

McHale

*fusion*3

INTEGRATED
BALER WRAPPER
RANGE



WWW.MCHALE.NET

The Professional Choice

MCHALE INTEGRATED BALER WRAPPER RANGE

Over the last decade, the McHale range of integrated baler wrappers have been operating across the globe in some of the world's most difficult conditions.

The McHale Fusion range has developed an award-winning reputation for providing;

- HIGH OUTPUT
- EXCELLENT RELIABILITY
- OPERATOR COMFORT
- TOP RESALE VALUE



Latest machine in the range:
MCHALE FUSION 3 PRO



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MCHALE INTEGRATED BALER WRAPPERS

3 MODELS - A RANGE TO MEET YOUR NEEDS

*The McHale integrated baler wrapper range has been designed with the demands of today's **FARMER AND CONTRACTOR IN MIND**. This common-sense approach to design ensures that each machine's operation is **KEPT SIMPLE AND USER FRIENDLY**, while delivering the highest output and reliability.*

Farmers and contractors all over the world are under pressure to reduce costs and increase output. On-going development of farming techniques has led to the need for thoroughly reliable, specialised machinery to meet these demands. The McHale name has become synonymous with the production of robust and reliable machines, making McHale the number one choice for professional users.

The McHale Fusion range is known worldwide for its reliability, unique patented bale transfer, vertical wrapping ring and high output. Designed to provide greater operator comfort and flexibility whilst maximising output and reducing maintenance intervals, the McHale Fusion has become renowned and respected worldwide for bringing baling and wrapping to a new level.

UNFOLD TO VIEW THE INTEGRATED BALER WRAPPER RANGE

The McHale **fixed chamber integrated baler wrapper range** consists of 3 models;

- 01 Fusion 3
- 02 Fusion 3 Pro
- 03 Fusion 3 Plus

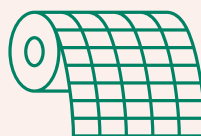
McHale also have a variable chamber integrated baler wrapper called the **McHale Fusion Vario**, to learn more about this product please contact your dealer or visit www.mchale.net



THE MCHALE FUSION 3 is a robust, fully automatic, integrated baler wrapper recognised worldwide for its unique patented bale transfer, vertical wrapping ring and high output. The machine is equipped with a 25-knife chopping unit, automatic progressive greasing system and a servo operated load sensing control valve, which when combined with the Expert Plus control console, makes the baling and wrapping process fully automatic. The machine is fitted with 560/60-22.5 tyres as standard.

Binding Material:

Net



Control Console:

Expert Plus



The Fusion 3

The following standard features apply to all machines in the Fusion 3 range:

Standard Features

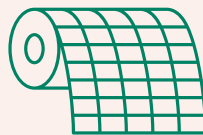
- 2.1m Pick-Up
- High Capacity Rotor
- 25 Knife Chopper Unit
- Drop Floor Unblocking
- Fully Automatic Operation
- Patented Bale Transfer
- Patented Vertical Wrapping Ring
- Automatic Grease and Oil System



THE MCHALE FUSION 3 PRO is a fully automatic integrated baler wrapper which is controlled by the iTouch control console. The McHale Fusion 3 Pro provides new levels of operator comfort with its large 7" touch screen monitor, in-cab net and density adjustment, camera, and faster wrapping speeds along with a host of other features. The McHale Fusion 3 Pro uses net to bind the bale in the chamber and features the McHale patented bale transfer and vertical wrapping ring, which are noted for their reliability, speed and positive bale transfer in hilly conditions.

Binding Material:

Net



Control Console:

7" iTouch



The Fusion 3 Pro

comes with all the standard features shown on the Fusion 3 (left) but also includes:

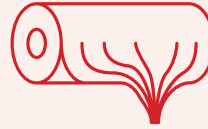
Standard Features

- iTouch Control Console
- 7" Touch Screen Display
- In-cab Net Adjustment
- In-cab Density Adjustment
- Camera
- Auto Knife Drop
- Pre & Post Wrap Bale Rotation
- 800 Job and Customer Total
- USB Data Export

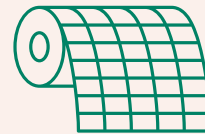
THE MCHALE FUSION 3 PLUS is a fully automatic integrated baler wrapper which can apply film or net wrap to the barrel of the bale, delivering optimum bale shape and bale density. Use of film to bind the bale results in better silage quality and easier feed out. The machine is equipped with a patented bale transfer system and a vertical wrapping ring. These two McHale patents deliver maximum output whilst keeping the machine short and compact at 5.8 metres in length.

Binding Material:

Film



Net



Control Console:

7" iTouch



Patented Bale Transfer



Integrated Baler Wrapper Advantages

- Two Jobs, One Machine
- Reduced Labour
- Lower Costs per bale
- Time Saving
- Reduced Crop Contamination

The Fusion 3 Plus

comes with all the standard features shown on the Fusion 3 & Fusion 3 Pro (left) but also includes:

Standard Features

- Film on Film Binding
- Adjustable Film Stretch from Cab
- 2nd Camera for Film Binding
- In-cab Film Adjustment

Advantages of Film on Film

- Acts as a Wrapping Layer
- Results in Better Shaped Bales
- Delivers Higher Quality Silage
- Makes Recycling Easier

FUSION 3 RANGE INTEGRATED BALER WRAPPERS

The McHale Fusion range has been designed and developed with the farmer and contractor in mind. This approach achieves greater operator comfort and flexibility while maximising output through the use of its two unique patents.

THE PATENTED BALE TRANSFER & THE PATENTED VERTICAL WRAPPING RING deliver increased levels of reliability and higher output.



BENEFITS OF INTEGRATED BALER WRAPPERS

REDUCED LABOUR AND TRACTOR COSTS

An integrated baler wrapper requires only one operator to carry out the task of baling and wrapping. This leads to a reduction in the cost of labour and allows one tractor to do two jobs reducing associated costs like insurance and wages.

TWO JOBS, ONE MACHINE

The Fusion 3 range can provide the operator with the flexibility to produce bales without the need to return to the yard to change machines for baling or wrapping over the course of a day.

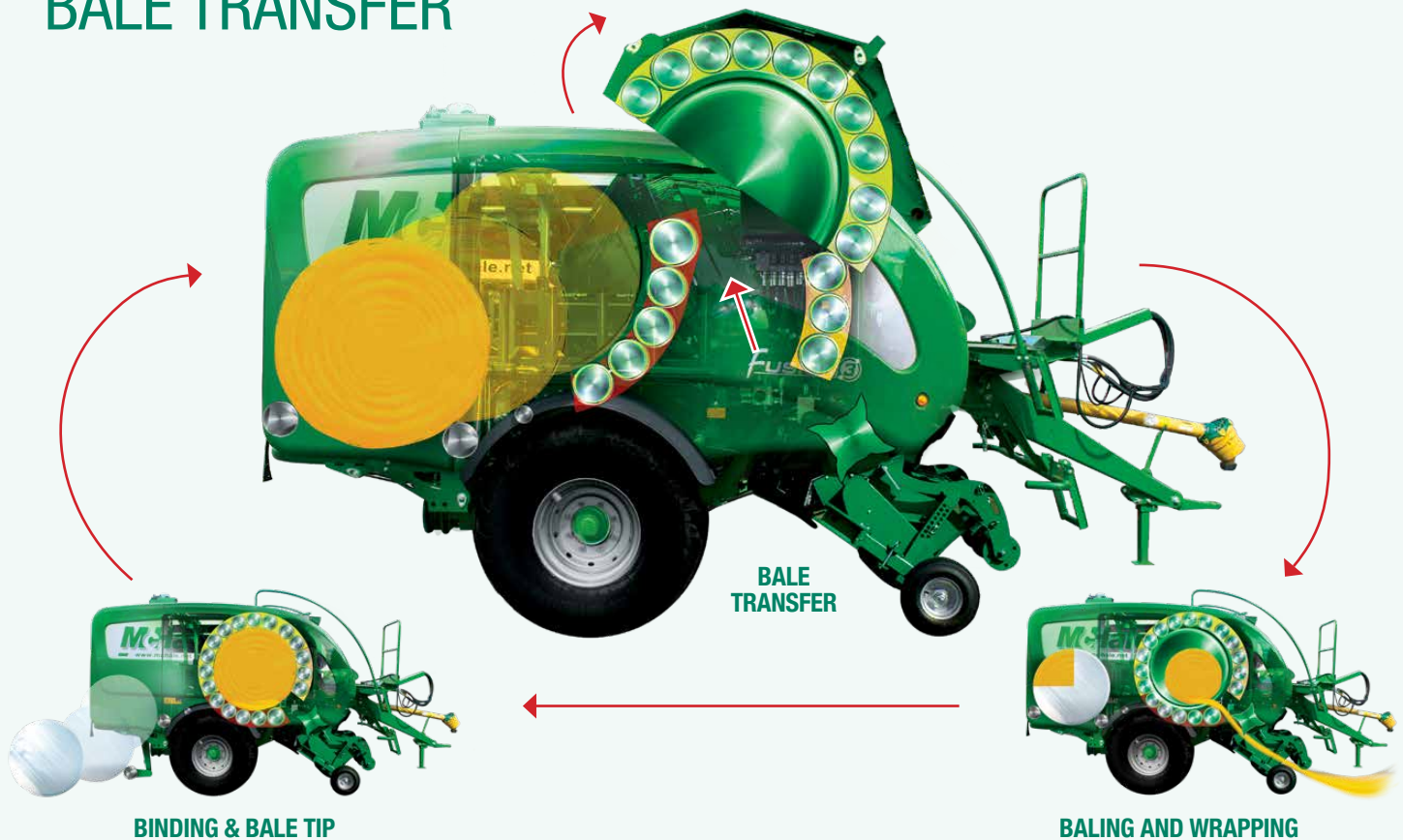
BALE ONLY PROGRAMME

When baling hay or straw with a Fusion 3 range machine, the operator has the ability to place bales in pairs for easy time saving collection.

REDUCED CROP CONTAMINATION

Silage quality and bale shape is improved because the bale is immediately wrapped when ejected from the bale chamber. The risk of crop contamination is significantly reduced as the bale does not touch the ground.

MCHALE PATENTED BALE TRANSFER



THE ADVANTAGES OF THE MCHALE PATENTED SYSTEMS

1 *Simple transfer & reduced handling*

As the bottom half of the bale chamber doubles as a transfer mechanism, it eliminates the need for a moving table or lift arm between the baler and the wrapper. This results in reduced handling, higher levels of reliability, faster transfer time and a compact design with a total machine length of just 5.8 metres, delivering better maneuverability.

3 *Reliable bale transfer on hillsides*

When working with other combined baler wrappers on hillsides, there may be issues with the bale cross traveling as it is being transferred from the baler to the wrapper. With the McHale Fusions, these problems are eliminated as the bale is supported in position by the sidewalls of the bale chamber during the transfer. This results in a reliable transfer even on tougher ground conditions.

5 *High output*

The transfer occurs in one pass, as the chamber is opening and closing to release the bale. This means, the machine takes a similar amount of time to transfer the bale, as a traditional baler would take to eject a bale from the chamber.

2 *Positive bale transfer on steep ground*

The bale is transferred directly onto the wrapper by five drive rollers in the lower section of the bale chamber. This McHale patented bale transfer system makes the McHale Fusion very reliable in all terrains, especially in undulating and hilly ground.

4 *A fast smooth transfer*

The transfer of the high density bale occurs over the axle of the baler, reducing the stress on the tractor and the machine. Due to the simplicity of the unique McHale bale transfer, there are a reduced number of moving parts and electronic monitoring systems, leading to a more reliable machine.

6 *High speed*

The bale transfer does not slow down the machine output. The bale chamber splits horizontally (like a clam shell) and the lower section of the bale chamber doubles as a transfer mechanism to transfer the bound bale into the vertical wrapping ring.

PICK-UP

Over the last decade, McHale has designed and developed various types of pick-ups. After extensive testing, McHale decided it will offer customers the **CHOICE OF 2 PICK-UP OPTIONS** depending on their working conditions;

1 *Cam Pick-Up*

As standard, a **cam operated 2.1m high-intake galvanised** pick-up ensures excellent ground cleaning in all types of crop. The cam pick-up runs on a cam track that is fitted with **double raced cam bearings** to stand up to the most testing of conditions. All cam pick-ups across the McHale Fusion 3 range are fitted with 5 tine bars for excellent ground cleaning and delivery of crop to the bale chamber.

A **side inspection port** allows the operator to quickly check and change the cam bearings if needed.



2 *Camless Pick-Up*

A 2.1m camless pick-up is available as an option on all machines in the Fusion 3 range. Six tine bars are fitted to all McHale camless pick-ups to provide excellent ground cleaning and fast delivery of crop to the bale chamber. The camless pick-up has been designed to increase output, reduce levels of maintenance and perform better in certain conditions.

Please ask your local dealer for advice on which system best meets your needs, based on your geographical location and conditions.



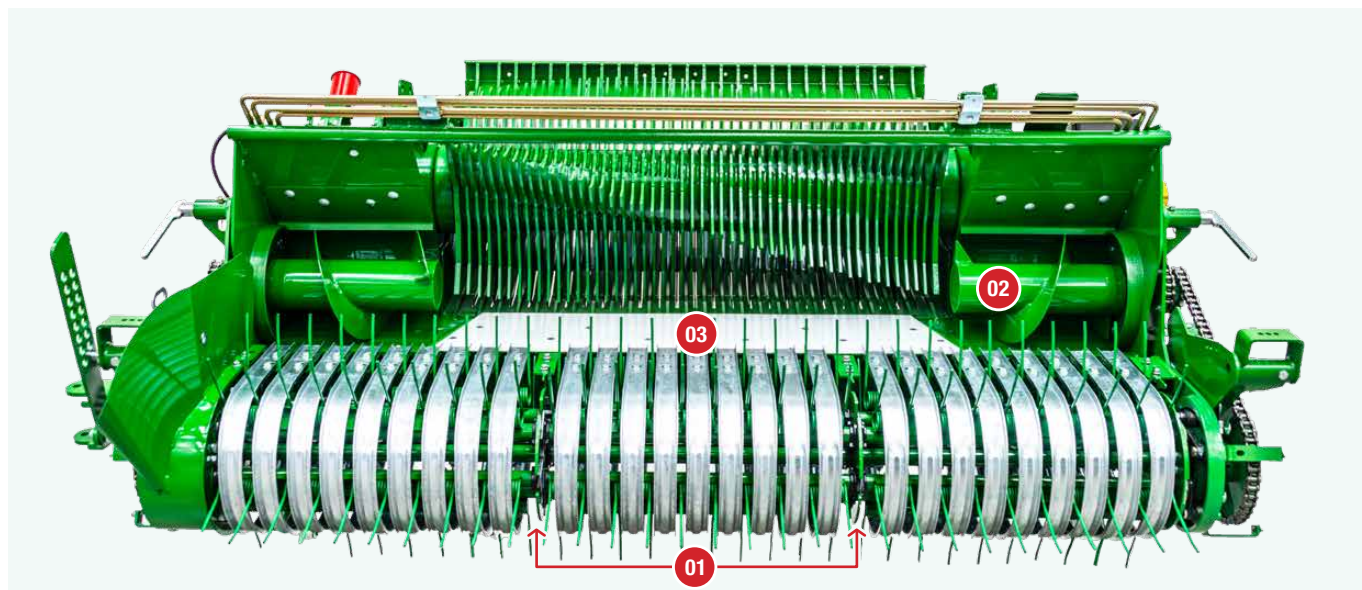
All McHale pick-ups come with a number of
STANDARD FEATURES THAT INCLUDE:

01 Heavy-Duty Pick-Up

All McHale cam pick-ups have heavy-duty tine bar supports to ensure long service life, while all camless pick-ups are fitted with a fully welded tine bar. A vital part of the pick-up is the tine and McHale have developed a pick-up tine designed to lift even the shortest of crop.

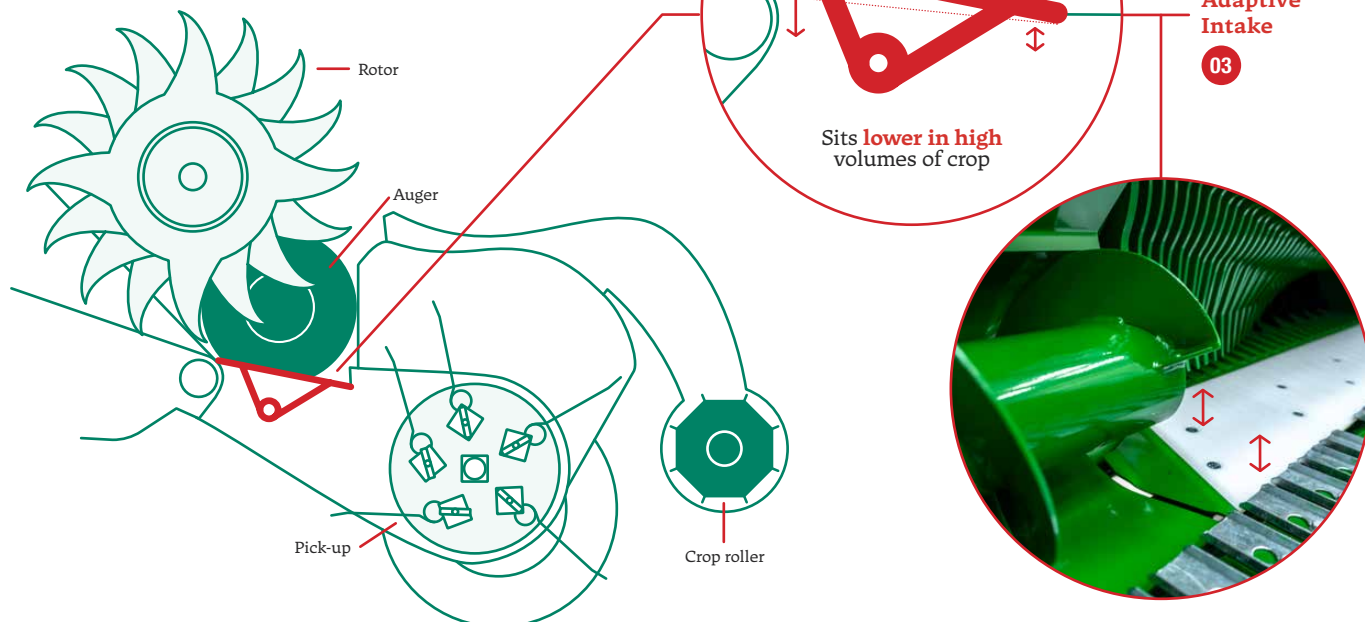
02 Efficient Crop Flow Delivery

The specially designed McHale pick-up is positioned close to the rotor to improve delivery of the crop through the rotor to the bale chamber. Large diameter lateral feed augers help direct crop to the bale chamber ensuring a consistent and even crop flow for producing high density bales.



03 Adaptive Intake

Over the course of a baling season, machines have to work with different volumes of crop. McHale have designed an adaptive intake which allows the intake area to automatically adjust for light and heavy crops. The adaptive intake plate sits higher in low volumes of crop and can adjust to a lower position for higher volumes of crop. This avoids peak loads and results in higher daily throughput regardless of working conditions.



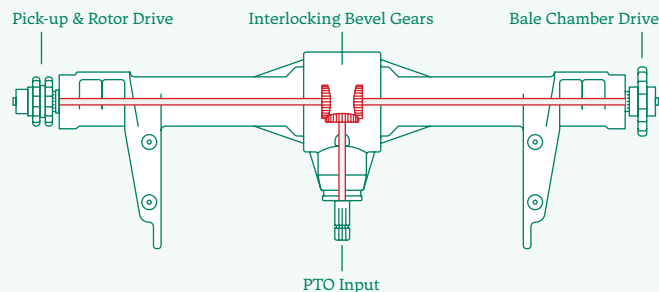
SPLIT DRIVE GEARBOX

A SPLIT DRIVE GEARBOX is fitted to all machines in the **McHale Integrated Baler Wrapper Range**.

All machines in the Mchale Fusion Range come fitted with a 540rpm gearbox as standard. The gearbox design ensures that power is evenly distributed to both sides of the machine. The rollers in the bale chamber are driven from the left-hand side of the machine and the pick-up and chopper unit are driven from the right-hand side of the machine. This system ensures direct, short transfer paths, leading to optimal power distribution.

McHale machines work in different conditions around the world so in order to optimise machine performance, a 1000rpm gearbox is available as an optional upgrade on all machines in the Mchale integrated baler wrapper range.

We recommend you speak with your local dealer or distributor as regards a gearbox to meet your requirements based on your working conditions.

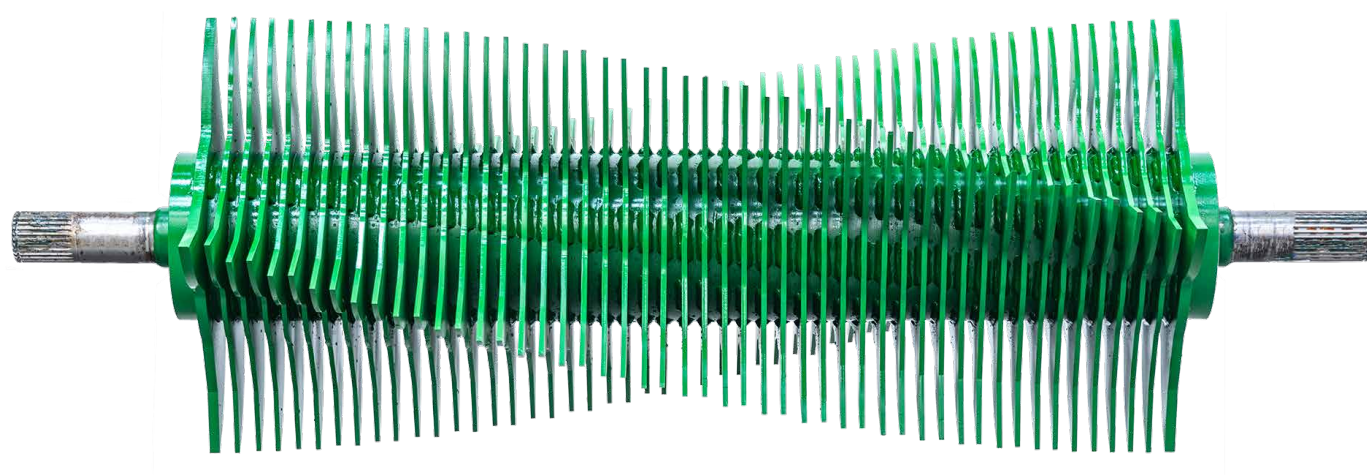


ROTOR

*The star shaped feed rotor ensures a **HIGH-CAPACITY FLOW** of crop into the bale chamber.*

The flights on the rotor are laid out in a spiral formation to achieve consistent crop flow. As crop enters the rotor, rotating flights feed the crop to the bale chamber. The flights on the rotor ensure high output, while the star layout reduces the load peaks as the machines work in heavy swaths.

25 Knife Chopper Rotor



The feed rotor or chopping unit boasts a **heavy-duty rotor and comb**. The flights are **welded on both sides** for superior strength and on the drive side the rotor is fitted with a **double row bearing** with a long service life.





BENEFITS OF CHOPPING SILAGE

*The advantages of baled silage are known around the world.
By chopping the crop the McHale Fusion range delivers the following benefits;*

REDUCED COSTS

When crop is chopped it becomes easier to compress which results in more material being compressed in the bale. This leads to a reduction in transport and net or film costs.

BETTER FERMENTATION

Chopping the forage allows for optimum fermentation as the sugars in the crop will be readily available from the dry crop. This results in the production of superior quality fodder that can be easily digested by your animals.

EASIER FEED OUT

Chopped forage is easier to distribute from diet feeders and straw blowers as short material can be processed and distributed much quicker than longer material.

CHOPPER UNITS

To ensure a consistent and even chop quality, a robust and powerful 25 knife chopper unit has been developed for the McHale integrated bale wrapper range.

25 Knife Chopper Unit

A 25 knife chopper unit comes as standard on the **McHale Fusion 3 range**. A single bank of 25 knives provides a chop length of **approximately 46mm**. Chop length can be adjusted by removing knives.



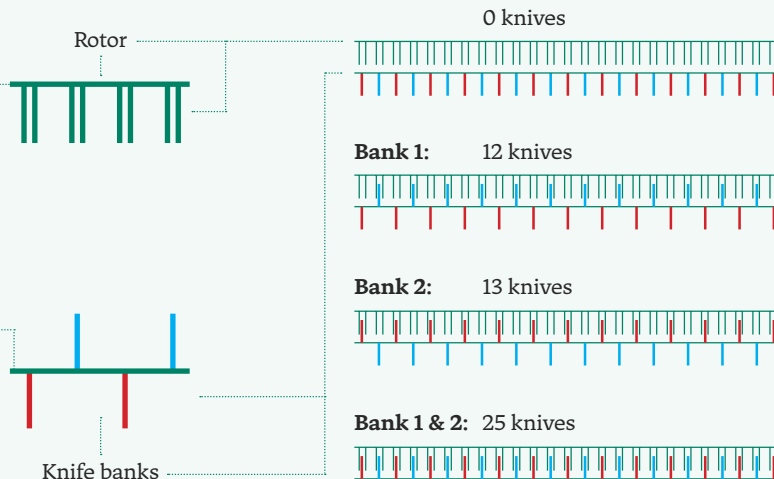
Selectable Knife System

With selectable knives there are two knife banks in the chopping unit that can be activated and deactivated separately.

Various knife configurations of **0, 12, 13 or 25** can be selected depending on requirements.

In these charts, **red** and **blue** lines indicate **individual knives**;

Knife Bank Configurations - 0, 12, 13, 25



Knives

The knives in the chopping unit are made from hardened tool steel, which ensures long life and maximum productivity by reducing the downtime associated with knife sharpening. The serrated knife edge creates multiple points of contact with the crop to ensure a consistent chop quality is achieved.

Consistent Results

To ensure that the machine always delivers a good chop quality, two monitoring systems have been put in place on the range. Firstly, knife working pressure is monitored and displayed on the control console. Secondly, a sensor monitors the distance between the top of the knife and the spine on the rotor.

Chop Quality

The knives are hydraulically engaged and extend into the spine of the rotor to ensure a consistent chop. A knife sensor monitors knife pressure and alerts the operator through the control console if chop quality has reduced. A primary hydraulic knife protection system protects the knives should they encounter a foreign object. A secondary protection system is in place on each individual knife.

BENEFITS OF SELECTABLE KNIVES

ADJUSTABLE CHOP LENGTH

With selectable knives, the operator can vary the chop length by engaging or disengaging either knife bank. If fine chopping is required, the operator can choose to engage both knife banks. Should a longer chop length be required, the operator can disengage one bank of knives from the comfort and safety of the tractor cab.

REDUCED SHARPENING INTERVALS

When using both knife banks separately, if the first bank of knives become blunt, the operator can lower the first knife bank and raise the second bank. This reduces the downtime and allows the operator to continue working. By having consistently sharp knives, fuel consumption is reduced and the machine always delivers optimum chop.

OPERATOR COMFORT & SAFETY

Without the operator having to physically replace knives, a new sharp set of knives can be engaged, ensuring a well chopped crop and continued high output. Should different chop lengths be required the operator can make the adjustments by engaging or disengaging the knife bank without having to leave the tractor cab.



DROP FLOOR UNBLOCKING

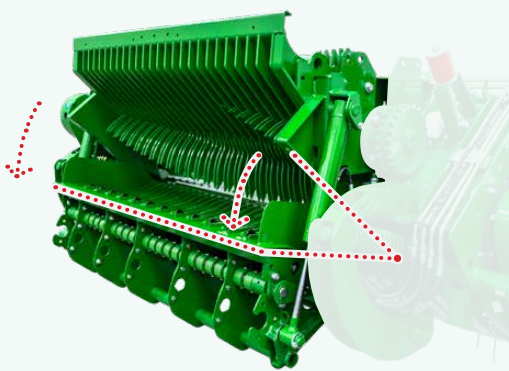
THREE SIMPLE STEPS

All machines in the McHale Fusion 3 range are fitted with the McHale **DROP FLOOR UNBLOCKING SYSTEM**, a feature which operators have come to love for its simplicity of use and effective unblocking cycle.

As baling conditions are not always ideal, uneven swaths can occur which can lead to blockages. The McHale Fusion 3 range is fitted with a drop floor unblocking system, which means blockages can be fed through in **three simple steps**.

1 Drop the Floor

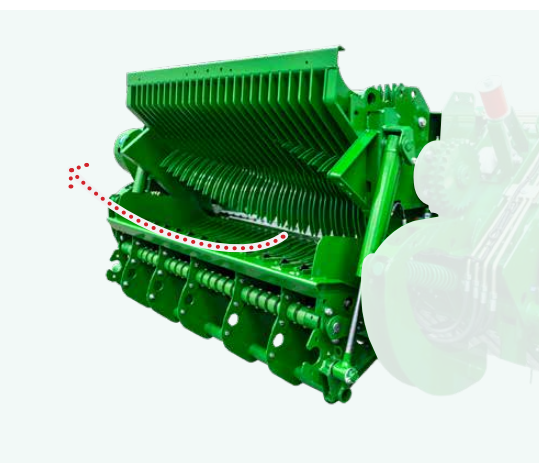
Should a blockage occur, the sound of the slip clutch alerts the operator, who can hydraulically lower the floor from the tractor cab.



2 Re-engage the PTO

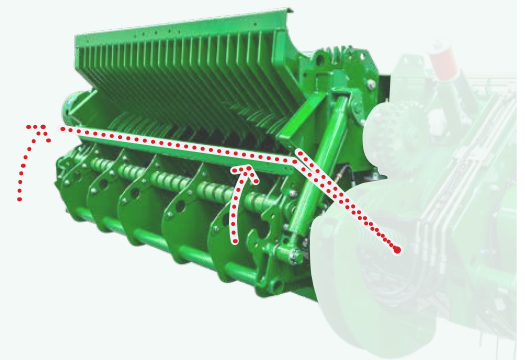
This widens the feed channel and on re-engaging the PTO, the blockage can be fed through.





3 *Reset the Floor*

The floor can then be reset to its original position and baling can resume.



Automatic Drop Floor Reset

Automatic drop floor reset comes as standard on the McHale Fusion 3 Pro & Fusion 3 Plus. If a blockage occurs the operator can press one button on the iTouch which lowers the floor. After the PTO is re-engaged and the blockage is fed through, the drop floor will automatically raise and the knives will reset to their original position.

Automatic Knife Drop Feature

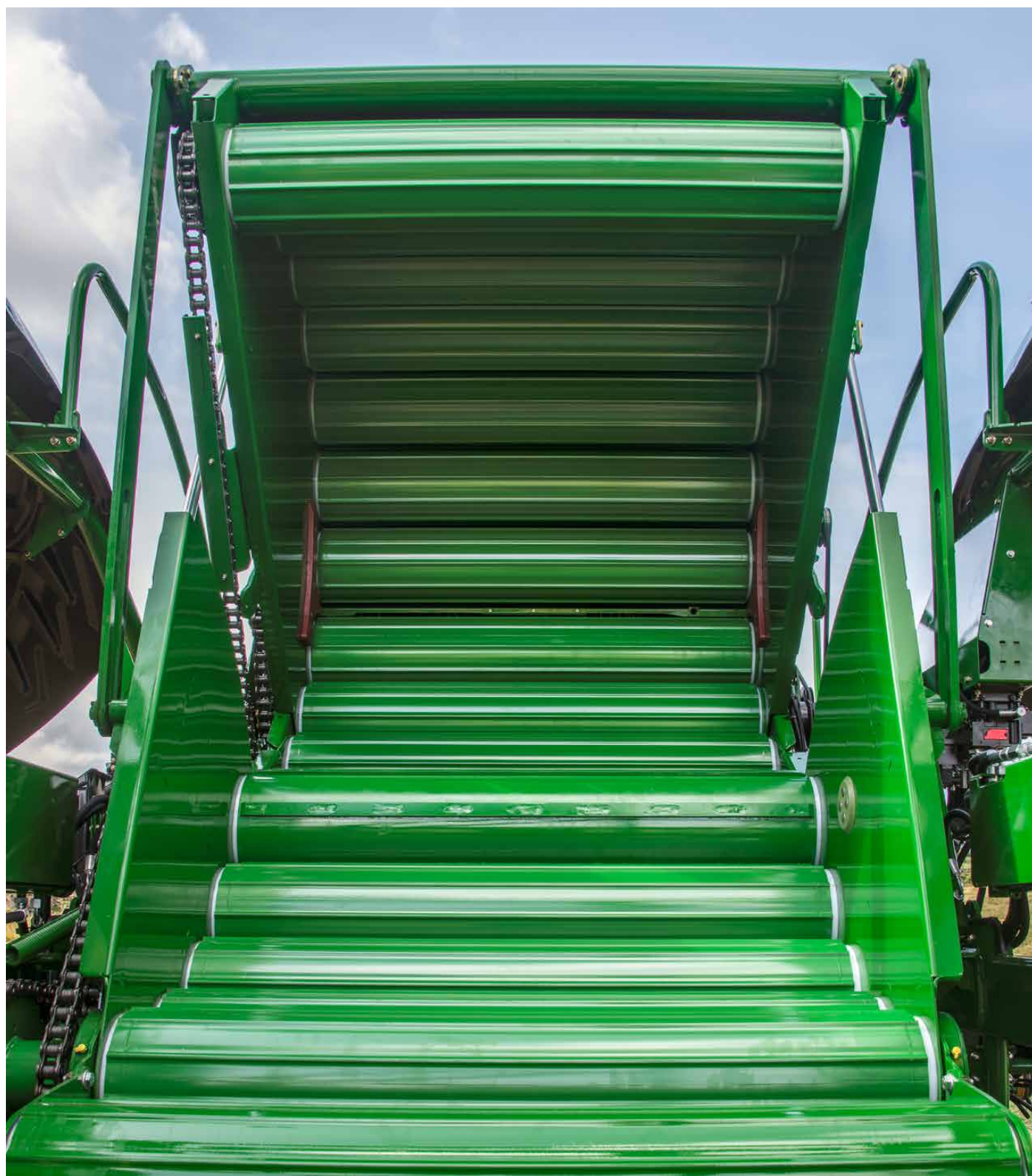
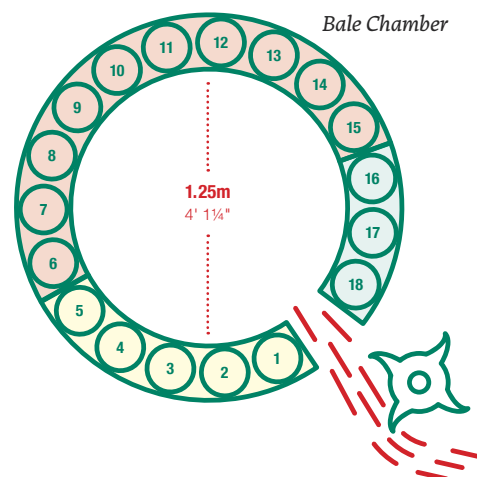
This feature can be enabled on Fusion 3 Pro or Fusion 3 Plus machines from the iTouch control console in the cab. This allows for the operator to chop the grass until the bale is almost complete, at which point the machine will automatically drop out the knives. Depending on the feeding method, this improves fodder distribution, keeping the bale neater when the net or film is removed.

18 ROLLER BALE CHAMBER

The bale chamber on the McHale Fusion 3 range is comprised of an 18 roller bale chamber. The bale chamber diameter is 1.23m x 1.25m (4' ½" x 4' 1¼") and is formed from heavy duty rollers.

The 18 rollers are formed from high-grade tubular steel and deliver maximum traction, improved bale rotation and enhanced machine performance producing well-

shaped and uniform bales. As a result of having an 18 roller bale chamber, the Fusion 3 range is noted for superior performance in dry crops such as hay and straw.





Heavy Duty Chains

High quality heavy-duty chains ensure reliable operation all around the machine. The main drive chain coming off the gearbox is a high tensile, heavy duty 100H endless chain for maximum strength. All other chains on the drive side of the bale chamber are inch and a quarter (20B). The rotor chain is inch duplex (16 B2) and all pick-up chains are three quarter inch (ASA 60H).

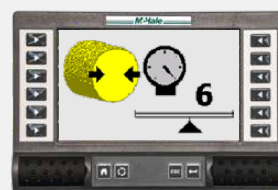
Chamber Bearings

All single sprocket rollers on the chamber drive side are equipped with 50mm shafts and bearings. Rollers under the most load are fitted with double row bearings. All double sprocket rollers are fitted with 55mm shafts and 55mm double row bearings. The non drive side of the bale chamber is also fitted with heavy duty 50mm bearings.



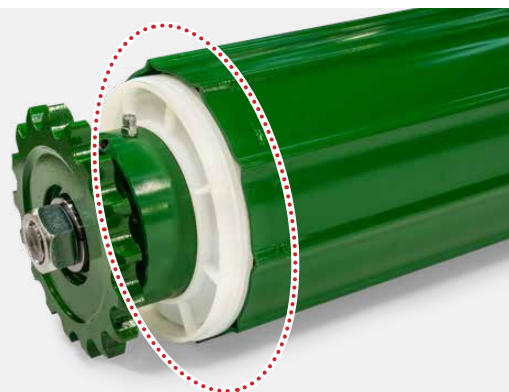
Bale Density Adjustment

1. On the McHale Fusion 3 integrated baler wrapper, the chamber pre-charge pressure can be easily adjusted on the density control valve on the machine. By adjusting the handle in a clockwise direction density can be increased, while rotating the handle in the opposite direction reduces density.
2. On the McHale Fusion 3 Pro and Fusion 3 Plus, bale density can be adjusted from the comfort of the tractor cab via the iTouch control console.



Roller Design & Sealing

Bale chamber rollers are fitted with 50mm bearings on the drive and non-drive side. Rollers fitted with double sprockets are equipped with 55mm shafts and double row bearings. All roller ends are fitted with high performance self-cleaning seals that have a unique reverse-thread sealing system, which hinders crop from getting into the bearings. As the roller moves in one direction, the thread on the seal moves in the opposite direction, ensuring that any crop that tries to find its way into the bearing is automatically threaded out. The seals prevent the grease around the bearings from becoming contaminated by crop resulting in increased reliability.



OILING & GREASING

Pressurised Oiling System

The McHale Fusion 3 integrated baler wrapper range is fitted with a pressurised oiling system. Depending on working conditions the operator can adjust the oil flow to the following chains which are serviced by the system:

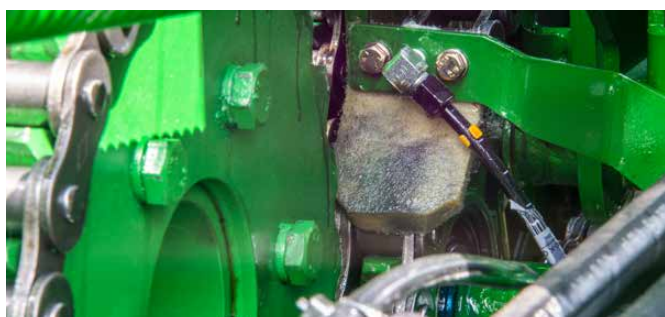


1 Chamber Drive
Side Chains

2 Rotor
Drive Chain

3 Pick-Up
Drive Chains

4 Pick-Up
Cam Track



Automatic Greasing

The McHale Fusion 3 integrated baler wrapper range is fitted with an automatic greasing system as standard. This pressurised system delivers a measured amount of grease around the machine after every bale cycle. Automatic greasing saves time as it reduces the amount of manual greasing to be done by the operator. A lube alarm sounds after 300 bales to inform the operator to refill the grease cartridge.



The following components are greased:

1 Bale Chamber
Drive Side

2 Bale Chamber
Non-Drive Side

3 Rotor Bearings
Drive Side

4 Rotor Bearings
Non-Drive Side

5 Pick-Up
Drive Gears

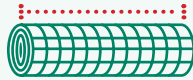
HIGH PERFORMANCE BINDING

Two high performance binding systems have been **DESIGNED AND DEVELOPED** to ensure optimum performance. The McHale Fusion 3 & Fusion 3 Pro are equipped with a pivot stretch net system while all Fusion 3 Plus machines are fitted with a vario stretch binding system. These binding units are extremely reliable and feature:



Endless Adjustment

Endless adjustment of tension to ensure **optimum bind material usage** and bale shape



Up to 1250mm

Capacity to take rolls of net wrap up to **1250mm** in width and **4500m** in length



180-Degree Wrap

180-degree wrap around on the rubber feed roller, **eliminating any net or film slippage** while feeding



Binding Material Stretch Application

Each of the simple yet effective binding systems can either apply net or film to the barrel of the bale. These systems ensure efficient net or film usage and that a tight layer of net or film is evenly applied to the bale. The net or film tension can be adjusted depending on the operator's requirements.

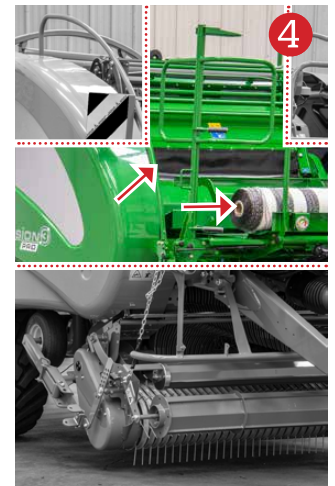
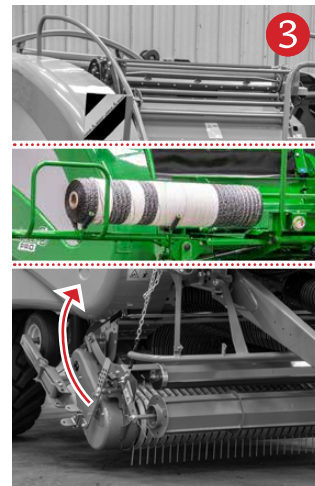
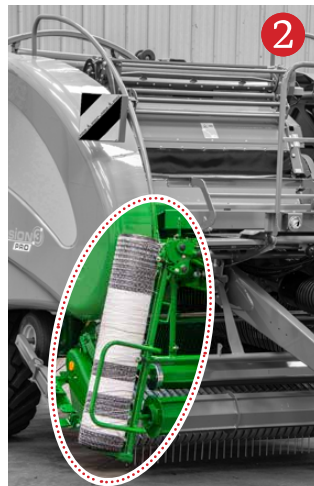
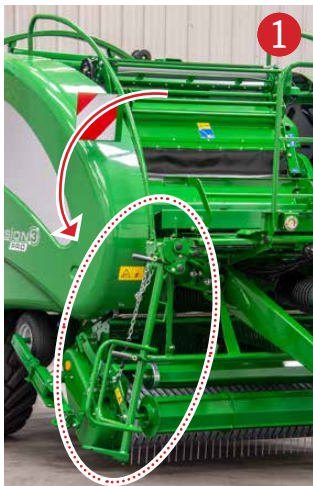
Net Layer

The number of layers of binding material being used can be easily adjusted as the machine passes through different crop conditions. On the Fusion 3, by simply moving the net adjustment handle down, more net will be applied, while by moving the handle up, less net can be applied. On the Fusion 3 Pro and Fusion 3 Plus, net adjustment can be controlled from the control console in the tractor cab.

Net Loading & Storage

A net / NRF loading device can be fitted as an optional extra to all machines in the McHale Fusion range. This device aids the operator when loading net or film onto the platform. The operator simply folds the cradle downwards and places the roll onto the cradle.

It can then be pivoted up in line with the platform. Smooth rollers ensure the net or film can be easily slid from the cradle to the platform without causing any damage.





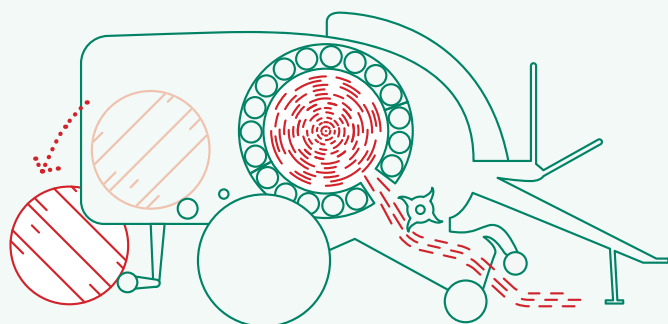


PATENTED HIGH SPEED TRANSFER SYSTEM

The McHale Fusion 3 range is fitted with **SERVO OPERATED LOAD SENSING CONTROL VALVES**, which when combined with a McHale control console makes the baling and wrapping process fully automatic.

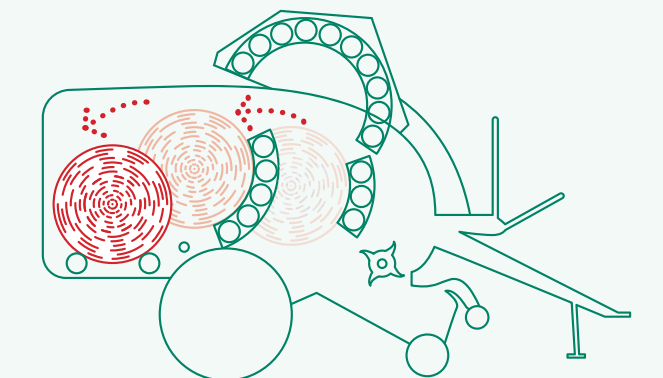
1 Bale Binding In Chamber & Wrapped Bale Being Tipped

When the bale on the back is wrapped the machine will hold the wrapped bale and automatically tip it while the next bale in the chamber is being bound with net or film at which point the bale on the wrapper can be set to automatically tip.



2 McHale Patented Bale Transfer

Once the bale is formed, net or film is automatically applied and then the chamber splits like a clamshell. The lower section of the bale chamber then transfers the bale into the high speed vertical wrapping ring.



WRAPPING SYSTEM

In normal working conditions, the ever efficient wrapping process is **ALWAYS COMPLETED AHEAD OF THE BALER**, meaning that the wrapping platform is always ready and waiting to capture the next ejected bale.



01 Two 750mm Dispensers

The vertical wrapping ring on the Fusion range is fitted with two 750mm dispensers. Using both dispensers, all machines in the Fusion 3 range take approximately 18 seconds to apply 4 layers of film and approximately 24 seconds to apply 6 layers of film. This means that the wrapping platform is always waiting for the next bale.



02 Easy Film Loading

Film can be loaded from the left hand side of the machine. After loading film on the first dispenser, the operator can push the index button and the dispensers will then rotate around and automatically stop at the loading position for the second dispenser. This allows the operator to easily load the second roll of film.

3 *Baling while wrapping*

Once the chamber is closed the operator can continue working and the fully automatic machine will start the wrapping process. In difficult ground conditions bales can be tipped at the operator's convenience by pressing the tip button.



03 *Film Break Sensors*

The dispensers are fitted with film break sensors, which notify the operator through the control console in the tractor cab if one or both dispensers run out of film. If one dispenser runs out of film, the machine will continue working and automatically slow bale rotation and increase the number of rotations of the wrapping ring to ensure that the bale is wrapped correctly.



04 *Reliable Cut and Holds*

On the last rotation of the wrapping cycle, the cut and hold rails extend out and the wrapping film is gently supported within them. Once supported the cut and hold gathers the wrapping film to one point where it is cut and held. By gathering the plastic to one point, this system makes the Fusion 3's performance even more reliable, particularly in hot or wet conditions.

FUSION 3 INTEGRATED BALER WRAPPER



EXPERT PLUS CONTROL BOX

The Fusion 3 is equipped with an Expert Plus control console, which features a large graphic display; this allows the operator to monitor the baling process graphically from the control console. **It also features;**

Automatic and Manual Operation	Various Bale Transfer Options	Film Layer Adjustment	Net Position Display
Knife Control (Up / Down)	Knife Position Display	Auto Bale Tip	Net Application Indicator
Chamber Position Display	Drop Floor Control (Up / Down)	Various Bale Tip Options	Lube Count
Bale Only Programme	Lube Alarm	Pre-Net Bale Formation Alert	Various Bale Counts



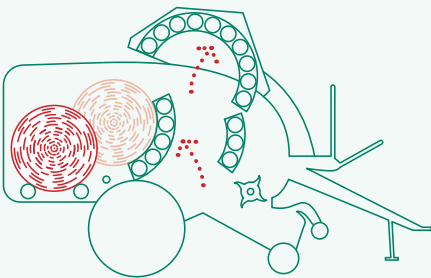
STANDARD SPECIFICATION

The **MCHALE FUSION 3** is a fully automatic, integrated baler wrapper recognised worldwide for its unique patented bale transfer, vertical wrapping ring and high output. The machine is equipped with a 25 knife-chopping unit.

STANDARD FEATURES

PATENTED BALE TRANSFER

When the netting process is complete the bale chamber splits horizontally, as the top section of the bale chamber moves up, simultaneously the lower section of the bale chamber moves up and out, transferring the bale onto the wrapping platform.



WRAPPING

Once the bale chamber is closed, wrapping will automatically start and baling can resume, delivering maximum output.



VERTICAL WRAPPING RING

The vertical wrapping ring is fitted with two 750mm dispensers, which take approximately 18 seconds to apply 4 layers of film and approximately 24 seconds to apply 6 layers of film. This means that the wrapping platform is always waiting for the next bale.



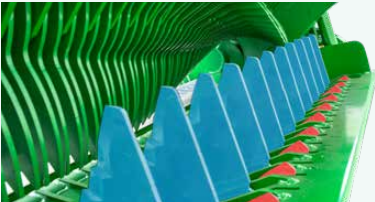
Machine Features:

2.1m Pick-Up	25 Knife Heavy Duty Feed Rotor	Drop Floor Unblocking System	18 Roller Bale Chamber
55mm Bale Chamber Bearings*	1¼" Chain on the Bale Chamber	Automatic Progressive Greasing System	4 Bar Pivot Stretch Netter
Automatic Oiler System	Expert Plus Control Console (Large Graphic Display)	560/60-22.5 Tyres	Vertical Wrapping Ring with Film Break Sensors

* 55mm bearings fitted to rollers with long shafts and double sprockets

OPTIONAL EXTRAS

1. Selectable Knives



For more information on optional extras see **page 38**

2. Side Tip



3. Tyre Upgrades





ITOUCH CONTROL CONSOLE

The McHale “iTouch System” has a 7" colour touch screen monitor, which provides clear indicators of machine performance and allows for increased levels of monitoring, through its graphic display.



Camera Display as Standard

The McHale Fusion 3 Pro comes fitted with a camera as standard to monitor the transfer and wrapping operation at the rear of the machine. This camera automatically displays on the 7" monitor in the tractor cab when the bale is being transferred to the wrapping table, at the beginning of the wrapping cycle and when the bale is about to be tipped.

Fully Automatic Operation

Revolutions of
Net Being Applied

In-cab Density Adjustment

Camera

In-cab Net Adjustment

Knife Position Display
& Control

For more information on the iTouch control console see **page 30**

STANDARD SPECIFICATION



The **MCHALE FUSION 3 PRO** is a fully automatic machine that uses net to bind the bale in the chamber and possesses a host of new features to maximise operator comfort. An iTouch control console provides the operator with in-cab net and density adjustment, camera options and a wide variety of useful data features.

STANDARD FEATURES

IN-CAB ADJUSTMENT

The iTouch control console allows for bale density to be adjusted from the comfort of the tractor cab. Depending on the crop and conditions, the operator can also adjust the number of layers of net on the control console.



DROP FLOOR UNBLOCKING

The drop floor unblocking system is fitted with an automatic unblocking function as standard. To start the unblocking cycle the operator can press one button to lower the floor, upon release of the blockage the machine will automatically reset the floor.



AUTO KNIFE DROP

This feature allows for the operator to chop the forage until the bale is almost complete, at which point the machine will automatically lower the knives. Depending on the feeding method, this improves fodder distribution and machine intake.



Machine Features:

2.1m Pick-Up	25 Knife Heavy Duty Feed Rotor	Automatic Drop Floor Unblocking System	18 Roller Bale Chamber
55mm Bale Chamber Bearings*	1¼" Chain on the Bale Chamber	Automatic Progressive Greasing System	4 Bar Pivot Stretch Netter
Automatic Oiling System with Lube Interval Adjustment & Alarm	iTouch Control Console (Large 7" Colour Display with Touch Screen)	560/60-22.5 Tyres	Vertical Wrapping Ring with Film Break Sensors

*55mm bearings fitted to rollers with long shafts and double sprockets

OPTIONAL EXTRAS

For more information on optional extras see **page 38**

1. Net / NRF Loading Device



2. 1000rpm Gearbox



3. Camless Pick-Up



FEATURES ON iTOUCH CONTROL CONSOLE

The McHale “iTouch System” is a modern control console featuring the latest in touch screen technology. The iTouch boasts a large 7" colour screen in a rugged, hard-wearing enclosure displaying all the information that a user requires to monitor how the machine is performing.

The iTouch control console is fitted to the McHale Fusion 3 Pro and the McHale Fusion 3 Plus. This touch screen monitor features a 7" colour screen with easy to understand icons that control various functions on the machine. The McHale iTouch system was specifically designed and tested to be user friendly and this approach is reflected in its full colour screen and graphic display of all machine settings and functions.



Fully Automatic

The iTouch control console, when combined with the load sensing valve on the McHale Fusion 3 Pro and the McHale Fusion 3 Plus, is capable of making baling and wrapping fully automatic.

Bale Density & Binding Adjustment

The iTouch control console allows for the bale density to be adjusted from the comfort of the tractor cab. From the iTouch control console, the operator can adjust the number of layers of net or film being applied to the bale. On the McHale Fusion 3 Plus, the operator can also adjust the stretch being applied to the film in the bale chamber from the iTouch control console in the tractor cab.

Auto Knife Drop

This feature allows for the operator to chop the forage until the bale is almost complete, at which point the machine will automatically lower the knives. Depending on the feeding method, this improves fodder distribution and machine intake.

FUSION 3 RANGE

CONTROL CONSOLE FUNCTIONS



	Fusion 3	Fusion 3 Pro	Fusion 3 Plus
Control Console	Expert Plus	iTouch	iTouch
Net & Film Layers	Net	Net	Net & Film
Knife Selection	25	25	25
Auto Tip	Standard	Standard	Standard
Film Break Sensors	Standard	Standard	Standard
Bale Roll Function	Not Available	Pre & Post Roll	Pre & Post Roll
Bale Count	10 Bale Counts	800 Bale Counts	800 Bale Counts
Weighing & Moisture	Moisture Option Only	Optional	Optional
Receipt Printer	Not Available	Optional	Optional
Reset Total Reminder	Not Available	Standard	Standard
Auto Knife Drop & Auto Drop Floor Reset	Not Available	Standard	Standard
Camera	Not Available	One Camera	Two Cameras

Camera

The iTouch control console is fitted with a camera as standard on the McHale Fusion 3 Pro and Fusion 3 Plus. In manual mode, the operator can switch to camera mode to view the wrapper and rear of the machine. In automatic mode, the camera image will appear at different predetermined times on

The operator can also select:

The knives in the chopper unit on or off

The machine to tip or hold the wrapped bale

A 'bale only' programme for hay or straw

A lube alarm

Various bale transfer options depending on ground conditions

the screen such as when the bale is being transferred or being tipped. If an additional camera is required on the McHale Fusion 3 Pro, the iTouch control console's second camera input may be used. This second input is used for displaying the film binding process on the McHale Fusion 3 Plus.

Easy Pausing

Binding, bale transfer, wrapping and tipping stages of the automatic cycle can be easily and intuitively paused by the operator should the need arise.

Pre & Post Roll

The McHale Fusion 3 Pro and Fusion 3 Plus feature a pre & post roll function which allows the bale to be rolled before and after the bale is wrapped. This ensures the net, NRF and plastic is bound tightly to the bale, depending on which material is used to bind the bale.

Additive Applicator

An output for controlling a crop additive applicator is featured on the iTouch control console. Once the operator has the PTO running this will engage an aftermarket crop additive applicator. During the application of the net or NRF and the transfer of the bale, the applicator will automatically switch off in order to avoid the wastage of additive. An optional headland management kit is also available to detect when the pickup is raised at headlands and switches off the applicator to avoid further wastage of additive.

ISOBUS Integration

ISOBUS is available as an optional extra on all McHale Fusion 3 Pro and Fusion 3 Plus machines. When the machine is fitted with ISOBUS, it can be plugged into any ISOBUS tractor connection and operated through the terminal in the cab.

Undulating Ground

For operators working in difficult ground conditions, the bale tip speed can also be adjusted from the tractor cab.

Side Tip

External bale tip control buttons are fitted to allow for the side tip to be conveniently raised and lowered when changing from work to transport positions, or when attaching a side-tip to the machine.



Customer Data System

The McHale iTouch control console is primarily for monitoring and configuring machine performance but also contains additional features that the professional farmer and contractor will find invaluable in their day to day activities.

All McHale iTouch control consoles possess a built-in database for storing customer profiles and work performed with the machine which can be displayed on the iTouch 7" screen or alternatively sent to an optional receipt printer for printing.

Information such as customer name, bales produced per hour, number of bales wrapped/un-wrapped & number of bales chopped/un-chopped can be easily viewed or printed, providing full visibility of all jobs completed. A contractor can customise receipts with their details such as business name, address and contact details.

Up to 800 job totals can be stored on the iTouch, which are conveniently exportable to an external USB memory device. This allows a seamless export to accounts

packages which can then generate invoices for all records contained on the device. The console also features a reset total reminder to prompt the operator to reset the customer total when changing between fields.



Bale Weighing System

If fitted with the optional bale weighing system, the iTouch displays a bale weight icon on its main screen providing the calculated bale weight. The bale weights are accumulated and an average bale weight for the current customer is shown in the individual customer's profile.



Bale Moisture Recording

When fitted with the optional bale moisture recording system, a moisture icon will be shown on the main screen. When the bale is almost full, the moisture values are recorded up until netting begins. Once netting begins, an average moisture value is calculated and displayed. This value is accumulated to create an average moisture content for the job.



Printer

A printer can be fitted to all iTouch control consoles as an optional extra. This allows the operator to print a personalised receipt outlining the work completed for a specific customer. There is also a notes section where the operator can record any extra job information. The printed receipt can be useful for the customer for their records but also for the contractor to record information about different jobs throughout the day. A print preview is available to ensure that the details on the receipt are correct before printing it.



McHale	

Bradley Agri Services	
Ireland	
094 9520300	

Sean Smith	
15:21 26/09/2018	

Total:	54 Bales
Time :	0:56 Hrs:Mins
Binding :	NET
Wrapping :	ON
Knives :	OFF
Avg. Moisture:	18%
Avg. Weight:	943Kg
----- Notes -----	
Re-seeded Field	

The receipt includes the following information which is also displayed in the customer profile on screen;

- **Contractors Name & Contact Details**
- **Customer Name**
- **Total Bale Count**
- **Total Baling Time**
- **Binding System: Net or NRF**
(Net Replacement Film)
- **Wrapping System: On / Off**
- **Knives: On / Off**
- **Average Moisture Content**
(if fitted to the machine)
- **Average Bale Weight**
(if fitted to the machine)

FUSION 3 PLUS

INTEGRATED BALER WRAPPER

WITH FILM ON FILM TECHNOLOGY



iTOUCH CONTROL CONSOLE

The McHale “iTouch System” has a 7” colour touch screen monitor, which provides clear indicators of machine performance and allows for increased levels of monitoring, through its large graphic display.

For more information on the iTouch control console see **page 30**

Fully Automatic
Operation
In-cab Density
Adjustment

In-cab Net/Film
Adjustment
Inbuilt
Dual Camera



Fully Automatic

The iTouch control console, when combined with the load sensing valve, is capable of making baling & wrapping operation fully automatic.

Two Inbuilt Cameras

In automatic mode, the camera view will appear at different predetermined times on the screen such as when the bale is being bound with film or transferred to the wrapper.

No. of Layers & Density

The operator can adjust the bale density, number of layers and stretch of the net or film being applied to the bale in the bale chamber from the comfort of the tractor cab.

STANDARD SPECIFICATION



The **MCHALE FUSION 3 PLUS** is a fully automatic integrated baler wrapper, which can apply film to the barrel of the bale instead of twine or net wrap. The machine is equipped with a 25 knife-chopping unit and an iTouch control console.

STANDARD FEATURES

FILM BINDING

The concept of putting film on the barrel of the bale is known as "Film binding technology." The plastic which is applied to the barrel of the bale forms an **additional layer of wrap** across the largest surface of the bale, whilst also binding the bale together.

The film which is applied to the barrel of the bale can be stretched to approximately 20%, a ratio which is higher than what can be achieved with net wrap. This additional layer of film on the barrel of the bale provides **higher quality silage** as the film can be stretched more than net, which in turn, expels more air, resulting in better silage quality.

By using film to bind the bale together, **recycling is made easier** as the farmer is only left with one form of waste to recycle and can avoid the unpleasant and time consuming job of separating net from the plastic.

PATENTED BALE TRANSFER

When the bale is bound in the bale chamber, the bale chamber splits horizontally, as the top section of the bale chamber moves up, simultaneously the lower section of the bale chamber moves up and out, transferring the bale onto the wrapping platform.



Machine Features:

2.1m Pick-Up	25 Knife Heavy Duty Feed Rotor	Drop Floor Unblocking System	18 Roller Bale Chamber
55mm Bale Chamber Bearings*	1¼" Chain on the Bale Chamber	Automatic Progressive Greasing System	Film or Net Binding
Automatic Oiling System	iTouch Control Console (Large Graphic Display)	560/60-22.5 Tyres	Vertical Wrapping Ring with Film Break Sensors

* 55mm bearings fitted to rollers with long shafts and double sprockets

OPTIONAL EXTRAS

For more information on optional extras see **page 38**

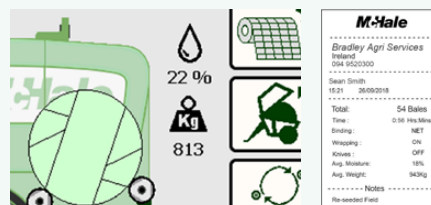
1. Double Crop Roller



2. Additional Net Box



3. Bale Weight & Moisture Monitor



FILM BINDING TECHNOLOGY



Film binding technology refers to the application of film to the barrel of the bale in the bale chamber. **THE FILM BINDS THE BALE TOGETHER** which eliminates the need for string or net wrap. It also forms a wrapping layer and gives better film or plastic coverage on the largest surface of the bale.



Patented Film Binding

In the development of the McHale F5600 Plus and Fusion 3 Plus, McHale realised that changes in temperature and sun light could affect the chamber wrapping film, in that, as the day got hotter or cooler the film was either being overstretched or under stretched, and this in turn would cause reliability problems and result in inefficient film use.

As a result, McHale developed a patented application system which adjusts the braking force on the roll of plastic in-line with working conditions and allows for a continuously variable stretch, which can adjust to changes in the day automatically, without the operator having to adjust any settings.

The McHale patented film application system ensures consistent film stretch, reliable film application and delivers optimum bale shape and bale density. Should an operator wish to use net wrap for hay or straw this can be done with a simple changeover.



ADVANTAGES OF FILM BINDING

1.

CHAMBER FILM ACTS AS A WRAPPING LAYER

The plastic which is added to the barrel of the bale to keep the bale together also forms part of the wrapping process and adds value by placing more plastic on the largest surface of the bale.

2.

CHAMBER FILM RESULTS IN BETTER SHAPED BALES

When plastic is applied to the barrel of the bale it can be stretched to approximately 20%. The stretch ratio is higher than what can be achieved with net wrap or twine and as a result the material is kept tighter, which ultimately results in better bale shape.

3.

CHAMBER FILM DELIVERS HIGHER QUALITY SILAGE

As the plastic is being stretched as it is being applied to the barrel of the bale, it expels more air than net wrap does and as a consequence, results in better silage quality.

4.

CHAMBER FILM MAKES RECYCLING EASIER

As plastic is used to both bind the bale in the bale chamber and to wrap the bale, on feed out the farmer will be left with one form of waste. This reduces the time needed to feed the bale and avoids the unpleasant and time consuming job of separating the twine or net wrap from the plastic before the plastic is recycled.



FUSION 3 RANGE

OPTIONAL EXTRAS

McHale machines work in different conditions around the world. To optimise machine performance, **WE OFFER A NUMBER OF OPTIONS** in the Mchale Fusion 3 Range. We recommend you speak with your local dealer/distributor as regards the best features or options to meet your requirements.

Options	Camless Pick-Up	Crop Roller	Selectable Knives 0, 12, 13, 25	1000rpm Gearbox
Fusion 3	Optional	Optional	Optional	Optional
Fusion 3 Pro	Optional	Optional	Optional	Optional
Fusion 3 Plus	Optional	Optional	Optional	Optional



1. Camless Pick-Up

The 2.1m camless pick-up runs smoothly, particularly in short crop, and requires less maintenance due to a reduced number of rotating parts. All camless pick-ups in the Mchale Fusion 3 Range are fitted with six tine bars and a double crop roller to provide excellent ground cleaning and fast delivery of crop to the rotor.

2. Crop Roller

A small diameter high throughput crop roller is available as an optional extra. This crop roller helps to level out uneven swaths and has the ability to increase baler throughput. A Double Crop Roller is also available should it be required.



3. Selectable Knives

A selectable knife system consists of two knife banks which allow for various knife configurations to be chosen depending on the knife bank specification. If a machine is equipped with 25 knives, then a bank of 12 and a bank of 13 knives are available to be chosen from. If chopping is not required, then the operator can select for no knives to be engaged. On all machines in the Mchale Fusion 3 range, knife selection can be decided from the tractor cab.

4. 1000rpm Gearbox

McHale machines work in different conditions around the world so in order to optimise machine performance, a 1000rpm gearbox is available as an optional upgrade on all machines in the Mchale integrated baler wrapper range.

5. Net / NRF Loading Device

McHale introduced this very popular option to make net or NRF loading much more user friendly. This device aids the operator when loading net or film onto the platform. The operator simply folds the cradle downwards and gently lifts the roll onto the cradle. It is then ready to be pivoted up in line with the platform. Smooth rollers ensure the net or NRF can be easily slid from the cradle to the platform without causing any damage before being placed in the netting unit or spare roll holder.



Net / NRF Loading Device	Side Tip	Tyre Options	Bale Weighing & Moisture System	Receipt Printer	ISOBUS Integration
Net	Optional	650 / 50 / 22.5 680 / 50 / 22.5 710 / 45 / 22.5	Moisture Only	Not Available	Not Available
Net	Optional	650 / 50 / 22.5 680 / 50 / 22.5 710 / 45 / 22.5	Optional	Optional	Optional
Net / NRF	Optional	650 / 50 / 22.5 680 / 50 / 22.5 710 / 45 / 22.5	Optional	Optional	Optional



6. Side Tip

A side tip can be fitted to any machine in the Fusion 3 range to allow for bales to be placed on their ends as they are being tipped. This mechanism allows the machine to turn the bale through 90 degrees to leave the bale sitting upright on its end. This is beneficial when working in stalky crops where the customer does not want the bale to get damaged or roll.

7. Tyre Options

McHale offer a number of tyre upgrades depending on customer preferences and ground conditions. Please see below for the tyre options available to suit your machine of choice:

Option 1
650/50/22.5

Option 2
680/50/22.5

Option 3
710/45/22.5



8. Bale Weighing & Moisture Systems

If the machine is fitted with the optional bale weighing and moisture systems, these readings will be displayed on the iTouch screen. The bale weighing and moisture systems record the weight and moisture content of each bale and their average bale weight and moisture content reading for the job is displayed in the customer profile section on the iTouch control console.

9. Receipt Printer

An optional printer is also available to allow for a customised receipt to be printed which includes information on customer details, number of bales, chopped or non-chopped bale details, wrapped or un-wrapped bale details, average moisture content and average bale weight.

10. ISOBUS Integration

ISOBUS is available as an optional extra on all McHale Fusion 3 Pro and Fusion 3 Plus machines. When the machine is fitted with ISOBUS, it can be plugged into any ISOBUS tractor connection and operated through the terminal in the cab.







FUSION 3 RANGE TECHNICAL TABLE

			
DIMENSIONS & WEIGHT			
Length	5.8 m (19')	5.8 m (19')	5.8 m (19')
Width	2.76 / 2.94 m* (9' - 9'8")*	2.76 / 2.94 m* (9' - 9'8")*	2.76 / 2.94 m* (9' - 9'8")*
Height	3.02 m (9'10")	3.02 m (9'10")	3.02 m (9'10")
Weight	5500 kgs (12,125 lbs)	5550 kgs (12,236 lbs)	5650 kgs (12,456 lbs)
PICK-UP			
Working Width	2100 mm (6'11")	2100 mm (6'11")	2100 mm (6'11")
Tine Bars	5	5	5
Tine Spacing	70 mm (2 3/4")	70 mm (2 3/4")	70 mm (2 3/4")
Pick Up Lift	Hydraulic	Hydraulic	Hydraulic
Pick Up Guide Wheels (pneumatic)	Standard	Standard	Standard
CHOPPER UNIT			
Maximum Number of Knives	25	25	25
Theoretical Chop Length	46 mm (1 3/4")	46 mm (1 3/4")	46 mm (1 3/4")
Unblocking System	Drop Floor	Automatic Drop Floor	Automatic Drop Floor
Knife Control	Electronic from Tractor Cab	Electronic from Tractor Cab	Electronic from Tractor Cab
Knife Protection	Hydraulic	Hydraulic	Hydraulic
Auto Knife Drop	Not available	Standard	Standard
BALE CHAMBER			
Number of Rollers	18	18	18
Width (m)	1.23 m (4')	1.23 m (4')	1.23 m (4')
Diameter (m)	1.25 m (4'1")	1.25 m (4'1")	1.25 m (4'1")
Greasing	Progressive (Standard)	Progressive (Standard)	Progressive (Standard)
Bearings	55 mm (2 3/16") **	55 mm (2 3/16") **	55 mm (2 3/16") **
BALE CHAMBER WRAP			
Type	Net	Net	NRF or Net
Layer Adjustment	Manual on Baler	In-cab	In-cab
Net or NRF Roll Capacity	1+1 Storage	1+1 Storage	1+1 Storage
Binding System	Pivot Stretch Netter (4 bar)	Pivot Stretch Netter (4 bar)	Infinite Stretch
Control	Manual or Automatic	Manual or Automatic	Manual or Automatic
WRAPPING			
System	Vertical Wrapping Ring	Vertical Wrapping Ring	Vertical Wrapping Ring
Film Storage	10 Rolls & 2 on the Wrapper	10 Rolls & 2 on the Wrapper	10 Rolls & 2 on the Wrapper
Film Layers	2+2+2 System	2+2+2 System	2+2+2 System
Dispensers	70% x 750 mm	70% x 750 mm	70% x 750 mm
Film Stretch	70% standard (55% optional)	70% standard (55% optional)	70% standard (55% optional)
Pre & Post Roll	N/A	Standard	Standard
Bale Tip Adjustment	N/A	Standard	Standard
DRIVES			
Pick Up Protection	Slip Clutch	Slip Clutch	Slip Clutch
Main Drive Protection	Cam Clutch	Cam Clutch	Cam Clutch
Gearbox	Split Drive	Split Drive	Split Drive
Chain Lubrication	Automatic (Standard)	Automatic (Standard)	Automatic (Standard)
CONTROL			
Density Adjustment	On Baler Valve	In-cab	In-cab
Operation	Fully Automatic Electronic	Fully Automatic Electronic	Fully Automatic Electronic
Control System	Expert Plus	iTouch System	iTouch System
Inbuilt Cameras	Not available	1 x Inbuilt Camera	2 x Inbuilt Camera
OTHER			
Axle	8 stud	8 stud	8 stud
Tyre Sizes	560/60R 22.5 (standard)	560/60R 22.5 (standard)	560/60R 22.5 (standard)
Electronics	12 Volt DC, 7 amp approx.	12 Volt DC, 7 amp approx.	12 Volt DC, 7 amp approx.
Road Lights	Standard	Standard	Standard
TRACTOR			
Minimum Hydraulic Flow	45 litres / min at 180 bar	45 litres / min at 180 bar	45 litres / min at 180 bar
Hydraulic System	Open, Closed or Load Sensing	Open, Closed or Load Sensing	Open, Closed or Load Sensing
Minimum Power Requirements	80kW (107hp)	80kW (107hp)	80kW (107hp)

* Width depends on tyre selection

** Bearings are 55mm double raced on the main load points

 Additional specification above a Fusion 3

 Uniques features on a Fusion 3 Plus



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