

FORAGE
HARVESTERS

COM

Challenger

In addition to experience, the production of silage machines requires overcoming complex processes in order to increase productivity. Challenger forage harvesters are designed to overcome this difficult processes with an understanding of how important corn and maize silage is to livestock farming.



PETITION DISCOVER



FORAGE HARVESTERS

Providing maximum performance with minimum energy consumption is the main characteristic of Royermak Challenger family offers high harvest with low fuel consumption with its light weight and strong transmission system without exhausting your tractor.



360° ROTATING FUNNEL

In all the other equipments, rotation of the funnel is limited only to 90° but in Challenger® it has been increased to 360° thanks to the new clamp system.

One of the most important factors in maize silage is that the maize should be cut and shredded but still remain juicy. Challenger® has the best possible system and equipment to execute this action.



Safety is first! Challenger® series is designed in a way that it does not contact with the ground thus keeping the risk of foreign matters getting into the machine at minimum. But we still keep in mind that such a thing can happen, the security is a big part of work at Royermak engineering forage harvester. By doing this, we prevent potential damages from happening.

Challenger



In the flywheel system of the machine there are specially designed sweeping paddles. These paddles are sweeping all the silage inside the machine.

Challenger®'s strong blowing system can blow all the silage to the desired area in the trailer with hydraulically controlled funnel and cover.



Twelve specially designed circular knives of the flywheel are made from high quality materials to minimize the necessity of frequently replacing knives.

FORAGE HARVESTERS



Small and mid scaled businesses' professional solution CHALLENGER® 1 can harvest up to 1500 m² per hour with only 40 hp power requirement. Also due to its hydraulically controlled directed head and funnel system it can direct the silage to the desired area in the trailer with strong blowing system 'Superblow'.



■ BAĞIMSIZ HİDROLİK

In addition to being economical, Royermak follows the principle of realizing a top-class product in terms of the options included in the package. This is why the Challenger is equipped with a fully independent hydraulic system.

■ KNIFE GRINDING SYSTEM

Royermak provides the most efficient and accurate silos grinding method. Challenger provides the most efficient and accurate grinding along with their automatic knife sharpening technology.

■ LEVEL DETECTION TYRE

Safety is an important aspect of production! The level tracking sensor, developed by Royermak engineers is made specifically to ensure that the machine is not in the contact with the ground so it minimizes the amount of foreign materials which get into the machine.



1/ CHALLENGER
COMPETITION IS OVER

The Challenger forage harvester doesn't overload your tractor with its lightweight design and powerful transmission, and it also delivers more silage harvesting with less fuel. A single row forage harvester capable of forming one row of maize delivers high levels of productivity thanks to its fully hydraulic control system. The flywheel system consists of

12 chopping knives and 6 guide paddles.

The cutting angle of the knives is specially designed for fast cutting. Composed of 2 gearboxes, 2 shafts and toothed gears, it is the least demanding machine in its class. The forage harvester device makes mowing tall maize easier.



■ FLYWHEEL KNIVES

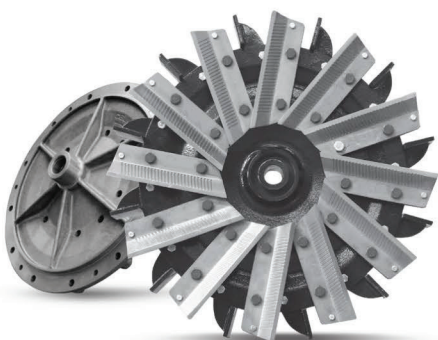
Specially designed 12 pieces of flywheel knives are strong against wear and made of high quality materials. Therefore the necessity of frequently replacing knives is prevented.

■ INTAKE SYSTEM

Challenger® 1 brings down tall maizes and reduces crop loss to minimum due to row following system. Thanks to its improved flywheel system it makes it easy to reach the highest harvest efficiency possible.

■ SECURITY PIN

All the intake unit is protected by the safety pin. Security pin prevents your machine from getting damaged in case of a soil compaction or foreign materials getting into the machine.



FORAGE HARVESTERS

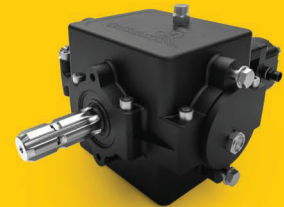
Challenger 2® Row Independent Forage Harvester is designed to harvest maize and various feed plants which are taller than 1 meter disregarding the row thanks to the wide reaping rollers unit. The machine executes its task even in difficult conditions. It does not exhaust your tractor due to its lightweight. You can be sure that its strong construction will handle pits, bumps and all the other extraordinary conditions.



ROTATING FUNNEL



FUEL SAVING



■ PATENTED FLYWHEEL®

Flywheel system consists of 12 pieces of knives and 12 pieces of sweeping paddles. Thanks to these you will have perfect cutting quality and long range blowing.

■ SUPERBLOW®

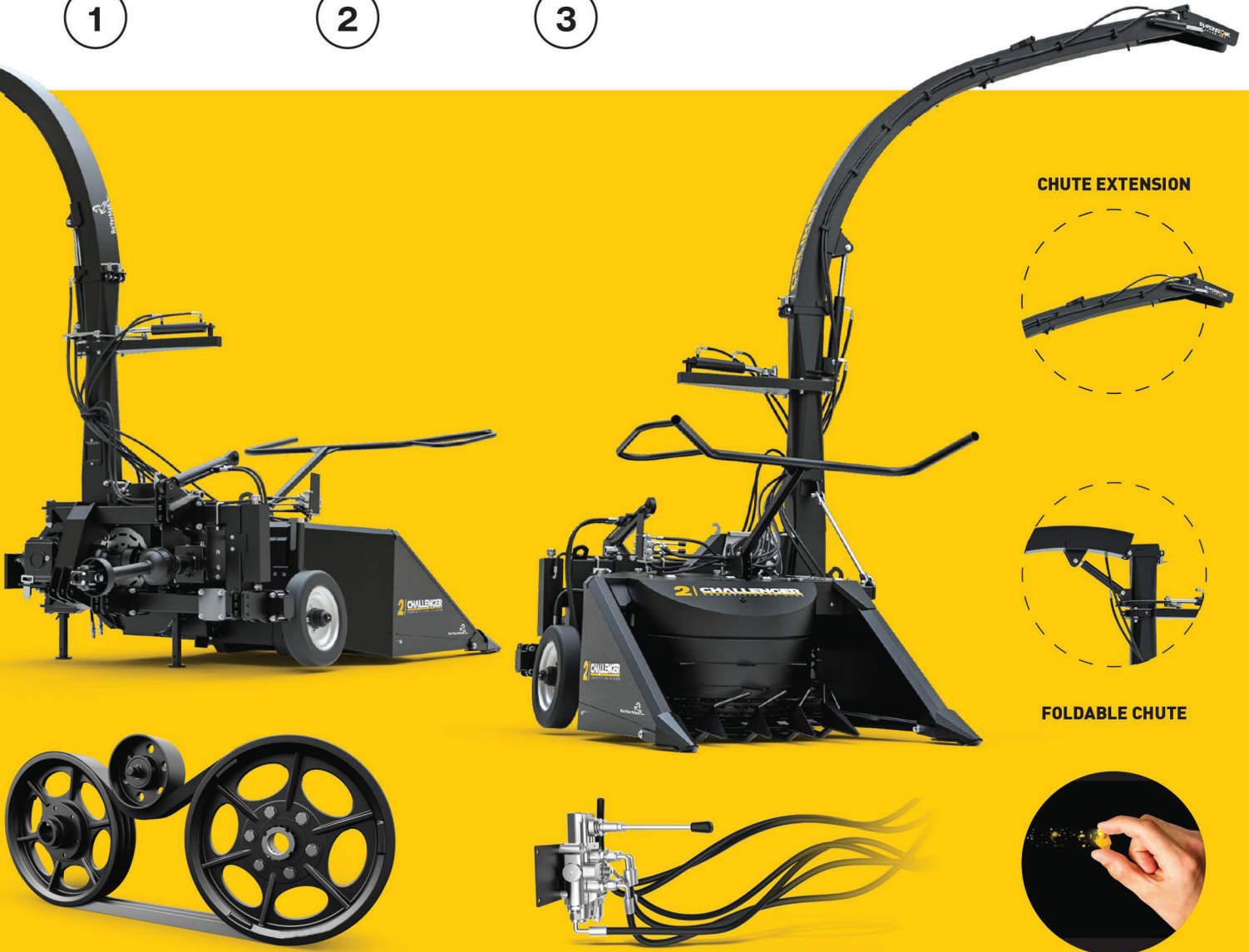
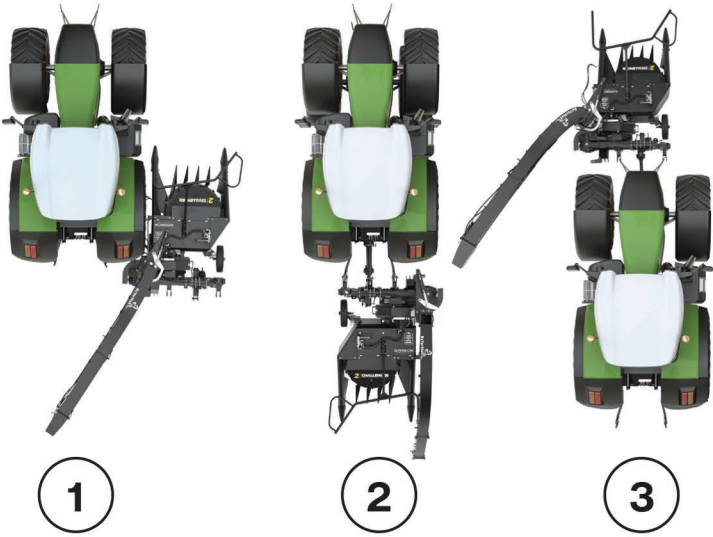
ROYERMAK created a system that has been added with fully balanced operation of the sweeping paddles and the inlet of the hydraulic funnel, thereby increasing the blowing force. Also we aimed to provide you with the efficiency that you desired by increasing the blowing capacity and the performance of sweeping paddles.

■ 540-750-1000 RPM CHOICES

The independent two-row forage harvester, adaptable to different tractors, offers attachment options to the front, rear and side of the tractor. With transmission RPM options such as 540, 750 and 1000, it enables the most efficient operation.

THREE DIFFERENT WAYS TO WORK

Challenger 2® offers alternative harvest methods alongside with regular ones. This machine has the ability to be mounted in the front, on the sides and at the back of the tractor to harvest. Foldable chassis: It is easy, practical and functional to fold and unfold. In addition, the fixing of the machine in the desired position is carried out only with the help of the cover, which prevents loss of time and labor costs.



■ PATENTED BELT STRETCH SYSTEM®

Gears in the machine are supposed to take the power they have received from the PTO to make sure the machine is running smoothly. Power transmission through the gears are being done by hoops and belts and thus helping the user with spare parts, maintenance and repair.

■ INDEPENDENT HYDRAULIC SYSTEM

In addition to being economical, Royermak follows the principle of realizing a top-class product in terms of the options included in the package. Therefore, Challenger® is equipped with completely independent hydraulic system.

■ CORN GRAIN BREAKING

As Royermak we care about your animals daily nutrition and energy needs. To increase the efficiency of maize silages you make we added corn grain breaking feature to Challenger 2®.

FORAGE HARVESTERS

It is the most desirable machine of the industry.

Some customers want it because of its appearance. Some want it because of what others say about it. Some other people want it for its performance. Other clients want it for prestige. Some customers want it because selling it second hand is a bargain. Some does not need an excuse, they just want it:

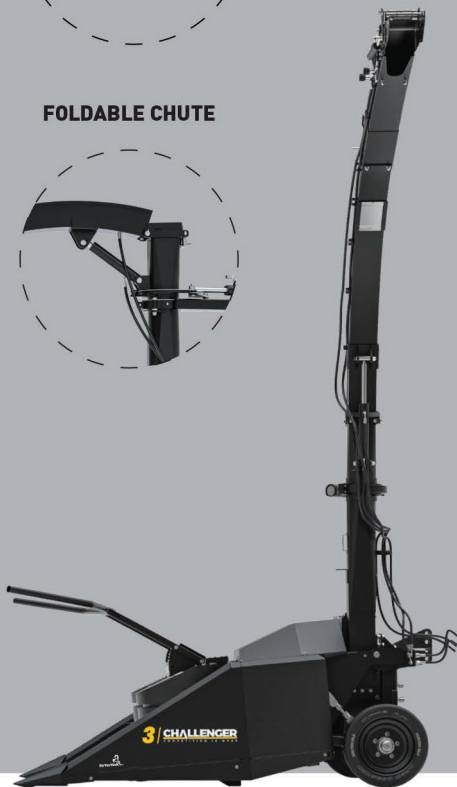
The most successful machine of agriculture industry in Turkey! CHALLENGER®!

Presenting you the new partner in your business: CHALLENGER 3®. Everything you ever wanted is in this machine!

CHUTE EXTENSION



FOLDABLE CHUTE



■ SUPERBLOW®

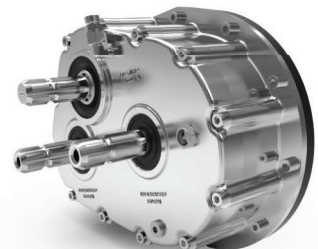
Due to its 360-degree rotating hydraulic funnel and controllable cover, it can load the silage into specific parts of the trailer due to its powerful blowing system.

■ PATENTED FLYWHEEL®

The flywheel system consists of 12 excellent cutting knives and 12 sweeping paddles. This adds a powerful blowing and perfect chopping quality.

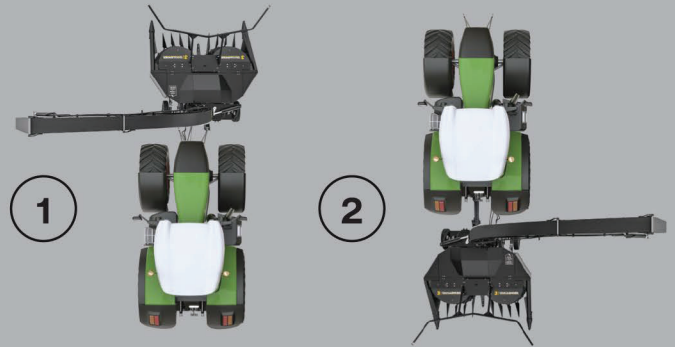
■ 540-1000 Rpm CHOICES

Challenger 3® has 3 different PTO options offered in its default hardware. As Standard, it can be used both in the front and at the back of the tractor. This harvester can run at 540rpm or 1000rpm without any modifications.



TWO DIFFERENT WORKING DIRECTION

Challenger 3[®] offers users different harvest alternatives. This versatile machine is able to harvest in the front of the machine and at the back of the machine.



■ MAXIMUM SECURITY

In Challenger 3[®], power transmission system combined by belt and gearboxes protects the machine from any unwanted conditions.



■ LOW POWER REQUIREMENT

Presenting you the one and only forage harvester which can be run by only 110HP. Once again Royermak proves that big machines can also be worked with low power requirements by its engineering abilities.



■ CORN GRAIN BREAKING

As Royermak we care about your animals' daily nutrition and energy needs. To increase the efficiency of maize silages you make we added corn grain breaking feature to Challenger 3[®].



FORAGE HARVESTERS



Royermak engineers designed Challenger 4 Silage Machine inspired by one of the most durable and quick animals: Scorpion. For 60 years almost every year we design at least one new machine. And this year we present to you: The Challenger® 4! It is the aristocrat of forage harvesters. We produced the machine of tomorrow today by the power of our previous experiences!

The Challenger 4 steel parts reflect modern style and compelling aesthetics. You will understand what we are talking about when you see CHALLENGER 4. You may even think that we have not told everything!



■ LOW POWER REQUIREMENT

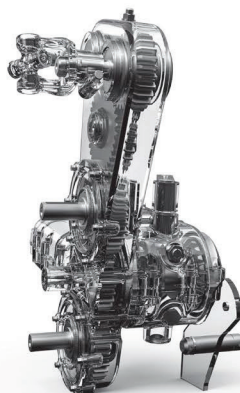
Presenting you the one and only forage harvester which can be run by only 110HP. Once again Royermak proves that big machines can also work with low power requirements due to engineering design.

■ MULTISPEED TRANSMISSION

The unique Challenger® 4 gearbox can adjust to the front based on corn yield, operating in 4 forward and 4 reverse speeds. With the Challenger® 4, the efficient harvesting is completely under your control.

■ INDEPENDENT HARVESTING ROLLERS

Royermak, balanced chassis and shape drums in the Challenger Series used. Balanced and sharp independent form equipped with blades. With the drums, you will be able to harvest the crop without difficulty even under the most difficult conditions.



4 | CHALLENGER
COMPETITION IS OVER



FOLDABLE CHUTE



CHUTE EXTENSION



With the fastest Silage Machine in the world Challenger® 4, keep your time for yourself.

The new quadruple row forage harvester which can run only with 150 HP tractor hit the field 150. Your move.

First things Challenger® 4 will make you feel: Consistency, translation of modern style into steel and irresistible appeal of aesthetics. We produced a unique machine for you combining such aesthetics with low power requirements. Challenger® 4 is waiting for you with 1000 rpm transmission and its compatibility with various tractors.



■ **ROLL BACK**

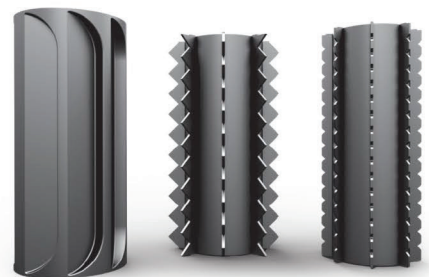
When there is a soil compaction you will be able to easily solve the problem by simply running the machine backwards and rolling materials back out.

■ **ADVANCED SECURITY SYSTEM**

With advanced security system while harvesting if there is a soil compaction and blockage it may damage the reaping system of the machine, clutching system inside the gearboxes will come into action while the plant is just at the entrance of the machine and prevent potential overloading in other transmission parts.

■ **ADJUSTING CHOPPING SIZE WITH TRANSMISSION**

Thanks to Challenger® 4's multispeed transmission, you can adjust the cutting size by speeding the machine up and down.



FORAGE HARVESTERS

When you see Calabria Plus® your heart will start racing, your pupils will get larger and you will say without realizing “my new machine must be Calabria Plus®”. One of the most desirable machines in the history of forage harvesters, Calabria® is waiting for you with the base made of raw steel.

Everything started by a farmer wanting the perfect forage harvester from Royermak. With the shortest chopping height and the best blowing ability, Calabria® is built with S235 steel materials.



Cutting Level Mechanism



■ ADJUSTABLE REAPING HEIGHT

Thanks to the hydraulic cylinders in Calabria Plus®, you can easily adjust the height of the machine from the ground according to the terrain conditions, without getting off the tractor. In addition, with the cutting level adjustment mechanism, you collect the grass on the ground from a very short distance from the ground, shred it and transfer it to the flywheel.

■ AUTOMATIC KNIFE GRINDING

The die-cast body is vibration-free with perfect paddles sharpening. The knife sharpening mechanism allows it to be adjusted parallel to the circular knife thanks to a special adjustment system. Thus, the entire sharp surface of the paddles is sharpened.

■ PATENTED ROTOR SYSTEM®

While designing rotor system in Calabria Plus® we have gone beyond the usual. It cuts the forage with minimum loss thanks to its specially designed knives.

Improved Gearbox Bearing

During gearbox assembly, the possibility of axial misalignment between the gearbox and flywheel due to possible elevation differences has been eliminated.

Special Design Bearing

Royermak design 20.000 series bearings were used in Calabria Plus®. This bearing has been adapted to flywheel, rotor, shaft and auger bearings, providing maximum safety in vibrating work areas.

Tractor dependent and tractor independent hydraulic system

With both tractor-dependent and tractor-independent hydraulic systems used in Calabria Plus®, it offers a hydraulic system option suitable for the needs of all users.



Gearbox Bearing

■ **REAPING WITHERED FORAGE**

Withered forage is healthy and important source of feed for your animals. Calabria Plus® can reap the withered forage thanks to its ability to chop extra short. It can cut the withered forage easier than its competitors.

■ **PATENTED FLYWHEEL SYSTEM®**

Calabria Plus® has reached the ability to chop even shorter compared to its competitors with its increased width of sweeping paddles and patented knife system.

■ **SENSITIVE CHOPPING SIZE**

We used specially designed and developed rotor and flywheel knives in Calabria Plus® with the results from flow analyses. Now it is easier to set the cutting size of the forage in the desired measures.

CHALLENGER	SINGLE ROW MAIZE CHOPPER	2 ROWS MAIZE CHOPPER	3 ROWS MAIZE CHOPPER	4 ROWS MAIZE CHOPPER
WORKING WIDTH	70 cm	125 cm	210 cm	300 cm
WORKING CAPACITY *	1000 - 1500 m ² /hr	4000 - 4500 m ² /hr		8000 - 10000 m ² / hr
MINIMUM POWER REQUIREMENT**	28 kW (40 hp)	56 kW (75 hp)	80 kW (110 hp)	100 kW (135 hp)
PTO WORKING REV	540 RPM	540 / 750 RPM (Optional)	540 / 1000 RPM	1000 RPM
WORKING POSITION	RIGHT SIDE	FRONT (Optional) / RIGHT SIDE / BACK	FRONT / BARK	BACK (Standard), FRONT (Optional)
SWEEPING PADDLE NUMBER	6	12	12	12
CHOPPING KNIFE NUMBER	12	12	12	12
SHREDDING KNIFE NUMBER	12	12	12	12
FIXED KNIFE NUMBER	1	1	1	3
SHREDDING SIZE***	3 - 10 mm	ADJUSTABLE (3 - 10 mm)	ADJUSTABLE (3 - 10 mm)	ADJUSTABLE (4,3 - 33 mm)
WHEEL SIZES	16X6,5-8	165x70x13	165x70x13	21 x 8 - 9 NHS
WHEEL NUMBER	1	1	2	2
THREE POINT LINKAGE	CATEGORY II	CATEGORY II - III	CATEGORY II - III	CATEGORY II - III
LENGTH (WORK POSITION)	2380 mm	2679 mm (Side position), 2750 mm (Back position)	2600 mm	2920 mm
HEIGHT (WORK POSITION)	3175 mm	4130 mm	4165 mm	4375 mm
HEIGHT (ROAD POSITION)	2122 mm	2460 mm	2475 mm	2703 mm
WIDTH (WORK POSITION)	2355 mm	4190 mm	4115 mm	3055 mm
WIDTH (ROAD POSITION)	2355 mm	1985 mm	2420 mm	3055 mm
WEIGHT	600 kg	1350 kg	1520 kg	2350 kg
INDEPENDENT HYDRAULIC	-	Standard		Standard
HYDRAULIC CONTROL PLACEMENT	-	NEXT TO OPERATOR (INSIDE THE CABIN)		
CIRCULAR KNIFE NUMBER	-	6	6	
CORN GRAIN BREAKING AND SHREDDING SYSTEM	-	ON TOP OF SPECIAL DESIGN CHOPPING KNIFE, - SHREDDING KNIVES, - OPTIONAL INSIDE RESERVOIR GGG60, - CAST BREAKERS	ON TOP OF SPECIAL DESIGN CHOPPING KNIFE, - SHREDDING KNIVES, - OPTIONAL INSIDE RESERVOIR GGG60, - CAST BREAKERS	
SECURITY SYSTEM	-	POWER TRANSMISSION BELT	POWER TRANSMISSION BELT	
MACHINE MOVEMENT TRANSMISSION	-	GEARBOX AND FLEXIBLE TRANSMISSION COMBINATION	GEARBOX AND FLEXIBLE TRANSMISSION COMBINATION	
HYDRAULIC MIDDLE LEVER	-	Standard	Standard	
TEMPORARY RUNNING REVERSE				Standard

CALABRIA	DOUBLE CHOP 1500	DOUBLE CHOP 1800	DOUBLE CHOP 2100
POWER REQUIREMENT (MIN - MAX)	45 - 60 HP	60 - 80 HP	80 - 110 HP
WORKING WIDTH	1500 mm	1800 mm	2100 mm
ROTOR KNIFE NUMBER	36 pcs	48 pcs	56 pcs
CHOPPING KNIFE NUMBER	10 pcs	10 pcs	10 pcs
SWEEPING PADDLE NUMBER	10 pcs	10 pcs	10 pcs
FIXED BLADES NUMBER	6 pcs	6 pcs	6 pcs
WHEEL SIZES	185X65XR14	185X65XR14	185X65XR14
ROTOR REV NUMBER	1150 RPM	1150 RPM	1150 RPM
CHOPPING KNIFE REV NUMBER	1620 RPM	1620 RPM	1620 RPM
WEIGHT	1180 KG	1245 KG	1310 KG
PTO REV NUMBER	540 RPM	540 RPM	540 RPM
WORK CAPACITY *	20 tons / hour	24 tons / hour	28 tons / hour
WIDTH (WORK POSITION)	2700 mm	3000 mm	3300 mm
HEIGHT (WORK POSITION)	4420 mm	4420 mm	4420 mm
LENGTH (WORK POSITION)	4500 mm	4500 mm	4500 mm
WIDTH (ROAD POSITION)	3275 mm	3375 mm	3500 mm
HEIGHT (ROAD POSITION)	2650 mm	2650 mm	2650 mm
CHOPPING SIZE (ADJUSTABLE)	20 - 70 mm	20 - 70 mm	20 - 70 mm
REAPING HEIGHT (ADJUSTABLE)	50-150 mm	50-150 mm	50-150 mm
TRACTOR DEPENDENT HYDRAULIC	Standard	Standard	Standard
TRACTOR INDEPENDENT HYDRAULIC	Optional	Optional	Optional
360° ROTARY CHIMNEY	Optional	Optional	Optional
160° ROTARY CHIMNEY	Standard	Standard	Standard
DOUBLE STAGE HAT	Standard	Standard	Standard

CHALLENGER

CALABRIA

AVERAGE SILAGE YIELD IS CONSIDERED AS 7500. IT MAY VARY DEPENDING ON THE OPERATOR EXPERIENCE AND FIELD CONDITIONS.

ARE TRACTOR PTO VALUES.

*** ARE AVERAGE VALUES. IT MAY VARY DEPENDING ON THE HUMIDITY AND THE TYPE OF THE PRODUCT.

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* IT MAY VARY DEPENDING ON THE PRODUCT TYPE AND YIELD, FIELD CONDITIONS AND OPERATOR EXPERIENCE.