MF 8400

Winner 2004

TRACTOR OF THE YEAR 2005
WINNER

Ultimate power...ultimate control

4 *Dyna-VT* models : 215 to 290 hp

MASSEY FERGUSON


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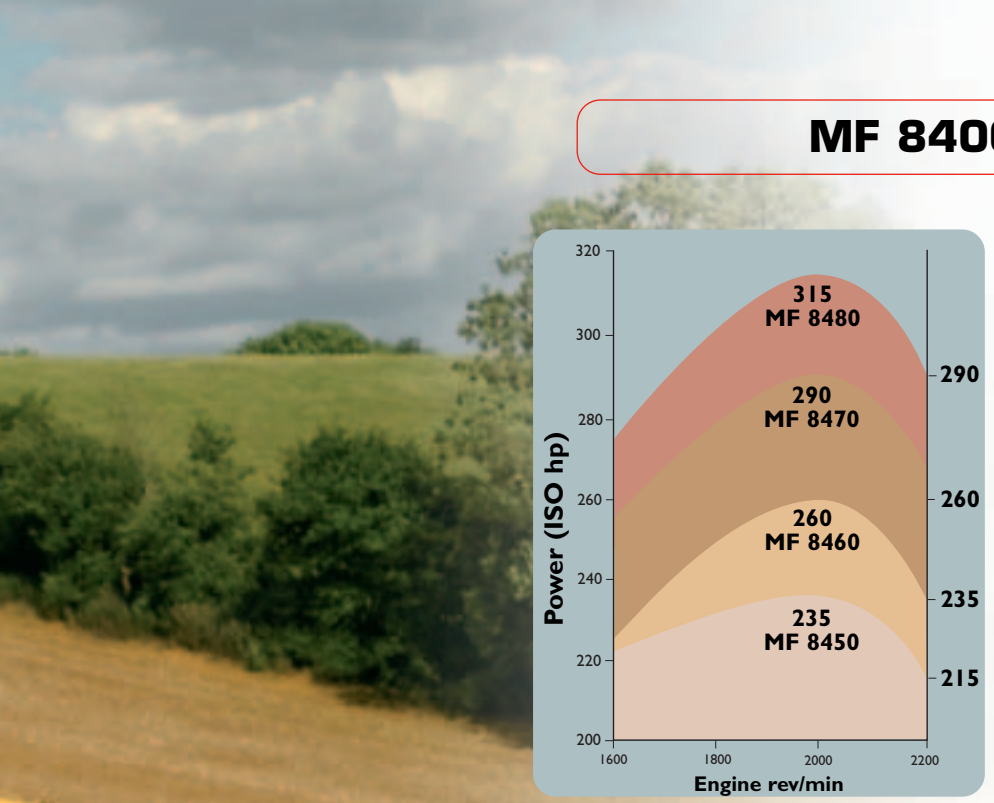
MF 8400 with *Dyna-VT* : There's simply no other choice...



The new MF 8400 Series 'CVT' range extends to over 300 hp

The award-winning 8400 Series from Massey Ferguson with its equally celebrated continuously variable transmission offers uncompromising performance in a range of models to over 300 hp. So you can tackle the most demanding tasks with cool, calm efficiency.

And to go with this ultimate tractor is the ultimate support package. The MF 8400 Series is backed by manager - a comprehensive service and repair contract that gives known operating costs for up to five years; giving you total peace of mind.

More profit

The very latest high capacity 'common rail' SISU Diesel engines provide huge power and torque and work in perfect harmony with Dyna-VT to give exceptional operating ease and flexibility.

With true infinitely variable speed control, Dyna-VT breaks the link that exists in a conventional transmission between engine speed, ground speed and PTO speed. With minimal driver input, the precise engine speed and ground speed for any job can be achieved, so it's easy to maximise performance and productivity whilst lowering operating costs.

Comfort, speed and safety

The longest working days are no problem in the superb climate-controlled cab. High levels of specification available include advanced field and headland management systems, dual stage cab suspension and now, QuadLink front suspension, enabling transport speeds of 50 km/h where legislation permits. Options also include the advanced Auto Guide automated steering system and updated ISOBUS-compatible Datatronic III, which also incorporates video capability.

At 71 dB(A), the cab has to be tried to be fully appreciated too. In fact, since their introduction, MF 8400 Series tractors have been consistently - and independantly - rated as the quietest in their horsepower sector.

The MF 8400 range

Model	Engine	Capacity	ISO hp[1]	ISO hp[2]
MF 8450	6 cyl. turbo/intercooled	7.4 litre	215	235
MF 8460	6 cyl. turbo/intercooled	7.4 litre	235	260
MF 8470	6 cyl. turbo/intercooled	8.4 litre	260	290
MF 8480	6 cyl. turbo/intercooled	8.4 litre	290	315

[1] ISO TR14396 @ 2200 rev/min [2] ISO TR14396 @ 2000 rev/min

Hard work has never been this easy

The MF 8400 will help you to work more productively, more accurately and more economically. And it will enable you to achieve all of this with greater ease, comfort and simplicity than you could ever imagine.

Thoughtful design

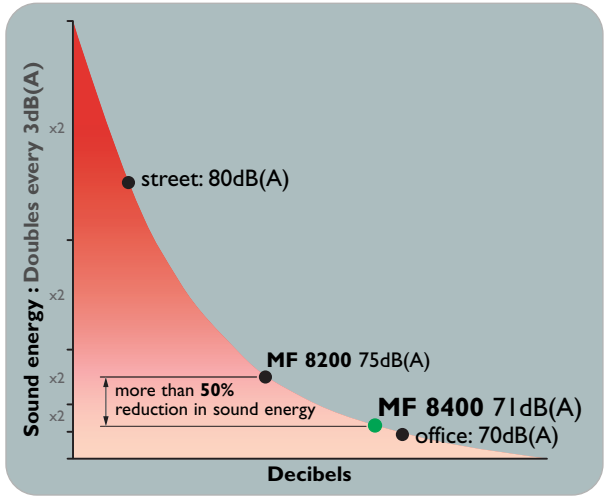
The spacious cab features a well-planned layout, with superb instrumentation, intuitive Dyna-VT controls and levers and switches thoughtfully grouped by function. All of the most frequently used controls are mounted conveniently in the armrest, which moves with the seat, so everything always falls readily to hand.

Armrest-mounted controls now include new toggle switches, providing fingertip operation of four spool valves (a 5th valve is available as an option). Electronic control of the valves allows flow from each valve to be set and memorised at the touch of a button.

Quiet power

In addition to the well-positioned, intuitive controls, the MF 8400 Series has an exceptionally quiet cab too.

With in-cab noise levels of 71dB(A) under load, working long, hard hours becomes far less stressful and more productive. And the benefit isn't only in the maximum noise level. The tone of the sound has also been 'tuned' to reduce irritation, and vibration levels have been decreased too. ***The result is a driving experience that really has to be tried to be fully appreciated.***



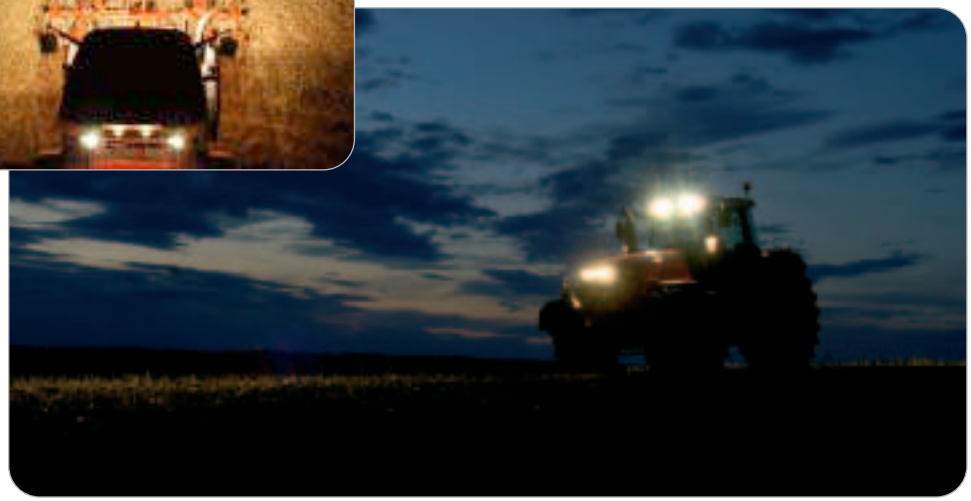
At 71 dB(A), in-cab noise levels have been reduced by nearly half over previous models at similar horsepower, providing an incredibly relaxed driving environment.

Comfort, safety and simplicity, leading to greater productivity. The MF 8400 Series has the ideal driver environment. (Optional GTA Console with Datatronic III shown)

Maintain output, day and night

Standard 'set-and-forget' Climate Control

Standard lighting is excellent (below). Options include super-powerful Xenon work lights.



A breath of fresh air

Fitted as standard, the 'climate control' system has seven, well-spaced air outlets giving excellent air distribution and accurate temperature control. It will even memorise your chosen temperature setting and return to it at start-up… automatically.

Excellent visibility

A 5.7m^2 surface area of tinted, heat-reflective glass, narrow pillars and side-mounted exhaust all help to ensure excellent all-round visibility. The large telescopic rear view mirrors, with electric de-icing and adjustment, are a further aid to safe manoeuvring and transport in all conditions.

The standard lighting enables high night-time productivity, with Xenon lights available as an option if your business demands a lot of after-dark work.

Up to 50 km/h* in comfort and safety

* Depending on market/legislation

Ride comfort, particularly at higher speeds, is of paramount importance for both safety and high productivity. The MF 8400 high specification seat provides exceptional comfort, but ride quality is greatly enhanced with the fitment of QuadLink front axle suspension and Dual Stage cab suspension as standard.

The high specification swivelling seat, featuring armrest mounted controls and seat heating (inset)

High specification seats

The top specification swivelling seat is fully adjustable and includes double pneumatic lumbar support, pneumatic height adjustment, plus height and fore and aft adjustment of the right-hand armrest so that the armrest-mounted controls can be perfectly positioned. The seat covering has a heat-absorbing 'active carbon' layer for greater comfort in really hot conditions, and also seat heating for those cold winter mornings.

But high specification seats are just part of the MF 8400 Series' ride comfort story...

QuadLink suspension

MF's QuadLink suspended front axle is now fitted as standard, to further enhance ride comfort and control. It features a simple design that automatically maintains a constant suspension height, regardless of axle load.

Operator controlled

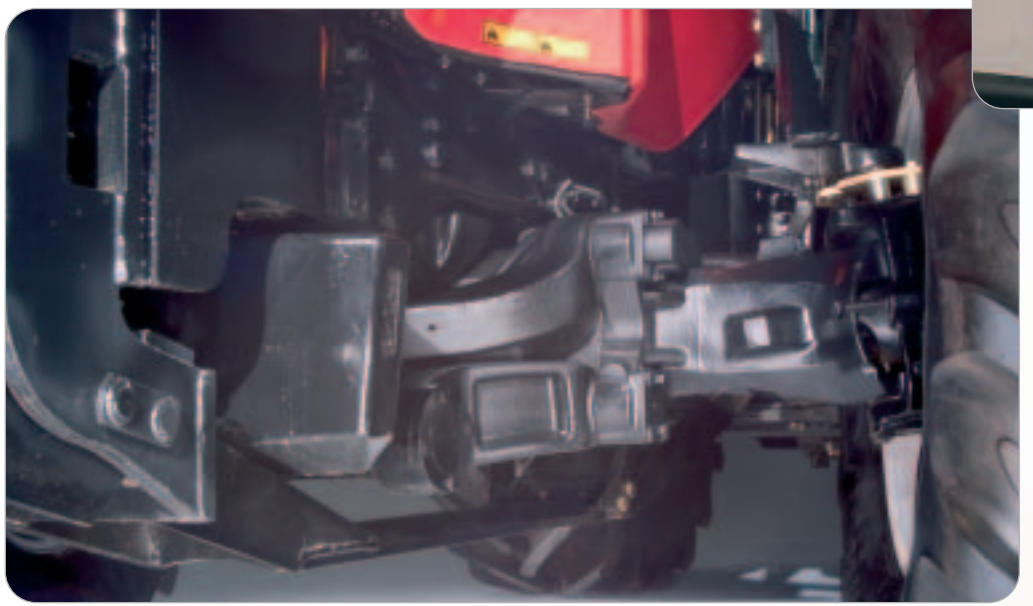
Unlike many other systems, QuadLink is operator controlled so you can choose whether you want the system on or off.

For example, when working in the field with front linkage, where a uniform depth of cultivation must be maintained, it is essential that the operator is able to deactivate the system. QuadLink gives you total control.

Benefits on the road

Enabling transport speeds of up to 50 km/h (legislation permitting), heavy haulage tasks are faster, safer and more fuel-efficient. With Dyna-VT, once you have reached maximum road speed, simply throttle back to the most efficient engine speed, saving fuel and reducing in-cab noise.

QuadLink and cab suspension switches, giving full operator control



The new MF 8400 QuadLink front axle enables safe high speed transport and improves traction in the field

Benefits in the field

But it's not just on the road where the benefits can be felt. In the field, there is a reduction in vibration and an increase in traction and stability. This means reduced fuel consumption and tyre wear and ultimately less down-time, as shock-loads are reduced on all components.

Dual Stage suspended cab

Finally, to provide the ultimate in ride comfort, MF's cab suspension system is also standard on all MF 8400 Series tractors.

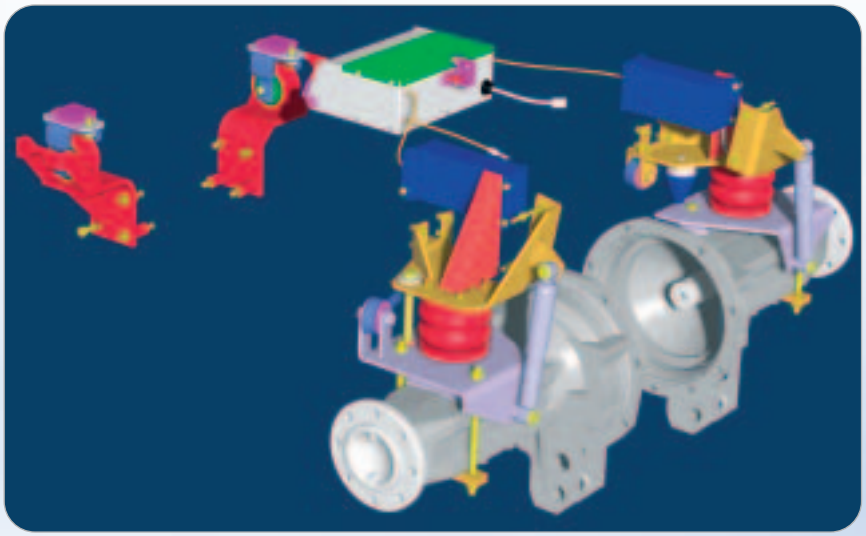
The design features dual stage air suspension that can be adjusted, at the flick of a switch, between two ride firmness settings to suit field or road transport conditions. This unique operator controlled system stabilises cab movement more effectively and also has fewer mechanical links between the cab and transaxle, so noise insulation is also improved.

Ride comfort improvement

Compared to a 'standard' tractor, the overall effect of having a high specification seat, QuadLink front axle suspension and cab suspension can be a reduction in vibration by up to 50%**.

The result is greater comfort when operating for long periods, increased productivity, particularly in heavy high-speed haulage applications, improved work quality in the field and a more relaxing working day.

** Depending on speed and field or road conditions



The cab is flexibly mounted at the front, with the 'Dual stage' cab suspension system operating at the rear

Driving with *Dyna-VT*

Anyone familiar with Massey Ferguson tractors with left-hand Power Control will immediately feel at home with the MF 8400 Series. Those with experience of other systems will quickly appreciate the intuitive, straightforward Dyna-VT controls.

Stepless speed control

Dyna-VT has two infinitely variable speed ranges, 0-32 km/h for field applications and 0-50 km/h* for transport applications.

To start work, simply move the left-hand Power Control lever into 'forward' or 'reverse' direction then push the armrest-mounted Dyna-VT lever. The further you push the lever, the faster you accelerate. No shifting of gears. No jerks. No breaks in traction or power; **just infinite speed control from 'supercreep' to high transport speeds!**

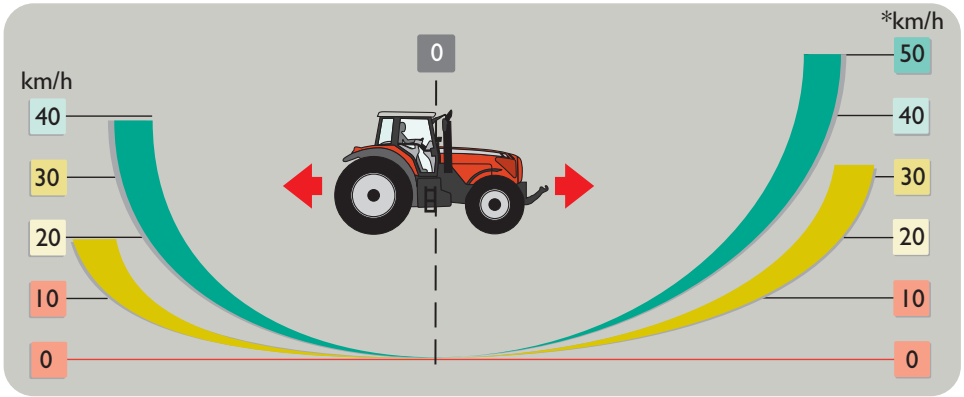
To slow down, simply pull the lever back. When you've reached the chosen speed, just release the lever.

Left hand Power Control

If you prefer left-hand speed control, the Power Control lever operates in a similar way, with speed increasing more rapidly the longer the lever is held in the 'forward' or 'reverse' position. The Power Control lever also gives convenient, left-hand control of forward/reverse shuttle.

In some situations, baling or foraging for example, you may prefer control by the foot throttle pedal. Again no problem, simply select 'Pedal Mode' and you have total control of a variety of automated operating modes (see page 10).

* Depending on market/legislation



Convenient left-hand Power Control lever

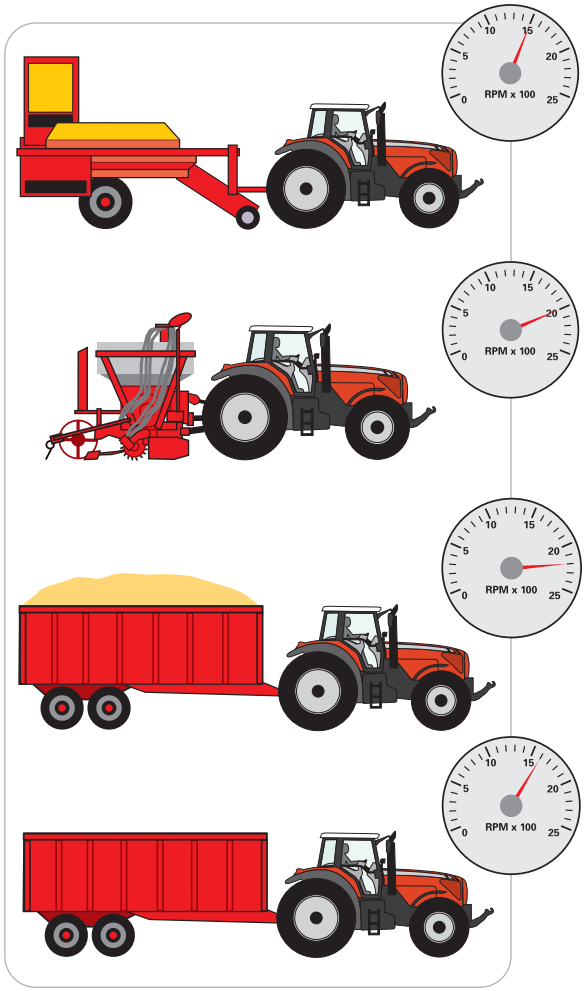
The Dyna-VT lever is mounted in the adjustable armrest, attached to the seat so it's always in exactly the right place

Two infinitely variable speed ranges cover all field and transport application needs

Dyna-VT : Versatility and precision

With Dyna-VT there is no compromise. From specialist 'creep' applications as low as 0.03 km/h to high-speed road transport, you set the parameters for power, economy and comfort so that you can easily extract the maximum performance at the lowest operating cost.

Here are just a few examples of how perfectly matched ground speed, engine speed and power requirement can benefit a wide range of applications:



Low speed and low power requirement.
Harvesting and planting - with precise ground speed control, to reduce engine speed, minimise in-cab noise and maximise fuel economy.

Low speed with a high power requirement.
Using a Power harrow/seed drill combination - with PTO power and productivity maximised and with the ability to fine-tune travel speed to optimise work quality.

Maximum speed and high power requirement.
Transporting a fully laden trailer from the field at high speed - with maximum engine power available to maintain speed on hills.

Maximum speed and low power requirement.
Towing an empty trailer to the field - at up to 50 km/h with an engine speed of only 1600 revs, to minimise in-cab noise and reduce fuel consumption.

Dyna-VT: Simple sophistication

Dyna-VT is an elegant amalgamation of tried and tested technologies giving smooth, infinitely variable speed control with low power losses.

But best of all, Dyna-VT is exceptionally easy to use, with sophisticated yet simple electronic control and programming.

Pre-set speed control

Forward and reverse speed and rate of acceleration can be pre-set within each of two ranges.

To set the speeds, simply turn the 'SV1' or 'SV2' rotary knob until the desired speed is indicated on the digital display on the instrument console. To select the pre-set speed, just press the 'SV1' or 'SV2' armrest mounted button and the speed will be maintained automatically and also memorised at engine shutdown.

Headland turns, loader work and many more field operations become faster, easier and less tiring.

Smooth forward/reverse shuttle

Moving the Power Control lever from forward to reverse position gives an incredibly smooth power shuttle, with the added benefit of being able to pre-set the relationship between forward and reverse speed. Simply dip the clutch and adjust using the Power Control lever.

Choice of operating modes

'Lever mode', where ground speed control is via the Power Control or Dyna-VT lever, is ideal in most conditions. However, in some applications simply select 'Pedal Mode' and you have control of three further operating modes, using the accelerator pedal (or hand throttle), which actually adjusts the transmission ratio rather than engine speed.

Power mode

When pulling heavily laden trailers, when full engine power is required, Power mode allows maximum engine revs to be used, to maximise acceleration and maintain high speed.

Economy mode

The perfect setting for hauling empty trailers and light road and fieldwork. The system is set for maximum economy, with the transmission increasing forward speed at lower engine revs.

It is also possible to switch between Power and Economy modes at any time.

Forager mode

In Forager (PTO) mode, the engine speed is set by the speed control and remains constant regardless of forward speed. The hand lever and pedal alter forward speed for the optimum working quality, or to match swath conditions when baling or foraging.

The 'Supervisor'

The Supervisor operates continuously and activates when engine speed falls under load. Turning the rotary control adjusts the percentage of engine speed drop (between 5% and 40%) that is permitted before Dyna-VT automatically reduces the transmission ratio.

Used in conjunction with SV1 and SV2, which set a specified engine speed, the tractor will then operate at maximum output as load fluctuates. Fine adjustments can be made on-the-move as response is immediate.

SV1/SV2 Speed memories, Dyna-VT operating modes and range selection all in one convenient 'pod'

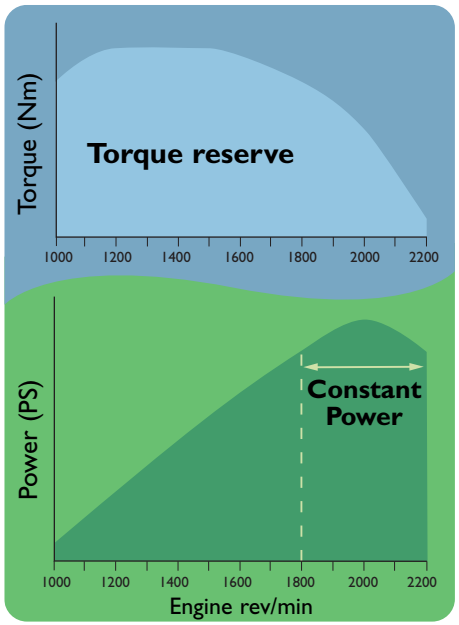
The 'Supervisor' works continuously in the background to help you to optimise productivity

A choice of operating modes for all applications

Increased work-rates with less fuel and quieter operation

New common rail, 4-valve SISU Diesel engines provide high torque with excellent 'constant power' and torque back-up, with the added benefit of lower emissions and improved fuel economy.

These characteristics work in perfect harmony with the versatility and flexibility of the Dyna-VT transmission so you can always maximise productivity with lower engine speeds, giving improved fuel economy and quieter, more relaxed operation.



The upper curve clearly shows how maximum torque is maintained between 1200 and 1500 rev/min, with steep torque rise as engine revs fall between 2200 and 1500 rev/min.

The lower curve shows high power, with 'constant power' maintained down to 1800 rev/min.

Electronic Engine Management

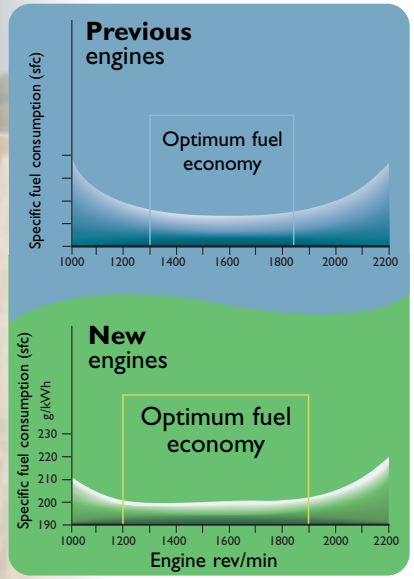
MF 8400 Series tractors all feature latest technology, 'Tier III-compliant', large capacity SISU Diesel engines incorporating latest-generation Electronic Engine Management (EEM). This enables continuous adjustment of the amount and timing of fuel injected, in relation to engine speed and load. The result is lower emissions, more power and excellent fuel economy.

EEM also enables a range of advanced engine control functions, including Engine Speed Control, which is standard on MF 8400 Series tractors.

High PTO power

The power curve (diagram, left) clearly shows the significant increase in power as engine speed falls between 2200 and 2000 rev/min. With this increase in power coinciding with PTO speed, there is always plenty of power to smooth out peak loads in heavy duty PTO applications.

Use '+/-' to pre-set engine speed and 'A/B' to memorise and select the required setting



Compared to previous generation engines, MF's electronic engine management system broadens the operating range within which the tractor is operating at optimum fuel efficiency

Engine speed control

Switches mounted conveniently on the right-hand console, enable engine speed to be pre-set and memorised.

For example when ploughing, your chosen engine speed can be selected at the touch of a 'rocker switch' (direction 'A'), then when turning at the headland, simply press the switch again (direction 'B') and engine speed is reduced. Once back in the furrow, press the rocker switch again (direction 'A') and you're back to full ploughing speed.

The ability to return quickly and easily to precise engine speeds will boost productivity, improve work quality and simplify operation in almost all of your daily tasks.

Improved fuel economy

The latest-generation Electronic Engine Management system constantly monitors a wide range of parameters and makes continual and incredibly fine adjustments to fuel injection. Combined with high pressure 'common rail' fuel injection and the 4-valve cylinder head design, this has given further significant improvements, not only in emissions but also in fuel economy.

The graph (left) shows how the MF 8400 Series achieves lower fuel consumption over a much wider range of operating conditions.

Lower service requirements

The latest engines also benefit from 400 hour service intervals, keeping down-time to a minimum and further reducing overall operating costs.

High productivity power take-off

With power, versatility and simplicity of operation as key design criteria, the PTO system has a standard specification that meets all operational demands.

High specification PTO

Fully independent 540/1000 rev/min or 540 Eco (750)/1000 rev/min PTO is available, with all controls for PTO operation grouped conveniently to the right. Additional fender-mounted engagement and emergency stop buttons also give added convenience and safety.

Power with economy

540 and 1000 rev/min PTO speeds are achieved at, or near to 2000 rev/min, which is also maximum engine power. With the benefit of a 'constant power' band of at least 400 revs and the ability, with Dyna-VT, to precisely select any ground speed at the chosen engine speed, you can always achieve a perfect match of PTO speed, forward speed and power – with optimum economy.

Economy PTO

For lighter duty work, '540 Eco' (750) PTO speed is achieved at around 1600 engine revs, further improving fuel economy and helping to reduce in-cab noise levels.

Automated PTO control

In 'Auto' mode, the PTO is automatically disengaged when the linkage is raised (or when travelling at speeds above 25 km/h) and re-engaged when the linkage is lowered.

Further reducing the need for operator input, the Transmission Controller monitors and controls PTO engagement depending on load. This gives a smoother 'take-up', giving improved driver comfort and also helping to protect both implement and tractor from damage due to inappropriate engagement.

PTO speed selection, engagement and 'Auto' activation switches are well placed and easy to operate

Fender-mounted PTO controls for added convenience and safety

Differential locks and 4-wheel drive

The Transmission Controller also takes care of many of the normally repetitive tasks of 4-wheel drive and differential lock operation.

It ensures that you have 4-wheel drive when you need it; when braking and when the differential lock is engaged, and switches it off when you don't, at over 14 km/h.

The system also engages the differential lock when you need it (after initial manual engagement); when the implement is lowered into work and disengages it when you don't; when the linkage is raised or when using independent brakes and also when travelling at more than 14 km/h.

QuadLink suspended front axle

Now fitted as standard on all MF 8400 Series tractors, the QuadLink front axle (below) has excellent ground clearance and maintains good turning angles even with larger tyre sizes.

MF hydraulics: power with precision

MF 8400 Series tractors have a lift capacity of 10500 kg. But because power is nothing without control, Massey Ferguson's Electronic Linkage Control system has been continually refined to maintain its position as the industry leader in terms of accuracy, responsiveness, ease of use and reliability.

The oil flow and pressure demands of large equipment or multiple front/rear combinations are taken care of too, with a 'closed centre load-sensing' hydraulic system as standard on all models.

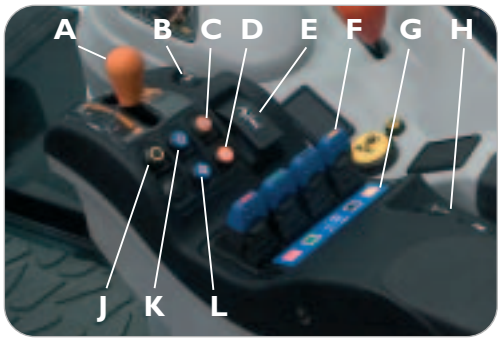
More accurate draft control

Massey Ferguson's digital ELC system gives the highest standards of draft control with more accurate depth settings and better ground contour following. The result is more weight transfer and better traction, giving less wheel slip, reduced tyre wear and fuel consumption and greater output.

Convenient controls

With the more frequently used controls armrest-mounted and a straightforward ELC control panel, accurate operation is easy. In addition to all the normal linkage control functions, the system also incorporates advanced integrated features. Sensitivity, quick soil engagement and automatic drop speed are all standard.

For faster implement attachment the rear linkage can also be operated from conveniently mounted push buttons on each rear fender.



Armrest-mounted controls:

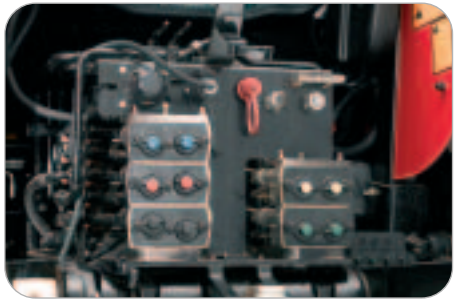
- **A. Dyna-VT lever**
- **B. ELC 'Quick entry' button**
- **C. SV1 speed memory**
- **D. SV2 speed memory**
- **E. ELC lift/lower switch**
- **F. Spool valve flow controls**
- **G. Spool valve float selection**
- **H. ELC height/depth control**
- **J. One-touch headland management control**
- **K. SMS On/Off switch**
- **L. SMS memory switch**

Natural layout of controls improves comfort and productivity

Fast hydraulic response

The Closed Centre Load-Sensing (CCLS) hydraulic system provides high oil flow for both linkage and external services with virtually instantaneous response. And as flow and pressure are automatically regulated according to demand, there's no wasted power - or fuel, used in pumping oil that's not required.

Implement hook-up is easy too, with 'decompression couplers' that enable equipment to be connected and disconnected under pressure.



'Decompression couplers' enable equipment to be connected and disconnected under pressure

Auxiliary spool valves

With four electro-hydraulic valves as standard (and a fifth optional), the new Fingertip Spool Valve Management System enables complex equipment to be controlled with ease and precision. Either partial, or when Datatronic III is specified, fully-programmed control is available (please see page 18).

Power beyond

Built into the CCLS spool block is the 'Power beyond' facility. Extra flow and return pipes provide oil flow directly from the pump, enabling additional remote spool valves to be connected, without occupying the existing couplers.

Standard Active Transport Control (ATC)

When driving across the headland or transporting heavy mounted equipment, implement 'bounce' can occur.

Active Transport Control is integrated into the ELC system as standard. It is a shock-absorbing system which minimises the 'pitching' action – automatically adjusting for different implement weights.

This gives smoother, safer, faster transport and, by reducing shock loads through the lift rams and hydraulic circuits, also minimises the risk of damage to the lift system.

ATC and QuadLink

ATC operates in conjunction with the QuadLink suspended front axle to give exceptional stability when transporting or operating mounted equipment at speed, giving greater comfort, safety and productivity.

Highly specified rear axle and linkage

Like everything else on the MF 8400 Series, the rear axle and 3-point linkage are highly specified. Twin external lift rams, high visibility pick-up hitch and drawbar, quick-attach hook top and lower links, external linkage control on both rear fenders, twin variable float telescopic stabilisers and three spool valves are all standard equipment.

Exceptionally powerful 'triple' brakes

The rear axle houses two sets of power assisted, multi-plate disc brakes, giving reassuring, fade-free braking, even with heavy loads.

Hydraulic trailer brakes are also fitted as standard, for added comfort and safety.

Powerful linkage and hydraulics provide 10500 kg lift capacity. (MF 8480 shown)

Advanced Field and Headland Management Systems

From the precision of the MF ELC system to the most sophisticated programmed control of complex front- and rear-mounted combination equipment, the MF 8400 Series has among the most comprehensive Field and Headland Management Systems available today.

Whichever level you choose, the result is simply a more relaxing, more productive working day.

Integrated Tractor Control System (ITCS)

ITCS is standard on all MF 8400 Series tractors. It is an integrated monitoring and tractor management system that gives an 'entry' level of field and headland management, that is ideal if all of the functions of Datatronic III are not required.

ITCS enables you to manage:

- Wheel slip control

ITCS provides wheel slip control, giving increased traction and improved performance with draft controlled implements.

Once switched on, on the ELC panel, within ITCS you can set maximum permitted wheel slip and monitor actual wheel slip in the left-hand display.

- Linkage/external services oil flow priority

Control, as a precise percentage, the split of oil flow to the linkage and spool valves to ensure optimum efficiency of both functions.

- 'Mini' headland control

The mini headland control interacts with engine speed control to automatically change between A and B engine speeds as the linkage is raised and lowered.

The delay in engine speed change after linkage lift/lower activation can be accurately programmed via the keypad, with a read-out, in seconds, clearly displayed on the left-hand screen.

More information with ITCS

ITCS also gives a read-out of both 'trip' and total fuel usage, and displays pre-set engine speeds, forward speed and PTO speed.

Left: A convenient keypad is used to 'navigate' and input settings in ITCS.

Information is displayed in the left-hand screen on the instrument console.

Fingertip Spool Valve Management System (SMS)

ITCS also controls the new Fingertip Spool Valve Management System, which enables precise, memorised control of four electro-hydraulic, proportional spool valves.

Programmed via the touch-sensitive ITCS keypad, the Fingertip Spool Valve Management System gives fine adjustment of oil flow, plus precise pre-set kick-out timing.

Above: New armrest-mounted Fingertip SMS controls

The benefits of Fingertip SMS

Once the settings have been input, simply move the switch in the required direction and allow it to return to its 'neutral' position – then let SMS do the work for you!

The combination of memorised flow rates and timing with one-touch operation gives greatly simplified field, and especially, headland manoeuvres when operating complex equipment or front and rear combinations.

Datatronic III and the GTA Console (optional)

Datatronic III is operated via the GTA Console, Massey Ferguson's top-of-the-range operator interface for tractor management and implement control.

The GTA Console is easy to use, with just six buttons for function selection and a large rotary knob for adjusting settings.

It is available with either a black and white screen or full colour screen. ISOBUS functionality and video capability are also available*.

ISOBUS compatibility means that you can control a wide range of implements conforming to the same standard, without having to buy new control boxes. You also only have to be familiar with one control system interface.

Datatronic III

Datatronic III is available on all MF 8400 models. It enables automated operation of complex equipment and also gathers and records information in multiple memories.

* Please check availability with your Dealer

The data recorded can be displayed on the GTA Console and can also be transferred to the office computer via an SD (Secure Digital) card.

GTA 100 and 200 software

Once the data has been downloaded via the SD card, PC-based GTA 100 (standard) and GTA 200 (optional) software can be used for record keeping and analysis:

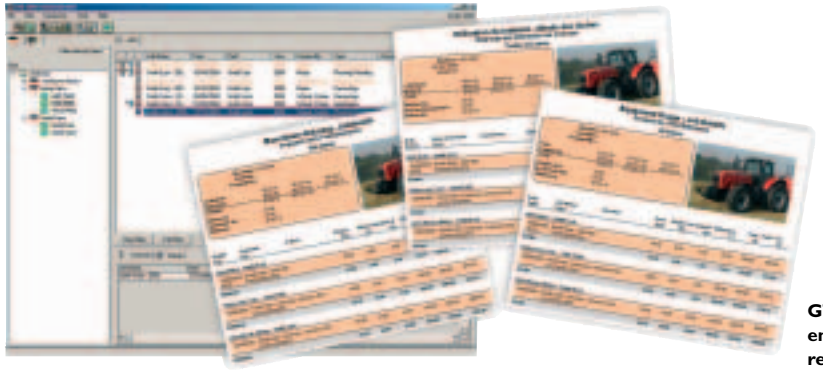
GTA 100 Communicator - enables machine use and job data to be managed, viewed and exported to third party farm management programmes. It also enables tractor settings to be made on the PC for uploading to the tractor via the SD card.

GTA 200 Record Keeping - allows machine performance data to be allocated to a specific job or field to produce a range of reports, also enabling accurate crop traceability.

Datatronic III also forms the basis of the next level of the MF 8400 Series' advanced field and headland management control systems, including Dual Control and Trailed Implement Control:

Dual Control

When using semi-mounted ploughs, Dual Control automates furrow entry and exit, aids setting the plough and improves evenness and control of work. Controlled and monitored via the standard ELC panel and Datatronic III, Dual Control automatically moves the plough's furrow/depth wheel in relation to the lower links, so Draft Control keeps the plough parallel to the ground instead of raising only the front furrows.



GTA 200 software enables a range of reports to be produced

Being controlled by a single lever, the system is exceptionally easy to use. It also gives the full benefit of wheelslip control when operating semi-mounted ploughs.

Dual Control for front linkage

Front Dual Control operates in a similar way, giving automated depth and entry and exit points with front and rear linkage-mounted equipment.

Trailed Implement Control (TIC)

Trailed Implement Control is a unique system for optimising productivity when using trailed equipment.

TIC regulates implement depth according to wheelslip. It is operated via the standard armrest-mounted ELC controls with set-up and monitoring via either the Integrated Tractor Control System or Datatronic III.

GTA Console makes settings and adjustments easy. Legibility is good in all ambient light conditions. Inset: SD memory card slot for data transfer

Right: Dual Control simplifies operation with semi-mounted ploughs

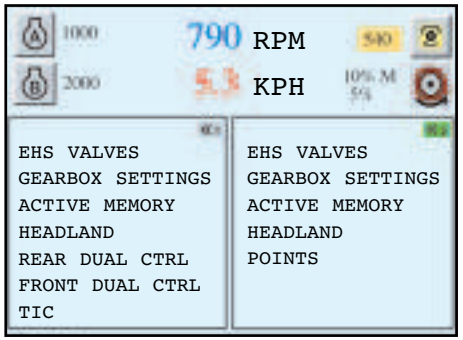
Fully programmed headland and implement control with Datatronic III

Datatronic III is controlled from a main menu divided into six application areas: Work, Settings, Headland, EHS valves, Memories and Dual Control.

Detailed below is a brief summary of some of the features accessed from within each of these main categories.

Work menu

This application is used to display and control a wide range of tractor settings and parameters. At the top of the screen, engine and PTO speed, forward speed and wheel slip information is displayed. In the lower section, a wide range of tractor functions can be displayed and controlled.



The Work screen enables you to monitor and programme virtually all of the tractor's electronically controlled functions

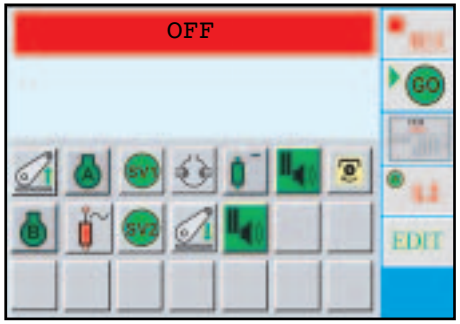
Settings menu

The Settings menu primarily enables you to set the GTA Console for the correct brightness - day or night, language, time, units of measurement and buzzer volume.

Headland menu

This menu, quite simply, gives access to the most comprehensive headland management system available today.

It enables either manual or automatic programming of up to 35 operations (from a choice of 41), including 'quick soil engagement', to be activated at the touch of a single button. The sequence can be easily modified at any time and once in the field, can be started, stopped or over-ridden at any time; *giving total flexibility and total control.*



Complex headland sequences of up to 35 operations can be programmed, including flows, timings, function activation and deactivation

Automatic programming

Simply start the 'record' sequence, select 'Auto' mode, then perform the operations of the headland manoeuvre, either static or in motion. The sequence of each action will be recorded and a time allocated for the complete manoeuvre.

Manual programming

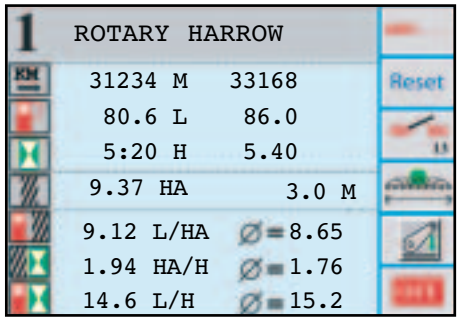
With the tractor static, simply start the 'record' sequence, then set the required functions, actions, flows and timings on the GTA Console. In both modes, the programmed sequence can be edited at any time.

Memories menu

The Memory function enables you to store the parameters of up to six different implements.

Each can be given a name and have a specific headland sequence recorded and replayed at the touch of a button. During each operation, information relating to hours worked, area worked, fuel usage, distance covered and much more, can be recorded.

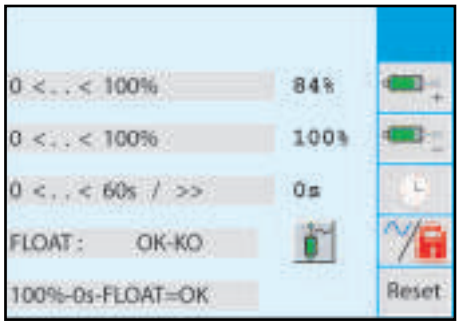
The data is invaluable for contractors and cost-conscious farm managers alike.



A typical Memory screen, showing fuel usage, hours worked, area worked and distance travelled

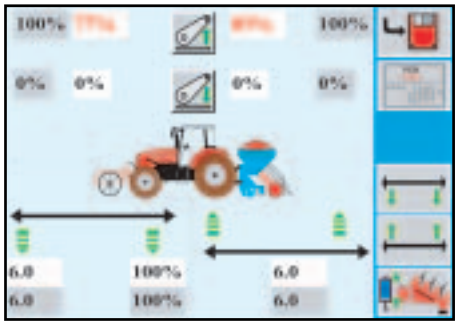
Electro-hydraulic spool valves menu

The EHS Valves menu is used to set the operating characteristics of up to four electro-hydraulic spool valves. You can enable or disable 'float' and accurately set ram extension and retraction flow rates and kickout timing.



Dual Control menu

This menu enables fully programmed command of front and rear Dual Control and Trailed Implement Control, so maximum output and work quality can be achieved with a minimum of operator input.



Memorise implement heights, entry and exit points and flow rates; replay at the touch of a button

Optional equipment...standard durability

The MF 8400 Series are premium specification tractors which can tackle virtually any task. But some options are still available to meet specific operating needs.

Front linkage

Using front/rear implement combinations is known to give significant time savings with consequent benefits in fuel usage, manpower utilisation and reduced soil compaction.

The front linkage is available with either 3.5 or 5 tonne lift capacity to suit your operating needs. Both can be specified with external lift/lower buttons for added convenience.

Auto-Guide™

For faster, precision farming, the optional Auto-Guide satellite navigation system uses leading GPS technology to guide your tractor and implements through your fields at higher rates of speed and accuracy. This is especially valuable for more accurate operation at night, in low visibility or when working in pre-emergent crops.

Auto-Guide steers the tractor, without operator input, to make parallel bouts avoiding overlap or unworked land. This reduces driver fatigue and fuel usage, eliminates unnecessary chemical application and can significantly increase productivity.

Optional front linkage, also shown, left, fitted with a front counterweight

The roof-mounted TopDoc houses the Auto-Guide electronics including the GPS receiver.

Built-in durability

With the strength of the massive castings and the integrity of its incredibly strong modular construction, the MF 8400 Series has inherent advantages over many competitive tractors. Superb balance and weight distribution give excellent load-carrying capacity and handling characteristics; and immense rigidity reduces stress on components, reducing maintenance requirements and down-time.

Simple servicing and routine maintenance

Simple servicing is a theme that runs right through the MF 8400 Series design too.

The conveniently placed engine oil dipstick and filler are safely positioned on the 'cold' side of the engine, away from the hot exhaust. Transmission oil level is easily checked and topped up via a dipstick and wide-necked filler.

And with convenient ground level refuelling, self-adjusting brakes and electronic protection of engine speed, 4WD, differential locks, PTO and transmission, routine tasks are straightforward and servicing requirements are minimised.

Hood raises on gas struts, giving excellent engine access. The radiator also slides out for easy cleaning

MF 8400 Specifications: ● = Standard ○ = Optional – = Not applicable/available

		MF 8450	MF 8460	MF 8470	MF 8480
Engine power					
@ 2200 rev/min	*ISO hp (ISO kW)	215 (158)	235 (173)	260 (191)	290 (213)
@ 2000 rev/min	*ISO hp (ISO kW)	235 (173)	260 (191)	290 (213)	315 (231)
Max. torque	*Nm	970	1071	1195	1280
@ rev/min		1200-1500	1200-1500	1200-1500	1200-1500
Torque backup	%	35	35	35	30
Specific fuel consumption†	g/kWh	201	201	200	200
*ISO TR14396 † Optimum specific fuel consumption (Manufacturer's test)					
Engine					
Water cooled, direct injection diesel	Make	SISU Diesel	SISU Diesel	SISU Diesel	SISU Diesel
Type		74CTA	74CTA	84CTA	84CTA
Capacity	litre	7.4	7.4	8.4	8.4
Number of cylinders		6	6	6	6
Aspiration		Turbo/Intercooled	Turbo/Intercooled	Turbo/Intercooled	Turbo/Intercooled
Transmission					
Type		Dyna-VT with Power Control: Stepless, Continuously Variable Transmission			
Field speed range		0.03 – 32 km/h Forward and 0.03–20 km/h Reverse			
Road speed range		0.03 – 50** km/h Forward and 0.03–38 km/h Reverse			
** Depending on market/legislation					
Power take-off					
Operation and control		Independent, electro-hydraulic, start/stop control on rear fender, with headland automation			
Speed change (6 and 21 spline shafts):					
Flanged shaft		●	●	●	●
In-cab, push-button selection		●	●	●	●
PTO speed @ engine rev/min					
540/1000 rev/min	rev/min	2030	2030	2030	2030
Economy PTO @ engine rev/min					
750 (540E) rev/min	rev/min	1600	1600	1600	1600
Shaft diameter, 35 mm (1 3/8 in)		●	●	●	●
Front linkage					
Independent, electro-hydraulic front linkage		○	○	○	○
Linkage lift capacity	kg ○	3500	3500	3500	3500
	kg ○	5000	5000	5000	5000
Linkage and hydraulics					
Linkage control		Electronic control of draft, position, Intermix, height/depth, rate of drop, 'quick soil engagement' and Active Transport Control.			
Closed Centre Load Sensing (CCLS)		●	●	●	●
Maximum oil flow @ pressure	litre/min / bar	150 / 200	150 / 200	150 / 200	150 / 200
Lower links		Category III, with quick-attach hook ends			
Maximum lift capacity,					
at link ends	kg	10500	10500	10500	10500

		MF 8450	MF 8460	MF 8470	MF 8480
Auxiliary hydraulics					
Spool valves, standard equipment		Fingertip Spool Valve Management System (4 electro-hydraulic spool valves) plus an additional electro-hydraulic spool valve as an option			
Hydraulic couplers		'Decompression' couplers with connect/disconnect under pressure function			
Steering					
Hydrostatic, tilt/telescopic steering column		●	●	●	●
Brakes					
Oil-cooled, multi-plate discs, hydraulic actuation					
With power assistance		●	●	●	●
Parking brake		Switch-operated, independent 'park lock' operating on transmission			
Trailer brakes, hydraulic, pedal operated		●	●	●	●
4WD front axle					
Max. steering angle	degrees	55	55	55	55
'Hydralock' differential lock		●	●	●	●
QuadLink suspended axle		●	●	●	●
Non-suspended axle		○	○	○	○
'Standard' wheels and tyres (Full range available, please consult your Dealer)					
Front - metric		480/70R30	480/70R30	600/70R28	600/70R28
- Imperial		16.9R30	16.9R30	–	–
Rear - metric		620/70R42	620/70R42	650/85R38	650/85R38
- Imperial		20.8R42	20.8R42	–	–
Track adjustments (with 'standard' wheels and tyres)					
Front - 'Waffle' wheels	m	1.89-2.24	1.89-2.24	1.89-2.24	1.89-2.24
Rear - Pressed, welded / Cast wheels	m	1.72-2.33 / 1.72-2.59	1.72-2.33 / 1.72-2.59	1.75-2.33 / 1.75-2.59	1.75-2.33 / 1.75-2.59
Weights and dimensions (approximate, with 'standard wheels and tyres, less fuel)					
Weight					
Minimum, no ballast, with/less QuadLink	kg	9040/8680	9040/8680	9410/9050	9410/9050
Dimensions					
Overall length, links horizontal	m	5.24	5.24	5.24	5.24
Overall height - over cab	m	3.10	3.10	3.14	3.14
Minimum width	m	2.55	2.55	2.55	2.55
Wheelbase	m	3.08	3.08	3.08	3.08
Turning circle (diameter) less brakes	m	11.5	11.5	11.5	11.5
Capacities					
Fuel tank	litre	600	600	600	600
Variable equipment		Range of wheels and tyres, 5th electronic spool valve, 3500 or 5000 kg front linkage, Xenon lights, GTA Console with DATATRONIC III monitoring and 'headland management control' system, with optional ISOBUS-standard connection and wiring harness*, plus video capability (for reversing camera etc.). Auto-Guide™ automated steering system			

* Please check availability with your Dealer

Design, testing and manufacturing

Massey Ferguson has a long tradition of innovation and engineering excellence. Based on continual questioning and analysis of farmers' needs, our products are designed, tested and built using the latest manufacturing techniques to enhance your productivity, efficiency and convenience.

World's largest distribution network

With a network of more than 5000 dealer outlets in over 140 countries, Massey Ferguson can claim to have the world's most comprehensive farm machinery distribution network, dedicated to providing local service of the highest calibre.

Financial support

Massey Ferguson retail finance schemes are widely available to help fund machinery purchase. With the emphasis on flexibility, these schemes are tailored to customers' specific business needs and to take account of cash flow and seasonal business cycles. Depending on the market, financial options include leasing, hire purchase, contract hire and loan facilities.

manager service contract

manager service and repair contract

Imagine a 5 year period of known running costs, operating at a level of optimum machinery uptime. Your Massey Ferguson dealer provides vital support to assist with the important task of budgeting expenditure. A manager service and repair contract details the hourly cost for routine maintenance and repair cover carried out on your machine by your dealer. A machine is less likely to fail if maintained by skilled Massey Ferguson technicians operating to the manufacturer's routine maintenance schedule.

There is no substitute for having a team behind you equipped with the latest technology in diagnostic and testing equipment plus years of experience and training, which means they service your machinery with a 'preventative eye', thus minimising risk of future failure.

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