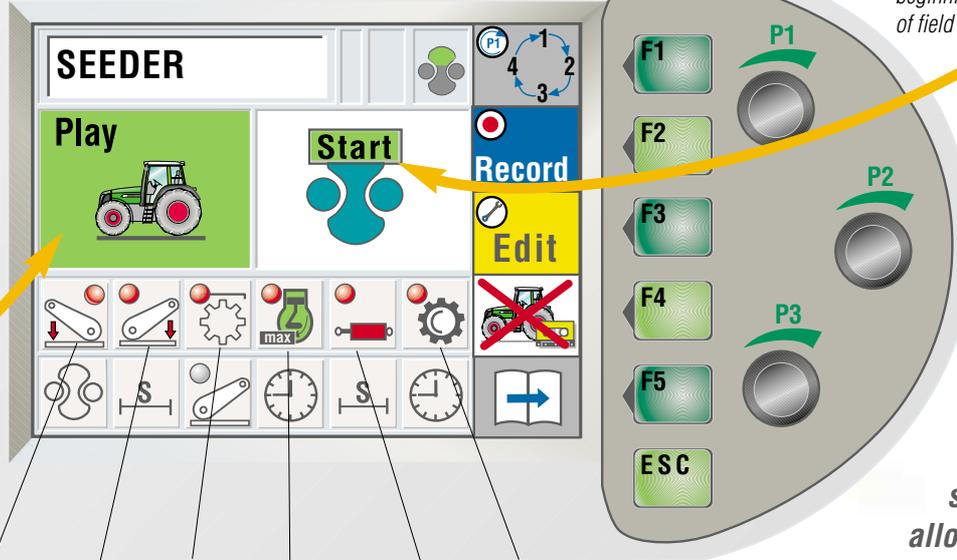
After optimizing and storing the settings once, the Variotronic<sup>TI</sup> allows you to profit every time you are at the headlands.

You can trigger up to 13 functions with the switches on the joystick without having to change hand grips. You will be impressed, especially on long working days.

### Benefits:

1. Time saved at the headlands
2. Reduced idle time / increased area coverage
3. Long-lasting driver relief on long working days
4. High degree of customization possible
5. Simple, logical set-up
6. 16 sequences with up to 13 functions can be stored for 4 implements
7. Unparalleled ergonomics

The new Variotronic<sup>TI</sup> – The increase in productivity is measurable



- lower front power lift
- lower rear power lift
- rear PTO take-up
- increase engine speed
- actuate auxiliary control units
- activate Tempomat



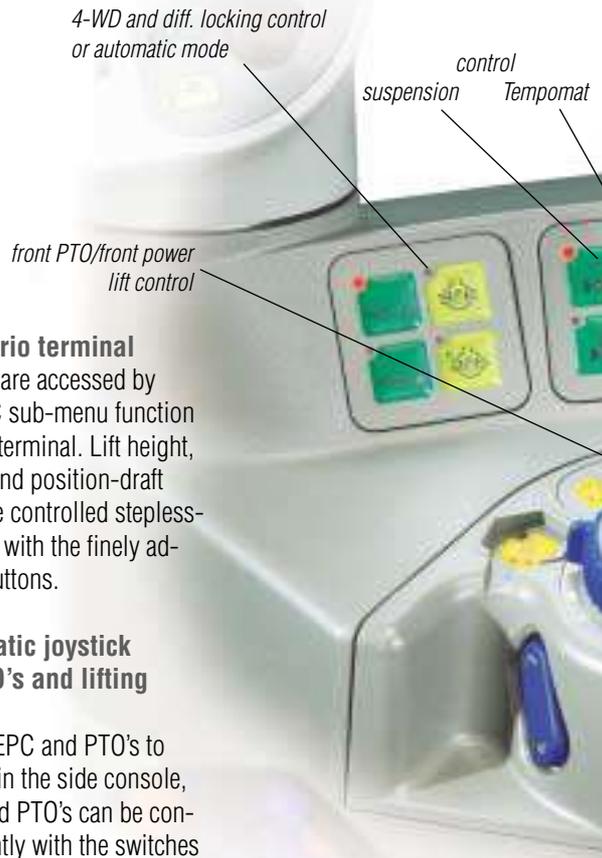
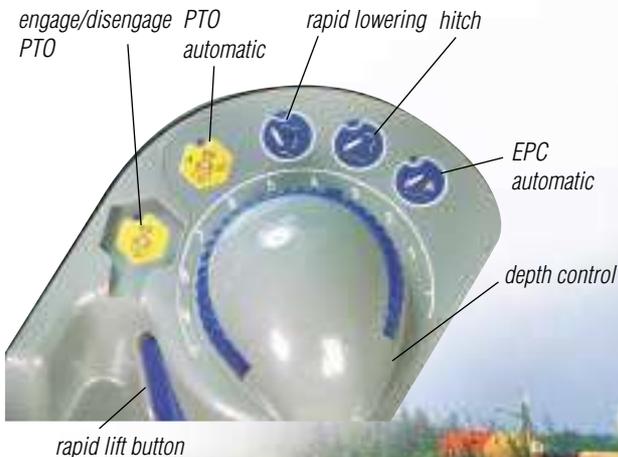
# CONTROL CONSOLE FOR ALL FUNCTIONS

*The electrohydraulic power lift control combines maximum work quality with superb operating comfort, which reduces stress on the driver. Front and rear-mounted implements can be controlled conveniently with the buttons on the joystick. Automatic functions are integrated. The newest EPC generation is incorporated in the tractor diagnostics.*

**Standard: maximum working quality during working combinations through front position control and rear EPC.**

The convenient controls, extensive control options and logical layout of the EPC are simply impressive. Plough, seed drill or chopper are electronically controlled with sensitive accuracy in the pre-set working position and without the constant use of manual controls. All front-mounted implements can be controlled conveniently and precisely in the position control mode of the new controllable front power lift. The rotary buttons for depth control and the rapid lift controls are ergonomically integrated in the control console.

**Control unit**  
rear EPC and rear PTO



## EPC via the Vario terminal

The fine settings are accessed by pressing the EPC sub-menu function key on the Vario terminal. Lift height, lowering speed and position-draft mixed control are controlled steplessly and accurately with the finely adjustable rotary buttons.

## Unique automatic joystick control for PTO's and lifting implements

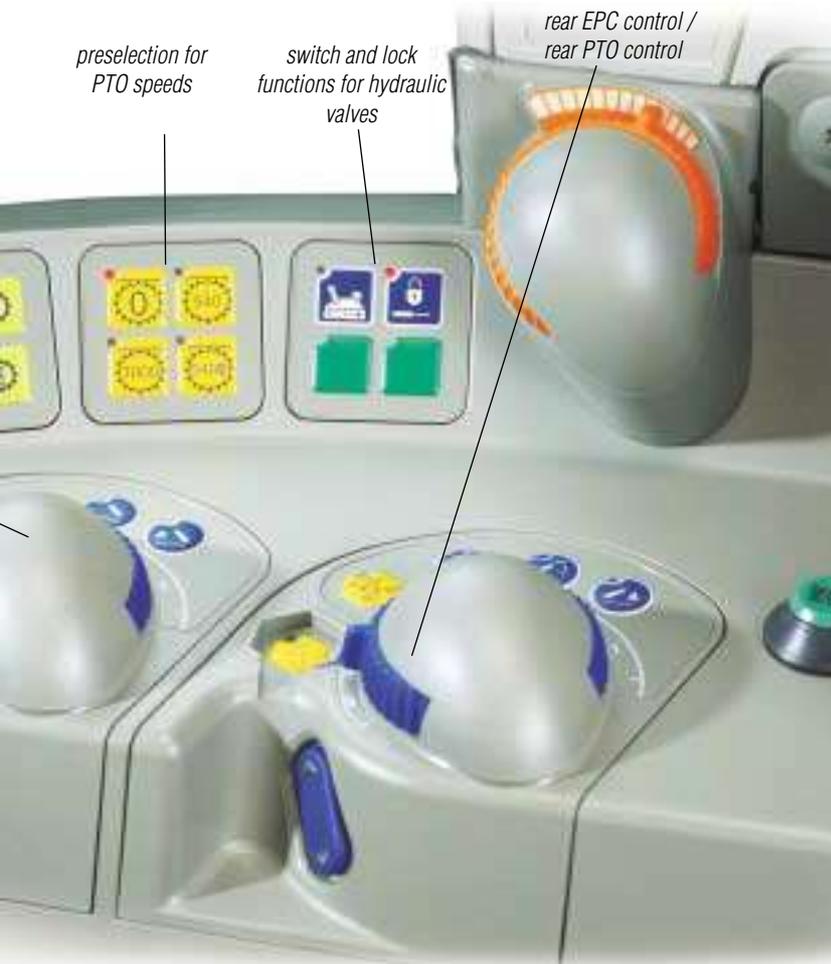
After setting the EPC and PTO's to automatic mode in the side console, implement lift and PTO's can be controlled conveniently with the switches on the joystick. The automatic mode allows the PTO's to be engaged and disengaged automatically when the implement is lifted and lowered.

## EPC for added value and less stress for the driver

This new EPC generation is incorporated in the tractor diagnostic system. It automatically monitors itself

through digital signal processing and ensures operational availability. The integrated shock-load stabilizing shock absorber. Even with rear-mounted implements, the driver can drive over paved and unpaved roads quietly, quickly and with a high degree of driving safety.





**The three-speed PTO**

The Vario 800 TMS, designed to be a system tractor, features three PTO speeds at the rear (540/750/1000 rpm). The 750 rpm economy PTO allows fuel-saving, stress-reduced operating at lower engine speeds.

**540 or 1000 rpm front PTO (optional)**

The front PTO is driven directly from the engine with no loss of power.

**Automatic PTO take-up control saves operating costs**

The Vario 800 offers a load dependent PTO take-up. Take-up of the drive is sensitively controlled and monitored by the electronic system according to the power requirement of the implement. This benefits the life of all PTO components thereby reducing operating costs.

**Convenient PTO control with the joystick**

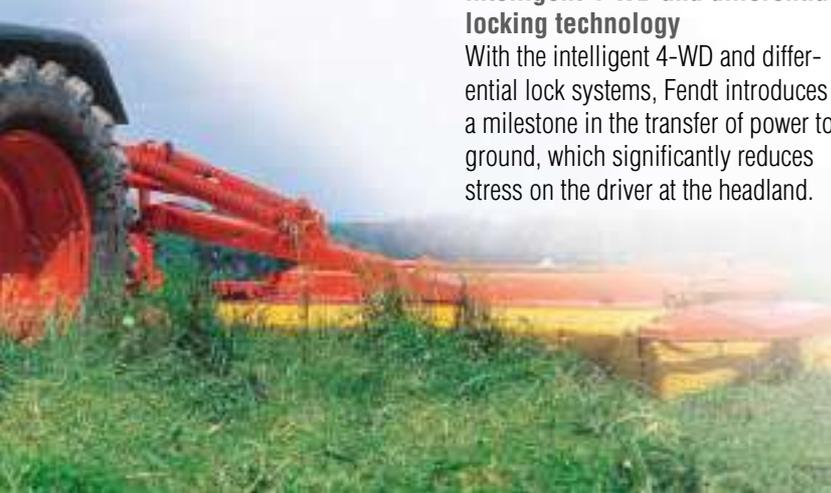
After activating the PTO automatic, the PTO's can be conveniently operated with the same hand via push buttons on the joystick.

**Intelligent 4-WD and differential locking technology**

With the intelligent 4-WD and differential lock systems, Fendt introduces a milestone in the transfer of power to ground, which significantly reduces stress on the driver at the headland.

Symbol	Function	In-field advantages
	4-WD permanently engaged	<ul style="list-style-type: none"> <li>• full transfer of power</li> </ul>
	<b>4-WD automatic</b> 4-WD turns off if: <ul style="list-style-type: none"> <li>• steering angle &gt; 25°</li> <li>• speed &gt; 15 km/h</li> </ul>	<ul style="list-style-type: none"> <li>• driver relief</li> <li>• soil protection</li> <li>• full manoeuvrability</li> <li>• less tyre wear</li> </ul>
	Permanent 100% disc differential locking	<ul style="list-style-type: none"> <li>• full transfer of power even under severe conditions</li> </ul>
	<b>Differential lock automatic</b> turns off if: <ul style="list-style-type: none"> <li>• speed &gt; 15 km/h</li> <li>• steering angle &gt; 15°</li> <li>• brakes are operated</li> </ul>	<ul style="list-style-type: none"> <li>• driver relief</li> <li>• easy manoeuvring</li> <li>• greater transfer of tractive power</li> </ul>
	<b>Three PTO speeds</b>	<ul style="list-style-type: none"> <li>• simple and comfortable PTO operation</li> </ul>

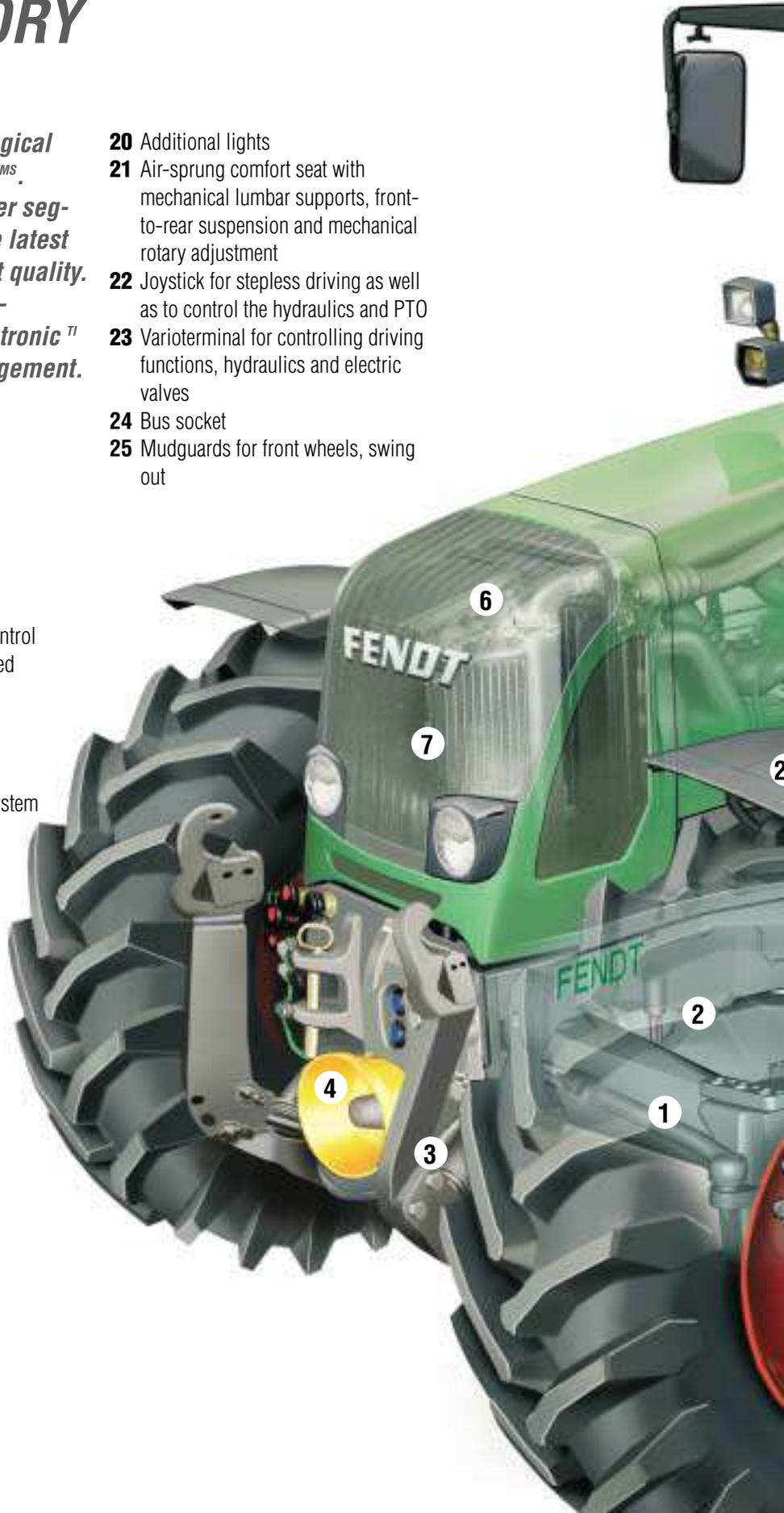
Depending on the selected stage, 4-WD and differential locks are automatically reactivated or disengaged subject to either steering angle or speed. Result: optimum transfer of tractive power while retaining full manoeuvrability.

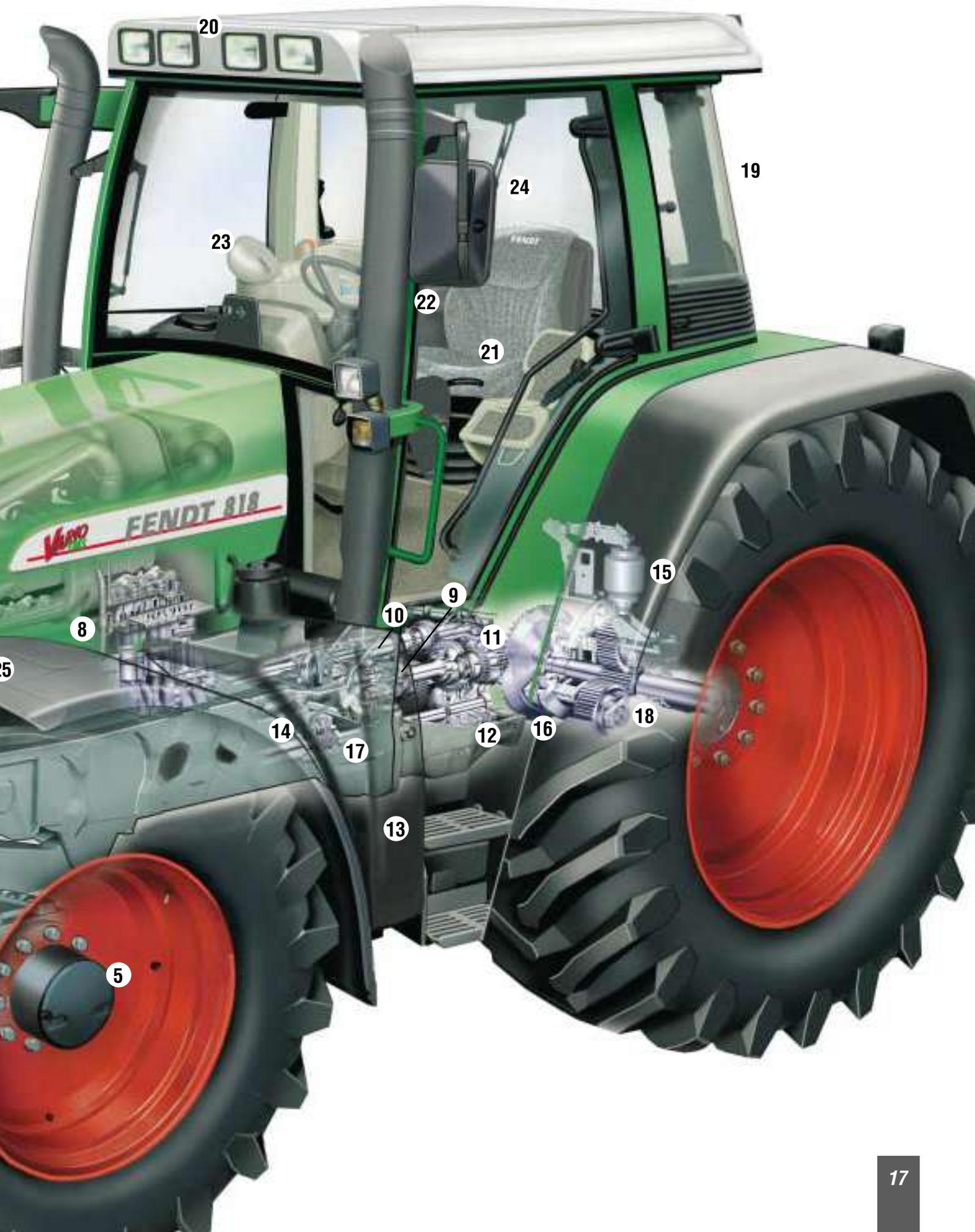


# PROFESSIONAL TECHNOLOGY DIRECT FROM THE FACTORY

*The sum of our experience as a technological pioneer lies in the new Fendt 800 Vario <sup>TMS</sup>. All the models in the 168 to 195 HP power segment distinguish themselves through the latest technology, ease of operation and robust quality. The first choice for the experienced pro – professional Vario technology with Variotronic <sup>TI</sup> and Vario <sup>TMS</sup> Engine-Transmission Management.*

- 1** Front driving axle, 50° steering angle
- 2** Hydropneumatic front axle suspension with levelling control and 2 cylinders, can be locked
- 3** Front power lift (standard)
- 4** Front PTO
- 5** Planetary final drive
- 6** Intercooler
- 7** Modular compact cooling system
- 8** 5.7-litre water-cooled Deutz economy engine with 4-valve technology
- 9** Hydraulic pump
- 10** Hydraulic motor
- 11** Planetary gear set
- 12** Enclosed 4-WD
- 13** 340-litre fuel tank
- 14** Nitrogen pressure accumulator (suspension)
- 15** Gas strut shock absorber for cab / suspension
- 16** Rear wheel disc brake
- 17** Front wheel disc brake
- 18** Planetary axle
- 19** Tiltable comfort cab
- 20** Additional lights
- 21** Air-sprung comfort seat with mechanical lumbar supports, front-to-rear suspension and mechanical rotary adjustment
- 22** Joystick for stepless driving as well as to control the hydraulics and PTO
- 23** Varioterminal for controlling driving functions, hydraulics and electric valves
- 24** Bus socket
- 25** Mudguards for front wheels, swing out







# THE ENGINE – A ROBUST POWERHOUSE

*The new engines fitted in the 800 Vario range are among the most modern the market has to offer. With up to 18 HP extra power, their outstanding tractive power has proven itself advantageous in in-field operation. Thanks to electronic engine control (EEC), the engines have impressive power reserves. This new generation of engines already fulfils pending emission standards today.*

*Through the intelligent communication between the engine and Vario transmission (VARIO TMS), important performance values were improved significantly. The impressive power of these components permits maximum power transfer during haulage or in the field.*

**The benefits:**

- **Up to 18 HP extra power**
- **37% torque rise ensures superior tractive power**
- **Quick off the mark – from 0 to 50 kph in 9 sec.**
- **Extremely economical fuel consumption of just 200 g/kWh**
- **Lower running costs: oil change only required every 500 hours**
- **Excellent cold starting behaviour**

**You will notice the new engine characteristics during work and at the petrol station**

The economical consumption of diesel fuel will increase in importance in the future. With this in mind, minimizing fuel consumption was a central concern while developing and tuning the drive train. The result is impressive: 200 g/kWh optimum consumption.

TIP: Make a note of where your petrol station is – with a 340 l fuel supply you won't be visiting it very often.



**The new world champion in sprinting: 818 Vario TMS**  
From 0 to 50 kph in an unbelievable 9 seconds.

How is that possible? Thanks to the perfect co-ordination of the engine, transmission and rear axle, 195 HP of engine power is converted into maximum acceleration.

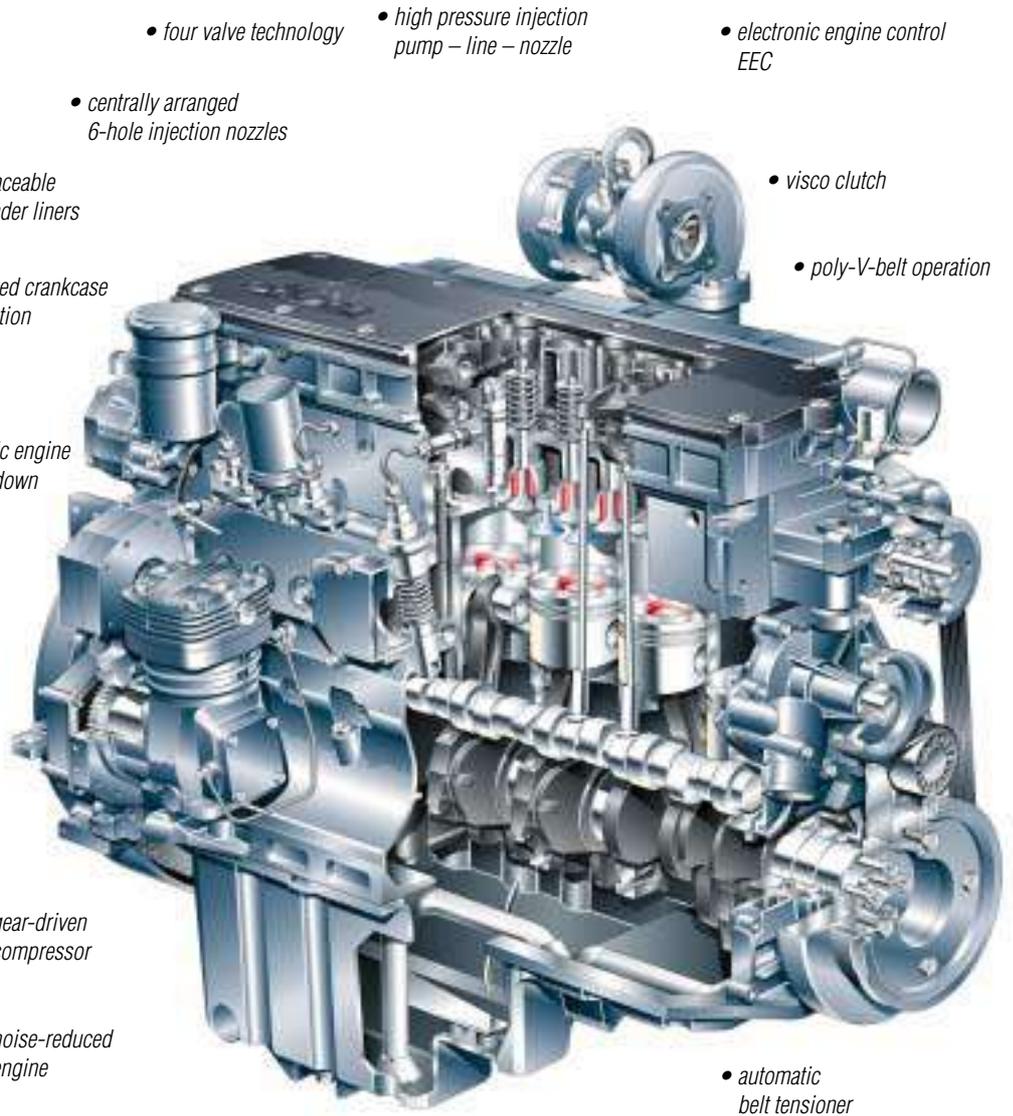
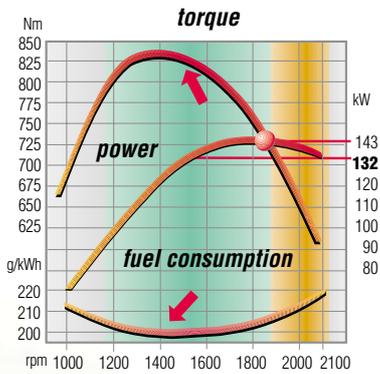


The Fendt 818 Vario impresses the most through its fuel consumption – or put better, through its fuel economy.

“... a new record for a tractor, which fulfils stage II of the emissions standard.”

**Performance values with the 818 as an example:**

- 15 HP extra power from 1800 to 2000 rpm
- Max. torque 847 Nm
- 35% torque rise
- Economical optimum consumption of only 198 g/kWh



- four valve technology
- high pressure injection pump – line – nozzle
- electronic engine control EEC
- centrally arranged 6-hole injection nozzles
- replaceable cylinder liners
- visco clutch
- poly-V-belt operation
- enclosed crankcase ventilation
- electric engine shut-down
- gear-driven compressor
- noise-reduced engine
- automatic belt tensioner



**The new cooling system – sophisticated technology for top performance and service-friendliness**

The cooling unit sets new standards in terms of functionality. Its large air intake area reduces the flow velocity of the cooling air considerably. The hinged cooling system permits easy access to the radiators.

- gearbox oil cooler
- combination cooler (hydraulic oil/fuel)
- water cooler for engine
- cooling condenser



# NEW VARIO DRIVE TRAIN FOR THE NEW CLASS

*The Fendt Vario is a genuine stepless drive. The transmission (ML 160) and rear axle (HA 160) were developed especially for compact heavy-duty tractors. The new drive train boasts an exceptionally compact design and superior performance values. The new Tractor Management System co-ordinates the intelligent combination of engine and transmission, which guarantees maximum power transfer, in the field and during haulage. This perfect drive unit featuring superior profitability is impressive.*

### Power splitting

The engine output is split into a mechanical and a hydrostatic section by a planetary gear. Only the hydraulic branch controls the system. Both power trains are consolidated in the collecting shaft.

### Hydraulic transmission section

The hydraulic drive unit consists of a hydraulic pump and a hydraulic motor with a unique displacement angle of 45 degrees. Depending on

the position of the in-unison controlled hydrostatic units (pump and motor), the driving speed is regulated steplessly.

### Mechanical transmission section

The mechanical branch also begins at the planetary gear and runs over the mechanical gear connections and the travel range selector to the collecting shaft.

### Starting with the Vario

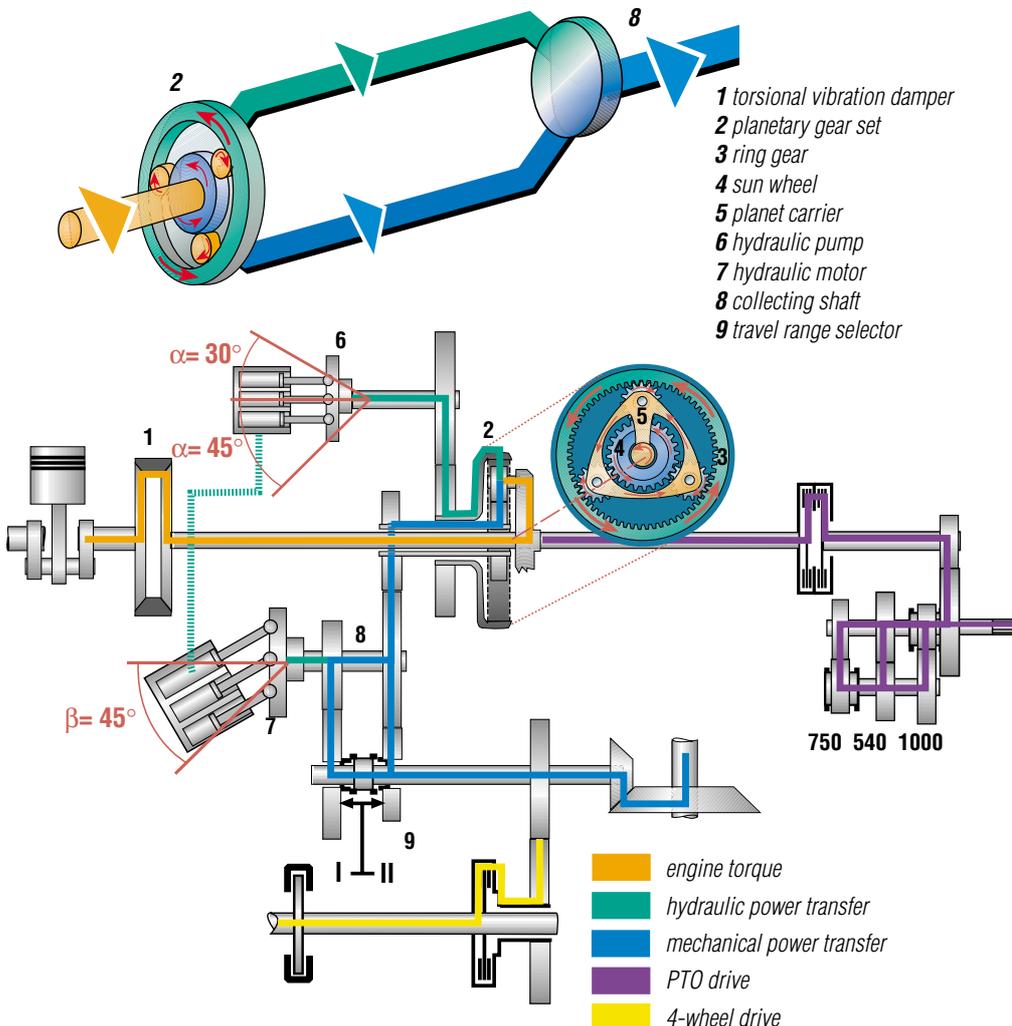
When starting, the major part of the engine output flows over the hydrostatic branch. The efficient interplay between the mechanical and hydrostatic sections can be recognized by the high acceleration values. The higher the speed of the vehicle, the more the tractive power shifts to the mechanical branch.

### Forward/reverse travel

Changing driving direction is extremely simple with the Fendt Vario concept: the hydraulic pump is just swung out in the opposite direction. No more power draining mechanical forward/reverse shifting.

### The secret of the Fendt Vario-Drive

Since the Vario drive uses large hydrostatic units, the complete travel speed range from 0.02 to 50 kph can be covered by just 2 travel speeds. This, together with the exclusive 45 degree displacement angle, results in new dimensions in efficiency. At the same time, this concept allows the controls to be simplified, making them failsafe.



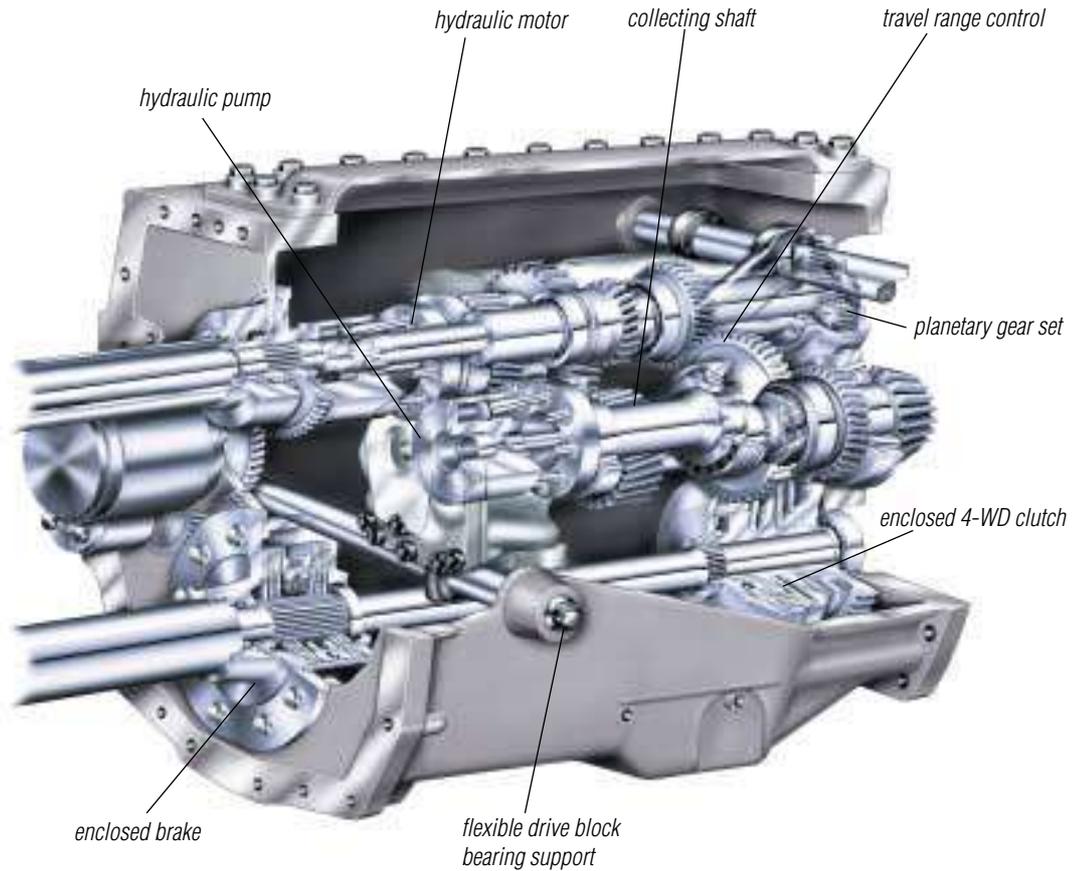
**Quiet drive through flexible drive block bearing support.**

**Optimized oil supply for long life**

The entire Vario drive block is supported by rubber elements designed to neutralize noise. Severe acoustic parameters also apply to the housing. The total oil supply is only 55 litres. All supply pipes lie fully protected inside the housing.

**Advantages:**

- uncomplicated, robust design
- top efficiency
- only 2 travel ranges from 0.02 kph to 50 kph due to hydrostats with 45 degree angling
- reduced noise level due to flexible drive block bearing support
- optimized oil supply for long life and top efficiency
- easy servicing



# NOT A KILO TOO MUCH AND NONE TOO LITTLE – THE COMPACT HEAVY-DUTY TRACTOR WITH AN IDEAL WEIGHT

*The 800 Vario<sup>TMS</sup> range from Fendt is a compact heavy-duty tractor. The 800 Vario<sup>TMS</sup> combines the performance of high horsepower tractors with the manoeuvrability, visibility and versatility of medium-sized tractors. The result is a tractor to be proud of.*

*The 800 Vario<sup>TMS</sup> is designed for maximum payload and load capacity. A cast half frame with integrated front axle suspension carries the load.*



## **800 VARIO<sup>TMS</sup> – a tractor of many talents**

With an all-up weight of 12,500 kg, it has an overall payload of 5700 kg. Together with large tyres (42" rear/30" front) and integrated front power lift (standard), the 818 Vario<sup>TMS</sup> is a tractor with many talents and without compromises – in grassland operation and in the field as a powerful manoeuvrable heavy-duty tractor for implement combinations and on the road as a comfortable haulage tractor.

## **Comfort, driving safety and mobility on the level of commercial vehicles**

Through the intelligent combination of:

1. front axle with levelling control
2. cab with suspension
3. speed-dependent shock load stabilizing
4. 30/42 tyres

you experience a completely new driving sensation. The perfect coordination of these components ensures absolutely safe driving behaviour, even under extreme loads and at high travel speeds.

## **Top-efficiency lifetime braking system**

The four-wheel braking system is virtually maintenance-free and ensures superb safety in road traffic at 50 kph. The basis is formed by two integrated multi-disc brakes for the rear wheels fitted with sinter linings having a high thermal load capacity, as well as a disc clutch on the cardan shaft for the front wheels. Like the front wheels, each rear wheel is retarded by braking discs. The brakes are automatically sprayed with fresh oil every time they are operated. This reduces thermal load to a minimum. With this system there is no oil drag, as is the case with systems in which the brakes are fully immersed in oil. This means higher efficiency.



**Dynamic and economical:**  
the 800 Vario during haulage  
at 50 kph and 1700 rpm.



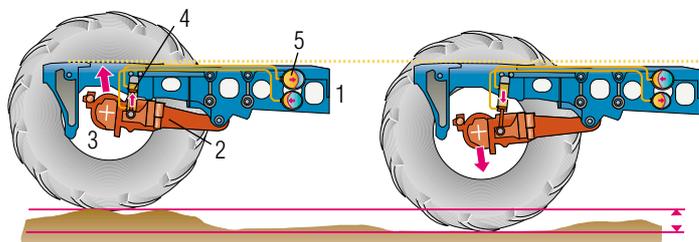
"the chassis on the 818 Vario™ leaves no wishes open"

"its driving comfort is unbeatable compared to many other standard tractors."



**Frame and suspension concept**

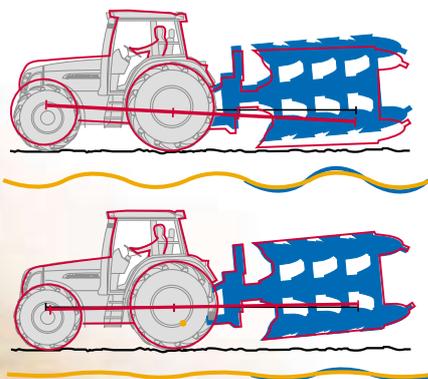
All suspension elements are mounted on the frame construction (1). Front axle suspension: swing arm (2), swing axle (3), hydraulic cylinder (4), nitrogen reservoir (5). Cab suspension: hydraulic supports (6) at the front, helical springs (7) and shock absorbers (8) at the rear (sprung struts) control the movement of the cab and eliminate vibrations and shockloads originating from the tractor body. Result: quiet and relaxed working conditions.



**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.



**Speed-dependent shock load stabilizing system**

This system acts like a hydraulic shock absorber. Activation can be controlled via the Vario terminal. Even with a rear-mounted implement, the operator enjoys a comfortable and safe ride without a reduction in speed, and most importantly, without stressful bounce, on the road or in the field.

**Pneumatic cab suspension**

**NEW:**

Oil-filled hydraulic supports in the front stabilize the cab in the front-to-rear direction and absorb noise. The new pneumatic cab suspension features air springs that support the load at the rear. These feature automatic levelling, which automatically adapts the suspension to varying loads. Setting different suspension levels is no longer necessary. Your benefit: advanced, permanently relaxed driving comfort in the field and on the road.



Mudguards on the front wheels can be swung out to maximise steering angle.

# THE HYDRAULIC SYSTEM – PERFECTION LIES IN THE DETAILS

*The Variotronic opens a whole new dimension in control comfort. All the hydraulic functions are integrated into it, simply and logically, so that the driver can react quickly and safely. You will enjoy taking control with the joystick, crossgate lever and control terminal. The Vario terminal allows you to attain the utmost of comfort and profitability easily. The load sensing hydraulic system on the 800 Vario™ is among the most modern available on the tractor market in respect to performance, efficiency and flexibility.*

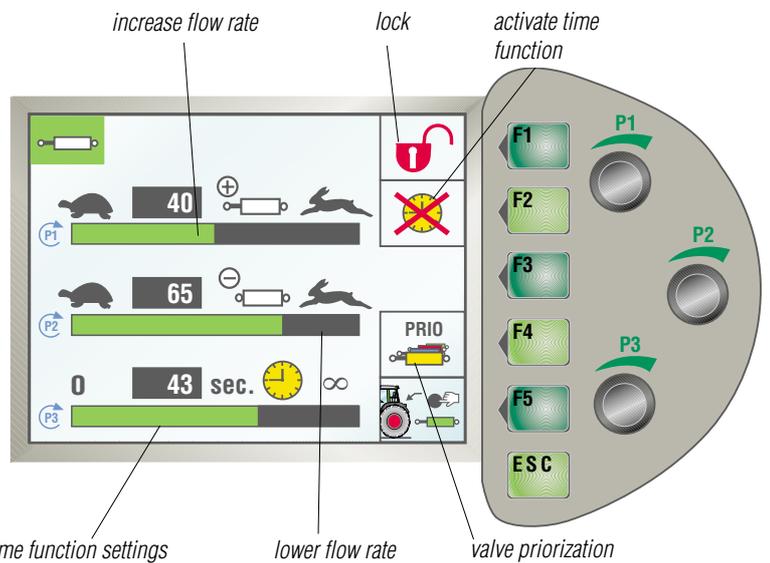
**Electrical valves: Work and control comfort in the super class!**

The joystick and the crossgate lever control the electrical apportioning valves. On the 800 Vario™ these are all double-acting control units that can also be used in a single-acting capacity and feature a floating position. The first two valves are located on the convenient crossgate lever. For the other valves on the joystick, just a

quick touch of the rocker switch is all it takes to guarantee that all hydraulic tasks are executed with the utmost accuracy. Setting the valve functions with the Vario terminal is simple. You can control the flow rates and actuation times of all the electrical apportioning valves easily with the rotary controls and the function keys.

**Advantages:**

- **prioritization of auxiliary control units permits definite assignment of oil quantities**
- **separate hydraulic oil supply**
- **low servicing costs through long service intervals**
- **high max. flow rate through state of the art axial piston pump (max. 110 l at 200 bar)**
- **can be expanded with up to 5 auxiliary control units and a separate load-sensing connection**
- **down-force hydraulics for quick tyre and implement changes**
- **comfortable implement change through external pushbuttons (lift, lower) for front and rear power lift**



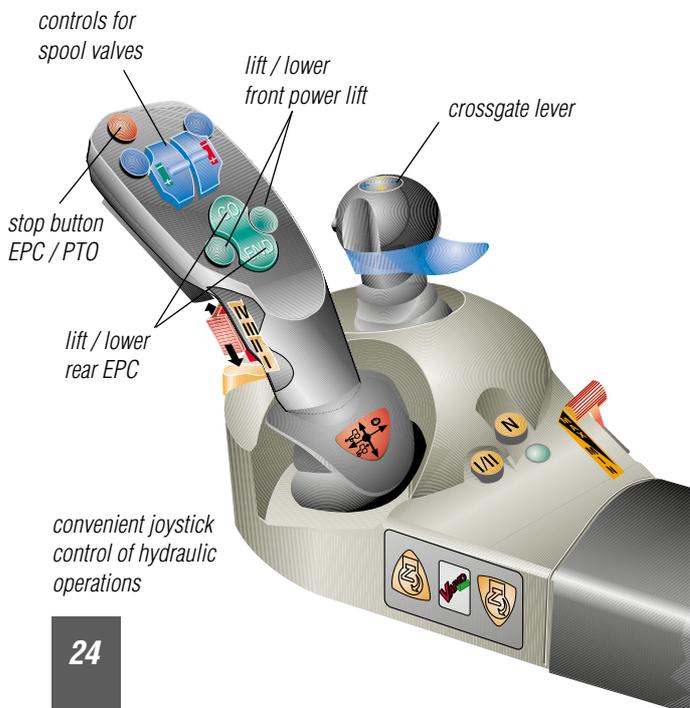
**NEW: Optional external hydraulic valve controls**

Either the 3rd or 4th hydraulic control unit can be operated externally with the pushbuttons on the rear light bracket. When using a hydraulic top link you can couple and uncouple your implements ever faster. Or, for example, you can control the hydraulic slider on your slurry wagon without having to climb up.

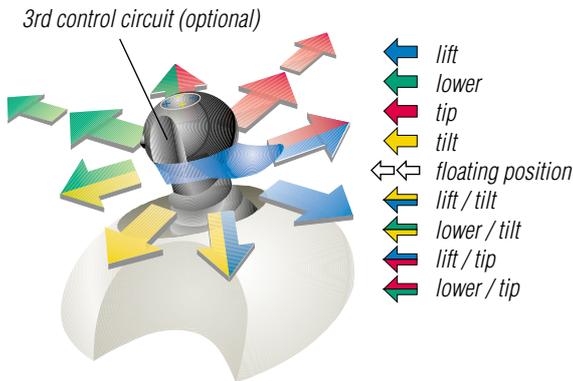


**Optional with double connect-under-pressure couplings**

The new connection ensures simple and leak-free connections – whether the pressure is on the tractor and/or implement side.



# FRONT LOADER OPERATION LIKE A WHEELED LOADER



## Front loading in control with the crossgate lever

That the Vario 800 TMS has been consequently designed for front loader operation is evident in the ergonomically optimized crossgate lever. The front loader can be controlled easily and precisely using only one lever.

## Mounting and removing : Quick and easy

Single-phase mounting and removing of the front loader via the cast console is completed in a matter of minutes. Because of the reinforced frame design, the front loader can be mounted by simply using the front axle suspension system – without requiring support at the front and without the use of tractor hydraulics. This also ensures a high degree of working safety.

A quick and tool-free mounting system is necessary, if the front loader is really only to be mounted onto the tractor when required for loading operations. Further evidence of the excellent co-ordination between front loader and Vario is the superb visibility to the front, as well as easy access for servicing.

*The performance values of the integrated Fendt front loader and the ideal control comfort of the 800 Vario TMS are a perfect pair for heavy-duty operations. Especially where a high lift capacity and loading height are essential, this perfectly adapted unit – Fendt front loader and 800 Vario TMS – impresses with unparalleled performance.*

## Vario TMS – driving pedal mode for manoeuvrability like a wheeled loader

The new driving pedal strategy combined with the new forward/reverse gearshift assembly guarantees maximum performance.

### Advantages:

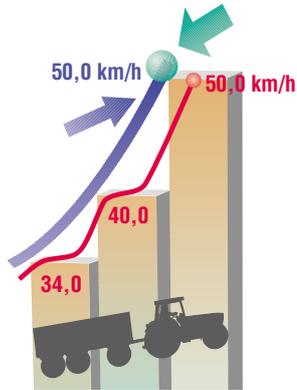
- combined suspension system comprising front axle with auto levelling control and front loader suspension
  - excellent control comfort through electric apportioning valves
  - hydraulic multi-coupler for an accurate and safe coupling process
  - max. service-friendliness – thanks to perfect adaptation
  - superior safety concept with load holding valve, shock load protection valve, pipe-fracture safety feature, lowering control valve, overload valve
- Fendt front loader tools for an optimum fit and maximum performance

More in the Fendt-  
front loader brochure

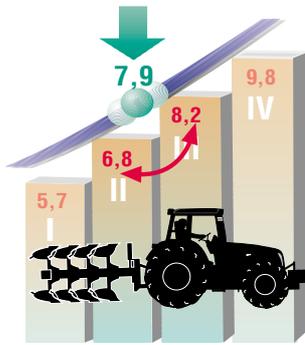


Why you accomplish more with Vario HP's

# THE REASON WHY YOU EARN MORE WITH A FENDT VARIO



stepless to 50 kph



Select the exact speed you need

## Fendt-Vario – better than powershift

With stepless variable speed, you can utilize power reserves that aren't even available to modern powershift transmissions. With conventional transmissions you are always one gear too high or too low because of the steps. Vario allows you to mobilize the power reserves that are hidden in between the steps. You get even more power with Fendt Vario.

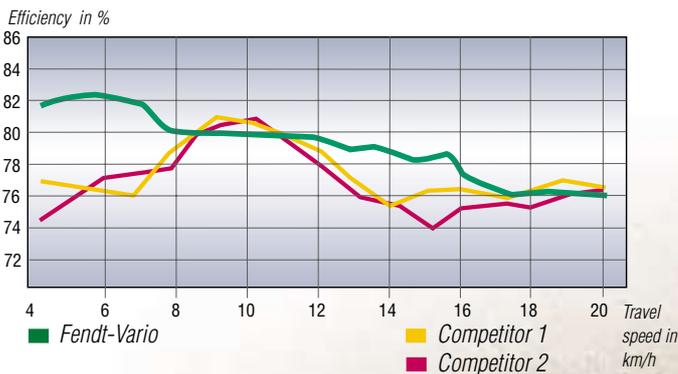
The Fendt Vario is a genuine stepless drive. Fendt engineers have exhausted the potential of powersplitting persistently, using special efficiency-enhanced large-sized hydrostats. Smooth and jerk-free acceleration is possible over the entire travel speed range. The 50 kph top speed can be attained and maintained at a reduced engine speed of 1700 rpm. That provides maximum efficiency over the entire travel speed range.

## Vario von Fendt – you benefit from our experience

The number of Varios, which has been manufactured and sold, speaks for itself, and shows the Vario's popularity with professional farmers and agricultural contractors. Comparison tests carried out by renowned trade journals also confirm the strengths of the Fendt technology again and again. Only Fendt offers Vario technology ranging all the way from 95 to 310 HP.

## Vario from Fendt – not only comfortable but profitable too

Don't let yourself be misled. Vario isn't just about making operation easier (that's only impressive in the dealer's yard) – the Fendt Vario also returns your investment every day during hard-working real-life operation. Independent tests have determined an estimated increase in value through Fendt Vario of approximately 15,000 €. Vario from Fendt pays for itself.



Efficiency of various stepless transmissions (according to DLG)

<sup>1</sup> Nürtingen University, DLG testing station  
Farmers Weekly March 2001  
Boerderij 21/2001  
Top Agrar 12/2002



# AUTO-GUIDE

# SATELLITE GUIDANCE SYSTEM OPTIONAL FOR THE 800 VARIO<sup>TMS</sup>

The Fendt Auto-Guide system gives you pass-to-pass accuracy the easy way – without having to use conventional marking systems. It allows you to achieve a higher degree of utilization for your tractor and implements. That is a significant increase in productivity, which also means an increase in profit for you.

### Increase your productivity

Lower your costs through savings in fuel, working time and operating materials (seeds, fertilizer, pesticides). The constant use of the full working width reduces implement wear.

You remain fit longer since you can concentrate fully on the implement while the system takes care of the precise steering for you. That allows you to drive faster and working quality remains consistent over the whole day. Even at night or in poor visibility conditions such as fog or dust, you can drive with guaranteed pass-to-pass accuracy.

At the headland always select the row which you can reach in one turning manoeuvre, that shortens turning manoeuvres considerably. Thanks to Auto-Guide, at the end of the day you have a perfectly worked field without overlaps or skips.

### Advantages at a glance:

- Prevents overlaps and skips
- Savings in fuel and working time
- Lower costs for operating materials
- Driver stress relief, fatigue-free driving
- Working quality remains consistent around the clock
- Perfect pass-to-pass accuracy even at night and under poor visibility conditions
- Faster turning manoeuvres

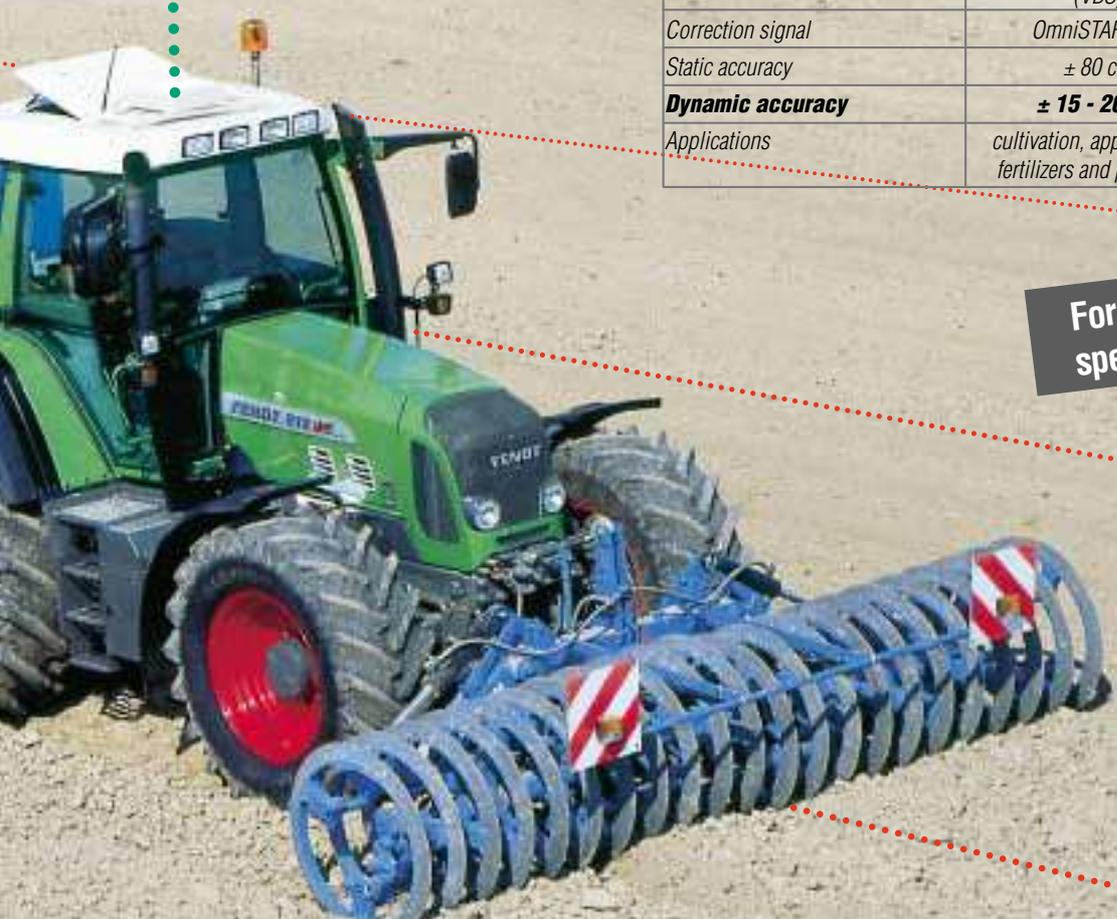
### Simple operation

Using the colour control terminal, you set an imaginary line with two points. All other settings are made with the terminal. After setting the working width, all further swaths are kept exactly parallel <sup>1)</sup> to this line.

<sup>1)</sup> Auto-Guide performance data is dependent on the data from the GPS provider and the chosen correction signal.

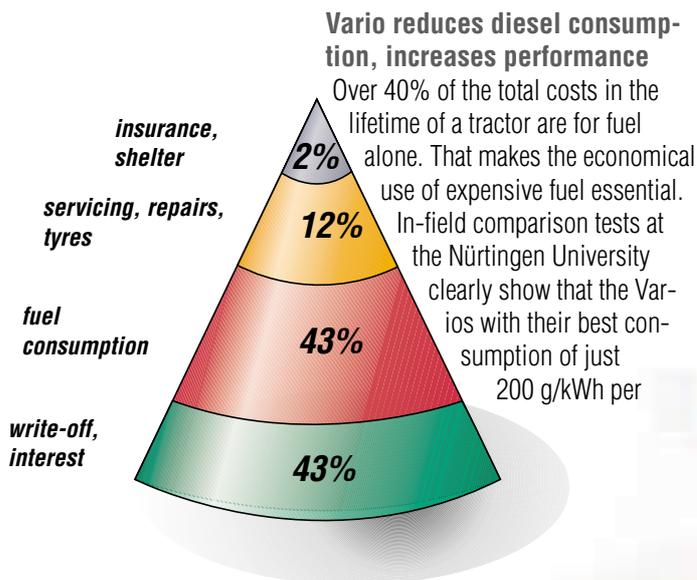
	System Standard (VBS)	System Precision (HP)
Correction signal	OmniSTAR VBS	OminSTAR HP
Static accuracy	± 80 cm	± 10 cm
<b>Dynamic accuracy</b>	<b>± 15 - 20 cm</b>	<b>± 5 cm</b>
Applications	cultivation, application of fertilizers and pesticides	drilling, planting, appl. of fertilizers and pesticides

For further information see the special Fendt Auto-Guide brochure



# SUPERIOR PRODUCTIVITY AND LOW OPERATING COSTS PER HOUR THANKS TO VARIO

*Those who like to compare the actual costs involved in investing in a new tractor, consider the overall costs and the operating costs per hour or hectare. These comprise four factors: utilization and write-off, fuel consumption and servicing costs as well as the resale value. All four criteria result in the overall profitability of the investment.*



hectare or hour, consume significantly less fuel than competitors and accelerate faster too. That pays off in the long run because you offset the initial purchase price with every hour of operation.

## Reduced maintenance costs through long service intervals and integrated diagnostic system

The 800 Vario<sup>TMS</sup> is designed for long service intervals and reduced oil quantities that need to be changed in the key areas engine, transmission and hydraulics even including the lubricating points. The engine oil only needs to be changed every 500 hours, the transmission oil every 2000 hours.

## Excellent resale value

A further advantage: many operating hours later when you decide to sell your Fendt tractor, you will be delighted to see how it has kept its value. That adds another plus in the overall profitability calculation.

## Fendt brand quality pays off

Overall profitability is the key benefit of your Fendt 800 Vario<sup>TMS</sup>. The higher price you pay at the start is offset by high performance and low fuel costs during every hour of operation.



\* Nürtingen University, DLG-Testing Station  
Farmers Weekly March 2001  
Boerderij 21/2001  
Top Agrar 12/2002

# FENDT SERVICE AND SUPPORT

## Consultation: the way to a tailor-made Fendt

Fendt sales agents are experienced specialists who will give extensive advice and information on technology, equipment and the overall profitability of a Fendt tractor.

## 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 realize how big the difference really is when compared with other tractors.

## FENDIAS for first-class workshop and service quality.

The state of the art mobile diagnostic system FENDIAS, used by FENDT sales agents, helps to increase the number of operating hours by reducing down-times caused by time-consuming fault finding. All faults are automatically stored, and can be called in by the mobile Fendt sales agent on his laptop computer. This technology saves time and money.

## Spare parts with Fendt Night Express Service

An essential part of the first-class service quality of every Fendt sales partner is the electronic parts catalogue FENDOS, which makes rapid, accurate ordering and no-delay delivery of Fendt-original spare parts and accessories possible. If ordered by evening, your Fendt sales partner will have the spare part by 7 a.m. the following morning thanks to the Fendt Night Express Service.

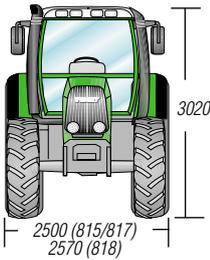
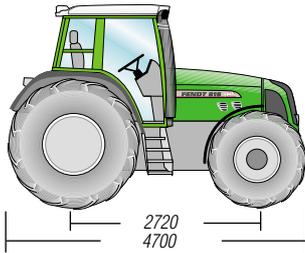
*The name Fendt has always been synonymous with trailblazing technology and top quality; today we are also at the forefront in providing first-class service and support for tractor and driver. We offer the customer maximum profitability and competitiveness in an active market place.*

*True to our motto: "Move ahead with us".*



# TECHNICAL SPECIFICATIONS

## Dimensions



## Fendt 800 Vario TMS

	815	817	818
<b>Engine</b>			
Rated power (kW/HP) (ECE R24)	110 / 150	121 / 165	132 / 180
Max. power (kW/HP) (ECE R24)	124 <sup>1)</sup> / 168	132 <sup>2)</sup> / 180	143 <sup>3)</sup> / 195
Rated power (kW/HP) (EG 97/68)	121 / 165	128 / 174	139 / 189
Max. power (kW/HP) (EG 97/68)	129 / 175	136 / 185	147 / 200
No. of cylinders / cooling	6 / water / four-valve technology		
Aspiration / engine control	turbocharger / intercooler / EEC		
Bore / stroke (mm) / displacement (cm <sup>3</sup> )	98/126/5702		
Rated engine speed (rpm)	2100	2100	2100
Engine speed at max. power (rpm)	1800–2000	1800–2000	1800–2000
Max. torque (Nm/rpm)	730/1450	780/1450	847/1450
Torque rise (%)	37	37	37
Optim. fuel consumption (g/kWh)	200	200	198
Fuel tank (l)	340	340	340
Oil change interval (operating hrs.)	500	500	500
<b>Transmission and PTO</b>			
Type	stepless Vario transmission		
Travel ranges: Field (forward / reverse)	0,02 to 28 km/h / 0,02 to 16 km/h		
Road (forward / reverse)	0,02 to 50 km/h / 0,02 to 37 km/h		
Top speed (km/h)	50 <sup>3)</sup> / 50 <sup>3)</sup> / 50 <sup>3)</sup>		
Rear PTO (rpm)	540/750/1000		
Front PTO <sup>1)</sup>	540 or 1000		
<b>Hydraulics</b>			
Type	load sensing		
Hydraulic pump capacity (l/min)	110	110	110
Working pressure (bar)	200	200	200
Rear power lift control	EPC, lower link control, shock load stabilising		
Additional valves max. (standard) incl. front position control	5 da <sup>2)</sup> (4 da) electr. valves / crossgate lever pump with pressure-controlled vol. adj.		
Max. lift capacity, rear power lift on the drawbar (kN/kp)	90,8/9255	90,8/9255	90,8/9255
Max. lift capacity, front power lift (kN/kp)	44,4/4526	44,4/4526	44,4/4526
Max. available hydraulic oil (l)	45	45	45
<b>Brakes</b>			
Rear brakes	wet, integrated multi-disc brake		
Front brakes	wet brakes on cardan shaft air brakes, spring-loaded hand brake		
<b>Weights and dimensions</b>			
Unladen weight acc.to DIN 70020 (kg)	6650	6650	6800
Perm. all-up weight (kg)	12500	12500	12500
Power-weight ratio per HP (kg)	40	37	35
Payload (kg) / max. payload (kg) <sup>1)</sup>	5850	5850	5700
Max. load on hitch (kg)	2000	2000	2000
Overall length (mm)	4700	4700	4700
Overall width (mm)	2550	2550	2550
Overall height (mm)	3020	3020	3020
Ground clearance (mm)	570	570	570
Wheel base (mm)	2720	2720	2720
Front track with standard tyres (mm)	1940	1940	1940
Rear track with standard tyres (mm)	1920	1920	1920
Min. turning radius (m) / with steering brake (m)	5,6	5,6	5,6
<b>Electrical equipment</b>			
Starter (kW)	3,1		
Battery (Ah)	12 / 174		
Alternator	1800 W / 12 V / 150 A		
<b>Cab</b>			
Construction	integrated, sound-proofed, sprung safety cell for the driver, tiltable		
Climate control	ventilation system with blower in roof hot water system with 3-speed fan hinged front, side and rear windows air conditioning (standard)		

<sup>1)</sup> = upon request, <sup>2)</sup> = can be operated as single-acting,

<sup>3)</sup> = depending on country, \*) = applicable power rating for registration

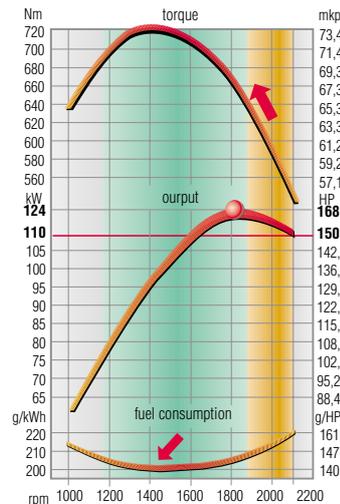
## Tyres

	815		817		818	
	front	rear	front	rear	front	rear
Standard	480/70R30	580/70R42	480/70R30	580/70R42	540/65R30	650/65R42
Optional	600/65R28	710/70R38	600/65R28	710/70R38	600/65R28	710/70R38
	540/65R30	650/65R42	540/65R30	650/65R42	480/70R30	580/70R42
	480/70R30	620/70R42	480/70R30	620/70R42		620/70R42
		650/65R38		650/65R38		650/65R38
		650/75R38		650/70R38		650/75R38
	540/65R28	580/70R38	540/65R28	580/70R38	540/65R28	580/70R38
		20,8R38		20,8R38		20,8R38
	270/95R38	300/90R52	270/95R38	300/90R52	270/95R38	300/90R52
	710/55R30	900/50R42	710/55R30	900/50R42	710/55R30	900/50R42

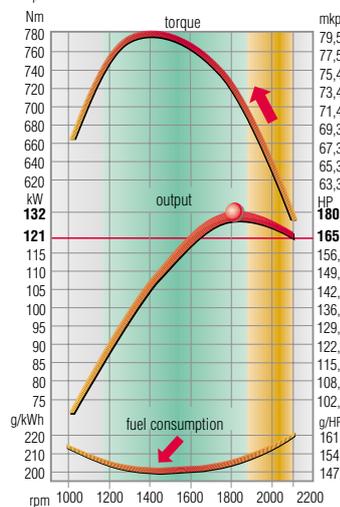
## Standard and optional equipment

■ Standard specification □ Optional equipment (on request at extra cost) – not available	815 Vario TMS	817 Vario TMS	818 Vario TMS
<b>Vario controls</b>			
Varioterminal for fine adjustments	■	■	■
Variotronic™ Headland Management System	■	■	■
Variotronic Implement Control for ISO- and LBS impl.	■	■	■
Camera to the Varioterminal	□	□	□
Vario TMS Engine-Transmission Management System	■	■	■
Preparation for guidance system	□	□	□
Guidance system Auto-Guide with VBS or HP	□	□	□
<b>Cab</b>			
Pneumatic cab suspension	■	■	■
Fendt Comfort Seat, air suspension with back rest extension, lumbar support	■	■	■
Fendt Super Comfort Seat with pneum. lumbar support extension and low frequency suspension	□	□	□
Radio mounting kit with two speakers	■	■	■
Blaupunkt radio, with either cassette or CD/MP3 player and coaxial speakers	□	□	□
Roof hatch	■	■	■
Hot water heater with 3-speed fan	■	■	■
Ventilation with infinitely adj. fan in roof	■	■	■
Air conditioning	■	■	■
Rear window wash/wipe	□	□	□
Heated rear window (incl. wash/wipe)	□	□	□
External mirrors with mech. width adjustment	■	■	■
Roof working lamps front and Twin-Power rear	■	■	■
Working lamps, front A-pillar and rear mudguard	□	□	□
Xenon working lamps front A-pillar	□	□	□
Xenon working lamps rear mudguard	□	□	□
<b>Engine</b>			
Electronic Engine Control	■	■	■
Turbocharger and intercooler	□	□	□
Engine preheater	□	□	□
Exhaust brake	□	□	□
Fuel pre-filter	□	□	□
Zyklon pre-cleaner	□	□	□
<b>Transmission</b>			
Stepless Vario transmission	■	■	■
Tempomat, automatic maximum output control	■	■	■
50 km/h top speed	■	■	■
<b>Chassis / safety features</b>			
Four-wheel braking system	■	■	■
Compressed air system	■	■	■
Front-axle suspension with levelling control	■	■	■
Shock load stabilizing system	■	■	■
<b>AWD / differential locks</b>			
Central all-wheel drive, maintenance free	■	■	■
Comfort control for AWD / differential locks	■	■	■
Rear / front differential with 100% disc locking	■	■	■
<b>Power shift PTO's</b>			
Rear: 540/750/1000 rpm	■	■	■
Front: 540 rpm or 1000 rpm	□	□	□
Comfort controls PTO, electrohydr. preselection	■	■	■
External controls for rear PTO	■	■	■
<b>Hydraulic system</b>			
EPC (electronic power lift control)	■	■	■
External controls for rear power lift	■	■	■
Down-force power lift	■	■	■
Radar-activated wheel slip control	□	□	□
Upper link SK hydraulic	□	□	□
Electrohydraulic remote control at rear	□	□	□
External hydraulic connection (load-sensing)	□	□	□
Double connect-under-pressure couplings at rear	□	□	□
Crossgate lever / joystick	■	■	■
External controls for hydraulic control unit at rear	■	■	■
Front power lift	■	■	■
Front power lift with position control and external control	□	□	□
<b>Additional equipment</b>			
Automatic hitch at rear	■	■	■
Ball coupling	□	□	□
Pickup hitch	□	□	□
Swinging drawbar	□	□	□
Front weights 870/1800 kg	□	□	□
Front weights without front power lift 1270 kg	□	□	□
Wheel load weights at rear 2/4 x 300 kg	□	□	□
Twin tyres front and rear	□	□	□
Wide load warning	□	□	□
Warning beacon	□	□	□
Swivelling front wheel mudguard	■	■	■

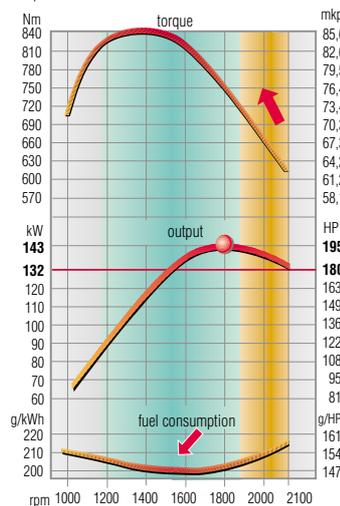
## Engine characteristics



**Fendt 815 Vario TMS**  
**37% torque rise**  
**18 HP extra power**



**Fendt 817 Vario TMS**  
**37% torque rise**  
**15 HP extra power**



**Fendt 818 Vario TMS**  
**37% torque rise**  
**15 HP extra power**

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.

**LEADERS  
DRIVE VARIO!**



Sales agent:

800V/1.0-GB/10-04/2.5-E



AGCO GmbH  
Fendt-Marketing  
D-87616 Marktoberdorf  
Fax (0) 8342 / 77-684  
[www.fendt.com](http://www.fendt.com)